

# SUSTAINABLE COASTAL TOURISM DEVELOPMENT IN NORTHEAST MICHIGAN



A guide for tourism operators,  
natural resource managers,  
and community leaders



**LAURA JOHNSON**  
*Master of Arts student*  
Prescott College

**BRANDON SCHROEDER**  
*Northeast District Extension Educator*  
Michigan Sea Grant  
Michigan State University Extension

July 2012



## Foreword

Michigan Sea Grant is contributing to a regional effort to explore sustainable coastal tourism development in Northeast Michigan as an economic driver and source of conservation education. The effort is ongoing, but initial phases involved extensive research and inventory of the region's needs, natural assets, and coastal tourism opportunities. Northeast Michigan partners gathered input from local business owners, resource managers, and community leaders, including tourism and economic development partners. This collaborative, information-gathering investment resulted in the production of the following documents:

- [\*The Northeast Michigan Integrated Assessment \(2009\)\*](#) – a report addressing coastal access design that stimulates the economy while maintaining the integrity of natural and cultural resources and quality of life.
- [\*Innovative Development and Strategic Promotion of Ecotourism in Northeast Michigan \(2010\)\*](#) – a preliminary assessment of the ecotourism industry in Northeast Michigan exploring the potential to expand tourism.
- [\*Discover Northeast Michigan \(www.discovernortheastmichigan.com\)\*](http://www.discovernortheastmichigan.com) – a website that provides coastal tourism businesses with access to resources related to business development, tourism marketing, resource management, and networking opportunities in Northeast Michigan.
- [\*Ecotourism on the Sunrise Coast: A Marketing Report for Alpena, Alcona, & Presque Isle Counties\*](#) – a report detailing demographic profiles of ecotourism, regional assets and opportunities in Northeast Michigan, a marketing inventory, and marketing guidelines.

In this guide, *Sustainable Coastal Tourism Development in Northeast Michigan*, Michigan Sea Grant presents a comprehensive approach to successful, sustainable tourism development in Northeast Michigan using data and information gathered from their research. This guide is intended to help tourism operators, natural resource managers, and community leaders work together to achieve their shared goals that include: providing a quality visitor experience, achieving economic needs and goals, and preserving the natural environment and regional culture that enables successful, sustainable coastal tourism.

## HOW TO USE THIS GUIDE

This guide provides a basis for discussion among coastal tourism stakeholders and insight on how to create mutually beneficial partnerships. It is designed for the following three stakeholder groups operating in Northeast Michigan, with a focus on coastal communities in the Alpena, Alcona, and Presque Isle County area:

1. Current and prospective coastal tourism operators
2. Natural resource managers
3. Community leaders (local government, tourism and economic development partners, schools, community organizations, etc.)

Within these stakeholder categories, the intended audience should also have interest in one or more of the following:

- Advancing Northeast Michigan's tourism industry and the local economy
- Improving collaborative working relationships in the region
- Protecting, promoting and sharing the region's natural and cultural resources
- Educating community members and visitors about conservation and stewardship

---

# Contents

Introduction	1
Purpose of this guide	1
Why coastal tourism?	2
Sustainable Coastal Tourism Development	3
Triple bottom line approach	4
Stakeholder Profiles	5
Coastal tourism operators	5
Natural resource managers	6
Community leaders	7
Finding common ground	7
Recommendations	8
1 - Collaborate	8
2 - Cross-promote	9
3 - Understand resource significance	10
4 - Educate and interpret	11
5 - Empower community	12
Best Practice Case Studies	13
Case study #1: Northeast Michigan Great Lakes Stewardship Initiative	14
Case study #2: Conserving Lake Huron for multi-use fishing tourism	16
Case study #3: Maritime heritage partnerships for economic development	18
Case study #4: Regional coastal tourism initiatives	20
Glossary	22
Acknowledgements	23
Works Cited	24

## Introduction

There is a certain look new visitors to Michigan’s “Sunrise Side” get on their faces when they see Lake Huron’s glossy, turquoise water for the first time. It is as if they have just been let in on one of the world’s best-kept secrets. And, in fact, they have. Northeast Michigan offers a wealth of unparalleled coastal landscapes that few others — aside from those lucky enough to live there — ever have the opportunity to enjoy. As word of this “best-kept secret” spreads, so does the promise of a budding coastal tourism industry that could play a key role in the region’s economic future.



### PURPOSE OF THIS GUIDE

Northeast Michigan communities value their coastal natural resources. They also recognize the resources’ potential to boost economic development through coastal tourism. However, based on information gathered for previous studies by Michigan Sea Grant and other regional partners, local stakeholders also wish to explore coastal tourism “with a level of caution to avoid overdevelopment and destruction of the area’s unique resources and culture.”<sup>1</sup>

This guide is designed to help tourism operators work with resource managers and community leaders to adopt an approach to coastal tourism development in Northeast Michigan that balances preservation of cultural and natural resources with tourism industry expansion and local economic prosperity. To achieve this balance, this guide provides information about:

- Sustainable tourism development – what it means and why it is necessary
- Resource stewardship opportunities – areas where coastal tourism can promote resource stewardship or avoid potentially harmful impacts of tourism, such as resource degradation and loss of “sense of place”
- Coastal tourism stakeholders in Northeast Michigan – who they are, what they want, and what challenges they face
- Recommendations for action – ideas to help stakeholders adopt a more sustainable approach to coastal tourism development

The following sections discuss these elements of lucrative coastal tourism development in further detail, provide recommendations on how to approach coastal tourism development, and share current “best practices” case studies.

1. Michigan Sea Grant. (2009) Northeast Michigan Integrated Assessment Final Report. [MICHU-09-207] Available at: <http://www.miseagrant.umich.edu/downloads/nemia/report/NEMIA-Final-Report.pdf>.

## WHY COASTAL TOURISM?

*Coastal tourism* refers to tourism that is based on distinctive coastal resources and associated activities involving terrestrial and marine [Great Lakes] biodiversity, cultural and historic heritage, geologic history, beaches, water, and scenic beauty.<sup>2</sup>

The Great Lakes drive Michigan's tourism and recreation industries.<sup>3</sup> In 2009, Michigan Sea Grant released [Michigan's Great Lakes Jobs](#), a report that estimated Great Lakes coastal tourism supports over 57,000 Michigan jobs (based on 2007 data).<sup>4</sup> In Northeast Michigan, the natural and cultural resources associated with Lake Huron offer a host of options for tourism and recreation, including: hiking, fishing, hunting, rock hounding, birding, swimming, kayaking, canoeing, camping, snorkeling, and scuba diving. Lake Huron serves as an inherent driver for coastal tourism development and subsequent job growth.

Northeast Michigan communities have depended on local coastal resources and accessibility to Lake Huron for economic development since their founding. Such resource-dependent industries included lumbering, mining, manufacturing, fishing, and agriculture. However, in recent years, Northeast Michigan suffered a loss in mining and manufacturing jobs, in a U.S. Air Force base closure, and a decline in agriculture resulted in high unemployment.<sup>5</sup>

Community leaders have identified the coastal tourism industry as a prospective and possible solution to boost the local economy. By promoting the natural and cultural resources unique to the area — especially those associated with Lake Huron — Northeast Michigan stands to benefit again from its unique location along the Great Lakes.<sup>6</sup>

---

2. United Nations Environmental Programme. (2009) "Sustainable Coastal Tourism: An Integrated Planning and Management Approach." Accessed on September 22, 2011. Available at: <http://www.unep.fr/shared/publications/pdf/DTIx1091xPA-SustainableCoastalTourism-Planning.pdf>.

3. Vaccaro, L., J. Read, and D. Scavia. (2009) Michigan's Great Lakes Jobs. Ann Arbor, MI: Michigan Sea Grant. Available at: <http://www.miseagrant.umich.edu/downloads/coastal/economy/09-101-Jobs-Report.pdf>.

4. Ibid.

5. Michigan Sea Grant. (2009) Northeast Michigan Integrated Assessment Final Report. [MICHU-09-207] Available at: <http://www.miseagrant.umich.edu/downloads/nemia/report/NEMIA-Final-Report.pdf>.

6. Ibid.



## Sustainable Coastal Tourism Development

Boom and bust — too often this phrase is used to describe economic and industry trends. Certainly, Northeast Michigan could apply it to describe the historically unsteady crests and troughs of its resource-based industries. *Sustainable development*, a concept receiving increasing amounts of attention in recent years, provides a possible solution to the economic volatility experienced in Northeast Michigan.

Sustainable development refers to “a process of change in which the exploitation of resources, the direction of investments, the orientation of technological development; and institutional change are all in harmony and enhance both current and future potential to meet human needs and aspirations.”<sup>7</sup> In other words, it focuses on both immediate success AND the preservation of elements necessary to maintain future success. Such elements include any natural resources and social constructs that enable business achievements and product availability. In practice, sustainable development requires a deliberate, thoughtful approach. However, this extra thought upfront generates years of future benefits.

So why does sustainable development apply to coastal tourism in Northeast Michigan? Communities in this region have expressed interest in coastal tourism development, but at the same time, expressed concern about the industry damaging natural resources and negatively affecting quality of life. Furthermore, many coastal tourism opportunities depend on the conservation of local natural resources. Overuse may lead to depletion of these resources — an undesired “boom and bust” future for Northeast Michigan’s coastal tourism industry.

With this in mind, the success of coastal tourism in Northeast Michigan depends on the ability and willingness of business operators, natural resource managers and community leaders to adopt a sustainable approach to development perspectives and practices surrounding the budding coastal tourism industry.

---

7. United Nations. (1987) “Report of the World Commission on Environment and Development.” General Assembly Resolution 42/187. 11 December 1987. Accessed on September 22, 2011. Available at <http://www.un-documents.net/ocf-02.htm#I>.

## THE TRIPLE BOTTOM LINE APPROACH

The *triple bottom line approach* provides a basic method to realign coastal tourism and resource-based business perspectives with the concept of sustainable development. The triple bottom line approach to tourism development measures success based on the strength of three elements:

1. Economy
2. Environment
3. Society

The approach maintains that, since social and environmental assets typically lay the foundation for financial success, stakeholders interested in tourism development should incorporate the success of all three elements into their vision and plan.<sup>8</sup>

While the triple bottom line approach focuses on holistic success, it also requires stakeholders to prepare to mitigate unintended, negative impacts of success as well. Increased tourism offers many economic, environmental, and social benefits, but an influx of visitors also may degrade economic, environmental, and social aspects as well. Such negative impacts may include:

### Economic

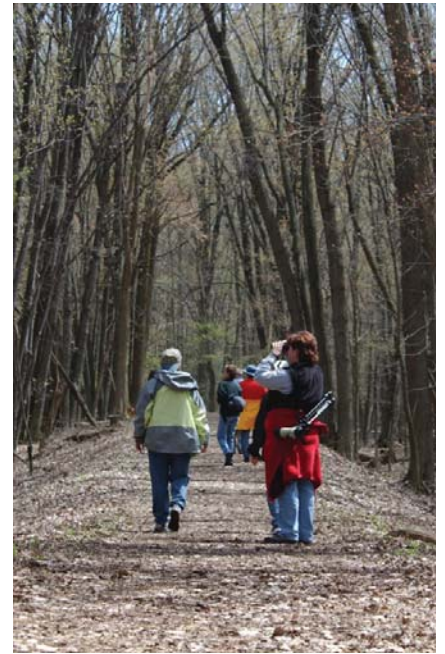
- Large franchises replacing locally owned shops.
- Expanded economic gap between tourists and residents.
- Increased product prices, fees, and charges.

### Environmental

- Overuse and depletion of natural resources.
- Increased litter and vandalism.
- Scenic natural landscapes and habitat replaced with new infrastructure to accommodate tourists.

### Social

- Traffic congestion and limited parking.
- Crowded parks, beaches, and restaurants.
- Weak design and infrastructure changes that replace local charm and identity with features from “Anywhere, USA.”<sup>9</sup>



*The triple bottom line approach serves as the antidote to “act now, think later.” It requires stakeholders to proactively discuss and plan for the future based on a collective vision of prosperity and health for the economy, natural resources, and community.*

8. Tourism Queensland. *Working With Communities: A Guide for Tourism Operators*. Available at: [http://www.tq.com.au/fms/tq\\_corporate/special\\_interests/ecotourism2/Working%20with%20Communities.pdf](http://www.tq.com.au/fms/tq_corporate/special_interests/ecotourism2/Working%20with%20Communities.pdf).

9. Ibid.



## Stakeholder Profiles



By cultivating working relationships, tourism operators, natural resource managers, and community leaders build a sturdy foundation for sustainable coastal tourism in Northeast Michigan. The concepts discussed so far — sustainable development and the triple bottom line approach — depend on stakeholders’ ability to work together. This section provides profiles of coastal tourism stakeholder groups to establish the common ground necessary for lucrative, working relationships.

Coastal tourism stakeholders in Northeast Michigan may not always agree. At first glance, some of their objectives may appear to conflict. However, each of these three stakeholder groups shares a common value that paves the way for communication and collaboration: they all care about Michigan.

### COASTAL TOURISM OPERATORS

Northeast Michigan tourism operators are generally local, small-business owners and entrepreneurs. These neighborhood merchants experience constant pressure to earn a livelihood, market their product, follow rules and regulations, and serve customers while at the same time incurring insurance and tax expenses. It is often a challenging and rewarding venture, motivated by business owners’ passion for their product, place, and connections with customers.

They contribute to the community in many ways beyond the products they sell. Local business owners typically live in or near the community where they work and, therefore, are deeply invested in the future of that community. They provide customers with the opportunity to keep their dollars circulating within the local community rather than spending money at a corporate chain.



#### Goals

- Maintain profitability.
- Build and meet market demands.
- Provide quality product/service.

#### Challenges

- Costs associated with regulations, licenses, and fees.
- Products and services negatively impacted by environmental threats (invasive species, water quality, climate change, budget cuts to state and federal conservation programs).
- Difficulty maintaining and marketing business, especially under poor economic conditions.<sup>10</sup>
- Access to cultural and natural resources (private and public).

10. Business owner concerns compiled by Michigan State University Center for Community and Economic Development. (2010) “Innovative Development and Strategic Promotion of Ecotourism in Northeast Michigan.” Lansing, MI: Michigan State University. Available at: <http://www.ced.msu.edu/researchreports/Ecotourism%20Co-Learning%20Report%20Final%20revised.pdf>.





## NATURAL RESOURCE MANAGERS

Natural resource managers operate on many levels, from the federal government, to state agencies, to non-governmental organizations. Many chose their careers out of a deep-seated appreciation for the natural environment. Some natural resource managers in Northeast Michigan pursued their careers out of love for the Great Lakes and, sometimes, specifically Lake Huron.

At the heart of their work is a sense of duty and honor to protect natural resources for the enjoyment of future generations and the conservation and restoration of native *biodiversity* — a shortened term for “biological diversity” referring to the variety of species and functions characteristic of an ecosystem.<sup>11</sup> Currently, Lake Huron’s biodiversity is at risk due to invasive species, climate change, water pollution, industrial growth, and many other human-caused threats. Resource managers strive to develop conservation strategies to protect Lake Huron’s ecosystem from these threats while their capacity, in terms of funding and staff, has been drastically reduced. In fact, a 2007 report by the Land Policy Institute ranked Michigan as the lowest conservation-investing state in the nation.<sup>12</sup>

It is a challenging job, but resource managers’ enthusiasm and curiosity about the natural world keeps them going.

11. Lake Huron Biodiversity Conservation Strategy. “The Sweetwater Sea: Strategies for Conserving Lake Huron Biodiversity.” Ann Arbor, MI: Michigan Sea Grant. Available at: [http://www.miseagrant.umich.edu/downloads/biodiversity/10-732-Lake-Huron\\_Biodiversity-screen.pdf](http://www.miseagrant.umich.edu/downloads/biodiversity/10-732-Lake-Huron_Biodiversity-screen.pdf).

12. S. Adelaja, Y.G. Hailu, R. Kuntzsch, et al. “State Conservation Spending in the United States: A Political Economy Analysis.” East Lansing, MI: Land Policy Institute. Available at: [http://www.landpolicy.msu.edu/modules.php?name=Documents&p=viewlive&sp\\_id=440](http://www.landpolicy.msu.edu/modules.php?name=Documents&p=viewlive&sp_id=440).

### Goals

- Implement strategies that balance conservation of Lake Huron’s ecosystem and watershed with provisions for public access and the success of resource-based recreation, business, and industry.
- Monitor and mitigate threats to natural resources, such as the effects of resource usage and invasive species on aquatic and coastal native biodiversity.
- Gather and interpret scientific data to inform conservation policy decisions and share with the public to help them understand the status of local natural resources.

### Challenges

- Backlash from public regarding price of licenses and fees coupled with pressure to step up costly conservation efforts that are funded by the revenue generated from those licenses and fees.
- Decline in funding coupled with a need to retool in the wake of frequent changes in Lake Huron’s ecosystem.
- Difficulty communicating complex science behind management strategies, policy decisions, and funding needs to the public.

## THE COMMUNITY

Northeast Michigan communicates “home” in many ways. Many people in the region come from families that have lived here for generations. Some residents moved to the area to enjoy their retirement. Others have permanent homes elsewhere, but while on vacation consider Northeast Michigan their “home away from home.”

The scenic beauty and access to solitude allow time for reflection, creation of intimate memories between friends and family, and the chance to witness rare moments in nature — the migration of sandhill cranes along the Lake Huron coastline or shadows of lake sturgeon on their journey up the Black River, for example. Community events like the Brown Trout Festival, Light House Festival, and Nautical Festival celebrate local history, heritage, and old friends.

With this established hometown feel, it is no wonder that — while communities recognize there is room for Northeast Michigan to grow — they wish to approach any change or development with caution.



### Goals

- Promote Michigan’s natural resource-based activities on a local- and statewide-level
- Develop coastal tourism industry to create jobs
- Invest in “future stewards and leaders” by involving local residents and students in tourism and promotion initiatives
- Maintain or grow property values

### Challenges

- Loss of “sense of place” and quality of life that sometimes accompanies an influx of tourists
- Degradation of local natural resources and landscapes with increased access and use
- Limited financial resources and capacity

### FINDING COMMON GROUND

Reviewing these stakeholder profiles makes it easier to find common ground and understand the motivations of those involved in a coastal tourism development effort. Even when these stakeholders disagree, often the parties involved are motivated by a common desire to do what is best for Northeast Michigan. Recognition of this shared care and concern for Northeast Michigan primes stakeholders to succeed in sustainable tourism development.

## Recommendations

This section provides five recommendations to help stakeholders adopt a comprehensive, triple bottom line approach to sustainable coastal tourism development in Northeast Michigan. While tourism business operators are the primary audience for this section, the recommendations require collective support from all stakeholders — business operators, natural resource managers, and community leaders — and should result in mutual benefits.



*There is no easy fix. Many challenges lie ahead, but these recommendations should serve as a springboard to help stakeholders overcome the obstacles to sustainable coastal tourism success.*

### 1. COLLABORATE



Sustainable tourism development requires collaboration.<sup>13</sup> The relationships tourism operators build with stakeholders, including fellow business operators, create opportunities to meet and surpass business goals and objectives. In addition, collaboration reduces the stress of having to overcome challenges alone and may generate access to new networks of partners, information and resources, and business opportunities. Stakeholders who band together to address issues also share the benefits when they overcome obstacles.<sup>14</sup>

Collaboration forms an essential component of the four remaining recommendations for adopting a triple bottom line approach to sustainable coastal tourism success.

13. Tazim B. Jamal and Donald Getz. “Collaboration Theory and Community Tourism Planning,” *Annals of Tourism Research* 22, no. 1 (1995): 186-204.

14. Tazim B. Jamal and Amanda Stronza, “Collaboration Theory and Tourism Practice in Protected Areas: Stakeholders, Structuring and Sustainability,” *Journal of Sustainable Tourism* 17, no. 2 (March 2009): 169-189.

## 2. CROSS-PROMOTE

As noted in the stakeholder profile section, business operators, natural resource managers, and community leaders share the challenge of diminished capacity and the need to do more with less. Often, marketing and outreach are some of the first action items to be eliminated.



To address this, stakeholders can build off the partnerships fostered through collaboration and adopt a perspective that allows a place-based approach to marketing. A *place-based approach* refers to marketing a holistic concept of a destination by promoting an inventory of assets, including cultural character, heritage, and natural resources thereby maximizing the destination’s customer-appeal.<sup>15</sup> This approach invites visitors to settle in for a while — to make Northeast Michigan their destination — rather than simply taking part in one activity as they pass through on their way to somewhere else.

Chances are a customer who invests in the rental of a glass bottom kayak may also be interested in scuba diving or chartering a fishing boat. Northeast Michigan offers plenty to entertain visitors for multiple days, providing place-based experiences customers will then recommend to friends and family through stories, pictures, and social media. And, the more activities stakeholders can collectively market, the broader the audience of tourists interested in visiting Northeast Michigan.

To cross-promote and market a place-based experience, stakeholders should explore and take part in some of the other natural resource-based businesses and activities in the area. Then, talk to customers and visitors about their interests and, as appropriate, direct them to more Northeast Michigan activities and services. Other coastal tourism stakeholders will do the same. This practice enhances customer service, visitor experience, promotion, and working relationships.

---

15. Steven Thorne, “Place As Product,” *Destination World News* 29 (May 2009). Available at: <http://www.destinationworld.info/newsletter/feature52.html>.

### Web Resources:

- US-23 Heritage Route (<http://www.us23heritageroute.org/default.asp>)
- Pure Michigan: Sunrise Coast (<http://www.michigan.org/Partners/Sunrise-Coast/Default.aspx>)
- Discover Northeast Michigan: Coastal Tourism Resources for your Business ([www.discovernortheastmichigan.com](http://www.discovernortheastmichigan.com))
- Alpena Michigan Visitors’ Bureau (<http://www.alpenacvb.com/>)
- Presque Isle County Visitor Information Center (<http://www.presqueislemi.org/index.html>)
- Huron Shores Chamber of Commerce (<http://huronshorescc.com/>)

### 3. UNDERSTAND NATURAL RESOURCE SIGNIFICANCE



Northeast Michigan coastal tourism operators depend on healthy natural and heritage resources. Charter boat captains, bait shops, and commercial fishermen rely on a healthy Lake Huron fishery. Resort, campground, and other hospitality business owners rely on clean, safe beaches for swimming. Dive shops depend on well-preserved and protected maritime heritage and historical artifacts, as well as healthy water free of algal blooms and excessive invasive mussels that hinder access to maritime heritage attractions.

The natural resources that build the foundation for a significant part of Northeast Michigan's economy are part of a large and dynamic ecosystem. Coastal tourism businesses that have operated out of Northeast Michigan for an extended period are all too familiar with the relationship between changes in Lake Huron's ecosystem and changes in the economy. Many, if not all, of the major disturbances that have altered Lake Huron result from human activity. These include invasive species introductions and climate change, which some scientists identify as two of the most profuse and dangerous issues affecting environmental change across the globe.<sup>16</sup>

**A business owner who opens shop with little regard for the sustainability of his/her finances might put their chance of profitability at risk. By the same token, a natural resource-based business owner who opens shop with little regard for the sustainability of natural resources may jeopardize their success as well.**

To better understand natural resource significance, stakeholders should seek out information about the current condition and health of the natural resources coastal tourism businesses depend on and find ways to participate in resource management discussions. This also could lead to tourism operators collaborating with resource managers to find ways to engage visitors in resource stewardship activities as part of their tourism experience.

---

16. Frank J. Rahel and Julian D. Olden, "Assessing the Effects of Climate Change on Aquatic Invasive Species," *Conservation Biology* 22, no. 3 (2008): 522.

#### Web Resources:

- MDNR Alpena Fisheries Research Station ([http://www.michigan.gov/dnr/0,4570,7-153-10364\\_52259\\_10951\\_11244---,00.html](http://www.michigan.gov/dnr/0,4570,7-153-10364_52259_10951_11244---,00.html))
- U.S. Fish & Wildlife Service, Alpena Fish and Wildlife Conservation Office (<http://www.fws.gov/midwest/alpena/>)
- Michigan Sea Grant (<http://www.miseagrant.umich.edu/>)
- NOAA: Thunder Bay National Marine Sanctuary (<http://thunderbay.noaa.gov/>)
- Huron Pines (<http://www.huronpines.org/>)
- Michigan United Conservation Clubs (MUCC) (<http://www.mucc.org/>)
- "Lake Invaders: The Fight for Lake Huron" ([http://www.lakeinvaders.com/Lake\\_Invaders.html](http://www.lakeinvaders.com/Lake_Invaders.html))

## 4. EDUCATE AND INTERPRET



One of the most effective ways for a coastal tourism operator to communicate to customers about the natural environment and conservation is through interpretation.<sup>17</sup> Sometimes referred to as *heritage interpretation*, this typically involves a guide or naturalist sharing their knowledge of the nature, culture, and history associated with a place or activity.<sup>18</sup> Research indicates that interpretation — raising awareness, providing education, and fostering appreciation for local resources — increases visitor satisfaction with tourism activities and experiences.<sup>19</sup>

In addition to providing a more satisfying experience to customers, educating customers about conservation of the natural resources that coastal tourism businesses depend on helps spread the word about the importance of stewardship — possibly even engaging visitors in resource stewardship activities as a part of their place-based experience.

The recommendation to educate and interpret is a direct link to recommendation number three — understand resource significance. Natural resource managers and tourism operators should work together to supply and share interpretive materials with visitors and the community to enhance knowledge of the region and its resources.

17. Sheila Peak, Peter Innes, and Pam Dyer, “Ecotourism and Conservation: Factors Influencing Effective Conservation Messages,” *Journal of Sustainable Tourism* 17, no. 1 (January 2009): 107-127.

18. Gregory M. Benton, “From Principle to Practice: Four Conceptions of Interpretation,” *Journal of Interpretation Research* 14, no. 1 (June 1, 2009): 7.

19. Sam H. Ham and Betty Weiler, “Isolating the Role of On-site Interpretation in a Satisfying Experience,” *Journal of Interpretation Research* 12, no. 2 (August 1, 2007): 19.

### Tips:

- Talk with local conservation organizations to gain or increase understanding of natural resources features in the area such as geological uniqueness, seasonal bird migrations, and fish spawning sites and habitats.
- Visit local libraries for books, articles, maps, and other resources regarding natural resources in the area.
- Attend environmental fairs, tourism trade shows, and other relevant events to gather interpretive materials.
- Serve on boards or advisory committees of resource management agencies or organizations; learn about resources while contributing to resource management.

## 5. EMPOWER COMMUNITY

Community members play an integral role in a successful, sustainable coastal tourism industry. A community that feels excluded from tourism development and experiences a loss of sense of place due to an influx of visitors may communicate hostility towards customers. In addition, tourism development plans that neglect to incorporate overall community plans and socioeconomic development often fail.<sup>20</sup>



Instead of excluding community, stakeholders should strive to empower the community. This means involving the community in the vision for coastal tourism development, and taking the time to understand their vision, too.

20. Etsuko Okazaki, “A Community-Based Tourism Model: It’s Conception and Use,” *Journal of Sustainable Tourism* 16, no. 5 (September 2008): 512.

### Tips:

Tourism operators could invite the public on a “sample tour” to show them a good time, encourage them to return with friends and family, and spread the word about your new business venture.

Stakeholders could work together to reach out to community through targeted media efforts that tell tourism operators’ story, what they are hoping to accomplish, and include information on how the public can help and benefit from these tourism activities.

All stakeholder groups — including representatives from local government — should collaborate to align the tourism development strategy and vision with that of the broader community. Partners may include:

- Northeast Michigan Council of Governments (<http://www.nemcog.org/>)
- U.S. 23 Heritage Route (<http://www.us23heritageroute.org/>)
- Target Alpena Economic Development Corporation (<http://www.targetalpena.com/>)
- Presque Isle County Development Commission (<http://www.misbtdc.net/center.aspx>)
- Alpena Michigan Visitors’ Bureau (<http://www.alpenacvb.com/>)
- Presque Isle County Visitor Information Center (<http://www.presqueisle.org/index.html>)
- Huron Shores Chamber of Commerce (<http://huronshorescc.com/>)

Empower the community’s future leaders by working with public schools and organizations that coordinate place-based learning:

- Northeast Michigan Great Lakes Stewardship Initiative (<http://www.nemiglsi.org/>)
- Sprinkler Lake Education Center (<http://sprinklerlake.amaesd.k12.mi.us/>)
- Alpena Wildlife Sanctuary River Center (<http://www.alpena.mi.us/rivercenter/index.html>)

Join a local volunteer effort or become a member of a local nature-based nonprofit or advisory committee that relates to the resources the coastal tourism industry relies on:

- Huron Pines (<http://www.huronpines.org/>)
- MDNR Citizens Committee for Negwegon State Park, Rockport, and Thompson’s Harbor State Park (NRTH)
- MDNR Lake Huron Citizens Fishery Advisory Committee
- Michigan Charter Boat Association (<http://www.michigancharterboats.com/huron/>)
- Thunder Bay National Marine Sanctuary Advisory Council (<http://thunderbay.noaa.gov/management/council/>)
- Alpena Brown Trout Festival Committee (<http://www.alpenami-browntrout.com/>)
- Alliance for the Great Lakes Adopt-a-Beach Program (<http://greatlakes.org/adoptabeach>)



## Best Practices Case Studies

The following best practice case studies offer success stories of current Northeast Michigan coastal tourism stakeholders working together. They are intended to inspire ideas and help stakeholders identify ways to incorporate the five recommendations for sustainable coastal tourism development in Northeast Michigan, including: collaborate, cross-promote, understand resource significance, educate and interpret, and empower community.

To read more best practice stories about community collaboration that enhances coastal tourism, or for resources about operating a coastal tourism business in Northeast Michigan, visit Michigan Sea Grant's Discover Northeast Michigan website: <http://www.miseagrant.umich.edu/discovernemi/bestpractices/index.html>





## Case Study #1: Northeast Michigan Great Lakes Stewardship Initiative

*Stakeholder group: Resource managers / Community*

The **Northeast Michigan Great Lakes Stewardship Initiative (GLSI)** is a regional network of education and community partners working to promote quality place-based or community-based education opportunities in Northeast Michigan for the benefit of our youth, our community, and our environment. While the Northeast Michigan GLSI has many functions, it plays an important part in connecting visitors and community members to the natural landscape by supporting collaborative, student-driven projects, including:

- The new **Lafarge Fossil Park** at the **Jesse Besser Museum**: students from **Alpena High School** helped build an accessible exhibit of fossiliferous limestone open for digging and collection.
- Interpretive signs at **Negwegon State Park**: **Alcona High School** students and the Michigan **Department of Natural Resources (DNR)** created park signs that provide visitors with information about Lake Huron, native wildlife and plants, and threats to the park ecosystem.

“It is a great example of how a school worked with the DNR to enhance tourism opportunities along



the coast,” said Northeast Michigan GLSI director, Treenen Sturman, referring to the Negwegon signage project. “From the student perspective, it provides them with a sense of ownership and opportunity to participate in a real-world project; something that through their direct efforts, they are actually helping and providing benefit to the community where they live.”

In addition to the leadership skills students gain from project-based learning, Sturman sees



the energy from youth working on local projects translate into increased investment in natural areas. He points to the Negwegon State Park interpretive signs as an example. Since the students' signs went up, the **Friends of Negwegon** has been active in coordinating invasive species control projects and raising money to support their efforts to preserve, protect, and promote the park.

“What the kids are doing is essentially providing exposure for natural areas — for the rivers, for the woods, for the lakeshores,” says Sturman. “But [it is] exposure for more of the passive recreation or low-impact recreation, which ultimately is the stuff that is going to be more environmentally sustainable and environmentally friendly.”

The Northeast Michigan GLSI continues to foster and support student-community partnerships that promote and preserve the region's natural features. The organization has structured the next few years to provide students with training in entrepreneurship to teach them how to create businesses, understand the meaning of “green business,” and help them to be the next generation of innovators. By providing this experience, Sturman hopes the Northeast Michigan GLSI might lead to the ultimate dream — inspiring local youth to start up ecotourism businesses.

#### KEY SUCCESS FACTORS

- **Collaborate:** The Northeast Michigan GLSI encourages projects that involve the community (local schools), businesses (Lafarge), natural resource managers (DNR), and local businesses (Jesse Besser Museum).
- **Educate and Interpret:** Park signage and exhibits at Negwegon State Park and Besser Museum for Northeast Michigan enhances visitors' experience and provides valuable information about the resources.
- **Empower Community:** Northeast Michigan GLSI-supported projects invest in youth who will be entrusted with preserving and protecting Northeast Michigan for future generations; youth serve as valued community and business development partners and contributors.

## Case Study #2: Conserving Lake Huron for Multi-Use Fishing Tourism

*Stakeholder group: Tourism operators / Resource managers*

While invasive species and other threats continue to disrupt Lake Huron’s ecosystem, Northeast Michigan stakeholders work across public and private sectors to defend the resource. Their collaboration supports a healthier resource that provides for both commercial and recreational fishing opportunities and diversifies regional tourism.

Researchers at the **Michigan Department of Natural Resources (DNR) Alpena Fisheries Research Station** work with local sport and commercial fishermen to efficiently manage Lake Huron’s fishery. **Gauthier & Spaulding Fisheries, Inc.** and **Rochefort Fisheries**, local commercial fishing businesses, allow DNR conservation biologists onboard their vessels to collect data from their catch.

“We get almost all the information we need about whitefish and the health of the population using their catch,” said Jim Johnson, manager of the Alpena DNR station. “We could not do it without them.”

The DNR also works with commercial fishermen in the Alpena area to provide, what Johnson says, is not only one of the nation’s largest supplies of whitefish, but also one of the most sustainable. This is because the DNR requires state-licensed commercial fishermen to use trap nets as opposed to gill nets.

“The DNR prohibits the use of gill nets because of their effect on other species. They are not selective,” said Johnson. Gill nets impart a near 100 percent mortality rate for non-target fish (species commercial fishermen cannot harvest) like salmon, lake trout, and walleye. Trap net catch is held alive in “pots.” Fishermen can release the non-target species that provide value to the recreational fishery. This management strategy allows commercial and recreational fisheries to co-exist and diversifies tourism opportunities.



A successful, sustainable commercial fishery also requires public awareness. With this in mind, **Michigan Sea Grant** worked with the industry to launch Legends of the Lakes™ — a marketing initiative that promotes fresh Great Lakes whitefish caught by a cooperative of fishermen who abide by environmental practices. Whitefish products with the Legends of the Lakes™ brand signify premium, pin-boned fillets. The brand is offered primarily in urban, southern Michigan markets; however, John Gauthier of Gauthier & Spaulding Fisheries sees the benefit for his seasonal customers.

“Tourists that come here in the summer are always asking, ‘Where can we get your fish downstate?’



This is a good avenue for them to actually get the best fish we have,” said Gauthier.

Brandon Schroeder, Michigan Sea Grant’s Northeast district extension educator, said of the program, “The Legends of the Lakes™ marketing initiative is important because it gets at resource sustainability, local and healthy foods, enhancing economic value to fish operators, and creating tourism

development opportunities for local communities.”

Beyond sustainable practices and marketing initiatives, local fishermen work with the public sector to advise policy decisions and support fisheries education and outreach. Captain Ed Retherford of **Trout Scout V Sportfishing Charters** serves on the **Lake Huron Citizens Fishery Advisory Committee** — a group established by the DNR to improve and maintain fishery resources of Lake Huron through better communication and partnership. Retherford also offers his services to Michigan Sea Grant by participating in the **4-H Great Lakes and Natural Resources Camp**, hosted annually in Presque Isle County.

“Through Ed’s leadership and contributions, every participating [4-H] camper experiences Lake Huron first-hand through a charter fishing trip,” said Schroeder. “Through this trip, students are learning about fish ecology and Great Lakes ecosystems, and connecting their role as future resource stewards and leaders.”

These examples of collaborative fisheries research, promotion, conservation, and education illustrate local stakeholder support for the sustainability of Lake Huron’s ecosystem and the sport and commercial fishery tourism that depend on it.

“At the end of day, this is all about supporting responsible, sustainable use of a Great Lakes fishery,” said Schroeder. “[We are] protecting a valued resource, while ensuring opportunities for our coastal communities to continue to capitalize on these valuable fisheries resources, such as through tourism opportunities.”

#### KEY SUCCESS FACTORS

- **Collaborate:** Lake Huron stakeholders partner with researchers and managers, working across private and public sectors to conserve the fishery for multi-uses.
- **Understand Natural Resource Significance:** Working closely with resource managers, fishing tourism operators gain a better understanding of Lake Huron’s current condition.
- **Educate and Interpret:** The Legends of the Lake™ branding educates vendors and customers about sustainability; fisheries businesses and community tourism partners gain valuable resource knowledge from researchers and managers that can be used in interpreting fisheries resources with visitors.
- **Empower Community:** The 4-H Great Lakes and Natural Resources Camp empowers youth to become future leaders and resource stewards. Restaurants and grocery stores serve and carry local food products like Legends of the Lake™ whitefish from Lake Huron.

## Case Study #3: Maritime Heritage Partnerships for Economic Development

*Stakeholder group: Tourism operators / Resource managers*

John McConnell remembers when Thunder Bay's shipwrecks were being picked clean. An avid diver since 1978, McConnell and his friends promoted the philosophy: "take nothing but pictures, leave nothing but bubbles," though the market for shipwreck artifacts was high. Despite the efforts of McConnell and others to preserve this history, people continued to collect and disperse artifacts to private collections.

"I know of at least one big anchor that ended up being sold to somebody in Ohio," said McConnell. "It is odd — a piece of our history has gone someplace that is not even related to it."

Today, glass-bottom boat tours and shipwreck exhibits regularly make headlines. It is hard to imagine that a few decades ago, Thunder Bay's artifacts were in danger. In the 1970s and 80s, concerned Northeast Michigan residents rallied to protect them. The success of maritime heritage tourism today demonstrates the return-on-investment of their preservation efforts.

Joe Sobczak, owner of **Thunder Bay Scuba**, says the story began when local business owners and diving enthusiasts, including McConnell, recognized Thunder Bay's artifacts were worth protecting and promoting. Eventually, the group approached the State of Michigan for help.

"The group up here was behind the creation of the **Michigan Underwater Preserves** system, which now has 13 preserves across the state," said Sobczak.

Thunder Bay was one of the first areas to receive that designation in the early 1980s. This included legal protections preventing collection of shipwreck artifacts. McConnell and others, though, continued to push for further assistance.

"We saw that the state did not have the resources to do what really needed to be done," said McConnell. "So we approached the **National Oceanic and Atmospheric Administration (NOAA)** and asked them if they would designate us as a potential site for a maritime sanctuary."



In 2000, NOAA designated Thunder Bay as the only freshwater national marine sanctuary. The Great Lakes Heritage Center soon followed, surpassing the vision that motivated McConnell and his colleagues.

"We were hoping for a center for people to visit," said McConnell. "So what did happen is just tremendous. We're very pleased."

NOAA continues the preservation efforts started by community members by investing in outreach programming for all ages.

“We really believe in the philosophy that people will protect what they love,” said Stephanie Gandulla, media and outreach coordinator with the **Thunder Bay National Marine Sanctuary**.

The Sanctuary’s programming includes archaeology lectures, hands-on activities for youth, and other lessons to help children explore, enjoy, and learn about Thunder Bay maritime heritage. Gandulla believes these initiatives reach beyond resource education and stewardship to support tourism.

“It really puts Alpena and the whole Northeast region on the map,” she said, referring to a sanctuary event last spring that attracted visitors from around the world. “A lot of them had never even heard of Alpena, and they were thrilled to be here. They said, ‘Oh my gosh — this is a beautiful place! I want to come back here with my family on vacation.’ That was neat to see.”

Sobczak hopes maritime heritage serves as a gateway to all Northeast Michigan has to offer.

“Maritime heritage and the whole outdoor thing seem to go together in my mind,” said Sobczak. “The same people who are interested in sailing might be interested in camping or biking or snorkeling.”

Steve Kroll, owner of **Great Lakes Divers and Sweetwater Charters**, also sees maritime heritage as a springboard for broader coastal tourism.

“We not only have the history from the past to draw [tourists] with the sanctuary and other museums, but we also have our working lighthouses, small boat harbors, and working commercial ports,” said Kroll.

After decades of effort, many community members continue to devote their time to the preservation and promotion of Thunder Bay’s maritime heritage, which, in turn, enhances tourism. Kroll, who serves on the **NOAA Thunder Bay National Marine Sanctuary Advisory Council** along with Sobczak, appreciates the opportunity to be part of the volunteer effort.

“I invite others to be part of it either at the Sanctuary or in their local museum or lighthouse effort,” said Kroll. “You will meet some great people and have a positive, feel-good experience every time you contribute.”



#### KEY SUCCESS FACTORS

- **Collaborate:** Community members banded together to protect Thunder Bay’s maritime heritage artifacts, eventually seeking a partnership with state and federal agencies.
- **Cross-Promote:** Business owners recognized maritime heritage as a gateway to all the other coastal activities visitors may want to enjoy in Northeast Michigan
- **Educate and Interpret:** Community groups partnered with NOAA, which now offers a variety of outreach and education activities for all ages – these educational resources and materials of value to businesses and community tourism partners.
- **Empower Community:** Community members and resource managers worked together to protect the heritage and culture of the Northeast Michigan region.

## Case Study #4: Regional Coastal Tourism Initiatives

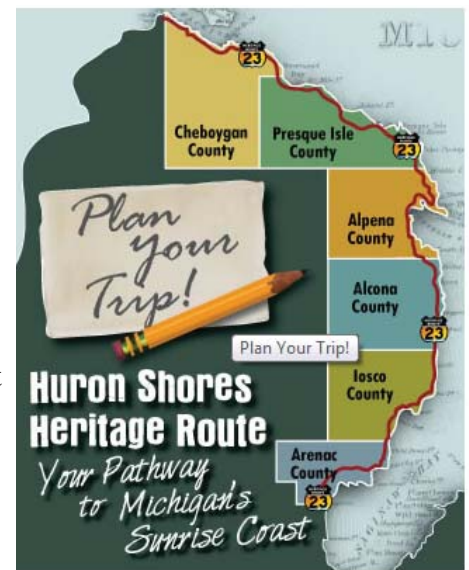
Stakeholder group: Community / Tourism operators / Resource managers

Unique partnerships, creative thinking and strategic leveraging of resources to deliver results — these are the criteria used to determine winners of the National Association of Development Organizations' (NADO) annual Trailblazer Award. In October, Denise Cline from the **Northeast Michigan Council of Governments (NEMCOG)** traveled to the NADO conference in Miami to accept the Trailblazer Award on behalf of the NEMCOG-coordinated **US 23 Heritage Route** program. Out of over 60 contenders from across the nation, the Heritage Route was one of just six winners.

In 2004, the **Michigan Department of Transportation (MDOT)** designated the 200-mile stretch of US 23 from Standish to Mackinaw City as a Recreational Heritage Route. To celebrate this designation, NEMCOG coordinates a management council of representatives from each of the six counties along the US 23 corridor. The council promotes and implements activities culminating in the award-winning US 23 Heritage Route program — a tourism website (<http://www.us23heritageroute.org>) and trip-planning tools for exploring the sunrise coast. While the website is already capturing national attention, Heritage Route partners continue to hatch ideas for improvement.

The website currently groups tourist activities under six categories: active adventures; art, culture and history; outdoor and farm fun; eat, shop and sleep; Huron Greenways; and Huron Blueways. The latter two categories provide an inventory of Northeast Michigan's natural-resource-based activities. Huron Blueways lists water routes for boaters and kayakers including access points and natural features visible along the Lake Huron shoreline. Under Huron Greenways, users find an interactive map of trail systems.

“You're able to click on a trail and then get more information about that segment — how long that trail segment is, what the terrain is, the surface type, difficulty for hikers, difficulty for skiers, whether it's groomed, and restroom and water availability,” said Cline. “Also, all of the really specific natural resource data that we've mapped is available in that category.”



Cline is particularly excited about another website feature under development called Telling Stories from the Sunrise Coast. Heritage Route partners are gathering stories and photos relating to Northeast Michigan heritage that will be available through the website and at sites in the field for visitors with mobile phones that have QR (quick response) code-reading capability.

“Certain stories we're going to choose to actually have a video documentary done — a short, three-to four-minute documentary — that you'll be able to either watch on the website or on your mobile



phone,” said Cline.

Funding associated with the heritage route designation has been used for individual county projects too, including a bike trail in Harrisville, an interpretive map for Rogers City’s Huron Sunrise Trail and the renovation of the historic Standish train depot. Marking the gateway to coastal US 23, the depot now serves as a welcome center for the Heritage Route.

NEMCOG continues to work regionally with partners to encourage ecotourism opportunities in Northeast Michigan. These efforts build upon the [2009 Northeast Michigan Integrated Assessment](#) report. The report was part of a regional, multi-year planning process facilitated in partnership by NEMCOG and **Michigan Sea Grant** to explore sustainable coastal tourism development. After completing an inventory of natural assets and resource-based businesses in the region, NEMCOG analyzed where ecotourism opportunities exist and developed an ecotourism marketing plan to provide guidance to potential ecotourism operators.

“A business operator who wants to open an ecotourism business can pick up the plan, look up where they want their business to be located, see what natural features are around them, and then look under the marketing section to see what they need to focus on,” said Cline.

Cline traces the US 23 Heritage Route success and related regional tourism development back to the first Heritage Route management council meetings. The council recognized Northeast Michigan is a great place, but it was not being marketed as a regional destination.

“They looked at it as ‘wow, if we pool all of our resources, we are going to get a bigger bang for our buck,’” said Cline. “We really felt like there’s a lot to do in Northeast Michigan that even local people don’t realize. We wanted to develop this program to be this one-stop regional resource for everything there is to do in coastal Northeast Michigan.”

#### KEY SUCCESS FACTORS

- **Collaborate:** The US 23 Heritage Route management council consists of members from every county in Northeast Michigan working together.
- **Cross-Promote:** The Heritage Route council promotes a regional experience. In addition, NEMCOG has participated in extensive business inventories to provide free marketing through the US 23 Heritage Route website.
- **Understand Resource Significance:** NEMCOG worked with resource manager partners to conduct an inventory of Northeast Michigan’s natural resource assets.
- **Educate and Interpret:** The Huron Blueways and Huron Greenways directories on the US 23 Heritage Route website provide interpretive information that enhances visitors’ experience and appreciation of the resources they enjoy.
- **Empower Community:** The heritage route designation has resulted in opportunities and funding leveraged to enhance community projects, that in turn, enhance regional tourism, such as the Harrisville bike trail, Rogers City interpretive map, and Standish welcome center.



---

## Glossary

<b>Biodiversity:</b>	Shortened term for biological diversity referring to the variety of species and functions characteristic of an ecosystem. Currently, Lake Huron's biodiversity is at risk due to invasive species, climate change, water pollution, industrial growth, and other human-caused threats.
<b>Coastal tourism:</b>	Tourism that is based on distinctive resources available in coastal zones and coastal waters; includes activities involving terrestrial and marine biodiversity, cultural and historic heritage, geologic history, beaches, water, and scenic beauty.
<b>Heritage interpretation:</b>	Interpretation typically involving a guide or naturalist sharing their knowledge of the nature, culture, and history associated with a place or activity.
<b>Place-based approach:</b>	Marketing a holistic concept of a destination by promoting an inventory of assets, including cultural character, heritage, and natural resources thereby maximizing the destination's customer appeal.
<b>Sustainable development:</b>	A process of change in which the exploitation of resources, the direction of investments, the orientation of technological development; and institutional change are all in harmony and enhance both current and future potential to meet human needs and aspirations.
<b>Triple bottom line approach:</b>	Offers a holistic perspective that measures success not based on immediate financial return, but based on a plan that maintains financial success as well as preserves the social and environmental assets that lay the foundation for the tourism industry.

---

## Works Cited

Adelaja, Soji, Yahannes G. Hailu, Rachel Kuntzsch, Mary Beth Lake, Max Fulkerson, Charles McKeown, Laila Racevskis, and Nigel Griswold. "State Conservation Spending in the United States: A Political Economy Analysis." East Lansing, MI: Land Policy Institute. Available at: [http://www.landpolicy.msu.edu/modules.php?name=Documents&op=viewlive&sp\\_id=440](http://www.landpolicy.msu.edu/modules.php?name=Documents&op=viewlive&sp_id=440).

Benton, Gregory M. "From Principle to Practice: Four Conceptions of Interpretation." *Journal of Interpretation Research* 14, no. 1 (June 1, 2009): 7-31.

Business owner concerns compiled by Michigan State University Center for Community and Economic Development. "Innovative Development and Strategic Promotion of Ecotourism in Northeast Michigan." Lansing, MI: Michigan State University, 2010. Available at: <http://www.ced.msu.edu/researchreports/Ecotourism%20Co-Learning%20Report%20Final%20revised.pdf>.

Ham, Sam H. and Betty Weiler. "Isolating the Role of On-site Interpretation in a Satisfying Experience." *Journal of Interpretation Research* 12, no. 2 (August 1, 2007): 5-24.

Jamal, Tarzim B. and Amanda Stronza. "Collaboration Theory and Tourism Practice in Protected Areas: Stakeholders, Structuring and Sustainability." *Journal of Sustainable Tourism* 17, no. 2 (March 2009): 169-189.

Jamal, Tazim B. and Donald Getz. "Collaboration Theory and Community Tourism Planning." *Annals of Tourism Research* 22, no. 1 (1995): 186-204.

Discover Northeast Michigan. "Coastal Tourism Resources for your Business." Website available at: [www.discovernortheastmichigan.com](http://www.discovernortheastmichigan.com)

Lake Huron Biodiversity Conservation Strategy. "The Sweetwater Sea: Strategies for Conserving Lake Huron Biodiversity." Ann Arbor, MI: Michigan Sea Grant. Available at: [http://www.miseagrant.umich.edu/downloads/biodiversity/10-732-Lake-Huron\\_Biodiversity-screen.pdf](http://www.miseagrant.umich.edu/downloads/biodiversity/10-732-Lake-Huron_Biodiversity-screen.pdf).

Michigan Sea Grant. (2009) Northeast Michigan Integrated Assessment Final Report. [MICHU-09-207] Available at: <http://www.miseagrant.umich.edu/downloads/nemia/report/NEMIA-Final-Report.pdf>.

---

## Acknowledgements

This guide would not have been possible without the essential and gracious support of many partners and colleagues. Michigan Sea Grant would like to thank the following individuals and organizations for their contributions:

Phil Alexander, Michigan State University  
Extension, retired

John McConnell, Thunder Bay National  
Marine Sanctuary Advisory Council

Denise Cline, Northeast Michigan Council of  
Governments

Captain Ed Retherford, Trout Scout V  
Sportfishing Charters

Stephanie Gandulla and Sarah Waters, National  
Oceanic and Atmospheric Administration  
Thunder Bay National Marine Sanctuary

Treenen Sturman, Northeast Michigan Great  
Lakes Stewardship Initiative

John Gauthier, Gauthier & Spaulding Fisheries,  
Inc.

Joe Sobczak, Thunder Bay Scuba

Christine Vogt, Michigan State University

Jim Johnson, Michigan Department of Natural  
Resources Alpena Fisheries Research Station

Sarah Waters, National Oceanic and  
Atmospheric Administration Thunder Bay  
National Marine Sanctuary

Steve Kroll, Great Lakes Divers and  
Sweetwater Charters

Bonnie Zoiya, Michigan State University  
Extension

MICHU 12-204