

ITB 32801-13859
Reelfoot Lake Aquatic Weed Control; TWRA
Specifications

This solicitation is for procurement of Aquatic Weed Control Services; inclusive of labor, materials, and equipment, at Reelfoot Lake in Tiptonville, TN. This will be a single-award procurement resulting in one contract with an initial term of three (3) years and two (2) one-year renewal options.

A. Site Information

A site visit is not provided with this event as duck hunting is occurring at this time.

When preparing a bid, respondents shall refer to Section B. General Information and Section C. Treatment Approach.

Questions about the site shall be submitted to the Solicitation Coordinator by the ITB Questions and Comments deadline detailed in ITB 32801-13281 Terms and Conditions, Section 1.3.

1. Contractor shall be able to leave equipment at TWRA work base.
2. In most areas, Reelfoot Lake is shallow with numerous tree stumps inches below the water surface. Airboats and surface drive boats shall be needed to access most sites.
3. Reelfoot Lake has multiple boat ramps to access lake depending on the area in need of treatment.
4. Some areas of treatment may require waiting until the lake level reaches a desired elevation.
5. Some areas in need of treatment may require a 20-to-30-minute boat ride.
6. Housing near Reelfoot Lake is limited to cabins and Airbnb's. The nearest hotels are located in Dyersburg and Union City; approximately 30 minutes from lake.
7. Plant species and size of area requiring management varies from year to year.

B. General Specifications

1. Contractor shall supply all labor, materials, and equipment required by these specifications to treat aquatic macrophytes on Reelfoot Lake as requested by the contract administrator.
2. The Contractor shall treat, but is not limited to, the following species:
 - a. Swamp Loosestrife (Decodon Verticillatus)
 - b. American Frog's Bit (Lymnobia Spongia)
 - c. Marsh Pennywort (Hydrocotyle Ranunculoides)

- d. Curly-Leafed Pondweed (Potamogeton Crispus)

Additional weeds to be treated shall be determined by the TWRA Reelfoot Lake Manager.

- 3. Swamp Loosestrife, Frog's Bit, and Marsh Pennywort are aquatic macrophytes that shall be treated with overcast applications of a mixture of aquatic herbicides.
 - a. This mix shall consist of monopotassium salt of glyphosate (such as Refuge or equivalent) with a weight of 52.3% at a rate of 64 oz. mixed with isopropylamine salt of imazapyr (such as Habitat or equivalent) with a weight of 27.8% at a rate of 32 oz., and a nonionic surfactant methylated seed oil (such as SunEnergy or equivalent) at a rate of 32 oz. These herbicides shall be mixed in 50 gallons of water and shall cover 1 acre of emergent and floating-leaved species.
 - b. Herbicide 2,4-D (Dimethylamine Salt of 2,4-Dichlorophenoxyacetic Acid) 2,4-D shall be applied at minimal of 0.5 gallon of 2,4-D and 1 pint of surfactant per acre.

All chemicals shall be approved by the U.S. EPA and shall have been proven environmentally safe for aquatic weed control.

- 4. Curly-leaved pondweed shall be treated with Diquat or equivalent.
 - a. The active ingredient in Diquat is diquat dibromide [6,7-dihydrodipyrido (1,2-a:2',1'-c). This herbicide shall be applied at minimal of 1.5 gallons of diquat dibromide and 3 gallons of copper per acre.
 - b. The active ingredient in Diquat is diquat dibromide [6,7-dihydrodipyrido (1,2-a:2',1'-c). This herbicide shall be applied at minimal of 1.5 gallons Diquat with 1 gallon of Endothall, without copper.

C. Treatment Approach

- 1. Near 90% (+/- 5%) control of the aquatic macrophytes in Reelfoot Lake shall be achieved. To achieve this, the Contractor shall:
 - a. evenly distribute the herbicide mixture over the surface of the target species using an airboat-mounted pump, handguns that shall spray at least 40 feet out from the boat, and boominator spray nozzles mounted on airboats that shall spray at least 40 feet out from the boat.
 - b. targeted species shall respond to the herbicide within 5 days
 - c. dropout of the vegetation shall be observed within 21 days.
 - d. an edge treatment approach shall be utilized with airboats traveling along the outside edge of weed colonies.

- e. Herbicidal spray shall be directed an average of 40 feet into the colonies, and linear distance of treatment shall be calculated utilizing GPS systems.
- f. Acres shall be calculated using two measurements (spray width x linear distance).
- g. Each boat utilized shall treat at least 10 acres per day. Three boats daily shall be able to treat 30 acres per day. Minimum number of acres to be completed per day is 30 acres.
- h. It is expected that approximately seven hundred (700) acres shall be treated annually with a treatment time required of no more than twenty-four (24) days.

D. Qualifications

1. The contractor shall have the following:
 - a. on-staff botanist with a minimum M.S. degree in botany or plant biology.
 - b. additional employed field biologists
 - c. a minimum of five experienced applicators that are certified to apply aquatic herbicides in the state of Tennessee
 - d. a minimum of 5 airboats equipped with onboard mounted pumps, long-spraying handguns, and boominators that can be utilized for the scope of work
 - e. at least 7 years of experience and working knowledge of herbicide applications on reservoirs larger than 10,000 acres.
 - f. be able to provide proof that they have completed contracts that exceed a gross value of \$200,000 with major companies/agencies, such as TVA, stakeholder groups, or public utility companies.
2. If the contractor intends to use a drone in combination with the airboats, the drone shall meet the following requirements.
 - a. Shall have all required certifications, licenses, and insurances required for the aerial application of pesticides including but not limited to FAA Remote Pilot Certificate (Part 107), FAA Part 137 Certification, Drone Registration, Commercial Pesticide Applicator Certification, Aerial Applicator License, Aquatic Applicator License, Commercial Operation License and provide them upon request. More information may be found at:
 - i. Federal Aviation Administration Remote Pilot Certificate. See requirements at https://www.faa.gov/uas/commercial_operators/become_a_drone_pilot

- ii. State of TN Commercial Pesticide Applicators Certification. See requirements at <https://www.tn.gov/agriculture/businesses/pesticides/certification.html>.
- b. Due to site conditions and accessibility to all water sources, the utilization of a drone may be required to successfully apply the herbicide in remote areas.
 - i. All Drones shall be certified on the Blue List produced by the United States Department of Defense and/or National Defense Authorization Act (NDAA) compliant.
 - ii. The Contractor shall not utilize any drone that is manufactured or whose components are manufactured in any country designated by the United States' Department of Commerce as a Foreign Adversary.

E. For Use After Award ONLY:

Prior to beginning work, the contractor shall contact the TWRA staff identified below, to verify problems areas and areas to focus treatments.

1. Chase Taylor: Chase.Taylor@tn.gov or 615-339-5588
2. Patrick Johnson: Patrick.Johnson@tn.gov or 731-445-5386