

Managing Tennessee's Public Waterways for Recreation: Balancing Access, Safety, and Protection of Natural Resources

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Summary and Recommendations: State agencies are encouraged to gather data, develop partnerships, and collaboratively plan to manage the state's waterways.

Like other states, Tennessee is experiencing an increase in outdoor recreation as more people enjoy the state's abundant natural resources and participate in a variety of activities. For example, between 2017 and 2021, the total number of fishing and hunting licenses sold increased by 12.2%. The outdoor recreation industry and stakeholders agree that paddlesports—paddling in non-motorized vessels such as canoes, kayaks, paddleboards, rafts, and tubes—are growing in popularity as well. It is likely Tennessee has seen an increase in paddlesports, but Tennessee Department of Environment and Conservation (TDEC) and Tennessee Wildlife Resources Agency (TWRA) lack specific data about increased activity from paddlesports and what steps should be taken to manage the effects of increased paddlesports.

To help state agencies identify the best ways to manage the state's resources and address challenges, given the evolving recreational use of the state's waterways, the General Assembly passed Public Chapter 497, Acts of 2021, (see appendix A) directing TACIR to conduct a study of water recreation resources, including

1. the procedural and financial measures necessary to accommodate the increased demand for non-fish-and-game recreational activities and the resources required to manage such activities by TDEC and TWRA;
2. how TWRA-managed resources are being utilized by non-motorized vessels for non-fish-and-game recreational activities, such as paddle boarding, canoeing, tubing, and kayaking;
3. the accessibility to and funding for all non-fish-and-game recreational activities;
4. the annual fees and taxes charged to paddle craft and commercial outfitters in the previous four fiscal years;
5. any fees charged by TDEC and TWRA, and what action may be taken to eliminate such duplicity in fee structures and their regulatory authority generally;
6. the extent to which customers of non-motorized vessels contribute to revenue derived from the purchase of fishing licenses and registration of watercraft;
7. the amount of funding needed to manage, sustain, and improve access to and the management of non-motor vehicle activities in

It is likely Tennessee has seen an increase in paddlesports, but Tennessee Department of Environment and Conservation (TDEC) and Tennessee Wildlife Resources Agency (TWRA) lack specific data about increased activity from paddlesports and what steps should be taken to manage the effects of increased paddlesports.

Participation in outdoor recreation activities is associated with many benefits such as improved fitness, mental health and well-being, and crime reduction. More people participating in recreation activities on our state's waterways also brings challenges.

this state and what fundraising options are available to support non-fish-and-game and other similar activities;

8. what fee structure is most appropriate for recreational users generally, given that the benefits of non-fish-and-game programs are broader than just outfitters, who are already paying sales tax;
9. the feasibility of outfitters who pay additional fees to TDEC and TWRA receiving a credit on the sales tax paid on such fees and whether the local option sales tax should be included in the credit; and
10. what measures TDEC and TWRA can implement to improve their strategic plans, their organizational structures, and the oversight and sustainability of non-fish-and-game-related recreational activities.

Tennessee has implemented new policies to address and manage the recent increase in outdoor recreation and use of waterways. However, while there are many resources and examples of strategies from federal agencies, other states, and non-government organizations, determining how to manage outdoor recreation and natural resources across the state requires more data about use, needed improvements, and cost, in addition to strategic coordination between the government and non-government entities that are involved.

The increasing popularity of outdoor recreation benefits Tennesseans but creates management challenges on the state's waterways.

Participation in outdoor recreation activities is associated with many benefits such as improved fitness, mental health and well-being, and crime reduction. Outdoor recreation can also bring economic benefits such as tax revenue for local governments and jobs, particularly in rural areas. Recreation on waterways, like fishing and paddling, is a key part of the overall outdoor recreation trend in Tennessee. For example, the value added to the state gross domestic product by boating and fishing increased from \$617.9 million in 2018 to \$762.6 million in 2020—a 23.4% increase—according to the US Department of Commerce, Bureau of Economic Analysis Outdoor Recreation Satellite Account.

However, more people participating in recreation activities on our state's waterways also brings challenges. This is highlighted in the 2018 "TN H₂O" plan, a collaborative effort focusing on the state's management of water resources led by TDEC, which describes issues including littering, water resource protection, and recreation etiquette on waterways. These issues align with several challenges that stakeholders say have resulted from increased use of waterways:

- While some amount of user conflict is unavoidable, more occurs on a few popular sections of rivers in the state that, according to stakeholders, get congested. For example, one outfitter hired a deputy sheriff to be present at the access ramp during busy times because their customers were being harassed by motor boaters.
- Insufficient or inadequate access to waterways or lack of maintenance of access infrastructure such as boat ramps, docks, and parking areas and crowding in these areas make it difficult to access some waterways. For example, on the Caney Fork River in Middle Tennessee, fishing guides; paddlecraft outfitters; and private anglers, paddlers, and motor boaters use the same popular access area to launch their vessels, resulting in people, boats, vehicles, and trailers using a parking area and launch ramp not large enough to accommodate multiple users at the same time.
- Safety is also a concern because many users are inexperienced or don't follow safety guidelines, laws, and etiquette on waterways. For example, common hazards on waterways are "strainers" – downed trees on rivers and streams where the current can pull swimmers and vessels and trap, flip, or pull them under water. Inexperienced paddlers might not recognize a common sight like downed trees as a serious hazard.
- Trespassing on private property and damage to property near waterways are problems in some areas.
- Litter in waterways and along shorelines is common in many areas, even in protected areas like state parks.
- Natural resource destruction is a critical issue. More than half of sampled rivers and streams in Tennessee are too polluted to support at least one of their intended uses, which include recreation, fishing, conservation, and drinking.

Currently, TWRA collects data on waterway use by commercial outfitters but not private paddlers.

TWRA collects data on waterway use from commercial paddlers three times a year. The agency has regulatory and enforcement authority over boating safety on public waters and owns or manages over 200 boat access ramps in the state. It also administers and enforces requirements for motorized boats, including boat registration, operator education, and equipment. In response to the challenges from the increase in water recreation and some stakeholders' concerns about congestion and access issues on the waterways, the General Assembly passed Public Chapter 969, Acts of 2018, authorizing the Tennessee Fish and Wildlife Commission (TFWC), TWRA's governing body, to establish rules for businesses that rent non-motorized vessels to the public on public waters in the state. The TFWC passed rules requiring the outfitters to obtain a free permit to operate their businesses,

Public Chapter, 969, Acts of 2018, authorized the Fish and Wildlife Commission to establish rules for businesses that rent non-motorized vessels to the public on public waters in the state.

With more robust data, state leaders could determine how much funding is needed and explore potential methods to generate new revenue.

and they must identify each vessel they own. In 2019, Public Chapter 347 required these commercial paddlecraft outfitters to submit data to TWRA three times a year about their operations including the number of trips that are made and which waterways they use. TWRA began collecting this information in 2022.

While this information about commercial paddlecraft outfitters will be useful for TWRA, other user groups also affect the state's waterways. Stakeholders say that in recent years there has been an increase in private paddlers—people who use their own paddlecraft such as canoes, kayaks, paddleboards, rafts, and tubes—who are part of the state's water-resource management challenges. However, because the state doesn't collect data about this user group, it doesn't know how many private paddlers are using different waterways. Further, although TWRA has data from fishing and hunting license purchases and motor boat registrations, it does not track where people are using their licenses and boats across the state or if they also rent or use their own paddlecraft. Stakeholders say it is common for paddlers to have a license or a registered motor boat, and a 2019 study in Virginia found that approximately 93% of users of the state's boat access sites pay in other ways such as purchasing licenses or permits and that 35% of users have two or more licenses or permits. More data about all recreational user groups could help both TWRA and TDEC better determine their needs and priorities, including how those user groups contribute to the problems and where the state's limited resources could be best deployed to manage waterway access areas.

It is unclear how much additional funding agencies might need to help manage waterways because of increased recreational use in Tennessee. However, with more robust data state leaders could determine how much is needed and explore potential methods to generate new revenue. Based on hypothetical scenarios developed by TACIR staff, the potential revenue generated from different types of fees and dedicated taxes varies widely, from as little as \$3,700 generated from permits to access specific rivers to as much as \$91 million generated from dedicated revenue from taxes on certain recreational goods. There are examples from federal agencies and other states that have charged a variety of fees on non-motorized watercraft and dedicated taxes to raise revenue for waterway management. Fees are charged for commercial and private use, on vessels, or for waterway access permits. Two states—Georgia and Texas—have dedicated a portion of existing recreation-related taxes to generate revenue for recreation and conservation efforts. Regardless of the fees or taxes or combination used, burdensome requirements are a concern, and although they do not seem to be too common, fee or tax exemptions and credits for commercial outfitters are a potential strategy to avoid burdensome fees and regulations. For example, as part of the TVA Ocoee River management agreement, outfitters that operate on the river pay 10% of their gross receipts to Hiwassee Ocoee Scenic River State Park, which goes into a fund to pay for management of

the river corridor. The agreement exempts them from paying amusement tax to the state. They also don't pay any local amusement tax.

Like any other business in the state, commercial paddlecraft outfitters are required to pay taxes to various government entities. According to the Tennessee Department of Revenue, from 2017 through 2021, commercial paddlecraft outfitters paid a total of approximately \$33.4 million in state sales tax and \$12.9 million in local sales tax. Some also pay fees to agencies to use specific access areas within that agency's jurisdiction. Respondents to the 2022 TACIR survey of commercial paddlecraft outfitters in the state said they pay various fees and taxes to federal, state, and local governments.

Multiple agencies regulate Tennessee's waterways, potentially resulting in burdensome regulations, confusion, and limited access for different user groups.

In addition to TWRA, various federal, state, and local government agencies manage Tennessee's waterways for many uses including drinking water, electricity generation, and different types of recreation. Several federal agencies including the National Park Service (NPS), Tennessee Valley Authority (TVA), United States Army Corps of Engineers (Army Corps), and United States Forest Service (USFS) have boat access areas they manage on their lands in the state. At some sites within their jurisdictions, federal agencies require businesses to have a permit or contract and pay fees to operate or charge user fees for the general public for access, services, or amenities. The TVA and Army Corps also control water releases from dams in the Tennessee River and Cumberland River systems, respectively.

At the state level, both TWRA and TDEC regulate waterways and access to them. Distinct from TWRA, TDEC manages waters that are encompassed within state parks and access to waterways that flow through or border state parks. In 2022, state parks implemented a commercial use authorization—a permit process for all commercial operators including paddlecraft outfitters—and is charging 3% of gross receipts for business conducted within state parks. Similarly, TWRA staff have said that TWRA would implement its own data-based fee structure in the future to generate revenue. Fees the agency proposed levying on outfitters pursuant to its authority noted above under Public Chapter 969, Acts of 2018, were not adopted because of lack of data and resistance from outfitters. Historically, TWRA has largely been funded by fishing and hunting licenses and motor boat registration fees, which have been a reliable source of funding. However, the agency says these revenue sources are not growing in proportion to state population and might not be sustainable in the future. Staff also say they need additional funds to manage their boat access areas and waterways.

TWRA and various federal, state, and local government agencies manage Tennessee's waterways for many uses including drinking water, electricity generation, and different types of recreation.

At times, regulation of the state's waterways by various government entities can be confusing and even burdensome for some user groups.

Local governments have authority to manage access to waterways from lands they own within their jurisdictions, including requiring permits and charging fees, as some do. For instance, Metro Nashville Parks and Recreation requires outfitters to have a permit and charges them \$150 per access site they use in a Metro park for each month in operation. Additionally, at least 23 counties have trained rescue squads, mostly comprised of volunteers, that respond to calls and help with swift water rescues on waterways.

At times, regulation of the state's waterways by various government entities can be confusing and even burdensome for some user groups. For example, soon after both TWRA and TDEC began considering imposing fees on non-motorized vessel outfitters statewide, the Army Corps considered requiring outfitters to have a commercial business license and charging a \$500 fee to use its boat ramps along the Caney Fork River. The non-motorized vessel outfitters voiced resistance, arguing that enacting these regulations and fees at the same time could have threatened the financial viability of their businesses. Although TWRA did consider giving the outfitters a credit if they paid fees to another agency, outfitters were not certain whether they would be required to pay fees to both TDEC and TWRA, and for some, to the Army Corps. In 2022, rather than requiring a commercial business license and charging a fee, the Army Corps will instead begin requiring outfitters to apply for a "letter of permission" to use specific access areas on the Caney Fork River and does not plan to charge a fee. Better coordination and communication among the various government agencies, non-government organizations, and user groups might have helped in this situation.

Moreover, outfitters and private paddlers aren't merely users of the state's water recreation resources. They promote outdoor recreation and provide opportunities for people who are new to paddling or don't own their own boat to access waterways. They also help manage and maintain waterways. Outfitters, private paddling groups, and other non-government organizations contribute in a variety of ways, such as making monetary and in-kind donations, doing cleanups, training and educating users, and helping to build and maintain access areas.

Tennessee has tried to include paddlecraft outfitters in the decision-making process. In addition to requiring outfitters to submit data, Public Chapter 347, Acts of 2019, established a commercial paddlecraft advisory committee with the intent to communicate the views of outfitters, resolve issues, and facilitate access for all users. The members are appointed by the TWRA executive director and must include a majority of commercial paddlecraft outfitters and other stakeholders. The focus of the committee is on issues related to outfitters, rather than more broadly discussing and resolving boating or water recreation issues. The law does not specify who

the other stakeholder members should be or how the committee interacts and collaborates with TWRA and TFWC.

Other states have boards with more diverse representation and broader objectives than Tennessee's commercial paddlecraft advisory committee. These boards help with coordination between government agencies and stakeholders and bring people together to discuss and resolve water recreation issues. Florida and Pennsylvania are two states that have boating advisory entities that serve this purpose. Florida's Boating Advisory Council is an 18-member body that advises the Florida Fish and Wildlife Conservation Commission (FWC) and includes representatives from federal and state government, environmental groups, boating-related industries, and the paddling community. Similarly, Pennsylvania's Boating Advisory Board makes recommendations to the Pennsylvania Fish and Boat Commission on boating rules and regulations and is comprised of state agency representatives as well as five members that represent boating interests.

Sixteen other states have outdoor recreation offices, task forces, or policy advisors, which address outdoor recreation generally rather than focus on boating, while North Carolina allows local governments to form local water safety advisory committees. Some stakeholders in Tennessee prefer the creation of an office of outdoor recreation rather than a boating advisory committee. They say a non-regulatory entity that more broadly supports and promotes outdoor recreation would better facilitate economic development and coordinate the various agencies with regulatory authority. Further, despite TWRA's new regulatory role in the paddlecraft community, the TFWC does not include commercial non-motorized vessel outfitters in its membership. Currently, state law requires that the 13 members of the TFWC are well-informed "on the subject of the conservation of game animals, birds and fish in this state" but does not require knowledge of boating or paddlecraft.

Involving the diverse stakeholders who use Tennessee's water recreation resources directly in the planning process would likely help manage conflicts and ensure state policies better reflect evolving trends and needs in outdoor recreation. An example of potential collaboration would be the development of water trails—also known as blueways—that could provide more waterway access and economic development benefits for communities. Further, as noted above, gathering more data about all types of water recreational users could help TWRA and TDEC determine how to best manage Tennessee's waterways and access areas, best use the state's limited resources, and determine what new revenue sources, if any, are needed. **For these reasons, the Commission recommends that the state**

- **gather more robust data on the recreational use of water resources across the state and use the data for strategic planning;**

Involving the diverse stakeholders who use Tennessee's water recreation resources directly in the planning process would likely help manage conflicts and ensure state policies better reflect evolving trends and needs in outdoor recreation.

- **continue to take a collaborative approach to strategic planning with multiple agencies and consider a statewide task force to address water recreation issues and work through conflicts, which could potentially be accomplished by augmenting the existing commercial paddlecraft advisory committee with a permanent statewide boating advisory board with representation and objectives for all affected stakeholder groups or by establishing a state office of outdoor recreation; and**
- **continue to develop existing and new partnerships to improve access to waterways. For example, new relationships between government agencies and non-profit organizations that are already building and maintaining access areas and doing education and training activities could be developed, and existing partnerships could be strengthened or formalized.**

Additionally, the General Assembly should add motorized and non-motorized boating to the list of subjects of which a Tennessee Fish and Wildlife Commission (TFWC) commissioner should be well informed.

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Analysis: Planning for and Managing Increased Use of Waterways with Data and Partnerships

Overall, the increase in outdoor recreation is a trend that leads to many benefits for people and the environment. But with this increase, thoughtful study and adaptation are required so that the challenges that can come with change are managed as well as possible and the benefits can be enjoyed. When many public and private entities are involved with managing many waterways across a state, like in Tennessee, management can get complicated. If government agencies and organizations aren't collaborating and cooperating with each other to gather data, resolve issues, and implement policies, regulations and fees could become burdensome for waterway recreation users. Along with non-government organizations, government agencies are doing a lot for waterways in Tennessee, but more could be done to give more people access to the natural environment that the state offers, while also protecting the natural resources they are enjoying.

To help state agencies address the challenges and identify the best ways to manage the state's resources given the evolving recreational use of the state's waterways, the General Assembly passed Public Chapter 497, Acts of 2021, directing TACIR to conduct a study of water recreation resources (see appendix A), including

1. the procedural and financial measures necessary to accommodate the increased demand for non-fish-and-game recreational activities and the resources required to manage such activities by the Tennessee Department of Environment and Conservation (TDEC) and Tennessee Wildlife Resources Agency (TWRA);
2. how TWRA-managed resources are being utilized by non-motorized vessels for non-fish-and-game recreational activities, such as paddle boarding, canoeing, tubing, and kayaking;
3. the accessibility to and funding for all non-fish-and-game recreational activities;
4. the annual fees and taxes charged to paddle craft and commercial outfitters in the previous four fiscal years;
5. any duplicative fees charged by TDEC and TWRA, and what action may be taken to eliminate such duplicity in fee structures and their regulatory authority generally;
6. the extent to which customers of non-motorized vessels contribute to revenue derived from the purchase of fishing licenses and registration of watercraft;
7. the amount of funding needed to manage, sustain, and improve access to and the management of non-motor vehicle activities in

Both non-government organizations and government agencies are doing a lot for waterways in Tennessee, but more could be done to give more people access to the natural environment that the state offers, while also protecting the natural resources they are enjoying.

People across the country are increasingly participating in outdoor recreational activities like hiking, camping, boating, and fishing; 52% of the US population participated in an outdoor activity at least once in 2020 compared to about 47% in 2013.

this state and what fundraising options are available to support non-fish-and-game and other similar activities;

8. what fee structure is most appropriate for recreational users generally, given that the benefits of non-fish-and-game programs are broader than just outfitters, who are already paying sales tax;
9. the feasibility of outfitters who pay additional fees to TDEC and TWRA receiving a credit on the sales tax paid on such fees and whether the local option sales tax should be included in the credit; and
10. what measures TDEC and TWRA can implement to improve their strategic plans, their organizational structures, and the oversight and sustainability of non-fish-and-game-related recreational activities.

Outdoor recreation, including water recreation activities like paddling, is on the rise.

The rising popularity of outdoor recreation is a national trend. People across the country are increasingly participating in outdoor recreational activities like hiking, camping, boating, and fishing; 52% of the US population participated in an outdoor activity at least once in 2020 compared to about 47% in 2013.¹ The types of activities they are engaging in are also changing. According to the “2016 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation,” between 2011 and 2016, participation in hunting declined 16%, while participation in fishing increased 8%.² Kayaking and stand-up paddleboarding have both become more popular in recent years, while canoeing has become less popular.³ The COVID-19 pandemic contributed to growth in outdoor recreation, resulting in even more people getting outdoors.⁴

Tennessee offers abundant and diverse natural resources and space to enjoy a variety of activities. From the Appalachian Mountains in the east to the Mississippi River valley in the west are approximately 60,000 miles of streams and rivers, 570,000 acres of lakes and reservoirs, and 787,000 acres of habitats including grasslands, forests, wetlands, and caves.⁵ People are attracted to these natural places, and more are enjoying them. Between 2017 and 2021, the total number of fishing and hunting licenses sold increased by 12.2%, faster than state population growth, which was

¹ Outdoor Foundation 2021

² U.S. Fish and Wildlife Service 2018.

³ Outdoor Foundation 2019.

⁴ U.S. Fish and Wildlife Service 2018; and Virginia Department of Game and Inland Fisheries 2019.

⁵ Tennessee Department of Environment and Conservation 2018. See also Tennessee Wildlife Resources Agency 2014.

about 4% during the same period.⁶ While the state’s diversity of natural resources provides ample opportunities for recreation and other uses, such as drinking water and hydroelectric power generation, protecting the state’s abundant natural resources while providing for various uses of those resources in a growing state is a balancing act.

As outdoor recreation in general is becoming more popular, stakeholders agree that paddling, in particular, is on the rise in Tennessee, as in other states.⁷ However, because data isn’t available about people who use their own non-motorized boats such as canoes, kayaks, paddleboards, rafts, and tubes—called paddlecraft—it is not clear how many people are using their own paddlecraft on different waterways across the state. In 2022, TWRA began collecting data from businesses that rent paddlecraft to the public—commercial paddlecraft outfitters—but that data will not be available until later in the year, and the agency does not collect data about private paddlers.⁸ Figure 1 shows the location of commercial paddlecraft outfitters in Tennessee. Stakeholders in other states say they have seen an increase in the popularity of paddling as well, though few collect data on the number of boats or paddlers. In Ohio, a state that requires non-motorized vessel registration and does collect that data, the number of registered canoes and kayaks increased from 46,500 in 2001 to 310,000 in 2021, an increase of over 500%, and the number of registered rental boats increased from 5,282 to 12,300, an increase of over 200%.⁹ It is likely Tennessee has seen an increase in paddling during that time period as well.

There is insufficient data to show how many people are using their own paddlecraft on different waterways across the state.

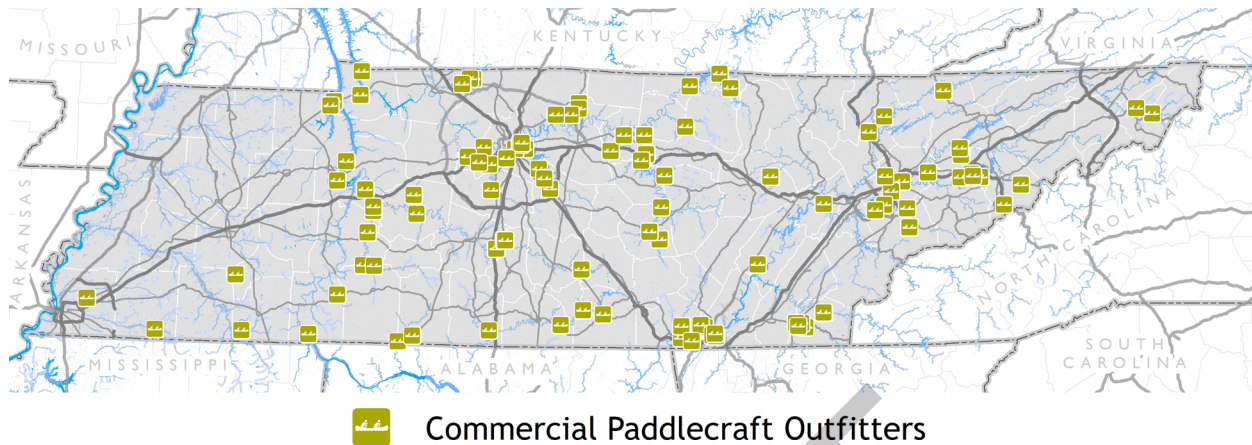
⁶ Email from Thomas Moncrief, former associate general counsel, TWRA, February 2, 2022; and US Census Bureau 2022.

⁷ Interviews with David Brown, executive director, Tennessee Paddlesports Association, May 25, 2021; Mike Butler, chief executive officer, Tennessee Wildlife Federation, May 26, 2021; Randy Fentress, volunteer, US Coast Guard Auxiliary, April 5, 2022; and Don Safer, board member, Tennessee Scenic Rivers Association, June 4, 2021. See also Hineman 2020.

⁸ Interview with Chris Richardson, former deputy director, TWRA, May 19, 2021; email from Alexandria Batta, ASA II, Boating & Law Enforcement, TWRA, February 14, 2022; Tennessee Code Annotated, Section 69-9-227; and Rules of Tennessee Wildlife Resources Agency, Non-motorized Vessels, Chapter 1660-04-01.

⁹ Email from Jayne Maxwell, natural resource administrator, Ohio Department of Natural Resources, March 24, 2022.

Figure 1. Commercial Paddlecraft Outfitters in Tennessee



Note: According to TWRA, there are 111 outfitters operating in Tennessee; this map shows 105 outfitters that have available addresses.

Source: Email from Alexandria Batta, ASA II, Boating & Law Enforcement, TWRA, February 15, 2022.

Tennessee benefits because of its abundance of opportunities for water recreation.

Increases in outdoor recreation have benefits for health, economic development, tourism, and protection of natural resources. Better health and quality of life are tied to being active outside. One 2016 study found that when people live near accessible natural resources used for outdoor activities, they are more physically active.¹⁰ The State of California Resources Agency conducted a study in 2005 and found that participation in outdoor activities led to many benefits—not just physical and mental health benefits, but social benefits as well. Some of the health benefits include reduced obesity, diminished risk of chronic disease such as heart disease and diabetes, stress relief, and improved quality of life, while some of the social benefits are reducing crime and other negative behaviors like drug use, encouraging volunteerism, and promoting stewardship.¹¹ Other studies have had similar findings that outdoor recreation has physical, mental, and social benefits.¹²

Along with other outdoor activities, water recreation has economic benefits for the state. The value added to the state gross domestic product by boating and fishing, for example, increased from \$617.9 million in 2018 to \$762.6 million in 2020 (a 23.4% increase), according to the US Department of Commerce, Bureau of Economic Analysis, Outdoor Recreation Satellite

¹⁰ Jiang et al. 2016.

¹¹ State of California Resources Agency 2005.

¹² Eigenschenk et al. 2019. See also Gabarda “Five Healthy Benefits of Enjoying Outdoor Exercise and Recreation.”

Account.¹³ In 2021, the Tennessee Valley Authority (TVA) conducted an economic impact study of the 63 TVA-owned stream access areas in the region, over half of which are in Tennessee. Using a sample to extrapolate the effect, it found that spending by visitors to TVA-owned stream access areas resulted in \$44.4 million “in direct and secondary effects, supported a total of 624 full and part-time jobs, and contributed \$13 million in labor and personal income.”¹⁴ There are many businesses such as restaurants, hotels, shops, and gas stations in communities across the state that are tied to and benefit from water recreation. Tennessee also benefits economically because it is home to several kayak manufacturing companies, some of which are located in rural parts of the state, including Big South Paddle Co. in Lewisburg, Jackson Kayak in Sparta, and Pyranha in Erwin.¹⁵

Outdoor recreation is also tied to tourism and economic development, especially in rural areas.¹⁶ The 2021 Statewide Comprehensive Outdoor Recreation Plan (SCORP), a collaborative planning process for outdoor recreation led by TDEC, discusses the importance of outdoor recreation and the economic, health, social, and environmental benefits, highlighting the significance for rural tourism. According to the Tennessee Department of Tourist Development, tourism is the state’s second largest industry,¹⁷ and in 2019, 25% of activities that in-state and out-of-state visitors participated in were nature-related activities or outdoor sports, including boating and fishing.¹⁸ To help develop rural tourism and economies, in response to Governor Lee’s executive order to better serve rural Tennessee,¹⁹ the Department created the office of rural tourism in 2019 to focus on tourism in distressed and at-risk counties, including tourism related to outdoor recreation. Although rural counties face economic challenges, because they are often rich in natural resources—including waterways—they also have opportunities to benefit from outdoor recreation.

More people enjoying the outdoors can also lead to protection of natural resources. In its 2014 strategic plan, TWRA, the state agency responsible for managing wildlife and its habitat, said, “Outdoor recreation connects people with wildlife. In well-managed, positive settings, this connection will motivate citizens to support wildlife programs.”²⁰ The idea is that when people have a positive experience in the outdoors, they will be more likely to care about and support its protection. Studies have found ties between spending time in nature, understanding it, and caring about it.

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¹³ US Department of Commerce, Bureau of Economic Analysis 2021.

¹⁴ Poudyal 2021.

¹⁵ Testimony to the Commission by Andrea White, Southeast regional chair, American Canoe Association, December 2, 2021.

¹⁶ State Outdoor Business Alliance Network 2021.

¹⁷ Tennessee Department of Tourist Development “Research.”

¹⁸ Email from Melanie Beauchamp, assistant commissioner, Rural Tourism & Outreach, Department of Tourist Development, January 31, 2022.

¹⁹ State of Tennessee 2019; and Tennessee Department of Tourist Development 2019.

²⁰ Tennessee Wildlife Resources Agency 2014.

Because the growing popularity of water recreation is affecting states across the country, the federal government is conducting a study of non-motorized vessel use, effects, and user conflicts at access points in each state.

One 2019 study reviewed literature on the subject, concluding that when people connect with nature by participating in outdoor physical activity, they better understand their relationship with and dependency on the environment.²¹

However, encouraging and supporting people to be active in nature can result in overuse of or damage to the natural resources they are enjoying. Managers of recreational areas have the challenge of balancing recreational use with maintenance and protection of the resources in the long term. Another 2019 study by researchers affiliated with the University of Colorado, Colorado State University, and the Wildlife Conservation Society summarized this tension: "As recreation use increases, driven by amenity migration and economic development, land managers face a growing challenge in balancing the trade-offs between recreation access and other conservation objectives."²² While recognizing the trade-offs, because of the many benefits, government agencies and stakeholders generally encourage and promote outdoor recreation in the state.

Along with benefits, the increase in water recreation leads to challenges and issues that need to be managed.

More people on waterways means more challenges will arise that need to be addressed and managed. Because the growing popularity of water recreation is affecting states across the country, the federal government is conducting a study of non-motorized vessel use, effects, and user conflicts at access points in each state.²³ The study, which will be completed by November 2022, is also looking at the use of federal funds for access and boating safety programs for non-motorized vessels. Other states have conducted their own studies, such as Florida and Virginia, who both found that although it is hard to track the number of non-motorized boats, participation in water-based recreational activities is growing, leading to new management challenges and a need to adapt and focus more on non-motorized boating issues.²⁴

Tennessee, like other states, is experiencing challenges. The 2018 "TN H₂O" plan—a collaboration led by TDEC between federal, state, and local government agencies, non-government organizations, academic institutions, and businesses—highlights some of the issues. The plan says there is "a need to improve awareness and stewardship to directly and proactively address major impacts to Tennessee's water resources."²⁵ The issues described in the report include littering, water resource protection,

²¹ Eigenschenk et al. 2019.

²² Thomas and Reed 2019.

²³ Public Law 117-58, 135 Stat. 429, 117th Congress, 2021.

²⁴ Florida Boating Advisory Council 2017; and Virginia Department of Game and Inland Fisheries 2019.

²⁵ Tennessee Department of Environment and Conservation 2018. TACIR staff provided technical assistance to the "TN H₂O" working groups.

and recreation etiquette on waterways and align with several challenges that stakeholders say have resulted from increased use of waterways. The issues identified by stakeholders vary depending on location, and they are intertwined and exacerbated by the increase in people using certain areas more than others:

- While some amount of user conflict is unavoidable, more occurs on a few popular sections of rivers in the state that seem to be congested, for example the Buffalo, Caney Fork, Harpeth, and Little rivers, and the state can expect more recreational use on waterways in the future.²⁶ One outfitter hired a deputy sheriff to be present at the access ramp during busy times because their customers were being harassed by motor boaters.²⁷
- Insufficient or inadequate access to waterways or lack of maintenance of access infrastructure such as boat ramps, docks, and parking areas and crowding in these areas make it difficult to access some waterways. For example, on the Caney Fork River in Middle Tennessee, fishing guides; paddlecraft outfitters; and private anglers, paddlers, and motor boaters use the same popular access areas to launch their vessels, resulting in people, boats, vehicles, and trailers using a parking area and ramp not large enough to accommodate multiple users at the same time.²⁸
- Safety is also a concern because many users are inexperienced or don't follow safety guidelines, laws, and etiquette on waterways. For example, common hazards on waterways are "strainers" — downed trees on rivers and streams where the current can pull swimmers and vessels and trap, flip, or pull them under water. Inexperienced paddlers might not recognize a common sight like downed trees as a serious hazard.²⁹
- Trespassing on private property and damage to property near waterways are problems in some areas.
- Litter in waterways and along shorelines is common in many areas, even in protected areas like state parks.³⁰

The issues described in the "TN H₂O" report include littering, water resource protection, and recreation etiquette on waterways and align with several challenges that stakeholders say have resulted from increased use of waterways.

²⁶ Tennessee Wildlife Resources Agency 2014; interviews with Chris Richardson, former deputy director, TWRA, May 19, 2021; and Andrea White, Southeast regional chair, American Canoe Association, July 7, 2021.

²⁷ Interview with Dawn Nelson, owner, Higher Pursuits, August 3, 2021.

²⁸ Interviews with Billie Davis, operations manager, Canoe the Caney, August 23, 2021; Mike Butler, chief executive officer, Tennessee Wildlife Federation, May 26, 2021; Chris Richardson, former deputy director, TWRA, May 19, 2021; and Kevin Salvilla, resource manager, Center Hill, US Army Corps of Engineers, June 3, 2021.

²⁹ Interviews with Dorie Bolze, president/chief executive officer, Harpeth Conservancy, August 4, 2021; and Andrea White, Southeast regional chair, American Canoe Association, July 7, 2021; and email from David Brown, executive director, Tennessee Paddlesports Association, June 15, 2021.

³⁰ Jorge 2020.

Infrastructure can help reduce conflict by providing access for diverse users while also helping to limit the likelihood of overuse.

- Natural resource destruction is a critical issue. More than half of sampled rivers and streams in Tennessee are too polluted to support at least one of their intended uses, which include recreation, fishing, conservation, and drinking.³¹

More people in one area leads to more potential conflict. Conflicts between waterway users are one of the main challenges that managers in Tennessee and in other states commonly deal with.³² In its 2014 strategic plan, TWRA identified conflict among users as a key issue to address.³³ In Tennessee, although there are many different types of activities on waterways, the main user groups, and therefore the ones most often in conflict, are motor boaters, anglers, and paddlers, both those that own their boats and those that rent them from a business. The businesses that rent boats and lead tours, including fishing guides and paddlecraft outfitters, can also be involved in conflicts. For example, one fishing guide said that he no longer leads weekend fishing trips on the Caney Fork River, where TWRA stocks trout, because of crowding on the water and access areas by large groups of people using paddlecraft, both privately owned and rented.³⁴

Whether user conflicts happen, either on the waterways or at access to the waterways, depends on the circumstances. There are more conflicts at certain access ramps that are popular with private paddlers, anglers, and motor boaters as well as commercial outfitters and fishing guides when people are trying to use the ramp at the same time with their equipment and vehicles. In popular fishing areas, there are sometimes conflicts between anglers in the water and groups of paddlers, while in less popular areas, user conflicts are less common. Some commercial paddlecraft outfitters use private access areas for their businesses and therefore don't interact with other users at ramps—out of 34 outfitters that reported data to TWRA in October 2022, eleven (32%) said they use accesses owned and managed by private entities rather than public ones.³⁵

Infrastructure can help reduce conflict by providing access for diverse users while also helping to limit the likelihood of overuse. The type of infrastructure needed varies widely depending on the waterway, access location, activities, and management priorities for the area. Some areas that are highly trafficked or used by motor boats might need more developed infrastructure, such as docks, paved parking, and cement ramps for larger vehicles and boat trailers. For instance, a narrow dirt ramp might only allow one boat at a time to launch or might make it difficult for certain

³¹ Mays 2022; and US Environmental Protection Agency "How's My Waterway?"

³² National Association of States Boating Law Administrators 2021; interviews with Chris Richardson, former deputy director, TWRA, May 19, 2021; and Risa Shimoda, executive director, River Management Society, September 8, 2021.

³³ Tennessee Wildlife Resources Agency 2014.

³⁴ Interviews with Blake Parsons, president, Trout Unlimited, Music City Chapter, July 22, 2021; and Mike Butler, chief executive officer, Tennessee Wildlife Federation, May 26, 2021.

³⁵ Email from Darren Rider, colonel, Boating and Law Enforcement, TWRA, November 9, 2022.

users to launch there. However, in other remote, less congested areas, it might be satisfactory and even more desirable to keep the infrastructure less developed, perhaps with a dirt road, parking area, and path to allow a canoe or kayak to be carried to the waterway.³⁶ But overall, stakeholders agree more access to waterways is needed, and infrastructure, whether simple or complex, is a key part of that. Maintaining and improving current access areas and building more access, including access that complies with the American with Disabilities Act (ADA), is a priority need identified by both TDEC and TWRA and other stakeholders.³⁷ And resources exist to help agencies plan, build, and improve access, such as the “River Access Planning Guide,” produced by federal agencies and national organizations, and the “Guide for Multiple Use Waterway Management,” published by the National Association of State Boating Law Administrators.³⁸ See appendix B for a list of additional resources.

Stakeholders also agree that safety is critical and a priority. Crowded waterways lead to an increase in safety issues and a need for more law enforcement, emergency response, and rescues. Although some level of risk is inherent when participating in outdoor recreation activities, the state’s natural environment is attracting new people to the outdoors, and many of them are inexperienced. They might not understand rules and etiquette, basic safety guidelines, or how to navigate waterways and hazards. Even experienced users don’t always follow safety guidelines and can get into unsafe situations. Common occurrences can become dangerous quickly, like thunderstorms that create lightening and flooding hazards or downed trees across waterways where the current can pull and trap paddlers and swimmers under the water or cause boats to flip. Furthermore, many incidents happen on flat water, like lakes or slow-moving rivers, not only on whitewater rivers.³⁹

People not wearing life jackets and the use of alcohol and drugs while boating, both in motorized and non-motorized boats, are two key safety issues often discussed by stakeholders.⁴⁰ In 2021, TWRA reported that alcohol or drug use was the primary cause of 3% of boating incidents; the incident data does not include information about life jacket use.⁴¹

Crowded waterways lead to an increase in safety issues and a need for more law enforcement, emergency response, and rescues.

³⁶ Interview with Dorie Bolze, president/chief executive officer, Harpeth Conservancy, August 4, 2021.

³⁷ Tennessee Department of Environment and Conservation 2016; Tennessee Department of Environment and Conservation 2021; Tennessee Wildlife Resources Agency 2014; interviews with Jane Polansky, education and outreach program manager, Harpeth Conservancy, August 4, 2021; and Allison Bullock, community planner, National Park Service Rivers, Trails & Conservation Assistance Program, August 24, 2021.

³⁸ O’Keefe and Secter 2020; and National Association of State Boating Law Administrators 2021.

³⁹ Hineman 2020.

⁴⁰ Interviews with Angelo Giansante, park manager, Hiwassee Ocoee Scenic River State Park, August 25, 2021; J. Stacy Rhodes, executive director, Tennessee Association of Rescue Squads, February 28, 2022; and Andrea White, Southeast regional chair, American Canoe Association, July 8, 2021.

⁴¹ Tennessee Wildlife Resources Agency 2021.

While most boating incidents, injuries, and fatalities involve motorized boats, the number of incidents involving paddlecraft has risen.

Tennessee law requires one life jacket per person to be in a motorized or non-motorized boat, and anyone under the age of 13 must wear the life jacket while the boat is underway.⁴² There are also laws addressing drinking and drug use while operating a motorized boat that include the same blood alcohol level and penalties as the state's drinking under the influence laws while driving a car.⁴³ Stakeholders agree that continued enforcement of these laws is a big part of addressing both safety and conflict on waterways.⁴⁴

TWRA records and reports boating incidents each year in the state and considers incidents reportable if they involve a death, missing person, an injury requiring care beyond basic first aid, or property damage of \$2,000 or more.⁴⁵ Although the number of incidents for all vessels is small compared to the total number of registered boats and paddlecraft on waterways in the state, the overall number of incidents has risen, from 134 in 2014 to 145 in 2021.⁴⁶ Table 1 shows motorized boat and paddlecraft incident data reported by TWRA since 2014. There were 252,239 registered boats, which includes motorized boats and sailboats, in 2021. While most of the incidents, injuries, and fatalities involve motorized boats, the number involving paddlecraft has risen. The bodies of water with the most incidents were lakes. Complete data is not available for rented vessels during the same time period, but the data that is available shows that rented vessels are a small percentage—less than 1% on average since 2009—of all incidents. Most—between 64% and 100% each year—of the rented vessels involved are motorized boats, such as jet skis and pontoon boats, not paddlecraft.⁴⁷ On a local level, Smith County's rescue squad, which responds to emergency calls on the Caney Fork River, says it typically receives about four or five calls from people on waterways per year. In contrast, in 2020, the squad received about 23 calls—most from the Caney Fork—and estimate that three were customers of outfitters, one was a fisherman, and the others were private paddlers.⁴⁸

⁴² Tennessee Code Annotated, Section 69-9-225; and Rules of Tennessee Wildlife Resources Agency, Boating and Law Enforcement, Chapter 1660-02-03.

⁴³ Tennessee Code Annotated, Section 69-9-217.

⁴⁴ Interviews with Andrea White, Southeast regional chair, American Canoe Association, July 8, 2021; Angelo Giansante, park manager, Hiwassee Ocoee Scenic River State Park, August 25, 2021; and Jane Polansky, education and outreach program manager, Harpeth Conservancy, August 4, 2021.

⁴⁵ Tennessee Wildlife Resources Agency 2021.

⁴⁶ Ibid. Available data before 2014 doesn't provide detail on paddlecraft incidents. Incidents involving all types of vessels averaged approximately 162 incidents annually from 2009 to 2013.

⁴⁷ Tennessee Wildlife Resources Agency 2009-2021.

⁴⁸ Interview with Ricky Gibbs, swift water team member, Smith County Rescue Squad, October 27, 2021.

Table 1. Vessel Incidents Reported by TWRA

	Vessel Incidents				Number of Injuries		Number of Fatalities		Bodies of water with most incidents (all vessels)
	Total number of Incidents (all vessels)	Registered Vessel*	Paddlecraft Vessels	Registered Vessels	Paddlecraft Vessels	Registered Vessels	Paddlecraft Vessels		
2014	134	131	3	80	0	14	3	Chickamauga Lake and Norris Lake	
2015	136	127	9	74	3	10	3	Center Hill Lake	
2016	132	126	6	77	2	18	4	Chickamauga Lake	
2017	105	97	8	49	4	14	2	Kentucky Lake and Norris Lake	
2018	112	103	9	79	2	16	7	Norris Lake	
2019	113	110	3	103	0	6	2	Chickamauga Lake	
2020	158	149	9	78	4	26	5	Old Hickory Lake	
2021	145	127	18	73	12	16	6	Chickamauga Lake	
Total	1035	970	65	613	27	120	32		

*Registered vessels include motorized boats and sailboats.

Note: TWRA considers a “reportable boating incident” to involve death, missing person, an injury which requires or should have required treatment beyond first aid, or property damage of \$2,000 or more. Whitewater commercial outfitter incidents are not included in total boating incidents. Data prior to 2014 is not included because available reports don’t provide detail on paddlecraft incidents.

Source: Tennessee Wildlife Resources Agency 2014-2021; and emails from Betsy Woods, boating education coordinator, TWRA, March 15 and 17, 2022.

The "TN H₂O" report concluded that "as Tennessee's water-based recreational economy continues to thrive and grow, maintaining high-quality waters in sufficient quantity to satisfy multiple uses remains a critical need. As paddling and angling increase, for example, so will impacts on surface waters."

Issues involving intentional and unintentional trespassing on private property and littering are also common according to stakeholders.⁴⁹ Many of Tennessee's waterways flow through or are adjacent to private property. While the owners of the land might not be using the waterways, they are directly involved with the challenges and affected by the increase in use. The boundaries between public waterways and land and private property are not always clear. People using boats on the water might not realize they are on private property when they get out of their boat on the edge of the waterway or an island in the middle of the waterway, and some people leave trash or human waste, contribute to erosion, or do other damage to the property. These are problems that are exacerbated with the increase of people on waterways who have not received enough training on paddling etiquette. According to the Tennessee Wildlife Federation, trash in waterways also affects both the image and operations of water-based recreation business, including marinas and paddlecraft outfitters.⁵⁰ And the "TN H₂O" report concluded that "as Tennessee's water-based recreational economy continues to thrive and grow, maintaining high-quality waters in sufficient quantity to satisfy multiple uses remains a critical need. As paddling and angling increase, for example, so will impacts on surface waters."⁵¹

Various agencies and organizations help manage Tennessee's waterways.

Land and water resources in the US are managed according to the Public Trust Doctrine, which is "the principle that certain natural and cultural resources are preserved for public use and that the government owns and must protect and maintain these resources for the public's use."⁵² The doctrine is most often applied to bodies of water and establishes the states as trustees of wildlife in the US, and therefore, wildlife habitat as well. In Tennessee, while the Tennessee Wildlife Resources Agency (TWRA) is the state agency that is charged with managing wildlife and habitat, various government agencies manage natural resources within the state, including waterways and access to them: Tennessee Valley Authority (TVA), United States Army Corps of Engineers (Army Corps), United States Forest Service (USFS), National Park Service (NPS), Tennessee Department of Environment and Conservation (TDEC), and local governments. They all have authority to require permits, collect data, and charge fees within their jurisdictions. Table 2 shows a summary of the federal, state, and

⁴⁹ Interviews with Dorie Bolze, president/chief executive officer, Harpeth Conservancy, August 4, 2021; Mike Butler, chief executive officer, Tennessee Wildlife Federation, December 15, 2021; and Darren Rider, colonel, Boating and Law Enforcement, TWRA, July 26, 2021. See also Jorge 2020.

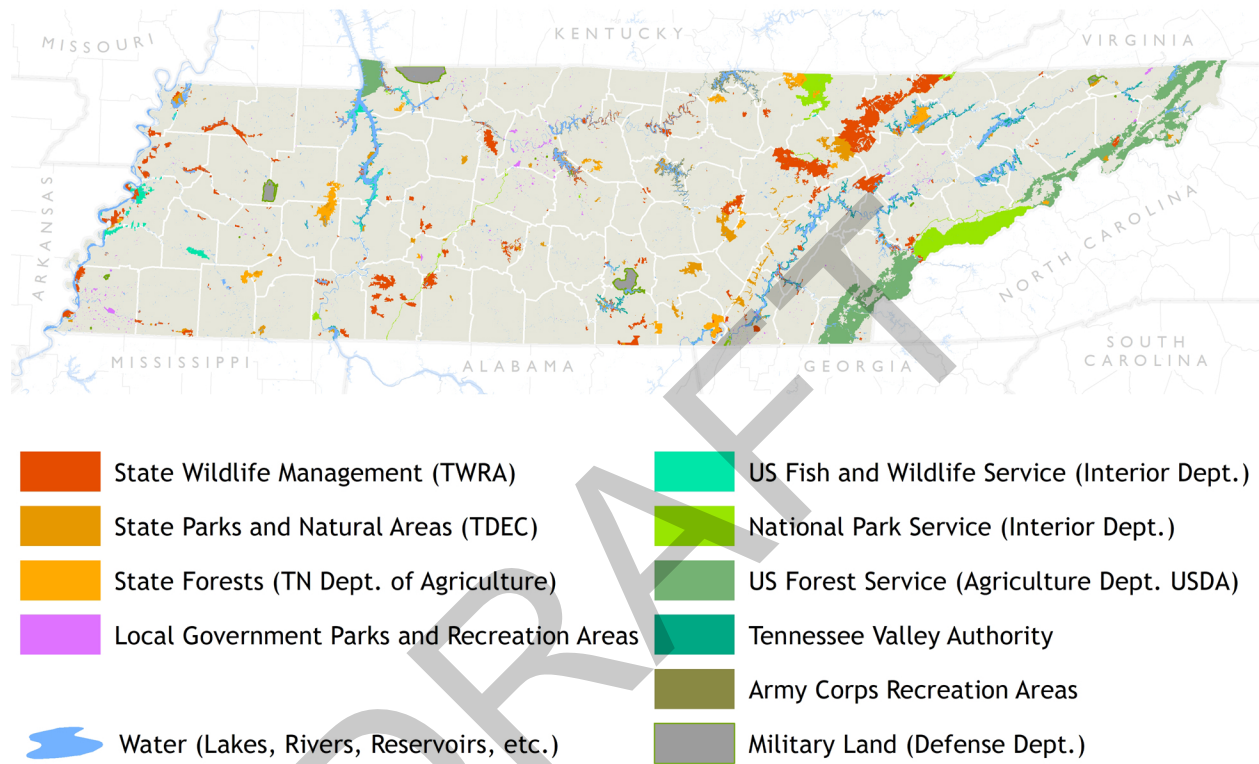
⁵⁰ Email from Lindsay Gardner, conservation policy manager, Tennessee Wildlife Federation, September 14, 2021.

⁵¹ Tennessee Department of Environment and Conservation 2018.

⁵² Organ et al. 2012; and Virginia Department of Game and Inland Fisheries 2019.

local government agency jurisdictions, and the map in figure 2 shows the jurisdictions in Tennessee.

Figure 2. Land Managed by Government Entities in Tennessee



Note: State forests provide opportunities for recreation, but most don't maintain infrastructure such as waterway access areas.

Source: US Geological Survey 2022; US Geological Survey "National Hydrography Dataset;" and email from Heather Slayton, assistant state forester, Division of Forestry, Tennessee Department of Agriculture, September 13, 2022.

Table 2. Federal, State, and Local Government Jurisdiction over Waterway Access in Tennessee

Agency	Jurisdiction in Tennessee	Examples of Waterway Access Areas	Fees for General Public	Permits and Fees for Commercial use	Agency Websites
Federal					
National Park Service (NPS)	15 sites including national trails, rivers, parks, recreation areas, and military parks	Great Smoky Mountains National Park, Big South Fork National Recreation Area, and Obed Wild and Scenic River	various user fees	commercial use authorization; 3-5% of gross receipts	https://www.nps.gov/subjects/cua/index.htm https://www.nps.gov/state/tn/index.htm
Tennessee Valley Authority (TVA)	marinas and other access areas on TVA lakes and streams from its lands; controls water releases from dams within the Tennessee River system	over 20 TVA lakes and some streams	mostly at marinas and campgrounds	commercial recreation management fee for all businesses operating on TVA land; 1-6% of gross revenues	https://www.tva.com/environment/recreation/commercial-recreation-management-fee-guideline https://www.tva.com/environment/recreation
US Army Corps of Engineers (Army Corps)	marinas and other access on Army Corps lakes and from its lands; controls water releases from dams within the Cumberland River system	ten Army Corps lakes and the Caney Fork River below Center Hill dam	only at areas with amenities such as bathrooms and lights	letter of permission will be implemented for outfitters using Caney Fork River access; no fee	https://corpslakes.erd.c.dren.mil/visitors/states.cfm?state=TN
US Forest Service (USFS)	Cherokee National Forest and Land Between the Lakes National Recreation Area	Lake Barkley and Hiwassee, Pigeon, and Nolichucky Rivers	user fees, day use fee, and annual pass	special use permit;* fees vary; 3-5% of gross receipts in Land Between the Lakes National Recreation Area	https://www.fs.usda.gov/working-with-us/contracts-commercial-permits

Agency	Jurisdiction in Tennessee	Examples of Waterway Access Areas	Fees for General Public	Permits and Fees for Commercial use	Agency Websites
State					
Tennessee State Parks (TDEC)	within and from state park lands	47 of 56 state parks	user fees	commercial use authorization; 3% of gross receipts and 10% for Ocoee River outfitters*	https://tnstateparks.com/about/ind-a-park
Tennessee Wildlife Resources Agency (TWRA)	from TWRA lands and boat ramps managed or owned by TWRA; regulatory and law enforcement authority on all public waters	owns or manages over 200 access areas, many in partnership with other agencies	some user fees in certain wildlife management areas	permit for commercial paddlecraft outfitters; no fee	https://www.tn.gov/twra/boating/ramps-and-access.html
Local					
Cities	access from land owned by city	Knoxville, Lenoir City	maybe	varies	varies
Counties	access from land owned by county	Metro Nashville-Davidson, Knox, Henderson	maybe	varies	varies

*Outfitters permitted to operate in Cherokee National Forest or Ocoee River Management Area are exempt from Tennessee Code Source: Interviews with agency representatives and other stakeholders; Rules 0400-02-03-.03, 0400-02-13, 0400-02-10, and 1660-04-01; and Tennessee Code Annotated, Sections 11-8-101 et seq. and 69-9-227.

The National Park Service (NPS), Tennessee Valley Authority (TVA), US Army Corps of Engineers (Army Corps), and US Forest Service (USFS) have authority over land and manage waterway access within their jurisdictions in the state. Because each agency has its own mission and goals, they each manage their jurisdiction differently.

Federal agencies

Federal agencies play a significant role in the management of water recreation access in Tennessee. The National Park Service (NPS), Tennessee Valley Authority (TVA), US Army Corps of Engineers (Army Corps), and US Forest Service (USFS) have authority over land and manage waterway access within their jurisdictions in the state. Because each agency has its own mission and goals, they each manage their jurisdiction differently. The TVA and Army Corps also manage water releases from dams on the Tennessee River and Cumberland River systems, respectively.

Each federal agency has its own rules and policies and varying authority to require permits and charge fees for access, services, and amenities offered within their jurisdictions. Table 2 includes the types of fees charged for both the general public and outfitters. For example, the USFS charges day-use fees for the general public in the Cherokee National Forest and charges fees for access to certain attractions, off-road vehicle and horse trails, accommodations, and other amenities and services in Land Between the Lakes National Recreation Area. Outfitters renting paddlecraft to the public on the Hiwassee River in the Cherokee National Forest are required to have a USFS permit and pay a fee to operate on the river.⁵³ The Army Corps is only authorized to charge fees in its developed areas, such as marinas, campgrounds, or waterway access areas that have restrooms and lights in the parking areas. In 2021, the agency also considered requiring outfitters to have a commercial business license and charging a \$500 fee to use its access areas on the Caney Fork River below Center Hill dam. However, in 2022, the Army Corps will instead begin requiring outfitters to apply for a “letter of permission” to use specific access areas on the river and does not plan to charge a fee.⁵⁴

State agencies

The two state agencies that oversee Tennessee's waterways and manage access to them are TDEC and TWRA—TDEC manages waterway access and lakes within state parks, while TWRA manages access points from its land and safety on all public water in the state. Although TWRA doesn't manage all access to waterways in the state, it enforces laws and oversees safety on all waterways because it is the state's boating regulatory and safety agency.⁵⁵ Because of this role, the agency intersects and collaborates with TDEC and other agencies and organizations managing access and water recreation in the state.

⁵³ Interview with Angelo Giansante, park manager, Hiwassee Ocoee Scenic River State Park, August 25, 2021.

⁵⁴ Interviews with Kevin Salvilla, resource manager, Center Hill, US Army Corps of Engineers, June 21, 2021 and June 22, 2022.

⁵⁵ Tennessee Code Annotated, Section 69-9-203.

If the trends in recreational use of Tennessee’s waterways continue, the state’s existing management strategies and funding might no longer support the maintenance of these water resources for continued public access and enjoyment. The 2018 “TN H₂O” plan—a collaboration between federal, state, and local government agencies, non-government organizations, academic institutions, and businesses—found that there is “a need to improve awareness and stewardship to directly and proactively address major impacts to Tennessee’s water resources.” Both TDEC and TWRA recognize the need to adjust to water recreation trends and to address challenges resulting from increased use of waterways.

TDEC Tennessee State Parks

TDEC manages waterway access within its state parks—47 of the 56 state parks are located on reservoirs and rivers.⁵⁶ The mission of Tennessee State Parks is “to preserve and protect, in perpetuity, unique examples of natural, cultural, and scenic areas and provide a variety of safe, quality, outdoor experiences through a well-planned and professionally managed system of state parks.”⁵⁷ As part of this mission and its emphasis on providing outdoor experiences for people, the agency manages lakes encompassed within state parks and access to waterways that flow through or border state parks. For example, Montgomery Bell State Park manages the three lakes in the park,⁵⁸ while Tims Ford State Park manages access to Tims Ford Reservoir within the park. Access to the reservoir outside the park is managed by other entities such as local governments, TVA, and TWRA.⁵⁹ State park staff say they are focused on waterway access, which could include ramps for motorized boats, canoes, and kayaks or improvements to restrooms and parking areas.⁶⁰

Funding for waterway access maintenance and improvement comes from the State Parks’ budget, mostly through user fees and the state general fund.⁶¹ Approximately 46% of revenue is generated by user fees for services and amenities offered within the parks, and the other 54% comes from the state general fund. To build relationships with commercial operators and generate additional revenue, in 2022, state parks implemented a permit process called a commercial use authorization for all commercial operators, including paddlecraft outfitters, within all state parks and is charging 3% of gross receipts for business conducted within park boundaries. Previously, although there was a requirement for businesses to have a written agreement, such as a permit or contract, to operate in

To build relationships with commercial operators and generate additional revenue, in 2022, state parks implemented a permit process called a commercial use authorization for all commercial operators, including paddlecraft outfitters, within all state parks and is charging 3% of gross receipts for business conducted within park boundaries.

⁵⁶ Testimony at Commission meeting by Mike Robertson, state park operations director, Bureau of Parks & Conservation, TDEC, December 2, 2021; and Tennessee State Parks “Find a Park.”

⁵⁷ Tennessee State Parks “Mission & Vision.”

⁵⁸ Tennessee State Parks “Montgomery Bell State Park.”

⁵⁹ Tennessee Valley Authority “Tims Ford Blueway Paddle Trail.”

⁶⁰ Interview with Mike Robertson, state park operations director, Bureau of Parks & Conservation, TDEC, May 20, 2021.

⁶¹ Ibid.

In interviews, staff from Tennessee State Parks said the main issue for state parks is overuse and congestion at the access points, and improved accessibility—both by adding more access sites and improving existing sites—is their main focus.

state parks, there was not an established process to issue or enforce permits or collect fees from commercial operators.⁶² Staff say the fee revenue will be used to address maintenance needs at the park where it is generated.⁶³

TDEC recognizes the popularity of outdoor recreation and evolving trends. The agency leads the state's effort to plan for outdoor recreation through the Statewide Comprehensive Outdoor Recreation Plan (SCORP).⁶⁴ The SCORP is a requirement to receive federal funding through the Land and Water Conservation Fund (LWCF), which TDEC distributes as grants to local governments and state agencies to develop outdoor recreation areas and facilities. A group of diverse stakeholders leads the strategic planning process that is intended to serve as a guide for all public outdoor recreation in urban and rural neighborhoods, cities, and regions in the state. Public input gathered during the process reflects a need for more and better access to waterways for all types of users. Paddling and boating access were emphasized in the public comments. The 2016 five-year update to the SCORP concluded that "most of the state's waterways have never been managed or even recognized as public recreation resources per se, and for that reason they are significantly underutilized. Developing these publicly owned assets is a highly cost-effective way to provide more diverse recreation opportunities for Tennesseans."⁶⁵ The most recent SCORP, completed in 2021, continues to emphasize the need for more water recreation opportunities and access for all users and highlights blueways as one way to meet that need while also helping with economic development in communities.⁶⁶ In interviews, staff from Tennessee State Parks also said the main issue for state parks is overuse and congestion at the access points, and improved accessibility—both by adding more access sites and improving existing sites—is their main focus.⁶⁷

TWRA

Distinct from TDEC, TWRA has regulatory and enforcement authority over boating safety on the "waters of Tennessee"—any waters within the territorial limits of the state, except privately owned ponds or lakes not used for commercial purposes.⁶⁸ The agency's policy is to foster the development, use, and enjoyment of all the waters of Tennessee (see figure 3).⁶⁹ Its mission emphasizes wildlife and habitat protection, and its

⁶² Email from Horace Tipton, legislative liaison, TDEC, June 7, 2021; and Tennessee Comprehensive Rules and Regulations, Chapter 0400-02-06-.02.

⁶³ Email from Mike Robertson, state park operations director, Bureau of Parks & Conservation, TDEC, April 13, 2022.

⁶⁴ Tennessee Department of Environment and Conservation 2021.

⁶⁵ Tennessee Department of Environment and Conservation 2016.

⁶⁶ Tennessee Department of Environment and Conservation 2021.

⁶⁷ Interviews with Mike Robertson, state park operations director, Bureau of Parks & Conservation, TDEC, May 20, 2021; and Anne Marshall, director, Recreation Resources Division, TDEC, November 2, 2021.

⁶⁸ Tennessee Code Annotated, Sections 69-9-201 et seq.

⁶⁹ Tennessee Code Annotated, Section 69-9-202.

outdoor recreation goal is to “increase opportunities for hunting, fishing and boating and accommodate other outdoor recreation that is safe for users and the environment yet consistent with conservation principles.”⁷⁰ In addition to managing wildlife management areas and refuges, TWRA has law enforcement authority on all public waters in the state, and it gives authority to other agencies to enforce laws on certain waterways. It also administers and enforces requirements for motorized boating, including boat registration, operator education, and equipment. As of November 2021, the agency also owns or manages over 200 boat ramps across the state, about 50 of which are owned by other agencies including the Army Corps, TVA, and local governments.⁷¹

Figure 3. TWRA Policies Related to Boating

1. Promote the safety of persons and property in and connected with the use of vessels;
2. Achieve, so far as practicable, uniformity of laws, regulations, requirements, procedures and methods with respect to the numbering, operation and equipment of all vessels subject to this chapter;
3. Foster the development, use and enjoyment of all the waters of Tennessee; and
4. Attain the fullest possible cooperation of the various agencies of this state, the neighboring states and the federal government in connection with assistance and rescue operations, in the enforcement of laws and regulations, and in the education of the public as these activities relate to recreational boating safety.

Source: Tennessee Code Annotated, Section 69-9-202.

In response to some stakeholders' concerns about congestion and access issues, the General Assembly passed Public Chapter 969, Acts of 2018, authorizing the Tennessee Fish and Wildlife Commission (TFWC), TWRA's governing body (see figure 4), to establish rules, regulations, and procedures for businesses renting non-motorized vessels, such as canoes, kayaks, paddleboard, rafts, and tubes, on public waters in the state.⁷² TWRA interprets this authority to include permits and fees.⁷³ Local governments and other groups, such as educational or youth-focused organizations, that rent or lease paddlecraft are also required to have a permit; state entities are exempt.⁷⁴ Later in 2018, the TFWC proposed rules requiring a flat permit fee, vessel inventory fee, and public access launch fee for commercial paddlecraft outfitters.⁷⁵ The proposed rules included a dollar-for-dollar credit for the launch fee if outfitters paid fees to other

⁷⁰ Tennessee Wildlife Resources Agency 2014.

⁷¹ Tennessee Wildlife Resources Agency “TWRA Boating and Fishing Access Sites.”

⁷² Tennessee Code Annotated, Section 69-9-227.

⁷³ Interview with Chris Richardson, former deputy director, TWRA May 19, 2021.

⁷⁴ Rules of Tennessee Wildlife Resources Agency, Non-Motorized Vessels, Chapter 1660-04-01.

⁷⁵ Tennessee Fish and Wildlife Commission meeting, August 23, 2018; and email from Chris Richardson, former deputy director, TWRA, May 24, 2021.

Figure 4. Tennessee Fish and Wildlife Commission (TFWC)

The TFWC is the governing and rule-making body of TWRA. State law requires that the 13 TFWC members, who are appointed by the governor and House and Senate speakers, are well-informed “on the subject of the conservation of game animals, birds and fish in this state” but does not require knowledge of boating, either motorized or non-motorized. One member must be a farmer or nurseryman.

Source: Tennessee Code Annotated, Sections 70-1-201, 70-1-204, and 67-6-207(e).

In addition to requiring commercial outfitters to submit data about their operations to TWRA in May, October, and December each year, Public Chapter 347, Acts of 2019, established a commercial paddlecraft advisory committee with the intent to communicate the views of outfitters and resolve issues.

government entities. However, because of a lack of data and resistance and concerns from stakeholders about duplicative and burdensome fees, TFWC removed the fee requirements before passing the rules.⁷⁶ Under the new rules passed in January 2019, paddlecraft outfitters are required to have permits, apply annually to renew their permit, identify each vessel they own, and conduct a safety briefing for their customers.⁷⁷ Public Chapter 347, Acts of 2019, required these commercial outfitters to submit data about their operations to TWRA in May, October, and December each year. TWRA began collecting this information in 2022, and outfitters are not currently required to pay fees to TWRA. Commercial outfitters that operate on the Ocoee River with a TDEC permit or in the Cherokee National Forest with a USFS permit are exempted from the new regulations. As of October 2022, 55 permits were issued for the 2021-2022 season to outfitters, marinas, businesses, and other entities that rent nonmotorized vessels in the state.⁷⁸ The renewal period for the 2022-2023 season began October 1 and will close December 31, 2022.

Public Chapter 347 also established a commercial paddlecraft advisory committee with the intent to communicate the views of outfitters and resolve issues.⁷⁹ The members are appointed by the TWRA executive director and must include a majority of commercial paddlecraft outfitters and other stakeholders. The committee is to assist the TFWC in developing commercial outfitting rules and regulations and is also charged with striving to develop non-regulatory strategies to address issues and to facilitate access for all users. Although the law does not provide much detail about the procedures of the committee, the focus of the committee is on issues related to paddlecraft outfitters, rather than more broadly discussing and resolving boating or water recreation issues. The law does not specify who the other stakeholder members should be or how the committee interacts and collaborates with TWRA and TFWC.

⁷⁶ Tennessee Fish and Wildlife Commission meeting, January 18, 2019; email from Chris Richardson, former deputy director, TWRA May 24, 2021; and interview with David Brown, executive director, Tennessee Paddlesports Association, May 25, 2021.

⁷⁷ Rules of Tennessee Wildlife Resources Agency, Non-Motorized Vessels, Chapter 1660-04-01.

⁷⁸ Emails from Darren Rider, colonel, Boating and Law Enforcement, TWRA, November 8, 2022; and Alexandria Batta, ASA II, Boating & Law Enforcement, TWRA, February 15, 2022.

⁷⁹ Tennessee Code Annotated, Section 69-9-227.

Most of TWRA’s funding comes from fees and federal grant allocations. Fees paid for fishing and hunting licenses and boat registrations were approximately 38.7% of the agency’s revenue in fiscal year 2020-21.⁸⁰ Federal funds accounted for approximately 26.1% of TWRA’s revenue in the same fiscal year. These federal funds are generated by excise taxes on hunting, fishing, and motor boating gear and boat fuel, and they are apportioned to states based on a formula specific to the funding program. The state must match the federal funds by 25% to receive them. The remainder of TWRA’s revenue comes from many smaller sources.⁸¹ Less than 1% of the agency budget comes from the state general fund. See table 3.

Table 3. TWRA Revenue Sources Fiscal Year 2020-21

Source	Amount	Percent of Total Revenue
Federal Revenue 26.1%		
Boating (US Coast Guard - Recreational Boating Safety Program; US Fish and Wildlife Service - Boating Access Program)	\$ 3,957,931	3.0%
Wildlife (US Fish and Wildlife Service - Wildlife Restoration, Sport Fish Restoration, and Hunter Education Programs)	30,763,671	23.1%
State Revenue 56.7%		
Hunting and Fishing Licenses	44,537,830	33.5%
Boating Registration Fee	6,875,212	5.2%
Real Estate Transfer Tax	20,843,398	15.7%
Gas Tax*	2,766,707	2.1%
General Fund	435,400	0.3%
Other Revenue 17.2%		
Miscellaneous (specialty license plates, one-time payments from other agencies, etc.)	22,825,535	17.2%
Total	\$ 133,005,684	

Note: Percentages might not add to 100 because of rounding.

*TWRA staff often refer to the portion of the gas tax the agency receives as the marine fuel tax.

Source: Emails from Ken Tarkington, budget and procurement chief, TWRA, July 7, 2022; and Tim Churchill, chief, Federal Aid and Real Estate Division, TWRA, August 3, 2022.

TWRA has adhered to the “user-fee” or “pay to play” model, meaning the people paying fees or paying in other ways such as through excise taxes on equipment should be the ones who use the resource and receive

⁸⁰ Email from Thomas Moncrief, former associate general counsel, TWRA, February 2, 2022; and State of Tennessee 2022.

⁸¹ Email from Tim Churchill, chief, Federal Aid and Real Estate Division, TWRA, March 3, 2022; 46 U.S. Code § 13104; and US Department of the Interior 2022.

Although historically TWRA has largely been funded by fishing and hunting license fees, boat registration fees, and federal funds generated by excise taxes on fishing, hunting, and boating equipment, which have been a reliable source of funding, the agency says these revenue sources are not growing in proportion with state population and might not be sustainable.

the benefits—typically anglers, hunters, and motor boaters.⁸² For example, fishing guides who are state residents pay \$150 for a guide fishing license, and their customers are also required to have a personal license.⁸³

Although historically the agency has largely been funded by fishing and hunting license fees, boat registration fees, and federal funds generated by excise taxes on fishing, hunting, and boating equipment, which have been a reliable source of funding, the agency says these revenue sources are not growing in proportion with state population and might not be sustainable. For example, the number of new motor boat registrations has remained flat the last five years.⁸⁴ And because people are using TWRA land and ramps and participating in outdoor activities that don't require paying a fee or purchasing a license, such as paddling, those activities are not generating revenue. However, the activities generate costs because the agency is providing law enforcement, litter pickup, and maintenance.⁸⁵

Some people who are using TWRA access areas for non-fee activities, such as paddling, pay fees for fishing and hunting licenses or motor boat registrations. TWRA does not track how many people who are buying licenses or registering boats also rent or use their own paddlecraft on waterways. But according to stakeholders, this is common.⁸⁶ In fact, a 2019 study in Virginia found that approximately 93% of users of the state's boat access sites pay in other ways such as purchasing licenses or permits, and 35% of users have two or more licenses or permits.⁸⁷

There are some limitations on how TWRA can spend its funds. Most of TWRA's funds are managed in four distinct accounts—the wildlife, boating, and wetlands acquisition and compensation funds—and they can't be mixed or diverted.⁸⁸ To comply with federal funding requirements and state law, for the most part, TWRA must pay for its boating program, including all boating access infrastructure, education, and law enforcement, from the boating fund; it can't use the wildlife or wetlands funds. The agency can't always spend all the revenue each year because it is limited by the appropriation it receives, and it sometimes doesn't have the matching funds required by federal funding programs.⁸⁹ Revenue sources that go into the boating fund were approximately 10% of all agency revenue in fiscal year 2020-21 and include federal funds, boat registration fees, and

⁸² Interview with Chris Richardson, former deputy director, TWRA, May 19, 2021.

⁸³ Email from Darren Rider, colonel, Boating and Law Enforcement, TWRA, March 23, 2022.

⁸⁴ Email from Thomas Moncrief, former associate general counsel, TWRA, February 2, 2022.

⁸⁵ Tennessee Wildlife Resources Agency 2014.

⁸⁶ Interviews with Lee Gatts, manager, southeast policy & engagement, National Marine Manufacturers Association, October 28, 2021; Don Safer, board member, Tennessee Scenic Rivers Association, June 4, 2021; and Dorie Bolze, president/chief executive officer, Harpeth Conservancy, August 4, 2021.

⁸⁷ Virginia Department of Game and Inland Fisheries 2019.

⁸⁸ Tennessee Code Annotated, Section 69-9-203; and interview with Darren Rider, colonel, Boating and Law Enforcement, TWRA, July 26, 2021.

⁸⁹ Interview with Tim Churchill, chief, Federal Aid and Real Estate Division, TWRA, March 8, 2022; and email from Ken Tarkington, budget and procurement chief, TWRA, July 29, 2022.

state gas tax revenue.⁹⁰ Public Chapter 1103, Acts of 2022, increased the portion of the gas tax that the agency receives and specified that one of the required uses of the revenue is public and environmental infrastructure at marinas.⁹¹ Revenue that is deposited into the wildlife fund includes federal funds, fishing and hunting license fees, and several other sources—approximately 74% of all agency revenue in fiscal year 2020-21. Real estate transfer tax revenue is earmarked for the wetlands acquisition fund. Table 4 shows revenue and actual expenditures for each fund in fiscal year 2020-21.

Table 4. TWRA Wildlife, Boating, and Wetlands Funds Revenue and Expenditures Fiscal Year 2020-21

Fund	Revenue	Percent of Total Revenue	Actual Expenditures	Percent of Total Actual Expenditures
Wildlife	\$ 97,981,012	73.7%	\$ 85,117,000	75.9%
Boating	13,563,270	10.2%	9,760,200	8.7%
Wetlands Acquisition	20,904,974	15.7%	16,815,500	15.0%
Wetlands Compensation	556,429	0.4%	501,700	0.4%
Total Agency Funds	\$ 133,005,685		\$ 112,194,400	

Source: State of Tennessee 2022; and email from Ken Tarkington, budget and procurement chief, TWRA, July 7, 2022.

Local governments

Tennessee’s local governments are also involved in water recreation across the state. Both counties and municipalities have authority to manage access to waterways from lands they own within their jurisdictions.⁹² Some local governments manage boat access areas, and some charge fees for use of the access. For example, the city of Franklin manages and maintains seven access points along the Harpeth River in Williamson County, and several local governments manage access to the Hiwassee River downstream from the Cherokee National Forest and state park.⁹³ Nashville, Knoxville, and Knox County are examples of governments that charge fees. Metro Nashville Parks and Recreation requires outfitters to have a permit to operate from within a metro park and charges \$150 per access site for each

⁹⁰ Tennessee Code Annotated, Section 67-3-901(g). TWRA staff often refer to the portion of the gas tax the agency receives as the marine fuel tax. Interview with Chris Richardson, former deputy director, TWRA, May 19, 2021; emails from Ken Tarkington, budget and procurement chief, TWRA, July 7, 2022; and Andy Furlong, internal audit director, TWRA, August 4, 2022.

⁹¹ Public Chapter 1103, Acts of 2022; and Tennessee Code Annotated, Section 67-3-901(g).

⁹² Emails from Melisa Kelton, county government consultant, University of Tennessee County Technical Assistance Service, February 9 and 14, 2022; and Tennessee Code Annotated, Sections 5-1-118 and 11-24-101 et seq.

⁹³ Email from Jane Polansky, education and outreach program manager, Harpeth Conservancy, September 26, 2022; and Hiwassee River Blueway “Public Access.”

In addition to managing access, local governments help with emergency response on waterways and fund water recreation and waterway access management mostly through their general funds and grants.

month in operation.⁹⁴ Requiring permits helps the city monitor the use of access areas in parks, and the fee revenue goes to the Metro Nashville general fund. Knoxville currently has one outfitter using a city launch for a fee of 10% of net sales, and Knox County has a contract with the same outfitter and charges 10% of gross revenue.⁹⁵ There are likely other local governments across the state that manage and charge fees for use of the waterway access within their jurisdictions.

In addition to managing access, local governments help with emergency response on waterways. Each county does response and rescue differently, including how it is funded and the type of training the responders receive. In addition to 911 service, law enforcement, and emergency responders, at least 23 counties have rescue squads that are trained to do swift water rescues and assist with response.⁹⁶ Some rescue squads receive funding from the local government, but none receive funding from the state. Many of them are largely volunteer operations, and some do their own fundraising to pay for training and equipment.⁹⁷ They respond to emergency calls for all types of incidents, some of which involve flooding events and calls for help on rivers. The Smith County rescue squad responds to about five calls on waterways in a typical year. According to a representative of the Tennessee Association of Rescue Squads, which provides swift water training and support for rescue squads across the state, most waterway rescues involve alcohol, people not wearing life jackets, or rapidly rising water, either because of dam releases or storms.⁹⁸ The representative also said the biggest challenges for the squads are recruitment, training, and equipment, and with more funding they could recruit, retain, and train better candidates to help with safety on rivers. TWRA doesn't have a swift water rescue team.⁹⁹

Local governments fund water recreation and waterway access management mostly through their general funds and grants. There are several grant opportunities available to local governments through the state. They can apply for competitive recreation grants that TDEC's Recreation Resources Division administers, three of which can fund water recreation projects,

⁹⁴ Email from John Michael Cassidy, park manager, Metro Nashville Parks and Recreation, March 8, 2022.

⁹⁵ Interview with Ed McAlister, owner, River Sports Outfitters, Inc., November 3, 2021; email from Tim Hester, parks & greenways coordinator, Knoxville Parks & Recreation, March 3, 2022; and email from Suzanne Norris, director, finance and administration, Knox County Parks & Recreation, March 24, 2022.

⁹⁶ Interview with J. Stacy Rhodes, executive director, Tennessee Association of Rescue Squads, February 28, 2022.

⁹⁷ Interview with Ricky Gibbs, team member, Smith County Rescue Squad, October 27, 2021. See also Bedford County, Tennessee "New 'River Life' License Plate will Promote Duck River Safety."

⁹⁸ Interviews with J. Stacy Rhodes, executive director, Tennessee Association of Rescue Squads, February 28, 2022; and Ricky Gibbs, team member, Smith County Rescue Squad, October 27, 2021.

⁹⁹ Interview with Darren Rider, colonel, Boating and Law Enforcement, TWRA, July 26, 2021.

including water trails, on publicly-owned land.¹⁰⁰ See table 5 for a summary of the TDEC grants. The Department of Tourist Development has a tourism enhancement grant for infrastructure projects that can be used for river access infrastructure.¹⁰¹ Cities and counties can apply for the competitive grant—up to \$75,000—and must either own the land where they will do the project or have a long-term lease with an agency such as TVA, Army Corps, or USFS. There could be additional grant opportunities available to local governments focused on water recreation and access through other agencies or organizations.

Table 5. TDEC Recreation Resources Division Grants Available for Water Recreation Projects

Grant program	Funding Source	Eligible Applicants	Allowable Uses	Matching Funds
Local Parks and Recreation Fund (LPRF)	State real estate transfer tax	Local governments	land acquisition, indoor and outdoor recreation facilities, trail development, renovation of current public recreation sites	50% state 50% recipient
Land and Water Conservation Funds (LWCF)	National Park Service	Local and state government agencies	acquisition and development of public outdoor recreation areas and facilities, renovation of current public recreation sites	50% state 50% recipient
Recreational Trails Program (RTP)	Federal Highway Administration	Local, state, federal land managing agencies and non-profit organizations	land acquisition for trails; trail maintenance, construction, and rehabilitation; trail head support facilities; renovation of current public recreation sites	80% state 20% recipient

Note: Projects must meet public recreation requirements, and awards are based on competitive application cycles.

Source: Interviews with Anne Marshall, director, Recreation Resources Division, TDEC, November 2, 2021; and Jamison Sliger, PARTAS consultant, TDEC, March 2, 2022; email from April Johnson, PARTAS manager, Recreation Resources Division, TDEC, July 7, 2022; and Tennessee Department of Environment and Conservation “Grants Administration.”

Businesses and non-government organizations

While federal, state, and local government agencies manage public waterways, non-government groups such as outfitters, outdoor schools, private paddling groups, and non-profit organizations also help manage

¹⁰⁰ Tennessee Department of Environment and Conservation “Grants Administration.”

¹⁰¹ Interview with Melanie Beauchamp, assistant commissioner, Rural Tourism & Outreach, Department of Tourist Development, January 26, 2022.

In response to the 2022 TACIR survey, commercial outfitters said their activities include conducting cleanups, training and educating, assisting people in need on rivers, and helping to build and maintain access areas.

waterways in the state. While these stakeholders use the state's water recreation resources, and some use waterways to make money as part of their business, they also promote outdoor recreation and provide opportunities for people who are new to paddling or don't own their own boat to access waterways. Although perhaps not documented or done in an official capacity, they also contribute by maintaining, improving, and building access, cleaning up waterways, educating paddlers and first responders, and assisting with safety.¹⁰² They have an interest in helping for a variety of reasons but often do so because they use and enjoy the resources and care about their protection and preservation. They might focus on a particular river or watershed, but some also work more broadly to foster water recreation, resource protection, and access across the state.

Private businesses, such as outfitters and outdoor schools, conduct various activities to help waterways. Several outdoor schools teach paddling and safety skills in Tennessee.¹⁰³ In interviews and in testimony to the Commission, commercial paddlecraft outfitters described various ways they help on the rivers and access areas, such as clearing downed trees, assisting with rescues, and leading cleanup efforts. They also educate their customers about rules and proper etiquette, including respecting public and private property and avoiding trespassing. The Tennessee Paddlesports Association promotes best practices for outfitters to operate responsibly, share waterways, reduce user conflict, and protect the natural environment.¹⁰⁴ The best practices are included in appendix C. An example from the Caney Fork River illustrates outfitters' efforts to share waterways and reduce conflict. In response to concerns about congestion and conflict, one outfitter on the river moved its launches downstream from a stretch of the river popular with anglers, reducing the number of launches and potential for conflict in the area.¹⁰⁵

In response to the 2022 TACIR survey, commercial outfitters said their activities include conducting cleanups, training and educating, assisting people in need on rivers, and helping to build and maintain access areas. Ninety-seven percent of outfitters who responded to the question said they participated in at least one activity to help protect and maintain the waterways and access areas, and 85% said they do at least two activities. Figure 5 shows these responses to the TACIR survey, and appendix D includes the full survey results. In addition to spending their time, some

¹⁰² Interviews with Sally Barr, president, Tennessee Scenic Rivers Association, July 15, 2021; Dawn Nelson, owner, Higher Pursuits, August 3, 2021; and Andrea White, Southeast regional chair, American Canoe Association, July 8, 2021, and testimony to the Commission, December 2, 2021.

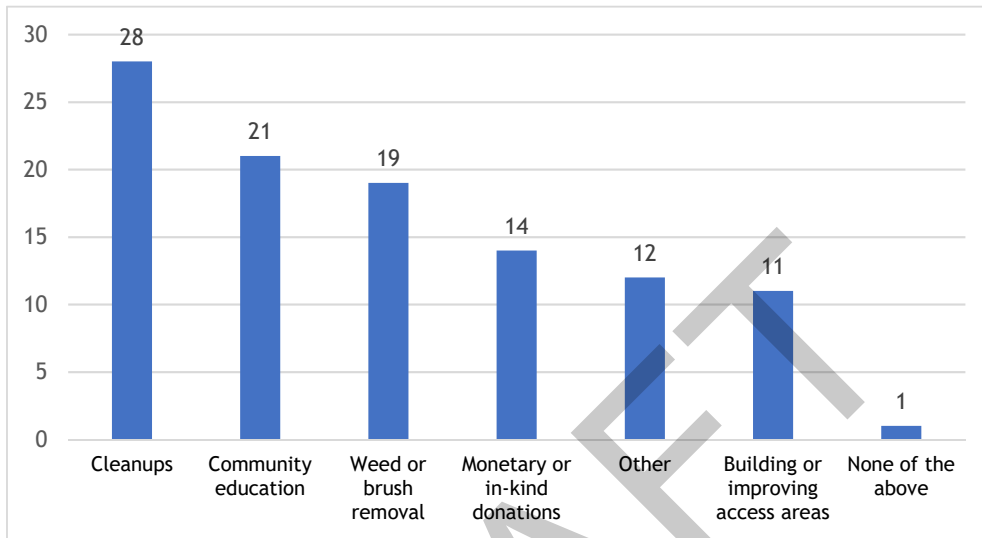
¹⁰³ Interview with Andrea White, Southeast regional chair, American Canoe Association, July 8, 2021, and testimony to the Commission, December 2, 2021.

¹⁰⁴ Tennessee Paddlesports Association "Best Practices for Responsible, Shared Use of Tennessee Waterways."

¹⁰⁵ Email from David Brown, executive director, Tennessee Paddlesports Association, October 28, 2022.

outfitters give in-kind or monetary donations—for example, one outfitter donated a jet-ski for rescues, and another gives a monetary donation each year to the local rescue squad.¹⁰⁶

Figure 5. Activities Conducted by Commercial Paddlecraft Outfitters on Waterways



Note: 32 outfitters responded to the question, and more than one response was allowed.

Source: TACIR 2022 survey of commercial paddlecraft outfitters.

Many non-government organizations across Tennessee work every day to fulfill their missions to educate and improve access to rivers. A few examples are the American Canoe Association, Harpeth Conservancy, Tennessee RiverLine, Tennessee Wildlife Federation, and Wolf River Conservancy. The Tennessee Scenic Rivers Association (TSRA) is an example of a non-profit paddling club. It was established in 1966 and focuses on river conservation, education, and safety. The organization regularly leads training and education activities across the state, and its members include certified instructors who train anyone from beginning paddlers to swift water rescuers. Beyond its regular education activities, members have contributed over \$80,000 over the past 20 years to support river conservation through land acquisitions.¹⁰⁷ Additionally, the organization has a committee that works on building low-cost paddlecraft access, such as stairs for canoes and kayaks, funding them with grants and recruiting volunteers to build them. Each access costs approximately \$10,000, and over the last fifteen years, they have built about 25 accesses. Once they are built, an agency such as TWRA or state parks or the local community maintains them.¹⁰⁸ TSRA is just one of about nine paddling

¹⁰⁶ Interview with Ricki Gibbs, volunteer, Smith County Rescue Squad, October 27, 2021.

¹⁰⁷ Interview with Sally Barr, president, Tennessee Scenic Rivers Association, July 15, 2021; and Parnell 2021.

¹⁰⁸ Interview with Patty Shultz, member, Tennessee Scenic Rivers Association, July 15, 2021.

Stakeholders all generally agree that partnerships are critical and should be continued, strengthened, and expanded moving forward.

clubs in the state that contribute in different ways to taking care of waterways in Tennessee.¹⁰⁹ Their contribution is significant, although not always recognized or documented, and many groups also partner with government agencies that manage waterways.

There are many examples of collaboration and partnerships between the various entities to manage and develop waterways, but the efforts are not coordinated across the state.

Government agencies and non-government stakeholders are doing a lot and work together to address issues and improve water recreation in the state. However, their efforts could be more coordinated to avoid confusion and burdensome regulations and to best use limited resources. Stakeholders all generally agree that partnerships are critical and should be continued, strengthened, and expanded moving forward. The possibilities and existing examples of partnerships are diverse and take many forms; a few that have been highlighted include the Hiwassee and Ocoee Rivers, TDOT park and float, and water trail development.

While federal, state, and local government agencies each manage the land they own within their jurisdictions, they sometimes partner to share the management of an area. For instance, the Hiwassee River runs through the Cherokee National Forest, where the US Forest Service (USFS) has authority and charges a day-use fee for anyone to access the river, regulates commercial outfitters operating on that part of the river, and provides law enforcement within its jurisdiction. Hiwassee Ocoee Scenic River State Park manages access to the river and provides law enforcement with authority through TWRA within the park boundary, while local governments manage and provide law enforcement at some access areas to the river outside the national forest and state park.¹¹⁰ TVA controls water releases from Apalachia Dam into the river. The Ocoee River is also managed by several agencies and is described in figure 6.

¹⁰⁹ Testimony to Commission by Andrea White, Southeast regional chair, American Canoe Association, December 2, 2021.

¹¹⁰ Interview with Angelo Giansante, park manager, Hiwassee Ocoee Scenic River State Park, August 25, 2021; and US Forest Service "Hiwassee River Gorge."

Figure 6. Ocoee River Management Area

Perhaps one of the most complex partnerships for water recreation management in the state is the Ocoee River agreement. Like the Hiwassee River, the Ocoee runs through the Cherokee National Forest and is part of the Hiwassee Ocoee Scenic River State Park. However, the whitewater portion of the Ocoee has been highly regulated since the 1980s when the TVA Ocoee agreement was established because of the popularity of the river as a national and international whitewater destination. To make whitewater recreation possible, TVA releases water from the three dams on the river on a schedule, which is available online. Under the most recent agreement, the state park issues permits to a limited number of outfitters to operate on the river, and they pay the state park 10% of their gross receipts, which goes into the Ocoee River Recreation and Economic Development Fund. To remain permitted, the outfitters must comply with state rules while operating guided rafting services on the river. Additionally, under state law, by operating under the TVA Ocoee agreement, the outfitters are exempt from paying state and local sales tax on amusements. From the fund, the state pays TVA for the revenue it loses while it releases water for recreation and is not generating power. Remaining funds are used for administration, maintenance, access, infrastructure, and marketing of the river corridor in the management area. The Ocoee River is busy and congested, but according to stakeholders, generally does not have user conflict issues like some other rivers in the state, mostly because of the release schedule and established rules. Over 200,000 people raft down the river each year, and there are relatively few safety incidents.

Source: Interview with Brian Bivens, lobbyist, Ocoee Outfitters Association, January 27, 2022; Tennessee Code Annotated, Sections 11-8-101 et seq. and 67-6-330(a)(7); and Tennessee Comprehensive Rules and Regulations, Chapter 0400-02-10.

The former Tennessee Department of Transportation (TDOT) park and float program is another example of government agencies partnering together to accomplish goals and implement projects. The program was a partnership between TWRA and TDOT that was created to identify and develop boat access sites as TDOT was evaluating and working on bridges.¹¹¹ It is currently not active and is under review. A few sites were developed as a result of the partnership, and although sites have not been recently developed, TDOT and TWRA continue to coordinate stream access through their excess land offices, according to the TDEC 2021 SCORP.

Not all partnerships are arrangements solely between government agencies. Blueways—or water trails—are one way to improve and increase access to help with congestion, safety, and natural resource protection by designating planned routes and access areas on waterways with signage, maps, promotion, and opportunities for education.¹¹² Their development and management often requires cooperation and agreement between government agencies, non-government organizations, private property owners, and businesses because waterways naturally flow through multiple communities and jurisdictions. The SCORP also emphasizes that

¹¹¹ Tennessee Department of Environment and Conservation 2021.

¹¹² River Management Society "Water Trails Management."

There is no statewide entity that works with the federal, state, and local government agencies and many diverse stakeholders to manage and expand waterway access across the state that considers and integrates all the uses and users.

collaboration between agencies to provide waterway access is important for developing new blueways and water trails.¹¹³ Federal, state, and local government agencies and non-government organizations are working together on water trails in the state, including the National Park Service, TDEC, Harpeth Conservancy, Wolf River Conservancy, and Tennessee RiverLine.¹¹⁴

Although these examples show that agencies, organizations, and property owners are collaborating and partnering in many ways, stakeholders say the efforts are not coordinated across the state. There is no statewide entity that works with the federal, state, and local government agencies and many diverse stakeholders to manage and expand waterway access across the state that considers and integrates all the uses and users. Structured and intentional coordination could help avoid burdensome regulations and resolve issues, such as the congestion and user conflict on the Caney Fork River, and determine the best way to spend limited funds. Partnerships between managing agencies and non-government organizations can also help spend those limited funds more effectively because some organizations have a mission and are actively working to provide access, and they might just need technical assistance or access to government-owned land. The "TN H₂O" plan, itself a collaborative effort, concluded that "an integrated management approach is needed to maintain the health and integrity of our streams, rivers, wetlands, lakes, and reservoirs and support broad-based economic growth."¹¹⁵

Other states and agencies use a variety of methods and strategies to manage waterway recreation.

As water recreation activities like paddling are becoming more popular across the country, other states are facing the same issues as Tennessee. Some states are studying the trends and issues and making recommendations to address them. For example, Minnesota conducted a study in 2005 to understand the canoe and kayak trend and gather information to guide the state's canoe and boating route program.¹¹⁶ The study found that while canoe use was stable, kayak use had doubled since 2000, and some of the high priority topics it identified are access, mapping, conflicts with motorboats, and the availability of information about rivers. In Virginia's "Boating Access Site and Facility Management Plan," it was noted that the sales of non-motorized vessels are difficult to quantify, but the growth of

¹¹³ Tennessee Department of Environment and Conservation 2021.

¹¹⁴ Interviews with Keith Cole, executive director, Wolf River Conservancy, August 30, 2021; interview with Allison Bullock, community planner, National Park Service, August 24, 2021; Harpeth Conservancy "Blueways in Tennessee"; Tennessee Department of Environment and Conservation 2021; and Tennessee RiverLine "The Tennessee RiverLine."

¹¹⁵ Tennessee Department of Environment and Conservation 2018. See also Tennessee Department of Environment and Conservation 2021.

¹¹⁶ Office of Management and Budget Services, Minnesota Department of Natural Resources 2005.

water activities like stand-up paddleboarding suggests that participation in non-motorized water sports will rise.¹¹⁷ In 2017, a non-motorized boat working group in Florida recommended to the state boating council that “non-motorized boaters should be included in the planning and implementation of access related projects at all levels of government.”¹¹⁸ Tennessee’s non-motorized boaters are involved in the planning process at the state level in a limited way through the commercial paddlecraft advisory committee that is intended to help develop commercial outfitting rules and regulations and non-regulatory strategies to address issues and facilitate access for all users.

Other states and agencies are taking a variety of approaches to adapt to changing trends. Some strategies they are using include collaborative strategic planning, river-specific management plans, carrying capacity studies, partnerships, statewide boards and committees, offices of outdoor recreation, and representation of user groups on decision-making bodies. There are river planning and management resources available that agencies can use for guidance such as American Rivers’ “Guide to Sustainable River Recreation Management Planning,” the National Association of State Boating Law Administrators’ “Guide for Multiple Use Waterway Management,” and the National Park Service and River Management Society’s “River Access Planning Guide.” Additional resources are included in appendix B.

Seven states have created state level boards that deal with boating, including paddling, and waterway management issues or permit local governments to create boards to address related issues. North Carolina law authorizes local governments to form local water safety advisory committees.¹¹⁹ Six states have state level entities that provide guidance on boating-related issues: Alaska, California, Florida, Pennsylvania, Utah, and Washington.¹²⁰ These are formal groups, most established by statute, that take a broad perspective rather than focusing on specific areas or local issues. They have diverse memberships that include government agency representatives and stakeholders from the boating community. Two of these state entities are required by statute to have a paddler representative. Florida’s Boating Advisory Council is an 18-member body that advises the Florida Fish and Wildlife Conservation Commission (FWC) and includes representatives from federal and state government, environmental groups, boating-related industries, and the paddling community.¹²¹ The FWC

Some strategies other states are using to adapt to changing trends include collaborative strategic planning, river-specific management plans, carrying capacity studies, partnerships, statewide boards and committees, offices of outdoor recreation, and representation of user groups on decision-making bodies.

¹¹⁷ Virginia Department of Game and Inland Fisheries 2019.

¹¹⁸ Florida Non-Motorized Boats Working Group 2017.

¹¹⁹ N.C. Gen. Stat. Section 75A-26.

¹²⁰ Alaska Statutes Section 05.25.057; California Harbors and Navigation Code Sections 80-82.3; Florida Statutes 327.803; Pennsylvania Statutes 30 Pa. C.S.A. Fish Section 306; Utah Code Section 73-18-3.5; and Washington State Parks “Paddlesport Advisory Committee.”

¹²¹ Interview with Ginny Worley, government operations consultant II, Florida Boating and Waterways, Division of Law Enforcement, March 29, 2022; and Florida Fish and Wildlife Conservation Commission “Florida Boating Advisory Council Member Information.”

In addition to boating advisory groups, outdoor recreation offices or task forces are another approach that some states are using that is a more centralized approach to managing more than just boating and water recreation.

presents ideas to the council, which then discusses the issues, provides feedback, and sometimes makes recommendations and mostly deals with laws or rules that affect the whole state rather than local issues.

Similar to Florida's council, Pennsylvania's Boating Advisory Board makes recommendations to the Pennsylvania Fish and Boat Commission on boating rules and regulations.¹²² The board is comprised of three state agency representatives as well as five volunteer members that represent boating interests, and it invites key stakeholders from other agencies or groups to the meetings to participate in the discussion. The board doesn't normally work at the community-level to resolve conflicts, but it does provide opportunities for public comment. One result of the board's work and collaboration with the Fish and Boat Commission is the establishment of a cold weather life jacket requirement during the cold months in the state. Since the regulation went into effect in 2012, the percentage of accidents resulting in deaths during those months decreased by approximately half.¹²³

Outdoor recreation offices or task forces are another approach that some states are using that is a more centralized approach to managing more than just boating and water recreation.¹²⁴ Some states start with a task force to determine whether a permanent office would be helpful and would be the best path forward for the state. At least sixteen states have an outdoor recreation office, task force, or policy advisor.¹²⁵ The offices can be created through legislative action, executive order, budget line item, or a combination of these. They serve as a central entity where the state can support, promote, and develop all outdoor recreation within that state. Examples of the activities and benefits of these offices include economic development initiatives, marketing, working with diverse public and private stakeholders, stewardship projects, education, youth programs,

¹²² Interview with Laurel L. Anders, director, Bureau of Boating, Pennsylvania Fish and Boat Commission, March 29, 2022; and Pennsylvania General Assembly, Consolidated Statutes, Title 30, Section 306.

¹²³ Email from Laurel L. Anders, director, Bureau of Boating, Pennsylvania Fish and Boat Commission, July 21, 2022.

¹²⁴ Outdoor Recreation Roundtable 2021.

¹²⁵ Arkansas State Parks 2021; Colorado Office of Economic Development and International Trade "Colorado Outdoor Recreation Industry Office"; Maine Department of Economic and Community Development "Maine Office of Outdoor Recreation"; Maryland Department of Natural Resources 2021; Michigan Department of Natural Resources "Office of Outdoor Recreation Industry"; Nevada Department of Conservation and Natural Resources "Nevada Division of Outdoor Recreation"; New Hampshire Division of Economic Development "Office of Outdoor Recreation Industry Development"; New Mexico Economic Development Department "Outdoor Recreation Division"; Economic Development Partnership of North Carolina "North Carolina Outdoor Recreation Industry Office"; Oregon Office of Outdoor Recreation "Office of Outdoor Recreation"; Pennsylvania Department of Conservation and Natural Resources "Pennsylvania's Director of Outdoor Recreation"; Utah Governor's Office of Economic Opportunity "Office of Outdoor Recreation"; Vermont Department of Forests, Parks and Recreation "Vermont Outdoor Recreation Economic Collaborative"; Washington State Recreation and Conservation Office "Investing in Washington's Great Outdoors"; Wisconsin Office of Outdoor Recreation "Office of Outdoor Recreation"; and Wyoming Outdoor Recreation Office "Wyoming Outdoor Recreation."

and providing equitable access for all users. Oregon's state office, for example, coordinated discussion between stakeholders to create legislation to help increase funding for search and rescue, and North Carolina's office developed a statewide stewardship program to teach people about sustainable recreation.¹²⁶

States structure and fund the offices in different ways. They are often housed in the state's department of parks, natural resources, environment, or economic development. Washington's office is in the governor's office, and Wisconsin's is in the department of tourism. The most common funding source is the state general fund, although some states use tourism, parks, or economic development funds. Vermont has an Outdoor Recreation Economic Collaborative (VOREC) within the Agency of Natural Resources.¹²⁷ VOREC is staffed with existing state agency employees so there is no need for a budget or new employees. Regardless of how a state structures, runs, and funds its office, the purpose is to have a unified statewide approach to managing and developing all types of outdoor recreation across the state.¹²⁸ Some stakeholders in Tennessee prefer the creation of an office of outdoor recreation rather than a boating advisory committee. They say a non-regulatory entity that more broadly supports and promotes outdoor recreation would better facilitate economic development and coordinate the various agencies with regulatory authority.¹²⁹

In contrast to a statewide office that broadly focuses on outdoor recreation, many states and agencies develop and implement management plans for specific areas, rivers, or sections of rivers. American Rivers, a national non-profit organization, created its "Guide to Sustainable River Recreation Management Planning" with steps that agencies can follow to develop a river management plan, starting with creating a working group, gathering and analyzing the situation, and then, through the process, moving to monitoring, evaluating, and funding it.¹³⁰ It also discusses and provides resources to assist with planning, gathering public input, private land and liability issues, funding, and other challenges. When determining whether a river needs its own plan and to develop a potential plan, stakeholders, including government agencies, local community members, and businesses, need to be given the opportunity to give their input and be involved in the process. A local advisory board might be sufficient to address issues and resolve problems. The American Rivers guide highlights several areas with plans that serve as models including rivers

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¹²⁶ Outdoor Recreation Roundtable 2021.

¹²⁷ Vermont Department of Forests, Parks and Recreation "Vermont Outdoor Recreation Economic Collaborative."

¹²⁸ Outdoor Recreation Roundtable 2021.

¹²⁹ Email from Andrea White, Southeast regional chair, American Canoe Association, November 10, 2022.

¹³⁰ Augustyn 2017.

in Colorado, Idaho, and Montana, and Washington. Figure 7 describes special river use permits in Montana.

Figure 7. Special Use River Permits in Montana

Montana Fish, Wildlife and Parks requires permits and enforces special restrictions on seven rivers in the state to protect both recreation and the river resources. The rules vary and apply to both the general public and commercial outfitters. For example, because of the popularity of the Smith River State Park, anyone who wants to float the river is required to get a permit through a lottery system. On other rivers, a permit is required for commercial fishing and rafting but not for the general public. The Blackfoot River, one of the state's most popular rivers, has a special management section called the Blackfoot River Recreation Corridor where people can camp at designated float-in campsites if they have a reservation and permit.

Source: Montana Fish, Wildlife & Parks "Special Use River Permits."

Stakeholders agree that additional education for users would help to address some waterway management issues.

One issue all stakeholders agree on is that education for all user groups would help address safety and user conflict issues. It might also reduce damage to natural resources. All types of users encounter challenges, hazards, and other people on waterways and at access areas, and everyone should understand the risks, rules, laws, and etiquette that apply even in the safest of circumstances. Having some basic skills, wearing life jackets, and not drinking alcohol would help people stay safe, and some stakeholders say education about life jackets and enforcement of existing laws alone would make a big difference. Training for more advanced users on rescue skills is also part of keeping everyone safer because people would be more prepared to help each other on the water.¹³¹

Government agencies at all levels and non-government organizations conduct many education activities for different user groups. However, not much education is required, even though most operators of boats involved in incidents have received no boating education or it is unknown whether they received education.¹³² People born after January 1, 1989, are required by law to pass an exam or complete a course to operate a motorized boat in Tennessee and must carry the certificate of completion while they are operating a boat.¹³³ Similar to the state driver license exam, there is no requirement to complete a refresher exam after a certain number of years.¹³⁴

¹³¹ Interviews with Andrea White, Southeast regional chair, American Canoe Association, July 8, 2021; Darren Rider, colonel, Boating and Law Enforcement, TWRA, July 26, 2021; and Randy Fentress, volunteer, US Coast Guard Auxiliary, April 5, 2022.

¹³² Tennessee Wildlife Resources Agency 2021.

¹³³ Tennessee Code Annotated, Section 69-9-226.

¹³⁴ Interview with Darren Rider, colonel, Boating and Law Enforcement, TWRA, July 26, 2021.

There is no other education requirement for boaters, and paddlecraft users are not required to complete any educational program. Requiring education for motorized boaters, but not for paddlers, is common in other states as well.¹³⁵ TWRA does require some education for other recreational users. Hunters born after January 1, 1969, are required to complete an education course,¹³⁶ and the 2019 rule passed by TFWC requires commercial paddlecraft outfitters to conduct a TWRA-approved safety briefing for their customers.¹³⁷

Although a lot of education and training is already happening across the state, stakeholders agree that more is needed. Non-government groups often focus on education, and there are many examples of organizations working to educate the public such as the River Management Society, American Canoe Association, and Tennessee Scenic Rivers Association. For instance, the Tennessee chapter of the American Canoe Association recently joined Tennessee State Parks to provide low-cost kayaking courses in several state parks.¹³⁸ TWRA has a policy to cooperate with other agencies to educate the public about recreational boating safety¹³⁹ and is also the state agency that designates a boating law administrator as required by the US Coast Guard.¹⁴⁰ This person is responsible for overseeing boating education, law enforcement, boat registration, and other programs, such as the agency's regulation of paddlecraft outfitters. Figure 8 is an example of a canoe safety checklist created by TWRA that is posted at access areas.

Although a lot of education and training is already happening across the state, stakeholders agree that more is needed.

¹³⁵ National Association of State Boating Law Administrators 2021.

¹³⁶ Tennessee Code Annotated, Section 70-2-108. See also Tennessee Wildlife Resources Agency "Tennessee Hunter Education Information."

¹³⁷ Rules of Tennessee Wildlife Resources Agency, Non-motorized Vessels, Chapter 1660-04-01.

¹³⁸ Tennessee Department of Environment and Conservation 2022.

¹³⁹ Tennessee Code Annotated, Section 69-9-202.

¹⁴⁰ National Association of State Boating Law Administrators 2021.

Figure 8. Tennessee Wildlife Resources Agency Safety Checklist

SAFETY CHECKLISTS

CANOEING AND PADDLESPORTS

Required By Law:

<ul style="list-style-type: none"> ✓ An approved, wearable life jacket for each person must be readily accessible. Throw cushions do not meet this requirement. ✓ Persons 12 and under must wear a life jacket while underway. Drifting is considered underway. ✓ Do NOT overload your boat. ✓ Boaters must use running lights after sunset or during restricted visibility if boat is propelled by motor (gas or electric). Canoes and paddlers must exhibit a white light or lantern after sunset or during times of restricted visibility. ✓ Boater's state registration card must be on board if boat is propelled by motor (gas or electric). ✓ A fishing license is required by all persons 13 years or older attempting to take fish. ✓ Do not litter. It is unlawful to throw or sink litter from a boat. In the event that a boat turns over, all contents must be retrieved. 	<ul style="list-style-type: none"> ✓ It is unlawful to use or be in possession of drugs or controlled substances while boating or paddling. ✓ Use or possession of alcohol by individuals who are underage is prohibited. <p style="margin-top: 10px; color: #C00000; font-weight: bold;">Other:</p> <ul style="list-style-type: none"> ✓ It is extremely dangerous to climb rock bluffs or trees and jump or dive into the water. Serious injury or death may occur. ✓ On rivers, stay clear of trees that have fallen and extend into the water. These are called strainers and are very dangerous. ✓ Stay clear of low head dams with water flowing over the top. These produce life-threatening churning currents on the downstream side.
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The need for more education of waterway users is a common concern in other states. The National Association of State Boating Law Administrators' 2021 "Guide for Multiple Use Waterway Management" stresses the importance of education throughout the document, and respondents to a nationwide survey it conducted said more education is needed. It says, "Recreational boating is generally very safe. Simple, safety-oriented education makes boating even safer and more enjoyable for all boaters,

including those who rent boats.”¹⁴¹ Other states agree. A working group in Florida concluded that lack of education is the most common cause of threats to non-motorized boating safety, including lack of knowledge about emergencies, general boating awareness, life jackets, equipment, preparedness, courtesy, navigation rules, regulations, and the specific waterway.¹⁴² In interviews with TACIR staff, representatives from other states spoke about safety and education.¹⁴³ For example, an Oregon State Marine Board staff member said it is a challenge to educate private paddlers and is particularly concerned about people not wearing life jackets.¹⁴⁴ A Virginia staff person also said communicating with paddlers is a big challenge, and other states have the same issue. According to the staff member, non-motorized boat registration is valuable even without charging a fee because it is a way to get contact information for paddlers and communicate with them.¹⁴⁵

It is unclear how much, if any, additional funding agencies need to help manage waterways because of increased use in Tennessee.

How much additional funding might be needed to manage increased use and improve access to Tennessee's waterways is unclear. While stakeholders agree that education, safety, and access are critical and need improvement, more data, public input, and collaboration would help clarify and determine how to address challenges. Both TWRA's and TDEC's strategic plans identify a need for sustainable funding, and agency leaders say they need more funding,¹⁴⁶ but it is not clear how much is needed and for what. Both agencies recognize the increase in outdoor recreation but don't have data on what is happening and where. According to the director of operations, the Tennessee state parks system doesn't have a good assessment of needs, but the main needs are deferred maintenance and capital improvements such as access points for watercraft.¹⁴⁷ One example of a state data-gathering effort is the GIS Inventory Project started in 2021, led by the Tennessee Department of Health and supported by the University of Tennessee. See figure 9.

While stakeholders agree that education, safety, and access are critical and need improvement, more data, public input, and collaboration would help clarify and determine how to address challenges.

¹⁴¹ National Association of State Boating Law Administrators 2021.

¹⁴² Florida Boating Advisory Council 2017.

¹⁴³ Interviews with Grant Brown, boating safety and registrations program manager, Colorado Parks and Wildlife, December 7, 2021; Lt. Curtis D. Lewis, boating law administrator, Illinois Conservation Police, December 21, 2021; and John Kirk, statewide access coordinator, Virginia Wildlife Resources Department, November 22, 2021.

¹⁴⁴ Interview with Josh Mulhollem, environment and policy program manager, Oregon State Marine Board, November 16, 2021.

¹⁴⁵ Interview with John Kirk, statewide access coordinator, Virginia Wildlife Resources Department, November 22, 2021.

¹⁴⁶ Tennessee Department of Environment and Conservation 2020; Tennessee Wildlife Resources Agency 2014; interview with Darren Rider, colonel, Boating and Law Enforcement, TWRA, July 26, 2021; and emails from Mike Robertson, state park operations director, Bureau of Parks & Conservation, TDEC, March 8 and April 13, 2022.

¹⁴⁷ Emails from Mike Robertson, state park operations director, Bureau of Parks & Conservation, TDEC, March 8 and 9, 2022.

Figure 9. Tennessee GIS Inventory Project

A recent example of cross-agency partnership is the GIS Inventory Project started in 2021, led by the Tennessee Department of Health and supported by the University of Tennessee. It is an ongoing effort to create and maintain a comprehensive statewide inventory of parks, greenways, and trails that will help state agencies with planning, decision-making, and monitoring outdoor recreation facilities to provide equal access and spending. The inventory process will be flexible to adapt to changes over time. In addition to the benefits for agencies that are planning and managing recreational resources in the state, the data could be used to create and distribute educational tools such as maps for the public to encourage participation in outdoor recreation and improve safety. The inventory is not only an example of coordination among various agencies to gather data that benefits everyone but is also intended to be an approach that will evolve over time in response to changing trends.

Source: Tennessee Department of Environment and Conservation 2021.

TWRA staff and TFWC members also acknowledge that they need better data about private paddlers and commercial paddlecraft outfitters and how all user groups are using specific areas.¹⁴⁸ TWRA staff say they need additional funds to manage their boat access areas and pay for additional law enforcement officers and that a data-based fee structure is being considered to generate some of the revenue. In interviews, staff said the increased use requires more response to emergency calls and maintenance and improvements to access areas. The agency is in the process of hiring new law enforcement officers who will focus on paddlecraft and continues to purchase parcels of land along waterways for future access.¹⁴⁹ Although the 2014 strategic plan acknowledges the importance of outdoor recreation, it identifies several issues related to outdoor recreation and says the agency “is trying to accommodate non-paying users as much as possible, but it adds to the cost of management.”¹⁵⁰ However, the plan hasn't been updated to clearly reflect the authority the agency received in 2018 to regulate commercial paddlecraft outfitters or, more broadly, the recent increase in paddlecraft recreation.

Although the complete picture of needs and their associated costs is not known, TWRA staff does have some cost information. According to staff, the cost of each new law enforcement position is \$120,000 for the first year and \$50,000 each subsequent year,¹⁵¹ and in the last five years, the agency has completed at least four paddlecraft access sites at a total cost of cost of \$340,000.¹⁵² Staff also said the cost to build a simple paddlecraft access,

¹⁴⁸ Interview with Chris Richardson, former deputy director, TWRA, May 19, 2021; and Tennessee Fish and Wildlife Commission meeting, January 18, 2019.

¹⁴⁹ Email from Darren Rider, colonel, Boating and Law Enforcement, TWRA, March 22, 2022; and interview with Tim Churchill, chief, Federal Aid and Real Estate Division, TWRA, March 8, 2022.

¹⁵⁰ Tennessee Wildlife Resources Agency 2014.

¹⁵¹ Email from Darren Rider, colonel, Boating and Law Enforcement, TWRA, March 22, 2022.

¹⁵² Email from Thomas Moncrief, former associate general counsel, TWRA, February 2, 2022.

like slides or stairs, is as little as \$2,000.¹⁵³ The agency’s fiscal year 2022-23 budget for boating access is \$1.9 million, and the courtesy dock budget is \$148,000.¹⁵⁴ Additionally, the agency has a budget of \$100,000 for acquiring small tracts of land for waterway access.¹⁵⁵

One way the state could get information on the number of private paddlers would be to require them to register their vessels or get a paddling permit in order to paddle on public waterways. However, TWRA currently doesn’t have authority to regulate private paddlers. Further, because it also doesn’t have authority to regulate activities on privately owned waterways, paddlers would not be required to have a permit to paddle on those bodies of water. Nine states require non-motorized vessels to be registered.¹⁵⁶ Seven of these—Alaska, Iowa, Minnesota, Ohio, Pennsylvania, Rhode Island, and South Dakota—require private paddlers to register each of their boats, while Alabama and Michigan only require commercial non-motorized vessels to be registered. One state, Oregon, recently implemented a statewide waterway access permit requiring private paddlers and commercial non-motorized vessel outfitters to obtain a permit to paddle on any public waterway in the state. This system tracks the number of people paddling rather than the number of boats, and the person must carry the permit with them regardless of the boat they are using.¹⁵⁷ Requiring boat registration and access permits gives these states the opportunity to gather user data while potentially generating revenue to pay for services for these vessels. Although in Tennessee non-motorized boats are not required to be registered, beginning in 2022, TDEC and TWRA will collect data on the number of vessels commercial outfitters own and use as part of their business.

Beginning in 2022, TDEC and TWRA will collect data on the number of vessels commercial outfitters own and use as part of their business.

If it is determined that more funding is needed to manage increased water recreation, there are several options for generating it.

With robust data, state leaders could determine whether new revenue is needed and explore potential methods to generate it. A 2017 report from the Outdoor Industry Association concluded that “across the country, there is a clear need for new statewide funding mechanisms for outdoor recreation.”¹⁵⁸ Federal funding that traditionally has supported outdoor

¹⁵³ Interview with Tim Churchill, chief, Federal Aid and Real Estate Division, TWRA, March 8, 2022.

¹⁵⁴ Email from Thomas Moncrief, former associate general counsel, TWRA, February 2, 2022.

¹⁵⁵ Email from Tim Churchill, chief, Federal Aid and Real Estate Division, TWRA, March 15, 2022.

¹⁵⁶ Alabama (rentals), Alaska, Iowa (greater than 13 feet), Michigan (rental or commercial), Minnesota (greater than 10 feet), Ohio, Pennsylvania (if used at a Fish and Boat Commission access area or lake or at state parks or forests), Rhode Island (greater than 12 feet), and South Dakota (greater than 12 feet).

¹⁵⁷ Interview with Josh Mulhollem, environment and policy program manager, Oregon State Marine Board, November 16, 2021.

¹⁵⁸ Outdoor Industry Association 2017.

The various federal, state, and local agencies that manage Tennessee's waterways and access to them have authority to generate revenue to fulfill their missions and goals and could look to funding mechanisms in other states for potential fundraising strategies.

recreation at the state and local level, through programs such as the Recreational Trails Program and the Land and Water Conservation Fund, might not be reliable in the future, and parks and recreation budgets are being cut in many states. Other states and federal agencies use a variety of funding methods that can be implemented statewide or in specific areas. The various federal, state, and local agencies that manage Tennessee's waterways and access to them have authority to generate revenue to fulfill their missions and goals and could look to funding mechanisms in other states for potential fundraising strategies.

Federal agencies and other states have charged a variety of fees on non-motorized watercraft and dedicated taxes to raise revenue for waterway management. In 2017, the Outdoor Industry Association reported that "while revenue from entrance and user fees are an important component in most state budgets, user fees cannot self-fund agencies that struggle to keep up with operations, let alone add additional recreation infrastructure and resources to meet growing populations and increasing demand for outdoor recreation."¹⁵⁹ Management entities use diverse funding strategies that are often guided by the mission, goals, and values of the agency. They all have their advantages and disadvantages, and their success varies depending on specific circumstances of each situation.

One strategy is to charge fees on the vessels themselves. As required by federal law, all 50 states require motorized boats to be registered, and 37 states, excluding Tennessee, also require motorized boats to be titled.¹⁶⁰ States can charge fees for both. While only ten states require registration or titling for canoes, kayaks, and other non-motorized vessels other than sailboats, it is another way to generate revenue to pay for services for these vessels.¹⁶¹ Registration fees range from \$5 per vessel every three years for rental or commercial vessels in Michigan to an annual \$25 fee for rental vessels under 16 feet long in Alabama. Three states—Alaska, Florida, and Rhode Island—require non-motorized vessels to be titled.¹⁶²

Rather than charging fees for vessels, some government entities require all private paddlers and non-motorized vessel outfitters to pay fees for access to certain areas. Federal agencies such as USFS and NPS have access fees for private users, including in Tennessee, where the USFS charges a \$3 day-

¹⁵⁹ Outdoor Industry Association 2017.

¹⁶⁰ Tennessee Advisory Commission on Intergovernmental Relations 2018.

¹⁶¹ Alabama (rentals), Alaska, Florida, Iowa (greater than 13 feet), Michigan (rental or commercial), Minnesota (greater than 10 feet), Ohio, Pennsylvania (if used at a Fish and Boat Commission access area or lake or at state parks or forests), Rhode Island (greater than 12 feet have to be registered), and South Dakota (greater than 12 feet).

¹⁶² Alaska Statutes Section 05.25.056 (requirement applies only to vessels over 24 feet; titling is optional for vessels 24 feet or less), Florida Statutes Section 328.01 and 328.0015. (e) (requirement only applies to vessels 16 feet and over), and Rhode Island Statutes Section 46-22.1-3 (requirement does not apply to documented vessels 14 feet or less, ship's lifeboat or non-motorized inflatable vessel, surfboard, racing shell, rowing scull, or tender used for transportation between a vessel and shore).

use fee or \$30 for an annual pass to access the Cherokee National Forest, which is where many people access the popular, whitewater section of the Hiwassee River.¹⁶³ NPS sites often have entrance fees, use fees, or fees for specific attractions or areas within parks.¹⁶⁴ For outfitters, flat fees and fees based on a percentage of gross revenue are both common. For example, Montana charges commercial non-motorized vessel outfitters \$5 a day to operate in its state parks. The NPS charges outfitters 3% of their gross receipts to operate within certain parks. Tables 6 and 7 show hypothetical scenarios of potential estimated revenue generated from fees for commercial paddlecraft outfitters and private paddlers.

Some agencies allow access for paddlers who already hold another type of license or permit. In Colorado, boaters, including non-motorized vessel paddlers, need a hunting or fishing license or state wildlife area pass to use wildlife area access ramps.¹⁶⁵ In Pennsylvania, all boaters, including those with non-motorized vessels, can launch them at Pennsylvania Fish and Boat Commission (PFBC) lakes and access areas or Pennsylvania state parks if the vessels display a PFBC launch use permit, boat registration, or Pennsylvania State Parks launch permit or a mooring permit.¹⁶⁶

Some agencies allow access for paddlers who already hold another type of license or permit, such as in Colorado and Pennsylvania.

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¹⁶³ Recreation.gov "Site Pass Selection."

¹⁶⁴ National Park Service 2021.

¹⁶⁵ 2 Colorado Code of Regulations 406-9 900.C.

¹⁶⁶ 30 Pennsylvania Consolidated Statutes Section 742 (e).

Table 6. Hypothetical Scenarios for Estimated Revenue from New Commercial Paddlecraft Outfitters Fees

Type of Fee	Amount of Fee	Number of Paddlecraft Vessels	Amount of Gross Receipts	Number of Outfitter Businesses*	Amount per Outfitter	Range of Estimated Total Amount of Annual Revenue	Assumptions
flat fee for boat access/ramp use	\$150			75	\$2,100	Low \$157,500	Metro Nashville Parks and Recreation charges \$150 per site per month of operation; outfitter uses two sites and operates seven months out of the year. Either 75% or 100% of outfitters pay.
				100	\$2,100	High \$210,000	
percent of gross receipts	3%		\$2,386,689			Low \$71,601	TDEC charges 3% of gross receipts. Total annual number of launches reported by TACIR survey respondents is 61,473. Canoes are 29.5% of vessels, and rentals are \$55 each; kayaks are 56.5% of vessels, and rentals are \$40 each.
			\$7,160,067			High \$214,802	
	10%		\$2,386,689			Low \$238,669	Ocoee River outfitters pay 10% of gross receipts and are exempt from paying state and local sales tax on amusements. Total annual number of launches reported by TACIR survey respondents is 61,473. Canoes are 29.5% of vessels, and rentals are \$55 each; kayaks are 56.5% of vessels, and rentals are \$40 each.
			\$7,160,067			High \$716,007	
waterway access permit	\$200			75	\$200	Low \$15,000	Oregon charges \$90 to \$300 for waterway access permits. Either 75% or 100% of outfitters pay.
				100	\$200	High \$20,000	

Type of Fee	Amount of Fee	Number of Paddlecraft Vessels	Amount of Gross Receipts	Number of Outfitter Businesses*	Amount per Outfitter	Range of Estimated Total Amount of Annual Revenue	Assumptions
vessel registration	\$25	3,151				Low \$78,775	Alabama charges \$25 per vessel not including tubes per year. TACIR survey respondents reported owning 3,151 vessels not including tubes. 9,500 is approximately three times 3,151.
	\$25	9,500				High \$237,500	
vessel titling	\$8	3,151				Low \$25,208	Average fee in Florida is \$8. TACIR survey respondents reported owning 3,151 vessels not including tubes. 9,500 is approximately three times 3,151.
	\$8	9,500				High \$76,000	
permit for specific rivers	\$60	2,500				Low \$150,000	Lower Deschutes River fee is \$115 for two-year permit; TACIR staff rounded to \$60 per year and chose hypothetical numbers of vessels.
	\$60	5,000				High \$300,000	

Note: TACIR staff calculated the estimates based on available data and assumptions. Approximately 40% of outfitters in the state responded to the 2022 TACIR survey. Therefore, the number of vessels, including tubes, is an estimate.

*According to TWRA, there are approximately 100 commercial paddlecraft outfitters that operate in Tennessee.

Source: Email from Alexandria Batta, ASA II Boating & Law Enforcement, TWRA, February 15, 2022; email from John Michael Cassidy, park manager, Metro Nashville Parks and Recreation, March 8, 2022; Tennessee Comprehensive Rules and Regulations, Chapter 0400-02-06-.02; Oregon State Marine Board “Agency Fees”; interview with Matt Brooks, deputy chief, Alabama Law Enforcement Agency, Marine Patrol Division, December 17, 2021; Alabama Law Enforcement Agency 2021; Florida Highway Safety and Motor Vehicles “Vessel Titling and Registrations”; US Department of the Interior 2021; and 2022 TACIR survey of commercial paddlecraft outfitters.

Table 7. Hypothetical Scenarios for Estimated Revenue from New Private Paddler Fees

Type of Fee	Amount of Fee	Number of Paddlecraft Vessels	Range of Estimated Total Amount of Annual Revenue	Assumptions	Sources for Fee Information
parking/day use/annual pass	\$6	181,220*	Low \$1,087,320	USFS charges \$3 for day-use pass in Cherokee National Forest; assume two days of use	https://www.fs.usda.gov/main/charokee/passes-permits/recreation#sitesCovered
		252,239#	High \$1,513,434		
annual pass	\$30	181,220	Low \$5,436,600	USFS charges \$30 for annual pass in Cherokee National Forest	https://www.recreation.gov/sitepass/74437
		252,239	High \$7,567,170		
access/ramp use	\$18	2,500	Low \$45,000	Reelfoot Lake State Park, TN annual permits are \$17-19; assume 100 and 400 boats per week for 25 weeks	https://tnstateparks.com/parks/activity-detail/reelfoot-lake-boating
		10,000	High \$180,000		
vessel registration	\$5	181,220	Low \$906,100	Various states	TACIR staff review of state statutes
		252,239	High \$1,261,195		
vessel titling	\$7	181,220	Low \$1,268,540	Based on Alaska and Florida fees	TACIR staff review of state statutes
		252,239	High \$1,765,673		
permit for specific rivers	\$2	1,850	Low \$3,700	Cheoah River, NC; \$2 per person; average annual number of boaters on river	https://www.fs.usda.gov/recrea/nfsnc/recreation/wateractivities/recrea/?recid=81839&actid=79
		140,000	High \$280,000		

Type of Fee	Amount of Fee	Number of Paddlecraft Vessels	Range of Estimated Total Amount of Annual Revenue	Assumptions	Sources for Fee Information
water usage stamp	\$6	181,220	Low \$1,087,320	Illinois' repealed fee	Interview with Lt. Curtis D. Lewis, boating law administrator, Illinois Conservation Police, Department of Natural Resources, December 21, 2021
		252,239	High \$1,513,434		
waterway access permit	\$17	90,610	Low \$1,540,370	Oregon charges \$17 for one year; assume 181,220 canoes and kayaks in Tennessee, and 50% of vessel owners buy a permit	https://www.oregon.gov/osmb/boater-info/Pages/AIS-FAQs.aspx/
		243,950	High \$4,147,150	In the first year and a half of its program, approximately 3.5% of the Oregon population purchased a permit; 3.5% of Tennessee's population is 243,950	

Note: TACIR staff calculated the estimates based on available data and assumptions.
 *In 2021, Ohio registered 310,003 canoes and kayaks, and the state population is estimated to be 11,780,000. That is .026 boats per person in the state. Tennessee's population in 2021 is estimated to be 6,970,000. Using the same boat per person ratio of .026 would result in 181,220 canoes and kayaks in Tennessee.
 # Assume there are as many paddlecraft in Tennessee as registered (motorized) boats (252,239 in 2021).
 Source: Tennessee Wildlife Resources Agency 2021; US Census Bureau 2021; emails from Heath Emmons, natural resource specialist, US Forest Service, March 29, 2022, Viviana Ruiz, recreation program manager, US Forest Service, April 15, 2022, and Josh Mulhollem, environmental and policy program manager, Oregon State Marine Board, November 17, 2021. Ohio data received in email from Jayne Maxwell, Natural Resource Administrator, Ohio Department of Natural Resources, Division of Parks and Watercraft, March 24, 2022.

Two states—Georgia and Texas—distribute tax revenue from sporting goods and outdoor recreation equipment to parks, historical sites, and outdoor-based recreation.

One state, Oregon, implemented a required waterway access fee in 2020 that applies to private paddlers and commercial non-motorized vessel outfitters who paddle anywhere in the state.¹⁶⁷ Private paddlers pay from \$7 for a day pass to \$30 for a two-year pass, and commercial outfitters pay annual fees of \$90 to \$300 depending on the number of boats they own. During its first two years, the program sold over 165,000 permits and generated over \$3.5 million. A portion of the revenue goes to the existing aquatic invasive species program, and the remainder is distributed through grants for non-motorized boating projects, such as boat access construction and improvements and boater safety education programs. There are a few permit exemptions, including for guides operating a boat on a federally designated wild and scenic river where a separate fee system is in place.

Although fees are the most common way to generate revenue, dedicated taxes are another option. Two states—Georgia and Texas—distribute tax revenue from sporting goods and outdoor recreation equipment to parks, historical sites, and outdoor-based recreation. They did not increase any taxes or add a new tax, but rather, dedicated a portion of existing recreation-related taxes. Both states passed constitutional amendments with a large majority of the population voting in favor, and they structure their programs a little differently, although both focus on recreation and conservation. Georgia's constitution allows up to 80% of the existing outdoor recreation and sporting goods tax revenue to be dedicated, and the state passed legislation that says 40% of the revenue must go into the Outdoor Stewardship Trust Fund. In the first two years, the program generated \$20 million, which is distributed to state and local governments and non-profit entities as grants that support parks, trails, and conservation efforts.¹⁶⁸ Texas dedicated 93% of the sporting goods tax to the parks and wildlife department to fund operations, capital projects, and local parks, and the other 7% is dedicated to the state historical commission.¹⁶⁹ The sporting goods tax revenue has generated between \$75 and \$125 million per year for outdoor recreation.¹⁷⁰ Table 8 shows hypothetical scenarios for estimated revenue generated from dedicated recreation-related taxes.

¹⁶⁷ Interview with Josh Mulhollem, environment and policy program manager, Oregon State Marine Board, November 16, 2021, and email received April 6, 2022; and Oregon State Marine Board "Waterway Access Permit FAQs."

¹⁶⁸ Interview with Soheila Naji, outdoor stewardship grant specialist, Georgia Department of Natural Resources, December 20, 2021; Georgia House Bill 332, 2018; and Georgia Department of Natural Resources "Georgia Outdoor Stewardship Program."

¹⁶⁹ Interview with Allison Winney, intergovernmental affairs, Texas Parks and Wildlife Department, November 15, 2021.

¹⁷⁰ Outdoor Industry Association 2017.

Table 8. Hypothetical Scenarios for Dedicated Portion of Existing Sales Tax on Recreational and Sporting Goods Equipment

Dedicated Portion of Tax	Estimated Total Revenue	Assumptions
1%	\$980,144	TACIR staff chose hypothetical percent
10%	\$9,801,440	TACIR staff chose hypothetical percent
40%	\$39,205,760	Georgia Constitution allows up to 80% of tax revenue, but state law set it at 40%
93%	\$91,153,392	Texas state law dedicates 93% of tax revenue

Note: TACIR staff calculated the estimates based on available data and assumptions. In fiscal year 2020-21, the sporting goods and bicycle shops sales and use tax generated \$98,014,400 in Tennessee.

Source: Georgia House Bill 332, 2018; NAICS Association “NAICS Code Description”; Outdoor Industry Association 2017; Tennessee Department of Revenue 2021; interviews with Soheila Naji, outdoor stewardship grant specialist, Georgia Department of Natural Resources, December 20, 2021; and Allison Winney, intergovernmental affairs, Texas Parks and Wildlife Department, November 15, 2021.

However, there is a legal limitation that could affect the ability of government agencies to charge new fees or taxes and needs to be considered in discussions of potential funding methods. Federal law limits the fees and taxes a state can charge vessels, their passengers, or crew on navigable waters, which are defined in federal law as “those waters that are subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.”¹⁷¹ The law outlines criteria to determine whether a waterway is navigable but says that the courts ultimately interpret the definition and decide whether a waterway meets the criteria. The National Association of State Boating Law Administrators explains in its “Guide for Multiple Use Waterway Management” that waterways are “navigable in fact” when they are used in their ordinary condition as a means of transportation.¹⁷² For navigable waters in Tennessee, the national organization American Whitewater summarizes: “There is no clear test of navigability and public access to streams in Tennessee, but generally streams that are floatable are navigable.”¹⁷³ Most, if not all, of the waterways that are used in Tennessee for recreation are on the US Army Corps of Engineers navigable waters list.¹⁷⁴

¹⁷¹ 33 CFR Section 329.1 et seq. 2022.

¹⁷² National Association of State Boating Law Administrators 2021.

¹⁷³ American Whitewater “Tennessee Navigability Report.”

¹⁷⁴ US Army Corps of Engineers “Navigable Waters List.”

If the water is navigable, 33 USCS § 5(b)(2) says that (b) No taxes, tolls, operating charges, fees, or any other impositions whatever shall be levied upon or collected from any vessel or other water craft, or from its passengers or crew, by any non-federal interest, if the vessel or water craft is operating on any navigable waters subject to the authority of the United States, or under the right to freedom of navigation on those waters, except for— ...

(2) reasonable fees charged on a fair and equitable basis that—

(A) are used solely to pay the cost of a service to the vessel or water craft;

(B) enhance the safety and efficiency of interstate and foreign commerce; and

(C) do not impose more than a small burden on interstate or foreign commerce.

Regardless of the fees or taxes or combination used, burdensome requirements are a concern.

A Tennessee Court of Appeals case, *Moscheo v. Polk County*, 2009 Tenn. App. LEXIS 602, held that a Polk County privilege tax on whitewater amusements violated federal law because the tax had been used as a general revenue measure and did not meet the criteria of 33 U.S.C. § 5(b)(2). The court held that it violated federal law and was void. In the opinion, the court also cited *Clyde Mallory Lines v. Alabama*, 296 U.S. 261, 265-66, 56 S. Ct. 194, 80 L. Ed. 215 (1935). The Tennessee Court of Appeals noted that in that US Supreme Court decision “[t]he Court added that a tax prohibition does not extend to charges made by a state authority for ‘services rendered to and enjoyed by the vessel,’ such as pilotage, wharfage, or, as in that case, a charge levied to cover the cost of policing a harbor so as to ensure the safety and movement of vessels. 296 U.S. at 266-67 (emphasis added). The exception noted in 33 U.S.C. § 5(b)(2) tracks this language.” This seems to suggest that a vessel tax that is charged purely for the sake of generating revenue for a government’s general fund would violate federal law, but a fee that is charged to provide funding for a service to a vessel, such as policing, would not be a violation of federal law. Therefore, it is likely legal to charge new fees subject to the limitations of 33 USCS § 5(b)(2).

Because various agencies manage waterways in Tennessee, regulations and fees can potentially become confusing and limit access for different user groups.

Regardless of the fees or taxes or combination used, burdensome requirements are a concern. In January 2019, a few days before TFWC approved the new rules regulating commercial paddlecraft outfitters, one local government agency—Metro Nashville Parks and Recreation Department—expressed its concern in a letter to TWRA about the potential fee burden on outfitters using its access areas. The department asked TWRA to consider either eliminating the proposed launch fees or waiving

the fees for outfitters that have permits with local governments.¹⁷⁵ In fact, when TWRA considered new fees for outfitters in 2018, it included a dollar-for-dollar credit for the proposed public access launch fee—one of three proposed new fees—if outfitters paid another governmental entity for use of or access to waters in Tennessee; however, the rules passed without the proposed fees. Table 9 shows hypothetical scenarios for estimated revenue generated from TWRA’s proposed fees.

Table 9. Hypothetical Scenarios for Estimated Revenue from New Commercial Paddlecraft Outfitters Fees as Proposed by Tennessee Wildlife Resources Agency in 2018

Type of Fee	Amount of Fee	Number of Paddlecraft Vessels	Number of Outfitter Businesses*	Range of Estimated Total Amount of Annual Revenue	Assumptions
general permit fee	\$244		75	Low \$18,300	75% of the approximately 100 outfitters pay the fee.
			100	High \$24,400	All 100 outfitters pay the fee.
vessel inventory fee (\$100 per 50 vessels not including tubes, \$100 per 100 tubes)	\$100	3,398		Low \$6,550	32 respondents to TACIR survey reported a total of 3,398 vessels including tubes.
		10,000		High \$20,000	Approximately three times as many vessels as reported in TACIR survey.
public access launch fee	\$1	61,473		Low \$61,473	29 respondents to TACIR survey reported a total of 61,473 launches.
		184,000		High \$184,000	Approximately three times as many launches as reported in TACIR survey.
Range for Total of Fees				Low \$86,323	
				High \$228,400	

Note: TACIR staff calculated the estimates based on available data and assumptions. Approximately 40% of outfitters in the state responded to the 2022 TACIR survey. Therefore, the number of vessels, including tubes, is an estimate.

*According to Tennessee Wildlife Resources Agency and Tennessee Paddlesports Association, there are approximately 100 commercial paddlecraft outfitters that operate in Tennessee.

Source: Emails from Chris Richardson, former deputy director, TWRA, May 24, 2021; and Alexandria Batta, ASA II Boating & Law Enforcement, TWRA, February 15, 2022; and 2022 TACIR survey of commercial paddlecraft outfitters.

¹⁷⁵ Email from Jim Hester, assistant director, Metro Nashville Parks and Recreation, August 26, 2021.

Like any other business in the state, commercial paddlecraft outfitters are required to pay taxes to various government entities. According to the Tennessee Department of Revenue, from 2017 through 2021, commercial paddlecraft outfitters paid a total of approximately \$33.4 million in state sales tax and \$12.9 million in local sales tax.¹⁷⁶ Some also pay fees to agencies to use specific access areas within that agency’s jurisdiction. Respondents to the 2022 TACIR survey of commercial paddlecraft outfitters in the state said they pay various fees and taxes to federal, state, and local governments. Their responses are summarized in table 10.

Table 10. Taxes and Fees Paid by Commercial Paddlecraft Outfitters During Fiscal Years 2018 through 2021 as Reported by Respondents to 2022 TACIR Survey

Type of Tax or Fee	Total Number of Respondents	Number who said they Paid the Tax or Fee	Number who Reported an Amount	Total Paid Amount Reported	Average Paid per Respondent who Reported an Amount
Taxes					
Federal corporate, self-employment, or related Subchapter S taxes	10	7	4	\$ 189,400	\$ 47,350
Federal employment taxes (social security & Medicare (FICA), income, unemployment (FUTA))	12	11	7	221,560	\$ 31,651
State business tax	12	11	8	16,220	\$ 2,028
State franchise and excise tax	10	9	6	45,850	\$ 7,642
State unemployment tax	9	7	6	34,300	\$ 5,717
State workers compensation tax	9	7	5	36,700	\$ 7,340
Sales tax (state plus local)	13	12	8	649,600	\$ 81,200
County property tax	12	11	7	42,133	\$ 6,019
County personal property tax	8	7	5	16,399	\$ 3,280
City business tax	7	5	3	1,235	\$ 412
City property tax	5	1	1	85	\$ 85
Other taxes	3	1	1	2,500	\$ 2,500
Total				\$ 1,255,982	
Fees					
Secretary of State business annual report	8	7	5	\$ 2,480	\$ 496
TDEC State Parks	4	1	0	-	\$ -
US Army Corps of Engineers	4	0	0	-	\$ -
US National Park Service	4	0	0	-	\$ -
Tennessee Valley Authority	5	1	1	15,000	\$ 15,000
City or county use	5	3	2	4,500	\$ 2,250
Other	5	4	2	2,900	\$ 1,450
Total				\$ 24,880	

Source: 2022 TACIR survey of commercial paddlecraft outfitters operating in Tennessee. Forty outfitters responded to the TACIR survey; 15 responded to this question.

¹⁷⁶ Email from Catherine Corley, statistical research specialist, Tennessee Department of Revenue, April 1, 2022.

There are examples of reducing the fee burden for outfitters in Tennessee. In 2022, the Tennessee Paddlesports Association, the organization that represents paddlecraft outfitters in the state, contacted TDEC concerning the outfitters that use parking and access points in Harpeth River State Park, a popular paddling destination. During a season of high inflation and lower-than-normal demand, the outfitters said the fee required under TDEC's new commercial use authorization—3% of gross receipts—has affected the viability of their businesses. One outfitter raised prices 15 to 20%, and income is still less than the previous season. TDEC's commercial use authorization rules provide the agency flexibility to modify the terms in their agreements with businesses. After hearing the outfitters' concerns, the agency worked with the outfitters to develop terms they were comfortable with and help them comply with the rules and regulations. Rather than a one-year permit and 3% of gross receipts, outfitters using Harpeth River State Park have a five-year permit and pay \$1 per boat.¹⁷⁷

Ocoee River outfitters are an example of a group in Tennessee that enjoys certain tax exemptions. Because of the TVA Ocoee agreement, outfitters receive an amusement tax exemption for operating on the river; this exemption applies to both the state and local sales taxes on amusements.¹⁷⁸ If the total amount the outfitters contribute to the state through their operation fees—10% of gross revenue—is less than what they would have paid in total amusement taxes, the exemption does not apply. Additionally, outfitters with permits required by TDEC to operate on the Ocoee River or by USFS to operate in the Cherokee National Forest, including on the Hiwassee River, are also exempt from TWRA's regulations for paddlecraft outfitters.¹⁷⁹

There are examples of exemptions from other states as well. Oregon allows limited exemptions from its waterway access permit, for example for nonmotorized boats and float toys under 10 feet in length, youth education groups, and people or outfitters operating a boat on a federally designated wild and scenic river with a separate fee system.¹⁸⁰ While fee or tax exemptions do not seem to be too common, they are a potential strategy to avoid burdensome fees and regulations.

While fee or tax exemptions do not seem to be too common, they are a potential strategy to avoid burdensome fees and regulations.

¹⁷⁷ Emails from David Brown, executive director, Tennessee Paddlesports Association, September 29, 2022; and Mike Robertson, state park operations director, Bureau of Parks & Conservation, TDEC, September 30, 2022.

¹⁷⁸ Tennessee Code Annotated, Sections 67-6-612, 67-6-330(a)(7), and 67-7-702.

¹⁷⁹ Tennessee Code Annotated, Section 69-9-227. The Fish and Wildlife Commission establishes rules and regulations for TWRA.

¹⁸⁰ Oregon State Marine Board "Waterway Access Permit FAQs."

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Approximately 20 Commercial Paddlecraft
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Appendix A: Public Chapter 497, Acts of 2021



State of Tennessee

PUBLIC CHAPTER NO. 497

SENATE BILL NO. 1080

By Roberts, Rose, Pody

Substituted for: House Bill No. 1389

By Todd, Reedy, Hurt

AN ACT to amend Tennessee Code Annotated, Title 4; Title 69 and Title 70, relative to recreational activities.

BE IT ENACTED BY THE GENERAL ASSEMBLY OF THE STATE OF TENNESSEE:

SECTION 1.

(a) The Tennessee advisory commission on intergovernmental relations (TACIR) is directed to perform a study of the following:

(1) Procedural and financial measures necessary to accommodate the increased demand for non-fish and game recreational activities and the resources required to manage such activities by the department of environment and conservation and the Tennessee wildlife resources agency (TWRA);

(2) How TWRA-managed resources are being utilized by non-motorized vessels for non-fish and game related recreational activities, such as paddle boarding, canoeing, tubing, and kayaking;

(3) The accessibility to and funding for all non-fish and game recreational activities;

(4) The annual fees and taxes charged to paddle craft and commercial outfitters in the previous four (4) fiscal years;

(5) Any duplicative fees charged by the department of environment and conservation and the TWRA, and what action may be taken to eliminate such duplicity in fee structures and their regulatory authority generally;

(6) The extent to which customers of non-motorized vessels contribute to revenue derived from the purchase of fishing licenses and registration of watercraft;

(7) The amount of funding needed to manage, sustain, and improve access to and the management of non-motor vehicle activities in this state and what fundraising options are available to support non-fish and game and other similar activities;

(8) What fee structure is most appropriate for recreational users generally, given that the benefits of non-fish and game programs are broader than just outfitters, who are already paying sales tax;

(9) The feasibility of outfitters who pay additional fees to the department of environment and conservation and the TWRA receiving a credit on the sales tax paid on such fees and whether the local option sales tax should be included in the credit; and

(10) What measures the department of environment and conservation and the TWRA can implement to improve their strategic plans, their organizational structures, and the oversight and sustainability of non-fish and game related recreational activities.

SB 1080

(b) All appropriate state departments and agencies shall provide assistance to TACIR in connection with the study required by subsection (a).

(c) TACIR shall submit a report disclosing the findings of the study and recommendations, including any proposed legislation or interim reports, to the general assembly no later than December 31, 2022.

(d) This section is repealed on January 1, 2023.

SECTION 2. This act takes effect upon becoming a law, the public welfare requiring it.

DRAFT

SENATE BILL NO. 1080

PASSED: May 4, 2021


RANDY McNALLY
SPEAKER OF THE SENATE


CAMERON SEXTON, SPEAKER
HOUSE OF REPRESENTATIVES

APPROVED this 25th day of May 2021


BILL LEE, GOVERNOR

DRAFT

Appendix B: River Management Resources

This is not intended to be a comprehensive list.

River Management Society

- <https://www.river-management.org/>
The resources tab at the website includes information on planning and management, national rivers project, and wild and scenic rivers.
- <https://www.gotostage.com/channel/river-management>
The river training channel has many videos available for viewing that address river management challenges.

Management Guides

A Guide for Multiple Use Waterway Management, Third Edition, 2021

- https://www.river-management.org/index.php?option=com_content&view=article&id=525%3Aguide-for-multiple-use-waterway-management&catid=20%3Asite-content&Itemid=174
The guide addresses current thinking and planning frameworks for ongoing and future waterway management issues.

Prepare to Launch! Guidelines for Assessing, Designing & Building Access Sites For Carry-In Watercraft, 2014

- <https://www.river-management.org/prepare-to-launch>
Prepare to Launch! is a resource designed to help facility and trail planners and park and recreation project leaders plan and build or update an access site tailored to the needs of canoeists, kayakers, tubers, stand-up paddlers, or small craft sailors. It guides a reader through the development process from conception to design creation and provides a variety of launch construction options.

River Access Planning Guide: A Decision-making Framework for Enhancing River Access, 2020

- [https://rms.memberclicks.net/assets/RiverAccessGuide/River%20Access%20Planning%20Guide%20\(2019\).pdf](https://rms.memberclicks.net/assets/RiverAccessGuide/River%20Access%20Planning%20Guide%20(2019).pdf)
The guide provides a step-by-step procedure to evaluate existing and anticipated uses, select appropriate sites, and design facilities that support desired recreation experiences.

A Guide to Sustainable River Recreation Management Planning, 2017

- <http://www.bluetrailsguide.org/wp-content/uploads/sites/6/2017/02/AR-Sustainable-Recreation-Management-Report.pdf?1e5620>
The goal of this guide is to provide a framework for local governments, planners, non-profit organizations, and others to develop an effective river recreation management plan that has strong community support.

Public Access Guide for Landowners, Water Trails & River Managers, 2016

- https://www.river-management.org/assets/WaterTrails/landowner%20guidance_final_final_revised_1-21-2016.pdf

This guide is intended to be a helpful resource for members of the water trail and river community who manage recreational access to water on privately held and public land, or who are negotiating with landowners for the privilege of doing so. It may also be useful to landowners who allow or are considering recreational access to and use of their property, and whether management plans or adjustments of physical features should be considered.

The Good, the Bad, and the Unusual: What makes a boating access work (or not)? 2020

- <https://rms.memberclicks.net/assets/site/GBU%20report.pdf>

This report presents summary information about a working database of representative river-based boat launches across the country.

Water and Land Recreation Opportunity Spectrum (WALROS) User's Handbook, 2011

- https://www.usbr.gov/recreation/publications/WALROS_Handbook_2011.pdf

The overarching goal of WALROS is to provide planners and managers with a framework and procedure for making better decisions in order to conserve a spectrum of high-quality and diverse water and land recreation opportunities. WALROS improves our understanding of the complexity of outdoor recreation management, strengthens sound professional judgment, and enables a manager to make better and more defensible decisions.

Allocating River Use: A Review of Approached and Existing Systems for River Professionals, 2008

- <https://www.river-management.org/assets/docs/Library/allocating%20river%20use-jan%202009.pdf>

This report summarizes information about allocating use on North American rivers. The goal is to review allocation systems and public responses to them. The report describes the advantages and disadvantages of different choices in different settings, providing river professionals with the tools to assess and develop their allocation options.

Logical Lasting Launches: Design Guidance for Canoe and Kayak Launches, 2004

- <https://npgallery.nps.gov/RTCA/GetAsset/86bb0d45-8417-4904-97ae-771c8eba5a42/original>

This publication offers guidance in designing canoe and kayak launches for a variety of access sites. Descriptions, designs, and photos of launches are grouped into eleven chapters, according to type, with a focus on the point of entry onto the water.

Water Trails

National Water Trails

- <https://www.nps.gov/subjects/nationaltrailssystem/national-water-trails-system.htm>

This website has links to resources and best management practices for water trails including community support, conservation, education, maintenance, planning, public information, and recreation.

Michigan Water Trails Manual, 2017

- https://www.michiganwatertrails.org/downloads/water_trail_manual_20170609_web.pdf

This water trail manual is intended to provide local officials, water advocacy organizations, paddlers, and visionary citizens with the resources and tools to develop a water trail in their community. This manual will help you develop a water trail that is tailored to your community's capacity, resources, and needs.

River Network "What is a Water Trail?", 2006

- https://www.rivernetwork.org/wp-content/uploads/2016/04/River-Voices-v16n2-2006_What-is-a-Water-Trail.pdf

This guide to developing and maintaining a water trail includes guiding principles, traits for success, planning, partnerships, ways to deal with common challenges, and more.

Community Partnerships

Legacy Parks Foundation

- https://legacyparks.org/initiatives/#Waterway_access

This is a non-profit organization that works to ensure that its community enjoys exceptional recreational opportunities, natural beauty and open spaces, and that these assets exist for generations to come. It works collaboratively with government agencies and non-government organizations on many initiatives including waterway access projects in several communities.

Tennessee RiverLine

- <https://www.tnriverline.org/>

Tennessee RiverLine is a non-profit initiative and partnership with TVA and UT Knoxville focused on developing the Tennessee River as a system for outdoor recreation, not just on the water, but also on adjacent land for hiking and biking in the communities that it flows through. More broadly, its goal is to strategically invest in economic, social, and environmental infrastructure to improve the river and the communities along it. It is a large undertaking that is attempting to include the over 600 miles of river, the governments, organizations, and communities involved with it, not only in Tennessee but beyond, in Alabama and Kentucky.

Water-Oriented Recreation District of Comal County

- <https://wordcc.com/>

WORD is a park and recreation district created by the Texas Legislature in 1987 and voted for by the residents of Comal County in 1988. The purpose of W.O.R.D. is to improve the environment and welfare of the district by conserving natural resources, improving public health, promoting water safety, and operating public parks located in the district. To carry out the mandate, W.O.R.D. issues permits to water-related businesses allowing them to collect user fees from customers visiting the district.

River Management Plans

Final Colorado River Comprehensive Management Plan, 2020

- https://ffsl.utah.gov/wp-content/uploads/ColoradoRiver_Final_CMP_January_2020_Compressed.pdf

The plan was developed to prescribe management goals and objectives for sovereign lands along the Colorado River and to ensure that navigation, fish and wildlife habitat, aquatic beauty, public recreation, and water quality are given due consideration and balanced with the benefits to be derived from any proposed use.

Virginia Department of Game and Inland Fisheries: Boating Access Site and Facility Management Plan, 2019

- <https://dwr.virginia.gov/wp-content/uploads/Virginia-Boat-Access-Management-Plan.pdf>

The plan establishes the direction the Department of Game and Inland Fisheries seeks to take in its management of boating access facilities over the next decade and recommends necessary management guidance for all of the Department's sites and facilities.

Capacity and Use Studies

How Much is Too Much? Carrying Capacity of National Parks and Protected Areas, 2002

- <http://npshistory.com/publications/social-science/how-much.pdf>

This paper describes the VERP framework and its application in the U.S. national park system, including a program of research designed to help formulate indicators and standards of quality. Contemporary approaches to carrying capacity—including the Visitor Experience and Resource Protection (VERP) framework developed by the U.S. National Park Service—rely on formulation of indicators and standards of quality of natural and cultural resources and the visitor experience.

Steps to Address User Capacities for Wild and Scenic Rivers, 2018

- <https://www.rivers.gov/documents/user-capacities.pdf>

This paper addresses user capacity determinations for public use consistent with applicable law.

Lower Delaware Wild and Scenic River User Capacity Study Recreation Assessment, 2021

- <https://lowerdelawarewildandscenic.org/docs/presentations/RiverUseInterimReportFinalJune2021LDWS.pdf>

This interim 'recreational assessment' report addresses the recreation-related goals of the 2007-2011 Action Plan as the starting point for review of the current recreational environment on the Lower Delaware Wild and Scenic River.

Minnesota Canoe and Kayak Study, 2005

- https://files.dnr.state.mn.us/aboutdnr/reports/boating/canoe_kayak.pdf

To gain a better understanding of canoeing and kayaking in Minnesota, the Department of Natural Resources conducted this study, which has two major goals. One goal is to provide a general

understanding of the nature and direction of canoeing/kayaking in Minnesota, and the second goal is to provide information to help guide Minnesota's Canoe and Boating Route Program.

Impact Studies

A Report of the Economic & Fiscal Impact of Tennessee State Parks, 2022

- <https://www.tn.gov/environment/news/2022/3/7/tennessee-state-parks-had--2-1-billion-economic-impact-in-2021.html>

Approximating the economic impact of visitor spending at TVA stream sites, 2021

- https://tva-azr-eastus-cdn-ep-tvawcm-prd.azureedge.net/cdn-tvawcma/docs/default-source/news/tva-stream-access-economic-impact-report59bb28ee-8cdf-4f5f-9e84-2c8ff80367d3.pdf?sfvrsn=d654e48e_3

This report presents the results from extrapolation of recreation use estimates and economic impact and contribution estimates generated from selected stream access sites within TVA region in a recently conducted study.

Economic Potential of the Tennessee RiverLine Water Trail: Economic Impacts and Case Study Analysis, 2022

- https://drive.google.com/file/d/1q4qhrMWj_D5r8dEHeo3170lFZziZNdgk/view

This report estimates the potential economic impacts arising from additional paddlers that will use the Tennessee RiverLine and identifies economic and health impacts that are expected but not quantified through this study. Economic impacts are estimated for the Tennessee RiverLine as a whole, for each of the four states that the river passes through (Alabama, Kentucky, Mississippi, and Tennessee), and for a representative urban and rural county.

Estimated Economic Impacts of Ocoee River Whitewater Rafting on the Local Economy, 2012

- <https://news.utk.edu/2013/05/22/rafting-ocoee-river-43-million-economic-impact/>

This purpose of this study is to estimate the 2012 economic impacts of visitor spending by rafters to the Ocoee River in Ocoee, Tennessee.

Economic Impact of Non-Commercial Paddling and Preliminary Economic Impact Estimates of Commercial Paddling in the Nantahala and Pisgah National Forests, 2017

- https://static1.squarespace.com/static/54aabb14e4b01142027654ee/t/59d545dcd2b857af3a8f1af5/1507149284387/OA_NPNF_PaddleStudy.pdf

Working alongside Outdoor Alliance and American Whitewater, the research team conducted an online survey to collect data on paddling expenditures in the NPNF with the goal of estimating paddling's noncommercial annual economic impact across seven rivers in the NPNF (Nantahala, French Broad, Nolichucky, Cheoah, Wilson Creek, Big Laurel, and North French Broad). As part of this study, the research team also agreed to provide a potential estimate of commercial paddling expenditures across three rivers (Nantahala, French Broad, and Nolichucky).

An Economic Argument for Water Trails, 2015

- <https://www.river-management.org/assets/WaterTrails/economic%20argument%20for%20water%20trails.pdf>

This report is a summary of findings from existing studies, which provide examples of the economic impact of water trails in their respective communities. It is meant to provide a helpful resource to communities interested in learning about the economic benefit water trails have provided for cities and towns in the US.

Pennsylvania Recreational Water Trails Economic Impact Study: A Four-Trail Case Study, 2012

- https://headwaterseconomics.org/wp-content/uploads/Trail_Study_105-PA-Water-Trail-Econ-Impact.pdf

The purpose of this study is to better understand use patterns and economic impacts to inform discussion about public investment in the state's 21 water trails among trail advocates, local governments, and state agencies.

Grant Opportunities

Tennessee Department of Environment and Conservation (TDEC)

- <https://www.tn.gov/environment/program-areas/res-recreation-educational-services/res-recreation-educational-services-grants0.html>

The Recreation Resources Division administers three competitive grants that can be used for water recreation projects: Local Parks and Recreation Fund, Recreational Trails Program, and Land and Water Conservation Funds.

Department of Tourist Development

- <https://www.tn.gov/tourism/statewide-partners/grants-initiatives.html>

The department manages three grants related to waterway development. One is the Waterways Accessibility for Tennessee Recreation (WATR) grant, referred to as the marina grant. Its purpose is to provide a rebate to marinas for the fees they pay to TVA, the Army Corps, or the US Forest Service for using shoreline. Another program is the tourism enhancement grant, which is a competitive grant that can be used for river access infrastructure projects. The third program is the adventure tourism district program to designate rural areas as adventure districts to promote outdoor recreation and support businesses.

National Park Service

- <https://www.nps.gov/orgs/rtca/index.htm>

The Rivers, Trails, and Conservation Assistance Program is a technical assistance, not a monetary grant. It supports locally-led conservation and outdoor recreation projects by assisting communities and public land managers in developing or restoring parks, conservation areas, rivers, and wildlife habitats, as well as creating outdoor recreation opportunities and programs that engage future generations in the outdoors.

In Tennessee, contact Allison Bullock at (423) 987-6128, Alison_Bullock@nps.gov.

Rules and Regulations for Commercial Operators

Tennessee Wildlife Resources Agency (TWRA)

Rules and Regulations Governing Commercial Non-Motorized Vessel Outfitters

- <https://publications.tnsosfiles.com/rules/1660/1660-04-01.20191111.pdf>

Non-Motorized Vessel Operating Permits

- <https://www.tn.gov/twra/boating/paddle-craft-permit.html#:~:text=TWRA%20is%20now%20taking%20permit,venture%2C%20individual%2C%20etc>

The Handbook of Tennessee Boating Laws and Responsibilities, 2021

- <https://www.tn.gov/content/dam/tn/twra/documents/boating/TN-Boating-Handbook.pdf>

This handbook is a guide to Tennessee boating laws for recreational boaters.

Tennessee Department of Environment and Conservation (TDEC)

Commercial Use Authorization Handbook

- https://www.tn.gov/content/dam/tn/environment/state-parks/vendor-opportunities/parks_vendor-ops_cua-handbook.pdf

This handbook is intended to assist prospective applicants and returning operators in learning more about the commercial use authorization application and permitting process and commercial operation within Tennessee State Parks.

Rules of the Tennessee Department of Environment and Conservation State Parks, Chapter 0400-02-13, Commercial Use Authorizations

- <https://publications.tnsosfiles.com/rules/0400/0400-02/0400-02-13.20211220.pdf>

Federal Agencies

National Park Service – Commercial Use Authorizations

- <https://www.nps.gov/subjects/cua/index.htm>

Tennessee Valley Authority – Commercial Recreation Management Fee Guideline

- <https://www.tva.com/environment/recreation/commercial-recreation-management-fee-guideline>

US Army Corps of Engineers – Nashville District

- <https://www.lrn.usace.army.mil/Business-With-Us/Small-Business/>

US Forest Service – Contracts & Commercial Permits

- <https://www.fs.usda.gov/working-with-us/contracts-commercial-permits>

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Appendix C: Tennessee Paddlesports Association Best Practices for Responsible, Shared Use of Tennessee Waterways



Best Practices for responsible, shared use of Tennessee Waterways

The TN Paddlesports Association supports responsible, shared use of Tennessee waters ways for paddling, fishing, and boating. A goal of the TN Paddlesports Association is to promote practices that diminish the potential for user conflicts and help keep our natural environment clean and available to all for outdoor recreation. These best practices are offered to help achieve that goal.

Reduce congestion at popular put-ins and take-outs

Unload as quickly as possible and in areas that do not block boat ramps and access by others. Move your vehicle to an appropriate parking area as soon as possible.

Don't leave kayaks and canoes on boat ramps for an extended period. Whenever possible avoid using the ramps to put-in and take-out. When available use areas on the sides of the boat ramps to load and unload.

Instruct customers to assemble in areas that are not heavily trafficked to allow vehicles to move around without blocking their egress. Don't stand around in front of the boat ramp.

Respect fishermen

When fishermen are present look for their lines in the water and avoid them by paddling away from where their line enters the water, which generally is away from the fishermen.

Do not try to paddle under the line unless is too late to avoid.

Be aware that fly casting needs up to 30 yards of clearance in a radius around the fishermen.

In general, avoid waving or trying to converse with fishermen unless they initiate contact. They may not want to respond to a number of paddlers passing by.

Respect Private property

Unless you are in a National Forest or in a National or State Park, the land on either side of the river is private property. Do not try to access this land. Some landowner may consider setting foot on riverside property to be trespassing.

If you are lost or confused about where to take-out, contact your outfitter or follow the instructions provided to you during the orientation.

Pick Up Litter

It goes without saying that littering on waterways is inappropriate. Never try to sink cans or other waste to discard them.

Use a trash bag and carry out more than your carried in.



Most litter in waterways come from tributaries. Still some who are opposed to paddling on navigable waterways may try to blame paddlers for the litter therefore it is important for you to pick up any litter you may find during your trip.

Most outfitters conduct river cleanups annually.

Be helpful to others

While you are not responsible for rescues and the problems of others encountered on the water, be helpful to others whenever possible.

Follow your outfitter's instructions in case of an emergency. Call _____

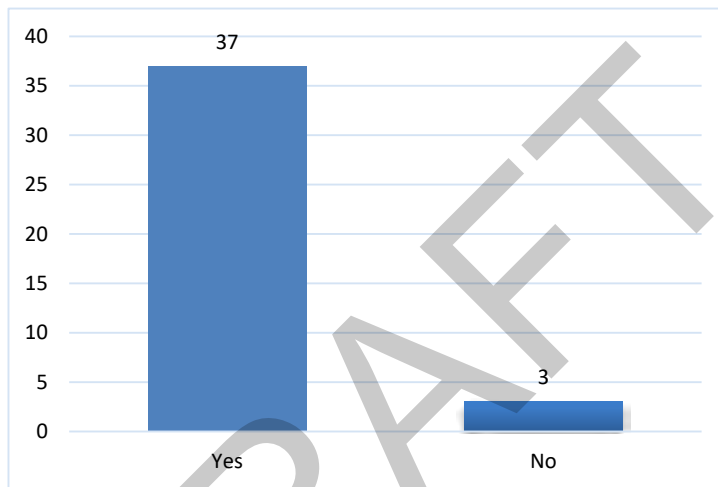
Always be courteous to others and avoid confrontation.

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Appendix D: Commercial Paddlecraft Outfitter TACIR 2022 Survey Results Summary

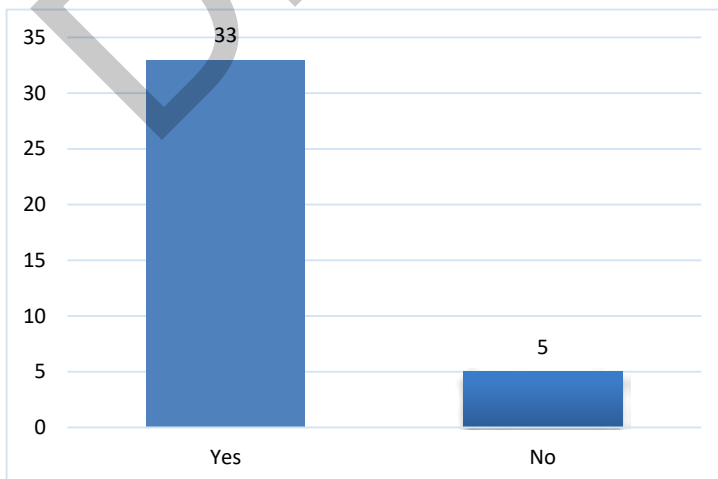
A total of 40 commercial paddlecraft outfitters responded to the survey. According to Tennessee Wildlife Resources Agency and Tennessee Paddlesports Association, there are approximately 100 commercial paddlecraft outfitters that operate in Tennessee.

1. Has your business offered paddlecraft rentals in Tennessee during the last four years? (2018-2021)



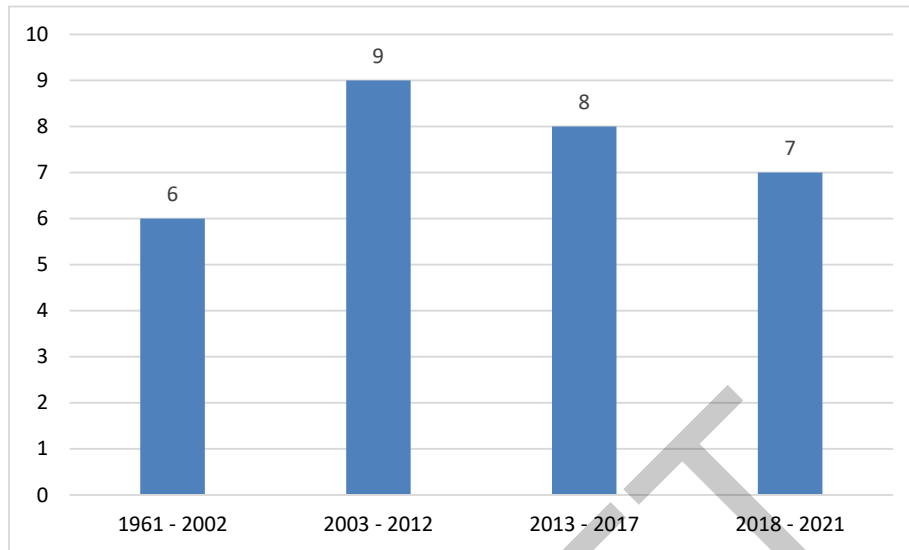
Note: 40 outfitters responded to the question.

2. Does your business plan to offer paddlecraft rentals in Tennessee in 2022?



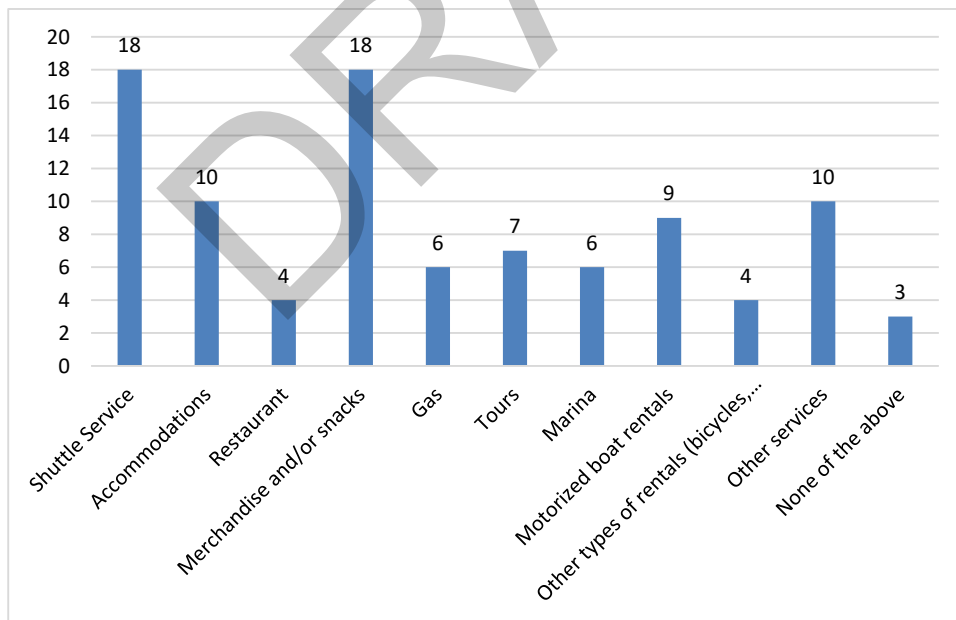
Note: 38 outfitters responded to the question.

3. In what year did you start your paddlecraft rental business?



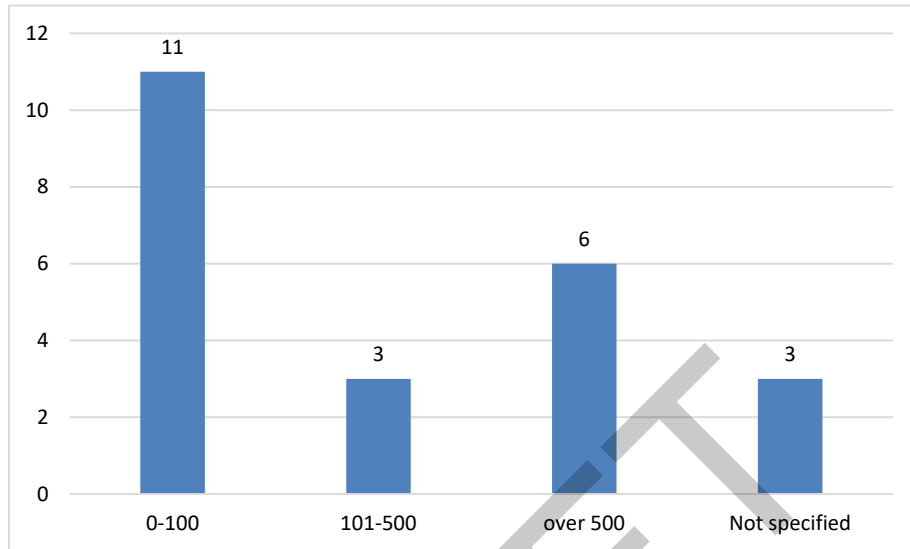
Note: 30 outfitters responded to the question.

4. Besides renting paddlecraft vessels, what other services does your business offer in Tennessee, if any?



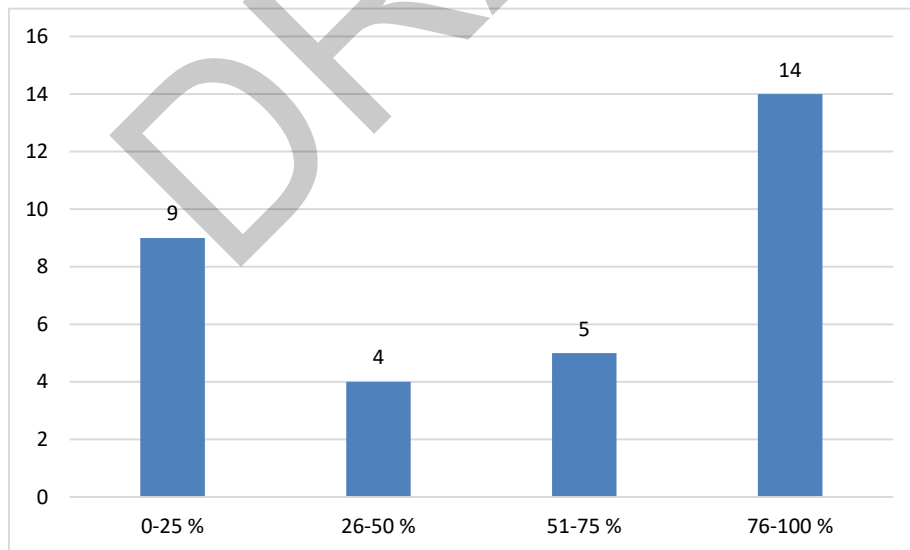
Note: 32 outfitters responded to the question.

5. If your business offers a shuttle service, approximately how many customer-owned vessels do you transport per year in Tennessee?



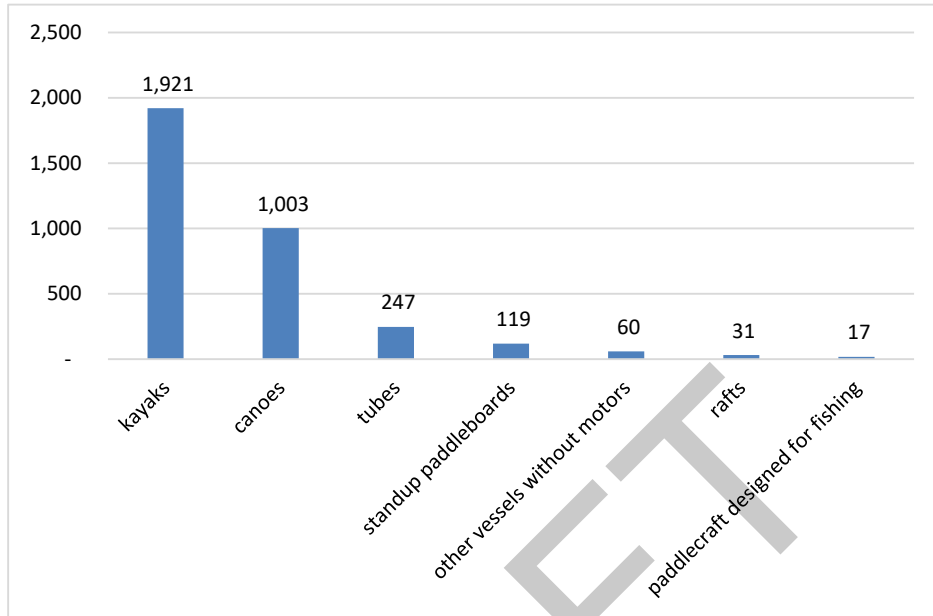
Note: 23 outfitters responded to the question.

6. Approximately what percentage of your business in Tennessee is paddlecraft rentals?



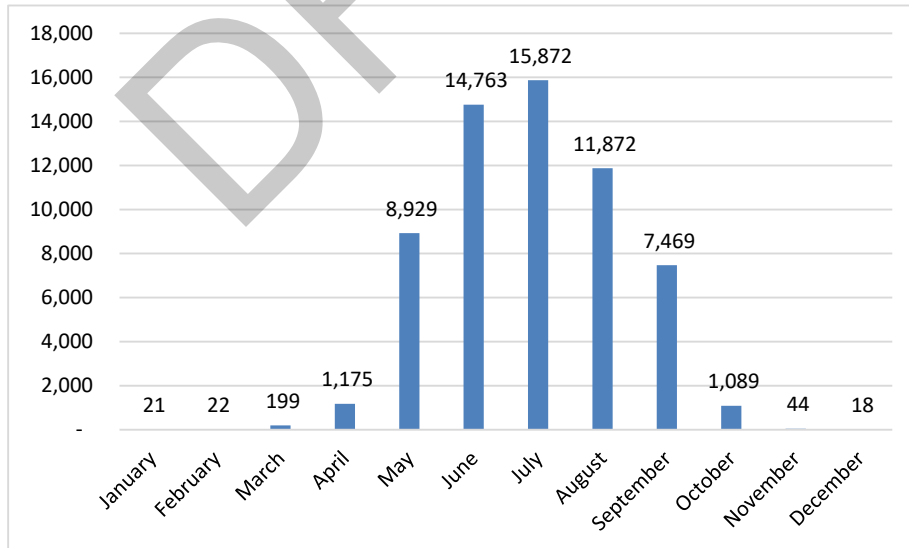
Note: 32 outfitters responded to the question.

7. How many vessels does your business have in its paddlecraft rental fleet?



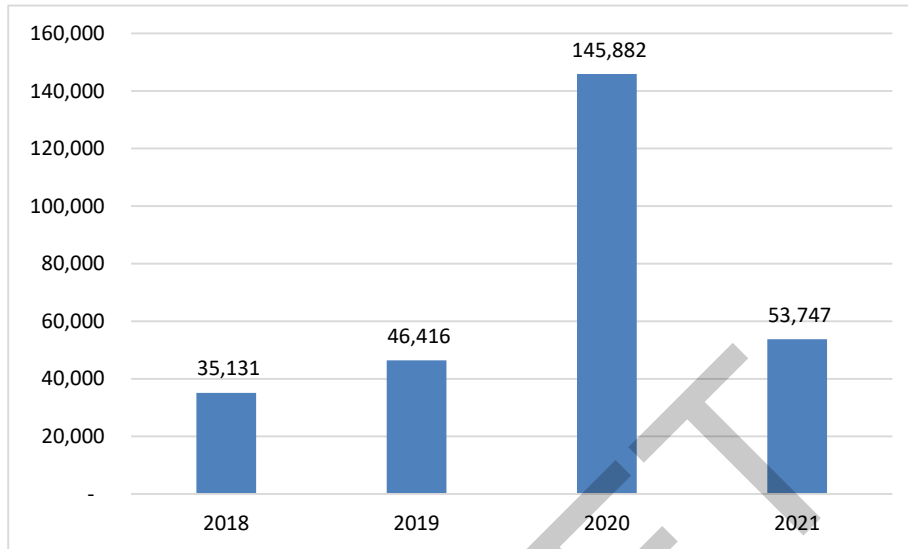
Note: 32 outfitters responded to the question. The total number of vessels reported is 3,398.

8. Approximately how many rented paddlecraft launches does your business do in Tennessee each month?



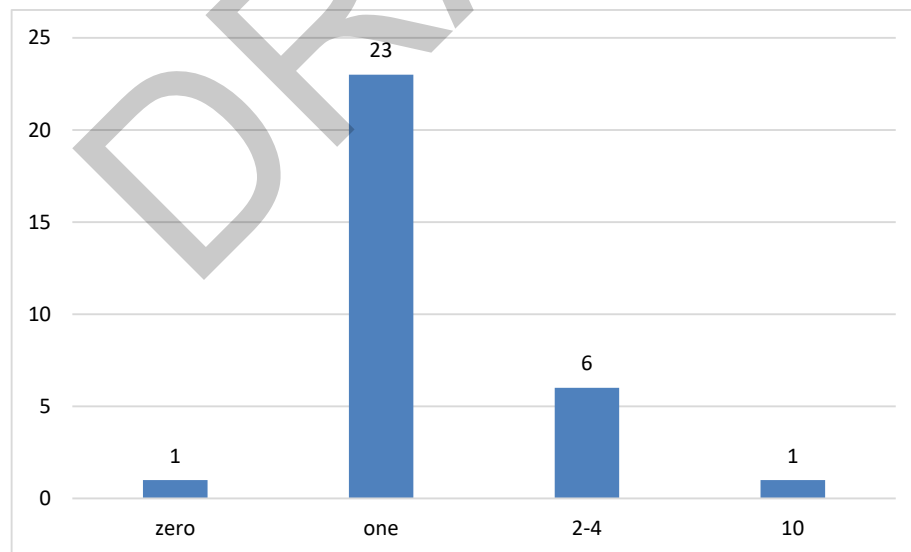
Note: 29 outfitters responded to the question. The total number of launches reported is 61,473.

9. How many rented paddlecraft launches has your business done in Tennessee, on average, for each of the last four years?



Note: 25 outfitters responded to the question.

10. How many different waterways or bodies of water in Tennessee does your business use for paddlecraft rentals?



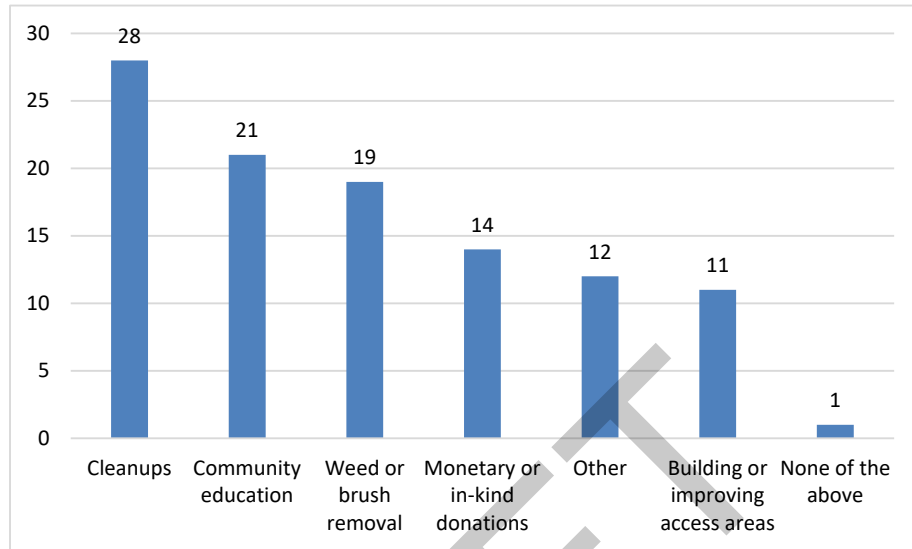
Note: 31 outfitters responded to the question.

11. Which waterways or bodies of water in Tennessee does your business use for paddlecraft rentals or shuttle service?

Buffalo River	4
Caney Fork River/Center Hill Lake	3
Percy Priest Lake	3
Cumberland River	2
Duck River	2
Harpeth River	2
Wolf River	2
Big South Fork River	1
Chickamauga Creek (North and South)	1
Collins River	1
Elk River	1
Hatchie River	1
Lookout Creek	1
Lower Clinch River	1
Mississippi River	1
Piney River	1
Stones River (West and East Fork)	1
Tennessee River	1
Lake Barkley	1
Cherokee Lake	1
Kentucky Lake	1
Lake Chickamauga	1
Norris Lake	1
Old Hickory Lake	1

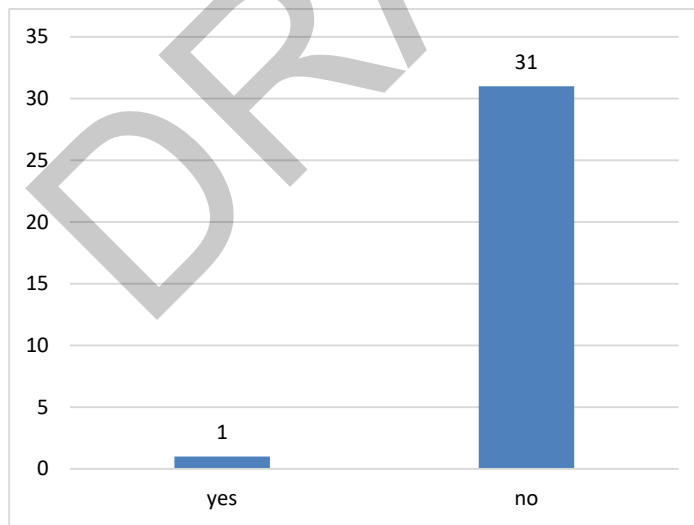
Note: 29 outfitters responded to the question and use approximately 27 different waterways.

12. What types of activities does your business conduct to help protect and maintain the waterways and access areas in Tennessee?



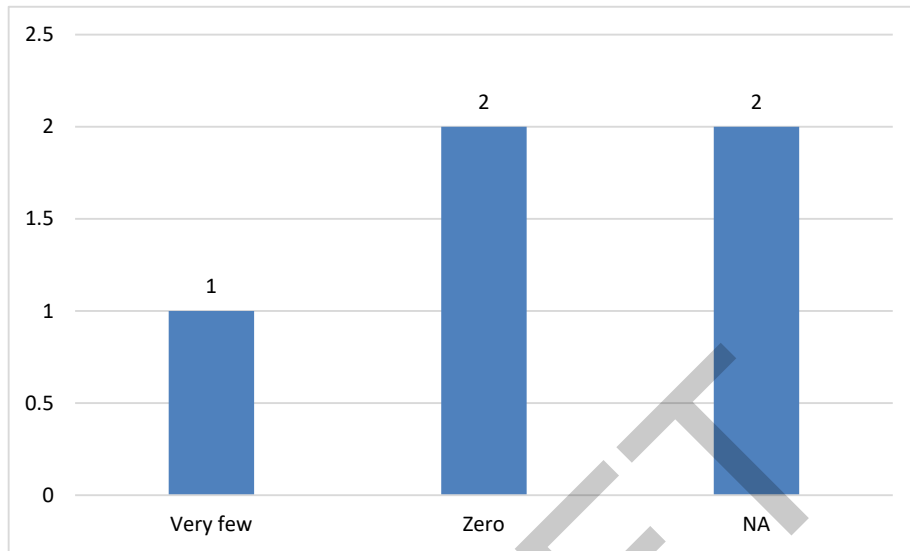
Note: 32 outfitters responded to the question.

13. Does your business sell Tennessee fishing licenses?



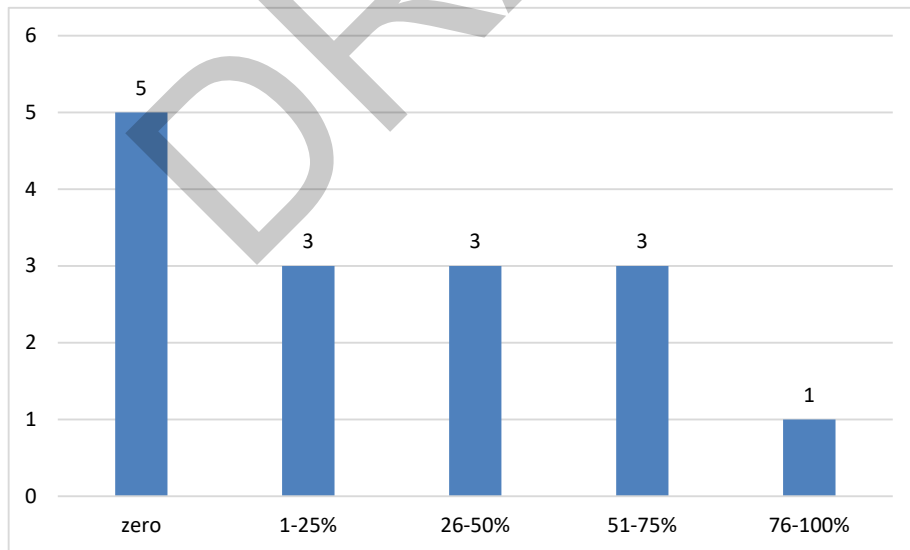
Note: 32 outfitters responded to the question.

14. If your business does sell Tennessee fishing licenses, approximately how many do you sell per year?



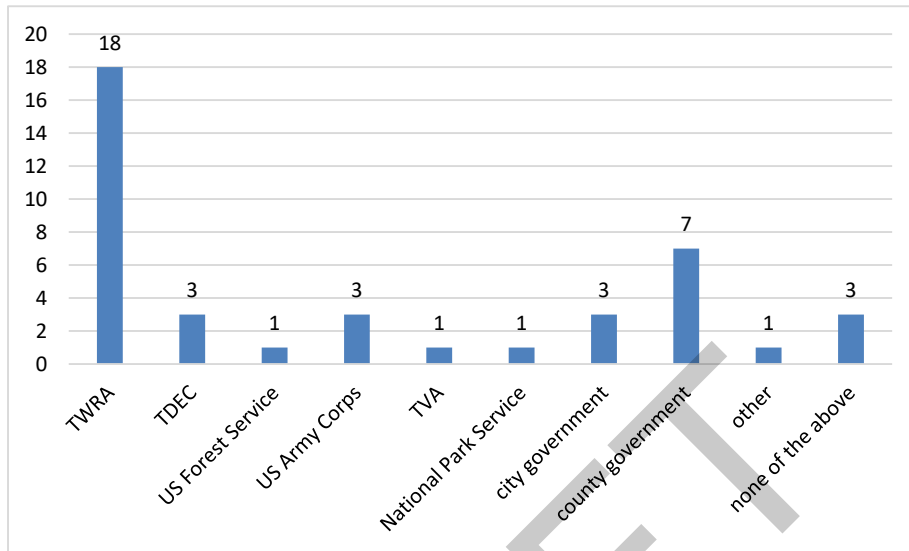
Note: 5 outfitters responded to the question.

15. Please estimate the percentage of your customers that carry Tennessee fishing licenses, if known.



Note: 15 outfitters responded to the question.

16. Which entities require your business to have a permit to operate? Please specify the type or name of permit and number of years the permit is valid for.



Note: 24 outfitters responded to the question. Respondents that selected county government specified that the county requires them to have a business license.

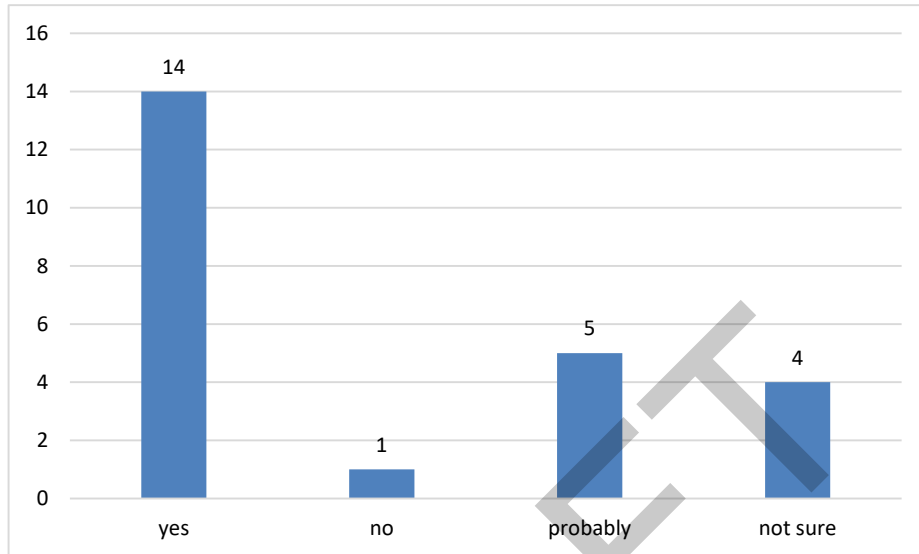
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17. What fees and taxes has your business been required to pay during the last four fiscal years (2018, 2019, 2020, 2021)?

Type of Tax or Fee	Total Number of Respondents	Number who said they Paid the Tax or Fee	Number who Reported an Amount	Total Paid Amount Reported	Average Paid per Respondent who Reported an Amount
Taxes					
Federal corporate, self-employment, or related Subchapter S	10	7	4	\$ 189,400	\$ 47,350
Federal employment (social security & Medicare (FICA), income, unemployment (FUTA))	12	11	7	221,560	\$ 31,651
State business	12	11	8	16,220	\$ 2,028
State franchise and excise	10	9	6	45,850	\$ 7,642
State unemployment	9	7	6	34,300	\$ 5,717
State workers compensation	9	7	5	36,700	\$ 7,340
Sales (state plus local)	13	12	8	649,600	\$ 81,200
County property	12	11	7	42,133	\$ 6,019
County personal property	8	7	5	16,399	\$ 3,280
City business	7	5	3	1,235	\$ 412
City property	5	1	1	85	\$ 85
Other taxes	3	1	1	2,500	\$ 2,500
Total				\$ 1,255,982	
Fees					
Secretary of State business annual report	8	7	5	\$ 2,480	\$ 496
TDEC State Park	4	1	0	0	\$ -
US Army Corps of Engineers	4	0	0	0	\$ -
US National Park Service	4	0	0	0	\$ -
Tennessee Valley Authority	5	1	1	15,000	\$ 15,000
City or county use	5	3	2	4,500	\$ 2,250
Other	5	4	2	2,900	\$ 1,450
Total				\$ 24,880	

Note: 15 outfitters responded to the question.

18. Would additional fees such as a per person or per vessel fee or a fee that is a percent of gross revenue have a significant negative effect on the viability of your business?



Note: 24 outfitters responded to the question.