

## FINDING OF NO SIGNIFICANT IMPACT TENNESSEE VALLEY AUTHORITY

### TRIPLOID GRASS CARP STOCKING FOR AQUATIC VEGETATION MANAGEMENT IN PARKSVILLE/OCOEE #1 RESERVOIR

In recent years, invasive aquatic plants have continued to spread within the Tennessee Valley Authority's (TVA) reservoir system, causing environmental and economic impacts. The spread of the invasive species hydrilla (*Hydrilla verticillata*) throughout the TVA system poses the greatest threat. Hydrilla is capable of rapid growth and reproduction given ideal growing conditions. Hydrilla plant fragments can be easily transported from one waterbody to another via recreational and commercial boating as well as through downstream transport by flow. These transportation and reproduction methods have aided in hydrilla establishment throughout the valley causing conflicts with water resource uses.

Among the reservoirs affected by the spread of hydrilla is TVA's Ocoee Project #1 Reservoir, known locally as Parksville Reservoir, located in Polk County, Tennessee. Hydrilla was first discovered in 2010, but was relatively isolated to the shallow water habitat around the Ocoee Inn. By 2016, the species was distributed throughout the Reservoir, constituting approximately 182 acres (10 percent) of the water body. Surveys of directly adjoining water bodies (Ocoee #2, Ocoee #3, and the Hiwassee River) in 2016 suggest that hydrilla is currently not present directly above Parksville Reservoir or below Ocoee #1 Dam.

TVA proposes to introduce sterile Triploid Grass carp (*Ctenopharyngodon idella*) as a means of controlling the spread of hydrilla within Parksville Reservoir and to reduce the likelihood of downstream expansion into the Lower Ocoee River and Hiwassee River. Grass carp eat submersed aquatic vegetation including hydrilla. Triploid fish are sterile and unable to naturally reproduce in river systems, which enables the fish populations to be easily monitored. Introduction of certified Triploid Grass Carp (CTGC) into a reservoir to control invasive aquatic plant growth is an effective measure to address new infestations of hydrilla that would otherwise continue to spread. Stocking CTGC is cost effective, provides long term aquatic vegetation management, and reduces the need for large scale herbicide and mechanical management techniques once a plant species becomes established. CTGC also provide better control of submersed plants in moderate- to high-flow reservoirs, like Parksville, where control by herbicides would be limited.

#### **Alternatives**

The proposed action is the subject of an environmental assessment (EA) prepared by TVA. The EA addresses two alternatives. Under the No Action Alternative, TVA would not stock Parksville Reservoir with CTGC to address the spread of hydrilla. TVA does not perform aquatic vegetation management in this reservoir, and would not change its management of aquatic plants. This lack of action is not expected to manage the proliferation of hydrilla in the majority of the Reservoir.

Under the Proposed Action Alternative, TVA would stock CTGC for maximized control of hydrilla into Parksville Reservoir. TVA would obtain the necessary permits/approvals and follow all procedures required by the US Fish and Wildlife Service and Tennessee Wildlife Resource Agency before and during stocking of CTGC. TVA would survey standing hydrilla biomass and coverage within Parksville Reservoir annually to inform all management decisions. TVA would

also continue to monitor other reservoirs within the Ocoee system (i.e., Ocoee #2 and Ocoee #3), and downstream Hiwassee river for early hydrilla detection. Should hydrilla introductions occur in these surrounding reservoirs, TVA would consider what management actions might be appropriate in these surrounding reservoirs as funding allows and subject to additional environmental review. The Proposed Action Alternative is TVA's preferred alternative. The EA is incorporated herein by reference.

TVA evaluated a range of alternatives for addressing the spread of nuisance aquatic vegetation in its 1993 Supplemental EIS. These included various other biological controls, mechanical controls (harvesting), physical controls (barrier mats), and water level manipulation. None of these alternatives fully meets TVA's objectives, purpose, or need for the project.

### **Impacts Assessment**

In the EA, TVA identified relevant environmental issues and reviewed the potential impacts of implementing the project. The proposed action would have no or negligible impacts on air quality; cultural resources; floodplains; solid and hazardous waste; navigation; noise; terrestrial vegetation; endangered, threatened, or special status plant or species; transportation; visual resources; land use; prime farmland; or groundwater. The implementation of the Proposed Action Alternative is not expected to negatively affect common wildlife populations and may result in indirect, direct and cumulative benefits to some specific common wildlife species.

The stocking of Parksville Reservoir with CTGC would have a minor impact on the ecosystem and water quality of the Reservoir as the CTGC begin to feed on hydrilla. This would lead to a decrease in hydrilla biomass and a shift in aquatic species composition and nutrient levels. However, this shift would not significantly impact the overall production (aquatic life, nutrients, etc.) in the reservoir. There is a minor possibility that the introduction of CTGC could drastically reduce aquatic plants in the reservoir and create an algae dominated system. However, TVA's proposed annual monitoring and low to moderate maintenance stocking would greatly reduce the risk of complete aquatic plant removal. Therefore, there would likely be only minor impacts to aquatic plants and minor long-term beneficial surface water impacts as hydrilla is reduced over time.

Unavoidable losses of aquatic bed wetlands and localized aquatic habitat would initially occur as CTGC decrease the volume of hydrilla within the aquatic bed wetlands. There would be minor, secondary impacts to aquatic communities (invertebrates, zooplankton, fish) that utilize these aquatic bed wetlands as habitat. TVA has determined that no practicable alternatives exist to remove hydrilla from the existing aquatic wetland beds and that the goals of the proposed action are therefore consistent with the provisions of Executive Order 11990. There is a potential for minor long-term beneficial impacts on wetlands as native populations of submerged, aquatic bed wetlands would reestablish. Grass carp do not consume emergent wetland vegetation; therefore, no direct, indirect or cumulative impacts on emergent wetlands in the reservoir would occur. No direct, indirect or cumulative impacts to forested wetlands are anticipated under this alternative.

Reviews of the TVA Natural Heritage Database indicated that five state-listed species (northern pine snake, seepage salamander, smoky shrew, southern Appalachian woodrat, and woodland jumping mouse), one federally protected species (bald eagle), and one federally listed species [northern long-eared bat (NLEB)] exist within three miles of the project area. One federally listed species (gray bat) has been documented in Polk County, Tennessee. The U.S. Fish and Wildlife Service has determined that the federally endangered Indiana bat has the potential to occur in Polk County. Suitable foraging habitat for the bald eagle, NLEB, gray bat, and Indiana

bat occurs over Parksville Reservoir; however, no suitable roosting habitat for the NLEB or Indiana bat occurs within the project area. No caves are known to exist within three miles of the project footprint; therefore, no suitable roosting habitat for the gray bat occurs within the project area. Open water would continue to be available for foraging bats under this proposed alternative. Therefore, the Indiana bat, gray bat, and NLEB would not be directly, indirectly or cumulatively impacted by the proposed actions. The introduced grass carp would provide an additional food source to bald eagles. The presence of grass carp would keep open water habitats exposed allowing foraging eagles to easily find prey; therefore, bald eagles may benefit from the proposed action alternative. Implementation of the proposed action would not affect habitat for northern pine snake, seepage salamander, smoky shrew, southern Appalachian woodrat, or woodland jumping mouse.

The Proposed Action Alternative would lead to a reduction in the density of hydrilla in open water habitat and around existing recreational facilities, which would provide optimum conditions for a wide range of recreational activities on Parksville Reservoir. Aquatic plants would continue to provide some benefits to boat fishing and waterfowl watching/hunting activities while opportunities for other activities such as general boating, swimming, and shoreline camping would be enhanced. The Proposed Action Alternative would also minimize the potential for hydrilla to invade the lower reaches of the Ocoee River whitewater floatway. Therefore, beneficial indirect, direct and cumulative recreational impacts are anticipated under the Proposed Action Alternative. This increase in recreational activities would also lead to beneficial direct, indirect and cumulative impacts to the local economy. There would be no disproportionate impacts on minority or poverty communities.

The introduction of CTGC would not result in any immediate disturbances or alterations to the natural areas within the immediate vicinity of Parksville Reservoir. Therefore, implementation of the Proposed Action Alternative would not significantly affect natural areas at the local, regional, or state level. The stocking of Parksville Reservoir with CTGC would have minor cumulative impacts on the ecosystem of the Reservoir as the CTGC begin to feed on hydrilla. However, the overall beneficial impacts of implementing the proposed action outweigh those negative impacts.

### **Public Involvement**

TVA posted the draft EA on its website and published public notices in two local newspapers for a 30-day public comment period and requested the public to submit comments via mail or email. TVA received one letter from the Tennessee Department of Environment and Conservation, which stated they had no comments on the draft EA.

### **Mitigation Measures**

TVA did not identify any non-routine measures necessary to avoid, minimize, or mitigate adverse impacts on the environment.

**Conclusion and Findings**

Based on the findings and the analyses in the EA, we conclude that the proposed action of TVA stocking CTGC for maximized control of hydrilla into Parksville Reservoir would not be a major federal action significantly affecting the environment. Accordingly, an EIS is not required.



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Date Signed