



This is the way Buffalo Cove at Lake Corpus Christi looked prior to treatment. Water Hyacinths are so thick that small boats become entangled.



Following treatment, the same area now appears clear and inviting to area residents and sports fishermen. Applicators used 2,4-D B.E.E. to control the weed.

We Could Have Looked The Other Way

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WATER HYACINTHS *Eichornia crassipes* (Mart.) Solms have been present in many Texas lakes since 1935.

This placid looking green plant with "bulb-like" petioles and a blue lavender and orchid-like flower standing majestically on top of the plant cluster makes a beautiful sight to behold. Often times in early summer literally thousands of acres of water turn from green to lavender blue with the profusion of blooms of this foreign entry into our aquatic habitat. In a relatively short time this water environment that was being used for water recreation is no longer useable.

Since March 1970, when the Texas Parks and Wildlife Department of the State of Texas entered into a cooperative contract with the U.S. Corps of Engineers, over 20,000 acres of water hyacinths have been removed from our ever diminishing public lake waters. This removal or destruction was accomplished by using a government approved formulation of 2,4-D B.E.E. (2,4 Dichlorophenoxy-acetic acid, butoxy-ethanol ester) that has been registered for use in potable waters.

It became necessary that this plant

eradication work be done in many public lake areas. Boat traffic was no longer possible. Floating hyacinth mats prevented any type of troutline fishing or skiing. Many good black bass and crappie "fishing hole" areas were now closed by hyacinth plants. Many lakeside home owners could not launch their boats. The plants trans-evaporation processes were reducing the drinking water supply to a precarious level.

The preliminary phase of this eradication work was done on Lake Corpus Christi, a 21,000 acre lake in south Texas. The eradication work here involved 8000 acres of water that were covered by noxious plants.

These beautiful but prolific plants reduced fish populations by competing for available water space, resulting in an over-abundance of small undesirable fish. This in turn led to less use of our precious, diminishing public fishing and recreation water.

These newly opened lake areas with the plants removed and safely settled in the bottom of the lake, were now available for the use of fishermen and other water oriented sports.

Census surveys showed that in this area the average sports fisher-

man spends an average of \$15.50 per day in connection with his fishing pursuits. In this daily cost are included meals, motel, gasoline, and various kinds of refreshments. The newly opened water areas had a fishermen usage potential of 80,000 man-days, which means that 100 people could now use these newly created 8000 acres of available fishing and recreational areas. Fishermen alone spent \$1,240,000 per year.

The recreational value of these areas based on 50¢ per day for the 80,000 man-days amounts to \$40,000 for the year.

Hunting revenues for these areas is low for there is not too much water fowl hunting activity, but duck hunters did contribute \$6250.

The use of the lake and surrounding areas by sight-seers, hikers, bird-watchers who come to this south Texas coastal area for the winter added \$10,000 to the local economy.

The total recreational value based on 8000 acres amounted to \$1,251,000 per year.

State and government personnel engaged in the professional field of plant control and management are often guilty of not taking full credit for all of their work. The satisfaction seems to come from a job well and safely done.

There are other benefits that result as an end product of our efforts to reclaim our lost aquatic environment. Benefits are also accrued to real estate and land values. Plant removal or aquatic environment management is not an easy matter, time and money must be spent to realize our goal.

In the Lake Corpus Christi area the property owners of the 200 miles of shorelines benefited by at least

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Shoreline areas such as this owned by the Miller Ranch were solid with Water Hyacinths. It was like a floating carpet to view. Fish populations were reduced.



Even though it is somewhat marshy, the same area takes on a different view after treatment. Estimated benefits are on increase of \$100 per acre after spraying

WE COULD HAVE LOOKED

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\$100 per acre. On the assumption of 160 acres of shoreline, to the lake-side or shoreline miles, this would have a total benefit of \$3,200,000 for a one year period. The land values have now appreciated at a higher rate. Lakeside owners no longer have to clean their water front lots, they can now utilize their boat docks, move about freely all over

the lake without fear of not being able to return back home at the end of a day's fishing. The above figure is on the conservative side as many lakeside homes and property lots have increased in value two to three times their original cost.

The conservation of water is rarely considered as a monetary asset. One acre of water hyacinth plants removed in this watershed saves 11.5 acre-feet of water every year. Strong is the ability of the plant's root sys-

tem to pick up water and carry it to the leaves for evaporation by the warmth and light of the sun. The removal of 8000 acres of water hyacinths have preserved for human useage 92,000 acre-feet of water. The water saved from trans-evaporation is enough to furnish 20,000 gallons of water per month to 108,900 homes for one year. On a monetary basis this would be saving \$5,445,000 per year. Assuming water transportation, treatment and purification to



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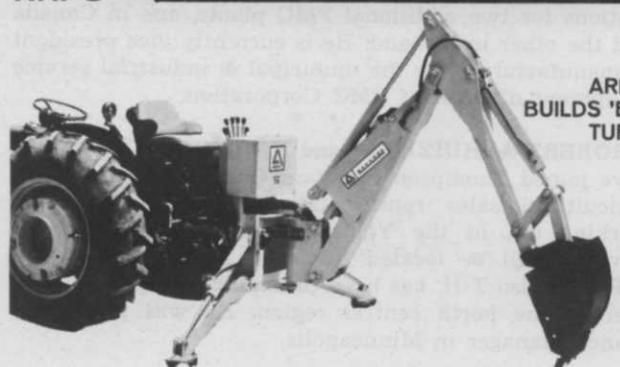
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be 75% of cost this would still be a savings of \$1,361,125 per year.

The benefits accrued to just these 8000 acres when summarized amount to a total of \$5,817,375 per year for the work that has already been done. Reduced to a per acre basis, the unsuitable water that has been recovered from our last aquatic environment and made available to our fishing and recreational public has a benefit of approximately \$727.17 per acre. It must be remembered that benefits usually last several years.

Our efforts must continue to destroy the new plants that come up from seeds and stolons. The plants are very prolific. One plant can recontaminate and occupy 12000 acres of water in a couple of years.

Professional people in weed control work are by necessity very cautious. Application methods are strict-



Jones camp below the horseshoe at Lake Corpus Christi takes on a forbidding look prior to treatment.

ly controlled, and are never used during high winds that could cause "drift" problems to adjoining land. The chemical selected is of the highest quality and purity. The chemical used is one that emulsifies easily, covers and adheres the plant leaves very well, and best of all is rapidly biologically degradable.

Our work has earned many compliments and letters of commendation. There have been a few complaints from uninformed people, who complain of our work, our methods, our chemicals, yet they offer no recommendations or constructive suggestions.

While it is easy to look the other way and not see this green menace taking over our aquatic environment, our efforts must continue to keep an unwanted and ever present plant from depriving us of our ever decreasing waterways. We could have looked the other way. □

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