

Discussion of Session I

Recorded by K.R. Rowling

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Each panel presentation was followed by a time for questions, after which the Session was opened for more general discussion.

Following *Rudy van der Elst's* presentation, Rod Lenanton noted that the provision of commercial catch data was compulsory whereas recreational data were only provided on a voluntary basis. He asked if the recreational data could be considered representative of the total recreational catch.

Rudy van der Elst responded that the data presented reflected total recorded landings, but for Natal where there were good records of total effort, the data were able to be scaled up for each launching site to estimate the total catch. It was estimated that about 60% of boats fishing from each site provided daily fishing returns, so such scaling up is quite justified.

Nick Caputi was interested in the relative reliability and cost effectiveness of data from the different recreational sources.

Rudy van der Elst replied that in terms of cost effectiveness they had tried as far as possible to utilise existing facilities, such as fishing tournaments and affiliated unions and clubs. He considered data collected through such sources to be accurate, and noted that in Natal about 95% of recrea-

tional boats were affiliated with clubs. Staff who undertook beach surveys were extensively trained and procedural manuals were followed, and again the data resulting were considered to be accurate. In the case of data submitted voluntarily, obviously there was room for inaccuracies, and such data were cross checked by means of observer programmes.

Albert Caton commented to *Steve Malvestuto* on the difficulties in accurately measuring the length of live fish, noting that errors of plus or minus 2 cm had been observed in some studies. He wondered how recreational anglers had fared in measuring fish to comply with the 30–35 cm bandwidth.

Steve Malvestuto responded that many fisheries in the United States were overexploited and anglers were actively seeking beneficial management measures—there was therefore a great deal of support for such management measures and there had not really been much of a problem with adherence to such 'slot' measurements.

Rob Day wondered if the accumulation of fish below the minimum legal length was due to spatial differences within the systems where animals grew to different

sizes, or to some sort of selection in a closed lake system.

Steve Malvestuto did not feel it was a spatial effect, but it did tend to occur in systems where there was limited productivity but reasonably high exploitation rates.

Rob Day further asked if in such systems there had been no accumulations of larger fish even prior to exploitation.

Steve Malvestuto replied that this view was correct, and that in many systems there seems to have been very little surplus production. Many of the minimum legal lengths had been set in an effort to maintain some trophic dynamics in the systems concerned.

Murray MacDonald commented that the model seemed to be based on the assumption that they were dealing with a 'recreational only' fishery, and recruitment was either constant or determined by fishing pressure—he wondered how the model might work in a situation where there was competition for the resource or variable recruitment due to environmental factors.

Steve Malvestuto replied that variable recruitment almost certainly did exist, but as they were measuring the responses of anglers to management measures, he didn't feel that recruitment variation would have a major influence, although some variables may move up or down from year to year in response to such environmental variability. The intention in developing the model was to take into account the human factors, not to address some of the allocation issues, and so the model should be able to be used in commercial or mixed fishery situations as well.

Ted Loveday commented to *Laurel Teirney* that recreational fishers were unlikely to submit returns if they had taken over the bag limit, and asked if it was felt that information may have escaped inclusion in the study because of non-reporting.

Laurel Teirney replied that, amazingly, fishers seemed happy to disclose in a written response that they had exceeded the bag limit, whereas the tendency in boat ramp surveys was for people to hide their fish. In the paua fishery, for something like fourteen percent of the trips, reported catches were over the bag limit and this result was verified by phone checking.

David McGlennon's presentation was followed by 'forum' questions to all authors in the Session 1 panel.

Chris Hull commented that he had recently visited some freshwater fishing sites in South Africa and found them to be well regulated, with licences and creel surveys in place. He asked Rudy van der Elst if the Oceanographic Research Institute was involved in the monitoring of freshwater fisheries.

Rudy van der Elst replied that freshwater fisheries in South Africa were managed on a State or Provincial basis, and although this may change in the future, the Institute was not currently involved nationally with freshwater fisheries as it was in the marine fisheries.

Chris Hull then asked Laurel Teirney if she would like to comment on recent editorial remarks in the angling press in New Zealand which were adverse to the commercial fishery and seemed to be promoting conflict between recreational and commercial fishers.

Laurel Teirney said she was sad to say that this controversy was being fuelled in some areas, and that she could not support it, and did not think it represented the views of the majority of recreational anglers. In the southern areas where data from the recreational surveys had been available for some time, there was much less conflict than in the northern areas where data from the surveys were not yet available.

Derek Staples noted that the speakers agreed we certainly need good information on recreational catches, but asked how much it cost to collect such information (figures up to seven percent of the value of production had been suggested in some quarters) and who should pay for such collections.

Rudy van der Elst estimated that for the recreational and commercial line fishery in Natal the cost of monitoring was about four to five percent of production value, but it was difficult to estimate as some costs were hidden in existing infrastructure.

Frank Prokop commented that it was important in creel surveys to measure the catch by individual anglers, because management focus is generally on measures which apply to individuals such as bag limits, and figures like average catch per unit effort are not particularly valuable for determining such measures. He then noted that the successes reported by both Rudy van der Elst and Steve Malvestuto related directly to the level of support they had been able to gain from the recreational fishing community, and he wondered what factors they considered were of greatest significance in maintaining the ongoing support of recreational fishers.

Steve Malvestuto replied that in the United States success depends on provision of

results and information back to the public—unfortunately in some states this process has lagged somewhat, but in many states there is a high level of public support, based on information and education.

Rudy van der Elst added that in South Africa a great deal of importance was placed on involving fishers in the research programme itself, and while it didn't always work (sometimes for political reasons), if it was pointed out that it was always better to provide good information for decision making rather than having decisions made in the absence of information, then cooperation generally resulted.

Colin Buxton commented that the successes in Natal were largely due to Rudy van der Elst's personal zeal for the programme, and that in his own area of eastern Cape there was much less research effort and the level of success was nowhere near the same.

Kim McClymont asked Laurel Teirney how organised illegal poaching was taken into account (compared with simply catching just over the bag limit) as he believed the levels of poaching may be significant in some instances.

Laurel Teirney replied that the wider issue of 'thieving' is a problem, and cited as an example the abalone fishery where losses due to this cause were estimated to be about 120 t per year. Efforts of compliance officers are targeted at this problem which involves amateurs, illegal professional divers and quota holders.

Alex Julius asked if any of the presenters had done any work on further evaluating the concept of sustainability, and in particular whether there was a need to

differentiate between commercial and recreational sustainability.

Rudy van der Elst commented that there were the usual problems with allocation of the resources between recreational and commercial users in South Africa, and although they didn't have all the answers about sustainability there were some species that were dedicated to recreational use only, and with that went responsibility towards ensuring the sustainable use of those resources.

Steve Malvestuto observed that there was not a lot of commercial fishing in his area in freshwater, but he felt that sustainability in freshwater fisheries was a somewhat abstract concept, and he agreed that the term had a much broader context in regard to recreational fishing and this needed to be addressed.

Gavin Begg asked Laurel Teirney how well the boat ramp survey had confirmed the diary records.

Laurel Teirney replied that in terms of species mix and catch per person the diary system results agreed quite closely with the boat ramp survey results. However it was found the diary system tended to underestimate the number of 'no fishing' trips. There were also some problems with the boat ramp surveys, for example 'group catches' where anglers couldn't remember who had caught which fish and also they often couldn't recall how long they had been fishing for.