Cabomba ecology and dispersal in Australia

The issue

*Cabomba caroliniana* is an invasive aquatic weed currently present in Victoria, NSW, Queensland and the NT. Cabomba reduces biodiversity in freshwater ecosystems by replacing native aquatic plants, and interferes with human use of water resources such as drinking water production, irrigation and recreational activities. Control of cabomba is difficult once established, therefore prevention of further spread is paramount.

Habitat requirements and dispersal

Cabomba, a submersed aquatic plant, grows from the shoreline down to about 6 m depth. It prefers still water bodies with soft water, neutral to slightly acidic conditions (pH 6 – 7) and fine substrate. Cabomba meets most of its nutrient requirements from the substrate, therefore it can potentially colonise even nutrient poor freshwaters. It can reproduce by seeds (in the NT population), but its main mode of propagation is through stem fragments. Humans are the predominant vectors, such as through their use of boat trailers and fishing gear. Fragments are highly viable; even a single fragment a few centimetres long is sufficient to colonise a new water body. If habitat requirements are met, cabomba establishes quickly and outcompetes native aquatic plants, resulting in cabomba monocultures in invaded ecosystems.

Identification

Cabomba is a submersed aquatic plant with stems that can be several metres long. It is greenish to brown and has finely dissected, fan-shaped leaves that are arranged in opposite pairs along the stem of the plant. Once cabomba reaches the surface it produces narrow floating leaves and small white flowers. Superficially, it resembles native aquatics such as *Myriophyllum* species and hornwort, but only cabomba has the distinct fan-shaped leaves arranged pair wise along the stem.

How to control Cabomba

Small stands of cabomba can be removed manually. Larger infestations are often controlled with mechanical harvesters. Care must be taken to prevent fragmentation that aids cabomba dispersal. Harvested material must be disposed of safely. Mechanical harvest is predominantly a maintenance action, as a complete removal of cabomba is only rarely achieved. Local eradication with herbicides was achieved previously in the NT. In non flowing water bodies, cabomba can be chemically controlled with carfentrazone-ethyl (Shark Aquatic Herbicide). Currently, no biocontrol options are available.
Preventative measures

As humans are the main vector for spread of cabomba, management of public access to water bodies is the key for the prevention of cabomba establishment. Management actions can consist of limiting boat access altogether, the establishment of wash down facilities, public education regarding the threat, and removal of cabomba stands around boat ramps to prevent pick up. Early detection of incursions is vital, because cabomba is difficult to control once established. Therefore, monitoring of sites deemed at high risk should be a top priority to prevent further cabomba spread.

For more information

Dr Tobias O Bickel
Scientist (Aquatic Weeds)
Invasive Plant Science (BQ)
Department of Agriculture, Fisheries and Forestry (DAFF)
Ph: (07) 3255 4476
Email: Tobias.Bickel@deedi.qld.gov.au

PRJ-006986

Cabomba was grown in controlled conditions as part of the research.