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INSTITUTE FOR FISHERIES RESEARCH

DIVISION OF FISHERIES

MICHIGAN DEPARTMENT OF CONSERVATION

COOPERATING WITH THE

UNIVERSITY OF MICHIGAN

November 16, 1951

ALBERT S. HAZZARD, PH.D.
DIRECTOR

Report No. 1308

WEED SAWS

By

Norman O. Levaridsen

Abstract

Saws for control of aquatic vegetation are known to have been used as early as 1909, and some success was reported on their use. Experimental work with a weed saw purchased by the Institute for Fisheries Research in 1950 produced limited worthwhile results, mainly in control of bulrushes. A major difficulty attending the use of this mechanism is that the cut portions of aquatic plants, of many species, continue to grow if not removed from the water. Also, since the bulk of the troublesome aquatics are perennial and have underground storage organs, repeated cutting usually is necessary. Another disadvantage is the laborious effort required to operate the saw. While this tool doubtless has a place in aquatic plant control, probably under most conditions other means are more effective and cheaper.

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Weed saws, or at least "subaqueous weed saws" have been used in controlling submerged plants as far back as 1909 and possibly earlier. Gorman (1919) was aware of a commercial weed saw manufactured by Aschert Brothers, but apparently did not use it. Gorman's paper includes a description of an improvised saw he made from "licker-in" wire, which is used in a combing process in cotton mills. The wire is 3/16-inch wide and 1/16 inch thick at the hilt, and is similar to a single-edged saw. By tying sections back-to-back, a double-edged saw was made. Weights were placed at four-foot intervals to keep the saw on the bottom. Ropes were attached at either end to which wooden handles were fastened. The author indicated this saw was effective. He stated, "The use of this improvised saw in an emergency has demonstrated the possibilities of the use of "licker-in" wire as a substitute for the more costly subaqueous saws now on the market." At that time "licker-in" wire cost 50 cents a pound or about 2 1/2 cents a foot.

Martin and Uhler (1939) referred to this paper by Gorman. Balcom (1943) does not refer to it directly but it is assumed that he was aware of it. Elsewhere in the literature one can find no further reference to "licker-in" wire used as a subaqueous saw.

In June of 1950, the Institute for Fisheries Research purchased a 20-yard length of the Ziemsen Submarine Weed Cutting Saw manufactured by Aschert Brothers, La Canada, California. This tool came equipped with four weights and two clamps, the latter permitting attachment of ropes to the ends of the saw. At least two men are required for its use, one at either end. By means of a sawing motion and a steady advance, submerged weeds are cut just above the lake bottom.

With our first trial of the saw, it was apparent that there would be considerable hard labor involved. A steady pull for 2 to 2 1/2 feet. in one direction, then in another, achieved nothing with Anacharis. The saw became fouled with weeds and would not cut. A quick jerk, as reported by Balcom, was found to be required. One could sense the weeds being cut. Even so, it still became clogged and merely rolled over the bottom, the weeds springing back. Two runs were made over one area at the west end of Pond No. 8 at the Hastings State Fish Hatchery and judging from the quantity of weeds that came up, the effectiveness appeared good. However, the cut weeds remained in the pond, and if left would have continued to grow. To get rid of them, a cable was used to pull them to shore where they were piled up. This was merely a temporary measure, as a month later it was impossible to haul a seine through this area of the pond, the weeds having regrown to such an extent. The only place in the pond where seining was possible was in an area treated with sodium arsenite three weeks previously.

At Lake Lansing the saw seemed quite effective on bulrushes. There was not an abundance of fine-leaved submergent weeds to interfere and foul the saw. Here again it was hard work when compared to other methods of weed control, but it did cut off the stems. The bulrush

is different from a number of other aquatics in that the part of the plant which is cut does not continue to grow. The cut portions of Anacharis, Ceratophyllum, and Potamogeton, if left in the water, continue to grow and add to the nuisance. Cutting of bulrushes every few weeks during the summer is required as new stems and leaves appear above the surface. If regrowth is left to nourish the underground portions, the effort of cutting is wasted. Once the Rubicon has been crossed, it is a continual battle or the ground won will be lost. I have inspected areas at Lake Lansing, Ingham County, and at Big Wolf Lake, Montmorency County where weed saws have been used over the course of several summers. These areas indicated fairly good control.

Undoubtedly the weed saw has a place in an aquatic weed control program, just as the powered, under-water weed mower, but it should not be looked upon as a panacea.

It appears, in view of the experience with the 60-foot length, that the operation with lengths over 100 feet or so would be very laborious. In heavy weed stands perhaps two men would be required at either end plus a man or two in a boat to clear the saw periodically and to lift it over obstructions. Cutting would be a temporary measure unless conditions were just right. Optimum conditions would depend largely upon the type of weed and upon the stage of growth.

It would appear almost an Herculean task to cut cattails with a long length of saw. If they were cut at the right stage, one treatment would be more effective than several poorly timed cuttings. The tool is no better than the technique.

At best, the weed saw has a limited usage. The bulk of the troublesome aquatics are perennial and have underground storage organs. They

are difficult to kill because of this reserve food. Doing the cutting at times when this reserve is at a minimum is the best procedure. Subsequent growth following such a cutting will be weaker than the original growth, its extent depending upon the species involved.

In general, cutting with the weed saw is laborious and of a temporary nature. The cut portions of many aquatic plants may spread the infestation. Much better and cheaper control, except in a certain few instances, may be expedited by the use of other means now available.

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