

# Shellfish Fishery Policy Document



*Crassostrea gigas*

“Pacific oyster”



*Ostrea angasi*

“Native oyster”



*Venerupis largillierti*

“Venerupis clam”



*Katelysia scalarina*

“Katelysia Cockle”

Information Supporting the Shellfish Management Plan  
for the *Fisheries (Shellfish) Rules 2007*

March 2007

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## EXECUTIVE SUMMARY

The shellfish fishery policy document provides management direction for the shellfish fishery. It aims to fulfil the requirements of section 44 of the *Living Marine Resources Management Act 1995* by providing an explanation of the management plan for the fishery, the *Fisheries (Shellfish Fishery) Rules 2007*. This policy document is not a legal document and should not be relied upon for legal interpretation.

The policy document and rules introduce formal management arrangements for the shellfish fishery, which includes clams, cockles, mussels and oysters. The management plan introduces commercial licences for some shellfish species that have been harvested for many years. The arrangements do not change existing regulations for recreational fishing with the exceptions of removing the bag limit for Pacific oysters and increasing the bag limit of some smaller pipi species.

Commercial harvesting of shellfish species has occurred in various areas during the last decade under the authority of a permit. The management arrangements have resulted in the granting of fishing licences that authorise the take of shellfish for commercial purposes from areas previously accessed under the authority of permits for a substantial continuous period which have been shown to be economically viable and biologically sustainable.

At this stage commercial harvesting of *Venerupis* clams and native oysters from Georges Bay and *Katelysia* cockles from Ansons Bay meet these principles and licences have been granted on the basis that a person held a permit in 2005 for these shellfish species and area. The management plan also granted licences to harvest “wild ” Pacific oysters from state waters, however these licences are not limited, as the Government wishes to minimise wild populations of this introduced species.

The management plan provides a framework that may incorporate (with minor legislative amendments) licensing arrangements for other shellfish species and areas. This would require a period of developmental fishery assessment and community consultation before amendments could be made to the Shellfish Management plan. However, future development of the shellfish fishery will require significant resources and would only be considered if an applicant submitted a fully funded fisheries development plan.

With the exception of Pacific oysters, a Total Allowable Catch (TAC) based on stock assessments will be set, restricting the take of each shellfish type.

The rules relating to the fishery are largely based on rolling over the authorised activities and conditions used over the permit period. Docketing and reporting systems have been streamlined to make use of existing data platforms.

## OVERVIEW OF THE SHELLFISH FISHERY

Historically, commercial, recreational and aboriginal fishers have taken a range of shellfish species. While no licences are required for recreational or traditional aboriginal take of shellfish, bag limits for each shellfish species are currently contained in the *Fisheries Rules 1999*. These recreational bag limits will now be incorporated in the *Fisheries (Shellfish) Rules 2007*.

The *Fisheries Rules 1999* specifies that certain shellfish, including clams, cockles and oysters can not be taken for commercial purposes without an authorisation. Developmental fishing permits issued under Section 13 of the Act have been used to provide access on a temporary basis. As permits can only be issued for a maximum period of 12 months, fishers have applied each year and been granted permits for defined areas and species. Over the last decade surveys have been conducted to monitor stock status and gather information which has been used to ensure fishing is conducted in a sustainable manner.

Four commercial fishers have continually harvested certain shellfish species from defined areas for well over a decade. Two of these have continually harvested *Venerupis* clams and native oysters from Georges Bay and *Katelysia* cockles from Ansons Bay. Although the two other fishers have had continuous permits over last decade, they have not continuously landed shellfish in each year due to stock fluctuations or personal reasons. One of these fishers harvested *Venerupis* clams from Georges Bay only, and the other has harvested *Katelysia* cockles from Ansons Bay.

Other shellfish harvest activities have not continued to operate for various reasons and formal licences have not been granted for these species. Examples are surf clams from Mercury Passage, *Katelysia* cockles from Musselroe Bay, Recherche Bay and Eastern and Western Inlets (around Stanley) and mussels from other areas around Tasmania.

On several occasions over the last few years, the Department indicated to commercial fishers that formal management arrangements for clam<sup>1</sup> fishing would be progressed. This process was slow due to a lack of consensus by fishers about a management framework and other priorities of the Department. Following agreement between fishers in 2004, the Minister supported the development of management arrangements for the clam fishery that reflected their activities under existing permits.

Under this framework, there has been no increase in fishing effort in areas where clam fishing has been conducted in recent years. Limiting the number of fishers to historical levels is an important aspect of the framework as it limits environmental impact and user group interactions, such as between commercial fishers, recreational fishers and other people who may frequent coastal areas. Formal management arrangements have provided previous permit holders with the security of long term access to the shellfish resource and allowed the Department to recover the costs of managing and researching the fishery to ensure long term sustainability.

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<sup>1</sup> DPIW have previously termed the harvesting of *Venerupis* and *Katelysia* as “clam fishing”. The draft Australian Standard Fish Names list however, uses the term “cockle” for *Katelysia*. To avoid confusion when marketing, DPIW will use the terms *Katelysia* cockle and *Venerupis* clam.

In early 2006, the Department decided to incorporate several existing developmental fisheries into one management plan based on the proposed management framework for the clam fishery. This has led to the grouping of clams, native oysters and wild Pacific oysters into a collective fishery termed the shellfish fishery.

For the purpose of the rules, the shellfish fishery includes clams, cockles, mussels, oysters and other bivalves<sup>2</sup> with the exception of scallops; and gastropods<sup>3</sup> other than abalone and the commercial take of periwinkles and whelks. Scallops, abalone, the commercial take of periwinkles and whelks are managed by the management plans for the scallop, abalone and commercial dive fisheries respectively. Also not included are any of the prohibited shellfish species (such as limpets) described in the *Fisheries (General and Fees) Regulations 2006*; or shellfish that are not harvested from the wild ie. marine farmed.

Prior to issuing licences it must be demonstrated that shellfish species can be harvested in a sustainable manner. This required the monitoring of fishing activities and stock trends over a number of years. To date this has occurred for clams and oysters from Georges Bay and cockles Ansons Bay.

The management arrangements have been developed in consultation with the clam and native oyster permit holders. The management framework incorporates the following:

- Allocation of commercial licences for each area and species based on historic permit activity;
- Zone management, area and seasonal closures;
- Equipment restrictions;
- Size limits;
- Catch limits including recreational bag limits and Total Allowable Catch (TAC) for commercial fishers; and
- Compliance mechanisms including reporting and docketing requirements for commercial fishers.

The management framework has resulted in five new licence types authorising the commercial take of shellfish of a particular type from a defined area. Other than a fishing licence (Pacific oyster), the granting of these licences is limited to the number of fishers that previously operated under the relevant permits. Licences authorising the commercial take of Pacific oysters from the wild will be issued to any approved fisher who makes application, as the Department wishes to encourage the removal of this species in State waters. The following types of licences have been granted:

- Fishing licence clam Georges Bay (south)
- Fishing licence clam Georges Bay (north)
- Fishing licence cockle Ansons Bay
- Fishing licence native oyster Georges Bay
- Fishing licence Pacific oyster

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<sup>2</sup> A bivalve is defined as a mollusc that has two shells (valves) hinged together, and includes oysters, clams and mussels.

<sup>3</sup> A gastropod is a single-valved mollusc.

## **Scope and area of the plan**

The *Fisheries (Shellfish) Rules 2007* (the management plan) and policy document cover management arrangements for both the commercial and recreational sectors of the wild fishery. Marine-farmed shellfish are mentioned, in relation to transferring shellfish taken from the wild to marine farm operations. Aboriginal fishing activities are provided for under the Act, however the development of policy relating to harvesting shellfish by Aboriginals is outside the scope of this plan.

The Shellfish Fishery Management Plan applies to those species described in the *Fisheries (Shellfish) Rules 2007*. The shellfish fishery contains a vast range of species, and subsequently the geographic distribution is also highly varied. It should be noted that the licences issued under this plan are species and area specific.

The legislated jurisdictional area under Section 5 of the Act to which the shellfish fishery management plan applies is the State waters defined in the Offshore Constitutional Settlement Agreement of 1996, for invertebrates. See Commonwealth Gazette No. S531, 31 December 1996 for full details. The area is described in Appendix 2.

## **Links to other policy and legislation - complying with commercial dive and other licence requirements.**

It is important that fishers realise that when working under the authority of a shellfish licence, they are not excused from their requirements to abide by other fisheries rules. In particular, fishers must recognise that if their harvesting techniques require them to dive or swim beneath the surface of the water they must also hold a fishing licence (commercial dive). They must hold a fishing licence (personal) and if using a vessel whilst taking shellfish, a fishing licence (vessel).

In addition to the rules relating to the shellfish fishery, there are general regulations relating to overall management of fisheries that apply to all fishers operating in State waters. Where there is any conflict between rules contained in the shellfish fishery management plan and any general rules and regulations, the shellfish rules prevail to the extent of that inconsistency (Section 41 and 41A of the *Living Marine Resources Management Act 1995*).

## **HISTORY OF COMMERCIAL SHELLFISH HARVESTING UNDER PERMIT**

### ***Venerupis* clam and *Katelysia* cockles**

*Venerupis largillierti* (previously known as *Ruditapes largillierti*) and *Katelysia* sp (primarily the species *Katelysia scalarina*) have been harvested commercially in Tasmania since 1987. Both species inhabit shallow waterways with *Katelysia* found more on sheltered intertidal sand flats and *Venerupis* in both intertidal flats and the deeper estuarine channels.

When the fishery first began in the late 1980's, it developed quickly but much of the catch went unreported as prior to 1993 no formal mechanism for regulation of the fishery had been established. The lack of control led to the development of an interim management strategy that only permitted the taking of cockles and clams for commercial purposes under the authority of an exploratory permit. Four of these exploratory permits were issued to fishers who had demonstrated a history of involvement in clam and cockle harvesting.

Permits were issued at various times allowing the harvest of *Venerupis* clams from Georges Bay; and *Katelysia* cockles from Ansons Bay, Musselroe Bay, Recherche Bay and the Eastern and Western Inlets (around Stanley). Only the activities relating to taking *Venerupis* clams from Georges Bay and *Katelysia* cockles from Ansons Bay have continued into recent years.

Four commercial fishers have continued to work clam and cockle beds while contributing to a comprehensive monitoring and reporting program. The Department has analysed this information to review fishing practices and adopt management measures prior to issuing annual permits. Past permit conditions have promoted sustainable fishing practices and minimised the impact of the fishery on other users and stakeholders. Catch limits for each species and area were based on biomass data compiled by the Tasmanian Aquaculture and Fisheries Research Institute (TAFI).

Other parameters considered include:

- Historical records;
- Market demand;
- Compliance with catch restrictions;
- The natural environment and wildlife such as bird life that may be dependent on local clam populations;
- Disturbance to wildlife habitats as a result of clamming activity; and
- Local residents who value the aesthetics and lifestyle offered by the areas.

### **Native oysters (*Ostrea angasi*)**

The native oyster, also known as the flat oyster occurs naturally throughout many Tasmania waterways. It is closely related to the European oyster (*Ostrea edulis*) which attracts premium prices in Europe.

Native oysters have been harvested in Tasmanian waters since 1860. They were harvested by sail powered dredge in the south east of Tasmania. It is estimated that 22.5 million oysters were dredged annually from State waters between 1860-1870 and that by

the 1900s the fishery was in rapid decline. The report of the Royal Commission on the Fisheries of Tasmania in 1883 blamed the deterioration of the beds on overfishing, the destruction of the sea floor by the dredging and other anthropogenic impacts such as siltation caused by land clearing. Stocks have never returned to the levels seen during that time. Native oysters now occur in relatively smaller beds, notably on the east coast and in the D'Entrecasteaux Channel.

In recent times, harvesting of native oysters by diving has taken place in Georges Bay, St Helens where the largest documented surviving native oyster bed is located. A number of exploratory permits were issued throughout the 90's for one-off harvests executed via a tender process. The sale of oysters did not meet the marketing expectations of the tenderers resulting in less than the expected quantities of oysters being harvested. Currently fishers are involved in the fishery taking a relatively low number of oysters from Georges Bay.

The culture of native oysters has been attempted in the past with little success. This included the Flat Oyster Culture Program in 1991 that involved translocating oysters from the wild to marine farms to improve condition. The onset of the oyster disease *bonamiosis* in translocated oysters, brought on by stress, resulted in a premature end to the program in 1994.

### **Pacific oysters (*Crassostrea gigas*)**

Pacific oysters are an introduced species and have established populations in the wild. For the purposes of this document, they have been termed wild Pacific oysters to distinguish these from Pacific oysters grown on marine farms.

A total of twelve permits have been issued for the commercial harvest of Pacific oysters since 1996. In June 2003, production reached a peak when there were seven permit holders, utilising a total of around 40 authorised harvesters, fishing primarily in areas such as the D'Entrecasteaux Channel, Georges Bay, Smithton and Port Sorell.

Permits have also been issued over the last few years to community groups and interested persons to remove or destroy wild pacific oysters. Under the management plan permits will not be required to undertake these eradication activities, as there is no commercial gain derived from these activities.

Wild Pacific oyster populations have, however provided an economic opportunity for sporadic commercial harvesting in some areas. A licence is required for taking any fish commercially and hence a licence is required for taking wild pacific oysters for commercial purposes. Granting fishing licences to harvest wild Pacific oysters for commercial purposes will help to serve to capitalise on a valuable resource while helping to stem the population of wild Pacific oysters that have proven to be problematic to sectors of the Tasmanian community. A formal licensing arrangement is also important to manage health risks associated with these filter feeders. This is discussed later.

DPIW supports community groups, individuals and organisations in their efforts to control wild Pacific oysters. The Department does not have a sustainability objective in harvesting wild pacific oysters and any future licence holder of a fishing licence (Pacific oyster) should be aware of the temporary nature of the fishery, and note that community groups may periodically actively target areas and destroy wild pacific oysters from any area that are outside a marine farm lease.

## MARKETS AND VALUE OF THE FISHERY

Shellfish are sold to local fish processors, restaurants, and direct to markets in Melbourne and Sydney. The table below shows the amount and value of shellfish.

The amount of shellfish landed each year is depicted in Table 1. There has been variability in landings due to variability in recruitment, mortality, market demand and fishing behaviour.

Discussions with research scientists at Tasmanian Aquaculture and Fisheries Institute (TAFI) explained that the recruitment in most shellfish fisheries is extremely sporadic. There may be no sign of recruitment for several consecutive years and then without any apparent trigger there will be a large settlement of shellfish larvae. For example a large recruitment event has been observed in Georges Bay in early 2007.

**Table 1: Amount and value of shellfish landed from 2001 to 2005 in the Tasmanian Shellfish Fishery**

	<i>Katelysia</i> Cockles	<i>Venerupis</i> Clams	Native Oysters	Pacific Oysters	Total for shellfish fishery
<b>Amount Landed 2001</b>	9720 kg	28320 kg	1687 doz	18798 doz	
<b>Amount Landed 2002</b>	8675 kg	40507 kg	5215 doz	38531 doz	
<b>Amount Landed 2003</b>	8310 kg	43266 kg	5595 doz	40104 doz	
<b>Amount Landed 2004</b>	5708 kg	26450 kg	5295 doz	10384 doz	
<b>Amount Landed 2005</b>	4182 kg	20751 kg	2929 doz	6635 doz	
<b>Average annual landings 2001 to 2005 inclusive</b>	<b>7319 kg</b>	<b>31859 kg</b>	<b>4144 doz</b>	<b>22890 doz</b>	
<b>Beach price 2005</b> Clams/cockles are \$ per kg; Oysters \$ per dozen	\$ 8.00 kg	\$ 5.50 kg	\$ 6.00 doz	\$ 5.50 doz	
<b>Total beach value 2005</b>	\$ 33,456	\$ 114,131	\$ 17,574	\$ 36,493	<b>\$201,653</b>
<b>Average annual landed value based on average landings 2001 to 2005 inclusive and 2005 beach price</b>	<b>\$58,552</b>	<b>\$175,223</b>	<b>\$24,865</b>	<b>\$125,897</b>	<b>\$384,538</b>

It should also be noted that over the past few years there has been some substantial flooding which impacted on clam populations in a way far exceeding any effects that may have resulted from fishing activities. This in conjunction with two fishers undertaking very little harvesting in some years has led to large fluctuations in annual harvest figures. It should also be remembered that regardless of any decrease in biomass resulting from natural phenomenon, that the decrease will also be reflected in assigned TAC as less than 10% of the biomass estimated from the surveys may be allocated to the fishers.

## **MANAGEMENT OF THE SHELLFISH FISHERY**

### **Progressing the shellfish fishery from a developmental permit fishery to a licensed fishery**

The Department has not issued any new permits, other than to existing licence holders, for shellfish in Georges or Ansons Bay for the last five years to allow formal management arrangements to be progressed. Any additional fishing effort may have had an adverse environmental impact and affected the viability of existing fishing operations.

There has been some fine-tuning of the permit conditions over the last few years, but the management arrangements for each area and species has remained fundamentally the same. Most of the conditions trialed under permit are also appropriate as long term management arrangements. More importantly, biomass surveys indicate that fishing is occurring in an ecologically sustainable manner. The fishery appears to be sufficiently economically viable to fund core research and management costs.

The species and areas under formal licence arrangements in this management plan have been assessed through the permit system and been shown to be capable of sustainable commercial harvesting. The data accumulated over the permit period has allowed appropriate fishing strategies to be developed and have allowed for the fishery's progression to formal licence status.

It must be noted that in the future, developmental activities will only be considered for prospective fisheries if a fully funded development plan has been put forward by an applicant.

If a proponent can demonstrate a developmental fishery can be run in a viable and sustainable manner it may be considered for formal licensing arrangements in the future. However, as in the case of the shellfish fishery, viable and sustainable must be applied in the broader context and consider the costs and advantages of the fishery in relation to aspects such as environmental impacts, other resource users and the benefits to the State as well as to individuals.

For further information on permits go to [www.dpiw.tas.gov.au](http://www.dpiw.tas.gov.au) and follow the appropriate links.

## **POLICY OBJECTIVES AND MANAGEMENT STRATEGIES**

This section sets out the fisheries management objectives for the shellfish fishery and the primary management strategies to attain those objectives. The objectives are complementary to the stated resource management and planning objectives described in Schedule 1 of the *Living Marine Resources Management Act 1995*. The policy objectives and strategies for the fishery are:

- ***Maintaining biomass and fish recruitment***

To maintain shellfish species populations at levels which are able to generate acceptable recruitment.

***Strategies***

1. To restrict access to the fishery by restricting the number of licences.
2. To introduce Total Allowable Catch limits where applicable and relevant.
3. The establishment of zones to disperse fishing pressure.
4. To monitor catches of all species taken by fishers and develop performance indicators for managing the fishery.
5. To amend the rules governing the harvesting of species as necessary in response to increases in landings or new information.
6. To introduce a minimum or maximum legal size limits for shellfish where appropriate.

- ***Sustaining yield and economic returns***

To optimise the yield able to be gained from the fishery by requiring or encouraging appropriate fishing practices.

***Strategies***

1. To restrict access to the fishery by limiting the number of licences.
2. To promote research of shellfish biomass and populated areas.
3. Identifying the most appropriate TACs and size limits that will benefit both the industry and the environment.
4. To initiate closures in zones as required.
5. To encourage the development of an industry code of practice to include rotational harvest or other spatial management concepts.
6. To encourage cooperation within the industry for developing shellfish related aquaculture.

- ***Commercial fishing interactions***

To mitigate any conflict that results from competition between different fishing methods for access to shared fish stocks and/or fishing grounds.

***Strategies***

1. To introduce a system that allows holders of a shellfish fishing licence rights and opportunities to benefit from the fishery in a sustainable manner.
2. To initiate closures in zones as required.
3. To encourage the development of an industry code of practice.

- ***Access to fish stocks by recreational fishers and Aborigines***

To maintain reasonable access to shellfish species for recreational fishers *and* *Aborigines*.

***Strategies***

1. To continue to allow recreational fishers and Aborigines access to shellfish such as clams, cockles, pipis and mussels traditionally taken for non-commercial purposes.
2. To initiate closures in zones as required.
3. To encourage the development of a code of practice within the recreational sector.
4. To set catch limits.

- ***Marine farming interactions***

To provide for areas within which marine farming can develop.

***Strategies***

1. To prohibit or restrict commercial fishing by licence holders in those waters that are occupied by marine farms.
2. To protect established fishing grounds from any detrimental impact by marine farms or marine farming activities.
3. To encourage cooperation within the industry for developing shellfish related aquaculture.

- ***Environmental interactions***

To minimise activity which is detrimental to the marine environment, particularly in areas of ecological significance.

***Strategies***

1. To promote ongoing research into the shellfish fishery.
2. To introduce regulations, rules or licence conditions that promote minimal impact harvesting techniques.
3. To restrict equipment for harvesting shellfish and promote minimal impact harvesting techniques.
4. To initiate closures and zones as required.
5. To prohibit the taking of endangered, rare or sensitive species.
6. To promote the take of introduced shellfish species such as Pacific oysters from State waters.
7. To implement licence conditions and promote codes of practice within the industry with regard to accessing foreshore areas and harvesting operations.
8. To work with Parks and Wildlife Service and other relevant authorities to help monitor, and restrict environmental impacts on the coastal zone from shellfish operators or related parties.
9. To work with Parks and Wildlife Service and other relevant authorities to educate shellfish fishers on the fragile nature of coastal landscapes and how to minimise the possibility of impacting on these.

- ***Recovery of management and research costs***

To recover revenue from licensed shellfish fishers to contribute to the costs of management and the research needs of the fishery.

***Strategies***

1. Determine the costs of management and necessary research for the fishery.
2. Equitably pass on management and research costs to participants in the fishery.
3. Accumulate residual funds in a trust account to fund future strategic research and development.

- ***Food Safety***

To minimise food safety risks by facilitating best practice in the harvest, transportation, handling and processing of Tasmanian marine resources for human consumption.

***Strategies***

1. To promote high standard practices for harvesting, carrying, handling, purging and storing shellfish by fishers and fish processors in accordance with public health requirements and the Primary Production and Processing Standards for seafood in the Food Standards Code and Tasmanian Shellfish Quality Assurance Program (TSQAP).
2. Fishers and fish processors are to be held accountable by submitting records for quality assurance purposes.
3. Where necessary implement through conditions of licence, requirements necessary to achieve the mandatory standards for seafood/primary production and processing in the food standard code.

## **MANAGEMENT MEASURES THAT REFLECT THE MANAGEMENT STRATEGIES FOR SHELLFISH FISHERY AND THE LOCAL ENVIRONMENT**

The Shellfish Management Plan has adopted a suite of management measures to promote sustainable fisheries including:

- Licensing structure and limiting the number of commercial licences;
- Zone management with area and seasonal closures;
- Equipment restrictions;
- Size limits;
- Catch limits (recreational bag limits and Total Allowable Catch for commercial fishers);
- Compliance mechanisms including reporting and docketing requirements for commercial fishers;
- With Parks and Wildlife Service, notify and seek to educate fishers about minimising impacts on the natural and cultural values of the coastal environment.
- With Parks and Wildlife Service aid in the education of fishers on minimising impacts on natural and coastal values of the coastal environment; and
- Trigger Points for management review and licence performance criteria.

The application of each of these strategies may vary from species to species to best address specific requirements.

The management measures are outlined below.

### **Licensing structure for commercial shellfish licences**

Over the last decade, shellfish fishing has generally been conducted in inshore areas, such as estuaries and intertidal areas. Permits were limited in number to avoid disturbance to the environment such as turbulence, sedimentation of waters and damage to flora and fauna habitat. The number of licences granted is limited to the number of permit holders that had harvested shellfish by permit over the preceding decade to ensure there is no increase in environmental impact on these areas.

It is also important that the formal management arrangements assist in maintaining economically viable fishing units, so the fishery is able to fully fund future management and research costs.

Under the licensing arrangements, a total of eight licences have been issued for the Ansons Bay and Georges Bay areas. This has been limited to the number of licences identified as being sustainable and viable during the permit assessment period. To ensure sustainable fishing, the weight of shellfish species taken is controlled by setting a Total Allowable Catch (TAC) for each species and area. Shellfish licences, with the exception of a fishing licence (Pacific oyster), have only be granted to a person who has continually held a permit for that species in that area for the last five years.

As there are considerable environmental benefits in encouraging people to eradicate Pacific oysters from the wild, no limit will be applied to the number of licences issued in

State waters. Any person can apply for a Pacific oyster licence under the Act. As these licences will not be restricted, they will not be transferable however they can be renewed.

These formal licensing arrangements provide better security for industry participants and stronger enforcement measures by preserving trialed arrangements for specific shellfish fishery rules and regulations. Moving from permits to licences should maximise any further opportunity for expansion of this fishery and assist in controlling wild Pacific oyster populations.

Prior to harvesting shellfish for commercial purposes, fishers must have a class of shellfish fishing licence and a fishing licence (personal) to sell shellfish. These licences are specific to a designated zone and species of shellfish and specify the amount of catch that can be taken by that licence. Several shellfish species may be harvested by one fisher.

The number and type of licences granted under the new arrangements for taking shellfish for commercial purposes are described in Table 2. There are no licence arrangements for taking shellfish for recreational purposes.

**Table 2: Categories of licence to be granted under the *Fisheries (Shellfish) Rules 2007***

<b>Fishing Licence Type</b>	<b>Number of Licences</b>	<b>Species</b>	<b>Area/ Zone</b>
Clam Georges Bay (south)	1	<i>Venerupis spp.</i>	Georges Bay South Zone, St Helens
Clam Georges Bay (north)	2	<i>Venerupis spp.</i>	Georges Bay North Zone, St Helens
Cockle Ansons Bay	3	<i>Katelysia spp.</i>	Ansons Bay Zone
Native Oyster Georges Bay	2	Native oyster ( <i>Ostrea angasi</i> )	Georges Bay Zone , St Helens
Pacific Oyster	Unrestricted	Pacific oyster ( <i>Crassostrea gigas</i> )	All State waters

### **Transferability**

All shellfish licences will be transferable, with the exception of fishing licence (Pacific oyster).

### **Supervisors**

The owner of a shellfish licence may obtain authorisation for another person to operate under their licence. This flexibility will allow fishers to maintain supply to their established markets when unable to fish themselves for personal reasons such as illness or holidays.

Only one person may be authorised as a supervisor for each licence at any one time. Once authorisation is granted, a supervisor may operate the licence and must abide by all requirements of the Act. However, should an offence be committed, both the supervisor and licence holder may be liable.

The authorised supervisor must also hold a fishing licence (personal).

### **Assistants**

Under permit, fishers taking shellfish were authorised to use a maximum of two assistants to help them harvest shellfish. In the case of taking Pacific oysters the number of assistants was not limited.

These arrangements relating to assistants continue under the formal management arrangements. Section 60 of the Act allows a person, often a deckhand on a fishing vessel, to participate in fishing under the supervision of the holder of a fishing licence or a supervisor. This section does not apply to taking fish by diving, and therefore a licence authorising the take of a species, would be required by a person taking fish by diving. The shellfish rules overcome this restriction by stating that up to two assistants may take shellfish under the supervision of the licence holder (or supervisor). This offers more flexibility in that the licence holder may engage divers to assist the fishing operation.

The holder of the shellfish licence must be present when the assistant is taking shellfish and each assistant who dives must be the holder of a fishing licence (commercial dive). If harvesting is by diving, a licence holder who is not diving or does not have a fishing licence (commercial dive) may supervise assistants to take shellfish by diving, however the supervisor must ensure the assistant is the holder of a fishing licence (commercial dive).

The rules also limits the number of assistants with respect to taking shellfish (other than Pacific oysters) by wading, which is necessary to limit environmental interactions in inshore areas.

### **Granting of licences that have expired**

The shellfish licensing year will commence on 1 September. If licences are not renewed by this date, then legally they cease to exist as they have expired. Licences can not technically be renewed after expiry, but a replacement licence can be granted upon payment of a fee. It is important that licences are not held in abeyance for long periods as the community does not derive a benefit from the licence being used and the Department does not receive funding to manage the fishery. Therefore each licence fee must be paid each year.

A performance measure is included in the rules specifying that a replacement licence will not be granted if the licence has expired for a period greater than 12 months. If this arises the Minister may reallocate the licence under section 98 of the Act using a mechanism determined by the Minister following consultation with the authorised representative fishing body.

## **Zone management, area and seasonal closures**

### **Zone management**

Licences, with the exception of the fishing licence (Pacific oyster), have been granted for defined areas based on historical activities in order to minimise environmental interactions and interactions with other user groups.

Initially, there four zones have been established for the shellfish fishery. These zones are restricted to reflect the areas where permits have granted continued access, and where catch records and survey data have been provided over the last decade or more.

Previously *Katelysia* cockles have periodically been taken under the authority of a permit from Little Musselroe Bay, the East and West Inlets (around Stanley) and Recherche Bay. Formal access to these zones are granted in the management plan as they were not recently surveyed nor actively accessed by fishers when the management plan was developed.

No zones apply to the take of wild Pacific oysters with the licence allowing the holder access to wild Pacific oysters from all State waters that meet public health requirements (discussed under “Managing health risks from wild harvested shellfish”).

The zones are:

#### **Ansons Bay Zone**

Historically shellfish permits provided access to all of Ansons Bay, however *Katelysia* cockles have only been harvested from the inlet channel and the western (inner side) of the Spit around to, and including Shark Bay.

The management plan confines the taking of *Katelysia* cockles for commercial purposes to a defined area of Ansons Bay, termed the Ansons Bay Zone. The Department drafted the coordinates defining this zone based on the area where fishing and survey activities have tended to focus in recent years. This depicts the Ansons Bay Zone as the north western part of the inlet channel.

During preliminary consultation, permit holders requested that the Ansons Bay zone be based on the area that they historically fished, with the exception of Shark Bay. This proposal included the whole inlet channel and areas on the western (inner side) of the Spit to the south eastern entrance of Shark Bay.

After re-assessing the alternate zone as requested by the fishers along with all other submissions from other departments and organisations, DPIWand reviewed available habitat mapping and deemed it appropriate to restrict the area previously available to the fishers to exclude the more sensitive areas including the northern part of the spit, and part of the Ansons Bay Channel.

The Ansons Bay Zone is depicted in Appendix 3.

#### **Georges Bay South Zone**

The area is generally described as the waters in Georges Bay south of a line of latitude that goes through the red navigation marker number 6, (Chart - AUS

356). To designate this area, coordinates have been stated in the rules to avoid any confusion should the pylon be moved for any reason.

The Georges Bay South Zone (GBSZ) is dominated by sand flats with some deeper channels. *Venerupis* clams have been harvested from the sand flats by wading since 1987, but have not been taken by diving. The clam stocks within the sand flats are periodically subject to a sudden influx of fresh water which, at times, may cause high mortalities and large variations in biomass. These natural phenomena can have a profound impact on resident populations of shellfish. The clam stocks on the sand flats in Georges Bay South are still rebuilding since heavy rains and floodwaters from the upper Georges River catchment area caused sudden changes in salinity and mass clam mortalities in 2004. The deeper channels were not affected. Biomass surveys will need to assess the populations on the sand flats and channels in this area before commercial quantities of clams can be taken.

The areas depicting the Georges Bay north and south zones are depicted in Appendix 3.

### **Georges Bay North Zone**

The area is generally described as the waters in Georges Bay north of a line of latitude that goes through the red navigation marker number 6, (Chart - AUS 356).

The Georges Bay North Zone (GBNZ) is generally characterised by the deeper waters of the channel in the Bay. This zone is less susceptible to sudden changes in salinity than the southern zone and hence the population of *Venerupis* clams appears more stable. These stocks are accessed by diving due to the deeper waters.

### **Georges Bay Zone**

Georges Bay is defined in the Rules as “the State waters enclosed west of an imaginary straight line extending from the tip of Grants Point to the tip of St Helens Point in the north-east of the State”. Being the one zone for the take of native oysters. Only two fishers have continuously accessed native oysters from Georges Bay for the last five years.

### **Area and seasonal closures**

Under this management plan, the Minister has the power to close part or all of the fishery for seasonal reasons. These measures are beneficial if research demonstrates that broodstock needs protection, or that protection would improve future yields. The Minister may also implement closures for other reasons; for example if shellfish harvesting in intertidal areas is considered to be having adverse environmental impacts on part of an area.

Area and seasonal closures may occur after discussions with industry or following the activation of a trigger point as discussed below. Under these circumstances, the Minister will advise the industry via a public notice stating the designated area and closure dates and the species that are affected.

Area closures and shellfish harvest restrictions may also be imposed to manage health risks. This legislation is administered by the Department of Health and Human Services and is discussed later.

### **Equipment restrictions**

In general, shellfish will be harvested by hand. The use of hand implements to take Pacific oysters is allowed as they tend to be attached to rocks or clumped.

The use of mechanical equipment is not permitted. In some circumstance hand held non-mechanised implements to take shellfish other than Pacific oysters may be authorised by endorsement. These endorsements may be revoked should any information become available indicating adverse impacts of using hand implements.

Harvesting of *Katelysia* cockles takes place at low tide by the method known as finger ploughing, where cockles are gathered by running fingers through the sand. No mechanical aids or tools such as rakes or spades are allowed.

Harvesting of *Venerupis* clams takes place both on the intertidal sand flats and the channels in Georges Bay. The existing permit holder in the GBSZ has used a fork, but no mechanical aids or tools may be used in the GBNZ. The licence holder may continue to use a fork to harvest *Venerupis* clams in the GBSZ.

### **Size limits**

Minimum size limits for commercial fishers have been set in the rules for *Katelysia* cockle and *Venerupis* clam. Minimum and maximum size limits for other shellfish can be set by public notice.

The ability to set minimum and maximum size limits is to ensure adequate protection of broodstock. This is a general principle to increase the chances of continued recruitment to the fishery. As a rule of thumb, the Department considers protection should be given that allows two successful spawnings before being subject to capture. Research has shown that in some instances a larger invertebrate animal tends to have a significantly higher quantity of successful larvae than smaller animals. The ability to set maximum size limits has been incorporated in the rules.

In addition to protecting broodstock for recruitment and therefore sustainability, minimum size limits may increase the yield of the fishery.

A minimum size limit of 40mm for *Venerupis* clams and 32mm for *Katelysia* cockles across the widest part of the shell applied under permits. These size limits are largely based on data collected over the permit period and should provide adequate time for specimens to reach maturity and spawn at least twice before they are susceptible to commercial harvest. These size limits have been rolled over in to the rules.

A minimum size limit for native oysters of 70mm across the widest part of the shell applied under permits. This size limit was set based more on market rather than biological information and thus a size limit has not been legislated. If appropriate a minimum size may be implemented by public notice.

There are no size limits for Pacific oysters as the aim in harvesting these animals is to deplete the wild population.

## **Setting catch limits**

### **Recreational catch limits**

Recreational bag limits for shellfish are now included in the *Fisheries (Shellfish) Rules 2007*. These remain the same, as they were in the *Fisheries Rules 1999*, with the exception there is no limit on the recreational take of wild Pacific oysters and a bag limit of 200 wedge shells (Mesodesmatidae Family, including *Paphies spp*) applies. In addition, it should be noted that Aborigines have collected wedge shells for aboriginal fishing activities and hence no bag limit will be imposed for aboriginal fishing activities.

### **Total Allowable Catch for commercial fishers**

A Total Allowable Catch (TAC) will be set for *Venerupis* clam, *Katelsia* cockles, and native oysters for each harvesting zone and will be determined prior to the commencement of a quota year by the Minister in accordance with the Act. A TAC will not be set for the commercial take of Pacific oysters, as the objective is to minimise wild Pacific oyster populations.

The TAC setting process will commence with the Tasmanian Aquaculture and Fisheries Institute (TAFI) recommending a maximum TAC. This recommendation will be based on an acceptable harvest level for each species that is determined from recruitment trends; the latest biomass estimate; and other available fishery information (eg. catch trends). The frequency of surveys, methodology and funding are discussed later under “Research and Development”. The Department will meet with the licence holders of each zone to discuss the recommended Total Allowable Catch (TAC) level and finalise a recommendation to the Minister.

The TAC for each year could be set for two to three years, just after a biomass survey, and be decreased if monitoring indicates that this action is appropriate. In some circumstances, licence holders may prefer to have a TAC lower than the maximum level recommended by TAFI, to reduce risks to stocks and/or increase economic yields. The Department will not support recommending a TAC at a level higher than TAFI recommends. In all cases consultation will occur with the licence holders however it should be noted that the Minister has the final approval of the TAC.

The TAC will be allocated equally between the licence holders for each species and zone and the licence will be endorsed with that allocation at the commencement of the licensing and quota year. Initially, the licence holders fishing certificate for that year will reflect the equal allocation.

Due to the relatively low gross value of this fishery and the need to minimise administration costs, individual transferable quota units (ITQ) will not operate in this fishery. ITQs would require the development of automated database linkages between the quota management system (QMS) and the licensing system. The size and value of the fishery does not warrant the development of these linkages at this stage.

Seasonal adjustments between licence holders may be considered if the Department receives mutual agreement between two licence holders by submitting an application for

a variation of the respective licences. In this situation the transferor must request their respective endorsements to be decreased by the same amount the transferee requests to be added for that quota year. The transferor must declare that they have the amount requesting to be transferred in their quota balance when making their application.

Under this system manual checking of the quota balance is still required before approving the variation, and hence the Department is keen to limit the number of transactions to minimise the time spent on administration of the fishery. Therefore variations of licences will be limited to minimum transaction quantities of 1000 kg or 1000 dozen (depending on how the TAC is set) between licences. In this manner, some flexibility is catered for, while considering administrative support costs. In any event an allocation can not be seasonally transferred if it has been caught (ie. after the event). It should be emphasised that at the start of each new licensing year, hence the new quota year, all allocations revert back to equal allocation.

### **Catch limits for clams and cockles**

Over the past few years, when the fishery was managed under permit, the catch allocations for clams and cockles for each Zone had been based on TAFI's analysis of survey and catch information. The harvest level has been less than 7.5 per cent of the biomass estimates obtained through the surveys.

A harvest level of 10 per cent of the biomass of clams or cockles in a zone is considered to be a sustainable level for the harvest of these species. This level is consistent with harvest rates imposed on stocks overseas and is considered to be a precautionary harvest level given there is no information available on recreational harvests. (Dr. M. Haddon, TAFI pers.com). The TAC for harvesting clams or cockles will not exceed the conservative level of 10 per cent without further scientific advice and considering broader consequences. This precautionary strategy will assist to ensure fishing sustainability and minimise bird and other wildlife interactions.

It should be noted that some intertidal clam and cockle beds are vulnerable to natural catastrophic environmental impacts, such as freshwater floods, and exposure of tidal flats during temperature extremes. Sub-tidal stocks in the channels are relatively safe but some shellfish beds on tidal flats have been completely wiped out by flood events. This has occurred on a number of occasions in Georges Bay with *Venerupis* clam beds suffering substantial to complete mortality. Significant mortality of clams and cockles may also occur on the tidal flats during periods of extreme low tides combined with hot weather thus leading to mortality by exposure and desiccation.

Mass mortality events suggest that precautionary management provides no guarantee of sustainability in specific areas and indicates that an alternative strategy may involve harvesting beds at a greater rate on the tidal flats providing adequate stock is left in the sub-tidal area to assist in recruitment after mass mortality events.

### **Catch limits for native oysters**

A harvest level of 16 per cent of the biomass of native oysters in a zone is considered to be a sustainable level for the harvest of this species. In recent years the catch allocation and harvest rate under the permit fishery has been substantially less than the maximum harvest level primarily due to market constraints. In the future there may be some capacity to increase the TAC.

### **Catch limits for wild Pacific oysters**

There is no reason to set a catch limit for the commercial take of wild Pacific oysters, as their management issues do not include a need for ensuring sustainability. Part of the management strategy is to assist in reducing wild populations outside of marine farms.

However it must be recognised that access to certain fisheries is via fragile coastal reserves and that native coastal vegetation communities provide essential habitat for threatened flora and fauna species. Aboriginal cultural heritage is frequently located on coastal lands also, and is very vulnerable to damage. For these reasons, laws control access and usage to these areas and visitors are required to abide by these laws. For example:

- Destruction of coastal reserve vegetation, or collecting or cutting firewood, collecting rock or taking of any other natural substance is prohibited under the National Parks and Reserved Land Regulations 1999;
- Vehicle use in a reserve in areas other than on constructed roads is prohibited under the National Parks and Reserved Land Regulations 1999;
- Non-native animals including dogs are prohibited from being taken to or remaining in reserved lands - such as those on the coastal zone - by the National Parks and Reserved Land Regulations 1999; and,
- Damage to, removal of and other interference with Aboriginal cultural heritage sites is prohibited by the *Aboriginal Relics Act 1975*.

To further emphasise this point, the following condition will be included on shellfish licences:

“It is a condition of this licence that the holder must not enter public or private property without the prior approval of the manager or owner of that property. It is a condition of this licence that the holder must abide with an agreement between the holder and the manager or owner of the property.”

### **Compliance mechanisms including reporting and docketing requirements**

All policies and rules relating to the shellfish fishery will be monitored and enforced by the Department of Primary Industries and Water (DPIW) and the Tasmania Police. The Department’s Fisheries Monitoring and Quota Audit Unit administers and monitors compliance using the quota dockets and other reporting requirements associated with having a TAC and catch allocations for particular shellfish species.

Part of the compliance program for recreational fishing focuses on community awareness and education about recreational shellfish fishing. A key part of this is the distribution of publications to educate fishers about the rules relating to the recreational take of shellfish. In addition to this, Fishcare Volunteers conduct patrols of fishing spots and school visits to assist in educating the wider community and recreational fishers about general fishing practices.

#### **Shellfish fishery docket**

The rules require the licence holders to land all shellfish caught and record fishing details, including the quantity, on a “shellfish docket”. The shellfish docket must be sent to the DPIW within 48 hours of landing, where the details are entered into a

database. This allows the catch to be monitored and assists in ensuring that the total catch does not exceed the sustainable harvest levels. Other fishing information on the shellfish docket, such as the amount caught and the time taken to catch a given amount, can also be used to indicate stock trends.

The docketing and database systems uses the same framework as the commercial dive fishery. This is more cost efficient, especially given the relatively low gross value of these fisheries. Initially the shellfish fishery will use commercial dive dockets. In the future, when a new print run is required, the docket books will be amended to accommodate both the shellfish fishery and commercial dive fishery needs.

### **Fish cauf stock records**

Fish caufs are used to hold fish in state waters on a temporary basis. Licence holders must apply to be endorsed for a fish cauf, and it should be noted that an application may be refused after considering fishery, environmental and compliance risks. As fish cauf's are structures being held in a public place, other approvals other than under the *Living Marine Resources Management Act 1995* may be required.

Shellfish are often placed in a fish cauf for a few days to meet public health requirements, and to flush or purge sand from some species before sale. Commercial fishers will be required to maintain stock records of all shellfish put in and taken out of the cauf and must make these available to any fisheries officer on request. These records reduce compliance risks associated with holding fish in State waters, and are particularly important to ensure the shellfish meet public health requirements.

### **Shellfish disposal receipt**

The rules state that a shellfish catch disposal receipt must be completed before the licence holder transfers shellfish to any person. As the person receiving the shellfish signs the receipt, these receipts may be used to verify the licence holder's quota balance. The receipts are to be sent to the DPIW within 48 hours of transferring or selling any shellfish to any person or fish processor.

### **Processor returns**

All processors are required to send monthly reports on the fish processed. These returns may also be used to verify the quantity of particular shellfish species landed.

### **Reporting requirements**

Telephone reporting is a cost efficient compliance method that informs authorities when and where the licence holder intends to fish.

Before commencing a fishing trip taking shellfish, the licence holder is required to make a telephone report (to the Reporting Service) and provide information about the intended fishing activities. The telephone reporting service can automatically generate messages (text or email) to nominated Fisheries Officers (Tasmania Police) or Departmental personnel.

A flow chart showing the key steps to the reporting and docketing arrangements for the shellfish fishery is in Appendix 4a. The reporting questions required when making telephone reports is in Appendix 4b.

## **Trigger points for management review**

Trigger points are levels or rates of change in performance indicators that are considered to be indicative of changes outside the normal variation of the stocks and the fishery. When one or more of the following trigger points have been met, the management of the fishery will be reviewed. These trigger points may be reached by themselves or in combination. There may also be additional factors, such as those relating to the environment or market, or requests from sectors of the fishery that could lead to a review of the management of the shellfish fishery.

When one or more of the trigger points has been reached, the Department will initiate consultation with industry and conduct a review and implement appropriate actions to best address the issue. The trigger points for management reviews are:

1. Changes in the catch rates for shellfish species (CPUE), where there is a decline of:
  - (a) 20 per cent in each of two consecutive years; or
  - (b) 35 per cent in a year.
2. Catch targets not met for shellfish species where an agreed percentage of the TAC is not taken:
  - (a) 40 per cent in each of two consecutive years; or
  - (b) 30 per cent in a year.
3. Where quantifiable, an undesirable change in size or age composition of the catch.
4. Identification of disease outbreak in shellfish stocks.

It should be recognised that in the case of developing fisheries and particularly when considering the “boom and bust” nature of some shellfish populations, there may be substantial changes in catch and catch rate which may not necessarily warrant a change to management arrangements. These cases will be carefully monitored. CPUE trigger levels may be adjusted to adapt to changes in the fishery following consultation with industry.

## **Minimum Survey Participation**

Surveys are funded by licence fees even though it is recognised that scientific surveys, particularly dive surveys conducted by independent scientists, are expensive. To help negate the expense, a collaborative approach to surveys has been developed, where fishers are supervised by scientists with the licence holders providing vessels and conducting the “operational tasks”, particularly diving (if necessary). This not only reduces costs but improves ownership of the results by the licence holders. Licence holders must therefore make themselves and their fishing equipment available for up to two days per year for surveying their fishing zone or any research area associated with that zone.

This requirement is listed as a condition on shellfish licences. The Minister has the power to refuse to renew a licence under Section 81 of the Act if this condition is not met.

The Minister's decision not to renew a licence is both a reviewable and appealable decision. If a decision is made not to renew the licence, the licence holder will have an opportunity to appeal the decision at a review tribunal. Should a licence be revoked through this process the Minister may reallocate the licence under section 98 of the Act using a mechanism determined by the Minister.

## RESEARCH AND DEVELOPMENT

During the last decade, developmental fishing has occurred on *Venerupis* clams, mussels and native oysters in Georges Bay; *Katelysia* cockles in Ansons Bay, Musselroe Bay and Recherche Bay; and surf clams (*Dosinia sp*) in Mercury Passage. Fishing logbook information has been used to monitor catches and trends. Surveys have been conducted at various times in these areas, with the exception that no surveys were conducted on surf clams in Mercury Passage.

Catch and stock trend information from logbooks and surveys were considered before the expiry of each permit period and the appropriate changes to fishing activities including catch allocations adjusted before new permits issued. In some circumstances areas were removed from the permit due to the area not having the capacity to be commercially fished and the lack of fishing or surveys being conducted for that area.

Regular periodic surveys have only occurred in the areas where continuous fishing activities have occurred. Surveys have been conducted for *Venerupis* clams and native oysters in Georges Bay and *Katelysia* cockles in Ansons Bay. These surveys have been designed by TAFI and conducted by the Department, with TAFI analysing the survey data and providing advice on harvest levels. In all cases survey information indicates that fishing has occurred at sustainable levels for these areas and species.

Formal licensing arrangements or future fisheries development will not be considered for any other shellfish from areas which have not had comprehensive surveys and stock monitoring that demonstrates a capacity to be commercially fished in a sustainable manner. The Department would be reluctant to allow any developmental activity due to the funding required and would only consider such proposals if a fully funded development plan was put forward by an applicant.

Under the new management arrangements, fishing levels may need to be adjusted from time to time to ensure fishing sustainability. The primary adjustment mechanism will be setting a Total Allowable Catch (TAC) based on fishing information and stock assessments. Fishing information will be collected through catch records as discussed previously under “Compliance mechanisms”, while stock assessments will take into account this information as well as survey information.

Surveys will monitor population trends, detect recruitment and estimate the biomass for each shellfish species for each fishing zone. Annual biomass surveys are not justified due to the size of the fishery, the conservative harvest levels and spatial management nature of the fishery. Fishing information will be monitored. If there are significant and unexplained<sup>4</sup> changes in fishery data then it may be precautionary to adjust the TAC accordingly for the next quota year, or obtain a new biomass estimate by conducting a survey for that particular zone.

Basic fishing information will be used to indicate the frequency of surveys, or the need for further research information. It is anticipated that surveys will be conducted on a biennial or triennial basis for each fishing zone and the subsequent biomass estimates

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<sup>4</sup> In some circumstances, changes in fishing information may be explained by changes in fishing behaviour caused by poor weather, markets, licence transfer or other circumstances. It should also be noted that a management review may be activated by a trigger point being reached.

used to derive a recommendation for the TAC. It should be noted, however that biomass estimates can be highly variable with many shellfish species due to the patchy distribution caused by settlement/habitat relationships and clumping distribution. Patchy distribution can make interpretation of survey data highly problematic, with the estimates of biomass derived dependent on the extrapolation of survey data to the amount of area considered fishable. Guidelines need to be established regarding the interpretation of the survey data and the derivation of a TAC for each shellfish area.

The surveys will be conducted in a similar way to those conducted under permit in that the fishers can provide equipment and labour, however it is likely that the surveys will be supervised and analysed by TAFI. In this regard the biomass estimate will be completely independent of the management organisation (DPIW).

Surveys will be undertaken with the licensee's involvement and wholly funded by the shellfish fishery. Having the fishers themselves involved in much of the survey process will reduce research costs with the fishery.

The management plan specifies that each licence holder must make themselves available for up to two days per year to participate in surveys. This may not be required every year, as surveys may only be required every two to three years, however some annual stock monitoring, such as sampling for recruitment by the licence holder, may improve decision making for the fishery. The methodology for surveys and data interpretation guidelines will be developed in consultation with the DPIW, TAFI and fishers in early 2007.

The undertaking of the surveys also provides an opportune time to include some health checks of stocks. This is in line with the Department's aim of developing aquatic animal health surveillance and given that much of the major cost of health surveillance for wild animals is for sample collection, the stock surveys provide an ideal and economical way to collect samples.

As there is only a low number of participants in this fishery, confidentiality guidelines relating to catch reporting will in this instance not preclude the Department reporting on the total catch from each zone.

Research, particularly stock monitoring and environmental information, is also important to demonstrate that the fishery meets the environmentally sustainable development (ESD) assessment process under Part 13A of the *Environment Protection and Biodiversity Conservation Act 1999*. This assessment is required before export approvals for the fishery can be gained. In this regard, it is important to note that the Department may not necessarily do an ESD assessment for this fishery due to the resources required and the value of the fishery. In this case, the onus is on the fishers and exporter to ensure the product obtains export approval.

## MANAGEMENT COSTS

To progress from a developmental fishery to a formal licence commercial fishery, the management of the fishery must be economically viable. Participants who derive direct benefit are responsible for all ongoing costs. The intention is to recover all costs associated with the ongoing research and management of this fishery that is of a direct benefit to the licensee, and to partially recover costs associated with implementing formal management arrangements.

Licence fees, such as the renewal, transfer and variation fees are specified in the *Fisheries (General and Fees) Regulations 1996*. The granting fee is determined by the Minister under Section 274 of the Act, and has not been set in these regulations.

Renewal and granting fees will be placed in a special trust fund set up under Section 278 of the Act. Costs associated with the direct management and research of the fishery will be met from the trust fund. As the fishery stabilises over the next few years, accumulated funds may be used to contribute to longer term research and development required for the fishery. The transfer and variation fees will go into consolidated revenue.

The calculation of costs associated with the fishery are based on the Department's Pricing Policy, which specifies that the full cost of providing Departmental goods and services should be reflected in the fees for those goods and services. This includes direct and flow-on costs.

The Department has applied cost recovery processes and subsequently calculated attributed costs to the shellfish fishery in accordance with guidelines issued by the Department of Treasury and Finance. The guidelines "*Costing Fees and Charges – Guidelines for Use by Agencies*" are publicly available and can be viewed on line at the Department of Treasury and Finance website [www.treasury.tas.gov.au](http://www.treasury.tas.gov.au).

Management costs are estimated to be around \$11,600 per annum, with costs attributed to fisheries management issues, licensing and operational costs such as the telephone reporting service. No costs have been included for public inquiries or development of additional species to be taken and areas not authorised for commercial purposes.

Research costs associated with supervising and analysing surveys and providing research advice including recommending a maximum TAC for each zone is estimated to be around \$8,000 per annum. The cost is based on an external party, such as TAFI, supervising the survey and each licence holder supplying vessels and equipment, and participating (including diving if appropriate) in the survey for their respective zone. The costs associated with doing a survey and subsequent biomass estimates for the four zones in the management plan are estimated to be \$16,000. Surveys may be required at least every two to three years for each fishing zone. In the calculation of research costs, surveys are budgeted to be conducted every two years. Should savings be made by conducting surveys in areas less frequently, then residual funds will be left in the trust account and may be used to address strategic fishery research and development issues.

The total estimated costs of management and research is therefore estimated to be \$19,600 per annum. These costs are approaching the higher end of management costs compared to the gross value of a fishery in Australia. The costs reflect the higher relative

costs of managing a fishery with; a low number of participants; relatively low value species; and the use of spatial management concepts.

An initial “one off” licence granting fee of \$2,700 was set for granting each type of shellfish licence, with the exception of Pacific oyster fishing licences. The granting fee recouped 50 per cent of the Department’s estimated management costs directly associated with formal management arrangements, and a pro-rata recovery of management and research costs for the period that the management plan took effect and the end of the first licensing period (1 March to 31 August 2007).

The annual licence renewal fee is based on 100 per cent recovery of the total attributed management and research costs for the fishery divided by the number of licences (with the exception of Pacific oyster licences). This cost attribution equates to \$2,450 for each licence.

Renewal, transfer and variation fees are prescribed fees that are indexed to CPI increases, and as such are set as fee units. A fee unit for the 2006/7 financial year is set at \$1.21. The conversion of the renewal fee equates to 2025 fee units, however with CPI adjustments it is likely a fee unit will be about \$1.25 for 2006/7. The renewal fee has been rounded to 2000 fee units for each type of shellfish licence, with the exception of Pacific oyster fishing licences. Therefore, when licences are renewed in 2007 the licence renewal fee will be approximately \$2500 per licence.

The granting fee for a Pacific oyster licence has been kept to the minimum fee of \$100 to cover basic management and licensing costs. The Government wishes to encourage fishers to harvest this introduced species from the wild.

Transfer fees and variation fees are the same as for the commercial dive fishery.

The fees for granting and renewal of the various types of shellfish licences are shown in Table 3 and estimates of management costs are depicted in Appendix 5.

**Table 3: Licence fee structure for the Tasmanian shellfish fishery.**

Licence Type	Granting Fee	Renewal Fee	Transfer Fee	Variation Fee
Clam Georges Bay (south)	\$2700	2000 fee units	250 fee units	50 fee units
Clam Georges Bay (north)	\$2700	2000 fee units	250 fee units	50 fee units
Cockle Ansons Bay	\$2700	2000 fee units	250 fee units	50 fee units
Native oyster Georges Bay	\$2700	2000 fee units	250 fee units	50 fee units
Wild Pacific oyster	\$100	100 fee units	not transferable	50 fee units

## Managing health risks from wild harvested shellfish

Bivalves are filter feeders that can concentrate pathogenic micro-organisms and heavy metals as they feed. Public health risks associated with eating these species are well known. In Tasmania, the Department of Health and Human Services (DHHS) has powers to close areas of State waters for public health reasons on a permanent or temporary basis.

Bivalves can only be harvested from areas that are approved for shellfish harvesting, and must meet the requirements of the Tasmanian Shellfish Quality Assurance Program (TSQAP). All licences will have as a condition of their licence to abide by TSQAP requirements relating to the public health requirements in harvesting shellfish. It is the responsibility of fishers to check that their fishing area is classified as approved by TSQAP for taking shellfish. Fishers may be required to hold shellfish taken from some areas in approved waters known as a purging site or “fish cauf” for a specified time period. Approved waters are monitored to ensure that the levels of pathogenic micro-organisms and toxic phyto-plankton are within acceptable standards before shellfish can be sold for human consumption.

Holders of a shellfish licence must abide by all TSQAP conditions and reporting requirements. Licence holders must monitor their harvest areas and be aware that areas may be closed or reclassified by TSQAP at short notice.

Some areas of State waters are permanently closed to taking shellfish due to pollutants such as heavy metals. As Pacific oyster harvesting will not be restricted to defined zones, conditions on that licence may prevent the taking of shellfish for human consumption from certain areas.

To fund the Tasmanian Shellfish Quality Assurance Program, a levy is payable by all holders of authorisations to harvest wild bivalve shellfish and applies to each area harvested. It will be a requirement through a licence condition that the licence holder must have paid the TSQAP levy applicable to the harvest area before harvesting any shellfish under the authority of that licence.

## APPENDICES

### Appendix 1: Management of Tasmania's marine resources

The need for Government involvement in marine resource management stems primarily from the common property nature of living marine resources. It is the responsibility of Governments to manage and protect marine resources, and to ensure that use of the resources is in the best interests of the community as a whole.

As custodians of natural resources on behalf of the community, the role of the Government is to ensure that marine resources are used in an efficient and ecologically sustainable manner. This approach ensures that the benefits of the living marine resources are maximised for both the environment and the community.

Experience worldwide has shown that where there is "open access" to marine resources there is little incentive for individuals harvesting those resources to conserve fish stocks. This competition amongst fishers can lead to irretrievable depletion of the resource. Left unmanaged, the increase in fishing effort that results from competition is reflected in lower individual catches in the recreational fishing sector, and over-capitalisation and reduced financial returns in the commercial fishing sector.

Governments have the responsibility of ensuring that the basis for the sharing of the resource among all users is clearly understood and accepted as equitable, and that the allocation of fisheries resources and their level of utilisation are consistent with the needs of present and future generations.

In Tasmania the sustainable management of marine resources is the responsibility of the Department of Primary Industries and Water under the *Living Marine Resources Management Act 1995*. The objectives of the resource management and planning system of Tasmania as described in *Schedule 7* of the *Living Marine Resources Management Act 1995* are detailed below.

#### Objectives of resource management

- (1) The purpose of the Act is to achieve sustainable development of living marine resources having regard for the need to:
  - (a) increase the community's understanding of the integrity of the ecosystem upon which fisheries depend;
  - (b) provide and maintain sustainability of living marine resources;
    - (ba) take account of a corresponding law;
  - (c) take account of the community's needs in respect of living marine resources; and
  - (d) take account of the community's interests in living marine resources.
- (2) A person must perform any function or exercise any power under this Act in a manner which furthers the objective of resource management.

## **Purpose of the policy document and fisheries rules**

This policy document provides a statement of the policy, which is used to manage the operations of the shellfish fishery in accordance with the objectives of the Act. The document is important in that it provides direction to the formulation of rules contained in the Shellfish Fishery Management Plan.

As far as is possible, the policy document has been written in a way that helps the reader understand the direction and basis for all fisheries management controls that apply to the shellfish fishery.

The policy document contains a description of the objectives of fisheries management along with information about the fishery, and the management strategies used to develop the statutory rules.

Associated with this policy document are the rules for the shellfish fishery, namely *Fisheries (Shellfish) Rules 2007*. These rules give legal effect to the measures described in the policy document.

The policy document has no basis and does not form part of *Fisheries (Shellfish) Rules 2007*. It is important as it contains a description of the management objectives and strategies relating to the fishery. The policy document also provides a framework for the management of the fishery in circumstances where the rules offer flexibility or when no statutory process applies. The policy document also assists fishers and the wider community to understand the direction and basis for the management controls of the fishery.

The *Fisheries (Shellfish) Rules 2007* provide the statutory rules, as required by the *Living Marine Resources Management Act 1995* (the Act), providing the legislative controls and measures that relate specifically to the fishery. These rules are declared a management plan under Part 3 of the Act.

### **Purpose of rules**

The purpose of the attached rules is to provide a comprehensive consolidation of the controls and measures that relate specifically to the shellfish fishery.

### **Statutory basis for the rules**

The powers contained in Part 3 of the *Living Marine Resources Management Act 1995* provide the legal basis for the preparation and implementation of the shellfish fishery rules. In particular, the Act sets out the purpose of management plans and rules and outlines the procedure for their development. The Act stipulates that the public is to be consulted before, during, and after the determination of management objectives, strategies and controls relating to the fishery.

The Act assigns responsibility for fisheries' management and for preparation of the management plans to the Department of Primary Industries and Water.

### **Explanation of the rules**

This document contains a general explanation of the shellfish fishery rules, but should not be read in isolation of other rules or regulations in determining what a person can or

cannot do in this fishery. Statutory requirements regarding licensing, licence fees and penalties for breaches of the fishery rules can be found in the *Fisheries (General and Fees) Regulations 1996*, *Fisheries (Penalty) Regulations 1996* and *Fisheries Rules 1999*.

The processes covering the application and issue of fishing licences is provided for in Part 4 of the *Living Marine Resources Management Act 1995*. Licence fees are specified in the *Fisheries (General and Fees) Regulations 1996*.

## **Management planning processes**

### **Implementation of the plan**

The process of preparing and implementing the Shellfish Fishery Management Plan begins with the Minister for Primary Industries and Water declaring intent to produce a management plan for this particular fishery. The process then takes the following steps:

- The Departmental Secretary, having consulted with those interested in the shellfish fishery, directs that a draft plan be produced by the Department.
- Once the draft Shellfish Fishery Management Plan is complete, the public is notified of this and the plan is made available for public comment for a minimum period of 60 days. During this time, those interested may make representations to the Secretary on any matter contained in the plan. The Secretary considers representations made and may then amend the draft plan.
- The draft Shellfish Fishery Management Plan is forwarded to the Minister together with a summary report on the public representations received on the plan. This summary report is available to the public. If satisfied that the draft plan meets the objectives of the Act, and that the Secretary has taken appropriate action in relation to representations, the Minister may then approve the plan.
- The fact that the plan has received Ministerial approval is then publicised, along with the date that the Shellfish Fishery Rules come into effect and their duration.
- The Shellfish Fishery Rules are in force on the date specified in the rules and continue in force for the period specified in the rules. In the case of the shellfish fishery these are proposed to be in force for ten years.

### **Review of the plan**

The Minister may, during the period that the Shellfish Fishery Management Plan is in force, ask the Secretary to review the management plan. Before initiating a review, the Minister must be satisfied that a review is necessary as a result of new information relating to the management plan becoming available, or that circumstances have changed to such an extent that the effect or efficiency of the plan has been significantly reduced.

The legislative process to be followed during the review of the Shellfish Fishery Management Plan is set out in Part 3 of the *Living Marine Resources Management Act 1995*.

### **Changes and emergency amendments to the plan**

Emergency changes may be made to the Shellfish Fishery Management Plan when the Minister considers that an emergency has arisen, or is likely to arise, making it necessary or advisable to make changes to the provisions of the plan.

The legislative process to be followed during the review of the Shellfish Fishery Management Plan is set out in Part 3 of the *Living Marine Resources Management Act 1995*.

### **Revocation of the plan**

The Minister may, by order, revoke a management plan if after receiving advice from the Secretary, considers that it is necessary or desirable to do so because ecological, economic or other factors have emerged that make it impossible, difficult or unsafe for any reason, for fishing to be conducted in accordance with the Shellfish Fishery Management Plan.

The legislative process to be followed during the revocation of management plans is set out in Part 3 of the *Living Marine Resources Management Act 1995*.

### **Consultative process for developing a management plan under the Act**

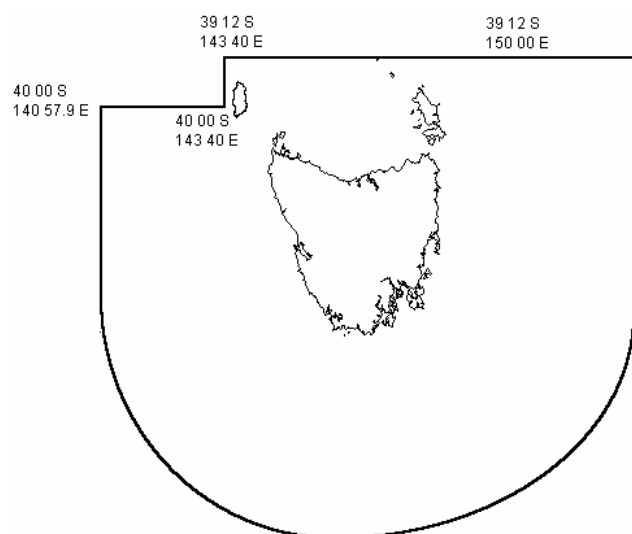
The Act prescribes a consultative process for the development of a management plan. However, in practice the consultation process is more comprehensive than the minimum requirements prescribed in the Act. The consultative process that has evolved to date for the development or amendment of a management plan includes:

- Consulting with the relevant Fishery Advisory Committee (FAC). In this case there is no FAC that deals with the commercial take of shellfish, however, the Recreational Fishery Advisory Committee (RFAC) is the relevant FAC that advises the Minister and the Department on recreational issues;
- Consulting with any appointed fishing body. In this case the Tasmanian Fishing Industry Council (TFIC) and the Tasmanian Association for Recreational Fishing (TarFish);
- Having the draft plan approved by the Minister for release for public comment, which in practice means sending it to permit holders and various recreational, conservation and aboriginal groups and placing notices of its availability in the papers and on the web;
- Conducting a public comment period of at least 30 days for alteration to management plans and 60 days for new management plans;
- Conducting regional consultation meetings to present the draft proposals, in general these are only attended by licence holders and processors;

- Submitting a report to the Minister on issues raised during the public comment period, with explanation of any changes that are drafted as a result of the public consultation process.

Once approved the management plan is tabled in Parliament for 15 sitting days and is considered by the Standing Committee on Subordinate Legislation, which may disallow all or part of the rules. This committee may take submissions and conduct a hearing if satisfied the rules are not in the interest of the public, can not be justified, or have not been made lawfully.

## Appendix 2: State waters for the Tasmanian shellfish fishery



**Figure 1:** State waters for the Tasmanian shellfish fishery under the Offshore Constitutional Settlement agreement of 1996 for Invertebrates.

For the purposes of the shellfish fishery “**State waters**” means all waters, other than inland waters, to which the legislative powers of Tasmania extend (see Figure 1).

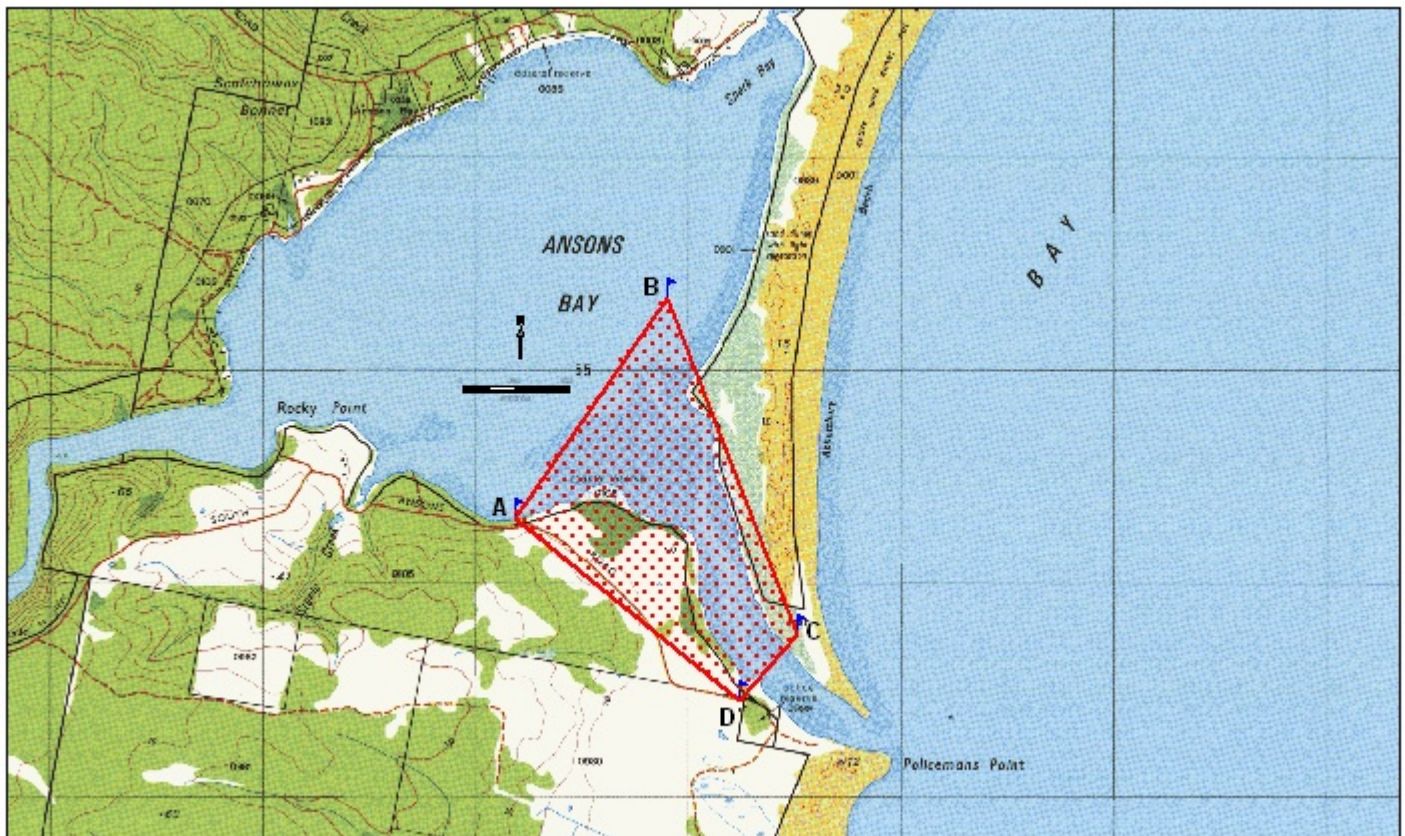
This arrangement applies to the area of water bounded by the line:

- (a) commencing at the point of Latitude 40° South, Longitude 140° 57.9' East;
- (b) running thence south along the meridian of Longitude 140° 57.9' East to its intersection with the outer limit of the Australian fishing zone;
- (c) thence generally southerly, easterly and northerly along that outer limit to its intersection with the parallel of Latitude 39° 12' South;
- (d) thence west along that parallel to its intersection with the meridian of Longitude 143° 40' East;
- (e) thence south along that meridian to its intersection with the parallel of Latitude 40° South; and
- (f) thence west along that parallel to the point of commencement.

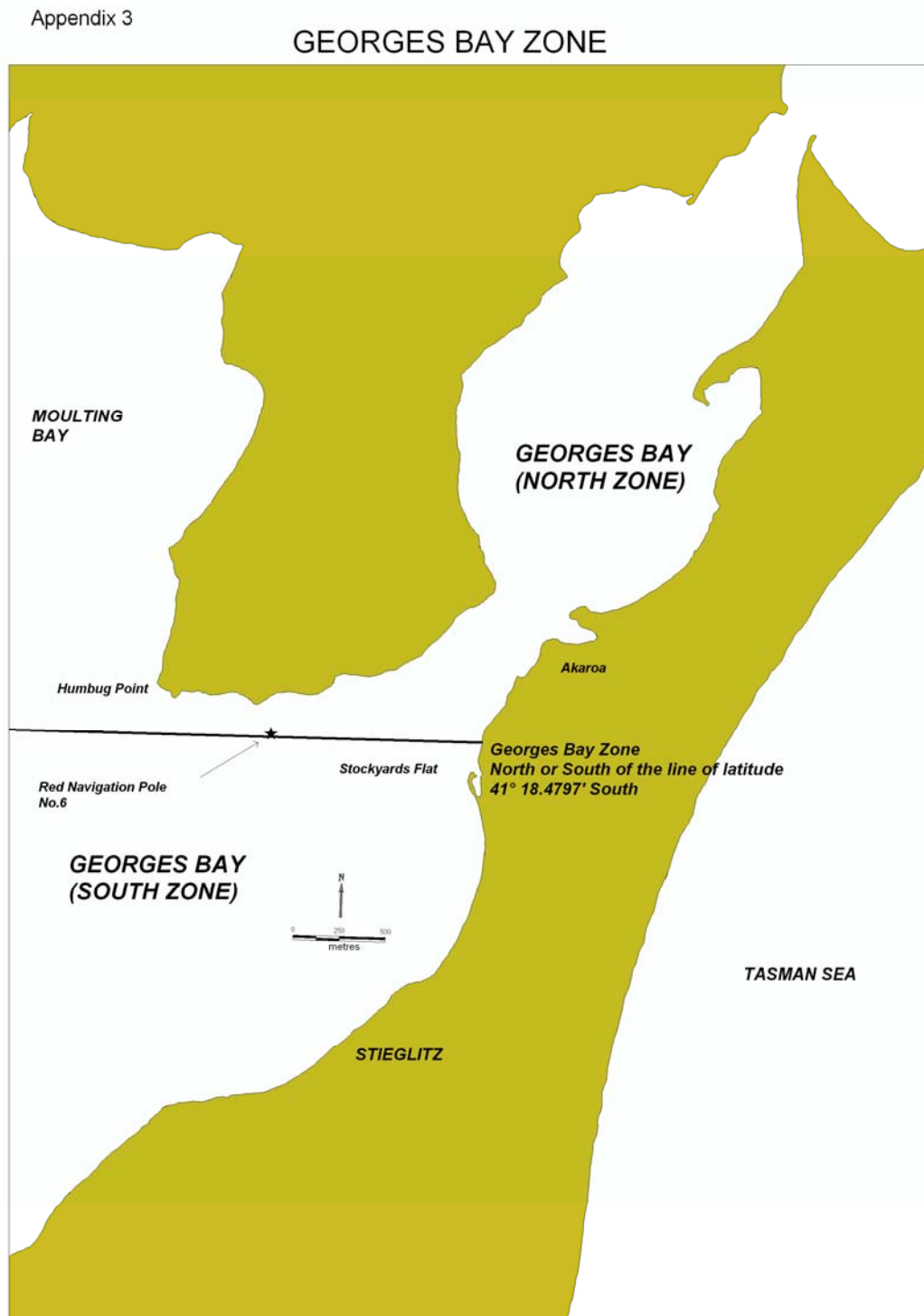
### Appendix 3: Indicative Maps for Shellfish Zones

#### Ansons Bay Zone

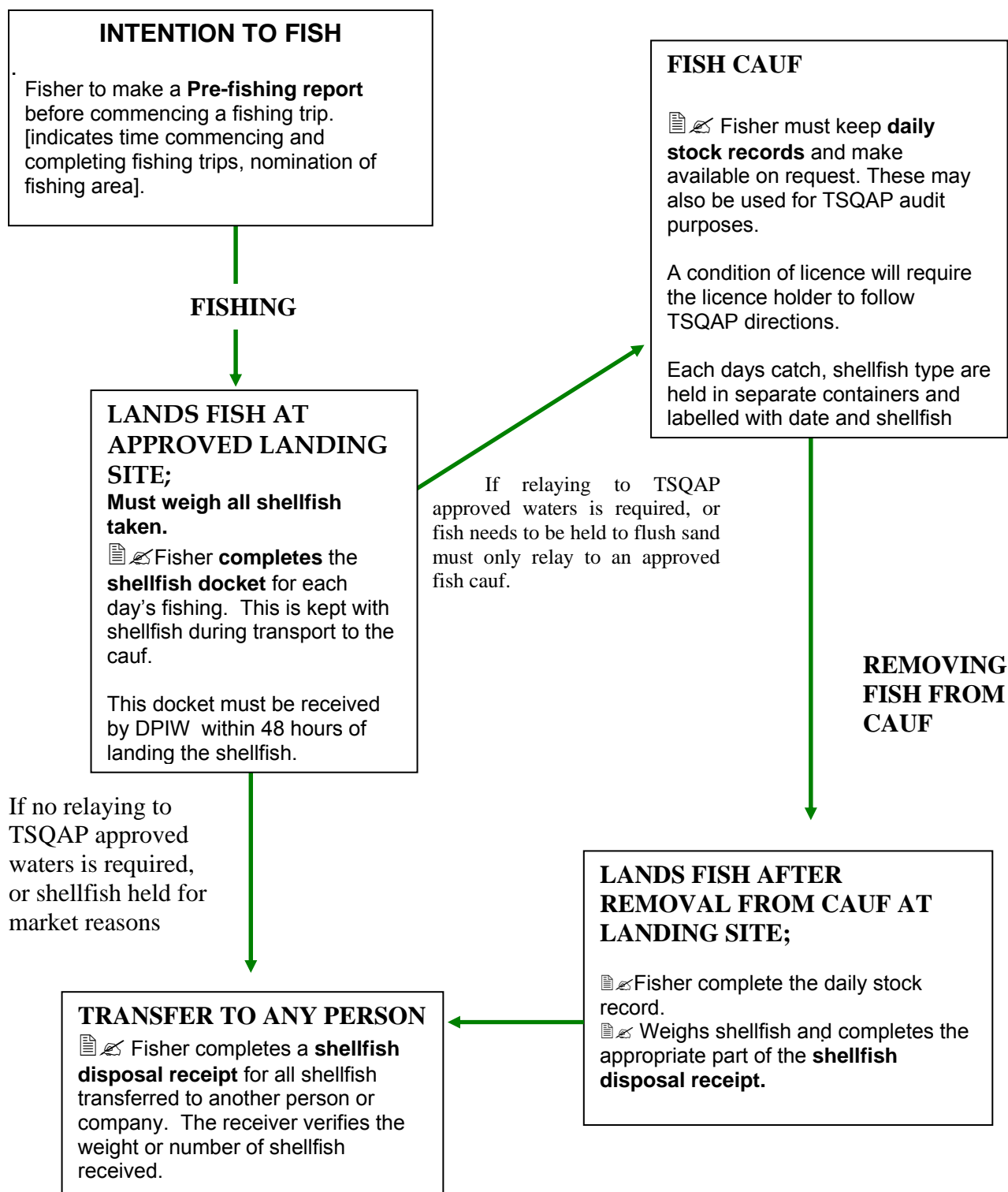
Point		AGD66(dd.dd d)	(dd° mm' ss.sss'')	WGS84 (dd.ddd)	(dd° mm' ss.sss'')
<b>A</b>	<b>Lat</b>	41.055537	41° 03' 19.9332"	41.054037	41° 03' 14.5332"
	<b>Long</b>	148.2753553	148° 16' 31.27908"	148.2766853	148° 16' 36.7908"
<b>B</b>	<b>Lat</b>	41.04602122	41° 02' 45.676392"	41.04452122	41° 02' 40.276392"
	<b>Long</b>	148.2837277	148° 17' 01.41972"	148.2850577	148° 17' 06.21972"
<b>C</b>	<b>Lat</b>	41.06030843	41° 03' 37.110348"	41.05880843	41° 03' 31.710348"
	<b>Long</b>	148.2913203	148° 17' 28.75308"	148.2926503	148° 17' 33.55308"
<b>D</b>	<b>Lat</b>	41.06313177	41° 03' 47.274372"	41.06163177	41° 03' 41.874372"
	<b>Long</b>	148.288122	148° 17' 17.2392"	148.289452	148° 17' 22.0392"



Appendix 3: Indicative Maps for Shellfish Zones (continued)



## Appendix 4a: Key steps to reporting and docketing arrangements for the shellfish fishery



**NOTES:** For the purposes of these rules, the docket to be completed is the “Commercial Diver’s Docket” This is a guide only. You should refer to the *Rules*, instructions in the docket book and your fishing certificate for the legislated requirements.

## **Appendix 4b: Reporting service for the shellfish fishery**



### **Reporting service for the shellfish fishery** *Fisheries (Shellfish) Rules 2007*

#### **PRE-FISHING REPORT -**

- 1) What is your entitlement number(s)?
- 2) What is your date of departure?
- 3) Expected time of departure?
- 4) Expected date of return?
- 5) Expected time at the landing site?
- 6) What is the fishing zone?
- 7) What fish type are you fishing for?
- 8) Your report number is ----

#### **CANCELLATION REPORT –**

- 1) What is the receipt number for the report you want to cancel?
- 2) What is the entitlement number(s) this report relates to?

**Appendix 5: Management costs**

<b>TASK</b>	<b>Time (hrs)</b>	<b>\$</b>
Data Management	70	
Fisheries Management	65	
Licensing	10	
Total Salary Costs including on costs		\$ 8,601
Reporting Service		\$ 2,000
Travel (meetings etc)		\$ 1,000
<b>Estimated Total Management Costs including on costs</b>		<b>\$ 11,601</b>
<b>Survey Cost Estimates</b> (\$16000 every 2-3 years, budget for every 2 years)		<b>\$ 8,000</b>
<b>TOTAL ANNUAL MANAGEMENT COSTS</b>		<b>\$ 19,601</b>
Apportioning Management Costs equally for all classes of shellfish licence holders (except fishing licence (Pacific oyster))		
Total Management costs divided by number of licences (8)		<b>\$ 19,601/8</b>
Cost Attribution per licence (divide total costs by number of licences)		<b>\$ 2,450</b>
Renewal Fee needs to be in fee units (2005/6 1 fee unit = \$1.21, in 2006/7 a fee unit is probably \$1.25)	\$2450/\$1.21= 2025 units	Say <b>2000 fee units</b>