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Secretary  
Primary Production Select Committee  
Parliament Buildings  
Wellington

Fax: 04 499 0486

## **SUBMISSION ON: FISHERIES ACT 1996 AMENDMENT BILL**

### **1. Introduction**

The Environment and Conservation Organisations of NZ (ECO) is the national alliance of 62 groups with concern for the environment. ECO was established in 1972. ECO has long been concerned at the sustainable management of fisheries in New Zealand and beyond.

This submission has been prepared by members of ECO Executive and is in line with ECO Policy that was developed in consultation with ECO member bodies and endorsed by our AGM.

Thank you for the opportunity to make submissions on this Bill

ECO supports the need for changes to Part II of the Fisheries Act and wishes to make further comments on the Bill's details.

ECO wishes to appear before the Select Committee to speak in support of this submission. Please contact the ECO office on 04-385-7545 at [eco@reddfish.co.nz](mailto:eco@reddfish.co.nz) to make arrangements for this or Cath Wallace at 04-463-5713 and copy emails to [Cath.Wallace@vuw.ac.nz](mailto:Cath.Wallace@vuw.ac.nz).

## 2.0 Summary

The Amendment Bill fails to capture the international context and requirements of the need to include the precautionary approach in New Zealand fisheries law.

Section 10 of the Fisheries Act was intended to capture of the concept of the precautionary approach in New Zealand law but it did not actually mention that concept.

### 3.1 History Of Precautionary Approach

The reference to precautionary measures, precautionary approach or principle has been around for over 25 years. First references occur in German and European law or resolutions. In 1980 precautionary measures were referred to in a EC Council Decision in relation to CFCs.

The concept arose from a recognition that environmental damage was being recognised many years after a supposedly safe event occurred, that scientific uncertainty always exists, and with environmental issues knowledge of damage could take years, and that there were obligations to future generations.

The precautionary approach, measures or principles have been applied to a wide range of environmental situations and law including:

- protection of the ozone layer;
- response to potential climate change;
- trade in hazardous waste;
- dumping of sewage sludge;
- dumping at sea;
- fisheries sustainability;
- general environmental principle;
- management of hazardous substances;
- control on imports of new organisms;
- control of genetically modified organisms.

As Hewison (1993) put it: *“the core elements of the precautionary principle are a recognition of:*

- 1) *the vulnerability of the environment and the scarcity of resources;*
- 2) *the limited ability of science to accurately predict threats to the environment;*
- 3) *the need to set conservative evidentiary thresholds;*
- 4) *the requirement to reserve the burden of proof away from those opposing an activity onto those seeking to promote an activity; and*
- 5) *the use of impact assessment.”*<sup>1</sup>

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<sup>1</sup> Hewison G J (1993) The Precautionary Principle and its application to the management of straddling

### 3.2 Type I vs Type II Statistical Error:

Dayton (1998)<sup>2</sup> has reported on the need for the burden of proof to be on the side of the resource exploiter. He recommended that the *“burden of proof must be applied to our marine resources so that those hoping to exploit them must demonstrate no ecologically significant long-term changes”*. This approach is consistent with precautionary management and recognises the need for environmental impact assessments prior to allowing resource exploitation or use of a product and that actions that may result in significant or irreversible harm to the environment are not undertaken or permitted.

*“The challenge to management of any wild resource is to provide a buffer for uncertainties to safeguard the future health of the population or ecosystem.”* (Dayton)

Dayton compares the problem of type I and type II statistical error when assessing whether an effect has been established ie testing the null hypothesis that there is no effect. Type I error is when an effect is detected when in fact none exist. Type II error is when an effect is not detected when in fact an impact does exist.

Our concern (and Dayton’s) is that current management focuses on reducing the type I error because this involves catching fewer fish or further controlling an introduction and is therefore highly visible to politicians, fishing industry, employers etc. *“Those defending the profiteering can argue endlessly over the accuracy of statistics that are virtually impossible to verify..”*

*“But ignoring type II error results in failure to recognise and avoid serious long-term damage such as the collapse of the fisheries or environmental destruction... The environmental consequences from type II error are much more serious because of the great time lags in the recovery of ecosystems or animal populations. Type I errors usually result only in short-term economic costs.”*

The precautionary approach is essential to avoiding type II error and environmental consequence in management decisions.

### 3.3 Precautionary Fisheries Management

Any fisheries management regime for New Zealand's must include the precautionary approach because Section 5 of the Fisheries Act 1996 and international law requires that New Zealand manage consistent with our international obligations relating to fisheries.

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stocks and highly migratory fish stocks. July 1993. 21p.

<sup>2</sup> Dayton, P K (1998) Reversal of the Burden of Proof in Fisheries Management. Science, Vol 279:821-822. 6 February 1998.

The UN FAO Code of Conduct for Responsible Fisheries (1995) includes in its general principles:

*6.5 States ... should apply a precautionary approach widely to conservation, management and exploitation of living aquatic resources in order to protect them and preserve the aquatic environment, taking into account the best scientific evidence available. The absence of adequate scientific information should not be used as a reason for postponing or failing to take measures to conserve target species, associated or dependent species and non-target species and their environment.”*

Section 7.5 of the Code sets out a precautionary approach:

*“7.5.1 States should apply the precautionary approach widely to conservation, management and exploitation of living aquatic resources in order to protect them and preserve the aquatic environment. The absence of adequate scientific information should not be used as a reason for postponing or failing to take conservation and management measures.*

*7.5.2 In implementing the precautionary approach, States should take into account, inter alia, uncertainties relating to the size and productivity of the stocks, reference points, stock condition in relation to such reference points, levels and distribution of fishing mortality and the impact of fishing activities, including discards, on non-target and associated or dependent species as well as environment and socio-economic conditions.”*

An FAO technical review of precautionary management of fisheries considered the approach requires:

- a) “consideration of the needs of future generations and avoidance of changes that are not potentially reversible;*
- b) prior identification of undesirable outcomes and of measures that will avoid them or correct them promptly;*
- c) that any necessary corrective measures are initiated without delay, and that they should achieve their purpose promptly, on a timescale not exceeding two or three decades;*
- d) that where the likely impact of resource use is uncertain, priority should be given to conserving the productive capacity of the resource;*
- e) that harvesting and processing capacity should be commensurate with estimated sustainable levels of resource, and that increases in capacity should be further constrained when resource productivity is uncertain;*
- f) all fishing activities must have prior management authorisation and be subject to periodic review;*
- g) an established legal and institutional framework for fishery management, within which fishery management plans that implement the above point should be instituted for each fishery;*

*h) appropriate placement of the burden of proof by adhering to the requirements above."*  
(FAO, 1995)<sup>3</sup>

The US Panel on Ecosystem based fisheries management<sup>4</sup> called for policies which include applying the precautionary approach:

*"2. Apply the precautionary approach. The precautionary approach is a key element of the United Nations Agreement for Straddling Stocks and Highly Migratory Species (United Nations 1996) and the Food and Agriculture Organization of the United Nations (FAO) Code of Conduct for Responsible Fisheries (FAO 1995).*

*All ecosystems are complex and uncertainty is unavoidable. Within uncertainty, there is always a risk of undesirable consequences on fishery resources (e.g., overfishing) and/or on ecosystems. The precautionary approach was motivated by the widely accepted conclusion of scientists and fishery managers that many of the current problems of fisheries (i.e., a large number of overfished stocks) have been caused by the practice of making risk-prone fishery management decisions (i.e., to err toward overfishing) in the face of uncertainty (Garcia and Newton 1994). One approach to coping with uncertainty, which is widely applied to other human endeavors, is to encourage behaviors (often by enacting regulations) that reduce risk. Thus, the precautionary approach calls for risk averse decisions (i.e., to err toward conservation). FAO (1995) provides guidelines on the application of the precautionary approach.*

The Implementing Agreement on High Seas Fisheries and Straddling Stocks includes in it general the requirement to *"apply the precautionary approach in accordance with article 6"..."in order to conserve and manage straddling fish stocks and highly migratory fish stocks"...*

Article 6 requires states *"shall apply the precautionary approach widely to conservation, management and exploitation of straddling fish stocks and highly migratory fish stocks in order to protect the living marine resources and preserve the marine environment.*

- 2. States shall be more cautious when information is uncertain, unreliable or inadequate. The absence of adequate scientific information shall not be used as a reason for postponing or failing to take conservation and management measures.*
- 3. In implementing the precautionary approach, States shall:*
  - (a) improve decision-making for fishery resource conservation and management by obtaining and sharing the best scientific information available and implementing improved techniques for dealing with risk and uncertainty;*

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<sup>3</sup> FAO (1995) Precautionary Approach to Fisheries: Part 1 Guidelines on the Precautionary Approach to Capture Fisheries and Species Introductions. June 1995. 30p.

<sup>4</sup> Ecosystem Principles Advisory Panel (1999) Ecosystem-base fishery management. Report to Congress. National Marine Fisheries Service. 54p.

- (b) *apply the guidelines set out in Annex II and determine, on the basis of the best scientific information available, stock-specific reference points and the action to be taken if they are exceeded;*
  - (c) *take into account, inter alia, uncertainties relating to the size and productivity of the stocks, reference points, stock condition in relation to such reference points, levels and distribution of fishing mortality and the impact of fishing activities on non-target and associated or dependent species, as well as existing and predicted oceanic, environmental and socioeconomic conditions; and*
  - (d) *develop data collection and research programmes to assess the impact of fishing on non-target and associated or dependent species and their environment, and adopt plans which are necessary to ensure the conservation of such species and to protect habitats of special concern.*
4. *States shall take measures to ensure that, when reference points are approached, they will not be exceeded. In the event that they are exceeded, States shall, without delay, take the action determined under paragraph 3 (b) to restore the stocks.*
5. *Where the status of target stocks or non-target or associated or dependent species is of concern, States shall subject such stocks and species to enhanced monitoring in order to review their status and the efficacy of conservation and management measures. They shall revise those measures regularly in the light of new information.*

The provision also requires States to be cautious when managing new and exploratory fisheries.

### **3.4 New Zealand Law**

A type of precautionary management exists in section 7 of the Hazardous Substances and New Organisms Act but it does not capture all the concepts included in international law.

### **4.0 Proposed Changes**

For these reasons the amendment to section 10 should:

- be clear that the decision-maker is applying a precautionary approach;
- be clear that the burden of proof is on those exploiting the environment *must demonstrate their proposed activity has no ecologically significant long-term changes;*
- *Ensure the absence of adequate scientific information shall not be used as a reason for postponing or failing to take conservation and management measures;*
- *Take into account uncertainties relating to the size and productivity of the stocks, reference points, stock condition in relation to such reference points, levels and*

*distribution of fishing mortality and the impact of fishing activities on non-target and associated or dependent species;*

- *Ensure measures are revised regularly in the light of new information;*
- *Ensure any necessary corrective measures are initiated without delay, and that they should achieve their purpose promptly, on a timescale not exceeding two or three decades*
- *Consider the needs of future generations and avoid changes that are not potentially reversible.*

#### **4. Conclusion**

Thank you for the opportunity to make this submission. ECO wishes to be heard in support of this submission please contact the ECO Office at 04-385-7545.

Yours sincerely,

Cath Wallace  
Co-Chairperson

## **APPENDIX:**

### **Agreement for the Implementation of the Provisions of the UNCLOS relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, 1995**

#### **Article 6**

##### **Application of the precautionary approach**

1. States shall apply the precautionary approach widely to conservation, management and exploitation of straddling fish stocks and highly migratory fish stocks in order to protect the living marine resources and preserve the marine environment.
2. States shall be more cautious when information is uncertain, unreliable or inadequate. The absence of adequate scientific information shall not be used as a reason for postponing or failing to take conservation and management measures.
3. In implementing the precautionary approach, States shall:
  - (a) improve decision-making for fishery resource conservation and management by obtaining and sharing the best scientific information available and implementing improved techniques for dealing with risk and uncertainty;
  - (b) apply the guidelines set out in Annex II and determine, on the basis of the best scientific information available, stock-specific reference points and the action to be taken if they are exceeded;
  - (c) take into account, inter alia, uncertainties relating to the size and productivity of the stocks, reference points, stock condition in relation to such reference points, levels and distribution of fishing mortality and the impact of fishing activities on non-target and associated or dependent species, as well as existing and predicted oceanic, environmental and socioeconomic conditions; and
  - (d) develop data collection and research programmes to assess the impact of fishing on non-target and associated or dependent species and their environment, and adopt plans which are necessary to ensure the conservation of such species and to protect habitats of special concern.
4. States shall take measures to ensure that, when reference points are approached, they will not be exceeded. In the event that they are exceeded, States shall, without delay, take the action determined under paragraph 3 (b) to restore the stocks.
5. Where the status of target stocks or non-target or associated or dependent species is of concern, States shall subject such stocks and species to enhanced monitoring in order to review their status and the efficacy of conservation and management measures. They shall revise those measures regularly in the light of new information.
6. For new or exploratory fisheries, States shall adopt as soon as possible cautious conservation and management measures, including, inter alia, catch limits and effort limits. Such measures shall remain in force until there are sufficient data to allow



assessment of the impact of the fisheries on the long-term sustainability of the stocks, whereupon conservation and management measures based on that assessment shall be implemented. The latter measures shall, if appropriate, allow for the gradual development of the fisheries.

7. If a natural phenomenon has a significant adverse impact on the status of straddling fish stocks or highly migratory fish stocks, States shall adopt conservation and management measures on an emergency basis to ensure that fishing activity does not exacerbate such adverse impact. States shall also adopt such measures on an emergency basis where fishing activity presents a serious threat to the sustainability of such stocks. Measures taken on an emergency basis shall be temporary and shall be based on the best scientific evidence available.

## **ANNEX II GUIDELINES FOR THE APPLICATION OF PRECAUTIONARY REFERENCE POINTS IN CONSERVATION AND MANAGEMENT OF STRADDLING FISH STOCKS AND HIGHLY MIGRATORY FISH STOCKS**

1. A precautionary reference point is an estimated value derived through an agreed scientific procedure, which corresponds to the state of the resource and of the fishery, and which can be used as a guide for fisheries management.

2. Two types of precautionary reference points should be used: conservation, or limit, reference points and management, or target, reference points. Limit reference points set boundaries which are intended to constrain harvesting within safe biological limits within which the stocks can produce maximum sustainable yield. Target reference points are intended to meet management objectives.

3. Precautionary reference points should be stock-specific to account, inter alia, for the reproductive capacity, the resilience of each stock and the characteristics of fisheries exploiting the stock, as well as other sources of mortality and major sources of uncertainty.

4. Management strategies shall seek to maintain or restore populations of harvested stocks, and where necessary associated or dependent species, at levels consistent with previously agreed precautionary reference points. Such reference points shall be used to trigger pre-agreed conservation and management action. Management strategies shall include measures which can be implemented when precautionary reference points are approached.

5. Fishery management strategies shall ensure that the risk of exceeding limit reference points is very low. If a stock falls below a limit reference point or is at risk of falling below such a reference point, conservation and management action should be initiated to facilitate stock recovery. Fishery management strategies shall ensure that target reference points are not exceeded on average.

6. When information for determining reference points for a fishery is poor or absent, provisional reference points shall be set. Provisional reference points may be established by analogy to similar and better-known stocks. In such situations, the fishery shall be subject to enhanced monitoring so as to enable revision of provisional reference points as improved information becomes available.

7. The fishing mortality rate which generates maximum sustainable yield should be regarded as a minimum standard for limit reference points. For stocks which are not overfished, fishery management strategies shall ensure that fishing mortality does not exceed that which corresponds to maximum sustainable yield, and that the biomass does not fall below a predefined threshold. For overfished stocks, the biomass which would produce maximum sustainable yield can serve as a rebuilding target.