

Willard Says.....

One of a series on the subject of practical hydraulic dredging.

POND DREDGING

I get a lot of inquiries from folks who have a problem with their neat home or cabin on the shore of what was once a picturesque little body of water.

Inches-deep water surrounds the boat dock and proliferating water plants make swimming a not-so-good idea. The scenic vista and the opportunity for water activities that prompted them to buy the place years ago are just memories. Not only that, the swampy aspect has caused the value of the property to fall into the dumper. Something has to be done.

The first thing that comes to mind is to dredge out the lake and restore it to health. That is not a bad thought because using a hydraulic dredge to move sand and silt from a submerged lake bed to some distant point is usually the most efficient solution. In the doing, however, there is potential for bad news.

Problems arise when all factors are taken into consideration—when the scope of the work is revealed. A hydraulic dredge can usually “suck up” sand and silt and put it into a pipeline without ruffling anyone feathers. The crux of the problem revolves around what to do with all the water and gunk that comes out of the pipeline at its terminus. The prospect of hydraulic dredging a “*private*” pond is an invitation for droves of bureaucratic ghouls to come out of the woodwork and descend on you like flies drawn to stink. These “public servants” can barely suppress their glee as they inform you that they—not you—have authority over your body of water. There are a myriad of authoritative entities all paid by your tax dollars who feel empowered and delighted to be able to tell you how, when, why, if you can and to what extent or that you cannot disturb your formerly picturesque lake or pond in any fashion. They wish to impress another layer of soft tyranny upon you.

Depending on your circumstances you may expect to have to deal with some of the following authoritative and oppressive entities, none of which are in business to help you:

- Army Corp of Engineers
- US Coast Guard
- Federal Environmental Protection Agency
- State Environmental Protection Agency
- County Environmental Protection Agency
- County zoning board
- County Board of Commissioners

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Neighbors
Fish and Wildlife nutcases
Water quality nazis.
And others

I am not saying that it will be impossible to dredge out your pond, just that it may be very difficult given that you will have evade the yoke of oppression that has enveloped our part of the world. Assume that you will have to spend money for permits, hearings, surveys, engineering, plans and legal representation. Lucky and seldom is the one who finds that no one cares.

Let us lay aside concerns about jack-booted regulatory types and get to the nut of your problem by finding out how much it is going to cost to move the gunk out of your water. If the cost is prohibitive, there will be no need to tackle the thicket of red tape. I suggest getting two or more firm written quotes from private contractors. Find them by googling "dredging contractor" for information about local contractors. Talk to your county engineer and find out if he knows of any dredgers. Local marinas may know of local dredgers.

The contractor should be aware of what will be required in the way of permits and can provide guidance on how to obtain them. Seek help from your county engineer.

Estimated Cost

Dredge pipelines transport solids to some distant point in slurry that averages about 10 percent solids and 90 percent water by volume. This means that it takes about 2900 gallons of water to transport one cubic yard of solids through a pipeline. The crux of the problem usually boils down to how to separate the solids from the water after the slurry is discharged from the dredge pipe.

Currently (2009) it likely will cost about \$10.00 to dredge each cubic yard of sand and silt out of a small pond and place it elsewhere. The price will depend on the total yardage to be dredged, the distance that it has to be pumped and the method employed to separate the solids from the water at discharge.

Assuming a cost of \$10.00/cubic yard, it will cost about \$48,400 to make a one-acre pond three feet deeper. I found that number using the following calculations: One acre has an area of 43,560 square feet. Dredging three feet deep will require the removal of 3 feet deep x 43,560 square feet or 130,680 cubic feet of solids. Convert cubic feet to cubic yards, the unit of measure used in earth moving, by dividing the volume in cubic feet by 27 cubic feet per cubic yard and obtain the quantity of 4,840 cubic yards. Do some measuring and drop your numbers into the above calculations to get some idea of how many yards you want to move.

Do It Yourself Dredging

Unless the amount of solids to be moved is relatively small—1000 cubic yards or less—I do not recommend attempting to do it yourself. There are several companies that sell packaged small dredges; however, they are quite optimistic in their performance claims. You have to buy the machine and attachments, buy support equipment, learn how to run it and then run it. And you still have to deal with officialdom.

Dry Removal

Many ponds are artificial which means that at some time past they did not exist. It also means that they can be drained and allowed to dry out so that conventional earthmoving machines (scrapers or excavator/trucks) can be used to remove the accumulated material. This procedure usually costs less per cubic yard and you can get more competitive bids because there are more contractors in the business of moving dry earth than there are hydraulic dredging.

Comment, question, criticism, information on products mentioned? Contact willard@willardsays.com.