

INDUSTRY AND INVESTMENT NSW

QUESTIONS ON NOTICE: SELECT COMMITTEE ON RECREATIONAL FISHING

INQUIRY INTO RECREATIONAL FISHING

3 September 2010 hearing

QUESTION:

1. Mr TURNELL: Yes. Approximately 10 species have been identified as either recruitment over-fished or over-fished. We are going through a process of determining what recovery actions may be needed to help these species to recover. For example, mulloway is of significant importance to the recreational sector. I can provide further information coming out of that most recent process that lists all 10 species.

CHAIR: If you could provide the Committee with that assessment that would be appreciated. How long does that review usually take or, more specifically, how long will this current review process take on those 10 species?

Mr TURNELL: The actual assessment of the species is done by our science and research division within Industry and Investment New South Wales, not particularly my group, so I would not like to give a specific answer at the moment. I can certainly come back to the Committee with that information. (P. 2)

ANSWER:

Each year, Industry & Investment NSW (I&I NSW) fisheries scientists and invited experts review the information available on all key species and determine an exploitation status. Information on the status of these species is contained in the Status of Fisheries document located on the Department's website. This document is currently being updated to take into account the latest assessments.

Any species which is substantially exploited by commercial or recreational fishers requires management and those which are overfished to some degree receive particular attention. Currently 12 species are classified as overfished to some extent, including:

| Species | Status |
|---------------------|------------------------|
| Gemfish | Recruitment Overfished |
| Blacklip Abalone | Overfished |
| Eastern Sea Garfish | Overfished |
| Grey Morwong | Overfished |
| Jackass Morwong | Overfished |
| Mulloway | Overfished |
| School Shark | Overfished |

| | |
|---------------------|-------------------|
| Eastern King Prawn | Growth Overfished |
| Redfish | Growth Overfished |
| Silver Trevally | Growth Overfished |
| Snapper | Growth Overfished |
| Yellowtail Kingfish | Growth Overfished |

If a species taken in a NSW commercial fishery is determined as overfished, the relevant Fishery Management Strategies require appropriate recovery action. To achieve this outcome a species specific recovery program may be developed which sets out a range of actions to return the fishery to acceptable levels. The recovery program will also set out a timeframe for that process (including reviews) and may specify further appropriate action should recovery targets not be met.

I&I NSW has recently initiated development of a stock recovery program for Mulloway and a number of specific management actions are being considered. It is expected that a draft of the proposed program will be available for public comment in the near future. Further information is provided below in Additional question 3.

QUESTION:

2. The Hon. RICK COLLESS: So, undersized fish that are caught in a trap could be released?

Mr TURNELL: Yes. It depends on the depth of the trap and how quickly it is pulled out. A lot of barotrauma research has been done but that is one of the consequences of traps that are retrieved from the deep. Whether that is specific to snapper I would have to check and get back to you. (P. 4)

ANSWER:

Fish traps are generally constructed from a timber frame covered in wire mesh, with between two and four entrance funnels to allow fish to enter. To reduce impacts of undersized and unwanted species, ocean fish traps must also have escape panels made of wire mesh that is large enough for small, undersized fish to swim through and escape from the trap when being lifted.

Fish that are caught from deep depths may be susceptible to barotrauma (the effects of gas expansion in the body caused by capture at depth and being brought to the surface rapidly during capture). Research in Western Australia and NSW has shown snapper to become more susceptible to barotrauma at depths greater than 30m. I&I NSW is currently carrying out additional research on the effects of barotrauma on the behaviour and physiology of key recreational fish species in NSW.

QUESTION:

3. The Hon. RICK COLLESS: Have you any idea of the percentage of snapper taken by traps, trawling or line commercially?

Mr TURNELL: Not on hand, no.

The Hon. RICK COLLESS: But you would have access to that, would you?

Mr TURNELL: We could get that from a commercial perspective, yes. (P. 5)

ANSWER:

In 2008/09, of the total snapper catch by commercial fishers in NSW, approximately 78% was harvested in fish traps, 20% by line and 2% by trawl.

QUESTION:

4. The Hon. RICK COLLESS: I have seen a lot in the fish shops and I have let a lot go that were a lot bigger than those. It is disappointing that there are so many small fish in the fish shops that a lot of fishermen would not touch.

Mr TURNELL: There is a lot of snapper that is imported from New Zealand and from Western Australia. I would not be in a position to comment on what the size limits might be in those jurisdictions but I would be happy to find out what those are? (P. 5)

ANSWER:

The size limit of snapper in Australia and New Zealand is summarised in the table below:

| State/Country | Minimum size Limit |
|-------------------|--|
| NSW | 30cm |
| Queensland | 35cm |
| Victoria | 28cm |
| South Australia | 38cm |
| Western Australia | 41cm |
| | 50 cm - West Coast Region south of 31° , Inner Gulfs of Shark Bay in Gascoyne Region |
| New Zealand | 27cm (Auckland-Kermadec and Central Regions only), 25cm (South East, Southland, Challenger and Fiordland Regions only) |

QUESTION:

5. The Hon. RICK COLLESS: How many offshore vessels do you run?

Mr O'CONNOR: As a guess—I can provide you with the detailed information—but we have one large vessel, which is a 43-footer. We have a couple in the range of 35 down to 27 and then we have a lot smaller vessels, in the order of 23 foot, but we have a strategic capacity, we believe, at all stages up and down the coast. (P. 6)

ANSWER:

There are 21 fisheries patrol vessels that are used to patrol offshore waters. These range from large fibreglass long range patrol vessels to rapid response rigid hull inflatable vessels.

QUESTION:

6. Mr O'CONNOR: There are 92 positions and, of those, two are currently vacant but they are in the process of being filled. Yes, that incorporates both freshwater and marine.

Mr IAN COHEN: What is the breakup between coastal marine, looking perhaps at major urban centres, the coast and the inland fisheries?

Mr O'CONNOR: I can give you a more detailed breakdown. (P. 9)

ANSWER:

We refer to the answer to a similar question given by I&I NSW as part of evidence provided on notice from the 19 April 2010 hearing, wherein it was stated:

"Compliance responsibility is focused to area of need determined by demographics of population and fishing activity. There are 67 compliance officer positions based along the coast and within that number there are teams that direct their activities towards areas of most need at any particular time. In addition to that number there are 10 Marine Parks Officer positions who undertake fisheries compliance.

The area of inland rivers is highly variable depending on drought or flood conditions. There are 20 compliance officer positions located in regional inland areas.

In addition, there are 5 positions dedicated to habitat compliance on the coast and habitat and aquaculture compliance on the inland."

Of the 67 compliance officer positions based along the coast, 14 positions are based in the metropolitan area encompassing southern Sydney to the Hawkesbury River and Central Coast.

Other officers within the State-wide Operations and Investigations group also carry out compliance activities within this area.

QUESTION:

7. Mr IAN COHEN: Do both parties, Fisheries and marine parks, or the Department of Environment, Climate Change and Water, have figures on the number of fishers approached, warned and charged? Is that something that is readily available? You can take that on notice.

Mr O'CONNOR: The answer is: Yes. I do not have it with me here but I can easily provide it. Then we have a very detailed breakdown on what compliance action we take with the remaining 8 per cent, be they prosecutions, be they penalty notices or be they warnings. Yes, we will provide that.

Mr WRIGHT: We have a set of figures here and it would probably be best if I table that post this—

CHAIR: Is it possible to provide the whole report?

Mr WRIGHT: We certainly could do that.

CHAIR: Thank you, if that would suit your purposes. (P. 10)

ANSWER:

Please refer to the attached presentation titled: 'Recreational Fisheries Compliance in NSW' for information on compliance contact and enforcement.

The Department of Environment, Climate Change and Water will provide information relating to the Marine Parks Authority 2009/10 report.

I&I NSW also has a range of programs to promote voluntary compliance with fishing rules. The Fishcare Volunteer program involves over 300 community based volunteers across NSW, educating fishers about fishing rules and safe and responsible fishing. The Get hooked...its fun to fish primary schools education program is designed to teach children about the importance of aquatic habitats and to introduce them to safe and responsible fishing practices. I&I NSW also produces a wide range of fishing guides, brochures, plastic measurers and stickers every year to help anglers keep up-to-date on the latest fishing rules and sustainable fishing practices.

QUESTION:

8. Mr O'CONNOR: I have not yet seen a draft of it. Our staff are working on a habitat plan for New South Wales. What it is trying to do is pull together the various aspects of what we are doing and to give an indication of priorities for the future.

CHAIR: Is Fisheries the lead agency?

Mr O'CONNOR: Yes.

CHAIR: Would you be able to provide the Committee, on notice, with some sort of rough estimate as to when that action plan might be available? Just an estimate—we will not hold due to it.

Mr O'CONNOR: It will be rough but yes we can. (P. 15)

ANSWER:

The plan is expected to be completed by June 2011.

QUESTION:

9. The Hon. LYNDIA VOLTZ: A document provided by Professor Kearney from Canberra states: As most of the species taken by commercial fishing in this area are migratory, or at least highly mobile, it is more than possible total kill of these species will not be significantly changed by localized removal of fishing. This refers to the buy-back of fishing licences. It continues: Fisheries data, such as yield per recruit analysis, that have been available since the early perfect 1990s, showed that a closure of all areas inside three miles of the NSW coast to all fish trawling would benefit many fisheries, particularly the fish trawling industry itself. These benefits do not necessarily come from closing small bits of this total area. Can you explain the logic of the fish buy-backs in terms of that view?

Mr O'CONNOR: I would prefer to read the quote carefully and then respond if I could.

The Hon. LYNDA VOLTZ: Certainly. Would you like to take the question on notice?

Mr O'CONNOR: Yes.

The Hon. LYNDA VOLTZ: I can provide a copy of the quote.

The Hon. CHRISTINE ROBERTSON: It is on the website.

Mr O'CONNOR: In part what he seems to be saying is that pelagic species clearly migrate north. Therefore, if you close a particular area and buy out the fishing effort in that area, you may be removing effort but it does not necessarily have an impact on those migratory species. I will take the question on notice. (P. 16)

ANSWER:

Buy-outs (or "buy-backs") relating to marine parks simply seek to offer a fair price for the voluntary surrender of commercial fishing entitlements, given the impacts the zoning arrangements are expected to have on access to fishery resources by commercial fishers. The issue of how different zones are selected within marine parks in order to achieve the biodiversity conservation objectives of the Marine Parks Act 1997 is a separate issue to the buy-out process. It should be noted that the management of highly mobile or migratory species requires a combination of controls – not just spatial closures – and the Fisheries Management Act 1994 provides the necessary management tools to sustainably manage such species.

QUESTION:

10. CHAIR: The Hawkesbury commercial fishing area was one that suggested that is exactly what had happened, obviously by people who had been fishing there traditionally for years.

Mr TURNELL: Are you suggesting that people moving out of Sydney Harbour may have moved into the Hawkesbury area?

CHAIR: I am not but that is what these witnesses are suggesting.

Mr TURNELL: I have heard that comment before. I can get some information if it would be of value.

CHAIR: No, my question is really only a follow-on from Ms Voltz's question. I just want an assurance that the Government was looking at that issue when you make decisions like closing down a fishery like Coffs Harbour's prawn trawling, that you do take those things into account.

The Hon. LYNDA VOLTZ: Perhaps if you could provide that data on notice. It might give us an indication of what is happening.

Mr TURNELL: And that would be specific to the closure of Sydney Harbour to commercial fishing?

The Hon. LYNDA VOLTZ: Yes, if that is the issue that was raised.

Mr TURNELL: I cannot quote the figures off the top of my head, but I gave that example because I think it shows the clear intent of what we are trying to achieve and a very clear outcome. (P. 18)

ANSWER:

In 2006, the NSW Government implemented a buy out program of commercial fishing entitlements in Port Jackson related to the dioxin contamination. Any business with a history of operating in Port Jackson was eligible to participate.

A total of \$3.9 million was spent buying out 37 commercial fishing businesses with estuary prawn trawl and estuary general entitlements. The program was designed to enable commercial fishers to exit the industry with a fair payment. It is important to note that estuary general fishers that previously operated in Port Jackson had an entitlement to fish in other estuaries in that region, including the Hawkesbury and Pittwater. When implementing buyout programs, there is always a clear intention to buy out sufficient fishing effort from that region to ensure that there is no increase in fishing effort in neighbouring estuaries. Currently there is no indication that commercial fishing in Pittwater or Hawkesbury is unsustainable.

QUESTION:

11. The Hon. LYNDA VOLTZ: I want to ask some questions about migratory fish in sanctuary zones. Evidence has been given that certain species do not reside permanently in those sanctuary zones; they are migratory fish. What role do those fish play within the ecological processes in the sanctuary zone habitats? Dr Booth from Australian Marine Sciences Association [AMSA] has said that he believes that bream might be sedentary on the rock reef habitats for periods of up to 10 months. How long are bream in those reef habitats? Could you advise what habitat the bream actually spawn? Are they there for five minutes on the reef or do they stay there longer and where do they spawn?

Mr TURNELL: I might just take the question on notice, if I may. As far as bream hanging around a particular rocky reef, that may be the case for some of their life cycle and spawning. I think as juveniles they spend a lot of their time in estuaries, but I would like to take that question on notice, just to get what information is available to the Committee.

Mr TOOVEY: We can work together on that question on notice response in terms of the sanctuary zone aspect. (P. 19)

ANSWER:

Yellowfin Bream inhabit a wide range of habitats including estuaries, ocean beaches, rocky headlands and inshore reefs. Bream are known to spawn in the surf zone of ocean beaches, over river bars and at river entrances during winter months. This timing varies considerably between estuaries and between years. In southern and central NSW, spawning can take place as early as late autumn each year.

Approximately one month after spawning, the post-larvae enter estuaries on the flood tide and settle out of the plankton when they are about 13 mm in length. Post-larvae and juveniles of Yellowfin Bream mainly inhabit seagrass beds in shallow estuarine areas.

Bream form into shoals of several hundred fish and during spawning season the larger fish tend to group into schools of similar sized fish. Tagging studies have demonstrated that some fish migrate considerable distances (over 250 km) and indicates that inter-estuarine exchange between populations is likely. Very little is known about residence times of Bream on coastal reefs,

however, the use of electronic tagging may help increase our understanding of residency patterns of fish in the future.

Even though migratory fish species (and species of marine mammals) may not reside continuously within particular sanctuary zones in marine parks, they can depend on the habitats and species conserved in sanctuary zones and they can play a key role in the ecological processes occurring in sanctuary zones. Migratory fish species can feed in sanctuary zones and thereby strongly influence the structure of marine communities in sanctuary zones (through the ecological process of predation), even though the predation can be somewhat episodic. In addition, the ecological process of recruitment can be significant for migratory fish species that recruit to sanctuary zones containing known fish nursery habitats, such as seagrasses in estuaries. Some migratory species such as Grey Nurse Sharks can aggregate to breed (another ecological process) in sanctuary zones with suitable habitat (guttered rocky reefs).

The fact that migratory fish species may use areas within and outside marine parks from time-to-time highlights the important role of appropriate fisheries management and other marine and coastal management programs, which support the 'adequacy' of marine parks in securing the conservation of biological diversity and ecological processes.

QUESTION:

12. The Hon. TONY CATANZARITI: I think everyone is proud of the quality of fish they are able to buy. However, is there any control over the quality of imported fish as to whether it meets Australian standards? In Australia we have strict standards with regard to food, including fish. What sort of controls do we have to make sure good quality fish is presented for sale?

Mr TURNELL: I would like to take that on notice, if I may, as far as the imported and the requirements. (P. 21)

ANSWER:

All food sold in Australia, be it domestic or imported, must meet Australian requirements and be safe and suitable for human consumption. The Australian Quarantine and Inspection Service (AQIS) is responsible for administering these requirements under the Imported Food Control Act 1992.

In NSW, the Food Authority regulates certain parts of the food industry under the Food Regulation 2010, including businesses that handle seafood and shellfish. The Authority is responsible for ensuring the regulations are being adhered to by these businesses to achieve the best possible food safety standards and ensure food sold in the State is both safe to eat and correctly labelled. To check that this is occurring, the Authority undertakes regular audits and inspections of licensed businesses.

QUESTION:

13. Mr IAN COHEN: How much of our local seafood in New South Wales—I know in Western Australia there is a huge amount of export with the lobster fishery and such like—our local wild caught seafood is actually exported? Perhaps you would like to take that on notice. I am wondering if we could get a bit of a balance on this.

Mr TURNELL: I will take that on notice to get some specific figures to you where I can. (P. 21)

ANSWER:

I&I NSW is responsible for sustainable management of fisheries resources and fishing activities in the State and does not routinely collect data on the amount of seafood exported from NSW.

However, the Australian Bureau of Agricultural and Resource Economics 2008 Australian fisheries statistics report contains the following estimates of the amount and value of seafood exported from NSW in 2007-08:

| Seafood type | Value (\$) | Quantity (tonnes) |
|--------------------------|---------------------|-------------------|
| Fin fish | 10,813,000 | 1,503 |
| Crustaceans and molluscs | 13,748,000 | 494 |
| Total | \$24,561,000 | 1,997 t |

* These estimates include product caught or farmed in other states or territories, including Commonwealth fisheries, but exported from NSW.

QUESTION:

14. The Hon. RICK COLLESS: A number of witnesses that have come before the Committee have referred to the CSIRO DPI report, which I am sure you are all familiar with—"Ecologically Sustainable Development of the Regional Marine and Estuarine Resources of New South Wales"—compiled by CSIRO, the University of British Columbia and the DPI. Do you make use of the Atlantis modelling, which this refers to, when developing fisheries management strategies and conservation strategies? I am asking both departments here.

Mr O'CONNOR: From our perspective I would prefer to take that question on notice. (P.25)

ANSWER:

The study, which was published recently in 2009, aimed to develop tools that could help address issues emerging along the NSW coast, particularly related to the ecological impacts of fisheries and the potential role of specific harvest strategies or conservation strategies. Along with other available scientific data and analyses, the report and associated modelling will contribute to the management of the NSW coastal and shelf system through scenario exploration and management strategy evaluation.

QUESTION:

15. The Hon. RICK COLLESS: I refer back to an issue that has been discussed at some length already; that is, the surveys that you require fishermen to complete. Do you require those fishermen to record every fish they catch or only the fish they keep? I assume that does not apply to the trawlers, because it would be impossible. It would make a lot of sense if the released fish were also recorded.

Mr TURNELL: Are you talking about commercial or recreational fishing?

The Hon. RICK COLLESS: When I penned this question I was thinking about recreational fishermen. However, professional line fishermen could also record that information.

Mr TURNELL: From a recreational perspective I would have to take the question on notice. I am not sure exactly what happens with the survey (P. 27)

ANSWER:

During major recreational surveys, such as the National Recreational and Indigenous Fishing Survey (200/01) and the Greater Sydney Recreational Fishing Survey (2007 to 2009), the landed and released catch of fishers was recorded. With released catch, only numbers of fish were recorded whereas numbers and size of fish could be recorded for landed catch. Some previous surveys in Australia and around the world have only recorded landed catch because of recall bias associated with recording released catch.

There is a legislative requirement for commercial fishing business owners to submit records to I&I NSW of all fishing activities undertaken (including when no fish are taken).

The specific details required in the records are prescribed in the *Fisheries Management (General) Regulation 2010* including:

- all fish taken during those fishing activities,
- all fish disposed of during or after those fishing activities,
- the location in which all fish taken during those fishing activities were carried out,
- the endorsement on a commercial fishing licence that authorised those fishing activities,
- the fishing gear used in connection with those fishing activities
- the boats used in connection with those fishing activities,
- all individuals who engaged in or assisted with those fishing activities, and
- sightings of or any other interaction with threatened or protected species.

Additional data collection requirements for a specific fishery may be outlined in the share management plan for that fishery.

QUESTION:

16. The Hon. RICK COLLESS: The Committee heard evidence from Dr Booth from AMSA. He said he believed that bream might be sedentary on rock reef habitat for periods of up to 10 months. Can you advise whether this is known to be the case and also can you advise in what habitat bream spawn?

Mr TURNELL: I took a question very similar to that on notice a little earlier. I will get back with some information on bream. (P. 28)

ANSWER:

Please refer to Question 11 for an answer to the same question.

QUESTION:

17. Mr IAN COHEN: Just following on from the Hon. Rick Colless's question on fishing in sanctuary zones, I wonder whether someone could clarify grey nurse shark habitats, exclusion zones, the idea or the possibility or the efficacy, if you like, of trolling seasonally through those zones and the impact that could have on the grey nurse and also circle hooks or trolling selectively as opposed to exclusion zones, which has been a bit of a debate outside and within the Committee?

Mr TURNELL: There are a number of issues there I would like to provide specific information on so if I can generally take the question on notice. However, there are a number of moves at the moment to ensure we have consistency within those areas for both recreational and commercial fishing operations, and circle hooks are certainly playing a significant part in the commercial fishery to deal with hooking of species that we do not want retained.

CHAIR: Can I add another tag to that question when you take it on notice? The comment that the grey nurse shark aggregation is time based, the point that they are not there all the time has been made, therefore why are they permanent exclusion zones? In your answer can you also comment on the accuracy of that statement, is it factual or not?

Mr TURNELL: Yes.

Mr IAN COHEN: And the concept of trolling through a zone, how separate is it from impacting on something like a grey nurse or a bottom dweller, a deeper dwelling species?

Mr TURNELL: I will take that on notice.

Mr VAN DER WALT: If I may just make a comment. There has been some recent research looking at recreational fishing and the impact on grey nurse sharks. I can certainly provide the results of the surveys.

Mr IAN COHEN: Can you say from your perspective can the trolling co-exist or is it a potentially damaging process?

Mr VAN DER WALT: From memory, the main methods that resulted in interaction with grey nurse sharks—because they were not actually using hooks, they were using hookless baits—they tried a variety of methods and I recall the use of baits, dead baits like slimy mackerel, and this resulted in interaction and I think with trolling there was slightly less interaction. But we can provide more details on that. (P. 29)

ANSWER:

The Species Impact Statement prepared for the Ocean Trap and Line Commercial Fishery in 2006 assessed commercial jigging and trolling with artificial lures as having a low direct risk to grey nurse sharks although a

similar environmental assessment of the impacts of recreational fishing has not been completed.

Preliminary results from research conducted by I&I NSW at Fish Rock in NSW suggest trolling is a low risk fishing method. A range of hard bodied and feathered lures were trolled (234 km of shallow trolling and 156 km of deep trolling) resulting in no grey nurse shark interactions. The same research suggests fishing with bait is however a high risk method, and that some types of jigs are also likely to interact with grey nurse sharks. Other research has reported grey nurse sharks with retained lures and even if the sharks are not directly attracted to lures they may take struggling fish being played on lures that have retreated to deeper water.

The available evidence suggests that trolling lures is a much lower threat to grey nurse sharks than bait fishing and in this respect could co-exist in proximity to grey nurse shark aggregation sites. These arrangements are proposed at North and South Solitary Islands in the current review of the Solitary Islands Marine Park.

In respect of seasonality, the selection of the grey nurse shark critical habitat sites was based on a series of dive surveys conducted between 1998 and 2001 (average of 57 sites dived 4 times per year for 2.5 years). Sites were categorised upon the proportion of the observed population at each site, and the occupancy of site utilisation. Some sites are occupied most of the year, while other sites tend to be occupied seasonally, particularly sites at the edge of the species migratory range. In this respect the comment that the sharks "are not there all the time" is factual for some sites. Our understanding of site occupation continues to increase with time. The approach adopted by I&I NSW has been to introduce management provisions that broadly match site occupancy i.e. seasonally occupied sites such as Julian Rocks and Montague Island have seasonal provisions while continuously occupied sites have year round provisions.

In respect of hook type, circle hooks are more likely to mouth hook fish, and tend to result in less gut and oesophageal hooking. However, they do not guarantee that gut and oesophageal hooking can not occur. The use of circle hooks is mandatory for all unattended line fishing methods in the commercial ocean trap and line fishery. Notwithstanding this, the use of high risk fishing methods (i.e. bait fishing) in close proximity to grey nurse shark aggregation sites is not recommended as hooking is likely, and can result in a range of injuries, stress, infection, and morbidity regardless of hook type. For example, many grey nurse sharks carry gaffing injuries where fishers have attempted to remove hooks.

ADDITIONAL QUESTIONS FROM MEMBERS

Status/health of fish populations:

1. With respect to the exploitation status terms for fish species, such as recruitment overfished, growth overfished, and fully fished, as used in Status of Fisheries Resources document:

From a fisheries management point of view, what is the optimal category for a fish species?

If a fish species has one of the overfished categories is specific action automatically undertaken?

ANSWER:

Annual scientific fisheries resource assessments are used to determine the population status of fish species harvested by commercial and recreational fishers. There is a continuum of categories of fishing status ranging from lightly fished to moderately fished to fully fished. Lightly fished and moderately fished populations can sustain increases in fish catch. Generally, the maximum yield and associated economic benefits are being derived from fully fished fisheries with limited or no capacity to increase species catch and/or directed effort.

Growth overfishing simply refers to the situation where fish are generally harvested before they grow to a theoretical ideal size that takes best advantage of growth in relation to expected natural mortality. Although the yield per fish is not maximized, growth overfished stocks may still be healthy and there may be operational, ecological, economic and social reasons not to delay harvesting till fish reach a larger size. Accordingly, recovery programs are not required for all species categorised as growth overfished.

Recruitment overfishing' is the most serious status and occurs when fishing pressure has reduced the ability of a stock to replenish itself. The category of 'overfishing' is used to capture situations where there is some evidence that excessive fishing mortality is being placed on a stock however, significant measurable evidence that would confirm the stock's status as recruitment overfished is lacking.

If a species taken in a NSW commercial fishery is determined as 'overfished' or 'recruitment overfished' the relevant Fishery Management Strategies trigger a requirement for appropriate recovery action, which is then initiated. A recovery program is not required for "growth overfished" species if the existing harvest strategy and life history characteristics of the species provide sufficient protection.

The appropriate response to overfishing will vary between species and in most cases where the species was classified as overfished before development of the commercial Fishery Management Strategies, actions have already been included within those strategies to address many of the issues. For example, a trip limit for Gemfish has been in place for many years. In

cases where NSW fishers are not the major harvester, recovery can only be achieved by recovery programs in other jurisdictions.

2. In answers to questions on notice (p11) DECCW advised that "for many harvested marine species, sustained fishing pressure over many decades has resulted in a significant reduction in their size structure, abundance and productivity.

While Fisheries in answering a question on notice (p4) on whether fish caught are smaller than those caught 30 to 40 years ago provided details on key species, which showed snapper, grey morwong and silver trevally declining in length size.

Which marine species have seen a significant reduction in their size structure, abundance and productivity from sustained fishing pressure?

ANSWER:

There are a variety of factors that can impact fish stocks, including fishing, habitat degradation, recruitment variation, climate and climate change etc. Fisheries resource assessments of overfished species, outlined in Question 1, would have associated time series data showing reductions in age structure, size structure and/or catch/abundance. For example, available data on mullocky shows the age composition of commercial catch is strongly indicative of an overfished stock.

3. What actions are being taken with respect to the recovery of the Mullocky species? Are any immediate restrictions in terms of bag and/or size limits being considered?

ANSWER:

As advised in Question 1 above, I&I NSW has initiated development of a stock recovery program for Mullocky and established a resource planning group, consisting of researchers, fisheries managers and stakeholders from commercial, recreational and conservation sectors, to assist in developing a draft recovery program for further consultation.

The first meeting of the Mullocky resource planning group was held in June 2010. Discussions focussed on the available scientific information and on potential options to reduce the risk of further declines. To achieve this, the program is likely to include actions to reduce fishing pressure on adults and juveniles, as well as recommendations for further research to collect the information needed to fill knowledge gaps. Success of a recovery program should see an increase in the spawning biomass and more 'older' fish in the population as a result of enhanced protection for mature breeding individuals.

Some of the specific management actions being considered include:

- Appropriate changes to size limits for both commercial and recreational sectors.

- Reduction in the recreational fishing bag limits.
- By-catch limits and reduced targeted fishing for commercial estuary fishers.
- Commercial catch limitations for mullock on ocean beaches.
- Improvements to the current by-catch reduction devices used in the estuary and ocean trawl fisheries.
- Promoting better post capture handling practices for commercial and recreational fishers.
- A program to collect the information needed to monitor the mullock population and verify its status.

4. Previously we asked about the impact of commercial fishing activities on Bass in the Clarence River. In your written response (pp9-10) you noted that unintended catches might result from meshing net operations but that strict controls were placed on this. You further stated that latest scientific information supports your assessment that this commercial activity is being managed on a sustainable basis.

Can you provide a brief description of what "meshing net operations" are and also provide some brief detail on what the latest scientific information showed?

ANSWER:

A meshing net is constructed of a buoyant headline and a weighted footline so that when deployed, the net is orientated vertically in the water column. The meshing net is a passive fishing gear that entangles fish when they encounter the mesh of the net unless they swim over, underneath or around the net. The size of mesh used determines the selectivity of the net, i.e. the size of fish that the net will retain.

Strict rules govern the use of, and number of commercial fishers that may use meshing nets in NSW. Specifically, in addition to a suite of temporal and spatial fishing restrictions, minimum mesh sizes, maximum net lengths and setting times are set out in legislation.

Meshing nets are deployed from small (<6m) boats and are used by the methods of setting or splashing. Setting involves nets with larger mesh sizes being deployed then left in the water at night for up to 3 hours or overnight depending on the time of year. Deploying the net and immediately retrieving it in a continuous operation is termed splashing. The rules governing when and where each method may be used are designed to maximise the post-release survival of incidentally caught fish and quality of the retained catch.

I&I NSW has previously done comprehensive observer-based research surveys on the use meshing nets in NSW. Overall, 265 commercial meshing net catches were observed throughout the state and over 31 tonnes of fish were caught. Approximately 3.3% of the catch (by weight) was discarded. Australian bass represented less than 0.1% of this discarded catch.

Fisheries regulations (bag/size limits)

5. What was the response in terms of public submissions to the review of the Fisheries Management (General) Regulation?

We note that the next review of the fishing rules (bag and size limits) is due to commence in 2011. Is there any crossover in terms of these two reviews? And, if so, was any thought given to combining the two processes?

ANSWER:

The *Fisheries Management (General) Regulation 2010* and associated Regulatory Impact Statement were placed on public exhibition from 2 June to 2 July 2010. Twelve submissions were received from external stakeholders. A report on the outcomes of the public consultation and the changes made to the draft Regulation as a result is available at www.industry.nsw.gov.au.

The objective of the 2010 Regulation review was to consider whether the existing regulation should be remade with some amendments.

While there was opportunity to make some minor changes to fishing rules in the 2010 Regulation, major reviews of fishing rules are usually undertaken separately because of the comprehensive nature of the review process. This process has a number of sequential stages including resource assessments, development of alternative management options, industry consultation, widespread exhibition of a discussion paper, implementation of fisheries legislative amendments and associated advisory campaigns. The next review of fishing rules will commence in 2011.

6. It has been put to the Committee that when concern is expressed by the recreational fishing sector over the health of a specific species that too much time is taken to address the issue, and that the process needs to be reviewed.

If concerns are expressed about a specific fish species, what is the process for assessing the issue and taking management action?

ANSWER:

If community concerns are raised about a particular species, I&I NSW usually reviews available fisheries resource information and current management arrangements. Consultation is also undertaken with the relevant advisory committee or council for that fishery, sector or industry. From time to time, working groups may also be established to consult on cross sector issues when developing options for future management arrangements.

A recent example includes the implementation of a reduced bag limit for cobia. Queensland recently reduced its bag limit for the species and in consultation with the Advisory Council on Recreational Fishing, I&I NSW considered that some additional protection in NSW was required in the interim, noting that a broader and more comprehensive review of bag and size limits would commence in 2011. The bag limit for Cobia was reduced from 20

to 5 as part of the *Fisheries Management (General) Regulation 2010*, which replaced the 2002 Regulation on 1 September 2010.

Determining the recreational catch

7. There has been a consistent call from among inquiry participants that rather than rely on 2001 assessment figures, there was a need to accurately determine the recreational fishing catch.

In your view what process can be undertaken to determine as accurate as possible the recreational fishing catch?

ANSWER:

Quantitative assessments of recreational effort and catch are needed for management of fish stocks in NSW. The main challenge faced by fisheries agencies throughout the world is how to obtain these estimates of recreational effort and catch in a cost-effective way over large geographical scales (e.g. statewide scale). The National Recreational and Indigenous Fishing Survey data are the only available, well replicated, statewide estimates of recreational effort and catch for both freshwater and saltwater fisheries in NSW. However, these estimates are approximately 10 years old and it is recognised that updated measures of recreational catch and effort are now needed.

Recognizing this need, I&I NSW is currently hosting a series of workshops to design a statistically robust and cost-effective statewide survey of recreational fishing to meet the data needs in NSW. It is likely that the survey methodology will involve a combination of an off-site phone survey (following the model of the modified National Survey design that has recently been used in South Australia and Tasmania) and a regional on-site validation study to validate the results of phone/diary method to ensure accuracy. The development of the survey methodology is taking into account the large body of information that was recently collected during the Greater Sydney region recreational fishing survey.

8. Mr O'Connor in your earlier appearance you made reference (p2 and 20 of transcript) of surveys of recreational fishers to determine what sort of programs they would like to see funded by the two trusts.

What type of reach do these surveys have – in terms of number and spread surveyed, and how are the surveys conducted?

ANSWER:

The most recent survey was carried out in 2008. A specialist survey consultant was engaged by I&I NSW to survey recreational fishers to seek information on how funds from the Recreational Fishing Trusts should be spent. An invitation to participate in a web based survey questionnaire was sent to over 37,000 fishers with their licence renewal notice in February and March 2008. A total of 1770 fishers responded, which was deemed to be statistically representative of anglers fishing in both freshwater and saltwater.

The survey method represented a cost effective and robust method for gaining information from fishing licence holders about priorities for funding from the Recreational Fishing Trusts.

Recreational Fishing Havens

9. The submission from AMSA (Australian Marine Sciences Association) said that recreational fishing havens receive strong support from the recreational fishing community, despite there being practically no evidence of their effectiveness in achieving their stated goals.

What are or were the stated goals/objectives of Recreational Fishing Havens?

ANSWER:

Recreational fishing havens were created in 2002 to promote recreational fishing opportunities. This includes increased social benefits by providing grounds for recreational fishing only as well as potentially enhancing the quality of the recreational fishing catch.

National/International requirements for Marine Protected Areas

10. With respect to our commitments to the National Representative System of Marine Protected Areas, is there a requirement for any of our Marine Parks to include sanctuary zones?

ANSWER:

The Department of Environment, Climate Change and Water will provide information relating to this question.

11. Can seasonal and location-specific fishing closures be considered as Marine Protected Areas under the IUCN guidelines?

ANSWER:

The Department of Environment, Climate Change and Water will provide information relating to this question.

12. Given that all fishing activity within State waters are managed or open to management, it has been put to the Committee that the entire State waters could be proclaimed as a single Marine Park.

Could you comment on feasibility of this concept?

ANSWER:

The Department of Environment, Climate Change and Water will provide information relating to this question.

Scientific research on sanctuary zones

13. When scientific studies from Australia and overseas report an increase in biomass for an area that has been declared a sanctuary or no-take zone, does biomass refer to all or the majority of marine species within the zone or to a standard set of species or to specific species depending on the research and report?

ANSWER:

The Department of Environment, Climate Change and Water will provide information relating to this question.

14. In answers to questions on notice DECCW (p12) said with respect to researching the benefits of sanctuary zones that "...because of the complex food web within habitats such as rocky reefs, some species are likely to decrease due to the presence of more predators, and increases in numbers of some species may also be limited by the availability of food and competition."

Would these potential decreases in some species only ever be short-term or could they be permanent?

In assessing the benefit of a sanctuary zone does there need to be an overall net biodiversity increase for it to be assessed as beneficial or do you take the view that as it reflects an environment without human (fishing) intervention that it is a more natural outcome and therefore worthwhile?

ANSWER:

The Department of Environment, Climate Change and Water will provide information relating to this question.

15. With regard to research on sanctuary zones in NSW Marine Parks, in answers to questions on notice DECCW advised: "It is typical of any research to measure and record data for a selection of species and locations, rather than every species and site of interest. While a large number of sanctuary zones would include research sample sites, it would neither be necessary or cost effective to study every single site to obtain scientifically useful information."

Can you advise what locations and species at those locations will be monitored in NSW Marine Parks?

ANSWER:

The Department of Environment, Climate Change and Water will provide information relating to this question.

16. The Committee was advised that with the rezoning of the Jervis Bay Marine Park, it is proposed that the St Georges-Steamers Head Sanctuary Zone would be relocated northwards.

Is the Department in a position to monitor and compare the changes in biodiversity of the old and the new sanctuary zones?

ANSWER:

The Department of Environment, Climate Change and Water will provide information relating to this question.

17. In answers to questions on notice DECCW noted (p11) "that the development of barren reef areas due to the over-grazing of macro-algae by sea urchins can result, in part, from the reduction in the number of urchin predators due to fishing."

What species of fish predate on sea urchins?

ANSWER:

The Department of Environment, Climate Change and Water will provide information relating to this question.

Independent review of Marine Park Science in NSW

18. Recommendation 11 was "Clarify marine biodiversity for the wider public of NSW, focussing upon concepts, values and examples, rather than a focus upon any arguable spin-offs for fishing."

Are you able to advise us on how this will be done?

ANSWER:

The Department of Environment, Climate Change and Water will provide information relating to this question.

19. Recommendation 8 was "Review the utility of the zonation, in particular what is gained by having sanctuary zones in ocean beach and estuarine habitats."

In light of this is there any move towards allowing a 100 metre from-shore buffer zone on beach sanctuary zones while this review takes place?

ANSWER:

The Department of Environment, Climate Change and Water will provide information relating to this question.

20. Page 9 of the review posed the question of what is the plan for the use of the Baited Underwater Video System (BRUVS) in measuring fish abundance etc, and how would it explicitly link in with zoning reviews.

What are the plans for making use of BRUVS?

ANSWER:

The Department of Environment, Climate Change and Water will provide information relating to this question.

21. Page 11 point b says that a key gap in knowledge where ongoing research is required is "evaluation of the role of zonation in the performance of the MPA against stated objectives in terms of biodiversity conservation, spillover benefits, and community benefits.

Can you advise if there a set of stated objectives for sanctuary zones, and if so, what are they?

ANSWER:

The Department of Environment, Climate Change and Water will provide information relating to this question.

22. Is it your intention to publish on either the DECCW or MPA website the results of research on sanctuary zones?

ANSWER:

The Department of Environment, Climate Change and Water will provide information relating to this question.

23. At page 11 the review said that "While tourism and recreational activities were encouraged in MPAs and seen by many as being non-extractive and consistent with marine park values, it was recognised that they too may significantly impact local biodiversity, especially where they focus human activity in particular locations."

Are you aware of any locations within Marine Parks where this may be the case? And will research on this potential threat be undertaken?

ANSWER:

The Department of Environment, Climate Change and Water will provide information relating to this question.

Connectivity of Marine Parks

24. The answers to questions provided by the Batemans Marine Park Authority said (p2) "A recent genetic study on habitat-forming kelp and other algae has shown that connectivity both within and among NSW marine parks is generally high, indicating that current marine park design will facilitate connectivity of these ecologically important species. This research will be written up for publication."

Can you describe the importance of connectivity between Marine Parks and how it is achieved? A number of inquiry participants have called for greater physical connectivity between Marine Parks and on this basis argue for a new Marine Park in the Hawkesbury bio-region – is connectivity threatened by not having a park in this bio-region?

ANSWER:

The Department of Environment, Climate Change and Water will provide information relating to this question.

Bring Back the Fish program

25. The Submission from the Council of Freshwater Anglers said that Government funding for this has stopped.

Can you confirm this is the case and, if so, is this type of work being done through other means?

ANSWER:

Funding for the Bringing Back the Fish project was from the Federal Government's Natural Heritage Trust. No further funding from this source or its replacement Caring for our Country has occurred. Limited funding is delivered in coastal NSW on fish passage by structure owners (Councils and Water Authorities) with advice from I&I NSW.

Stormwater and sewerage in Marine Parks

26. We were advised that 40% of the NSW coast is contained within terrestrial National Parks. While approximately 30% of the coast is within Marine Parks. What percentage of Marine Park coastline is also within a National Park?

ANSWER:

The Department of Environment, Climate Change and Water will provide information relating to this question.

Access

27. The submission from COFA mentions Dunns Swamp which was a man made reservoir that had been stocked with Golden Perch for 40 years. In 2009 COFA was advised that it could no longer be stocked with fish because it was within a wilderness area.

Is there any potential for stocking to continue for this man-made reservoir?

ANSWER:

It is a statutory requirement under the Environmental Planning & Assessment (EP & A) Act 1979 to review environmental factors associated with fish stocking. The assessment of freshwater fish stocking in NSW resulted in the development of an Environmental Impact Statement (EIS) and associated Fisheries Management Strategy (FMS).

The FMS for freshwater fish stocking in NSW was implemented in 2006 and includes a restriction on fish stocking within World Heritage Areas. Dunns Swamp is part of the Wollemi National Park and the Greater Blue Mountains World Heritage Area, declared in November 2000. It is not in a wilderness area. As part of a World Heritage Area, Dunns Swamp is unable to be stocked with fish according to the FMS. It is proposed that a review of the FMS will commence in 2011 and there may be scope to review waters currently closed to stocking. As Dunns Swamp is in a World Heritage Area, proposals for fish stocking are likely to require self-assessment by the proponent under the Environment Protection and Biodiversity Conservation Act 1999 and would need to be referred to the Australian Government for assessment if they were likely to have a significant impact on the World Heritage Area.

Stocking has been conducted in the Cudgegong River outside the World Heritage Area upstream and downstream of Dunns Swamp and will continue in order to improve recreational fishing opportunities.

Fish stocking

28. The submission from COFA (p9) referred to two scientific investigations commissioned by NSW Fisheries which indicated that trout have little or no impact on frog species.

Can you advise what impact trout have on native biodiversity/species?

ANSWER:

Previous research indicates trout have impacted on the abundance of native galaxiid fish species in south-eastern Australia, such as Mountain galaxias and Barred galaxias. Two projects on the co-existence of Trout and threatened frog species in NSW have been undertaken by DECCW and the University of Newcastle using funding from the Recreational Fishing Trusts. These projects have found that Trout and Booroolong frog both occurred in four waterways in the South West Slopes region of NSW. Similarly, in the upper catchment of the Styx River in the New England Tablelands, the Stuttering frog and Glandular frog were detected on a similar proportion of streams where trout release occurs and streams that are trout free (see <http://www.dpi.nsw.gov.au/fisheries/recreational/fees/research> for relevant reports). These studies considered only the presence or absence of frogs and noted that further studies would be needed to determine whether trout stocking impacted on population size and dynamics.

The Fishery Management Strategy (FMS) for freshwater fish stocking in NSW currently restricts the stocking of trout and native species within 5 km of known sightings of threatened frog species to reduce ecological interactions of stocked fish with threatened species. Current knowledge and research, including the two trust funded studies will be taken into account during the proposed review of the FMS which will commence in 2011.

29. The Committee was advised that an EIS on the stocking of estuaries, funded by trust monies, was either proposed or underway. Could you confirm that this is the case and if it is provide some information on this project?

ANSWER:

I&I NSW is currently arranging for an environmental impact statement (EIS) on marine fish stocking in NSW. An external consultant has been engaged to prepare the EIS, which is assessing the feasibility of stocking seven potential fish species estuaries, including eastern king prawns, mulloway, dusky flathead, sand whiting, mud crab, blue swimmer crab and yellowfin bream. Estuaries in NSW are being assessed to determine their suitability for stocking. An associated Fisheries Management Strategy (FMS) is also being developed to provide an approved framework for the assessment and authorisation of fish stocking activities in NSW and to ensure responsible stocking practices.

Combination of Commercial and Recreational Fishing Advisory Councils

30. It was proposed to the committee that as the recreational and commercial fishing sectors were in effect seeking to use the one resource that there should be one source of advice to the Minister, and that there should be only one Advisory Council

At first glance can you identify any practical problems with having a single advisory council?

ANSWER:

It is important that specific advice on fishing related matters is provided to the Minister from various sectors and industries e.g. recreational fishing, commercial fishing, indigenous fishing, charter fishing, aquaculture and conservation interests. Fisheries issues can be diverse and complex in nature. Often there are competing or conflicting issues across sectors/groups while some issues are of mutual interest. From time to time, expert cross sector working groups are established to consult on regional, ecosystem based and/or specific stock issues and to develop options for future management arrangements.

Changes to the current consultative arrangements which would provide for consolidated feedback, with less individual groups providing advice direct to Government are currently a priority.

Commercial buy-outs

31. In our first hearing Mr Burgess from the Australian National Sportfishing Association said (p58) that ANSA had put a proposal to the then Minister that the commercial effort that was traditionally associated with Sydney Harbour should be bought out as those entitlements are now being used on the Hawkesbury to the detriment of that fishery. Mr Burgess said that the (then) Minister made it clear that he was not prepared to take any effort out of the

commercial sector unless it was the complete commercial effort in a bioregion.

Can you comment on that and advise what the current stance is with further buy-out of commercial effort – particularly latent effort?

ANSWER:

Details on the previous buyout process associated with Port Jackson is provided in Question 10 above.

I&I NSW is currently implementing an adjustment package to help the commercial fishing industry to restructure, including the implementation of an exit grant program aimed at reducing the overall number of fishing businesses in the industry while keeping shares in the fishery. The program is providing opportunities for commercial fishing business owners to leave the industry. Fishing business owners were recently asked to put forward an expression of interest, requesting up to \$15,000 in return for the surrender of their fishing business.

As stated in the NSW Government submission to the Legislative Council Select Committee Inquiry into recreational fishing (March 2010), any approach for additional buyouts, including recreational fishing havens, will be considered by the NSW Government on a case-by-case basis and take into account stakeholder and community views, as well as seafood supply.

Carrying of spearguns in National Parks

32. Can you please outline the regulations/restrictions that apply to the carrying of spearguns through NSW National Parks?

ANSWER:

The Department of Environment, Climate Change and Water will provide information relating to this question.

Swivel clips in sanctuary zones

33. Can you please outline the regulations/restrictions that apply to the carriage/storage of swivel clips when transiting through sanctuary zones?

ANSWER:

The Department of Environment, Climate Change and Water will provide information relating to this question.



Industry &
Investment

Recreational Fisheries Compliance in NSW

Report to the Legislative Council Select
Committee on Recreational Fishing

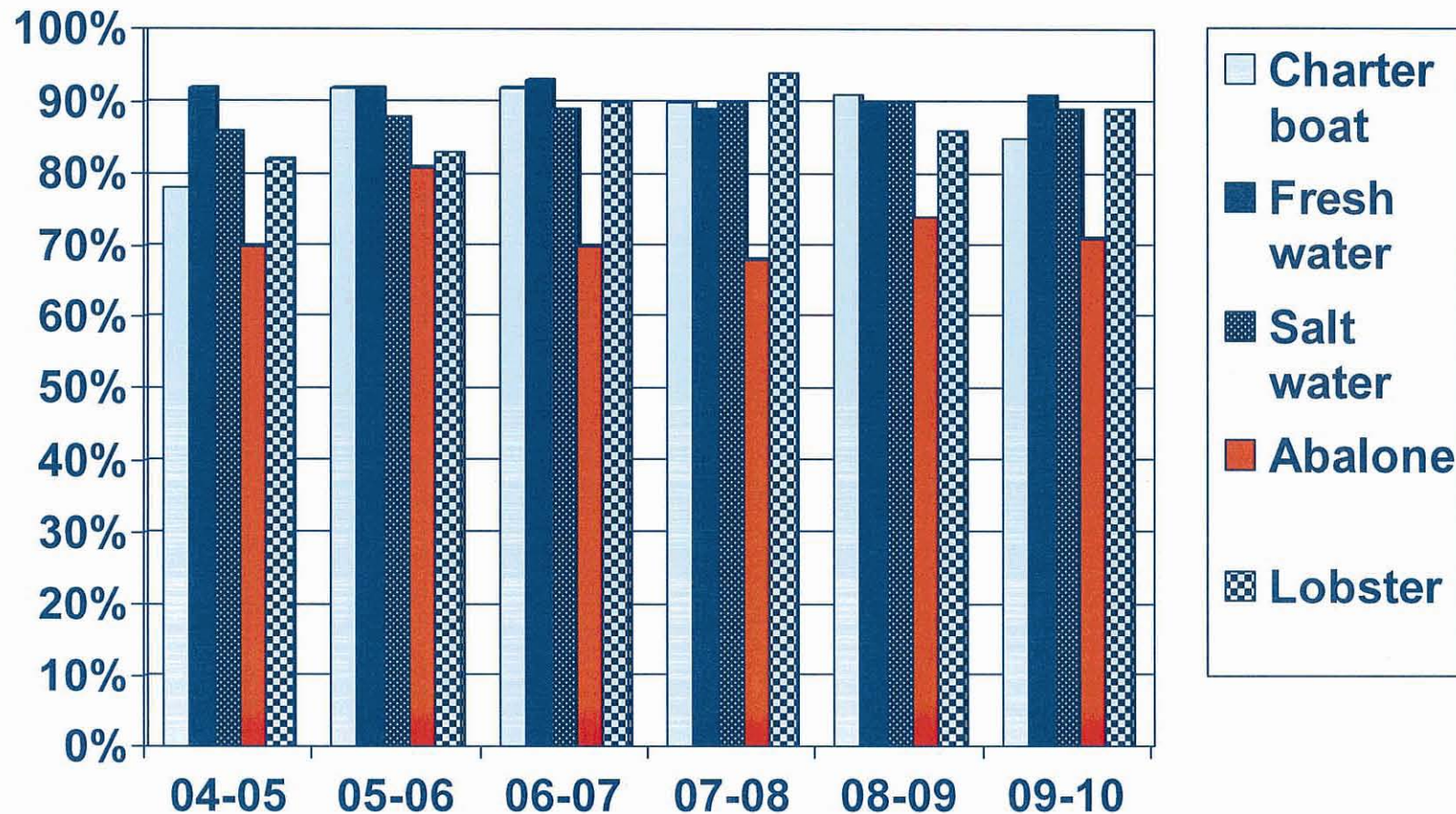
Fisheries Compliance in NSW – Glenn Tritton – Director Fisheries Compliance

Overview of Fisheries Compliance Operations in NSW



- 92 Fisheries Officers
- 9 Inland Fisheries Districts
- 16 Coastal Fisheries Districts
- 2 Large Ocean Fisheries Patrol Vessels
- State-wide Operations & Investigations Group (incl. 3 Recreational Mobile Fisheries Squads & dedicated Abalone Squad)
- Conservation and Aquaculture Group

Compliance Rates in Recreational Fisheries 2004 - 2010



*Compliance rates are measured on a per centum basis



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Contacts and Enforcement (2009-10)

All Programs

- Over 49,000 contacts (powers exercised/not including surveillance)
- Around 3200 field cautions issued
- Around 1900 penalty notices issued (figure will fluctuate subject to when notice issued)
- 291 matters successfully prosecuted
- 220 court imposed fines
- 7 Community Service Orders Imposed
- 6 gaol sentences (4 individuals)



Fisheries Compliance Seizures (2009-10) All Programs

- Over 3900 items seized (nets & fishing gear)
- 6 boats, 2 motor vehicles, and 2 trailers
- 6476 Abalone
- 116 Easter Rock Lobsters
- Over 9000 prohibited size fish
- Over 48,000 'fish' seized in total



10 Most Recurrent Offences 2009-10

1/07/2009 - 30/06/2010

| Offence (FMA 1994 unless otherwise indicated) | Number | % |
|---|-------------|---------------|
| Section 34J(2), Recreational fisher fail to have official receipt in possession | 1652 | 29.4% |
| Section 34J(1), Recreational fisher fails to pay fishing fee | 1056 | 18.8% |
| Section 16(1), Possess prohibited size fish | 506 | 9.0% |
| Section 24(1), Unlawfully use net or trap for taking fish | 206 | 3.7% |
| Section 16(1), Possess prohibited size fish - first offence | 177 | 3.1% |
| Section 18(2), Possess more than maximum quantity of fish | 167 | 3.0% |
| Section 25(1)(a), Possess fishing gear for fishing when such gear prohibited | 165 | 2.9% |
| Clause 66(3)(a), Use more than 2 hand held lines in inland waters, FM(G)2002 | 146 | 2.6% |
| Section 14(1), Take fish in contravention of a fishing closure | 134 | 2.4% |
| Clause 67(1), Leave line unattended outside 50 metres and vision, FM(G)2002 | 93 | 1.7% |
| Subtotal of top 10 offences | 4302 | 76.5% |
| All other offences | 1323 | 23.5% |
| Total of all offences | 5591 | 100.0% |



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