Tasmanian Government

Department of Primary Industries, Parks, Water and Environment

Living Marine Resources Management Act 1995

2017 UPDATE OF POLICY DOCUMENT FOR THE TASMANIAN MINOR SHELLFISH FISHERY

Ostrea angasi

"Native oyster"

March 2017

Introduction

The management plan for the minor shellfish fishery was introduced in March 2007 and since then, industry and the Department have identified some areas which can be addressed to help improve the fishery. These changes are identified in this document which should be read in conjunction with the 2007 Shellfish Fishery Policy Paper as the basic management principles, remain the same. It should be noted that this policy paper is not a legal document but aims to provide a non-legal explanation of the changes proposed for the minor shellfish fishery management plan and provide an update since the previous policy paper was preapared.

Overview of the minor shellfish fishery since the introduction of the management plan in March 2007

The fishery caters for specific species in specific locations, namely Angasi in Georges Bay, Venerupis in Georges Bay, Katelysia in Ansons Bat and wild Pacific oysters from State waters which have been approved by the Tasmanian Shellfish Quality Assurance Prrogram (TSQAP). The taking of any shellfish species outside the zones as designated in the management plan would need to be assessed through the Developmental Fisheries process as the parameters for shellfish such as growth rates and age at maturity vary so widely from one location to the next. Other concerns that would need to be considered for a new species or zone include other resource users and the local community who would then need to be consulted. The environmental issues such as appropriate access and the local bird and fish populations are also relevant considerations that are highly variable spatiallly and temporally. Development of new commercial species or new harvest areas have not been entertained in this management plan.

***Katelysia* – Ansons Bay**

As is commonly the way with shellfish species, there have been a number significant fluctuations in the populations over the past decade. Surveys by the Institute of Marine and Antarctic Studies (IMAS) at Ansons Bay have confirmed a sharp decline in all bivalve species including the target species, *Katelysia*. The decline is suspected to be the result of changes to habitat conditions following increased fresh water flow in the area due to the frequency of heavy rain events.

The decline in *Katelysia* numbers at Ansons Bay has been such that commercial fishing operations have ceased until the population recovers. A survey of the Katelysia zone will be undertaken by IMAS in 2017 to help better gauge existing trends.

***Angasi* – Georges Bay**

The IMAS surveys in Georges Bay have shown the angasi stocks to be strong. The market is reported to be the biggest hurdle in the fishery with less than 5% of the available TAC taken each licensing year.

It should be noted that following more extensive sampling, IMAS has adjusted the conversin rate from one kilogram as being equivalent to one dozen angasi to one dozen angasi being equivalent to 1.5 kilograms. While this re-assement will have no bearing on the weight of a

TAC it will significantly reduce the equivalent number of dozens allocated for harvest each year as the TAC is first determined by weight and coverted to dozens available for harvest.

***Venerupis* – Georges Bay**

Enviromental changes have also had a detrimental impact on Venerupis stocks in Georges Bay, particularly in the southern zone where the sand spits have become overgrown with sea grass. The increase in the seagrass is believed to be the result of increased nutrients in the bay as the result of regular fresh water flows and sewrage spills. The sand spits have become more anoxic and less suitable as clam habitat. The southern zone is not currently supporting a commercial fishery to support a wild commercial fishery but IMAS will survey the area in 2017 to assess any resurgence in stocks.

Venerupis in the northern zone also showed a marked decline in numbers with two cohorts identified in earlier years by the IMAS failing to progress into the fishery. Anecdotal reports and an informal survey undertaken by IMAS suggest however that stocks in the northern zone are showing strong signs of recovery. A formal survey of the northern zone will be undertaken by IMAS in 2017.

Table 1: Minor Shellfish Catch 2008/2009 – 2014/15

	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15
***Katelysia* - Ansons Bay - Kg**	8468	12690	12175	12690	7258	1776	567
***Venerupis* - Georges B. - Kg**	20390	35942	33809	32332	42198	39913	24299
***Angasi* – Georges Bay- Doz**	1395	1677	1507	940	2770	1656	550
Wild Pacific Oysters - Doz	3797	1350	330	896	5308	0	165

Main changes proposed in the 2017 draft plan

Following recent discussions with stakeholders, the Department identified the main issues to be considered in the development of the draft minor shellfish management plan. These issues are briefly described below.

Purge Supervisor

The shellfish fishery operates under the constraints of purge sites which are essential for both human health safety and marketing concerns. The additional step of having to purge fish prior to delivering the product to market has however, proved to be problematic for licence holders or supervisors on a licence to maintain consistent product to their markets.

Removing the previously harvested fish from an authorised purge site in State waters is still legally considered to be part of the fishing activity so up to this point it could only be carried out by the licence holder or supervisor. The double handling of the product to supply their market has proved to be restrictive on the fishers meaning that they either had to make themselves available to remove proviously caught fish from the purge site to satisfy their markets or apply for a licence variation which is often impractical, time consuming and expensive.

To overcome this problem, a new class of supervisor is proposed which is referred to as a purge supervisor. Either a licence holder or a supervisor can place a purge supervisor on the licence but only one purge supervisor can be listed on a licence at any one time.

A purge supervisor differs from a "standard" supervisor in that the only activity the purge supervior is authorised to undertake is to remove fish from a purge site endorsed on the licence for the purpose of selling or transferring the fish. Unlike a "standard" supervisor, a purge supervisor cannot catch fish or place fish in a fish cauf.

In addition, before a purge supervisor can remove fish from the purge site he/she must be in possession of the single record of the purge site register and complete the record as as stated under rules 45, 46 and 47 of the draft *Fisheries (Shellfiss) Rules 2017.*

To avoid any dispute over the correct purge site record, only one such record must be kept and that record must be in the possession of the fisher undertaking any fishing activity authotised under that fishing licence (class shellfish). That is to say that a supervisor or license holder cannot catch fish or place fish on an endorsed purge site unless they are in possession of the original and only version of the purge records. Nor is the licence holder or supervisor able to remove fish from the endorsed purges site for sale or transfer unless they are in possession on that said record.

Safeguards on the Total Allowable Catch (TAC)
(as proposed by IMAS)

The harvest strategy proposed below would be Departmental policy and is not proposed to be legislated.

Calculation of TAC within the previous fishery policy is set as 10% of the estimated biomass which allows for no set minimum or upper TAC limit. This has the potential to result in overfishing of the stock and subsequent losses to the fishery should the demand for the product increase. Harvest strategies (HS) with limit reference points are being implemented across Australian fisheries (Smith et al., 2007) and provide guidelines for the application to fisheries current managed without lower or upper limits to TACs. These guidelines initially developed for finfish species and are viewed as acceptable starting points for the development of HS for many data poor species. There are obvious significant differences between the life histories, fishing practices and environmental settings of finfish and estuarine bivalves (e.g. spawning mechanisms, spatial dynamics, stock-recruitment and habitat sensitivities) but the HS can be structured to incorporate the framework of the Commonwealth HS and use empirical evidence (previous catch levels and TACC) from the fishery so as to provide a baseline HS which is useful now and whose values can be modified in future assessments.

The following terms are typically employed in a HS:
BMSY - Biomass at maximum sustainable yield: average biomass corresponding to maximum sustainable yield.

BMSY can be defined as the maximum average annual catch that can be removed from a stock over an indefinite period under prevailing environmental conditions. The Commonwealth HS guidelines suggest that the proxy for BMSY in the absence of more specific information be 40% of the unfished biomass (B0).

To exemplify the proposed harvest strategy the *angasi* fishery can be used as it was most recently surveyed. Within the *O. angasi* fishery B0 is unknown however a proxy for B0 would be the maximum estimated biomass recorded in the fishery since its inception. This

value is 670.6 T recorded in 2008 and as such could be used as the proxy for B0. This gives a BMSY = 268.2 t.
BMEY - Biomass at maximum economic yield: average biomass corresponding to maximum economic yield.

BMEY is considered the point at which sustainable catch or effort level across the whole fishery maximises profits. When a BMEY is unknown as it is in the *O. angasi* fishery, a proxy of BMEY = 1.2*BMSY may be appropriate. While this may over or underestimate the true value, if the unit cost of catch is dependent on the size of the stock, and practical discount rates apply, BMEY will always be larger than BMSY and in the *O. angasi* fishery is estimated at 321.8 t. Biomass increases above BMEY do not result in further increases in TACC, instead remaining at the TACC level reach at BMEY.

BLIM - Biomass limit reference point: the point beyond which the risk to the stock is regarded as unacceptably high.

The biomass limit reference point BLIM is a key component in the HS. It defines the point at which a stock will be defined as "overfished", and the point in the HS below which there will be no further targeted fishery on that species, and a stock rebuilding strategy has to be set in place. In general, BLIM should correspond to a level of stock depletion, at which the risk to the stock is unacceptably high, for example the point at which recruitment overfishing is thought to occur. The Commonwealth guidelines suggest in the absence of more specific knowledge that BLIM be set at 20% of the unfished B0. Based on this the TACC, for *O. angasi* would be zero when the estimated biomass or BLIM = 134.1 t.

The B0 proxy of maximum recorded biomass may underestimate or overestimate the true B0 resulting in similar uncertainty in the reference points. The underlying recruitment dynamics which drive production in this fishery are likely affected by environmental conditions but the exact relationship between biomass and recruitment in this fishery has not been explored. In the absence of a stock recruitment model, length frequency data collated from the biannual surveys should give some guidance on the acceptability of this value.

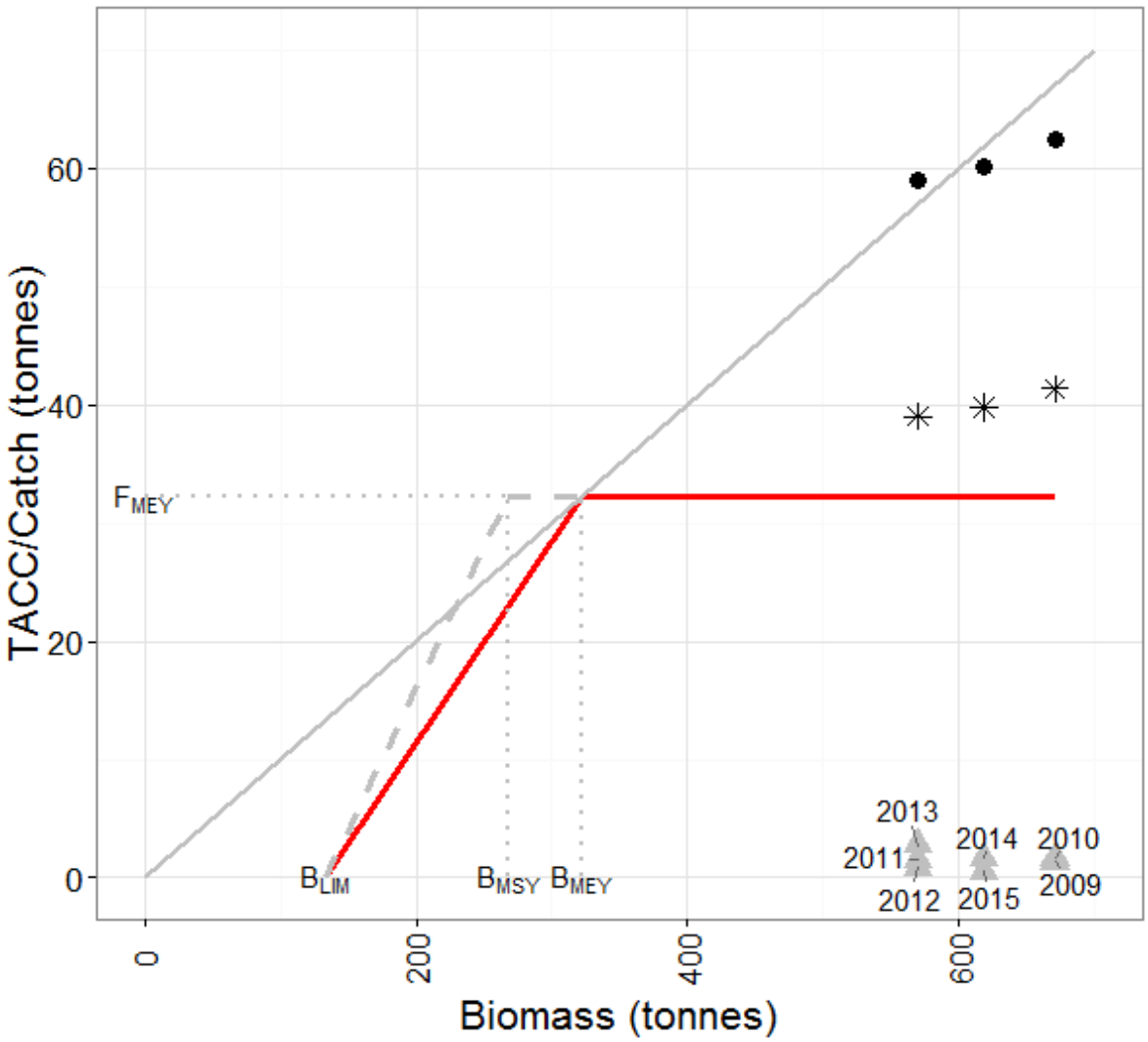

*Figure 7. Proposed harvest strategy (HS) (red line) with harvest control rules for the Georges Bay O. angasi fishery. The solid grey line represents the current TACC setting process = estimated total biomass*0.1. The TACC's applied for fishery years 2008-2015 are represented as tonnes (black circles) and as thousands of dozens (black stars). Grey triangles indicate annual catch and associated fishing year ending 2008-2015. The proposed HS is based on the commonwealth harvest strategy, with control rules BMSY (B0*0.4), BMEY (BMSY*1.2) and BLIM (B0*0.2) where B0 = maximum estimated biomass = 670.6 t. BLIM represents the minimum TACC > zero, BMSY = 268.2 t, BMEY = 321.9 t. FMEY is the TACC limit which is derived from BMEY*0.1 = 32.1 t. The solid red line is the proposed HS, dashed grey line is a HS based on BMSY. Note: The catch data is derived from annual catch data held by DPIPWE.*