

CARP

VILLAINS OR VICTIMS?

Sometimes called "rabbits of the river", carp are Australia's most abundant, yet most despised, freshwater fish. They are accused of many problems that plague our inland river systems. But are carp the villains or the "scapefish" for 200 years of poor river management?



- Carp can be identified by two barbels or whiskers on their upper lips.
- They have large scales and are usually bronze or olive-green with a pale yellow under belly.
- Carp feed like a vacuum cleaner on the bottom of waterways, sucking everything up and blowing out what they don't want. Plants make up only a minor part of their diet.
- Carp are hardy, preferring warm still waters with silt bottoms. They like degraded environments, can tolerate low oxygen levels and can survive salinities of about one-third seawater.
- Female carp can produce over one million eggs.
- They are long lived and can grow up to 17 kg.

Our inland river systems have suffered massive changes over the past 200 years. Regulating rivers, altering natural flows and removing snags have all impacted on native fish. Agriculture, industry and urban development have put excessive nutrients in our waterways. These have all created ideal environments for carp to enjoy while disadvantaging our native fish.



CONTROLLING CARP

FACT OR FICTION



© Ivor Stuart
Carp harvesting at Moira Lake

To control carp, we must first understand them and determine exactly what damage they do.

- Large numbers of carp can increase turbidity in enclosed waters, but at lower numbers they create little turbidity.

- Carp recycle nutrients already in rivers. Studies indicate that low river flows encourage the growth of these toxic algae.
- Carp can dislodge and destroy aquatic plants when they feed. This deprives native fish of food and can prevent disturbed plants from re-establishing.

- Carp have been observed undermining river banks and irrigation channels. However, river regulation is more likely to undermine banks. Removal of stream bank vegetation, stock and over cultivation can also contribute to bank erosion.
- Carp do not possess teeth to grab and eat other fish, but young carp often fall victim to large fish such as Murray cod.



© Bill van Aken, CSIRO
Carp feeding in the Lachlan River

- The reduction of native fish numbers has created a space that carp have filled. Carp will compete with aquatic animals for food and spawning sites, often in very large numbers.



© Nick Price
Dead carp on the Paroo River

Controlling carp will involve a combination of improving catchment management, harvesting, using chemicals and genetic manipulation. It will also require partnerships between communities, researchers and governments. Improving our rivers may help manage carp. Many programs to restore river ecosystems are already in place. They include the work of Landcare and other community groups; scientists; local government; catchment management organisations; fisheries and natural resource management agencies.



© Suzie Mostead
Water sampling on Murrumbidgee River



© NSW Fisheries
Electrofishing for carp

- A virus is not an option because it may affect native fish as well as Australia's "clean-green" agricultural status.
- Biological control might significantly reduce carp by manipulating their genetic structure to disrupt breeding or induce early death. These methods show some promise but will take years to develop.



© Murray-Darling Association
Rehabilitated wetland at Pilby Creek

Daughterless Carp - another approach

Biological control is one approach considered to have the most promise for carp control. This has now become a reality with the launch of the daughterless carp project in early 2003.

Daughterless carp technology was developed by CSIRO and aims to block the development of females and produce exclusively males. It is predicted that this genetic technology could sharply reduce carp numbers in the Murray-Darling Basin within 20-30 years of release.

The daughterless carp program is part of the Murray-Darling Basin Commission's *Native Fish Strategy* and is being managed by the Pest Animal Control Cooperative Research Centre. The technology is likely to be most effective when used in conjunction with other carp control methods.

The vision of the daughterless carp project is to provide a biologically sustainable option for the control of carp in the Murray-Darling Basin within the context of improving overall catchment and waterway management, as well as within the Commission's broad natural resources management agenda.

CARP IN AUSTRALIA



Carp were first introduced into Australia in the 1870s to fill ornamental ponds.



In the 1960s, carp escaped into the River Murray following their illegal introduction.



During the 1970s, carp rapidly spread through Victoria, NSW, South Australia and Southern Queensland.



The Boolara strain is now the most widespread carp and has the biggest impact in Australia. Carp is the most common fish found in the Murray-Darling Basin.



The future of carp will depend on cooperation between researchers, the community and government.

WANT TO KNOW MORE?

If you would like to know more about carp, carp research or carp control programs, please contact the following:

- National Carp and Pest Fish Task Force
- phone: (02) 6021 3655
- Murray-Darling Basin Commission Native Fish Strategy
- phone: (02) 6279 0100
- Daughterless Carp Project
- phone: (02) 6242 1547
- Pest Animal Control CRC
- phone: (02) 6242 1768



This poster was prepared by the Murray-Darling Basin Commission, Murray-Darling Association and the National Carp and Pest Fish Task Force.