



CASE STUDY:

THE U.S. NATIONAL WHITEWATER CENTER

How a Large-scale, Pumped Whitewater Attraction
Drives Tourism, Economic Impact, and Brand Value

World's Largest Pumped Whitewater Park

Above Interstate 485 in Charlotte, N.C. hangs a green sign capturing drivers' attention: "U.S. National Whitewater Center, Home of USA Canoe & Kayak, Official U.S. Olympic Training Center." It's there because of the 1,300-acre U.S. National Whitewater Center (USNWC), a massive outdoor sports and recreation complex built in 2006 along the Catawba River to "promote the active lifestyle."

The USNWC does just that by offering more than 30 land- and water-based activities to all levels of participants, as well as outdoor instruction and certification programs, festivals, races, films, and other events. It is enough of an attraction that the Center was recently featured in the March 2019 issue of *The Red Bulletin*, a world-wide magazine published by beverage company Red Bull, and has proven to be a driving force in the region's economy.

The main campus, centered in the 366 acres of the original park, is 22 acres and includes a purpose-built recirculating river, trails for biking and running, restaurants, a climbing center, a live music venue, and more. The site is owned by Mecklenburg County, N.C., with the property leased to the nonprofit USNWC. It has proven to be a successful model for developing a comprehensive, multi-purpose outdoor activity destination with a custom recirculating whitewater park as its anchor.



The Whitewater Experience

The ¾-mile long whitewater park features four separate channels, including a slalom channel for world-caliber races, the world’s highest-volume, pumped big water channel, and purpose-built areas for instruction, development, safety training, and surfing. The project uses 13 million gallons of treated water, pumping it at a rate to fill an Olympic-sized swimming pool in just 18 seconds. It also employs a patented moveable obstacle system that allows the operator to change each channel’s rapids for different uses. Headgates scale water release volume allowing for more efficient operations, lowering operating costs to coincide with the day’s customer base. Natural rock structures, a restaurant, music amphitheater, and patio areas overlooking the course complete the facility.

As the world’s largest man-made whitewater river, the park features Class II-IV rapids spread throughout multiple channels. Guests can select between “Family” and “Adventure” rafting experiences. The Family program provides a calmer whitewater experience while the Adventure program, its most popular, is designed for those seeking more excitement. Another option, Rodeo Rafting, delivers the most aggressive route for customers using smaller rafts. This requires an upgrade fee.



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“The USNWC was the first whitewater channel specifically designed for family-level fun at an Olympic-standard facility,” said course lead designer Scott Shipley, of Lyons, Colo.-based S20 Design and Engineering. “Until Charlotte, every whitewater channel in the world was an Olympic channel first that was later adapted for commercial rafting. With Charlotte, we created a channel for family recreational rafting first, and then added a competition channel. We focused on the church and school groups that will be using it, as a way to help get them active.”

Whitewater as an Economic Driver

The USNWC is the largest and most profitable pumped whitewater park of its kind in the world, with design features tailored to maximize commercial rafting revenue and other high-demand recreational attractions. The USNWC grosses more than \$22 million a year from its various activities and services. In 2018, it reported more than 700,000 user days/activities served. This number includes the more than 200,000 guests who raft its whitewater channel each year — which is where the USNWC differentiates itself from every other pumped course in the world.

There's no question the USNWC has been a boon to the region's economy. Bob Morgan, president of the Charlotte Chamber of Commerce, described the Center as a great addition to Charlotte. "The Whitewater Center is our number one attraction," he said.

Nearly 700,000 people indicated that the USNWC was a motivator to travel to Charlotte in 2017.

According to a visitor profile study conducted by Longwoods International for the Charlotte Regional Visitors Authority, in 2017 Charlotte saw 28.3 million visitors, 12.2 million of which were overnight visitors. Of those, 2.4 percent, or 680,000 people, indicated that the U.S. National Whitewater Center was a motivator to travel to Charlotte, and 0.6 percent, or 73,200, said that they attended the USNWC as part of their trip to Charlotte.

The USNWC is estimated to have a \$37 million annual economic impact to the region, including supporting nearly 700 jobs, both on- and off-site, according to the *Charlotte Observer*. Additionally, when it was built, its construction was estimated to have a one-time economic impact on the local community of more than \$27 million.

In the high season, the whitewater park employs nearly 250 paddlesports-only employees. At its peak, says USNWC CEO Jeff Wise, it has nearly 500 people on the payroll, with 66 full-time year-round employees. Include the money spent locally by the hundreds of thousands of visitors annually and it is a huge boon to the region's economy. "It's a critical part of economic development for the region," added Wise.

The attraction also has a positive impact on Charlotte's brand image. "From a community perspective, the park's value has been unparalleled," says Bob McMillan, head of sales for the Charlotte Board of Tourism. "In the past the city has been known for banking and NASCAR, and now we're also known for outdoor sports, thanks largely to the USNWC."

Enlisting a Champion

To design its signature whitewater venue, developers of the USNWC enlisted the services of Scott Shipley, one of the most decorated kayakers in the world. In addition to being a three-time World Cup Slalom Kayak Champion and a veteran of three Olympics, Shipley also holds a master's degree in Mechanical Engineering from the Georgia Institute of Technology. He is founder and president of S20 Design and Engineering, the world's leading whitewater park designer.

Shipley brought a varied background and first-hand expertise to the project—most notably an unparalleled understanding of hydrodynamics and how they relate to paddling. A Whitewater Hall of Fame inductee and three-time United States Olympic Committee Top-10 Athlete of the Year, Shipley's accolades include two "Best of What's New" design awards from *Popular Science*, the Everest Award, and the Jack Kelly Fair Play award, presented by the USOC.

Credited with driving innovation in the whitewater park industry, Shipley's combined expertise in both whitewater and engineering design has made him the go-to designer for some of the world's most challenging whitewater projects. Shipley has designed several major projects, including the 2012 Olympic Venue in London, the Holme Pierrepont National Watersports Centre and the Teesside Whitewater Park, Oklahoma City's Riversport Rapids Whitewater Center and numerous others. His team at S20 Design is comprised of committed design engineers, architects, landscape architects, and planners.

Shipley's innovations also include a patented Whitewater Terrain Park system that redefines whitewater recreation, as well as RapidBlocs™, a patented adjustable obstacle system that is the world's first three-dimensional modular obstacle system allowing for complete reconfiguration of the channels and the features, including waves, within them.

More Than Rafting

While a majority of the USNWC's visits is attributed to people participating in the park's whitewater paddling operations, Shipley and the site's master-planning team designed it for whole-family adventure, whether people get wet or not. Operating under a "Play, Relax, Learn," tagline, rafting is one of 30 different activities people can do, with climbing, biking, camping, zip-lining, special events and retail sales also serving as primary revenue streams.



Throughout the year, the park hosts live music and outdoor festivals, including a River Jam concert every weekend throughout the summer. It hosts a popular Whitewater Race Series, and challenges participants through various competitions in different sports including trail running, kayaking, mountain biking, triathlons, ultra-marathons and more.

The Center also provides a variety of leadership and skill development programs, including specialized instruction and certification, summer camps for youth, customizable team development courses for groups and schools, and event and meeting venues for conferences. “It’s not just a great whitewater venue,” said Jeff Wise. “It helps define us as a true outdoor Mecca, and is a catalyst to get people outside.”

It also has served as a catalyst for getting people to relocate to the region. Case in point: Rob Nelson, an outdoor lover who moved to Charlotte, N.C. from the mountains of Colorado largely because of the National Whitewater Center. “It brings in all these different people that have an adventurous spirit,” he said. “It’s the ‘Build it and they will come’ theory. We moved here after one visit.”

Nelson, and countless others like him, have moved to the Charlotte area largely for its access to the outdoors, which is epitomized by the U.S. National Whitewater Center. “Communities are looking for something that rebrands their town,” added Shipley. “They’re looking to create that brand and attraction that draws in outdoor enthusiasts, which is exactly what Charlotte has accomplished.”



**USNWC
BY THE NUMBERS**

USNWC
Acres: **1,300**
Annual User-Days: **700,000+**
Annual Revenue: **\$22 Million**
Regional Economic Impact: **\$37 Million**
Employees at Peak: **500**

WHITEWATER CENTER
Length: **3/4 Mile**
Whitewater Channels: **4**
Capacity: **13 million gallons**
Flow: **1,200 cfs**

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