Measuring progress

Targets will be used to measure progress towards native fish rehabilitation. Partners to the MOB Initiative will use targets to ensure that their own commitment to implementing the Strategy and to give the community confidence that the outcomes are being achieved. Targets will guarantee that all partners agree on how healthy the native fish population should be and how to measure trends in native fish population status. They will be reviewed throughout the life of the Strategy to ensure that success and current relative priority of the Strategy. The Strategy provides a 10-year framework, but a sustained commitment to rehabilitation of native fish needs to be maintained for the next 50 years.

Responsibilities

A partnership approach

Implementing the actions of the Strategy will require a year-round effort across governments, catchment management organisations and communities. Important roles will be held by a broad range of stakeholders, including catchment management organisations, waterways managers, urban and rural communities, indigenous communities, local, state and national governments, businesses, primary producers, landholders, community groups, local, state and national initiatives for their area. Partnerships to the implementation of national initiatives for their area.

Ways in which individuals and communities can assist in the rehabilitation of native fish populations in the river system include:

• helping with research and implementation of local action plans to address specific local fish habitat problems;
• supporting the implementation of national and state initiatives to address fish habitat problems;
• becoming aware of key threatening processes relating to fish populations and reducing them in accordance with catchment plans by such actions as:
  – ensuring land management practices conform with best possible techniques;
  – supporting the rehabilitation of river systems by re-vegetating eroded stream banks and floodplains to stabilise soil and filter for overland flows;
  – ensuring land management practices conform with best possible techniques;
  – ensuring land management practices conform with best possible techniques;
  – ensuring land management practices conform with best possible techniques;
• supporting the implementation of national and state initiatives to address fish habitat problems;
• ensuring ownership and involvement in the management of native fish populations;
• playing important roles in assessing education and awareness.

Further Information

For more information on the Native Fish Strategy, contact the MurrayDarling Basin Commission on (02) 6279 0100 or visit the Commission’s website: www.mdbc.gov.au

Goal:

The overall goal of this Strategy is to rehabilitate native fish communities in the MurrayDarling Basin back to 60 per cent of their estimated pre-European settlement levels after 50 years of implementation.

Why do we need a Native Fish Strategy (NFS) for the MurrayDarling Basin?

• In the last 50 years, populations of native fish species in the MurrayDarling Basin (MOB) have suffered serious declines in distribution and abundance.
• Native fish species are an indicator of the overall health of the Basin and its rivers. They provide a warning that the natural ecosystems of the Basin and its rivers are at risk.
• There are some over or endangered in the Basin. Eight native fish species have been listed nationally as vulnerable or endangered, there has been a loss of over 640 commercial fisheries, localised extinction of some native fish species have occurred.
• Current efforts by government and community groups at rehabilitating native fish in the MOB are significant, but more coordination and focused effort is needed.
• Without intervention, native fish populations are likely to continue to decline making future rehabilitation efforts more costly.
The problem

Over the past century, river regulation to provide water on demand through dams, weirs and reservoirs has altered the flow regime, lowered water quality, and increased the proportion of low to medium floods, permanent flooding and high water, increased periods of no flow.

Much of the problem has to do with monitoring, assessing and managing the effectiveness of operations. Further, the amount of water required to maintain healthy river habitats and ecosystems. Environmental flows help to ensure:
- minimum flow under low flow conditions is maintained;
- inter-annual flows are balanced;
- involution of floodplains is maintained and restored, and native fish movement;
- the flooding of weirs;
- the flooding for channel examination by moving sand and gravel downstream; and
- water quality is maintained.

The Strategy in action

The Strategy will bring together the following working and living in the MDB to focus their efforts on:
- rehabilitating native fish populations in an effective and efficient manner.

The Strategy aims at enabling the MDB to sustain visible native fish populations and communities throughout its rivers. This means understanding management actions designed to restore healthy native fish communities.

The ultimate aim of the Strategy is to rehabilitate native fish communities back to full pre-impact or better or their estimated pre-European settlement numbers.

Six driving actions have been developed to restore native fish populations. These are:
- rehabilitating native fish habitat;
- protecting fish habitat;
- managing invasive species;
- controlling alien fish species;
- managing riverine structures; and
- managing fish translocation and stocking.

These six driving actions seek to achieve the 13 objectives of the Strategy. All driving actions will ensure that there is community and partner ownership and support for native fish management.

The driving actions vary considerably in the time it takes to establish them. For example, it may take a lot longer to achieve the Strategy’s objectives that will benefit habitat rehabilitation than some of the other actions such as managing fish translocation and stocking.

The Strategy targets the causes as well as the symptoms of declining native fish species and focuses on long-term rehabilitation rather than restoration.

All native fish found in the MDB will be targeted by the Strategy. The level of rehabilitation required to reverse decline will vary with species, communities and areas, and will need to be assessed over the medium and longer terms.

Instead of prescribing specific management practices, it provides a framework for inter-organisational cooperation and coordination of actions and policies.

Table 1: Key threats to native fish management in the Basin

<table>
<thead>
<tr>
<th>Threat</th>
<th>Threatening process</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flow regulation</td>
<td>Loss of water in other uses; critical loss of flow; loss of flow variability, loss of low to medium flow, permanent flooding and high water; increased periods of no flow.</td>
</tr>
<tr>
<td>Habitat degradation</td>
<td>Damage to riparian zones, removal of native fish, sediments.</td>
</tr>
<tr>
<td>Unrelated water quality</td>
<td>Increased sediments, flooding, sedimentation, alteration of water temperature, pesticides, and other contaminants.</td>
</tr>
<tr>
<td>Barriers</td>
<td>Impediments to fish movement originating from the construction and operation of dams, weirs, barriers, culverts, and other physical barriers such as increased velocities, reduced habitats, water quality and thermal pollution (changes in water temperature).</td>
</tr>
<tr>
<td>Alien species</td>
<td>Competition and predation by carp, gambusia, sandfish, mulloway and trout.</td>
</tr>
<tr>
<td>Exploitation</td>
<td>Commercial and recreational fishing pressure on depleted stocks, illegal fishing.</td>
</tr>
<tr>
<td>Translocation and stocking</td>
<td>The loss of genetic integrity and fitness caused by inappropriate translocation and stocking of native species.</td>
</tr>
</tbody>
</table>

Objectives

1. To repair and protect key components of aquatic and riparian habitats important for sustaining native fish populations.
2. To mitigate and prevent the spread of weeds and alien species, and to reduce the impacts of alien species and weeds on native fish.
3. To improve key aspects of water quality that affect native fish.
4. To modify flow regulation practices to facilitate native fish rehabilitation.
5. To provide adequate passage for native fish throughout the Basin.
6. To develop and implement recovery plans for threatened native fish species and communities.
7. To devise and implement management plans for other native fish species.
8. To improve community and partner ownership and support for the management of the Native Fish Strategy.

It is important to note that a large number of the Native Fish of the Murray-Darling Basin, are less than 20cm in length.