

Plant Management in Florida Waters : An Integrated Approach

Home Control Methods **Mechanical Control**

Mechanical Control



Mechanical control refers to the use of machinery designed to cut, shear, shred, crush, press, lift, convey, transport, and remove aquatic plants and associated organic material from waterbodies. Mechanical controls range from small cutting boats to 90-foot long harvesters, and from shredders that slurry plants to track hoes and draglines stationed on shorelines or mounted on barges that lift plants and debris out of the water.

See **Section 4** to view considerations when choosing mechanical control options

History

The use of mechanical controls for invasive aquatic plants began in response to the growing threat of water hyacinth throughout the southeast, especially in Florida and Louisiana. In 1899, the United States Rivers and Harbors Act authorized the construction and operation of “crusher boats” to remove water hyacinth from navigable waterways. Three years later the Rivers and Harbors Act Amendment allowed for the extermination of water hyacinth by mechanical, chemical, or any other means.

In the first half of the 20th Century, plant managers explored the use of chemical control methods, but the technology was in its infancy. Subsequently, most were rejected because of their ineffectiveness or toxicity to non-target species. This resulted in almost exclusive use of mechanical methods such as crusher boats, destruction (saw) boats, elevators and harvesters.

Crusher boats, or Kennys were used in Florida to control water hyacinth until the late 1940s. The machines hauled plants aboard, crushed them under 40,000 pounds of pressure per square inch, and discharged them back to the water or onto shore. Discharge back to the water was the most likely method since shore disposal was inhibited by shallow water, dense tree growth, or the protests of waterfront landowners.

Hi-ballers were a variation of crusher boats. These floating machines collected plants, ground them up, and used a water-



Three small steamers attempt to make their way through water hyacinth on St Johns River.