

— A SUMMARY OF —
The Economic Impact
of the HURON RIVER



Huron
River
Watershed
Council





Photo: City of Ann Arbor

“Water-based recreation, water-focused amenities, and waterfront property are key segments of Michigan’s economy.”

Can we put a price on the Huron River?

The Huron River Watershed Council (HRWC) sought to answer this question when it partnered with Grand Valley State University's Seidman College of Business in 2016. I am pleased to share the results of that partnership in this baseline report. Whether you are a homeowner or a business owner, a visitor or a community leader, you will find something of interest in the following pages.

The Huron River supports recreation, tourism, and business activities that generate substantial income for the local economy. The river corridor directly serves the 650,000 residents of the Huron River watershed and additionally serves as a recreational and tourist destination for the nearly four million residents of the region. As such, the Huron River is a vital economic driver for southeastern Michigan and the communities through which it flows. In fact, the Huron River valley is recognized as a "Blue Place" in Growing Michigan's Blue Economy report from the Michigan Economic Center and Grand Valley State University.

At the foundation of this Blue Place is a healthy river system – intact floodplains, forested riverbanks, fish-friendly pools, riffles and runs – that draws people to live and play here. Put more simply, people want to be where the water is clean. Nature provides vital contributions to economic and social well-being that are often not traded in markets or fully considered in decisions. This report estimates the value of those "ecosystem services" in the Huron River corridor and, in so doing, underlines the importance in protecting and restoring them.

The National Park Service's 2015 designation of the Huron River Water Trail as the country's 18th National Water Trail encouraged more families to experience paddlesports, more local businesses to open or existing ones to cater to trail users, and river communities to position themselves as Trail Towns. Canoe and kayak outfitters report an uptick in business. New and improved launches, landings, and dam portages await trail users.

The Huron River National Water Trail and its Trail Towns are the backbone of a river corridor revitalization that is making the Huron River valley a destination in Michigan and the Great Lakes. RiverUp!, HRWC's signature placemaking initiative for the Huron River, is pursuing the hard work of restoring the river and establishing it as the indispensable center of our river communities for residents and visitors. RiverUp! focusses investments in the following three areas:

- i. Invest in river recreation;**
- ii. Improve the health of the river; and**
- iii. Turn our riverfront communities to face the Huron.**

This report – and its future iterations – will help HRWC and its RiverUp! partners and supporters guide expenditures, leverage investments for infrastructure improvements, and prioritize land and water management needs. Thank you to the research team at Grand Valley State University, the HRWC volunteers, and the Austin Memorial Foundation for your essential contributions to this effort.



Elizabeth Riggs, *RiverUp! Manager*
Deputy Director
Huron River Watershed Council

A healthy river as economic driver

Photo: Scott Lorenz, Westwind Balloon



A beautiful river for kayaking and canoeing. Trails along the water's edge for running or birdwatching. Riverfront breweries to visit after a sunny afternoon of stand-up paddleboarding. Marshes and wetlands that host spectacular wildlife to enjoy from one's backyard. A basement spared from flooding because the watershed is healthy. These amenities are offered by a healthy river such as the Huron River. As people enjoy the recreational, scenic, and other benefits of a river, they spend money doing so when they rent or purchase recreational gear, use watercraft, enjoy a craft beer and meal, and plan an overnight get-away.

What economic benefits does the Huron River bring to its communities? This new study puts a number to the economic impact that the Huron River and the Huron River Water Trail (HRWT) bring to the Trail Towns and surrounding region. The scope focuses on recreational users of the river and its shoreline, as well as on the ecological and property values the river brings to its five-county region of Livingston, Monroe, Oakland, Washtenaw, and Wayne.

The economic information contained in the study quantifies what users spend as they tap the recreational opportunities offered through the Huron River and HRWT. River and trail users were surveyed at specific public access points in the City of Ann Arbor, the City

of Dexter, the City of Flat Rock, the Village of Milford, and the City of Ypsilanti. For the first time, research reveals who are these users, where they come from, what they spend money on, how frequently they visit the HRWT, and what they do for recreation.

This report builds on prior research conducted by the Washtenaw County Office of Community and Economic Development that, in 2013, explored the economic impact of the HRWT. At that time, trends in water-based recreation were being recognized. Paddlesports were growing and the launch of the HRWT was increasing use. Most significantly, these prior reports set a benchmark for the number of visitors using the river for recreation and the estimated economic impact from that recreational activity.

Usage of the HRWT has grown since 2013 and its economic impact along with it. Prior to the 2016 study, HRWC did not have specific economic information from actual users gathered in a randomly sampled manner. The 2013 analysis relied on estimates from other studies that resulted in helpful information about the growing popularity of the HRWT, yet it did not offer detailed information about who was using the river and the river's economic impact. The GVSU research was designed specifically to provide information on users and hard economic impact data. This information will guide river and HRWT decisions for the next five to seven years.

Why collect data like these? Knowing the economic impact of the Huron River can strengthen HRWC's programs like RiverUp!, which is focused on keeping the Huron River healthy and positioning it as a tourist destination. Measuring the economic impact of a healthy river ecosystem and better understanding its recreational users guides expenditures of funds, priorities of land and water management entities, and helps HRWC leverage necessary investments for infrastructure improvements and maintenance. Finally, this information makes the case of why governments, businesses, and individuals should care about and invest in the river.



Photo: HRWC

THE HURON RIVER NATIONAL WATER TRAIL

LEGEND

 Denotes Huron River Water Trail Town

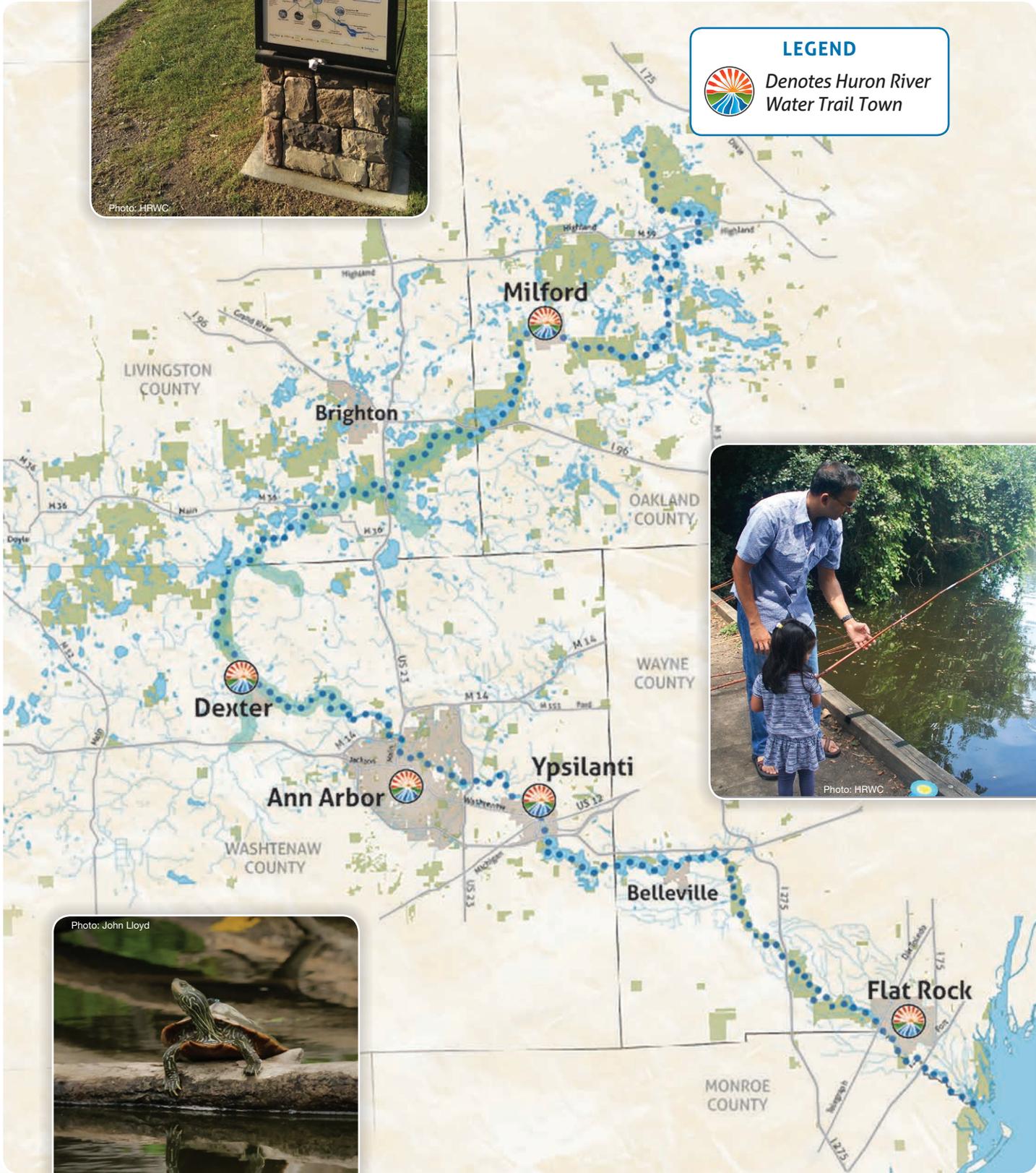


Photo: HRWC



Photo: John Lloyd

Report findings

This report on the economic value of the Huron River is understood through the lens of:

- Recreational access to and use of the river corridor and the Huron River Water Trail;
- Services provided to the community by the river's natural systems;
- Scenic amenities; and
- Real estate values and home sale prices.

The research team pursued three methods to generate values for the Huron River:

1. Surveys, used to estimate the economic impact of the recreation on the Huron River and validate the recreational value of the users;
2. Hedonic valuation, used to estimate the river's effect on property values along the Huron River; and
3. Benefit function transfer, used to value biological diversity, flood management, and, in conjunction with the surveys, the recreational value of the users.

Surveys provide estimates of recreation's economic impact

A brief questionnaire was developed to determine the economic impact of recreational users. Surveys, conducted by trained volunteers, were performed at five locations on the Huron River in "Trail Towns" – City of Ann Arbor, City of Dexter, City of Flat Rock, Village of Milford, and City of Ypsilanti. A sixth survey location (Kerrytown Farmer's Market in Ann Arbor) served as an off-river comparison to the five riverside survey locations. Individuals at these locations were randomly selected, as every third passerby was asked to fill out a survey. The day of week, time of day, and survey location were varied to compile a representative sample of recreational users. This process produced 168 valid surveys complete during the summer of 2016.

Using these data, an estimated 122,981 unique visitors access the Huron River Water Trail and river corridor

The Huron River and Huron River National Water Trail are estimated to have the following economic impact . . .

- \$53.5M in annual economic output, which is the sum of \$29.9M in direct spending and \$23.6M in indirect and induced spending
- 641 local jobs added to the region
- \$628M in added property value
- \$150M in annual environmental value
- 2.6M visitor days

We find that . . .

- Visitors use the Huron River corridor on average 21 times a year.
- 57% of all users are very satisfied with their recreational experience.
- Over half of the river users have an annual income between \$25,000 and \$85,000.



Photo: HRWC

each year, visiting nearly 21 times per person per year. As a result, approximately 2.6 million visitor days are spent in recreation along the river annually. **Visitors spend an estimated \$29.9 million each year on recreation-related goods and services.** Direct spending does not account for the total economic impact.

Direct spending by visitors also leads to indirect and induced spending. For example, a recreational user purchases a meal at a local restaurant (direct spending). That restaurant must then purchase more supplies from local distributors (indirect spending). Restaurant owners and employees receive income from the spending by the recreational users, and they spend some of that greater income in area stores (induced spending).

The dollar value and effect on employment of indirect and induced spending can be estimated using

modeling tools developed by the U. S. Department of Commerce such that **the total impact of the recreation users visiting the Huron River is found to be \$53.5 million annually.**

Businesses with locations in the Trail Towns and in close proximity to the Huron River corridor also were surveyed as part of the study to gauge the impact of the river on their operations. An electronic survey was distributed to 163 businesses. Thirty-three percent of 61 surveyed businesses located near the river state that the Huron River influenced the decision to locate at their present venue. One-quarter of the businesses also state that more than 50 percent of their customers are recreational users of the river. Two-thirds of businesses surveyed are industries that cater to tourism: shopping, dining, and recreation.

LOCAL BUSINESSES THRIVE ON WATER TRAIL

Canoe and Kayak Outfitters: Business is booming for outfitters that offer rental service with transportation to access points on the Huron River National Water Trail. Long-standing, multi-generational businesses like Heavner Canoe & Kayak Rental and Skip's Huron River Canoe Livery continue to thrive. Michigan's busiest and largest municipal livery is in Ann Arbor with two locations. Two newer businesses serve the Downriver area: Motor City Canoe Rental and H2E (Huron to Erie) River Adventures. Riverside Kayak Connection provides equipment for sale, lessons, and tours. Details and contact information at huronriverwatertrail.org.



Photo: HRWC



Photo:HRWC

Trail Town Shops and Restaurants: The Huron River National Water Trail features five river towns, or Trail Towns, that are destinations along the trail where users can venture off-trail to enjoy the scenery, events, and stores along the river. Trail users will find fishing and paddlesports guides and outfitters, ice cream and coffee shops, delis, lodging, and restaurants. Blue Heron Trading Company, located in downtown Flat Rock, opened in 2016 to capitalize on a location within walking distance to the Huron River. Proprietor Alisa Maul understands that her coffee bar and shop has great potential to attract trail users who paddle and bike into town. At the other end of the Huron River Water Trail in Milford sits River's Edge Brewing Company. The microbrewery, founded by three local families in 2014, is located on the banks of the Huron River and has grown into a thriving gathering place particularly for recreation enthusiasts enjoying the bike trails and water trail.



Photo: Rudi Schwarze



Photo: Schultz Outfitters

Fly Fishing Guides and Outfitters: The Huron River boasts one of the country's best smallmouth bass fisheries. The choicest habitat features more than 30 river miles – equivalent to one-third of the river – enjoy special protections from development as a designated Michigan Natural River, and parkland and natural areas account for most riverside land use along the remaining two-thirds. Schultz Outfitters and the Painted Trout are located near the banks of the Huron in Ypsilanti and Dexter, respectively. Both locally-owned businesses offer trips and lessons, retail for equipment and gear, events, and a community of fly fishing enthusiasts.

A HEALTHY RIVER BENEFITS PROPERTY VALUES

The value of a house is influenced by many components. The size of the house and the number of bathrooms are examples of housing characteristics that influence the value of a house. Other characteristics such as the school district and the neighborhood also matter. To estimate the value of an individual component of property value, like the proximity to the Huron River, the research team used a statistical procedure known as a hedonic model.

Data collected and analyzed during the study revealed that the premium for a residential property next to the Huron River is between 39 and 65 percent. **Aggregating all of the residential properties along the river yields**

an added value of \$628 million compared to the same properties without the presence of the Huron River. This increase in property values is generally attributed to the aesthetic amenity provided by a clean, healthy river. *The table on page 7 provides details by county of added property value derived by proximity to the river.*



Photo: HRWC

A RIVER'S NATURAL SERVICES ARE IRREPLACEABLE

Nature provides vital contributions to economic and social well-being that are often not traded in markets or fully considered in land use, business, and other economic decisions. In the case of a river, these contributions include protection against erosion and flooding, habitat for diverse birds, fish, and mammals, and cultural and aesthetic benefits that come from people's interactions with nature. The study gathered information on the values of several services provided by the Huron River.

The services provided by the river that are included in the study are biological diversity, flood control attributed to wetlands, recreational value, aesthetics, and stormwater runoff assimilation. The research team measured these services using a hedonic model and benefit transfer. Some values that the Huron River provides to the region were found by using values calculated elsewhere and adjusted for local conditions (appropriate when values are stable between locations and when a recalculation would be needlessly complicated and expensive.)



Preserved wetlands along the Huron River serve as the measure for biological diversity in the study. **Their total value is \$21.3 to 27.8 million.** The lower value is for wetlands adjacent to the river, and the higher value is for the wetlands within 800 m of the river. Oakland County has the greatest area of wetlands along the

Huron River along with a relatively high marginal price for those wetlands. Monroe County has the smallest area of wetlands along the river and a relatively low marginal price. *The top table on page 8 provides details by county of wetland area and value.*

Wetlands reduce risk of floods by absorbing impacts from higher water and discharging it slowly and gradually. The study assumes that adjacent wetlands can retain three feet of flood water. That assumption translates into storage totaling 3.12 billion cubic feet of water. At a price of \$0.005/ft³, **the Huron River's wetland systems provide up to \$15.6 million annually in flood risk reduction** to property owners and communities. **The total value over time and using a 4 percent discount rate is \$390 million.** *The bottom table on page 8 provides details on the water storage volume and value by county.*

AGGREGATE AMENITY VALUE OF THE HURON RIVER BY COUNTY

County	Huron River miles	Aggregate value in millions
Oakland	29.3	\$191.4 M
Wayne (Van Buren Township)	10.3	\$59.0 M
Wayne (outside Van Buren Twp)	14.0	\$55.0 M*
Livingston	17.4	99.8 M*
Washtenaw	34.7	198.4 M*
Monroe	8.7	24.9 M*
TOTAL	114.4	628.3 M*

* Extrapolated based on Wayne County (Van Buren Charter Township) value per mile

AREA AND AGGREGATE VALUE OF WETLAND BIOLOGICAL DIVERSITY SERVICES

County	ADJACENT WETLANDS		WETLANDS WITHIN 800m OF THE RIVER	
	Acres	Value	Acres	Value
Livingston	5,418	\$5.6 M	7,724	\$7.0 M
Monroe	2,091	\$2.6 M	2,231	\$2.7 M
Oakland	7,822	\$6.4 M	12,391	\$9.0 M
Washtenaw	4,090	\$3.9 M	6,690	\$5.3 M
Wayne	4,460	\$2.8 M	7,287	\$3.8 M
Total	23,881	\$21.3 M	36,323	\$27.8 M

Despite efforts to minimize polluted stormwater runoff from reaching the river and local waters, some runoff from developed areas and farm lands does enter the river and its tributaries. The study looked at the Huron River's ability to assimilate sediments and nutrients (i.e., phosphorus) contributed by stormwater runoff using conservative values.

One way to estimate the value of assimilation service is to look at the avoided cost of removing the pollutants through a treatment system.

The Huron River's runoff assimilation services have an annual value of \$1.4 million. This figure does not



include agricultural land and makes the assumption that impervious surfaces are at the low end of the range for each developed land cover type. Values are highly variable among the counties ranging from \$38,234 in Monroe County to \$540,781 in Washtenaw County.

Recreation users of the Huron River and the HRWT valued the

experience of engaging in their activities at \$108.2 million annually. Primary activities for people visiting the Huron River are canoeing and kayaking (42 percent) and walking/running/hiking (28 percent). Fishing is the third most popular activity with 10 percent of survey respondents citing it as their primary activity.

STORAGE VOLUME AND VALUE OF FLOOD MITIGATION BY COUNTY

County	Water storage volume (million cubic feet)	Annual value
Livingston	708.0	\$3.5 M
Monroe	273.3	\$1.4 M
Oakland	1022.1	\$5.1 M
Washtenaw	534.4	\$2.7 M
Wayne	582.8	\$2.9 M
Total	3120.7	\$15.6 M

More than 60 percent of the people surveyed indicate that water-related recreation is their primary activity. The rest are engaged in activity along the river using trails, birding, or enjoying the scenery.

People need to value an activity more than the money that they spend while engaging in it, or they will choose a different way to spend their time. On the Huron River, users rate the experience in a ratio of three to one of value to spending, which is consistent with similar studies in Michigan. Users of the river value their outdoor recreation experiences at \$108.2 million, or three times how much they spend to engage in them.

The Huron River contributes enormous benefit to the local economy through ecosystem services alone. The following table depicts these values both annually and as a total (total sums the annual values over time and uses a 4 percent discount rate). In summary, **the natural features of the Huron River system provide services worth well over \$3.8 billion (below).**

ECONOMIC VALUES OF SERVICES PROVIDED BY THE HURON RIVER

	Annual	Total
Recreation	\$108.2 M	\$2.7 B
Biological Diversity	\$1.1 M	\$27.7 M
Wetland Flood Reduction	\$15.6 M	\$390.0 M
Aesthetic	\$25.1 M	\$628.0 M
TOTALS	\$150.0 M	\$3.8 B

Environmental values, like the ones described above, include many values that accrue to society, and cannot be acquired by individuals. Therefore, the economic impact is less than the total economic value since economic impact only includes those values that directly influence spending by individuals. By considering the annual aesthetic value of \$25.1 million along with the annual economic output of \$53.5 million described earlier,

the Huron River adds approximately \$78.6 million in annual economic activity that directly impacts the wages and jobs in the region.

The total value of the Huron River – economic and environmental – estimated at \$3.8 billion is equivalent to the market value of a firm at the #643 spot on Fortune’s list of largest companies by market value (source: fortune.com/fortune 500).

The study utilized only the values that could be easily counted. Consequently, the list of values created is not exhaustive. As such, the values presented in the report should be considered a conservative estimation.

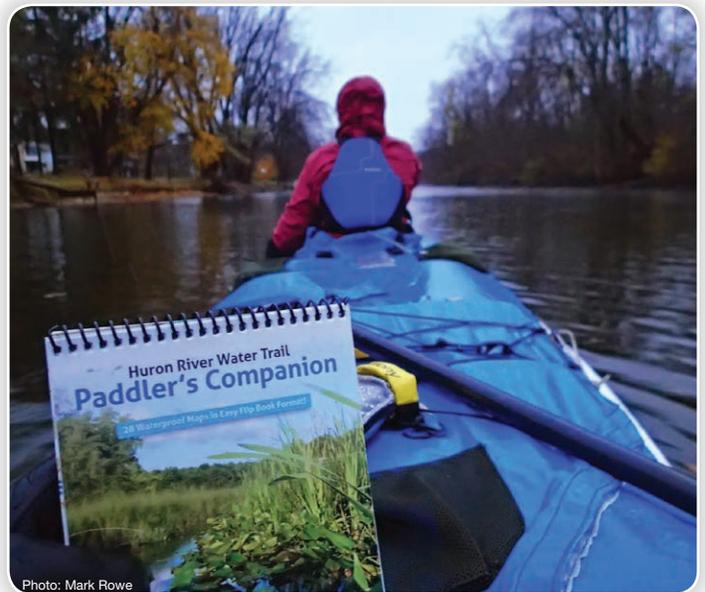


Photo: Mark Rowe

The Huron River, with an annual economic activity of \$78.6 million, compares to:

The University of Michigan home football season at \$81.8 M
(source: Anderson Consulting)

OR

Badlands National Park impact of visitor spending \$63.7 M in 2016
(source: National Park Service)

Future plans

Over its first five years, RiverUp! has invested more than \$2 million in river and riverfront projects for the benefit of local economies, residents, and conservation of our shared natural heritage. These investments have leveraged projects underway by partners up and down the river worth nearly \$40 million. The results of the economic impact study suggest that these investments are well-placed and need to continue in order to meet the needs of residents and visitors.

This summary and the full report from Grand Valley State University should be read and considered by a broad cross-section of the southeastern Michigan community as businesses, local governments, universities, and residents set priorities in the areas of recreation, public health, urban planning, economic development, and natural resource planning. While this work tells the Huron River story specifically, it supports the case for Michigan to elevate investment in water trail development, maintenance, and promotion to the level of land-based trails. State agencies and legislators have roles to play in Michigan's emergence as the "Trails State," which requires a dedicated funding source and coordination of an ever-growing number of water trails, both coastal and inland.



Photo: Ann Arbor News

A healthy watershed and clean water are critical underpinnings of a robust river economy bringing irreplaceable benefits to communities. Local, state, and federal programs that protect functioning rivers and watersheds through education, policy, and funding will remain essential to the Huron River and freshwaters throughout Michigan and around the country. Should these tools for watershed protection go unused, the risk of degraded waterways increases resulting in a crumbling foundation for the blue economy. Protecting

and restoring rivers, streams, wetlands, lakes, and groundwater is a sound investment and solid foundation on which Blue Places, like the Huron River communities, can grow.

HRWC is interested in continuing to collect data consistent with the study at appropriate time intervals, and making it even more robust where viable. The research team recommends conducting a similar study in five to seven years to measure changes. In the meantime, an ongoing method

for sampling river users will be implemented as a means of reaching even more users along the entire HRWT.

Michigan's future is its freshwater resources. The Huron River is one of its natural treasures. HRWC and its RiverUp! partners and supporters embrace the opportunity to extend the benefits of a healthy, accessible Huron River to all who come to its banks.



Acknowledgements

HRWC appreciates the efforts of many people who contributed time and talent that resulted in this first-of-its-kind study in Michigan and for a water trail:

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A river renaissance is taking place in the cities and towns along the Huron River. Through RiverUp!, river corridor revitalization is underway with the goal of making the Huron River the new “Main Street” where residents and tourists recreate, live, gather, commute, and do business. Learn more at hrwc.org.



At the heart of it all are cities and towns that have made a commitment to the Huron River Water Trail, creating fun destinations where trail users can venture off the trail to enjoy the scenery, services, heritage, and character of a community. Learn more about the Huron River Water Trail, Trail Towns, or plan your trip at huronriverwatertrail.org.



The Huron River Water Trail is recognized as a National Water Trail. The National Water Trails System is a distinctive national network of exemplary water trails that are cooperatively supported and sustained. It is an interagency collaborative effort administered by the National Park Service. Go to nps.gov/watertrails.



Founded in 1965, the Huron River Watershed Council is southeast Michigan’s oldest environmental organization dedicated to river protection. The Huron River Watershed Council protects and restores the river for healthy and vibrant communities. To learn more about protecting the Huron River, go to hrwc.org.



“... the \$150 million in annual environmental value, or the \$78.6 million in annual economic activity resulting from the presence of the Huron River, should be considered a conservative estimation.”





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