

Preliminary Analysis and Discussion of Overfished Species Management in a Trawl Rationalization Program

This document is intended to provide an overview of the constraints and problems that overfished species will pose to a rationalized groundfish trawl fishery. In particular, it will address some of the problems created by having such low allowable catch amounts of overfished species. It will also address some of the potential tools for dealing with those low allowable catch amounts.

What are we worried about?

For the foreseeable future, the OYs for rebuilding species are likely to constrain fishing opportunity. The existing rationalization alternatives specify that all species shall be covered under an IFQ program either individually or in a complex¹. If overfished species are allocated to individual permits, each permit will receive very little and in some cases the amount could be less than the equivalent of one fish.

In most IFQ systems the market works in a fluid and effective fashion and vessels that find themselves in a position of needing more quota can find it available for purchase on an open market. These markets work well at reapportioning available catch to entities that need them. In order for markets to work well at moving products between various entities there must be demand for the product at hand and supply that is adequate for potential buyers to easily find, acquire, and afford to purchase. In the case of overfished species we are likely to have a situation where there will be substantial demand but a supply that is at such a low level that finding available overfished species quota will be difficult, and if it is available it may be cost-prohibitive. In other words, if an individual entity finds that they are in a position of needing additional quota of an overfished species, there may not be any on the market. If there is quota available on the market it may be extremely expensive.

If a market does not work well at reapportioning quota to the vessels that need them, then an argument exists that the market alone may not be effective at keeping a sectors' catch level within its allocation. This is because participants in a fishery do not know exactly what they will catch when they deploy a net and they may end up inadvertently catching more fish than they have quota for. If the market is unable to work in a way that will cover that catch with quota through a trading mechanism then we have a case where a sector's allocation may be exceeded or the quota held by other participants becomes affected. In other words, if one individual cannot cover a disaster tow by purchasing

¹ The existing co-op alternatives do not specify that all species will be covered and managed by that system. In general they specify that whiting catch will be managed by the cooperatives and the whiting sectors will get bycatch caps of at least some overfished species.

quota, then the sector’s allocation may be exceeded or (if NMFS closes upon attainment of a sector allocation) the quota held by other entities is not defensible from the actions of others. Having the actions of participants in a rationalization program disrupt the actions and plans of others goes against one of the principle foundations for the success of a rationalization program. In order for rationalization to be effective, participants must believe that they are not affected by the actions of other individuals.

How Big is the Concern?

To illustrate the magnitude of the concern we first make a couple of assumptions regarding sector allocations and allowable catch levels. In this section we assume that there are four trawl sectors (catcher-processor, mothership, whiting shoreside, and non-whiting shoreside). We then assume that existing catch estimates are representative of the way overfished species would be allocated under a rationalization program and show what the average permit would get by sector if the number of existing participants is maintained. The following table shows the assumed allocation of overfished species by sector. This table uses the GMT’s bycatch scorecard and allocates overfished species with bycatch caps to each whiting sector on a pro-rata basis based on their whiting allocation.

Table 1 Potential Allocation of Overfished Species to Average Catcher Vessel Permits in Each Trawl Sector (units are in pounds)

| Sector | Assumed No. of Permits | Bocaccio | Canary | Cowcod | Darkblotched | POP | Widow | Yelloweye |
|---|------------------------|----------|--------|--------|--------------|-------|--------|-----------|
| Catcher Processor: Allocation per Permit | 12 | - | 294 | - | 1,562 | 533 | 13,742 | - |
| Mothership: Allocation per Permit | 20 | - | 124 | - | 661 | 110 | 5,820 | - |
| Shoreside Whiting: Allocation per Permit | 25 | - | 174 | - | 926 | 159 | 8,148 | - |
| Shoreside Non-whiting: Allocation per Permit | 120 | 485 | 134 | 30 | 4,104 | 1,190 | 28 | 7 |

What this table shows is that, under an IFQ program that allocates each overfished species to trawl permits, that approach may allocate zero shares of bocaccio, cowcod, and yelloweye to permits in the whiting fishery. Permits in the non-whiting fishery may receive shares of yelloweye that are the equivalent of one fish or less. This information helps put into context the concept of a “disaster tow”. If we believe a disaster tow is one that eliminates an individuals’ fishing opportunity for a year, then this gives us an idea of what level of catch constitutes a problem. We will assume for arguments sake that a tow that is equivalent to the average allocation shown in the table above will constitute a problem for fishery participants. Volume of this magnitude from a single tow would mean the average boat may need to stop fishing activities for the year.

Charts attached to the end of this document were developed by the west coast groundfish observer program and display the discard of overfished species occurring in non-whiting trawl fishery tows. The Y-axis represents the number of tows and the X-axis represents the amount of discard. What this information shows is that most tows do not result in encounters of many overfished species. However for most species, tows exist that meet or exceed the average annual allocation for a permit if the above table is reflective of the

eventual allocation decision. This information also shows that darkblotched, POP, and canary rockfish are more consistently encountered in non-whiting trawl tows than other species and tows of canary rockfish have occurred that would exceed the average non-whiting trawl permits' quota. Yelloweye, widow, and cowcod are encountered much less frequently, though tows of yelloweye have occurred that are approximately 10 times the average vessel allocation shown in the table above, and tows of widow have occurred that are nearly 5 times the average vessel allocation. Bocaccio is encountered in the non-whiting trawl fishery at a rate that is between the first and second groupings. Based on the assumptions constituting a "disaster tow", the assumed quantity of overfished species allocated to the trawl sectors, and available observer information we can say that disaster tows may be a problem for yelloweye, widow, and canary rockfish in the non-whiting trawl sector. For canary rockfish enough supply may exist that trading on a market may occur and this trading mechanism – along with other mechanisms – could be sufficient to adequately manage that species. If current catch predictions are reflective of the allocation that may be made to trawl sectors, then there may not be enough yelloweye and widow in the non-whiting trawl fishery to reasonably accommodate a market based mechanism. That is, there may not be enough supply of these species available to the fishery to accommodate the demand for that species and to allow for effective prosecution of the fishery.

Dealing with the Problem

Managing a rationalized trawl fishery with the constraints posed by overfished species can be separated into two parts. One part would be classified as preventative—measures would be put in place that minimize the probability of a disaster tow occurring. The second part would be classified as reactive—measures would be put in place that deal with a disaster tow if it has occurred. In this section we discuss tools that could be implemented to deal with the overfished species constraints that are likely to exist in the trawl fishery after rationalization has occurred.

Preventative Measures: Preventative measures in addition to fishing quota include such tools as area closures, gear restrictions, and minimum holding requirements.

- Area closures could be modified or refined in a rationalization program so that areas are closed to fishing where overfished species are found thus minimizing the chance of overfished species encounters in the fishery. However, area closures may have the effect of closing off productive areas where target species are found, so area closures would need to balance access to target species with acceptable disaster tow risk.
- Gear restrictions could be established in regulation, though the rationalization of a fishery would tend to encourage gear modifications that avoid overfished species. A gear restriction could be put in place to establish a minimum requirement that minimizes the probability and magnitude of disaster tows. For example, prohibiting the use of Aberdeen high-rise trawls could minimize the magnitude of a disaster tow if one were to occur.
- A minimum holding requirement could be established that requires vessels to have enough overfished species so that they can reasonably cover an unexpected

amount of overfished species catch should it occur. Minimum holding requirements could be established for individual vessels, for pools of vessels operating in a collective arrangement, or for harvest cooperative organizations².

Reactive Measures: Reactive measures include such tools as insurance pools and/or coops, carry-over provisions, and multi-year OYs.

- Forming insurance pools of several quota holders could occur through voluntary agreements outside the regulatory process. These pools would act like insurance where through the aggregation of quota, unexpected events occurring to individuals would be covered by the collective whole of the members of that pool.³ Harvest cooperatives would work in the same manner, where the collective whole of the organization would be likely to stay within the allowable catch, but individuals in that organization may have unexpectedly large catches of some species.
- Carry-over provisions would allow vessels to exceed some portion of their quota in a given year and take that overage off the next years' quota. The current alternatives specify a 10 percent carry-over being allowed. For several species a 10 percent carry-over is less than one fish, and for yelloweye this may mean less than one pound.
- Multi-year OYs.

Summary

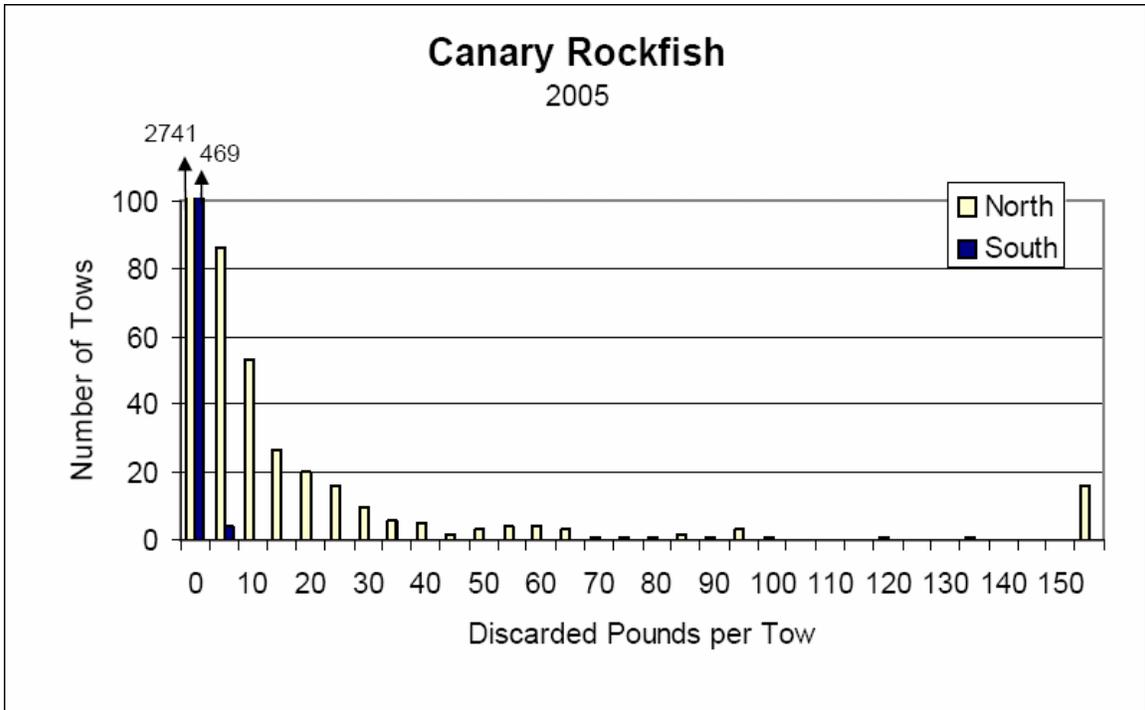
In order for a rationalized trawl fishery to operate with the overfished species constraints likely to be in place, several existing and new management measures are likely to be necessary. Area closures, gear restrictions, and minimum holding requirements are ways that minimize the chance that a disaster tow will occur. The formation of insurance pools and/or coops, carry-over provisions, and multi-year OYs are ways to deal with disaster tows if one has occurred.

For some overfished species, permit-specific allocations of overfished species may be sufficient for management purposes. The allowable catch of species like darkblotched and POP are arguably large enough that effective trading may occur and that these trades would be effective enough to cover any unexpected catch levels. For other species IFQ may not be effective alone to achieve desired social outcomes. Species like yelloweye may have allowable catch levels that are too small for an IFQ system to be effective. For example, if the whiting fishery is expected to catch zero (or close to zero) metric tons of yelloweye, then it might not make sense to issue IFQ for yelloweye in the whiting fishery because each permit would not get enough quota to cover a single fish. In this case it might make sense to lump that species into a "shelf rockfish complex" which has IFQ and manage that particular species (yelloweye) with other tools. In either case, there are likely to be species without enough allowable catch that management of that species with

² If the whiting fishery is managed through harvest cooperatives with bycatch caps of overfished species, minimum holding requirements wouldn't be necessary.

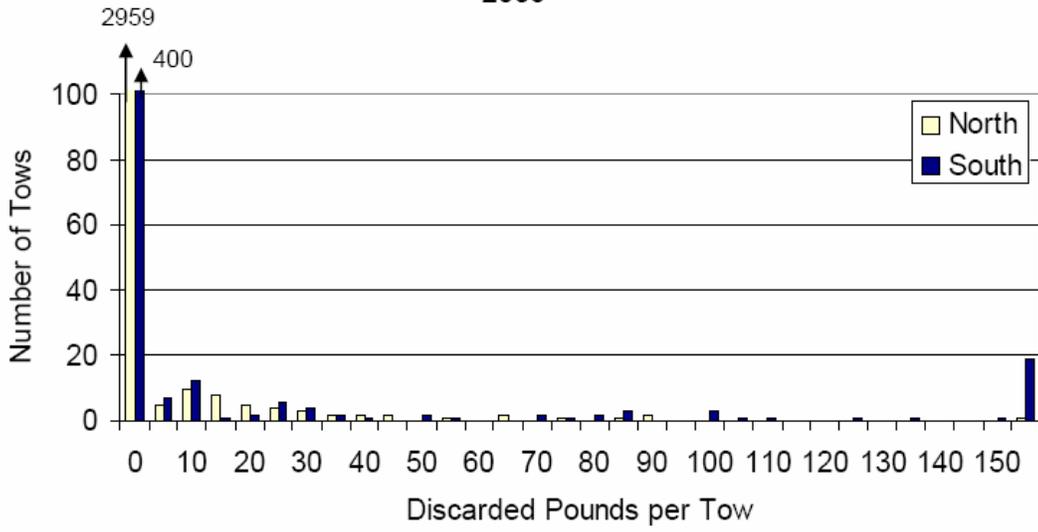
³ If minimum holding requirements were specified for such arrangements, these pools may need to register with an agency.

IFQ alone may not be sufficient. It is likely that some combination of the measures described above, and potentially others, will be necessary to manage overfished species in a rationalization program.

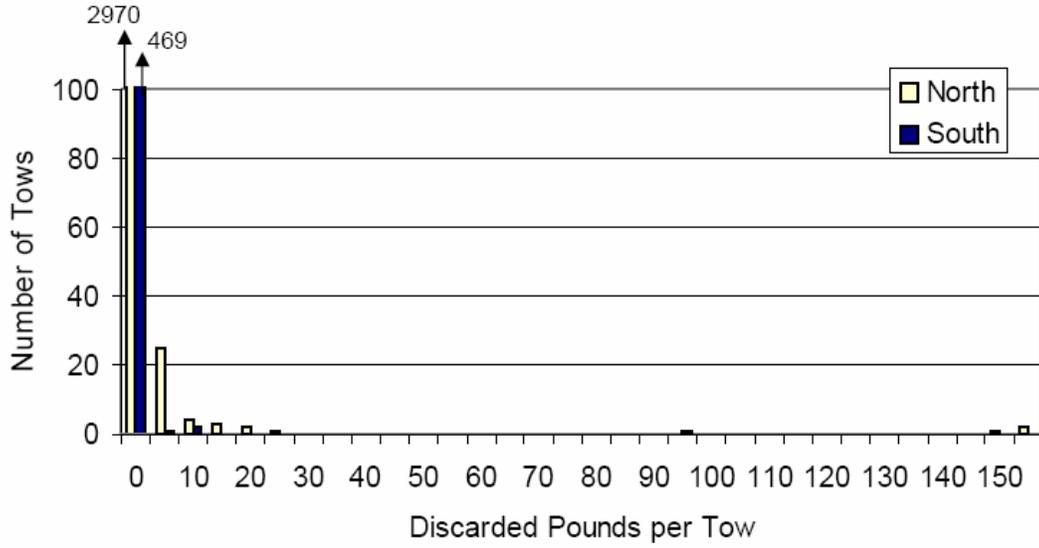


Boccacio Rockfish

2005



Widow Rockfish 2005



Yelloweye Rockfish 2005

