

Freshwater Fisheries Management Policy

Prepared by

Native Fish Australia (Victoria) Inc.



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PREAMBLE

Objectives of this Policy

This Policy seeks to provide a plan for the management of all Victorian freshwater fisheries. It seeks to provide a balance between conservation issues and the legitimate interests of recreational anglers and other users of Victorian waterways.

Whilst this Policy has been prepared by Native Fish Australia, it is not intended to be concerned solely with the interests of native fish, rather it seeks to provide a management structure for both native fish and exotic fish in a way that recognises the value of each to the community and the largely common interest of those concerned with each section of the fishery.

Terms Used in this Document

The following definitions should be used when interpreting this document.

NFA/Native Fish Australia	Native Fish Australia (Inc) - Victorian Branch
Fisheries	The Victorian State Government Department of Conservation and Natural Resources or its successors.
Native Fish	Any fish present in Australia prior to European settlement.
Exotic Fish	Any fish not present in Australia prior to European settlement.
Indigenous Fish	Any fish present in a water in question prior to European settlement.
Introduced Fish	Any fish including Native Fish not present in the water in question prior to European settlement

HISTORICAL PERSPECTIVE

The Past

Prior to European settlement Victorian waters carried abundant stocks of the various native species, large and small. Rivers, often subject to flood and drought, generally contained a multitude of snags, deep holes and plentiful vegetation - all prime habitat for species which had evolved over millions of years to take advantage of just these conditions.

There were substantial differences in species distributions North and South of the Great Dividing Range. North flowing rivers contained such fish as Murray cod, golden perch, silver perch, Macquarie perch, eel tailed catfish, trout cod and bony bream (these being the larger species) as well as smaller fish such as freshwater blackfish, the various gudgeon species, rainbowfish, Australian smelt and some of the galaxiids. South flowing rivers on the other hand held such fish as Australian bass (in the East), freshwater blackfish (often much larger than their Northern cousins), tupong, Australian grayling, short and long finned eels, various species of galaxiids, pygmy perch and gudgeon as well estuarine species such as estuary perch and mullet in the lower reaches.

Water flow was generally high in Winter and low in summer with significant flooding at various times but especially in Winter and Spring. During times of drought some of the North flowing rivers dried up into series of water holes many of which were quite deep and provided refuge for fish until the rains came.

It is certain that Aboriginal people exploited these fish resources, but their numbers were few compared to today's national population and so the fishing pressure was comparatively light. Also the Aboriginal people's lifestyle didn't lead to over exploitation of resources in any case. Even if they did at times take large numbers of fish, Aboriginal people did not adversely effect the habitat so the fishery remained viable and essentially stable.

The Present

After about 200 years of European activity, the rivers and streams of Victoria are somewhat the worse for wear. In order to understand what factors have brought about this decline it is necessary to realise that each river or stream is part of a wider environment. Often the effect that is evident in a given stream may be caused by things well away from the stream itself. For example saline ground water intrusion in a deep hole in a river may be ultimately caused by land management practice high in the catchment, many kilometres distant.

Since European settlement and in many cases despite more consistent water flows due to regulation by dams and so on, there has been a consistent gradual decline in Native Fish populations. In some waters native fish have been largely or totally replaced by exotic species such as carp, redfin, trout, goldfish and mosquito fish.

In most cases this is because of man-made changes to the aquatic environment. Also, there are significant waters where native and exotic species appear to co-exist without undue problems and should continue to do so for so long as sound management practices are employed.

FRESHWATER FISHERIES MANAGEMENT

Definitions of Waters

In recognition of the "prior occupancy" of native fish, all natural Victorian freshwater waterways should be considered *prima-facie* to be Native Fish Waters as defined below. However, in cases where a water is unsuitable for native fish and such a water is suitable for trout, that water may be considered for management as a Trout Water. Other waters where there exist viable populations of introduced fish, not being noxious fish, may be considered for management as Mixed Fishery Waters.

Impoundments and other artificial waterways unless otherwise determined should be managed as Mixed Fishery Waters.

Classification of waters as other than Native Fish Waters in the case of natural waters, or as Mixed Fishery Waters in the case of artificial waters should be made by Fisheries with due consideration to the available data about the water concerned, after consultation with the relevant interest groups, such as angling and conservation groups and after an appropriate period of public comment and giving due consideration to all submissions received.

Native Fish Waters

Native Fish Waters are those waters where primary management consideration is given to the interests of the indigenous fish species of that water. All Victorian natural freshwater waterways should be managed as Native Fish Waters unless otherwise classified.

Introduced species in Native Fish Waters should be managed, based upon the available evidence, primarily from the viewpoint of their effects upon the indigenous species. Where an introduced fish species is found to be significantly deleterious to the interests of the indigenous fish, management of that introduced species should be, wherever possible, directed toward the control of that introduced species.

Native Fish Waters will not normally be considered as targets for stocking with introduced species, except where it can be clearly demonstrated that such stocking does not have an adverse effect upon indigenous fish populations, including those not of angling interest, and where it can be clearly demonstrated that there exist valid reasons for such stocking. Generally, stocking with introduced species should only be conducted in waters designated as Mixed Fisheries or Trout Waters. In no case should stocking with introduced fish be permitted in Native Fish Waters classified *Special Conservation Water, Past Range, Remnant* or *Unknown* as described below.

Native Fish Waters should be managed depending upon the status of the native fish held in the waters. The waters should be sub-classified into the following categories as appropriate:

Special Conservation Water

A Native Fish Water should be classified as a *Special Conservation Water* if it remains in essentially pristine condition. Every effort should be made to prevent the introduction of non-indigenous fish into these areas. Whilst not necessarily requiring the total prohibition of angling in these waters, consideration should be given on the basis of available evidence to impose severe restrictions to ensure the long term survival of such waters. The use of live finned fish as bait and the translocation of *any* fish into these waters should be prohibited except for necessary conservation stocking purposes and with at least senior Departmental approval.

Past Range

A Native Fish Water should be classified as *Past Range* if a native species once present in the water is no longer recorded or very rarely recorded and the water has not been permanently altered so as to be unsuitable for that species. Management of such a water should be directed toward the re-establishment of the species in the wild. Initial activity should be directed towards identifying the causes, if possible, for the decline of the species and to the amelioration of those factors as much as to the re-introduction of fish either through translocation or from hatchery bred fish. Consideration should be given to the imposition of closed seasons or prohibition against taking the species during the rehabilitation phase. In some cases total closure of the water to any form of angling may need to be considered.

Remnant

Native Fish Waters where only remnant populations of an original species exist or where a native species is under a particular threat should be classified as *Remnant*. These waters should be managed in essentially the same manner as the previous category except that priority should be given to helping the population re-establish naturally rather than by re-stocking with fish from other sources. If it is considered necessary to attempt to re-stock such a water using hatchery fish, brood stock should be obtained if possible from the target water.

Nominal

Native Fish Waters containing healthy, self sustaining populations of native species which are not under threat should be classified as *Nominal*. These waters should be managed so as to ensure the long term viability of the native fish populations contained therein.

Recreational

Native Fish Waters suitable for growth of native fish but due to changes in the aquatic environment or other reasons do not provide suitable conditions for significant natural spawning may be classified as *Recreational*. These waters

should be managed as *put and take* fisheries, with the primary aim being to provide fish for recreational anglers. Stocking of such waters should seek to provide anglers with reasonable opportunities for quality fishing experiences. It is expected that management of these waters will include such tools as bag and size limits, from the regulatory side and regular stocking with fish in suitable size classes so as to provide the best return to anglers for the resource invested.

Unknown

Native Fish Waters where the status of one or more indigenous species is uncertain should be classified *Unknown* and should be managed as for waters classified *Remnant* until such time as the water can be re-classified.

Trout Waters

Waters suitable for trout which are either unsuitable for native fish (whether naturally or as a result of modification) or where the presence of native fish is not significant and such species as may be present are not threatened within the State generally or by the presence of trout in the water in question may be classified as Trout Waters.

The primary management objective of designated Trout Waters should be to provide the best possible recreational trout fishery consistent with the overall objectives of this management plan. Preference should be given to maintaining viable self-sustaining populations of wild fish. However, where natural recruitment is insufficient, for example due to lack of suitable spawning grounds or due to pressure from anglers, stocking with hatchery bred trout may be undertaken where there is a reasonable expectation of an acceptable return to anglers from the fish stocked. Preference when stocking trout should be given to the use of triploid stock. In some cases bag and size limits may need to be applied as part of the management strategy in order to provide satisfactory return to anglers.

Direct modification of the in-stream habitat other than in accordance with general conservation practice - eg for the re-establishment of riparian vegetation - should not be allowed. In particular modification of stream bottoms in order to provide spawning beds for trout should not be permitted where such work would be detrimental to Native Fish.

Management of designated Trout Waters should not employ measures that are likely to spread trout from those waters into Native Fish Waters, where such a movement is likely to threaten native species.

Mixed Fishery Waters

Artificial Waterways should, unless otherwise decided, be managed as Mixed Fishery Waters. In addition, waters sustaining or capable of sustaining viable populations of both indigenous fish and introduced fish may also be managed as

Mixed Fishery Waters. This category recognises that some waters are capable of supporting both indigenous and introduced fish. Also, it is envisaged that generally these waters will be managed as recreational fisheries.

Management of Mixed Fishery Waters should take into account the varying requirements of the different species present or desired and may include, at times, closed seasons, bag and size limits or even total prohibition upon the taking of one or more species. In particular, where it is desired to establish or re-establish a species in a Mixed Fishery Water, it may well be appropriate to ban the taking of that species in that water for a period of time until the population becomes viable. Furthermore, the behaviour of certain species at various times, eg prior to spawning, may make it necessary to close part or all of a water to angling, or at least to the taking of that species, at certain times of the year.

Stocking of indigenous or introduced fish into a Mixed Fishery Water should take into account the likely effects of that release upon the overall fishery and the likely survival rate of the liberated fish. The objective should be to provide the best possible result given the resources available.

Conservation of Native Fish

Conservation of native fish has several objectives including:

- ⌚ the prevention of the extinction of native fish species;
- ⌚ the arrest of the decline in native fish populations;
- ⌚ the re-establishment of native fish populations; and,
- ⌚ ensuring the survival of Australian native fish for future generations.

Breeding & Re-stocking Programs

Breeding and re-stocking programs are seen as an integral part of the process of conserving Australian native fish. Wherever possible brood stock should be taken from the same genetic pool as exists in the waters targeted for liberation. However, this needs to be balanced against the increased effort involved and the actual effects a particular liberation or program is likely to have on the gene pool. Re-stocking for conservation purposes should be under the control of Fisheries, although liberations of native fish by other groups may be permitted at various times under strict guidelines when considered appropriate.

Direct assistance to Fisheries by interested groups in the actual breeding program is encouraged, provided that such groups obtain the appropriate permits and follow practices consistent with the good management of the fishery. Such activities should be open to inspection by the relevant authorities to ensure compliance with such rules and/or restrictions that may be imposed from time to time. Under no circumstances should liberation of hatchery raised fish be undertaken without the express approval and agreement of Fisheries, about size and numbers to be released and exact location for such release.

Monitoring populations

Fundamental to the conservation of native fish is data concerning fish populations. To this end suitable procedures are to be undertaken so as to allow monitoring of fish populations. Interested parties such as angling and conservation groups should be encouraged to participate in providing raw data to help evaluate the success or otherwise of the management program.

Exotic Fish

Trout and other Salmonoids

Trout are a popular angling target for many Victorian anglers and consequently are of significant economic importance. Since the beginning of European settlement trout have been liberated in most Victorian waters at one time or another. Of the two main species liberated, brown trout have adapted best to Australian conditions and have the greater range. There are significant populations of rainbow trout in cooler waters and in many impoundments.

Overall, management of salmonoid populations should be only for the purposes of providing recreational fishing. As exotic fish, salmonoids do not warrant protection on *conservation* grounds.

Some waters have been so modified as to be ideal for trout almost to the total exclusion of other species - the Goulburn River immediately downstream of the Eildon Pondage being an example - and it makes little sense to consider them as anything other than trout waters or not to manage them as such.

Other waters, however, are not so clear cut. There is clear evidence that in some waters trout compete directly with native fish for habitat and food, as well as preying directly on juvenile fish and smaller species. Careful consideration needs to be given to the appropriate strategy for the management of trout in these waters. In a few instances it may be considered that the best management practice should be the control of trout in a water.

Careful management should be used for self supporting populations of trout. Stocking programs may be required in non self supporting Trout Waters and where appropriate in Mixed Fishery Waters. The use of triploid stock is encouraged so as to maximise the effective return to anglers.

Redfin (English Perch)

Redfin have established significant self sustaining populations in many Victorian waters. Redfin are targeted by many anglers as well as being caught by anglers seeking other species.

Redfin are a predatory fish and are implicated in the decline of a number of native fish and as such the further expansion of their range is not encouraged. Also, some populations of redfin carry a virus which poses a threat to other fish.

In waters where redfin pose a serious threat to native fish examination of methods of control should be undertaken.

Redfin should not be considered as subject for stocking programs.

Other Exotic Species

Management objectives for fish in this group should be centred around control and where possible reduction in range and abundance. Every effort is to be made to prevent their spread to waters not already holding these fish.

Angling for the larger species in this group is encouraged so long as all fish caught are killed, permanently removed from the water and disposed of according to the relevant regulations. No size or bag limits should be imposed on these fish, and the holding or transport of live fish in this group, including for use as live bait, should be prohibited except for legitimate, recognised aquarium fish.

Recreational use of the Fishery

It is recognised that the recreational use of the Victorian freshwater fishery is of great significance both economically and socially - a great number of people go fishing in our lakes and streams.

Selected waters, not being Special Conservation Waters should be managed with the primary aim of maintaining good recreational angling. The policies employed in these waters should be aimed at providing anglers with a reasonable chance of catching good quality fish. Appropriate management policies would need to be employed depending on the nature of the individual fisheries in order to maintain recreational use.

Improvement of recreational fisheries can be used as an aid to the conservation effort in other waters. Making selected waters, that can withstand it, more attractive to anglers is likely to reduce angling pressure elsewhere. Furthermore, in the case of native fish, raising the public profile may well assist in increasing support for necessary conservation measures.

Stocking for Recreational Purposes

When stocking for recreational purposes, due consideration should be given to the size and number of fish, the likely impact on existing stocks and the probable survival rate of liberated fish. The primary aim of such stocking is to provide quality fishing for the average angler.

Regulations

Adequate regulatory control and enforcement is essential for the long term management of the Victorian freshwater fishery. Provided that regulations are sensible and understandable, the great majority of anglers will abide by them. However, sufficient resources and support need to be made available to enforcement agencies to enable them to more effectively police the rules and to make a presence felt in the angling community.

Bag & Size Limits

Bag and size limits should be imposed where appropriate to assist prevention of over exploitation of the fishery. Minimum sizes and bag limits should apply to all native species. Recommended state-wide size and bag limits for various native species are:

Species	Minimum Size	Maximum Per Day/In Possession
Murray cod	50 cm	2/4
golden perch, Macquarie perch, silver perch & freshwater catfish	25 cm	5/10
estuary perch & Australian bass ^①	25 cm	5/10 ^②
river blackfish ^③	22 cm	5/10
river blackfish ^④	None	No Limit
freshwater eel	None	No Limit
trout cod	Prohibited	

- ① Combined limit for Australian bass & estuary perch
- ② Maximum of 1 over 35cm
- ③ South of the Great Diving Range
- ④ North of the Great Diving Range

State-wide size and bag limits are not recommended for introduced species.

Some waters may require more stringent management considerations.

Closed Seasons

The use of closed seasons is a valuable tool in the management of particular species. The aim of closed seasons is to protect fish that are vulnerable, at certain times of the year, to over exploitation. For example if the fishes spawning or pre/post spawning behaviour places the fish at risk.

Where closed seasons occur in neighbouring states, it is recommended that complimentary closed seasons be considered in Victoria for the same species. Of course, the exact dates of any such closures should be determined in co-operation with authorities in the neighbouring states.

Special Closures

Total closure to the taking or possession of a species in a water, group of waters or even state wide may need to be imposed from time to time. The purpose of such a Special Closure would usually be for the re-establishment of a species in the affected water(s). Such closures would normally be for a number of years until the species concerned is viable in the affected water(s).

Angling Methods

All Victorian freshwaters open to angling should also be open to *all methods of freshwater angling* for the time being allowed by the regulations. The use of set lines should remain banned and the current limit of 2 rods per angler is supported.

Livebait

The use of live finned fish as bait for freshwater fishing in the State of Victoria should be prohibited so as to help prevent the spread of diseases and exotic fish and the uncontrolled translocation of Native Fish species.

Translocation of Fish

Species boundaries for Australian Native Fish are still poorly known. Closely related species which are currently undescribed could easily be lost through hybridisation. The recent recognition of two species and four subspecies of golden perch plus the current possibility that Macquarie perch may in fact be a number of distinct species illustrates the point.

Consequently, NFA opposes as a matter of principle the translocation of Australian Native Fish to areas possibly containing different genetic stock.

Concerning exotic fish, NFA opposes their translocation on the grounds of restricting any increases in their range.

Where there exist valid reasons for stocking a water with non-indigenous fish (eg to stock a farm dam or a Mixed Fishery) such stocking should usually be considered only when the species concerned is unlikely to establish a self supporting population and is unlikely to have an adverse effect upon existing indigenous fish.

Restoration and Preservation of Habitat

Habitat degradation is the major cause of the decline of native fish since European settlement. In order to reverse this trend a number of factors need to be considered.

Existing Structures

Wherever possible existing structures that have a deleterious effect upon native fish should be modified so as to remove or reduce that effect. A typical example would be the provision of a fish passage to allow the free movement of migratory species. Such structures should be designed to accommodate the specific needs of the affected species.

These sorts of projects could be undertaken by a wide variety of bodies such as local land care groups, councils, conservation and angling clubs as well as by Fisheries and other government departments. It is expected that Fisheries would be able to provide design criteria for such modifications, if not actual designs.

Future Modifications to River Systems

Effort needs to be made to ensure that planning for future modifications to river systems considers minimising or eliminating the adverse effects of such factors as those listed in Appendix A. Environmental Impact Statements should be mandatory for all modifications to river systems.

It will be necessary to liaise with government agencies and other bodies in order for a co-ordinated plan to be developed.

Restoration of Degraded Waterways

Measures taken by such people as landcare and conservation groups to restore and maintain natural habitat in riparian systems should be encouraged and supported. For such work to be effective in the long term, attention needs to be given to such issues as erosion control, fencing off streams, replanting indigenous vegetation and the removal and long term control of introduced plant species. One of the aims of such work should be the re-establishment as far as practicable of original riparian environments.

De-snagging and the channelling of streams should be opposed. Where in-stream work is to be undertaken it is most important that such work be planned and executed so as to minimise any disturbance caused.

WIDER ISSUES

Aquaculture¹

NFA encourages research into and the practice of aquaculture in Victoria. In addition to the well known trout farming industry, native fish provide many largely unexplored opportunities for commercial farming.

Aquaculture presents a number of concerns which NFA believes need to be addressed:

- ⌚ Fish farms due to their intensive nature are a potential and real source of pollution to river systems. One simple method to control this would be to require that fish farms discharge water upstream of their water intake, so as to provide a direct incentive for adequate treatment of water prior to release. The primary aim should be to ensure that discharged water be of at least as good a quality as water drawn into the farm.
- ⌚ All necessary measures should be taken to prevent the possible escape of farmed fish into adjacent water systems.
- ⌚ NFA strongly opposes the establishment of fish farms within a catchment for species not already present in that catchment.
- ⌚ NFA opposes the sale of live fish from fish farms except with Fisheries approval and to persons holding a permit for the quantity and size of the species concerned. NFA would support a streamlined process for the grant of permits for stocking farm dams and swimming pools etc for non commercial purposes.
- ⌚ NFA recommends that farmed fish be slaughtered and cleaned on site prior to further processing. Disposal of offal should be in accordance with government health regulations and should include procedures to prevent the possible spread of fish diseases. All water used to process fish should also be effectively treated in a similar manner prior to its discharge into streams, the sewerage system or otherwise.

Education

NFA supports Fisheries efforts towards public education about the Victorian Freshwater Fishery. NFA itself within its own limited resources seeks to further educate people about Native Fish. However, NFA believes that greater resources need to be made available in order to reach the wider community.

¹ *Aquaculture*, for the purposes of this document, is the practice of breeding and/or growing fish or aquatic invertebrates in ponds, dams or other facilities for the purpose of providing food for human consumption.

Education about the fishery should be given a high priority. Materials suitable for school project work, to educate anglers about native and introduced fish, to advise farmers about appropriate land practice in relation to river systems and a host of related issues all need to be produced and made freely available.

Whilst excellent sources of information and opinion for anglers abound, such as fishing magazines and books, far more needs to be done to help the non-angling community appreciate the importance of our unique aquatic systems.

Finance

The management of the Victorian Freshwater Fishery is in the interest of not only anglers but of the community as a whole. Therefore NFA does not support the suggestion that the costs of such management should be borne entirely or mainly by the angler community. Most angler activity already contributes to government revenue streams through such things as sales taxes on tackle, fuel levies and licence fees. The existing increased contributions through these charges is sufficient compensation for the extra amenity enjoyed by anglers. In other words, the user is already paying.

Necessary further funding for the management of the fishery should be from general government funds, in recognition of the benefit such funding will have to the general community. It should not be forgotten that the rivers and streams belong to the community, not just anglers.

Whilst recognising the difficulty in so doing, NFA believes that it would be desirable for the government charges on angling activity to be reserved for activities sympathetic to the management of the fishery, and that accurate figures should be compiled on the amount and sources of money gathered and the amount spent on fisheries management.

SUMMARY

The Future

It is not within the scope of this document to address all of the issues raised in Appendix A, however they have been listed to indicate that factors effecting the freshwater fishery are many and varied and that some of the factors may well be beyond the control of any body given primary responsibility for its management. The only way that we will ultimately improve some of these factors is for the wider community to take an active part in addressing these and other related issues on a broad scale.

Any realistic view of the Victorian freshwater fishery will recognise that permanent change has occurred to many if not all of our waterways. It seems very unlikely for instance, that eradication of mosquito fish, if that was seen as a desirable aim, would be possible without doing irreparable collateral damage to the surrounding environment. Also, some exotic fish are important recreational target species, eg trout and redfin, and are the preferred targets for many anglers.

Any management plan for the Victorian freshwater fishery needs to address both the conservation issues for our native species as well as the appropriate management of introduced species. NFA believes that it is possible to satisfy the needs of native fish, both of angling interest and otherwise, and those of economically and recreationally significant exotic fish. NFA would like to see a future where the needs of all anglers are catered for, whilst at the same time Australian Native Fish, although perhaps not restored to their original abundance and distribution, are plentiful in waters not permanently altered so as to be unsuitable and also a future where none of the native fish are endangered. Furthermore NFA would like to foster interest in native fish as targets for recreational anglers and believes that suitable management policies to achieve this end need not and should not interfere with conservation requirements.

NFA acknowledges the valuable work being done in Victoria by Fisheries towards the re-establishment of threatened species to at least part of their former range and to which NFA contributes directly through its native fish breeding program. However, NFA would like to see more resources made available to Fisheries to further expand this work and to also include production of native fish for recreational purposes especially in popular recreational fishing sites such as impoundments.

NFA would not favour the expansion of the trout fishery into waters, especially river systems, not now supporting significant trout populations. NFA opposes further expansion of the trout fishery on two grounds. Firstly given the history of attempted stockings of trout into practically every river system in Victoria, any waters that do not currently support trout seems unlikely to be able to do so, such an effort would appear to be an exercise in futility and a waste of Fisheries resources. Secondly, NFA would oppose such a policy on a more philosophical

basis, which is that such a policy would seem to be one that values only trout at the expense of native fishes, either of angling interest or not. It seems that such a policy does not accommodate what NFA believes is the appropriate course where most river systems should be managed *primarily* as native fish waters, although recognising that many of these waters would still support populations of exotic fish.

Central to this point is the recognition that introduced fish can and do have a detrimental effect upon native populations - these fish need to eat too, and whilst they contribute to the food chain when small (for instance at certain times of year it appears that some populations of Murray cod feed extensively on young carp), they also occupy positions at the top of that chain that would otherwise be occupied by native fish. No fishery can support an infinite number of fish.

NFA believes that whilst the exotic species should never be considered as "naturalised" in this country, any more than rabbits or sheep would be considered as native mammals, there are many waters where it is appropriate to manage introduced species as the valuable recreational resource that they are. Under this policy there would still be significant areas which could be managed as trout waters or as mixed fisheries and there is no reason why the needs of anglers who target trout or other exotic species cannot be met without unduly effecting the overall picture for native fish.

Where to From Here?

Realistically, there can be no return to the conditions that prevailed prior to European settlement. However, significant progress can be made by working together and recognising our largely common interests. NFA stands ready to work with any and all interested parties to secure the future of Victoria's freshwater fishery.

Appendix A

Factors Adversely Affecting the Victorian Freshwater Fishery

Factors identified by NFA as having an adverse effect on the Victorian freshwater fishery (in no particular order) include:

- ⇒ changes in salinity due to a variety of causes;
- ⇒ de-snagging and/or channelising stretches of streams and other "improvements";
- ⇒ exotic animals, especially hard hoofed animals having unimpeded access to the water's edge ;
- ⇒ destruction of riparian vegetation;
- ⇒ increased water turbidity;
- ⇒ construction of dams, road culverts and other barriers to fish movement;
- ⇒ alteration of natural temperature regimes;
- ⇒ pollution from sources such as inadequate sewerage processing in inland towns and cities and the run off from agricultural land containing excess nutrients and/or toxic residues;
- ⇒ over exploitation by commercial and amateur anglers;
- ⇒ introduction of exotic fish species which compete for resources and prey on native fish and in some cases exacerbate environmental damage;
- ⇒ introduction of exotic plant species;
- ⇒ alteration of natural flow regimes of rivers and streams; and,
- ⇒ excessive siltation caused generally by abnormally high silt loads from erosion as a result of de-vegetation and from road run-off;
- ⇒ uncontrolled or excessive extraction of water; and,
- ⇒ reduction of flood-plains.

This is not intended to be an exhaustive list. Rather it seeks to demonstrate the broad range of factors affecting Victorian waters which ultimately will need to be addressed if the current situation is to be improved.



Appendix B A Description of Native Fish Australia

Native Fish Australia (NFA) is a volunteer organisation of people interested in the future of the native fish of Australia's rivers, lakes and estuaries. It promotes interest in and concern for the well-being of all indigenous species and the waters these unique fish inhabit.

NFA supports and encourages research into all of Australia's native fish. It participates in investigations of alterations to their natural habitat as well as pollution of rivers and dams or any man generated change which may effect Australian fish.

NFA wants to ensure that all native fish species get adequate attention and research dollars to secure their long term survival. This will ensure Australian native fish remain present for future generations to catch, study or just enjoy knowing they are still around.

NFA is not a fishing club. However, NFA does encourage angling for indigenous species using legal and ethical practices, especially catch and release.

The organisation was formed in 1981 and has a membership of over 400 throughout Australia. Numerous biologists, zoologists and other professionals whose specific interests are involved with the conservation and protection of our natural resources are either members of NFA or provide their services to the organisation on an honorary basis.

NFA (Victoria) offers its members:

- ✧ Information on recent research.
- ✧ Involvement with scientists at down to earth discussions and meetings.
- ✧ The chance to directly contribute to work on understanding native fish.
- ✧ The chance to directly help protect and restore native fish populations.
- ✧ Involvement in a display programme to help educate the public about Australia's native fish.
- ✧ *Local Content*, NFA (Victoria)'s journal, published 4 times a year.
- ✧ Contact with caring anglers who enjoy catching our unique fish and who also want to see them available for future generations.
- ✧ Information about how and where to catch native fish.
- ✧ Fishing trips & competitions emphasising catch and release.
- ✧ Monthly meetings at 8pm on the first Wednesday of each month except January at:

The Office of the Wildlife Reserve
The Ring Road
Latrobe University
(Opposite the Northern entrance to car park No. 7.)