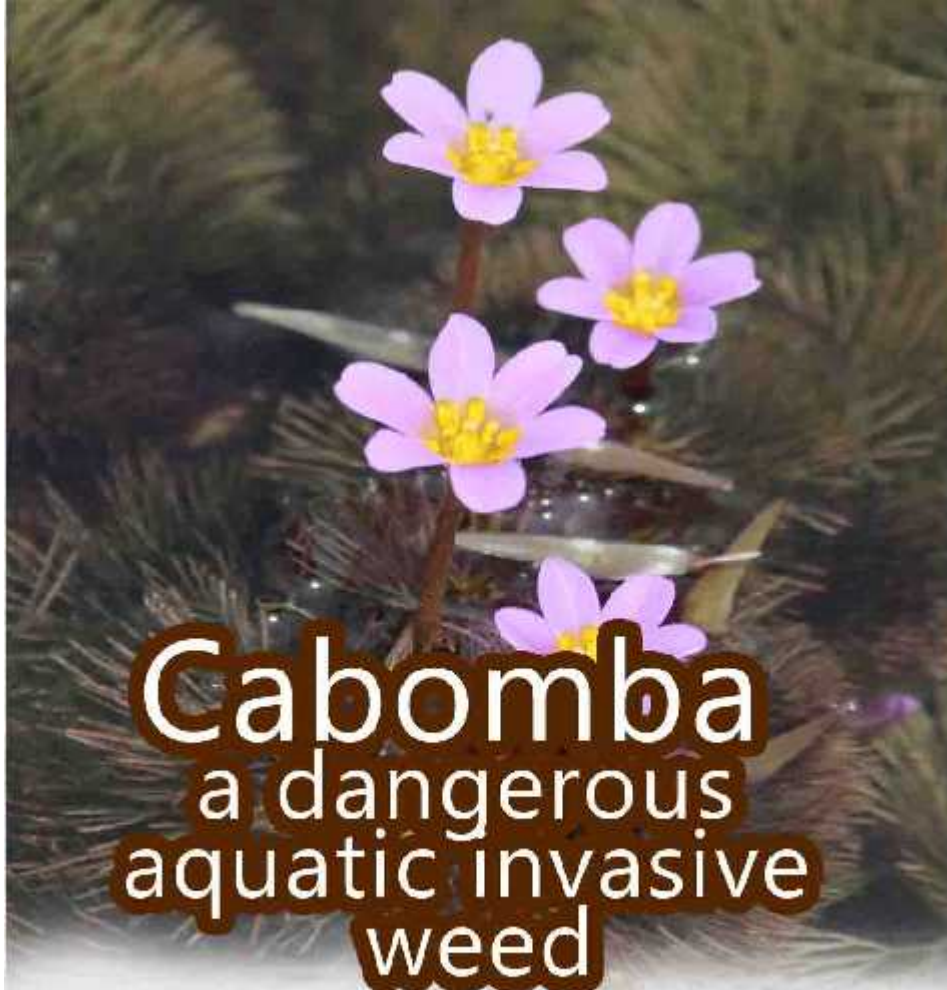


# **Cabomba**

*a dangerous  
aquatic invasive  
weed*



**KERALA STATE BIODIVERSITY BOARD**



Invasive alien species have huge adverse impact on biodiversity causing dramatic declines in indigenous species populations. Cabomba (*Cabomba Caroliniana* and *Cabomba furcata*), also known as Fanwort plant, is regarded as one of the worst weeds worldwide because of its invasiveness, potential for spread, and economic and environmental impacts. This is a native of North and South America that grows in stagnant or slow-flowing water bodies to a depth of about 12 feet. The plant is fully submerged, except for occasional floating leaves and white or pink flowers above the water surface. The raised flowers are often the first visible sign of an infestation. The roots grow on the bottom of water bodies and the stems can reach the surface. The underwater leaves are divided into fine branches, giving them a feathery fan-like appearance. Cabomba is a common aquarium plant introduced into the riverine system by mistake and all the other natural inhabitants are now suffering by it. This invasive species has dense growth and reduce the water flow and increase siltation. Thus it can significantly reduce water storage capacity and taint drinking water supplies.

This species flourish in fresh water ecosystem and huge biomass of this plant prevents sunlight which causes reduction in water quality resulting in foul-smelling, stagnant, oxygen deficient water and damage the ecosystem. The high nutrient content of water, due to flow of sewage, agrochemicals and land washouts into the water bodies, was another major factor contributing to the fast growth of this dangerous weed. Cabomba grows quickly and produces a large amount of plant material. It is extremely persistent and can take over a water body, excluding native plant species. It can also have an impact on native animals and birds. Cabomba competes with native submerged plants and like all submerged vegetation can become a hazard to boats and water skiers. This aquatic weed spreading fast in the rivers, wetlands and other ecosystems of Kerala now also choky almost all waterways. Cabomba stem break easily when disturbed, creating thousands of fragments, all capable of spread and reproduction. Stem fragments float on the water surface and can spread throughout a catchment by normal flows or flooding. Fragments are also moved between catchments and water bodies by fishing activities and equipment, watercraft and trailers, and animals.



Weed control in aquatic environments is difficult and control options are limited. Some strategies that help to prevent spreading of Cabomba include the following:

1. Cabomba cannot survive unfavourable seasons. It is sensitive to drying out and requires permanent shallow water. So, where possible, draining of water body can provide temporary control (drawdown). If the base of the water storage dries out completely there is little chance of Cabomba surviving, but if it remains damp there is a more than 50% chance it will return.

2. Cabomba need bright light so re-establishment of riverbank vegetation may offer some control if it provides a shading effect. Long-term benefits are expected from maintaining tree coverage along the edges of creeks and rivers to discourage Cabomba establishing in the shallows.

3. Dispose of Cabomba from aquariums responsibly, may be by drying and burning the entire plant.

4. Local agencies need to be able to close waterways to prevent spread.



Removing Cabomba from water resources

5. Develop protocols for ensuring washdown of boats, trailers and fishing equipment before they leave an infested site.

6. Carefully controlled mechanical removal of the plant is the only possible way to remove the plant. Ongoing mechanical control is expensive but is the only option in accessible areas of closed water bodies with heavy infestation.

7. Cabomba easily fragments from disturbance, so control activities can actually contribute to spread of the weed if great care is not taken. Using a venturi dredge, which is like a giant vacuum cleaner, can help to overcome this problem. It minimises fragmentation and also extracts the root ball. Hand pulling by divers is more suited to isolated plants and small areas.

8. The use of containment measures such as booms and reed beds are useful for small water bodies to prevent fragmentation and spreading of the plant.

9. No effective registered herbicides or active biological control agents which are environment friendly is currently available.

10. Community awareness and education about the weed is of high significance. People need to be educated to stop growing this plant in aquarium.

11. Prevention of new outbreaks is essential. There are few effective control options so it is very important to prevent the weed's spread by maintaining rigorous hygiene with boats and equipment, and disposing of plants by drying and burning.





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