Ministry of
Fisheries
Te Tautiaki i nga tini a Tangaroa

THE DRAFT 2011
DEEMED VALUE STANDARD

New Zealand Government

TABLE OF CONTENTS

INTRODUCTION

Purpose

1. The purpose of this consultation document is to update the Deemed Value Standard (the Standard), which was approved by a previous Minister of Fisheries (the Minister) in March 2007. This updated Standard provides the Ministry of Fisheries (MFish's) initial views on the guidance to be used when reviewing the deemed value rates of Quota Management System (QMS) fish stocks as part of either the 1 April or 1 October sustainability rounds.

Goal of the Standard and Benchmark of Performance

2. The goal of deemed value setting is to reduce deemed value payments to a level that is consistent with routine balancing activity of small amounts of unanticipated bycatches and overruns. Catches against deemed values should not be at a level that reflects intentional and on-going fishing on deemed values. The goal is to achieve this objective in every stock.

3. To allow a summary assessment of the MFish implementation of this Standard, a useful benchmark is the total amount of deemed value payments per year. MFish believes that deemed value payments of $3 million to $4 million per year are consistent with routine balancing activity across all stocks as explained below. Expressing the benchmark as a percent of quota value provides a dynamic reference point that will adjust to the effects of inflation and increases in the real value of fish. MFish therefore proposes that an effective deemed value setting process should result in deemed value payments that are less than 0.1% of quota value. (Statistics NZ estimates quota value at $4 billion in 2009.)

Consultation

4. MFish developed this document for the purpose of consultation. MFish emphasises the views and recommendations outlined in the paper are provided as a basis for consultation with stakeholders.

5. In early 2011, MFish will complete the Final Advice Paper (FAP) for the updated Deemed Value Standard. This document will summarise MFish and stakeholder views on the issues being reviewed, and provide final advice and recommendations to the Minister of Fisheries. A copy of the FAP and subsequently the Minister's letter setting out his final decisions will be posted on the MFish website as soon as it becomes available with hard copies available on request.

Deadline for Submissions

6. MFish welcomes written submissions on the proposals contained in this paper. **All written submissions on this consultation document must be received by MFish no later than 5pm, Tuesday, 30 November 2010.** Please note that any requests for late submissions must be made to MFish no later than Friday, 12 November 2010.

7. Written submissions should be sent directly to:

Trudie Macfarlane,
Ministry of Fisheries,
P O Box 1020,
Wellington;

or emailed to Trudie.Macfarlane@fish.govt.nz

8. All submissions are subject to the Official Information Act and can be released, if requested, under the Act. If you have specific reasons for wanting to have your submission withheld, please set out your reasons in the submission. MFish will consider those reasons when making any assessment for the release of submissions if requested under the Official Information Act.

Background Information

9. The catch balancing regime is a key fisheries management tool contributing to both sustainability and utilisation objectives. The sustainability objectives are achieved when deemed value rates encourage fishers to balance catch with available ACE and in doing so, constrain harvesting to the TACC. Incorrectly set deemed values have led to catches in excess of TACC in some fisheries in the past, which may have sustainability implications. Utilisation objectives are achieved by providing flexibility for commercial operators to manage unexpected and small overruns in ACE holdings by allowing periodic rather than continuous balancing. In the long term, overfishing could result in TACC reductions, which also impacts on utilisation objectives.

10. Prior to 2007, MFish did not review all deemed values each year. Deemed values were reviewed when TACCs were adjusted or when special problems were identified. Some in industry criticised the resultant deemed values for allowing some fishers to intentionally fish on deemed values. MFish and industry convened a Joint Working Group on Deemed Values (DV-JWG). Partially as a result of that process, MFish issued a Deemed Value Standard in 2007 for consultation and submitted the resulting Standard for Ministerial approval in March 2007. This Standard set out how deemed value rates were to be reviewed on annual basis. That Standard was applied beginning in 1 October 2007. Prior to 2007, total deemed value payments were about $10 million per year. In the years since the implementation of the Standard, deemed value bills have fallen and most recently (2008/09 fishing year) were $2.l8 million. This experience has led MFish to identify a benchmark that effective implementation of this Standard is likely to result in deemed value payments of $3 million to $4 million per year. MFish proposes to express this benchmark as 0.1% of quota value ($4 billion in 2009).

EXPLANATION OF THE STANDARD

Introduction

11. Section 75 of the Fisheries Act, which is summarised in Appendix 1, provides the statutory framework for setting deemed values. Fisheries Amendment Act (“1998 Act”) made a fundamental shift in the catch-balancing regime. By increasing reliance on deemed values as the primary tool to incentivise catch balancing, the 1998 Act dramatically simplified the administration of the quota management system both for industry and for government. Because of the central role of deemed values, a clear policy approach to deemed value advice development is very important.

12. Within the statutory framework, the Minister has considerable discretion in setting deemed values. In developing advice to the Minister for the exercise of her/his discretion, MFish will recommend deemed value settings that are both consistent with both s 75 and also with other objectives of the Act. The following Deemed Value principles are the principles that MFish believes will best achieve those goals and that MFish will use when developing advice for the Minister. MFish will review all stocks each year against these principles. Any stock whose deemed value rates are not consistent with these principles will be assessed for possible deemed value changes.

Principles for Setting Deemed Values

13. Fisheries Amendment Act (the 1998 Act) made a fundamental shift in the catch-balancing regime. The 1998 Act dramatically simplified the administration of the quota management system both for industry and for government. The two key changes were the separation of annual catch entitlements (ACE) from quota and the reliance on deemed values as the primary tool to incentivise catch balancing. Because of the central role of deemed values, it is very important that MFish have a clear policy approach to deemed value advice development.

14. Section 75 (2) (a) and s 75 (2) (b) set up a clear policy framework. Under s 75 (2) (a), the Minister must consider whether deemed values are set at levels that provide an incentive to balance catch with ACE. Maintaining incentives to acquire ACE to match catches under s 75 (2) (a) covers incentives under at least four circumstances:

- First, to provide an incentive to balance catch with ACE when ACE is available. That is, fishers should not use deemed values instead of ACE when ACE can be acquired on the open market. Deeming when ACE remains unused is not consistent with s 75 (2) (a). Balancing with ACE is the preferred catch balancing method.

- Second, to provide an incentive to keep the catch level to the amount of ACE available in the fish stock. That is, fishers should not use deemed values as a way of exceeding the TACC for any given fish stock. This helps ensure that the sustainability of the fish stock is not put at risk by fishing on deemed values.

- Third, to provide an incentive not to misreport catch as being taken from a different fish stock to take advantage of lower deemed value rates. When such misreporting occurs, the fisher fails to acquire ACE for the fish stock from which the fish were actually caught. This can undermine the sustainability and utilisation of fish stocks and distorts the information used to make fisheries management decisions. Misreporting is an offence under the Fisheries Act.

- Fourth, to provide an incentive not to illegally discard catch instead of paying the deemed value or acquiring ACE. When a fisher illegally discards, they fail to acquire ACE for the fish stock from which the fish were caught. Illegal discarding undermines the sustainability of fish stocks and is a criminal offence under the Fisheries Act.

15. Once the Minister has considered the issues that arise as mandatory considerations, she/he may also consider the discretionary criteria under s 75 (2) (b). The Act recognises that deemed values are a flexible tool that may be able to both

constrain catches to ACE and also to achieve other goals. Notably, it is often possible to set deemed value rates such that fishers both have an incentive to acquire ACE but also do not have an incentive to discard illegally. But there are also circumstances in which setting a deemed value rate high enough to provide an incentive to acquire ACE may sometimes create incentives to discard illegally. When there is a conflict between providing the correct incentives to acquire ACE under s 75 (2) (a) and other considerations under s 75 (2) (b), MFish will advise the Minister that the incentive to balance catch with ACE should be given greater weight because it is a mandatory consideration.

16. Prior to 2007, MFish tended to recommend adjustments to deemed values in a reactive fashion. Deemed values were often only reviewed when TACCs were adjusted or when very significant deemed value fishing was occurring. The 2005 DV-JWG stated that chronic overcatch should trigger the consideration of management options including higher deemed values. Some industry members have suggested in submissions that the only time deemed values should be changed is when there is chronic overfishing. MFish rejects this position. While MFish should certainly respond to overfishing on deemed values, it should also set deemed values to prevent overfishing in the first place. MFish will continue to advise the Minister that she/he should be forward-looking in the process of setting deemed values. Where available information suggests that existing deemed values may not provide appropriate incentives to balance catch with ACE, the Minister should consider whether alternative settings will provide better incentives going forward.

17. Deemed values are economic tools. They provide economic incentives and disincentives, as s 75 (2) (a) recognises. The economic incentives are directly related to ACE prices, transactions costs of acquiring ACE, and landed fish prices. When any of these economic factors change, the incentives created by deemed values change. Moreover, the effects of the changes in ACE prices, transactions costs of acquiring ACE, and landed fish prices on incentives are predictable. MFish will apply economic analysis to changes in economic factors in order to develop robust, forward-looking advice for the Minister.

18. If the deemed value setting process is forward-looking, MFish would expect that the changes to deemed values would be in the nature of small, relatively frequent changes that adjust along with economic changes.

19. MFish will use the following principles to guide the development of its advice to the Minister on deemed values.

Principle 1: Deemed value between ACE price and landed price

20. As a general guide to setting deemed value rates under s 75 (2) (a), MFish believes that a deemed value rate above ACE price and below landed price generally provides the correct incentives. MFish believes the following actions will create the correct incentives for commercial fishers to acquire ACE to cover their catch:

- When deemed value rates are below ACE price: Increase deemed value rates to a level above ACE price and below landed price to provide the incentive to balance catch with ACE.

- When deemed value rates are above landed price: Decrease deemed value rates to a level between ACE price and landed price to provide an incentive not to discard illegally.

21. Because ACE is traded infrequently in some markets, the available information on ACE price may be inadequate. When there is evidence of intentional fishing on deemed values, MFish will assume that the fisher could not acquire ACE at less than the deemed value rate and that the price of ACE should be assumed to be above the deemed value rate. MFish will generally recommend increases in the deemed value in this circumstance.

22. MFish will advise the Minister that it is not appropriate to fish on deemed values in developing fisheries. A commercial fisher should apply for a special permit if proving up the fishery is to involve catches in excess of ACE holdings.

23. It is not appropriate to allow fishing on deemed values if there is concern that the TACC is not set correctly. The correct response is to increase the TACC, if the science shows this is sustainable. However, MFish may advise the Minister that the deemed value rates in a fishery can be used flexibly to obtain more accurate catch data by minimising incentives to discard illegally.

24. As discussed below, differential deemed values provide a valuable additional tool to manage various risks and uncertainties. So, for example, faced with uncertainty about ACE price and landed value, MFish may propose a combination of changes to the annual rate and to differential rates to manage the risk that annual deemed values may be set too high or too low. But the idea that annual rates and differential rates should be used jointly to achieve objectives and manage risks should not be misinterpreted to suggest that changes to differential rates are somehow a substitute for setting the correct annual rates.

25. Industry has occasionally argued that differential deemed values, rather than annual deemed values, should be adjusted when only one or a few fishers are fishing on deemed values. This argument assumes that some fishers are able to gain greater economic advantage from fishing on deemed values than most other fishers. But if one fisher can find a higher price or can reduce its fishing costs to make fishing on deemed values economically attractive, there is every likelihood that some other fisher will find the same or similar opportunities. Therefore, if any fisher is able to profit from fishing on annual deemed values, the Minister must consider the incentives that exist for other fishers to seek the same opportunity.

26. Some in industry have argued that raising annual deemed values “punishes” everyone for the actions of a few, and therefore adjustments to differential deemed values should be preferred. This argument is built on one or more misconceptions about the role of deemed values. First, deemed values are not punishment; they are part of a system of civil incentives to manage TACCs efficiently. Setting deemed values correctly does not punish anyone; it provides everyone with correct incentives. Second, there is no presumption that any fisher has any right to expect that deemed values will remain at current rates. Third, fishers should not have expectations that some amount of on-going deemed value fishing is to be tolerated. If the deemed value settings are correct, no fisher should be making more than very small deemed value payments, so changes in deemed value rates should have very little effect on their business.

Principle 2: Deemed values should exceed ACE price by transactions costs

27. If ACE price is close to the deemed value rate there may be an incentive for fishers to pay the deemed value instead of acquiring ACE to balance their catch. This is due to the transaction cost involved in making an ACE trade. Currently it costs $11.50 to register an ACE trade electronically with FishServe. There is also the time required to find an appropriate package of ACE and possibly a brokerage fee (if ACE is purchased through a broker). MFish believes the total transaction costs are approximately $100.00 per ACE transaction.

28. The 2005 Report of the Crown/Industry Joint Working Group (DV-JWG) recommended that "deemed values should be set at a margin above ACE value greater than the transactions costs of acquiring ACE." This Standard endorses that position.

29. ACE prices do vary as other economic factors, such as the price of fish, exchange rates, and fuel prices, vary. There is therefore a question about what ACE price is most appropriate. Some quota holders have in the past recommended that the appropriate benchmark is the 90th percentile of the cumulative distribution of ACE prices in the most recent year. That is, the relevant benchmark would be the price which is equal to or greater than the sales price for 90% of the trades by volume. A common suggestion has been that deemed values be set at 20% above the 90th percentile. MFish proposes to use this reference point for setting most deemed values.

30. However, for relatively low valued species where ACE price is, for example $0.15 per kilogram, 20% above ACE price will not cover transactions costs for most trades. MFish therefore proposes a second reference point that is a minimum amount per kilogram above the ACE price. One purpose of deemed values is to avoid the transaction cost of small ACE trades. The question is: at what level of landings should fishers be expected to seek ACE rather than using the convenient option of paying deemed values? MFish believes that, for most fisheries, when a fisher has one tonne of landings to cover with ACE or deemed values, the incentive should be to acquire ACE. If $100.00 in transaction costs are spread over 1,000 kilograms, the transaction cost would be $0.10 per kg.

31. MFish therefore proposes to recommend that deemed value rates are set at the greater of these two options:

- 20% above the 90th percentile ACE price,

or

- $0.10 per kg above the 90th percentile ACE price.

Principle 3: Avoiding incentives to misreport

32. MFish will advise the Minister that incentives to misreport are a factor that fall within the ambit of s 75 (2) (a) and is a permissible consideration under s 75 (2) (b). When a fisher misreports, they fail to obtain ACE of the fish stock from which the fish was actually caught.

33. When two adjacent QMAs for the same species have substantially different deemed values, there may be an incentive to misreport in order to qualify for the lower deemed value. MFish will advise that the Minister should consider the impact

of differences in deemed values across QMAs in his/her decisions. For most species, prices across adjacent QMAs are likely to be similar, because arbitrage in markets will result in movements of fish to equalise prices. Because the upper bound on deemed values in most circumstances is landed price, the upper bound for adjacent QMAs will often be similar. Thus, setting similar deemed values across different QMAs is often likely to be feasible.

34. MFish will advise the Minister that there are reasons to consider more uniform deemed values across QMAs, but that these reasons must be weighed against other considerations. There are regional differences in the prices of some species and these differences must be considered in setting deemed values. MFish advice will result in somewhat more uniformity in deemed values for some species in the future, but MFish does not propose to blindly equalise rates across QMAs.

Principle 4: Principles for constraining by-catch species

35. An important exception arises to MFish's advice that deemed values should generally be set below landed price. That exception arises when a species is a bycatch in a multispecies fishery, such as a mixed trawl fishery, and the catch of that bycatch species constrains the ability of the fishing fleet to capture other target species.

36. In this circumstance, the bycatch species is said to have a "shadow value" greater than landed value that reflects its value in allowing greater catches of other species in the overall fisheries complex. When the shadow value is high, the ACE price that will constrain catch to the TACC can exceed the landed value. In this instance, the deemed value may need to exceed the landed value.

37. When the ACE price and the deemed values are above the landed value, incentives to illegally discard the species are created. This may be an inevitable result of providing appropriate incentives under s 75 (2) (a) for fishers to acquire ACE to cover their catches. How to balance incentives to discard illegally against the incentives to fish on deemed values is the most difficult deemed value advice that MFish must provide to the Minister. It may be necessary to rely on compliance tools to prevent illegal discarding when this occurs.

Principle 5: High value single species fisheries at twice landed price

38. Previous Ministers have decided that the appropriate incentive for "high value single stocks" is to provide a very strong incentive to catch only the amount for which fishers have ACE. This has been accomplished by setting the annual deemed value at approximately twice the landed price. This setting was endorsed by the 2005 DV-JWG report. A fisher would suffer a large loss on any catches in excess of ACE. By setting the deemed value at twice the landed price, it is very unlikely that any incentive would arise to land catch in excess of ACE, even if prices increase significantly during a fishing year This is consistent with s 75 (2) (a) as it provides a strong disincentive against catches in excess of ACE. This setting has been applied to all Spiny Red Rock Lobster (CRA) and Packhorse Rock Lobster (PHC), to all Paua (PAU) stocks, to all Geoduck (PZL) stocks, and to all Sea Cucumber (SCC) stocks except SCC3.

39. MFish may propose to treat other stocks as high value single species fisheries or to stop treating one of above as a high value single species stock. Such a proposal will be made in an IPP.

Principle 6: Recreational stocks identified for higher deemed values

40. Past Ministers have decided that the significance of some snapper stocks (SNA1, SNA7, SNA8, and SNA10) to non-commercial users warranted special treatment with respect to deemed values. SNA1 and SNA10 annual deemed values are at $13.00 per kg, which is well above landed price. SNA7 and SNA8 annual deemed values are at $8.00 per kg, which is closer to but still above landed value. The effect is to provide a very strong incentive to avoid deemed values payments and hence a strong disincentive against landings in excess of ACE. This policy is supported by non-commercial fishers and by some in industry. Others in industry argue that these deemed values provide unnecessarily high incentives to illegally discard fish. MFish notes that this is a difficult issue and that there is understandable disagreement on the setting of SNA deemed values.

41. Given the lack of consensus for a change even within the fishing industry, MFish will continue to use this policy in its advice to the Minister. However, this statement of current policy does not bind MFish or the Minister to continuing this policy. In an IPP, MFish may propose to either depart from this principle for a SNA stock(s) or to apply this principle to other fish stocks.

Principle 7: Chatham Island deemed values set flexibly

42. Under s 75 (5), the Minister may set deemed values for fish landed to a licensed fish receiver on the Chatham Islands that are different from deemed values elsewhere in the same QMA. This option has been applied extensively in the past. For many stocks, the deemed value for the Chatham Islands has been set at about 50% of the deemed value elsewhere in the same QMA.

43. The price of fish landed in the Chathams is generally lower than the price of the same species landed on the South Island because of the cost of transporting fish to markets. Therefore, there may be reasons to set different deemed values for the Chathams.

44. There are, however, potential inappropriate incentives when Chatham Islands deemed values are too low. If the ACE price in the QMA exceeds the deemed value on the Chathams, there may be an incentive for a fisher on the Chathams to pay the deemed value on the Chathams and sell the ACE elsewhere. ACE is issued for an entire QMA; it is not restricted to use on the Chathams. Consider the situation where the price of ACE in QMA4 is $1.00 per kg; the deemed value for non-Chathams landings is $1.50 per kg; and the deemed value for Chatham landings is $0.75 per kg. The deemed value for non-Chathams landings provides an incentive to acquire ACE, because ACE is less expensive than the deemed value. But someone who has ACE and fishes on the Chathams would have an incentive to fish on the Chathams deemed value and sell the ACE for use elsewhere in QMA4.

45. This issue may be especially large where the Chathams are part of a very large QMA3, as is the case for flatfish (FLA3), bluenose (BNS3), and alfonsino (BYX3).

46. MFish expects to advise the Minister to use the flexibility under s 75 (5) to set deemed values for fish landed to LFRs on Chatham Islands that differ from the rest of the relevant QMA. However, MFish is unlikely to recommend that Chatham Island rates be set at 50% of non-Chatham Island rates. Rather, MFish will recommend a differential that reflects the economic conditions on the Chathams as opposed to fish landed elsewhere. For example, in October 2009, MFish addressed fishing on

deemed values in blue cod for the QMA that includes the Chatham Islands (BCO4). MFish recommended and the Minister approved a deemed value rate of $3.75 per kg for non-Chathams BCO4 and a deemed value of $3.00 per kg for Chathams BCO4.

47. MFish has not seen a problem with ACE being transferred from the Chathams while the lower deemed value rates on the Chathams were being paid. If MFish has reason to believe that such an incentive is operating, MFish will review all deemed values for the Chathams to ensure that fishers have appropriate incentives to land fish against ACE per s 75 (2) (a).

Principle 8: Kermadecs (QMA10) at higher of QMA1/QMA2

48. The Kermadec Islands (QMA10) are a part of the Exclusive Economic Zone (EEZ) that is very rarely fished, except by the tuna fleet. QMA10 is part of the Benthic Protected Areas (BPA), so bottom trawling is banned and fishers need to carry observers to go midwater trawling. MFish recognises that the BPA makes changing the deemed value rates in these fisheries seem somewhat unnecessary. However, MFish believes it is necessary to ensure that a consistent and robust approach is taken to setting deemed value rates in QMA10.

49. For 1 October 2009 stocks, MFish advised and the Minister approved setting the deemed values in QMA10 at the highest annual deemed value rate of either QMA1 or QMA2 for the relevant species. This Standard will continue that setting. This strategy would reduce any incentive to misreport catch from adjacent QMAs as coming from QMA10. QMA1 and QMA2 are the two QMAs that border QMA10. Avoiding misreporting is an objective of s 75 (2) (a). Because QMA10 is rarely fished, the potential for misreporting seems to be the only issue under s 75 (2) (a). MFish will generally recommend that conventional differential deemed values be used in QMA10. MFish will recommend that the maximum differential deemed value in QMA10 be the same is the highest differential deemed value in QMA1 or QMA2. The ramping schedules will not necessarily be identical. For example, QMA10 might use conventional ramping with the same maximum differential deemed value rates as the unique ramping schedule in QMA1.

Principle 9: Interim deemed values at 90% of annuals

50. The Act requires that an interim deemed value be set below the corresponding annual deemed value. Prior to 2007, interim deemed value rates were generally set at 50% of the annual rate. In its 2007 Standard, MFish proposed that the interim deemed value rates should remain at 50% of the annual rates for most stocks but higher interim deemed value rates would be recommended where appropriate.

51. This Standard will change that policy. MFish will advise the Minister that interim deemed values should usually be set at 90% of the annual rate. The increase from 50% to 90% addresses two risks. First, if the interim deemed value is below the ACE price, then fishers have an incentive to delay acquiring ACE because there is implicitly an interest-free loan provided. The result can be to delay the balancing of catch until the end of the fishing season. This may lead to a race for ACE and insufficient ACE to cover all catch and thereby contribute to the TACC being exceeded. Second, there is a risk that a firm will go into liquidation between the time interims are paid and the time that annual deemed values are due. This has occurred recently. By setting interims at 90% of annuals, the potential loss to the Crown from the liquidation is reduced. More importantly, a permit holder who faces the risk of bankruptcy will not be tempted to fish excessively on interim deemed values and thereby threaten stock sustainability.

52. For high-value stocks where deemed values are set at twice landed price, it is not necessary to set interims at 90% because even 50% of the annual deemed value will be well in excess of ACE price. Therefore, MFish will recommend that interim deemed values for stocks with deemed values above landed price be set at 50% to 75% of annual deemed values.

53. There may be stock-specific reasons to set interim deemed values at some rate other than 90%. MFish will set out these reasons in the IPP that proposes alternative settings. MFish does not expect that the number of exceptions to the 90% setting (other than high-value stocks with deemed values in excess of landed value) will be large.

Principle 10: Differential deemed values for most stocks

54. While there is increasing consensus between industry and MFish over the appropriate criteria for setting annual deemed values, there is no similar consensus for the role and settings for differential deemed values. MFish believes that a much clearer statement of the principles that guide differential deemed value setting is required.

55. The industry as a whole is able to exceed the TACC by paying the deemed values. Thus, deemed values can be conceptualised as a price that government places on landings in excess of the TACC. Government is essentially revealing its assessment of the damages associated with exceeding the TACC when it sets the deemed value. Differential deemed values allow the government to set deemed values that automatically increase as the TACC is exceeded by larger amounts. The differential deemed value schedule is qualitatively an indication of how government assesses the marginal cost of overfishing. By using differential deemed values, the government is able to send the economic signal that the marginal damages from a small amount of overfishing is not the same as the marginal damages of a large amount of overfishing. The design of the differential deemed value schedule for a stock should qualitatively assess the marginal damages of higher rates of overfishing.

Differential deemed values should be used in most stocks

56. Differential deemed values are based upon the very reasonable assessment that the marginal cost of overfishing increases as the amount of overfishing increases. That is, a small amount of overfishing due to the inherent uncertainties of fishing is of less concern than intentional overfishing that significantly exceeds the TACC.

57. When differential deemed values are not applied, government is sending the signal that the marginal damages of overfishing do not increase when the TACC is greatly exceeded. For example, exceeding the TACC by 1000% raises no different concern per kilogram than exceeding the TACC by 1%. It is extremely difficult to imagine any circumstance under which this is logical. Therefore, MFish concludes that differential deemed values should be imposed for all stocks. Any exception will require clearly articulated reasons why exceeding the TACC by very large amounts raises no special concerns.

Differential deemed values as a risk-management tool

58. Differential deemed values serve a second function. There are inherent administrative delays in the deemed value adjustment process. Deemed values for a fishing year must be set in regulation prior to the close of the previous fishing year.

There is a 12-month delay between when deemed value fishing is clear from end-of-year accounts and when MFish can respond with advice to adjust deemed values. Deemed values are set for a 12-month period, and cannot be changed during that period. During that period, market factors may cause ACE prices and/or fish prices to move in ways that alter the economic incentives of deemed values. In particular, rapid movements in international exchange rates can dramatically affect domestic fish prices. Differential deemed values help manage the risks associated with these administrative delays. If an annual deemed value is set too low because of incomplete information or if the annual deemed value becomes out-dated because of economic changes, the resulting incentives to overfish are constrained by the ramping that occurs as overfishing increases.

Conventional ramping for most stocks

59. For most stocks, MFish has recommended the use of "conventional" ramping.

Table 1: Conventional Ramping

% in excess of ACE	Differential Deemed Value
20%	120% of annual
40%	140% of annual
60%	160% of annual
80%	180% of annual
100%	200% of annual

60. The conventional ramping for differential deemed values was introduced in 2001 as a pragmatic "best guess" for differentials. This conventional ramping has proved to be a robust setting for differential deemed values. Although the maximum setting of twice the annual rate seems arbitrary, a simple economic analysis indicates that setting the deemed value at twice the ACE price is a very appropriate policy setting if the goal is to allow industry to use deemed values to avoid transactions costs of small trades (see Appendix 2). Therefore, the maximum rate used in conventional ramping has some underlying economic justification.

61. MFish will recommend that conventional ramping be applied to all stocks where one of the other criteria does not apply.

Tailored differentials for low value, low TACC stocks

62. The area of most contention in regards to differential deemed values seems to be their use in low value, low TACC fisheries. The QMS defines a number of finfish stocks where targeted fishing for that species does not occur and low TACCs are set to account for occasional, small by-catches. For example, for Parore (PAR), virtually all the landings come from PAR1 and PAR9, but a 2-tonne TACC is set for PAR2 (which is a large QMA that covers all the remaining area). The TACCs for these areas are set largely on the basis of some historical average catch. Because the TACC is very low, even small overcatches will quickly move onto higher ramps. These stocks are typically unintentional by-catches, and they can be very unpredictable. MFish agrees that conventional ramping is probably not appropriate for these stocks. However, MFish does not agree that unlimited fishing on deemed values is appropriate.

63. The general principle for these stocks is unchanged: differential deemed values should reflect a qualitative assessment of the marginal cost of overfishing. As a starting point, there is reason to think that higher percentages of catches in excess of the TACC may raise less concern that similar percent increases for larger and more valuable stocks. The low TACC and relatively high variability mean that high percentage overruns will frequently arise as a matter of chance. As a starting point, MFish will consider recommending the following differential deemed value structure for these stocks:

Table 2: Ramping for low value, low TACC stocks

% in excess of ACE	Differential Deemed Value
100%	150% of annual
200%	200% of annual

64. For example if the TACC is 10 tonnes, the first differential deemed value rate of 150% of the annual would apply when the overall catch reached 20 tonnes, and the second ramp of 200% of the annual would apply when the overall catch reached 30 tonnes.

65. The above schedule is only a proposed starting point. MFish may propose to recommend alternative "flat" ramping for low value, low TACC stocks. There is also inherent judgement about which stocks should qualify for this consideration. Simply having a low TACC is not sufficient if that TACC is directly targeted. It may also be necessary to consider any incentives to misreport the area of landings when this approach is used for a stock.

Steeply ramped differentials to tightly constrain landings to ACE

66. Beginning in October 2007, steeply ramped differentials were applied to some stocks where the Minister agreed that utilisation and sustainability objectives could be best met by using a non-standard differential deemed value rate. For example, in Hoki (HOK1), the annual deemed value of $0.90 per kg applies for the first 2% of catches in excess of ACE. Beyond the 2%, the differential deemed value is $1.30 per kg. The intent is to allow only minor overages at the annual rate. Beyond those minor overages, a strong incentive not to fish on deemed values is created. Steeply ramped differentials now apply to HOK1, Jack Mackerel - JMA1, Orange Roughy - ORH1, ORH3B, ORH7B, all Southern Blue Whiting (SBW) stocks (except SBW1), all Bluenose (BNS) stocks, Snapper - SNA2, SNA7 and SNA8 plus other selected stocks. Whether to use steeply ramped differentials for a stock is a matter to be addressed in the IPP.

67. MFish may recommend the use of steeply ramped differentials to tightly constrain landings to ACE in other fisheries. The exact structure of the steeper ramps will be tailored to the fishery in question. For example, the first unramped step may reflect an assessment of how much a fisher acting with ordinary care might exceed their ACE holdings in their last tow of a season.

Flexible use of differential deemed values

68. In developing its advice, MFish will propose to use differential deemed values flexibly to achieve the goals of management of that fishery. Three recent examples of such flexibility follow.

69. In April 2009, MFish recommended and the Minister adopted a new approach to setting deemed values for a number of recently introduced stocks, including Horse Mussel (HOR), Pilchard (PIL), Anchovy (ANC), Sprat (SPR), and a number of surf clam species. At the time of introduction, those stocks had an annual deemed value set, but differentials were not set. In April 2009, MFish recommended that the Minister add a "backstop" differential of twice the annual deemed value at 200% of ACE. With no differential, any amount of a stock could be taken at the single annual deemed value. For example, if a fishery for anchovy developed, prior to 2009 any amount could be landed at $0.06 per kg. MFish advised the Minister that unlimited fishing on the annual deemed value should not be an acceptable risk for these stocks. It therefore recommended, and the Minister adopted, the single differential ramp of 200% of annual deemed values when landings exceed 200% of ACE.

70. In October 2009, MFish recommended that differential deemed values be introduced for elephant fish (ELE5). Rather than going immediately from no differentials to the conventional ramping, MFish proposed a transitional arrangement where:

- the first step occurred at 30% above ACE with a 10% increase in the differential;
- the second step was at 40% above ACE with a 30% increase in the deemed value; and
- the third step was at 50% above ACE with a 50% increase.

71. The conventional ramping rates were recommended for 60%, 80%, and 100% above ACE. The effect was to create lower differentials up to 40% above ACE and then a transition to conventional ramping. MFish made this recommendation on the assumption that it would eventually recommend conventional ramping for this fishery.

72. Also in October 2009, MFish recommended that the Minister remove the 20% and 40% steps on the conventional ramping schedule for Rig (SPO2). This recommendation was made as part of a strategy of ensuring the best possible information upon which to make future TACC decisions. Industry had requested a TACC increase in October 2009. Part of the reason for their request was a concern that illegal discarding was being encouraged by the combination of a constraining TACC and ramping of deemed values. MFish advised the Minister that further information was required to warrant a TACC increase and therefore recommended against a TACC increase in October 2009. However, MFish did propose that the Minister address questions of data quality due to illegal discards by removing the first two steps on the conventional differentials. Resolving questions about the quality of the information available was judged to be an important issue in TACC development. MFish does not expect this to be permanent setting; MFish expects to recommend a return to conventional ramping, probably at the time a TACC adjustment is proposed.

73. In sum, MFish sees differential deemed values as appropriate for all stocks, but also sees the opportunity to use differential deemed values flexibly to address issues specific to individual stocks.

Appendix 1 - Statutory Framework

74. Under s 75 (1) of the Fisheries Act 1996 (the Act) the Minister is required to set interim and annual deemed value rates for each quota management stock. The remainder of s 75 establishes the parameters to guide the Minister's decision making.

75. Section 75 (2) defines the broad criteria that guides the Ministers decision. Section 75(2) (a) sets out factors that the Minister must consider in his/her decision. Section 75 (2) (b) sets out factors that the Minister may consider.

76. Sections 75 (3) to s 75 (7) address several details of the deemed value setting process.

Mandatory considerations

77. Section 75 (2) (a) requires the Minister, when setting deemed value rates, to take into account the need to provide an incentive for every commercial fisher to acquire and hold sufficient ACE to balance their catch. Section 75(2) (a) says:

S 75 (2) In setting an interim deemed value rate or an annual deemed value rate, the Minister —

> *(a) Must take into account the need to provide an incentive for every commercial fisher to acquire or maintain sufficient annual catch entitlement in respect of each fishing year that is not less than the total catch of that stock taken by that commercial fisher;*

78. In deciding whether or not inappropriate incentives exist, the Minister should not consider whether those incentives may be created or exacerbated by TACs or TACCs that require adjustment[1]. The Minister is, however, allowed to consider other factors that are identified in s 75 (2) (b). Section 75 (2) (a) does not mandate a pre-determined response to issues that the Minister identifies. Within the mandatory considerations of s 75, the Minister may use his/her judgement about how best to respond to a lack of incentives to balance catch with ACE.

79. Section 75 (3) requires that annual deemed values must be at a level that is greater than the interim deemed values.

80. Section 75 (6) prohibits the Minister from setting deemed values that are specific to individuals and from having regard to the personal circumstances of individuals or classes of persons when the Minister sets deemed values.

81. Section 75 (7) requires that any changes to deemed values must take effect on the first day of the next fishing year for that stock. This requirement has two practical effects. First, MFish must develop its advice for a fishing year prior to the end of the previous fishing year. The last full fishing year of information available is therefore almost 12 months old at the time of advice development and decision making. Second, if during a fishing year it appears that a deemed value setting is not providing the appropriate incentive to balance catch with ACE, a correction cannot be made until the beginning of the next fishing year. Together, these two factors lead

[1] *Pacific Trawling Limited and Independent Fisheries Limited v The Minister of Fisheries*, High Court, Napier, CIV 2007-441-1016, 29 August 2008 ("*Pacific Trawling*").

MFish to recommend that the Minister be forward-looking to the extent possible in her/his deemed value decisions.

Permissible considerations

82. Section 75 (2) (b) outlines other factors that the Minister may have regard to when setting interim and annual deemed value rates. Section 75 (2) (b) states:

S 75 (2) In setting an interim deemed value rate or an annual deemed value rate, the Minister—

> *(b) May have regard to—*
>
> *i. The desirability of commercial fishers landing catch for which they do not have annual catch entitlement; and*
> *ii. The market value of the annual catch entitlement for the stock; and*
> *iii. The market value of the stock; and*
> *iv. The economic benefits obtained by the most efficient commercial fisher, licensed fish receiver, retailer, or any other person from the taking, processing, or sale of the fish, aquatic life, or seaweed, or of any other fish, aquatic life, or seaweed that is commonly taken in association with the fish, aquatic life, or seaweed; and*
> *v. The extent to which catch of that stock has exceeded or is likely to exceed the total allowable commercial catch for the stock in any year; and*
> *vi. Any other matters that the Minister considers relevant.*

83. The considerations in s 75 (2) (b) include both factors that the Minister would probably consider as part of the Minister's mandatory consideration under s 75 (2) (a) and also factors that might not arise under s 75 (2) (a).

84. In considering whether inappropriate incentives exist for fishers to fail to balance catch with ACE, the Minister would probably consider the market value of ACE [s 75 (2) (b) (ii)] and the market price of the fish [s 75 (2) (b) (iii)]. If catch exceeded the TACC per 75 (2) (b) (v), then some fishers would probably be landing catch in excess of ACE and the Minister would need to take this into account under s 75 (2) (a). (Note that because of the ability of ACE owners to carry forward some ACE, it is possible for catch to exceed the TACC in any one year even in the absence of deemed value fishing.)

85. Section 75 (2) (b) (i) addresses the issue of illegal discarding when a fisher does not have ACE. As illegal discarding can also occur when a fisher does have ACE, s 75 (2) (b) (i) incompletely covers the issues around illegal discarding. However, illegal discarding is a core issue for the QMS and should certainly fall within the other matters that the Minister might consider relevant under s 75 (2) (b) (vi). Illegal discarding, because it involves failing to acquire ACE to match total catch, is an issue that is appropriately considered under s 75 (2) (a).

86. Section 75 (4) allows the Minister to set different deemed values for different levels of catch in excess of ACE. These are generally known as "differential deemed values" or "ramped deemed values".

87. Section 75 (5) allows the Minister to set different deemed values for fish landed at LFRs on the Chatham Islands.

Appendix 2 - Transactions Costs and Deemed Values

88. One justification for the deemed value system is that it provides a simple mechanism to reduce transactions costs. The catch balancing regime established in 2001 resulted in lower transaction costs for the fishing industry. The transaction cost of the deemed value regime are especially low. Fishers are simply required monthly to pay the interim deemed value rate for the amount of fish they landed for which they held no ACE. They have the rest of fishing year either:

a) to purchase ACE to balance their catch and then to have the interim deemed value payment refunded to them, or

b) to pay the difference between the interim and annual deemed value rates.

89. The transactions cost of the deemed value regime are significantly lower than that of the ACE market. This is particularly true for small trades of ACE. The cost of registering an ACE trade is $11.50 for electronic exchanges and $29.25 for manual transactions. Someone looking for ACE must spend time to locate the ACE and may also pay a brokerage fee. It would not be unreasonable to suggest that the transaction cost of an ACE trade might be in the range of $100. Someone looking for 20 kg of ACE worth $1 per kg would face very high transactions compared to the value of the trade. Note also that the industry bears the transactions costs, so the industry has an incentive to reduce those costs.

90. If the only goal is to avoid uneconomic transactions costs, a relatively simple deemed value rule can be derived. Assume that the goal is to allow ACE traders to use deemed values if the transactions costs exceed the value of ACE traded, which can be expressed mathematically as:

$$T \geq P_a A \qquad (1)$$

where T = transactions costs of an ACE trade, assumed to be independent of the size of the trade.
P_a = ACE price
A = quantity of ACE required

91. If we define A* as the level of ACE at which the trader would be indifferent to buying ACE or paying the deemed valued, equation (1) will hold with equality at A*:

$$T = P_a A^* \qquad (2)$$

92. An individual trader faced with the option of using a deemed value or entering the ACE market with transactions costs will use deemed values if the deemed value payment is less than the sum of transactions costs plus the cost of the ACE:

$$P_d A \leq T + P_a A \qquad (3)$$

where P_d = deemed value rate

93. For the trader, the point at which the trader will switch from use of deemed values to the ACE market occurs when equation (3) is satisfied with equality:

$$P_d A^* = T + P_a A^* \qquad (4)$$

94. To incentivise the trader to switch to the ACE market when the transactions costs are equal to the value of the trade, substitute condition (2) into equation (4), which yields:

$$P_d A^* = P_a A^* + P_a A^* \quad (5)$$

or

$$P_d = 2\,P_a \quad (6)$$

95. This result indicates that the deemed value rate should be twice the ACE price if the goal is to allow the use of deemed values when transactions costs exceed the value of the ACE being traded. This result is interesting, because the optimal deemed value does not depend upon the transactions costs or the break-even level of ACE required. If annual deemed values are set slightly above the price of ACE, then the maximum step on conventional ramping is slightly above this value of twice the ACE price.