

A LOW COST AIRBOAT FOR USE IN MOSQUITO CONTROL ¹

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Orange County Mosquito Abatement District

The Orange County Mosquito Abatement District, consisting of 777 square miles, has approximately 450 square miles of this area under surveillance and treatment. In this area there are abandoned sand and gravel pits used for holding waste water. These pits cover approximately 5 to 10 acres each, and are from 40 to 50 feet deep. The location of these pits eliminates the possibility of larviciding by hand or power equipment.

In addition to the above sources, there are natural depressions, earthen dams and other low areas that are filled with rain-water during the winter months. With normal rainfall, about 16 inches per year, these sources hold water well into the summer months. We have 131 such rainfilled depressions with a total area of 186 acres. Many of these depressions are too deep to walk, and inaccessible to conventional equipment.

The District has a 6-foot dinghy which is used for making inspections but is inadequate for larviciding due to its small size and capacity. The use of airboats in mosquito control is not new; however, after seeing "Brian's Breezy Bathtub,"² it

was felt that such a boat could be adapted to Orange County problems. Figure 1 shows the Orange County adaptation in operation.

Controlled Airstreams, Inc. was contacted for information on portable air thrust units. This company constructs air thrust units primarily for fire fighting (foam), smoke removal and controlled burning. Their larger machines are used to create hurricanes, wind or sand storms for the movie industry. In addition to the above units, this company markets the McBride Air-thrust Portable Power Unit for small boat propulsion. The 24" unit (priced at \$240.00) is the one used by Orange County Mosquito Abatement District at present. The advantages of an air thrust unit over traditional propelling methods are:

1. Economy that can't be beat because the engine is capable of operating 45 minutes at full throttle on only 1½ quarts of fuel. Therefore, if you should, for instance, average 8 miles per hour, you would travel 6 miles on 1½ quarts of fuel.
2. Increased maneuverability to the extent that you can spin a perfect 360 degree circle, and shift into reverse by rotating the unit 180 degrees, which lets the harmless airstream expend its energy over the bow without any discomfort to you or passengers.
3. Elimination of shoring problems, shear-

¹ Presented at the 1967 Joint Annual Meeting of the American and the California Mosquito Control Associations, at San Francisco, California, February 8, 1967.

² Controlled Airstreams, Inc., 1734 W. El Segundo Blvd., Gardena, California.



FIG. 1.—Orange County air boat in operation. Photograph shows the 24-inch McBride Air-Thrust Portable Power Unit mounted on a 12-foot aluminum pram, together with compressor and spray equipment. Inset shows partial front view of air thrust unit.

ing of pins, fouling of water pumps. In fact, you have NO prop worries since there is nothing below the surface of the water.

4. Lower speeds without lugging or motor failure, and if your craft draws 5 inches of water you can travel through water only 6 inches deep.
5. Instant ignition without pulling on starter ropes—no extras to buy—no batteries to run down—no more expensive repair bills.

The McBride Air-thrust generates a tightly confined airstream that thrusts you over the water's surface. Air boats in the Everglades have long used the same general principle. Not until Controlled Air-

streams, Inc. perfected a portable unit with unique duct design, did air-thrust propulsion become ideal for use by anyone on small craft of all types. A powerful, densely compacted stream of air pushing against the atmosphere provides the motive power. Speeds that might be obtained depend on the size, gross weight of the boat and passengers, and hull design. The 18" unit, for example, is capable of pushing a 12-foot canoe 5 miles per hour into a 10-mile per hour wind; the 24" unit on the same craft about 9 miles per hour. Gross weight is about 500 pounds. Both the 18" and 24" units are powered by a 2½ hp engine. It might be well to remind ourselves that many lakes and water-

ways have a maximum speed of 5 miles per hour. The 36" unit is powered by a 10 hp engine and develops 72 lbs. of thrust. The 18" unit generates 16 lbs. while the 24" unit develops 22 lbs. (2½ hp not for fast river or ocean currents).

The engine is made especially for use by Controlled Airstreams, Inc. by the Clinton Corp. Parts are readily available anywhere in the world from Clinton's vast network of factory distributors. In fact, there is nothing else to wear out or repair on the McBride Air-thrust except small inexpensive engine parts. The engine is equipped with a 250 lb. torque ratchet type impulse starter to assure instant ignition. Also, baffled muffler, switch, water-proof ignition, roller bearings next to P.T.O., fuel tank and fuel level gauge. Type of fuel is outboard mix. The two bladed props are water and warp proof and will stand salt water exposure. Duct is of fibre glass, struts—safety grills—tubing are chrome plated. Transom clamp is of aluminum and will fit transoms through 20 degree pitch and 2 inches thick. Stows neatly into the trunk of an

automobile. The 18" weighs 43 pounds, 24" weighs 49 pounds, including clamp.

The boat used by the District operates well with the air-thrust unit. This boat, purchased from Montgomery Ward, is a 12 foot aluminum Pram (flat bottom, 44 inches wide and 14 inches deep), weighs 85 pounds and cost \$99.00. It is very versatile, will maneuver in 6"-8" water depth with 700 lb. load. It is easy to carry and fits on the top of a car or in the back of a station wagon. Montgomery Ward has now added a 14 foot aluminum Pram at \$125.00 and a 16 foot Pram at \$169.00 to its boat department. The Airboat is very maneuverable and requires very little time to learn to operate.

Granules and oil are used in larviciding. Granules are applied by a portable air compressor unit, using the Orange County Compressed Air Granule Gun, horn seeder or Whirlybird seeder. A 3-gallon spray can, with the portable air compressor to keep up up pressure, is used to apply the oil.

WHITWORTH, B. 1965. A Utility Air Boat for Use in Mosquito Control. Mosq. News 20: 221-223.

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