

### PAPER No. 4: Preferred Management Arrangements

#### Executive Summary

Fisheries management arrangements must consider both the economic and biological factors that affect the management of commercial fisheries.

The NTSC preferred management option for commercial fisheries is the use of Individual Transferable Quotas (ITQs). Only this management approach encourages innovation while ensuring the long term sustainability of our fisheries. The use of alternative management controls such as Individual Transferable Effort (ITEs) should only be considered if ITQs are demonstrated to be impractical in a specific fishery.

#### NTSC Policy Position:

Management arrangements must encourage innovation while ensuring the sustainability of the fishery, noting;

- Without the use of exclusive rights (ITQs or ITEs) fisheries will tend towards overcapitilisation, characterised by “the race for fish”.
- Under input controls, innovation and efficiency gains lead to tighter controls to mitigate for the increased catch.
- ITQs allow fishers to continually improve their efficiencies without the need for further controls while maintaining the sustainability of the fishery.
- Total allowable catches (TACs) or total allowable effort (TAEs) levels can be set without perfect scientific knowledge.
- Accurate logbook data is required from all vessels operating in a commercial fishery, and therefore the catch monitoring required for ITQ management does not represent significantly increased costs.
- The compliance costs of an ITQ system in the NTs fisheries will be less than that of an effective compliance program for input control fisheries.
- The problems associated with mixed species fisheries and ITQ systems are in reality compounded in input controlled fisheries.

## Scope

The policy only relates to the principle management tool for limiting catch or effort in a fishery and the NTSC recognises the need for additional measures to manage other impacts.

## Issues

It is generally accepted that ineffective management of commercial fishing results in two problems:

- over-fishing, which reduces future fish production and which, if allowed to continue, reduces fish stocks to levels from which recovery is not possible; and
- over-capitalisation (significantly more capital and labour employed in harvesting fish stocks than are needed to do so efficiently), which wastes valuable resources.

As recognised these problems occur because of the lack of appropriate access rights to commercial fisheries. This leads to economically inefficient exploitation. Unless appropriate management arrangements are implemented fisheries invariably become over-capitalised and, with increasing frequency, rapidly become uneconomical and require very expensive restructure programs. In the worst cases these economic drivers may lead to biological over-exploitation.

### ***Alternative management measures***

Management of fisheries in the NT has been directed solely at addressing the biological aspects of over-exploitation (usually by restricting inputs to fishing). This management has tended to reduce the efficiency with which fishermen operate and provide only temporary respite because increasing fish prices, new technology and the substitution of unrestricted inputs for restricted ones can always result in continued expansion in fishing effort and the need for more restrictions.

In some fisheries we have target reference points. While not managed as such these are often seen as aggregate quota or total allowable catch with the fishery seen as overfished when this quantity has been taken. Experience from around the world has shown that while aggregate quotas have proved effective from a biological viewpoint, their use has been characterised by a 'race to fish' as individual fishermen have sought to maximise their share of the allowable catch. This has frequently led to shorter fishing seasons, market dislocations as supplies peaked, and high policing costs.

It has been demonstrated for over 50 years that biological over-fishing occurs because of economic pressures related to overcapitalisation. There has been a shift away from a purely biological emphasis in management, to approaches which attempt to solve both the economic and biological problems. In attempting to maximise economic efficiency, removing incentives to invest in excessive or inefficient fishing capacity becomes a central part of management. There is little point managing a fishery to biologically sustainable limits if all the profits from the fishery are being dissipated through intentionally increasing costs in an attempt to control effort.

### ***Input controls***

The most frequently used method of addressing the problems of overfishing has been input controls, most often involving limits on the number of boats and or gear that can be used in a fishery.

Restrictions on boat numbers alone do not control fishing capacity, as fishermen can substitute larger or faster boats, and/or use more fishing gear. To be effective, limited entry has to be supported by supplementary controls to contain the fishing power of the fleet - for example, gear restrictions and boat replacement controls. Integral to this is that to continue to control fishing effort these controls have to be continually tightened, increasing fishing costs. This also sees considerable distorted fleet structures. Without exception input controls have seen profits dissipated, inefficient fleet structures and the eventual need for restructures. The Northern Prawn Fishery has seen this cycle now occur three times with effort levels increasing even under tradable fishing controls.

Importantly input controls are directly in conflict with innovation. This effect is well established in some of Australia's fisheries. The advances in the efficiency of prawn nets have been considerable with nets available that increase fuel efficiency by 30%. Such innovation cannot be implemented into an input control fishery without an equivalent control or cost placed on the industry.

### **Output Controls**

Aggregate quotas or total allowable catches have been used to provide biological protection of fisheries. Once the annual quotas have been taken the fisheries are closed. This still encourages fishers to "*race for fish*" with the purchase of bigger and faster boats and ever shorter fishing seasons.

However, by setting an aggregate quota and allocating it to fishermen as individual transferable quotas (ITQs), rights over a proportion of the catch are established. Quota holders are guaranteed a proportion of the catch without competing with others. They can now concentrate on using the most economically efficient means of taking their share. In this way, ITQs facilitate autonomous adjustment of fleet size and fishing operations.

In addition ITQs also give the operator much greater opportunity to take advantage of favourable market conditions. If market prices decline mid way through a season, a quota holder can elect to save his quota for later in the season when prices may have recovered. They also provide considerable incentives to improve catch value instead of simply increasing catch size.

Although simple in concept, ITQs can sometimes present a number of practical difficulties when they are being implemented. Issues include setting TACs, monitoring, compliance, changes in fishing practices, costs and the complexity of mixed species fisheries. Importantly these issues are more difficult to manage under input controls.

### **Rationale**

There are now many tools to address the biological impact of a commercial fishery. However there is little benefit in managing the biological take if we are simply ensuring fishing costs are so high no profit is being made. Management arrangements need to ensure fishers have incentives to improve their efficiency and are able to implement technological advances into the industry, without these benefits being eroded by ever tightening input controls. Management arrangements must ensure the biological integrity of a fishery but must also allow for the pursuit of economic efficiency.