Submission to the Marine Stewardship Council Regarding Ecological Conservation Concerns in British Columbia's Halibut Fishery

Submitted by the Pacific Marine Conservation Caucus

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Executive Summary

- The Pacific Marine Conservation Caucus (PMCC) supports the ecolabeling of sustainable fisheries.

- The 'halibut fishery' is a non-selective multi-species fishery which necessarily lands significant quantities of other marketable and non-marketable species.

- Well under 30% of the animals caught while fishing for halibut are actually retained halibut. For every halibut retained one rockfish is caught.

- Due to the highly integrated nature of the rockfish (Zn) and halibut licenses (L), certification of the 'halibut fishery' also requires that other species are being fished in a sustainable manner.

- Populations of inshore rockfish (yelloweye, quillback, tiger, china, and copper) as well as redbanded, rougheye, and shortraker rockfish are of particular concern. Longnose skate populations are also not well understood.

- Until issues surrounding the sustainable harvest rates of rockfish populations are resolved, it would be premature to certify the 'halibut fishery'.

- Steps towards certification include: completion of a science-based Rockfish Conservation Area network, increased biological and population monitoring of rockfish populations, full catch accounting, and complete transparency.

- We look forward to one day endorsing the certification of the halibut fishery. Certification under present conditions would not only be premature but may also hinder the fishery from taking the necessary steps towards achieving sustainability.

Introduction

As part of the evaluation of the halibut fishery, Scientific Certification Systems (SCS) has asked for independent evaluations through stakeholder consultation. This submission has been submitted by the Pacific Marine Conservation Caucus (PMCC) to comment on ecological conservation concerns associated with the 'halibut fishery'.[1] There are several socio-economic concerns regarding allocation and access that are not addressed in this document but do require careful consideration by the MSC.

The first item that must be made clear from the onset is that there is no such thing as a 'halibut fishery'. There is, however a *halibut license* which gives licensees the privilege to catch a given amount of halibut, but in reality well under 40% of the total number of animals caught by this license type are in fact halibut. As a result of this extraordinarily high bycatch level, many halibut licensees fish with a *Zn license* which allows for a portion of the bycatch to be landed. The *Zn Option D license* is in fact an integrated component of the halibut fishery and as such requires full examination by the MSC. We therefore expect that the assessment of the halibut fishery will place equal emphasis on non-halibut species as it will on halibut populations.

The halibut fishery exemplifies some aspects of a sustainable fishery which deserve to be acknowledged. However, due to the multi-species nature of this fishery, an ecolabel on the 'halibut fishery' would infer that ALL species caught and sold under a halibut license or associated Zn license are taken from sustainable populations. In this document we present evidence from published accounts, fisheries surveys, and the management plans to clearly show that this condition does not yet exist.

The use of ecolabels to provide a market-based mechanism to promote sustainable fisheries is a concept we support. For the MSC to have long term credibility, MSC certified fisheries must be clearly shown to abide by MSC criteria and principles, including the issues of bycatch.

Multi-species fishery: How much halibut is there in the halibut fishery?

There is little doubt that fishing a halibut license in pursuit of halibut quota results in large catches of many other species, several of which are poorly understood. The following is a synthesis of three available sources of information on this issue.

IPHC Annual Survey Data

The IPHC data from 1993-2003 can be used to provide a broad perspective of longlining for halibut off Canada's Pacific coast. Because these data are from set surveys

[1] The following PMCC organizations have endorsed this document; Canadian Parks and Wilderness Society, David Suzuki Foundation, Ecotrust, Living Oceans Society, Raincoast Conservation Society, Sierra Club of Canada (BC Chapter), Watershed Watch, and World Wildlife Fund. The views expressed in this document are supported by the membership of the Caucus but do not necessarily reflect those of other environmental organizations in British Columbia.

used for stock assessment, they do not actually represent the true catch composition of the fishery but rather paint a picture of the fishable benthic ecosystem coastwide and give insight into species which can be expected to most commonly interact with benthic longline gear.

Table 1 summarizes ten years of IPHC survey data conducted in British Columbia waters (IPHC Area 2B). While halibut certainly comprises a significant portion of the overall numbers of individuals (21%), far more of the hook vulnerable species are non-halibut species (79%). Preceding halibut are dogfish which make up the largest component of the catch (39.9%). Sablefish are the third most commonly encountered species (14.2%) followed by redbanded rockfish (5.3%) and yelloweye rockfish (4.6%). Combined, the top five species account for 85.1% of the counted individuals. Overall, rockfish account for 13.3% of the total counts. These represent 63% of the halibut total. In other words for every 100 halibut caught there are 63 rockfish caught incidentally. Of particular interest are the large catches of yelloweye and redbanded rockfish. In addition to rockfish, there are large catches of skates, other flatfish, and numerous less common species.

Video Monitoring

Based on a *non-random* sub-sample of the halibut fleet, McElderry et al. (2003) found that of 118202 hooks with animals (fish, birds, and invertebrates) on them, only 36% (42878) of the hooks were halibut. Furthermore, it was found that the discard rate of halibut was 38.3% due to catch of sub-legal sizes.[2] In other words, of the 118202 animals caught only 22% were retained halibut. Dogfish comprised less than 10% of the hooked individuals. Combined rockfish accounted for 23.3% - which is about the same as the catch of legal sized halibut. In other words, for every halibut retained there is also one rockfish. Sablefish are the second-most commonly caught species and are subsequently discarded in large numbers.

It should be noted that this particular study was undertaken to examine the reliability of video monitoring and was not intended for the purpose used here. Due to the lack of available information, this study was included. With this limitation in mind the results should only be used as a qualitative description of a certain portion of the fishery. The catch distribution observed in this study may in fact represent best practices due to observer coverage influencing fishing behaviour. At very least, this study can be used to demonstrate the multi-species nature of the fishery.

Hook and Line Observer Program Data

Beginning with partial coverage in 1999, the observer program has operated under 10-15% coverage in the halibut fleet to more accurately assess at sea catches. Of primary concern is the level of rockfish catch and discard mortality. In 2002, DFO first examined the data coming from this program (Haigh et al. 2002). The analysis was a first attempt to

[2] Mortality rates of discarded halibut in various hook and line fisheries are estimated to be between 11-28% (Williams 2001).

quantify actual at sea catches of rockfish. The results are considered preliminary due to limited coverage. Overall observer coverage has been low and is not equally distributed throughout the fleet due to vessel size constraints (small boats have no room for an observer). The low and skewed coverage translates into a misinformed understanding due to possible atypical fishing practices in the presence of an observer. The results of this preliminary analysis were limited to rockfish bycatch and discarding. It was found that catch and discarding rates varied considerably by species and area but overall rockfish comprised a large percentage of the catches. The authors expressed rockfish catch as a ratio of halibut catch (Table 3). The highest ratio found was 114kg of yelloweye rockfish per tonne of halibut in the Central Coast management area. It is interesting to compare the range of these ratios to the halibut quota. It becomes immediately clear that far more rockfish are caught in the pursuit of halibut than are covered by current quota conditions. *The only possible way the halibut fleet can fish without discarding rockfish in excess of their allotted quota, is to fish in conjunction with a Zn Option D license.*

Conservation Issues Emerging from Multi-species Nature of Halibut Fishery

There are two broad issues that emerge from the above data: first, the level of discarding of both marketable and non-marketable species is potentially very high; and more importantly, the 'halibut fishery' is necessarily a multi-species fishery, and therefore the status of all species must be considered when evaluating halibut.

The first issue will likely be addressed in the near future and to some degree is occurring already. Present conditions are such that there are 111 halibut licensees who also fish with a Zn Option D license, which is about one quarter of the number of halibut licenses (435). Due to license stacking, this works out to be about half of the number of vessels fishing for halibut (225 in the 2003/04 season). Under Zn Option D, a licensee is permitted an annual additional TAC of ~650 kg of yelloweye rockfish, 163 kg of aggregates 1&2, 1500 kg of aggregate 3, 4500 kg of aggregates 4-7 (see Table 4). There is still potential for a fleetwide quota shortfall and firsthand anecdotal accounts indicate that discarding continues to be a large problem. To address this problem, there are a number of management reforms being considered throughout the groundfish fishery intended to reduce this form of discarding. These include transferable quotas between license/gear types and comprehensive observer coverage (i.e., 100%). Assuming these changes are implemented, discarding will diminish and catch accounting will be greatly improved. A pilot program is hoped to be implemented in 2005/06 fishing season, with anticipation of 100% coverage by 2006/07.[3]

A scenario likely to emerge from 100% observer coverage is the realization that far more rockfish are being caught than what is available through the coastwide TAC. The accountability for rockfish will result in positive changes such as avoidance fishing, but it may be found that rockfish cannot be avoided at the levels required to sustain healthy populations of rockfish. A situation could arise where the fleet is 'capped' by

[3] Kim West, Hook and Line Coordinator, Department of Fisheries and Oceans, personal conversation with author, December 6, 2004.

rockfish and may need to leave a substantial part of its halibut quota in the water. If this prediction proves to be true, then more selective fishing practices (e.g., shifts in depths, timing, and location) will likely emerge. Overall, the reforms in catch accounting and transferability will certainly be a step towards a more sustainable fishery but still do not address the second and more important issue of accurate population assessments.

Reforms will certainly provide better estimates of actual fishing mortality and will decrease discarding, but the population status or trends of most of the non-halibut species may still not be known and consequently the harvest rates for these species may not be appropriate. A sustainable harvest rate for many of the unproductive rockfish populations is thought to be 0.75 of the natural mortality rate (0.75M). Given that the harvest rate of most of the rockfish species encountered in the halibut fishery is unknown, it is not yet possible to determine whether the fishery is sustainable. Thus, certification of the halibut fishery will not be possible until its impact on rockfish populations can be ascertained.

While the present and historical biomasses of many of the rockfish populations are unknown, it is widely believed that many of these species have declined significantly in numbers and it is unknown whether catch rates, albeit curtailed in recent years, are indeed sustainable or allow for rebuilding. A clear indicator of the concern is the fact that the Federal Committee on the Status of Endangered Wildlife in Canada (COSEWIC) recently listed 11 species of Pacific rockfish on their high priority candidate list (http://www.cosewic.gc.ca/eng/sct3/sct3_1_e.cfm#4). The PMCC would therefore suggest it is premature to certify a fishery that under normal operations removes species that are presently highly vulnerable to over-exploitation and whose populations are as yet poorly understood.

Of greatest known concern in relation to halibut fisheries is the status of yelloweye, redbanded, and rougheye rockfish. The most recent assessment for yelloweye rockfish indicates that the population has been harvested at twice the sustainable rate for numerous years. Redbanded rockfish have received no stock assessment and are currently unmanaged (i.e., no TAC) despite large catches by the halibut fleet. Rougheye, one of the longest-lived animals on the planet (205 years), have very little stock status information.

Does British Columbia's Pacific Marine Conservation Caucus Endorse the Certification of the Halibut Fishery?

While the halibut fishery does exhibit certain attributes of a sustainable fishery, the PMCC believes that at the present time it does not fully meet the MSC criteria for sustainability. We are in agreement with the research of the IPHC which suggests that halibut populations themselves appear to be sustainable from a strict biological interpretation of sustainability. However, there is insufficient scientific evidence to suggest that non-halibut species are being fished in a sustainable manner. We would suggest that MSC certification would not only be premature, but may also hinder the fishery from taking the necessary steps towards achieving sustainability.

Necessary Steps and Conditions towards Achieving Sustainable Fishing Certification

1. **Rockfish Conservation Areas:** Completion of a scientifically defensible network of Rockfish Conservation Areas to help conserve inshore rockfish species. In 2001, the DFO embarked on a strategy to fully protect 20% of inshore rockfish habitat in outside waters. This system must be fully completed before MSC certification can be considered.

2. **Rockfish Surveys:** At present time most rockfish populations are poorly monitored. Regular fishery independent surveys and biological sampling of rockfish populations would greatly assist in understanding these populations. In particular, there needs to be strong evidence that harvests of redbanded, rougheye, shortraker, and yelloweye rockfish populations are indeed at sustainable or rebuilding levels. As well, harvest rates for all inshore rockfish need to be at a level to allow for recovery. Present management and quota conditions are not set to allow recovery but only sustaining a depleted population. A biological and population monitoring program for these species must be firmly in place as a condition to certification. Currently, the rockfish fishery violates MSC's first principle and all three pursuant criteria.

3. **Full Catch Accounting**: The industry is moving towards this, but there is still a considerable amount of work required to implement this reform. Furthermore, there will be tremendous insights into the fishery that will emerge once full catch accounting is in place (i.e., actual catches of non-halibut species) which will necessarily alter the management.

4. **Transparency**: The third principle of the MSC (Criteria 2) requires that transparency be a fundamental component of the management structure. Under present conditions, catch data involving high resolution set locations, catch composition, depth of set, and other information is not publicly available. This concern applies to both the halibut and rockfish (Zn) licenses. Thus, credible independent review of these fisheries will not be possible until these data are made available.

Literature Cited

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Table 1: Species recorded in the IPHC setline survey between 1993-2003. Source: IPHC set survey database.

Common Name	**Total Observed**	**% of Total**	**Cumulative %**
Spiny Dogfish	97937	39.9	39.9
Pacific Halibut	51723	21.1	61.0
Sablefish (Blackcod)	34879	14.2	75.2
Redbanded Rockfish	12992	5.3	80.5
Yelloweye Rockfish	11383	4.6	85.1
Arrowtooth Flounder	10355	4.2	89.4
Starfish	5008	2.0	91.4
Longnose Skate	4478	1.8	93.2
Unident. Rockfish	3282	1.3	94.6
Skates	2511	1.0	95.6
Rougheye Rockfish	2221	0.9	96.5
Lingcod	1764	0.7	97.2
Quillback Rockfish	1162	0.5	97.7
Shortraker Rockfish	815	0.3	98.0
Shortspine Thornyhead	766	0.3	98.3
Big Skate	699	0.3	98.6
Silvergray Rockfish	462	0.2	98.8
Pacific Cod	438	0.2	99.0
Total Hooks Observed	**245 378**		

Note: 1997-2002 data were from extrapolated estimates based on 20% sampling of sets; 1993-1996 and 2003 are based on 100%.

Table 2: Catch composition of species caught in a small non-random segment of the halibut fleet (Source: McElderry et al. 2003).

Common Name	**# caught**	**% of total**
Pacific Halibut	42878	36.3
Sablefish (Blackcod)	21404	18.1
Spiny Dogfish	9609	8.1
Rougheye Rockfish	8679	7.3
Arrowtooth Flounder	6675	5.6
Redbanded Rockfish	5323	4.5
Other rockfish	5051	4.3
Yelloweye Rockfish	3656	3.1
Longnose Skate	3385	2.9
Shortspine Thornyhead	2945	2.5
Lingcod	2936	2.5
Silvergray Rockfish	1509	1.3
Shortraker Rockfish	1504	1.3
Quillback Rockfish	1487	1.3
Pacific Cod	371	0.3
Canary Rockfish	352	0.3
Other species	438	0.4
Total in study	**118202**	

Table 3: Allocation of halibut and rockfish under a halibut license for the 2004-05 fishing season. Estimated actual catch of rockfish in kilograms per tonne of halibut landed and the resulting shortfall in quota under a halibut license (Source: Haigh et al. 2002).

2004-05 TAC species in halibut fleet	**% allocation to halibut license**	**TACs (t)**	**% of Halibut quota**	**Estimated range of actual catch (kg/t)[b]**	**Range of shortfall in quota (t)**
Halibut		5,494			
Yelloweye rockfish	33.12%	76	1.4	23-114	50-550
Quillback, Copper, China, Tiger rockfish	9.47%	15	0.3	2.2-13.4	0-59
Canary rockfish	0.53%	6	0.1	0-0.8	No shortfall
Silvergray rockfish	0.60%	8	0.1	0.9-6.8	0-29
Shortraker rockfish	3.78%	8	0.1	.06-0.7	0-30
Rougheye rockfish	3.03%	29	0.5	3.5-26	0-114
Shortspine Thornyhead	2.33%	28[a]	0.5	2.5-5.9	0-4
Longspine Thornyhead	2.36%			unknown	unknown
Yellowmouth rockfish	0.74%	18	0.3	1.4-4.3	0-6

[a] total for both longspine and shortspine thornyheads, [b] the average weight of rockfish is less than halibut and therefore actual catch ratio by numbers of individuals would be higher than the weight ratio.

Table 4: Breakdown of rockfish aggregates.

Aggregate 1 Quillback and Copper rockfish.
Aggregate 2 China and Tiger rockfish.
Aggregate 3 Canary and Silvergrey rockfish.
Aggregate 4 Rougheye and Shortraker rockfish and Shortspine/Longspine Thornyheads
Aggregate 5 Pacific Ocean Perch, Yellowmouth and Redstripe rockfish.
Aggregate 6 Yellowtail, Black and Widow rockfish.
Aggregate 7 All other rockfish species (*Sebastes sp.*) excluding Yelloweye rockfish.