The following summary provides information on introduced species found in the Murrumbidgee catchment that are considered as pests.

**Common Carp (**Cyprinus carpio**))

Originating from the northern hemisphere, Carp were originally introduced into the Murrumbidgee River in the 1940s, but didn’t present an ecological problem until the 1970s when the Boolara strain of Carp was introduced. They are now found in most parts of the catchment, except above Cotter Dam in the ACT and above Googong Dam and Blowering Dam in NSW. Due to their tolerance for a wide range of environmental conditions, Carp successfully compete with native fish for food, habitat and breeding sites.

**Gambusia (Gambusia holbrooki)

Gambusia is a North American fish species that was introduced into natural Australian waters to control mosquitoes (hence their common name mosquito fish). Their ability to control mosquito larvae however is no greater than native species. From the age of one month, Gambusia give birth to live young, and can breed several times a year, producing upwards of 50 juveniles of other native fish species and frogs.

**Goldfish (**Carassius auratus**)

Native to Eastern Asia, Goldfish were originally introduced to Australia as an aquarium fish in the 1860s. Goldfish have since entered natural waters as a result of deliberate stocking activities in the early 1900s and have since become one of the most widely distributed fish in Australian fresh waters. Goldfish look similar to Carp but are distinguished by the lack of barbels or whiskers around the mouth. As with Carp, Goldfish have generalist habitat requirements and successfully compete with native fish for food and habitat.
Introduced fish species in the Murrumbidgee River System, NSW

**Redfin perch (Perca fluviatilis)**

Redfin perch were introduced from Europe into the Murrumbidgee Catchment in 1888, however an established population was not found until the 1940s when they moved upstream from the Murray River. It was not until 1983 that the Redfin perch was found in the upper Catchment above Burniujck Dam. Since 1994, their numbers have increased consistently throughout the Catchment, which is thought to be associated with a decline in Carp populations over the last decade.

Known as prolific breeders, Redfin perch have the ability to rapidly populate a waterway. In the Murrumbidgee Catchment Redfin perch are known to prey on native fish such as western Carp gudgeon and Murray cod, and possibly Macquarie perch (Lintermans, 2002). Redfin perch are also known to carry a disease called EHN (epizootic haematopoietic necrosis) which can affect native species such as Macquarie perch and Silver perch.

**Oriental weatherloach (Misgurnus anguillicaudatus)**

Oriental weatherloach are native to Asia and were initially introduced in Australia as an aquarium species. The first recorded population in the Murrumbidgee Catchment was found in 1986 in Ginninderra Creek in the ACT from suspected aquarium release. They have since been found in the Murray Murrumbidgee River and Burniujck Dam. Since 1994, their numbers have increased consistently throughout the Catchment, which is thought to be associated with a decline in Carp populations over the last decade.

Oriental weatherloach are highly invasive and can survive in a wide range of temperature, salinity and oxygen levels. They are also able to move over land to colonise new waterways. The species is thought to feed on native fish eggs and compete with native fish for food, habitat and spawning sites, but their full ecological impact is as yet unknown.

**How do we control introduced fish species?**

Don’t discard your pet fish into natural waterways. Place your unwanted fish in the freezer and dispose of the carcass hygienically.

It is also illegal to release any fish into natural waters without a permit in NSW. This includes the stocking of recreational species such as trout and salmon. It is also illegal to import any live noxious fish into NSW without a permit.

Some introduced species are considered to be such significant pests that they have been declared noxious fish under the NSW Fisheries Management Act 1994. Noxious fish species found in the Murrumbidgee Catchment include Gambusia and Carp.

Noxious listing provides NSW DPI with the power to seize and destroy noxious species, or depending on circumstances instigate the destruction of certain classes of species.

Attempts at directly removing introduced fish have been trialed in NSW including installing Carp separation cages in fishways and fish screens in wetland inlets. Community-organised fishing tournaments targeting introduced fish species have also been conducted. In addition, research is being undertaken into the effectiveness of ‘daughterless Carp’ technology – a method of genetically modifying Carp to impair their ability to reproduce.

**Improving aquatic habitat for native fish**

One strategy for controlling introduced fish is to actively promote the survival of native fish. Rehabilitating aquatic habitats is a key strategy in improving populations of these native fish.

Introduced fish such as Gambusia, Carp and Oriental weatherloach thrive in highly disturbed aquatic conditions. Native fish however have a higher chance of survival and are more competitive when aquatic habitat and water quality resemble pre-disturbance conditions.

Several aquatic habitat rehabilitation projects are underway in the Murrumbidgee River including the Murrumbidgee Aquatic Biota Enhancement Project. This project is designed to demonstrate a range of on-ground works to improve aquatic biodiversity and native fish abundance in the Murrumbidgee Catchment.

Further Reading


**References:**


Fish species photos by Gunther Schmida, except Gambusia, photographed by John Matthews.

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