

Waterways Master Plan Staff Report on Recommendation #4c

On January 22, 2008 the County Commission received the Waterways Master Plan Report prepared by the University of Florida. As part of the Board's action on the many recommendations in the report was the request to have a report prepared by staff regarding recommendation 4c which stated "Study the effects that power loading of boats onto trailers may have on the structural integrity of boat ramps and determine if improved ramp design, or other strategies, can alleviate negative effects."

Following are statements from websites of several agencies which highlight the problem of power loading boats onto trailers.

Florida Fish & Wildlife Conservation Commission

(<http://www.floridaconservation.org/boating/access/ramps/>)

Power loading has caused many of the State's ramps to age prematurely. Early ramps were not built to handle the prop wash caused by power loading. Many ramps have been undermined by prop wash and collapsed. Also a sediment berm or delta is formed waterward of the ramp by power loaders and can block boater access to adjacent waters during low water periods. New ramp designs are utilized by the Commission to reduce damage caused by power loading. However, it is preferable not to race your engine while loading.



Florida Online Boating Safety Course

(http://www.boat-ed.com/fl/course/p2-4_trailerimg.htm)

Do Not Power Load Your Boat

Propeller wash can erode the sediment just beyond the ramp surface, creating a large hole. The eroded sediment is deposited behind the propeller, creating a mound. Trailer tires can get stuck in these holes, and boats can run aground on the mound.



Be Part of the Action!

See what happens when a boater tries to power load his boat with this interactive [animation](#).

Michigan Dept Natural Resources (<http://www.mcgi.state.mi.us/mrbis/>)

Boaters should winch their craft onto boat trailers instead of powering their boat onto the trailer. Boat ramps throughout the state are being badly damaged by boaters who power their boats onto the boat trailer. The strong current created by the boat's propeller causes severe erosion and wash out at the end of the ramp. This condition, in turn, can also cause damage to boat trailers.

The Department of Natural Resources is attempting to repair as many of the damaged ramps as possible, but the best solution to the problem lies with the boater who refrains from this practice.

Virginia Department of Game and Inland Fisheries

(<http://www.dgif.virginia.gov/boating/building-boat-ramps.asp>)

Building Boat Ramps

Water Depth

Water depth should be no less than three feet at the end of the ramp during mean low water, though four feet deep is more desirable. If drive-on trailers will be used for launching and retrieving boats (power loading), consider extending the ramp to a depth of five feet or installing riprap at the end of the ramp. *Another alternative is to increase the slope of the ramp for the last 10-15 feet so the end of the ramp will be in deeper water or dug into the bottom to protect the end of the ramp. If the end of the ramp is not protected, the prop wash created from power loading will erode a hole at the end of the ramp, which will cause a sharp drop-off and can undermine the end of the ramp.* If the trailer wheels are then backed off the end of the ramp that has a drop-off, the trailer can hang on the end of the ramp causing damage to the trailer as the wheels are pulled back up onto the ramp. Most older DGIF ramps are not designed with drive-on trailers in mind and we are frequently adding riprap to the end of ramps as temporary repairs for the problems caused by prop wash.

Alachua County Parks Division Corrective Action:

The Alachua County Public Works Department/Division of Parks & Recreation has over the years experienced many of the same issues expressed in the above articles on power loading: Undermining of ramps, ends of concrete ramps breaking off, trailers dropping of the end of ramps and being damaged, and sand bars being created water ward of the end of the ramps. In the past, as part of a stop-gap effort riprap and gravel were placed in the holes created by power loading. This proved ineffective as the gravel would be pushed out by the prop wash as easily as the natural soils and the riprap would not effectively protect the underlying soils from further erosion. The final and effective solution has been the redesign and retrofit or replacement of the existing ramps. The redesign basically is a longer solid concrete ramp that extends into and below the canal or lake bottom sufficiently that the prop wash can not move the soil off the ramp and cause the undermining of the ramp. This design has been used with success on the boat ramps at Santa Fe Lake Park, Lochloosa Park, Holden Park, and E.P. Powers Park. As the need arises and funding is available other ramps will be replaced using the new design.