

SUBMISSION ON MITIGATION MEASURES TO REDUCE INCIDENTAL SEABIRD CAPTURE IN COMMERCIAL SURFACE LONGLINE FISHERIES

Introduction

Thank you for the opportunity to comment on the consultation paper regarding measures to reduce risk to seabirds in surface longline fisheries (MPI Discussion Paper 2016/26).

Fisheries Inshore New Zealand Ltd (*Fisheries Inshore*) is the Sector Representative Entity (SRE) for inshore finfish, pelagic and tuna fisheries in New Zealand. Its role is to deal with national issues on behalf of the sector and to work directly with, and behalf of, its quota owners, fishers and affiliated sector organisations.

Recent changes to inshore governance have seen *Fisheries Inshore* take responsibility as the Commercial Stakeholder Organisation (CSO) in Area 2 by establishing an Area 2 Committee of *Fisheries Inshore* that will replace the Area 2 Fisheries Management Company Ltd (which is being wound up). *Fisheries Inshore* is now also the CSO for HMS fisheries. Our key outputs are:

- developing appropriate policy frameworks, processes and tools to assist the sector to manage inshore, pelagic and tuna fishstocks more effectively
- minimising fishing interactions with protected species and the associated ecosystems
- working positively with other fishers and users of marine space where we carry out our harvesting activities

Mandate

Collectively, *Fisheries Inshore* shareholders own more than 51% of the quota in 192 (of 239) inshore, pelagic and tuna stocks and have shareholdings in the remaining inshore stocks. This equates to more than 80% of the inshore finfish sector by value and volume.

The changes made to the inshore sector have resulted in *Fisheries Inshore* establishing an HMS Committee to act as the representative body for HMS fisheries. The Committee that will operate, and be the equivalent at a governance level, to a Commercial Stakeholder Organisation in dealing with operational issues for these fisheries—with *Fisheries Inshore* personnel providing professional advice to the HMS Committee.

The HMS Committee is made up of quota owners, LFRs, vessel owners and skippers and currently represents those with an interest in surface longline fisheries for the following stocks: STN1, SWO1, BIG1, YFN1, MOO1, BWS1, POS1, MAK1, TOR1 and SKJ.

Progress to date

Fisheries Inshore supports efforts to reduce risks to seabirds and wants to work with MPI to implement mitigation measures that constitute best practice in New Zealand. Discussions with HMS Committee members to date have demonstrated collective support for more active risk reduction work.

This commitment to improvement has seen significant investment of time and resources into upgrading operational practices and the design and use of tori lines. Some vessels have also been using line weighting for some time. This focus on the HMS fleet complements work being undertaken by the Seabird Liaison Officer Programme for coastal trawl fleets.

Fisheries Inshore is also actively supporting the DOC Seabird Liaison Programme for 2016-17 which has a particular emphasis on the surface longline fleet. This programme will deliver:

- Detailed advice on, and assistance with, the use and construction of tori lines (including providing vessels with materials and building tori lines as required)
- Bespoke Seabird Management Plans on all vessels that cover mandatory requirements and other effective risk mitigation measures
- Port workshops to discuss mitigation measures and repeat visits to vessels in the fleet
- Assistance with line weighting should that be necessary

Fisheries Inshore welcomes and congratulates DOC for pursuing this hands-on operational focus and working with industry to implement it. Back-of-the-boat mitigation done well is what will best assist New Zealand seabirds.

MPI's Proposal

In essence, MPI has proposed two line weighting regimes:

Option 2a: For each hook, weights must be attached to that line as follows:

- a) 40 g or greater attached within 0.5 m of the hook; or
- b) 45 g or greater attached within 1 m of the hook; or
- c) 60 g or greater attached within 3.5 m of the hook; or
- d) 98 g or greater attached within 4 m of the hook.

Option 2b: Faster sinking fishing gear that requires weights for each hook to be attached to that line as follows:

- a) 40 g or greater attached within 0.5 m of the hook; or
- b) 60 g or greater attached within 1 m of the hook; or
- c) 80 g or greater attached within 2 m of the hook.

Option 2b would implement what ACAP currently considers to be best practice. *Fisheries Inshore* agrees that best practice should also be applied in New Zealand. However, it is not clear that the line weighting regime suggested by ACAP can safely and effectively be applied in New Zealand's HMS fisheries. We are committed to implement best practice as it applies to New Zealand.

We are not aware of any other jurisdiction currently implementing the weighting regime set out as MPI's Option 2b. MPI's consultation paper cites "preliminary research" in Uruguay and Brazil in support of the claim that this method is effective and does not reduce catch rates of target species. However, we have insufficient information to determine the extent to which these trials have relevance in New Zealand with regard to operational conditions, bird behaviour or differences in vessels or crewing numbers.

We have previously seen strictly-defined measures introduced into this and other fisheries without regard to operational differences (e.g. tori lines) which can result in an inability to consistently meet detailed regulatory specifications. As a consequence, measures are often not deployed to an optimal extent to reduce risks to seabirds and the value of the regulation is undermined by the knowledge that it can never be met. We do not wish to repeat those mistakes by importing a line weighting regime that has not been tested and proved safe and effective in New Zealand.

Best practice

The term "best practice" is widely used in the MPI consultation paper, ACAP documentation and the NPOA—Seabirds. With the exception of the ACAP Six Criteria (which exclude safety) the meaning of the term is rarely examined in any detail. That analysis should assess the extent to which so-called best practice meets the various aspirations of those with an interest in the fishery or the extent to which, despite reports, it is fully and successfully implemented at a commercial level in fisheries elsewhere.

Seabird mitigation needs to be effective, affordable, safe, adaptable and practical—the regulatory environment must encourage rather than stifle innovation. Best practice is not maximising one of these at the expense of the others, but optimising them all to a reasonable extent. As always, the touchstone for such considerations is the Purpose of the Fisheries Act 1996 as set out in section 8.

It is notable that the New Zealand NPOA—Seabirds references best practice mitigation among its various objectives. For example:

74. The high level subsidiary objectives of this NPOA-Seabirds 2013 are:

- i) Practical objective: All New Zealand fishers implement current best practice mitigation measures relevant to their fishery and aim through continuous improvement to reduce and where practicable eliminate the incidental mortality of seabirds.*

75. The five year objectives of this NPOA-Seabirds 2013, all to be achieved by 30 June 2018, are:

i) Five year practical objectives:

a) all New Zealand commercial fishing vessels are shown to be implementing current best practice mitigation measures relevant to their area and fishery;

Other components of best practice are either not discussed in the NPOA—Seabirds (e.g. safety) or referenced in other subsidiary objectives. For example, paragraph 74 goes on to discuss Research and Development objectives that include (emphasis added):

...the testing and refinement of existing mitigation measures and the development of new mitigation measures results in more practical and effective mitigation options that fishers readily employ;

In more recent ACAP meetings the safety of line weighting has been explicitly considered and is a welcome addition to the discussion about line weighting.

With that in mind, we discuss briefly the various components of best practice to arrive at what we consider to be an optimal interpretation of best practice that should be implemented in New Zealand surface longline fisheries.

Effective

It is self-evident that increasing the weights on lines will also increase the sink rate and reduce the risk to birds. As demonstrated in preliminary trials in Uruguay and Brazil, the use of various configurations of line weighting reduces the incidence of seabird capture; in some cases by a significant degree. Similar experience in New Zealand has also demonstrated a reduction in seabird captures.

The efficacy is not debated; however, this is only one of the matters to be considered in specifying best practice mitigation. Further, there are other practices that can also reduce the risk to seabirds that should be considered, particularly if these are safer and more affordable than the line weighting proposed.

Affordable

Line weighting will increase costs in HMS fisheries. While the industry accepts that maintaining continued access to these fisheries and improving environmental performance will have a financial impact, we are mindful of the cumulative financial burden from this and other recent and potential government requirements.

In the last 10 years, levies on HMS stocks have averaged \$1.47 million per annum and been as high as \$2.01 million in 2013/14. We consider that the implementation of best practice mitigation as set out by ACAP, and other measures discussed herein, should significantly reduce the risks that HMS fisheries pose to seabirds and consequently there should be a reduction in levies charged by DOC and MPI for matters related to seabirds. It is only through such levy reductions that offset other costs that the HMS fishery can maintain financially-viable operations. Further, this provides a direct incentive to continue innovation and reduce risks.

Safe

This aspect is the most important component of this submission and represents the key issue that needs to be considered carefully as part of any line weighting regime. Three matters are set out below. First is a brief discussion of the real and documented risks of line weighting; second, we detail the measures *Fisheries Inshore* considers must accompany any line weighting requirement; and third, we note the other mitigation measures in existence or development that could perform equally well as MPI's Option 2b but with reduced risk of serious injury or death.

Current risks

It is well known that line weighting can be dangerous and has led to serious injury and death in New Zealand fisheries. The fatality onboard the *San Te Maru 18* in 1995 is the most serious incident to date although other serious injuries and near-misses have continued since the *San Te Maru 18*. At least three deaths are known to have been caused by fly-backs as part of line weighting.¹

¹ Emma McCormack and Warren Papworth. 2014. *Review of evidence of injuries sustained by fishers in the course of using weighted lines in pelagic longline fisheries*. ACAP Paper SBWG6 Doc 15.

We are not suggesting that line weighting will lead to further injury—some vessel operators in New Zealand have been using weighted lines for a number of years (albeit not the regime in Option 2b) and other jurisdictions have also deployed weighted lines without significant injury.

However, care must be taken in using overseas practice as an indication of their efficacy in New Zealand. Any differences in New Zealand would need to be considered to ascertain if mitigation is suitable based on vessel size, crew numbers or other operational or regulatory requirements (particularly New Zealand's new health and safety regime. That said, the use of such methods without fatalities demonstrates that the risks associated with line weighting can be mitigated to some degree but they cannot be eliminated.

The question is what risk mitigation is available, what works best, what is practical and who should take responsibility for assessing and implementing risk mitigation onboard vessels?

In a DOC-commissioned report that assessed the efficacy of line weighting regimes,² the authors noted at that "... the measures tested in this trial still carry operational safety risks."

With respect to trials with Safe Leads the authors noted the following at page 27:

A bite-off resulting from a blue shark capture removed the hook from the snood on which the shark was caught, but the crimp at the end of the snood remained in place. As a result, the safe lead could not slide off despite extreme stretching of the monofilament. The snood and safe lead flew back and hit the vessel approximately 1 m forward of the hauling station. The safe lead deformed on impact, but the rubber O-rings remained in place.

Similarly the authors noted the following in trials using *Lumo Leads* at page 28 (emphasis added):

Of particular interest in this trial is the incidence of weights flying back at the vessel, which comprises a safety risk. Twelve fly-backs were recorded when gear was set using lumo leads (Table 9). ... Of the 12 fly-backs, one made contact with the crew and one contacted the vessel.

These documented incidents demonstrate the real and serious risks that line weighting can cause. Further we note the following with regard to the two supposed "safe" sliding weight systems available (*Safe Leads* and *Lumo* or *Glo Leads*). These have been developed by a single manufacturer. The *Safe Lead* is no longer in production due to operational issues and a lack of certainty that it would slide (i.e. not consistently "safe"). The Fishtek website is also clear about not assuring the safety of *Lumo Leads* and notes "... they may potentially reduce the chance of dangerous fly-backs during bite-offs."³ (Emphasis added). It is clear that while the only available sliding-lead system may be safer it is not inherently safe.

This government-funded study is in contradiction to the assertions made in an ACAP report which states, with reference to Lumo Leads, that "... measures that represent a safe alternative to traditional line weighting ... require practical demonstration to encourage use in commercial fisheries".⁴ (Emphasis added). It seems clear that ACAP see Lumo Leads as inherently safe, while New Zealand research has shown that potentially fatal fly-backs do occur and the manufacturer is somewhat non-committal.

While *Fisheries Inshore* is committed to reducing the risk of seabird captures, all participants in HMS fisheries have a legitimate concern about the safety and welfare of crew.

Under the *Health and Safety at Work Act 2015*, duties are imposed on various persons in the fishery to eliminate risks to health and safety or, if elimination is not reasonably practicable, to minimise those risks so far as is reasonably practicable.

As New Zealand has not had a significant history of line weighting, and there is not yet any jurisprudence to develop the law and provide guidance on what constitutes reasonably practicable steps, there is significant uncertainty about how to manage the inherent risk of line weighting.

² Pierre JP, Goad DW and Abraham ER, 2015. *Novel approaches to line-weighting in New Zealand's inshore surface-longline fishery*. Final Report prepared for the Department of Conservation: Conservation Services Programme project MIT2012-04 at pages 36-37.

³ <http://www.fishtekmarine.com/lumolead.php>

⁴ ACAP Paper SBWG7 Doc 14, page 2.

Required actions to mitigate risks

Should line weighting become a mandatory requirement at all times, the Crown is requiring fishers to undertake an activity that is known to be dangerous and has proved fatal. We submit that in this circumstance, the Crown has a responsibility to minimise that risk and as part of that, it should take active steps to assist the industry in examining how risks can be mitigated to ensure safe practice at sea. This should consider the difficult working environment in which these vessels operate and the practical realities of this work.

Fisheries Inshore considers that MPI has not given this matter due attention. For example, the following somewhat dismissive comment is made on page nine of the consultation paper:

MPI considers that many skippers already using line weighting do so safely and therefore other skippers will be able to adapt accordingly to mitigate potential risks.

First, it is incorrect to characterise the risk posed by line weighting as merely a potential risk. It is an actual risk that has manifested in New Zealand in the most serious way possible. Second, it may be convenient but it is incorrect to make a blanket statement that skippers are using line weighting in New Zealand safely. There have been recent injuries. For example, on 27 July 2016 a crew member was hand-pulling a shark in on a 2mm snood while surface lining for southern blue fin tuna off Tauranga. The hook pulled free from the shark, recoiled and hit the crew member in the mouth. Three of the crew member's teeth were smashed and his lip and tongue badly cut. He stayed one night in Tauranga hospital (see ACC160730145656).⁵

Given this, MPI's *laissez-faire* approach whereby skippers are assumed to simply "adapt accordingly" to mitigate "potential risks" does not recognise the actual, documented harm that has occurred and the current realities in HMS fisheries (particularly in the post-FCV era that has seen an increase in the number of active small domestic vessels).

Consequently, we request that if these measures proceed, in conjunction with that and prior to the compulsory commencement date, MPI and DOC co-fund a training programme for fishers to ensure the various risk mitigation measures are examined, discussed and well-understood by HMS fishers as part of implementing any compulsory line weighting regime. This could culminate in an agreed and standardised set of operating procedures, with vessel-specific additions. Such a programme would be a responsible action so that government regulation does not require fishers to expose themselves to unnecessary risk of serious injury or death.

Other line weighting that is safer

Given the risks associated with line weighting with solid weights, there has been work conducted in several jurisdictions to reduce risks to seabirds by other means. Among these are two promising methods that are briefly set out below. We provide these for illustrative purposes as we consider that part of implementing a line weighting regime should assess these and other alternatives to the specifications referred to in MPI's Option 2b.

Yamazaki double weighted branch line

The Yamazaki double weighted branch line won the WWF Smart Gear Award in 2011 (see Fig. 2 and Annex 1). This method uses a double-weight configuration that consists of two leads placed at either end of a 1.0 to 1.5 m section of wire trace. The weight nearest the hook is free to slide along the branchline while the second lead is fixed. In the event that a hook comes free from a fish as it is landed, in concept the sliding weight will dampen the force of a lead coming back at the vessel and the fixed weight will be in or near the hands of a crewman thus reducing safety threats to crew. No injuries have been recorded in over 95,000 retrievals using this system.

Whether this method is practical on relatively small New Zealand vessels remains to be seen. As stated, importing methods that are successful) or apparently successful) in other jurisdiction does not guarantee success in New Zealand. However, a method that could all-but eliminate serious risks to crew deserves active consideration as part of implementing any line weighting requirements.

⁵ *Fisheries Inshore* understands that this incident involved a no-weighted hook. Had a weight been attached this may have resulted in a far more serious injury.

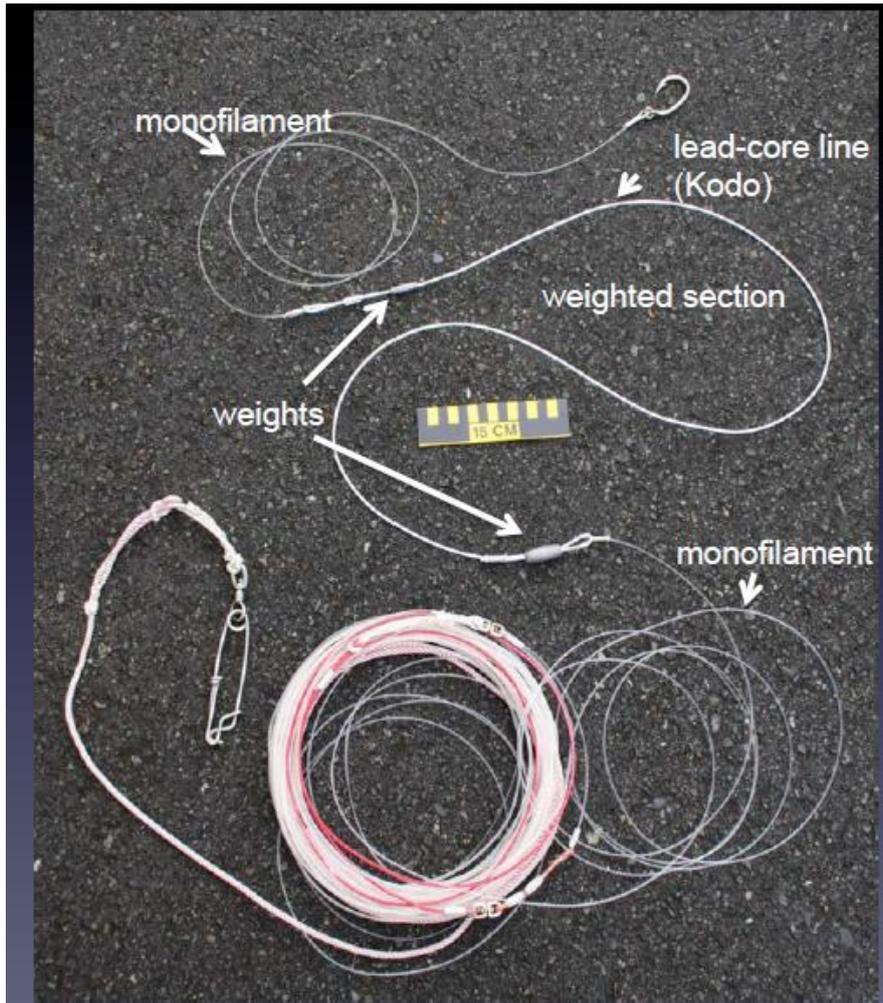


Figure 2: The Yamazaki double weighted branch line.

Weighted line

Rather than relying on a solid lead weight to sink hooks, a weighted line distributes the weight along the line to produce an increased sink rate while eliminating the risk associated with recoil from a solid lead object (Fig 1). Further, the braided section of line is inelastic compared to than traditional monofilament meaning it does not recoil with the same kinetic energy should the line break or the hook be bitten off or pull out.



Figure 1: Prototype Hampidjan dyneema braided lead core weighted line of 10 g/m. Note that any commercial product needs to be very low visibility so as not to affect fishing efficacy.

Adaptable

The two measures set out above demonstrate that line weighting is a dynamic field and many jurisdictions are working to ensure safe risk mitigation practices are in place. As such, it is important that any compulsory line weighting can be adjusted quickly and easily and as part of an overall risk mitigation programme. Furthermore, the adoption of innovations such as hook pods may make redundant the need for prescriptive line weighting.

This being the case, slavish adherence to generic specifications adopted internationally may not result in the most optimal or practical risk mitigation for the New Zealand fleet. Given safety concerns and the active investigation of alternative measures, the regulatory response implemented by MPI should allow the Director-General to approve alternative mitigation. Where these apply to line weighting, configurations that meet or exceed the sink-rates targeted by the current ACAP best practice guidelines should be approved on application.

In addition, the Director-General should be permitted to approve the use of other measures such as hook pods or the use of underwater setting chutes in place of prescriptive line weighting requirements. Only through this adaptive approach will innovation continue and safe and effective risk mitigation be provided.

Practical

Measures to reduce risk to seabirds must be practical and be easy to use at sea. There have been occasions where international standards have been imported into New Zealand law without regard to whether these measures are suitable or achievable in the local fishery.

Where common sense dictates, amendments should be made to ensure required mitigation measures effective and are capable of being deployed. No one is served by adopting measures not suited to New Zealand conditions and systematically ignoring that fact for the sake of continuity.

Summary and position

Fisheries Inshore and those involved in HMS fisheries are committed to ensure that fishing activities are conducted in a manner that reduces risk to seabirds (while properly managing risk to people). We accept that line weighting is one component of best practice and are committed to working with MPI to implement line weighting that is safe, effective, practical and affordable.

We note that the line weighting regime in Option 2b is very new, currently not required by any other jurisdiction to our knowledge, not tested in New Zealand to ensure that it is effective in domestic conditions, and not shown to be either suitable or safe for our fleet. That being the case, it is premature and dangerous to require Option 2b on its own, particularly given the relative inexperience with line weighting in our HMS fisheries.

That said we do conditionally support the introduction of line weighting and possibly MPI's Option 2b. That support is conditional on MPI and DOC co-funding a training programme to ensure the various risk mitigation measures are examined, discussed and well-understood by HMS fishers. This should culminate in an agreed and standardised set of safe operating procedures, with vessel-specific additions as necessary. All these measures should be completed before the commencement date of any new regulations.

Second, and as part of implementing a line weighting regime, the capacity is provided for the Director-General of MPI to rapidly type-approve alternative mitigation approaches that are proven by simple tests to meet or exceed the sink-rates targeted through the current ACAP best practice guidelines or otherwise reduce the risk to seabirds to an acceptable level (such as hook pods).



Dr Jeremy Helson
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Annex 1—Details of the Yamazaki Double-weighted branchline



2011 Winner: Yamazaki Double-Weight Branchline

Innovative Japanese Design to Reduce Seabird Bycatch Wins Both the Smart Gear 2011 Grand Prize, and the Tuna Prize

For the first time since the Smart Gear competition was established in 2005, a winning design, that reduces the accidental catch and related deaths of sea birds in tuna fisheries, has won more than one award.

Kazuhiro Yamazaki, a captain on a Japanese tuna vessel, is the 2011 Smart Gear winner, receiving a \$30,000 grand prize, and also received the special tuna prize of \$7,500, offered by the International Seafood Sustainability Foundation (ISSF)

The winning design – a double-weight branch line – sinks long line hooks beyond the range of seabirds, such as albatrosses and petrels, and reduces injuries and fatalities to crews caused by rapidly recoiling weights and hooks.

Results have been staggering. The device has proven to be safe and effective at reducing seabird bycatch in pelagic (tuna) longline fisheries. In 2010, over 95,000 branch lines with the Yamazaki double weight system were hauled with no injuries to fishermen, reducing seabird bycatch by 89% more than un-weighted branch lines, with no effect on fish catch rates.



How it works

The Yamazaki double-weight configuration consists of two leads placed at either end of a 1 to 1.5 meter section of wire or wire trace. This weighted section is inserted into a branchline 2 meters above the hook. The weight nearest the hook is free to slide along the branchline while the second lead is fixed.

The double weight reduces the danger of weight recoil injury to crew members by spreading the mass of the weights across the wire trace, as two smaller weights are better than one, and by including a sliding weight that dampens the speed at which the weight recoils.

The double weight system is also easier to handle on deck than a single weighted swivel – it is easier to coil and it prevents jackknifing as it is thrown into the water in line setting.



Double-Weight Branchline Fast Facts

When a research effort to find best practice seabird bycatch mitigation in the Japanese fleet fishing in the South Africa began, Kazuhiro Yamazaki, Fishing Master of the F/V Fukuseki Maru No 5, quickly emerged as the leader and innovator in this fleet.

The double weight system he conceived was in reaction to the need he saw to weight branchlines in a way that was safe and acceptable to Japanese fishing masters.

As a result, the simple and cost-effective device is proving to solve the seabird bycatch problem in tuna fisheries.

The results of which will ensure the sustainability of the tuna fishery and the livelihoods for fishing generations to come - all in a way where the catch of fish is a critical part of the solution.

2011 SMART GEAR WINNER AND TUNA PRIZE
YAMAZAKI DOUBLE-WEIGHT BRANCHLINE



Conservation Potential

The conservation potential of Yamazaki double-weight branchline is substantial. It is an innovation that meshes practicality and safety with function and conservation, and breaks down the barriers to the adoption of branchline weighting as a seabird bycatch mitigation measure in world tuna commissions and in domestic fisheries.

Branchline weighting and bird scaring lines deployed properly are the key to seabird conservation in tuna longline fisheries. Used in combination with night setting seabird bycatch should can be reduced to the lowest level possible.

This innovation has also paved the way for the Agreement for the Conservation of Albatrosses and Petrels to endorse the simultaneous use of branchline weighting, bird-scaring lines and night fishing as best-practice seabird bycatch mitigation in pelagic longline fisheries. Trials with this device reduced seabird bycatch compared to un-weighted branchlines by 89% with no effect on fish catch rates. It has the potential to spread conservation success to the oceans of the world and allow tuna fisheries, and albatross and petrels to coexist.



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