SUSTAINABLE SMALL HARBORS

Proof of Concept | May 2016

GUIDEBOOK

TABLE OF CONTENTS

1.0 PROJECT OVERVIEW

proof of concept

SUSTAINABLE SMALL HARBORS

SMALL HARBOR SUSTAINABILITY

1.1 PROJECT PURPOSE AND BACKGROUND

NEED FOR THE PROJECT

This project seeks to develop long-term, sustainable strategies that will enable Michigan's Great Lakes coastal communities to maximize the benefits of their harbor facilities in the face of such challenges as extreme water level variation and uncertainty surrounding future state and federal harbor maintenance support. More specifically, this project is concerned with the sustainability of Michigan's small, shallow-draft, primarily recreational harbors, as opposed to deeper, cargo-handling ports.

While the historically low water levels of the 2000-2013 period initially motivated this project, its scope addresses other potential future scenarios such as higher than normal water levels, increased storm volatility, flooding, erosion, and other disruptive, climate-related threats to small harbor viability.

Dramatic water level fluctuations, spanning a range of up to six feet on Lakes Michigan and Huron in the last three decades alone, have severely challenged the recreational boating infrastructure in Michigan's harbor communities. Additionally, diminished federal funding for non-commercial, recreational harbors has further complicated harbor maintenance programs for coastal communities in Michigan and the rest of the Great Lakes. With direct and indirect boater spending almost entirely dependent upon their harbors' navigability, Michigan's coastal communities rely heavily on adequate dredging in low water periods, and strong, resilient coastal protection during high water periods. Without sufficient harbor upkeep, communities are faced with declining revenues and suffering economies.

Dredging as a necessity for harbor access stems from our dynamic coastal environment. Nearshore sediment transport, also known as littoral transport, is the movement of

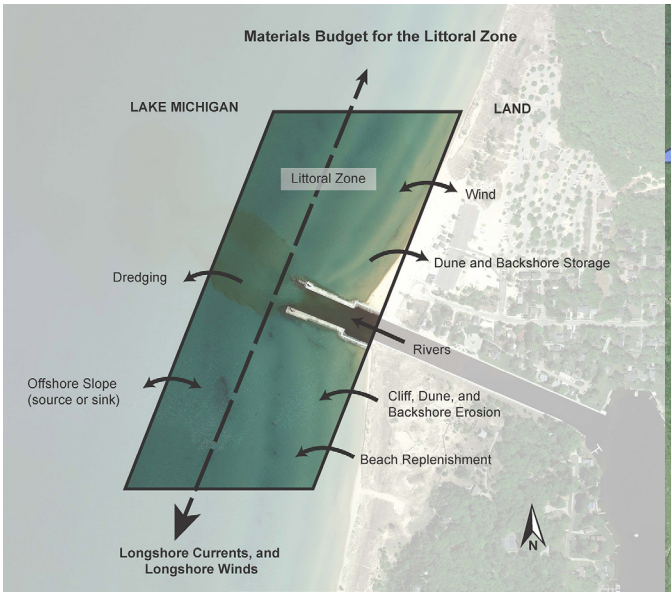

Figure 1: Pentwater materials budget for the littoral zone.

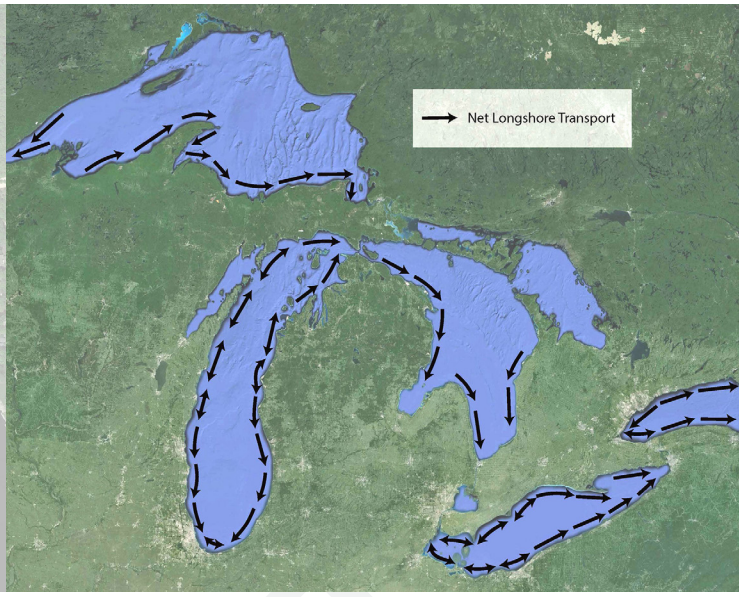

Figure 2: Sediment motion in Great Lakes.

sand in the nearshore zone by waves, currents, and other processes. The sediment can be transported both parallel (longshore) and perpendicular (cross-shore) to the shoreline. It is this transport that is responsible for forming the evolving coastline features such as beaches, dunes, bars, accretion fillets and longshore spits. When considering the nearshore system, sediment can be either lost (erosion) or gained (accretion) depending on the wind, waves, currents, and human interaction (Figure 1 – Pentwater). Sources of sediment in the nearshore zone include sediment moving from adjacent longshore areas, onshore from smaller beach generating waves, or from backshore areas such as dunes. Sediment can be lost from the nearshore zone from larger storm waves (moving sediment offshore) or through dredging. Typically long-term erosion of a coastal zone occurs in response to rising water levels, storm waves and instability in slope soils caused by rising groundwater levels and surface water runoff. Resistance to long-term erosion is based on either natural or human influenced shore protection.

The dominant direction of sediment transport in the Great Lakes varies depending on location, prevailing wind directions and material availability (Figure 2 – sediment motion in Great Lakes). If longshore sediment transport is interrupted by a manmade structure, such as a jetty or breakwater, then sediment will accrete on the updrift side and erode farther down on the downdrift side. However, since sediment can move in both directions alongshore, a smaller accretionary fillet can form on the downdrift side in the area protected from the erosive waves. Longshore sediment motion and sediment flowing from rivers can cause the need for dredging to keep harbor entrances free from sand bars and spits. The frequency of the required dredging depends on the volume of longshore sediment transport and lake levels, which fluctuate seasonally and annually.

PROJECT RESPONSE

The Michigan Small Sustainable Harbors Strategic Flowchart describes a process for communities working to achieve a more sustainable future. The flowchart consists of four basic elements — Inventory, Visioning/Planning, Value Capture, and Implementation — that can be approached in a nearly sequential fashion. Each of the four elements has three levels: Highly Recommended, Recommended, and Additional Resources. The Highly Recommended level lists actions that are essential for a community working to create a sustainability plan. The Recommended level includes resources the project team and case study communities identified as being helpful. The last level, Additional Resources, contains resources that a community should consider reading or processes they might want to undertake depending on community capacity.

A community should start by designating a person to guide the community through the entire process (process manager) and coordinate engagement of the right people at the right time. Depending on the community, that person could be the mayor, manager, planner, or a key citizen appointee (assuming they have authority or influence to elicit the necessary participation). This role can be shared between two or three individuals — such was the case in two of the case study communities — but

a single point of contact is preferred. Once the process manager or process management team has been identified, they should begin guiding the community through the flowchart starting with the Inventory element. Completion of the flowchart will not make a community "sustainable" but it does establish a long-term plan towards sustainability and prepares communities for applying for grant funding to implement the plan. Overall, the flowchart is likely a 6- to 12-month process depending on community capacity and level of engagement in the individual elements.

The outcomes of this project are designed to have particular value for the ongoing maintenance and viability of small public harbors. In 2015, a five-year recreation master plan (detailing capital improvements, dredging, harbor logs, financial summaries, etc.) became a necessary component for public harbors applying for Natural Resource Trust Fund Grant funding from the Michigan Department of Natural Resources (MDNR) Waterways Program. Through this process, we suggest that communities gather documents that are also required to submit a MDNR Waterways Program grant and to develop a five-year recreation master plan. Refer to the South Haven example in Value Capture (Section 4).

1.2 CONNECTING PEOPLE TO PLACE – BUILDING CONNECTEDNESS AND OPPORTUNITY

Definition of Placemaking

Placemaking is the process of creating quality places where people want to live, work, play, shop, learn and visit.

Placemaking is a simple concept — people choose to live in walkable, mixed-use places that offer the amenities, resources, social and professional networks and opportunities to support thriving lifestyles.

Young and creative people today are the most mobile of any generation, ever. Many will move to another city without a job, and then find or create a job after they moved. Quality places are essential to attracting and retaining talented workers, and where they concentrate, jobs are also plentiful. ***Place matters and quality places matter most of all!***

Source: The Land Policy Institute (LPI) at Michigan State University's *Placemaking as an Economic Development Tool Guidebook*

At its core, sustainability is about community and placemaking. People need to feel connected to their community and see opportunities for an economic, social and environmentally sustainable future. Communities with high quality "places" provide opportunities for individuals and families to live, work, play and learn. The places need to include diverse housing, transportation, recreation and educational enrichment offerings. Communities (either large or small) that provide these places are better positioned for economic growth (Figure 3 Business-Talent-Place Triangle) and this does not happen quickly or by accident. High quality places are formed through numerous community and governmental decisions and are most often the result of public/private partnerships. For more information, see *Placemaking as an Economic Development Tool Guidebook*.

The public sector needs to design, build and maintain infrastructure including waterfront access, community recreation centers and attractive and safe downtowns and parks. The private sector needs to create spaces for social interactions, shopping and economic opportunity.

Figure 3: Business-Talent-Place Triangle.

1.3 INTERCONNECTEDNESS OF PLACEMAKING, ZONING AND GOVERNANCE

Placemaking starts with community visioning (see Section 2 for examples) where local stakeholders identify and leverage local assets. Once those elements are clearly articulated, they need to be integrated into local and regional plans. Having a clear vision for the waterfront may simultaneously protect important aspects of the waterfront while enabling desired forms of development to stimulate economic activity. For example, in a community where form-based code is established (e.g., building requirements for height and view lines), a potential developer knows the requirement and can move more efficiently than if faced with a lengthy review process. Including form-based code elements in local zoning regulations are important because it focuses on conformity with the community vision and not strictly on "zoned use."

For example, Marquette uses form-based code to protect its historic downtown while also developing the waterfront. Additional opportunities for a community to implement the vision include adoption of goals in a recreation plan, capital improvements plan and downtown development authority plan. Updating the plans and implementation activities should be structured into the community governance model. This can be thought of shared governance. Elected officials obviously were elected by the public to perform certain duties and one of which has to be to implement a waterfront vision developed by the people. A side benefit of this process is better trust and transparency within a community.

What is Green Infrastructure?

"Green infrastructure uses vegetation, soils, and natural processes to manage water and create healthier urban environments. Green infrastructure refers to the patchwork of natural areas that provides habitat, flood protection, cleaner air and cleaner water. At the scale of a neighborhood or site, green infrastructure refers to stormwater management systems that mimic nature by soaking up and storing water." – *United States Environmental Protection Agency*

Green Infrastructure presents another unique set of placemaking opportunities that can be leveraged. Green infrastructure refers to the natural areas that provide social and environmental value. However, green infrastructure in close proximity to waterfront space can also be a major economic driver. By improving public

Sense of Place

"Sense of place" is a term that reflects the emotion or perception felt by a person when visiting a certain space. It is our relationship with a place. It embodies our experiences, activities, memories of the past, and perhaps hopes for the future. The physical form of a place, its function, and what happens within it all support this relationship. A location with a strong sense of place exhibits a unique identity and character of its own that both residents and visitors can identify with and appreciate. A strong sense of place engenders affection and commitment from local residents, while serving as a magnet that attracts visitors and new residents.

visual and physical access to natural systems, in addition to working waterfront elements, a community can double the value of the space.

1.4 REGIONAL SCOPE AND CONTEXT: FIT WITH OTHER COASTAL EFFORTS

The *Sustainable Small Harbors* project is unique in its focus on public harbors as assets to Michigan's coastal communities. Several related and complementary efforts to improve coastal resilience are also in process. Some of these are described below.

SUMMARY OF SELECTED INITIATIVES AND PROGRAMS

Planning for Resilient Communities Project (i.e., Resilient Michigan): A planning assistance program led by Land Information Access Association (LIAA) in partnership with Michigan Municipal League, Michigan Townships Association, Michigan Chapter of the American Planning Association, and University of Michigan Taubman College of Architecture and Urban Planning. The project supports community planning efforts "that lead to the adoption of significant revisions to existing master plans to promote community resilience in the face of rapid economic changes and increasing climate variability." Initial case study communities include: Monroe, East Jordan, Ludington, Grand Haven, St. Joseph and Holland, St. Clair Shores/Macomb County. Project funding was provided through the Kresge Foundation, Americana Foundation, The Margaret A. Cargill Foundation, Michigan Coastal Zone Management Program and University of Michigan Water Center.

Master Planning for Sustainability and Resiliency Grant Competition: Through a 2015 MI Coastal Zone Management Program grant, the Michigan Association of Planning (MAP) conducted workshops with coastal communities to help incorporate coastal resources into master planning. MAP will provide direct financial assistance in the form of cost-share grants to governmental entities (e.g., municipalities, counties, regions, tribal councils as well as a partnership or collaboration among multiple municipalities) to prepare master plans, updates, plan elements or subarea plans that integrate best practices and policies for improving community resiliency. Financial assistance for this project is provided, in part, by the Michigan Coastal Zone Management Program, Office of the Great Lakes, Department of Environmental Quality, under the National Coastal Zone Management Program, through a grant from the National Oceanic and Atmospheric Administration, U.S. Department of Commerce. For more information, see www.planningmi.org/deq2016.asp

Increasing Resilience at Harbors and Marinas: A 2014 project led by Michigan Sea Grant with support from the Great Lakes Integrated Assessments and Sciences Center to assist marina and harbor operators in sector-specific problem identification, decision making and planning related to climate change adaptation. Resources include identification of marinas and harbor-specific climate risks and best practices for infrastructure, dredging, planning and financing.

RELEVANT STATE PROGRAMS

MDNR Waterways Grant Program: Beginning in April 2015, for harbor communities to qualify for public funding through the Waterways Grant Program, applicants will need to specifically address their harbor in their Five-Year Recreation Plan to qualify for Waterways funding. The recreation plans are reviewed by MDNR Michigan Natural Resources Trust Fund staff.

MIplace (miplace.org): A state-led initiative to assist communities with developing their "sense of place" — the qualities of a given community that inspire people to want to live, work and play there. MIplace and Michigan State University just released the "*Placemaking as an Economic Development Tool Guidebook*" that includes housing, transportation, historic preservation, downtown and green space components plus efforts to encourage business development.

Michigan Coastal Zone Management Program: A program of the Michigan Department of Environmental Quality established in 1978 in partnership with the National Oceanic and Atmospheric Administration (NOAA). The CZM Program focuses on three central goals: 1) Improving the administration of existing state shoreline statutes (e.g., Shorelands Act, Submerged Land Act, Sand Dunes Act and Wetlands Act); 2) Providing substantial technical and financial assistance to local partners for creative coastal projects; and 3) Improving governmental coordination to reduce delays, duplication and conflicts in coastal management decision making.

Redevelopment Ready Communities: A Michigan Economic Development Corporation (MEDC) voluntary, no cost certification program promoting effective redevelopment strategies through a set of best practices. Waterfront best practices and a toolkit for waterfront communities are provided.

1.5 POLICY AND REGULATORY FRAMEWORKS FOR SMALL HARBORS

By David Knight

For Michigan's small harbor communities on the Great Lakes new challenges are emerging to complicate the function of harbor maintenance. Not only have some historically reliable government funding sources become sporadic, but climate models project dramatic swings in water levels and increased storm volatility, both of which significantly impact Great Lakes harbor viability.

Chief among recent policy concerns is a shift by the U.S. Army Corps of Engineers (USACE) away from its historic role of dredging and maintaining the navigation infrastructure in non-commercial harbors. Michigan has 46 federally authorized Great Lakes recreational harbors. Most of these were built and maintained by the federal government for waterborne transportation of freight and passenger travel.

While the commercial navigation component for most small harbors has been replaced with recreational boating, maintaining safe, reliable navigability is still critical. Michigan's small harbor communities rely heavily on the direct and indirect economic benefits of recreational boating, which are estimated to be in the range of $7.4 billion annually and support almost 59,000 jobs in the state.

Michigan's small harbor communities rely heavily on the direct and indirect economic benefits of recreational boating, which are estimated to be in the range of $7.4 billion annually and support almost 59,000 jobs in the state.

Loss or impairment of harbor access, even for limited periods, can result in significant economic hardship, especially given the relatively short boating season on the Great Lakes. Small harbor communities also serve as harbors of refuge in severe weather events, thus playing a role in protection of human health and safety.

In recent years, budget constraints in the USACE operation and maintenance budget have resulted in de-prioritization of recreational, shallow draft harbors, and even low-use commercial ports handling less than one million tons of freight annually. Between fiscal years 2011 and 2016, only seven recreational harbor dredging projects on the entire Great Lakes were budgeted by USACE. Compounding the hardship has been the elimination by Congress of earmarks in spending bills, a tool historically used by federal legislators to fund harbor maintenance projects in their respective districts.

The State of Michigan has, more than any other Great Lakes state, helped maintain small harbors through the Department of Natural Resources Michigan Waterways Fund, and through emergency dredging assistance during extreme low water periods. The Waterways Fund is available to the federally authorized small harbors, plus another 40 state grant-in-aid harbors and harbors of refuge. It is funded

primarily through boater registrations and the state gas tax, and makes about $5 million available annually for harbor maintenance work.

Programs also have been initiated, most notably by the Michigan Department of Environmental Quality (MDEQ) and the Michigan State University Institute for Water Research, to identify and mitigate upstream river-borne sedimentation to preemptively reduce downstream dredging needs.

Grassroots advocacy efforts on behalf of recreational harbors, such as the Great Lakes Small Harbors Coalition established in 2008, have helped build awareness, particularly at the federal level, of the needs of recreational harbors. These efforts were buoyed by enactment of the Water Resource Reform and Development Act of 2014 which establishes annual target appropriations levels for increased spending of funds from the Harbor Maintenance Trust Fund (HMTF) leading to full use by 2025. In recent years, the HMTF has generated up to $2 billion annually with less than half of that going to actual harbor maintenance. But there remains little assurance that small harbors will enjoy the potential "rising tide" of federal dollars without additional legislated direction such as a set-aside program.

Until and unless the federal funding returns, many Great Lakes small harbors are being compelled to explore new options to support the maintenance dredging needed to keep them viable. These include state assistance, such as the $21 million emergency dredging program offered by the state of Michigan in the water level crisis year of 2011. Coastal communities also have benefited from privately funded contracting; using city, county and other municipal general funds; and locally administered user fees.

For federally authorized small harbors interested in augmenting the USACE dredging program with contributed funds to support dredging of their harbors, two alternatives are available: 1) Enacting an agreement to provide funding to USACE, which would execute the dredging project, including design, contractor acquisition and dredging quality assurance, or 2) Obtaining a 10 year permit from USACE, for the community to carry out the dredging with its own resources, after securing all necessary permits and approvals from the state.

Some Great Lakes small harbors, including at least two in Canada, have explored acquiring and operating their own dredging equipment in partnership. This may help spread the significant costs while assuring an ongoing, self-sustaining solution to dredging needs, for both regular maintenance and for emergency situations of storm-induced shoaling.

One innovative approach taking shape in New York State involves a "Regional Dredging Management Plan" (RDMP) in which six county governments and two municipalities along Lake Ontario's south coast would collectively operate a dredging program to maintain some 19 small harbors within their purview. The idea was originally proposed in 2000 by Dr. Frank Sciremamanno, an engineering professor at the Rochester Institute of Technology and a member of the International St. Lawrence River Board of Control and the International Lake Ontario-St. Lawrence River Study Board of the US-Canadian International Joint Commission. The concept was updated in 2014.

Sciremamanno proposes a not-for-profit corporation that "would allow for a focus by the organization solely on the dredging program, would provide bonding capabilities, would allow some sharing and/or donation of equipment from the participating counties, would allow seamless funding by governments, and would allow for control of the program by the participating counties through combined incorporation and representation on the corporate Board of Directors."

2.0 CASE STUDIES

proof of concept

SUSTAINABLE SMALL HARBORS

2.1 COMMUNITY PROFILE AND LESSONS LEARNED FROM EACH OF FOUR COMMUNITIES

Four community profiles will be provided in the final version of this Tools and Tactics Guidance:

- Au Gres Community Profile
- New Baltimore Community Profile
- Ontonagon Community Profile
- Pentwater Community Profile

These profiles will summarize the community-specific process and vision developed through the charrette process. For complete details, refer to the full charrette reports. See: www.miseagrant.umich.edu/smallharborsustainability

COMMUNITY PROFILE: ONTONAGON

COMMUNITY INVENTORY

The Village of Ontonagon is located at the mouth of the Ontonagon River, on the south shore of Lake Superior in the Western Upper Peninsula of Michigan. The village is the county seat and the only incorporated municipality in the county, positioning the village as a cultural and social center for a large part of the west-central Upper Peninsula.

Most of the village's residential and commercial development is established along the east side of the Ontonagon River, with industrial development adjacent to the harbor which is located on the opposite bank of the river.

The village and township have historically been heavily dependent on the extractive industries of mining, forestry and agriculture. The local economy has undergone a pattern of boom and bust related to copper and wood natural resource markets. Most recently, the copper mine closed in 1995, the shipbuilding operation in 1998 and the paper mill in 2010. The paper mill was razed in 2011, but the site is being considered for future industrial use.

Recently, tourism has influenced the local economy. The Porcupine Mountains Wilderness State Park, located 15 miles west of the village and has drawn roughly 300,000 visitors annually in recent years. New interest in recreational land use has stimulated planning efforts for snowmobile, off road vehicles (ORV) and water trail development.

Source: Village of Ontonagon, Township of Ontonagon Consolidated Recreation Plan: 2012-2017

Community Basics

Waterfront: Ontonagon River, Lake Superior

County: Ontonagon

Area: 3.86 square miles

Population: 1,494 in 2011 (-15.5% change from 2000-2010)

Median Household Income: $32,950

Median Age: 51 (52% residents 50+ years old)

Source: U.S. Census, 2010

PLANNING DOCUMENTS

- Ontonagon Village Master Plan (May 2007)
- Village of Ontonagon, Township of Ontonagon Consolidated Recreation Plan: 2012-2017 Village of Ontonagon, Michigan – Access Management Plan (September 2006) http://www.wuppdr.com/pdf/OntVTrec12-17_reduced.pdf
- Ontonagon County Multi-Hazard Mitigation Plan: 2013-2018 http://www.wuppdr.com/pdf/ontonagonAccessManageFinal.pdf
- USACE Harbor Infrastructure Inventories: Ontonagon Harbor, Michigan http://www.lre.usace.army.mil/Portals/69/docs/Navigation/RiskCommunication/Ontonagon%20Harbor.pdf
- Ontonagon Snowmobile & ORV Rules of The Road
- Ontonagon County Water Trails: Lake Superior and Ontonagon River

WATERFRONT INVENTORY

Ontonagon Harbor: Ontonagon Harbor is a deep draft commercial harbor with over 4,800 feet of structures, including piers and revetments, and approximately 3/4 mile of maintained federal channel. The harbor also serves as a Harbor of Refuge (USACE, 2013).

Ontonagon Marina: Constructed in the early 1970s, the marina is open for from May 1 to October 15. It consists of floating docks with 29 seasonal slips and 7 transient slips. Daily dockage rates range from $24 to $177. Amenities at the marina include water, electricity, restrooms, showers, gasoline, diesel, pump out, ice, fish cleaning station, boat launch, hoist, long-term parking, day-use dock and a playground with picnic tables and grills.

Source: USACE, 2013 http://www.lre.usace.army.mil/Portals/69/docs/Navigation/RiskCommunication/Ontonagon%20Harbor.pdf

Dredging and Federal Infrastructure

- Approximately 40,000 cubic yards of material must be dredged each year; the harbor was last dredged in 2011.
- Maintenance dredging is currently required within the harbor. Project depth is 23 feet in the entrance channel of Lake Superior, 22 feet in the inner harbor channel, 30 feet in the sedimentation basin, and 21 feet at the western upstream portion of the channel.
- The West Pier is currently in need of minor repairs.

Source: USACE, 2016 http://w3.lre.usace.army.mil/OandM/factsheets/OntonagonHarbor.pdf

VISIONING AND PLANNING

ASSETS AND LIABILITIES

As part of the visioning process, the community self-identified the following assets and liabilities:

Figure 1: Current view of shipyard and "Ontonagon 2035" design rendering. The final design of the shipyard beach includes a hotel with meeting space, access to the pier and beach, lookout tower, beach amenities, handicap accessible overlook and new housing. Source: Sustainable Small Harbors

COLLABORATORS

To draw upon community expertise, the following technical meetings were convened:

- Marina and Waterborne Recreation (Harbormaster, Marina Commission, Sport Fishing Club, Boaters, Paddlers, and waterfront-related business representatives);
- Recreation and Tourism (Recreation Commission, Snowmobile Club, ORV Club, County Recreation Advisory Group, Museum/Historical Society, Chamber of Commerce, and community event representatives); and
- Business and Industry (Highland Copper Company, White Pine Electric, Ontonagon County Economic Development Corporation, Chamber of Commerce, County Economic Partnership, commercial real estate developers, Village Council, Planning Commission, and elected planning representatives).

To facilitate implementation support, the following initial state and regional partners were identified:

- Upper Peninsula representative from the governor's office;
- Trust for Public Lands (professional introduction following charrette regarding potential acquisition of the shipyard property);
- Regional Prosperity Initiative field staff;
- Michigan Sea Grant staff; and
- Michigan State University Extension staff.

PREFERRED ALTERNATIVE: "ONTONAGON 2035"

"Ontonagon 2035" represents a shared future vision of the community based on the charrette design process. Alternative 1 had the majority of community approval votes, so the "preferred alternative" was developed primarily from Alternative 1 with aspects of Alternative 2 and 3 included based on voting and oral feedback during the process.

The final design includes converting the shipyard property into public beach access with a small amount of development. Rose Island has an extended boardwalk and follows closely with the current parks and recreation plan with the addition of dockage and development along the north end. At the marina site, access to the lighthouse is restored in the design and marina facilities and amenities are enhanced.

The area to the north of the marina was left as industrial land and not altered for the final design beyond adding access to the lighthouse. That property could host new industry for Ontonagon, like a bulk material terminal, light industry or boat building.

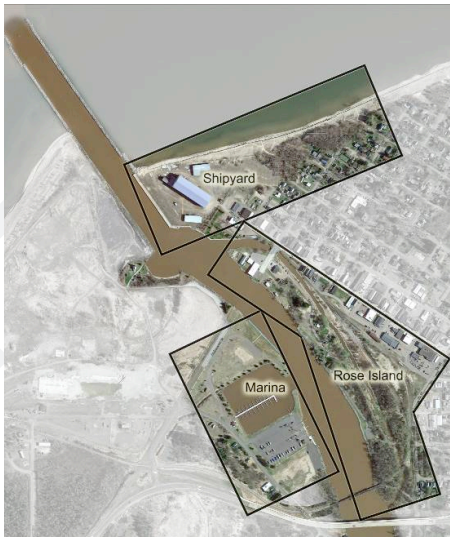

Figure 2: Ontonagon Design Focus Areas. Source: Sustainable Small Harbors

Design Options

As part of the visioning process, the community evaluated three distinct concepts for the waterfront. The project team then took the top-voted elements from each alternative to inform a "preferred alternative."

- Alternative 1: Enhanced Outdoor Recreation
- Alternative 2: Mixed Use and Open Space
- Alternative 3: Industrial and Commercial Enhancement

Figure 3: At the marina, a playground and athletic fields were added to the design to create more activities near the marina. The pavilion added along the water can be rented for events or used by marina and park visitors. Inside the marina, a small boat launch and docks for small boats were added to allow easier launching of small craft in the safety of the marina instead of into the river current. The marina itself has expanded services with indoor boat storage and winterizing of boats. This figure shows boat storage and the boat club in the marina. This building is a warming station for boaters to get food or drink. Retail was also added near the marina with a new complex for marina related shops, shown in this figure. Trades like small engine repair, fiberglass, and boat maintenance could be achieved through public-private partnerships at the marina. Source: Sustainable Small Harbors

Figure 4: Rose Island improvements include an "entertainment district" (destination restaurant, plane tours), rails-to-trails multi-use bridge, additional fishing piers and a trail information center. A boardwalk will connect current fishing piers, the historic fishing village and the north end the island. The old pump house is restored as public restrooms for the island and the historic tug boat was moved over to the fish shanties. Adding a kayak landing on the island along the slough is depicted along with Paddie's Creek Bridge placed at the end of Houghton Street for pedestrians. Source: Sustainable Small Harbors

Figure 5: At the opposite end of the site, the design includes conversion of an old rail station building for use as a trail center. This location is a hub for pedestrian use, ORV, and snowmobile traffic since it is near the bridge crossing the Ontonagon River and provides a back entrance and parking for downtown. Source: Sustainable Small Harbors

CONNECTIVITY

Given that the marina is physically separated from the downtown area by the Ontonagon River, connections by water, trail and road are important for Ontonagon. Also, improved signage along MI-64 may help capture more activity, since many visitors to the Porcupine Mountains pass by Ontonagon along this route. Clearer signage advertising local businesses and attractions would help direct people into the village.

VALUE CAPTURE – INITIAL EFFORTS

As a part of the engagement process, the team encouraged the community to reinvest in the downtown area, take steps to attract visitors to the Porcupine Mountains and explore bulk cargo options. As part of the engagement process, the team outlined opportunities to incorporate the harbor vision into existing planning documents and provided an overview of potential funding sources.

To remain on the US Army Corps of Engineers' roster of commercial harbors, the community may want to explore use of the commercial pier. Potential users of a bulk cargo terminal on the west pier property include:

- Road salt, sand and aggregate for the road commission;
- Limestone and aggregate for construction firms;
- Sand and gravel for landscaping;
- Dimensional and heavy lift cargo for industrial use; and
- Fertilizer for agriculture or landscaping.

Figure 6: Potential connections for current and proposed non-motorized transport, kayak access, water trail, snowmobile/ORV, rail line, bike lanes and bridges. Source: Sustainable Small Harbors

IMPLEMENTATION

Use of Design and Visioning Products. Within the Village of Ontonagon, the Village Council, the Recreation Commission and the newly reestablished Downtown Development Authority are all working to implement the sustainable harbors vision. The Village Council is hiring a grant writer to assist with funding proposed improvements. The DDA and Recreation Commission are identifying the easy to implement proposed improvements and potential funding sources. Ontonagon County, Ontonagon Township, MI-TRALE, snowmobile club, the Historical Society, the Chamber of Commerce and Ontonagon County Economic Partnership (OCEP) have also added issues related to the Sustainable Small Harbors Project to their agendas.

Initial Impacts. The Ontonagon Downtown Development Authority (DDA) was reestablished as a direct result of the Sustainable Small Harbors study, effective March 2016. The DDA membership includes several individuals who championed the Sustainable Small Harbors study, including the newly elected president. The DDA has addressed beautification of River Street (e.g., plants, flowers, cleanliness and maintenance), improvements for the Ontonagon welcome sign at M-64, begun dealing with blight, and worked to "crowd fund" a River Street outdoor amphitheater. The DDA has discussed using the images produced through the Small Harbor Sustainability study to support a request to the Michigan Department of Transportation for a needed paving project.

Regarding the Rose Island vision to develop a multi-use path to connect the marina and west side of town to downtown, the DDA president aims to facilitate cooperation between the Village Council, Recreation Commission, DDA, MI-TRALE (trails user group) and the Historical Society. The current pathway needs cleanup, railroad tie removal, grading, beautification, limestone/compaction and signage. A champion from MI-TRALE has applied for grant funding from the Michigan Department of Natural Resources to install rail bridge decking to improve connection between the east and west sides of town, effectively providing an additional connection point to the marina.

In a related effort toward improving tourism opportunities, some members of the community have been rallying around improvements for the airport which would allow commercial charter operators to use the facility.

Challenges. While many elements of the "Ontonagon 2035" vision are already moving forward, other elements of the 20-year vision will require more time. For example, there are other proposed uses for the historic rail station, envisioned as a public trail center, which would have to be addressed before it could be converted. All vested parties would have to agree on the best future use.

While the DDA has agreed that the future use of the shipyard property "would best serve the Village if it is used as indicated in the Small Harbor Sustainability Study," any change for

this tract would be a major shift in land use and potentially cost prohibitive – the sale price for the property is estimated to exceed $1 million.

Prioritization and Funding. The informal implementation team has reported some difficulty in determining phasing for the twenty-year horizon suggested in the "Ontonagon 2035" vision. Identifying project priority, who would take lead responsibility, and securing funding are key questions.

Momentum. One local champion created an "Ontonagon Small Harbor Sustainability Project" Facebook page to create a social media following for the project. The page has a remarkable 192 members and is actively chronicling efforts to support revitalization efforts in Ontonagon, including actions toward realizing the "Ontonagon 2035" vision. The page features design renderings from the charrette process, allowing for a visual reminder for what reaching a goal could look like.

2.2 COMMUNITY ENGAGEMENT PROCESSES

The project leadership team and advisory board selected four representative small harbor communities in Michigan for case studies. Selection was based on five criteria: type of harbor (e.g., shallow draft, harbor of refuge), harbor location relative to the community type (e.g., suburban, city, downtown), population size, current economic condition and chance of successful implementation. Harbors were selected from across the state and included multiple Great Lakes.

Over the course of six months, the research team conducted charrettes — multiple day visioning meetings — in selected communities. This facilitated community visioning process provided recommendations from community members that help facilitate environmental, social and economic sustainability of the community waterfront.

Figure 1: Phases of the National Charrette Institute planning process. Source: National Charrette Institute

Researchers followed the National Charrette Institute Charrette System™, a three-phase, holistic, collaborative planning process during which a multiple-day charrette is held as the central transformative event (Figure 1). Single day visits at the beginning and end of the project introduced the process and shared project outcomes.

The project team adopted a 1-3-1 format for each community engagement cycle (Figure 2).

The initial meeting was dedicated to project introduction and preliminary community discussion of assets, weaknesses, barriers and connections. The design charrette, a three-day event, included three public events, technical meetings, feedback loops and iterative design work. The final visit coincided with a regularly scheduled council meeting and was dedicated to delivery of a refined preferred alternative, including additional design renderings to illustrate the preferred alternative. A final publically available report was prepared for each case study community to record the process and details of the 20-year vision.

Figure 2 Graphic designed to illustrate 1-3-1 structure for charrette community visits. Source: Michigan Sea Grant

2.3 BEST PRACTICES OBSERVED AT THESE HARBORS

Each community approached the design charrette in a unique manner. For details on each charrette, please see the four full charrette reports which are available online through the project website. See: www.miseagrant.umich.edu/smallharborsustainability.

Approaches and best practices include:

NEW BALTIMORE CHARRETTE

The local implementation team was led by the mayor, city administrative assistant, and a consultant grant writer/community planner. This community leadership and staffing dynamic made for an enthusiastic, capable team that was motivated and equipped to take action on the preferred alternative. The visioning process was characterized by an interest in providing public access, improved waterfront amenities and capturing investment downtown. The team successfully utilized design renderings and referenced the public engagement process as part of a successful application to the Michigan Natural Resources Trust Fund grant to acquire a private marina property to expand public waterfront access.

Key words: Grant writing, utilization of design renderings

PENTWATER CHARRETTE

The local team was led by the village president, zoning administrator, harbor research committee chair, and village manger. The team was characterized by engagement of motivated, willing citizen volunteers. As a retirement community, Pentwater has attracted bright, capable people, which increases volunteer community capacity. The likelihood of the preferred alternative gaining traction will benefit from this group of professional retiree's vision and dedication. The visioning process was characterized by a stated need for dredging assistance through improved funding mechanisms, interest in developing various housing options, enabling walkability, and bringing more people to the area. Initial outcomes include planning for a Pentwater Marine Technology Institute — an educational, a non-governmental organization for marine education, teaching and learning. The Pentwater Institute would leverage existing intellectual talent and community capacity by creating a formal structure for knowledge transfer. This organization would serve to bring new multi-generational educational opportunities and youth to the area as an economic stimulus.

Key words: Citizen volunteers, dredging, youth

AU GRES CHARRETTE

The local team was led by the city manager and city park manager. The state, which held the riverside Au Gres mooring facility for decades, intends to return ownership to the city. This scenario provides an opportunity for the city to determine best use for the currently vacant property, which sits near the heart of the downtown area. The visioning process was characterized by interest in bringing more people to the city, willingness to change uses, and identifying opportunities to increase connectivity between the city, river, bay and boat access site — a unique challenge due to the distance of the mooring facility/downtown to Saginaw Bay. Repurposing the rarely used marina as a public space, while continuing to support natural resources tourism at the boat access site, was a key shift. Due to the local impact of a state highway bisecting the downtown area, involving Michigan Department of Transportation in implementation efforts will be key. Au Gres has been awarded a grant from Saginaw Chippewa Indian Tribe for proposed improvements at the mooring facility property — the central focus of the charrette. Including tribal interests, as applicable, is a best practice; here the effort included suggesting that signage include a native language component.

Key words: Tribes, connectivity, public access, MDOT

ONTONAGON CHARRETTE

The local team was led by the village manager, village president and a local citizen. Efforts were leveraged by the local citizen champion — a new downtown business owner — who assumed a leadership role and spent many hours promoting charrette events and engaging the media. Volunteer-led community outreach paired with strategic invitations from the village manager yielded the most well-attended of the case study charrettes. Identification and activation of key players was a lesson learned from this engagement process. Invitations were made by local contacts that established a sense of trust and willingness to engage in an effort to revitalize the community. Further, extensive media coverage helped build excitement about the process. The visioning process was characterized by interest in finding a balance between residential,

Continued...

recreational and industrial use. The village has since seen reestablishment of the Downtown Development Authority as a critical driver in maintaining momentum. This is an excellent example of a community activating the preferred alternative vision by identifying a standing body to champion implementation.

Key words: Leadership (staff and volunteer), media, Downtown Development Authority, industry

GENERAL ATTRIBUTES OF A SUSTAINABLE HARBOR

ELEMENTS AND IMPAIRMENTS FOR SMALL HARBOR SUSTAINABILITY

To be sustainable, a harbor community has to be environmentally, economically and socially sound.

Elements to evaluate in each of these asset classifications include:

PHYSICAL ATTRIBUTES (ENVIRONMENTAL SUSTAINABILITY)

- Shoreline
- Bottomlands
- Waterfront infrastructure
- Community environmental assets
- Public access
- Adaptive use
- Enhancement

ECONOMIC ATTRIBUTES (ECONOMIC SUSTAINABILITY)

- Diverse business inventory
- Income potential
- Jobs inventory
- Growth potential
- Community support
- Property values
- Placemaking

COMMUNITY (SOCIAL SUSTAINABILITY)

- Population diversity
- Waterfront owners
- Business owners
- Seasonal residents
- Next generation residents
- Visitor appeal

LOCAL CHAMPIONS

An integral component of ensuring sustainability is identifying champions that will stand by efforts to improve social, environmental and economic sustainability. To this end, efforts to gain allies include:

- Seek out public/private partnerships to facilitate access to a wide range of funding sources.
- Establish non-profit organizations in support of working waterfronts to improve access to funding sources and reap tax benefits.
- Create new, and use existing, trade associations to support working waterfront initiatives.

IMPEDIMENTS TO SMALL HARBOR SUSTAINABILITY

- **Federal, State and Local Regulations**
  - Standard zoning or environmental regulations
  - Inflexibility in application
- **Physical Attributes**
  - Water and land conditions
  - Legacy environmental impacts
- **Cultural and Social Influences**
  - No community support for change
  - No community support for taxation investment
  - Split directions for community future
  - Community residents versus seasonal residents
- **Local Administration**
  - Elected officials leading or opposing
  - Short term of office compared to goal attainment
  - Untrained in waterfront management issues
  - Lack of understanding of regulatory mandates
  - Interagency relationships (federal, state, local)
- **Costs**
  - Short-term investment
  - Long-term maintenance
  - Shared investments ratio — who invests based on perceived benefit/use from investment (i.e., waterfront owners versus inland owners)
  - Tax burden ratio (business versus private)

Acknowledgement to Bill Boik, Michigan Department of Natural Resources, retired.

Figure 3: Illustration of a variety of attributes that often combine to yield a sustainable harbor. Source: Michigan Sea Grant

3.0 ECONOMIC SUSTAINABILITY

proof of concept

SUSTAINABLE SMALL HARBORS

3.1 CHARACTERIZING ECONOMIC SUSTAINABILITY OF SMALL HARBORS

Economic sustainability was characterized as the ability for small harbors to self-fund their continued operation and maintenance costs in the face of decreased federal funding. Many small harbors are not financially viable in the sense that revenues no longer cover costs. Faced with this situation, harbor operators have a set of potential responses.

These include:

- Reducing operations,
- Seeking additional external funding,
- Increasing fees,
- Increasing taxes, and
- Undertaking activities that increase revenues relative to costs.

Operators could choose one or more of these potential responses and each have potential complications. Reducing dredging can affect accessibility. Securing additional external funding is challenging as it may require substantial demonstration regarding usefulness of the expenditures. Increasing slip fees can have an uncertain impact on revenues. Tax increases to local property owners and businesses require local political support and are typically unpopular. And finally, undertaking activities that increase revenues relative to costs (such as harbor infrastructure improvements) can be complex and expensive.

3.2 SMALL HARBORS ECONOMIC SUSTAINABILITY CONCEPTS

Small harbors can be economically complex. Many small harbors and their communities are symbiotic; desirable harbors lead to more visits and expenditures in harbors *and harbor towns*. As a result, undertaking any of the activities previously described can impact outcomes for both entities.

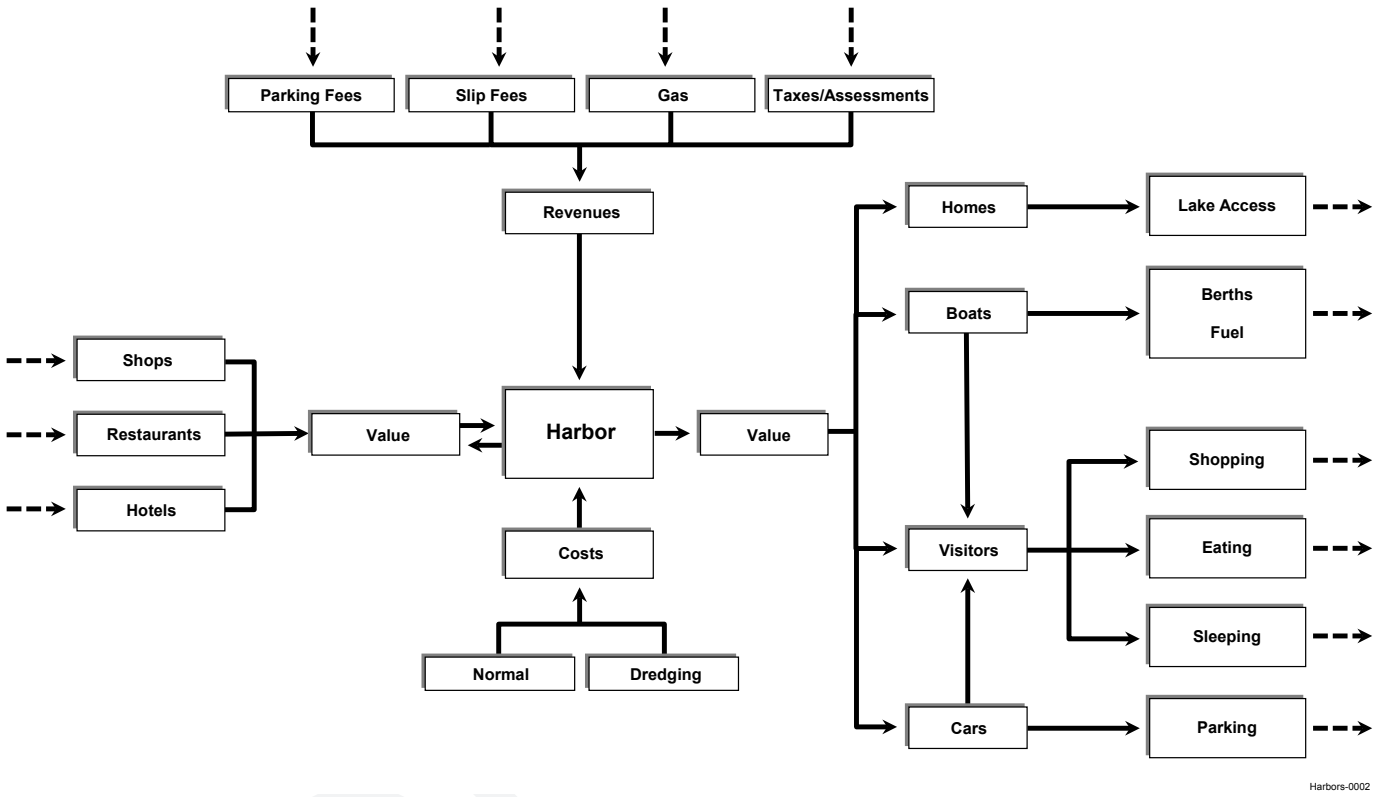

Figure 1: Small harbors economic relationships between a harbor and its users. Source: Veritas Economic Consulting, LLC

As Figure 1 shows, the harbor provides economic value to shops, restaurants and properties in the harbor town. It also provides a sense of place to residents and visitors. Visitors receive value as they purchase berths and fuel, shop, eat, stay overnight and park.

Their expenditures are received in the form of revenue, which represents value received by shops, restaurants and hotels. The harbor receives revenues from providing services such as fees for slips and parking and selling gas as well as potentially from taxes and assessments. The harbor incurs normal operating costs, including salaries and utilities as well as the new costs for dredging.

3.3 SUMMARY OF ECONOMIC MODELS APPLIED AT FOUR CASE STUDY HARBORS

An economic model was developed to support characterizing potential economic outcomes at four case study harbors (Au Gres, New Baltimore, Ontonagon and Pentwater). The most comprehensive strategies to address small harbor sustainability include undertaking activities to increase revenues relative to costs. These were characterized in the charrette process.

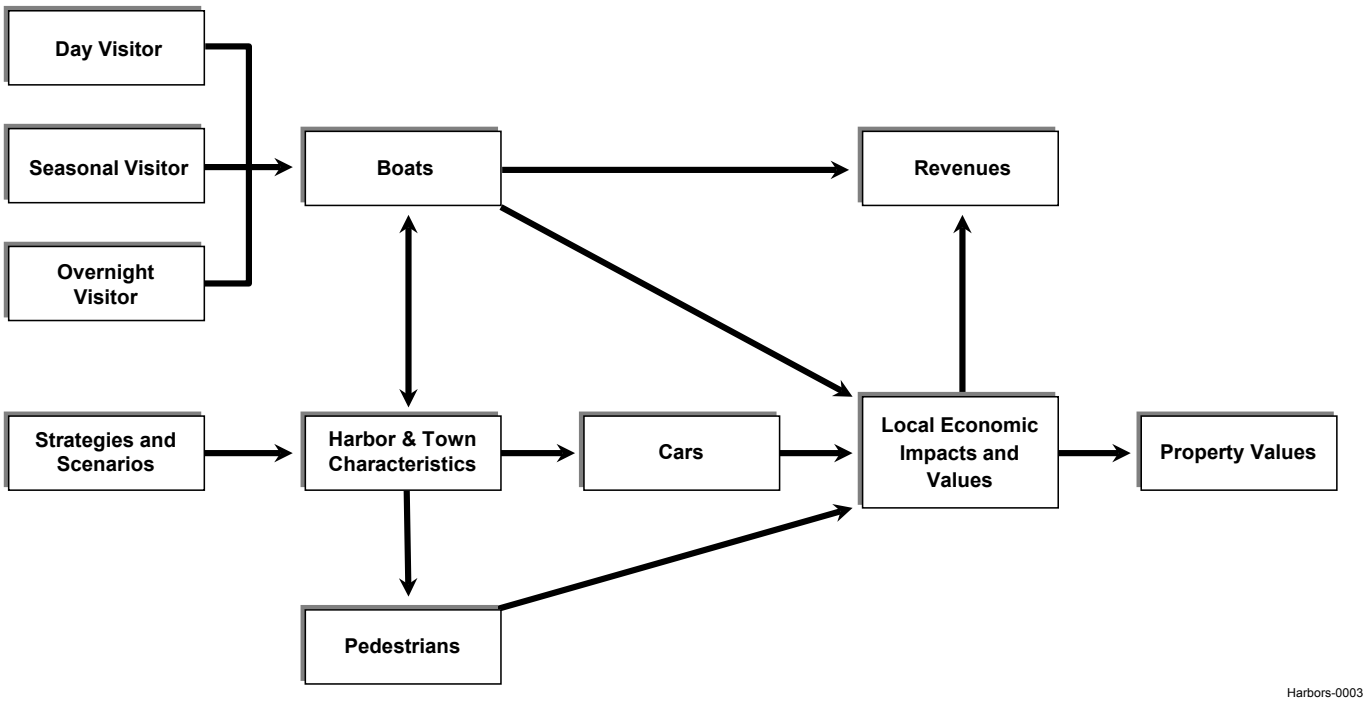

Figure 2: Model architecture – strategies and scenarios connect to costs and revenues. Source: Veritas Economic Consulting, LLC

As Figure 2 shows, strategies developed during the charrette process would influence harbor and town characteristics and there are implementation costs associated with them. The harbor and town characteristics impact the level of boat visits, pedestrian visits and car visits. A vibrant harbor can draw additional visits as indicated by the double arrow between boat visits and harbor and town characteristics. Changes in boat visits lead to changes in both harbor costs and harbor revenues as when (for example) the harbor operator purchases and sells more gas and utility services.

Along with these trips come expenditures, which are represented by local economic impacts and values. With these expenditures local businesses make profits and pay taxes. This change in value is a potential source of indirect revenue for the harbor. Also, along with improved tourism prospects, there is the potential for changes in property values. This is another improvement in value that could cause taxes to increase and be a potential source of revenue.

The economic simulation model is constructed to support the evaluation of sustainability strategies under different scenarios. This model interface supports the evaluation of results and strategy and scenario inputs and allows access to other parts of the computational model. The final economic simulations based on vision results from the charrettes are pending.

3.4 FINANCIAL INSTRUMENTS, PROGRAMS, AND STRATEGIES TO SUPPORT LONG-TERM SUSTENANCE

The project team recognizes that funding 20-year waterfront visions can be expensive. Furthermore, it is imperative for communities to identify and implement mechanisms of capture to ensure that values accrued from community revitalization efforts are, in part, retained by the community in order to fund needed harbor maintenance and dredging.

INCORPORATING THE VISION IN PLANNING DOCUMENTS

To facilitate adoption and eventual implementation of the suggested 20-year vision, it is imperative to incorporate the vision elements in planning documents. This effectively utilizes any existing planning framework to ensure the vision is not abandoned. For example, Michigan communities are required to update their master plan every five years, per state statute. Utilizing this cycle to incorporate vision elements will ensure general acknowledgment of the waterfront as a unique component of the community and will set the stage for subsequent planning efforts.

Master Plans

Statute requires local governments in Michigan to assess their current master plan every five years in order to decide if the plan needs to be updated. A master plan is prepared by the municipality's planning commission or consultant, and is a policy document outlining the community's vision for the future. It should be the basis for, or influence, the community's future environmental protection, economic development, zoning and other regulatory ordinances.

Source: Kurt H. Schindler, Michigan State University Extension. msue.anr.msu.edu/news/most_local_governments_need_to_update_their_master_plan

Having a clear vision for the waterfront may simultaneously protect important aspects of the waterfront while enabling desired forms of development that stimulate economic activity. For example, in a community where form-based code is established (e.g., building requirements for height and view lines), a potential developer knows the requirement and can move more efficiently than if faced with a lengthy review process. This advance permission is often perceived to add value to a property.

Additional opportunities for a community to tie in the 20-year vision include adoption of goals in a recreation plan, capital improvements plan and downtown development authority plan. Planning resources may also include water or land trail plans, hazard mitigation plans, habitat or park plans and more.

FUNDING STRATEGIES FOR MUNICIPAL MARINAS

Communities will need to explore financing opportunities from the local, state and/or federal government, including grants or loans supported through general fund revenue, bonds or indirectly through taxes. Foundation funding and "crowd sourcing" are also options.

To provide guidance on potential funding opportunities, the team developed an inventory of potential grant and loan opportunities.

See: *Inventory of potential grant and loan funding opportunities*, www.miseagrant.umich.edu/smallharborsustainability/files/2014/09/grant-loan-table.pdf

Example Funding Opportunity

The Michigan Economic Development Corporation (MEDC) and Michigan State Housing Development Authority (MSHDA) have combined efforts to provide a "Public Spaces Community Places" funding opportunity to leverage citizen fundraising with public dollars to fund placemaking efforts. Local projects meeting fundraising goals can receive a matching grant from MEDC/MSHDA of up to $50,000. Renewed for 2016, communities, non-profits and other business entities can submit projects. Qualifying projects include:

- Public plaza & green space development;
- Access to public amenities;
- Farmer's markets, community kitchens, pop-up retail/incubator space;
- Alley rehabilitation; and
- Any other place based (or public space improvement) project.

VALUE CAPTURE

Once revitalization efforts are in place, communities must close the loop by capturing value. This ensures funds are available to maintain the features that make waterfront communities unique. Efforts to capture value include:

- **Marine investment fund**
  - Non-marine users pay to help offset working waterfront infrastructure improvements
- **Taxes**
  - Water Resources Tax Increment Financing Authority (TIFA)
  - Increase tax base
  - Offer tax incentives to reward the type of development you seek
- **Fee structure for public facilities**

4.0 TOOLS & TACTICS

proof of concept

SUSTAINABLE SMALL HARBORS

4.1 FLOWCHART

The Michigan Small Sustainable Harbors Strategic Flowchart describes a process for communities working to achieve a more sustainable future. The flowchart consists of four basic elements — Inventory, Visioning/Planning, Value Capture, and Implementation — that can be approached in a nearly sequential fashion. Each of the four elements has three levels: Highly Recommended, Recommended, and Additional Resources. The Highly Recommended level lists actions that are essential for a community working to create a sustainability plan. The Recommended level includes resources the project team and case study communities identified as being helpful. The last level, Additional Resources, contains resources that a community should consider reading or processes they might want to undertake depending on community capacity.

A community should start by designating a person to guide the community through the entire process (process manager) and to coordinate engagement of the right people at the right time. Depending on the community, that person could be the mayor, manager, planner, or a key citizen appointee (assuming they have authority of respect to elicit the necessary participation). This role can be shared between two or three individuals — such was the case in two of the case study communities — but a single point of contact is preferred. Once the process manager or process management team has been identified, they should begin guiding the community through the flowchart starting with the Inventory element.

Completion of the flowchart will not make a community "sustainable" but it does establish a long-term plan towards sustainability and prepares communities for applying for grant funding to implement the plan. Overall, the flowchart is likely a 6- to 12-month process depending on community capacity and level of engagement in the individual elements.

Figure 1: The Michigan Small Sustainable Harbors Strategic Flowchart describes a process for communities working to achieve a more sustainable future.
Source: Sustainable Small Harbors

4.2 REFERENCES AND ANALYSIS TOOLS

What follows is a detailed list of references and analysis tools contained within the strategic flowchart. Each listed item has a link, item description and a place to make notes on actions taken. A list of links found in this document is available on the project website:

- www.miseagrant.umich.edu/smallharborsustainability/tools-tactics

Additionally, the end of each section has a notes and an evaluation page. The notes page is a place to capture thoughts and lessons learned from the element. Comments from the evaluation page will help project researchers adjust future versions of the flowchart to better meet community needs.

4.2.1
INVENTORY
COMMUNITY

4.2.1 INVENTORY – COMMUNITY

The Inventory element calls for the compilation of existing community data and documents. This element contains two separate checklists — one for community documents, and one for documents that have a waterfront emphasis. Both columns should be completed simultaneously. It is critical that a community first assess what work has already been done and what local information is available. In many cases, these documents are going to be readily available but could be significantly out of date. For example, in two of the case study communities, master plans were available but were out of date (more than five years old).

The Community Inventory element of the flowchart is necessary for a community to launch the process. This information is used in every remaining element. The first task is to identify community capacity and key stakeholders. These are the individuals necessary for successful implementation of the process and are not only elected officials. For the case study communities, the community leaders included hired consultants, engaged citizenry and staff in addition to elected officials and executive officers. With regards to documents gathered, a review of existing master plans can inform the community visioning process by building off of what has already been completed or, more commonly, identifying gaps in the planning process that need to be filled during the Visioning/Planning element. Information on zoning, public spaces, community infrastructure, demographics, economics and tourism will all be used to inform the Visioning/Planning element and set the stage for successful value capture.

INVENTORY – COMMUNITY

HIGHLY RECOMMENDED

- ☐ **Identify community capacity and possible participants/leaders**
  Identify people in the community that could help attain goal of becoming a sustainable harbor. This may include harbor committees, local development organizations, community leaders, etc.

  Document name / Comments:_____

  _____

- ☐ **Collect existing data and documents:**
  - ☐ **Economic info**
    Collect economic information that is available in your area. Economic information may include harbor and community budgets, funding mechanisms, grants received, etc.

    Document name / Comments:_____

    _____

  - ☐ **Zoning for harbor and downtown/adjacent land areas**
    Find your community's zoning maps that include your harbor and downtown as well as adjacent land areas. Keep these accessible for future visioning and planning efforts.

    Document name / Comments:_____

    _____

  - ☐ **Existing tourist information (fliers, magazines, etc.) and way finding signage**
    Collect existing tourist information and take note of the signage in your community. Observe if signage is sufficient for navigating through your community and to important areas. Are there welcome signs and does your harbor/waterfront access have signage?

    Document name / Comments:_____

    _____

  - ☐ **Recent planning or improvement grants received**
    Collect any recent planning or improvement grants submitted or received. These documents will have information that will assist with the Visioning/Planning element.

    Document name / Comments:_____

    _____

  - ☐ **Parks & Recreation Plan**
    Collect your community's most recent Parks & Recreation Plan. Keep these accessible for future visioning and planning efforts..

    Document name / Comments:_____

    _____

INVENTORY – COMMUNITY

HIGHLY RECOMMENDED

- ☐ **Capital Improvement Plan**
  Collect your community's most recent Capital Improvement Plan. Keep these accessible for future visioning and planning efforts.

  Document name / Comments:_____

  _____

- ☐ **Zoning maps**
  Collect your community's most recent Zoning Map. Keep these accessible for future visioning and planning efforts.

  Document name / Comments:_____

  _____

- ☐ **Regional Plan(s)**
  Collect your community's most recent Regional Plan(s). You may have to contact your state regional planning department if these are not available in your community.

  Document name / Comments:_____

  _____

INVENTORY – COMMUNITY

RECOMMENDED

☐ Collect existing data and documents:

☐ **Organizational/leadership charts of the community**
Collect organizational/leadership charts for your community. This may help with contacting others and to identify potential task leaders for implementation.

Document name / Comments:_____

_____

☐ **Employment and related census data**
Collect your community's most recent census data from online or your community's management offices. Census data helps during planning efforts to identify trends in economy, population, etc. It also can be used to compare local, state and regional information.

http://datausa.io/?gclid=CLX51JTYu8wCFQgoaQodqugNLQ

Document name / Comments:_____

_____

☐ **Aerial photos, maps & GIS**
Collect available aerial photos, maps, and GIS for your community. Aerial photos can be obtained from Google Earth or other sources. Your community offices may have aerial photos, maps or GIS data that will be useful during visioning and planning.

www.google.com/earth

Document name / Comments:_____

_____

☐ **User feedback & surveys**

Collect your community's user feedback reports and surveys. Communities often survey residents when updating recreation or master plans.

Document name / Comments:_____

_____

NOTES: **INVENTORY - COMMUNITY**

Completing this element of the Tools and Tactics Flowchart should bring you one step closer to developing an action plan for harbor sustainability. Please use this notes sheet to record any new ideas or actions needed.

After reviewing this section, are you able to identify interim actions toward building your harbor sustainability action plan (e.g., data to collect, meetings to schedule, plans to update)?

After reviewing the provided references, do you see any potential applications or inspirations for your community? If yes, what were highlights?

Are there resources you will need to revisit as part of your implementation efforts (e.g., three, six or 12 month intervals)?

EVALUATION: **INVENTORY - COMMUNITY**

Please use this notes sheet to reflect on strengths and weaknesses for this section of the Tools and Tactics guidance. The research team will take your feedback into consideration when making adjustments to this draft guidance.

Were the resources listed in this section helpful?

Did you gain any new insights into your waterfront?

Were any of the resources not helpful (too abstract, too long, etc.)?

Were there any resources you chose not to use? Why?

Are there any key resources not included in this guidebook that you have found helpful?

Would you re-rank any of the suggested resource/action priorities (highly recommended vs. recommended vs. additional resources)?

4.2.2
INVENTORY
WATERFRONT

4.2.2 INVENTORY – WATERFRONT

The second half of the Inventory element is directly related to the waterfront and harbor aspects of the community. The required information includes municipal harbor statistics and an evaluation of environmental conditions including historic water level variation and sediment dynamics. The municipal harbor statistics are useful for the Visioning/Planning element and are required as part of the Michigan DNR Recreation Grant Programs, which are featured in the Value Capture and Implementation elements. Evaluating existing environmental conditions will aid a community in formulating capital improvement plans and better planning for dredging cycles.

The project team also highly recommends communities complete the Clean Marina Initiative Checklist, a comprehensive list of best environmental practices for municipal harbors, which should be at the core of a sustainability plan. Finally, there are several documents regarding harbor resiliency and best practices the project team recommends community leadership review both for inspiration and for future planning purposes. These documents are a compilation of resources that other communities have used to plan for a more sustainable future.

INVENTORY – WATERFRONT

HIGHLY RECOMMENDED

- [ ] **Collect marina statistics**
Marina statistics, or harbor logs, may include the number of boats berthed, launched, slip demand, etc.

Document name / Comments:_____

_____

_____

- [ ] **Complete the Clean Marina checklist**
This document is the Michigan Sea Grant and Michigan Boating Industries Association Clean Marina educational program checklist. It helps marinas ensure that they operate with clean and environmentally sound practices. The program includes mandatory and recommended best management practices for petroleum control, sewage handling, stormwater management and other issues that impact water quality.

www.miseagrant.umich.edu/michigan-clean-marina-program/files/2012/12/15-501 Clean-Marina-certification-checklist.pdf

Document name / Comments:_____

_____

_____

- [ ] **Determine water level variances**
Army Corps of Engineers (USACE) historic water level data to determine the range of water levels harbor and waterfront infrastructure could be exposed to during its life. This will aid in operations and management plans.

Document name / Comments:_____

_____

_____

- [ ] **Assess local sediment dynamics**
Document the local sources of sediment and primary transport mechanisms using Section 1 as a guide. This will assist the community in better planning for dredging and maintenance and in some cases alleviate sediment deposition through preventative measures.

Document name / Comments:_____

_____

_____

INVENTORY – WATERFRONT

RECOMMENDED

- ☐ **Collect existing data & documents:**
  - ☐ **U.S. Army Corps of Engineers jurisdiction and federal dredging**
    Determine the who has dredging jurisdiction for your harbor and harbor entrance including the extent of U.S. Army Corps of Engineers boundaries. Collect dredging logs to assess the amount and frequency of dredging for operations and maintenance planning purposes.

    Document name / Comments:_____

    _____

    _____

    _____

  - ☐ **U.S. Army Corps of Engineers oblique waterfront photos**
    The U.S. Army Corps of Engineers has high resolution oblique photos of Great Lakes shoreline available online. The photos are useful for waterfront planning.

    http://greatlakes.erdc.dren.mil or http://greatlakes.usace.army.mil

    Document name / Comments:_____

    _____

    _____

    _____

- ☐ ***Michigan Coastal Community Working Waterfronts Recommendations & Next Steps***
  This site contains case studies and recommendations for how to create vibrant working waterfronts around Michigan.

  www.miseagrant.umich.edu/wp-content/blogs.dir/1/files/2013/08/13-719-Recommendations-Working-Waterfronts-Case-Study.pdf

  Document name / Comments:_____

  _____

  _____

  _____

INVENTORY – WATERFRONT

ADDITIONAL RESOURCES

- ☐ **Evaluate harbor resilience:**
  - ☐ Read *Reinforcing our Waterfronts: Increased Resilience at Marinas and Harbors*
    This site summarizes risks and impacts for marina and harbor owners and the best management practices to prepare for these risks. Risks addressed include fluctuating water levels, storm frequency and intensity, and changes in precipitation and temperature. The document also includes tools and resources for assessing and preparing for risks.

    www.miseagrant.umich.edu/wp-content/blogs.dir/1/files/2012/05/14-728-Increase-Resilience-at-Marinas-and-Harbors.pdf

    Document name / Comments:_____

    _____

  - ☐ **Collect National Oceanic and Atomospheric Administration and Federal Emergency Management Agency flood mapping**

    The Federal Emergency Management Agency (FEMA) website is one of the many places flood data can be found. Determine the areas of your waterfront that are susceptible to flooding according to National Oceanic and Atmospheric Administration (NOAA) and FEMA using this site.

    https://msc.fema.gov/portal

    Document name / Comments:_____

    _____

  - ☐ **Review dynamic waterfront plan (if exists)**

    If your community has a Dynamic Waterfront Plan, review for completeness and accuracy. If the plan is out of date or does not exist, consider drafting a waterfront plan as part of your community planning efforts.

    Document name / Comments:_____

    _____

  - ☐ **Collect hazard response plans (if exists)**

    If your community has a Hazard Response Plan, review for completeness and accuracy. If the plan is out of date or does not exist, consider drafting one as part of your community planning efforts.

    Document name / Comments:_____

    _____

INVENTORY – WATERFRONT

ADDITIONAL RESOURCES

- ☐ **Read:**
  - ☐ **Read *Achieving Hazard-Resilient Coastal & Waterfront Smart Growth***

    This link is a National Oceanic and Atmospheric Administration and U.S. Environmental Protection Agency report that discusses the opportunities and challenges for coastal growth. It includes siting, design, plans, policies, engagement, communication and education for coastal hazard resilience

    http://coastalsmartgrowth.noaa.gov/pdf/hazard_resilience.pdf

    Document name / Comments:_____

    _____

  - ☐ ***National Working Waterfront Executive Summary***

    This site contains a summary of the *National Sustainable Working Waterfronts Toolkit* which contains information and tools for policy and regulation, financing, planning, zoning, taxation, community engagement, mapping, land conservation and more. The executive summary includes key findings and recommendations for working waterfronts and a brief overview of the available tools.

    http://api.ning.com/files/ECapeI07GTrOQSGjEoqxmSilaNotr*1S1CwhwQRWTYhBT*mkfC9lJbmFaIEpDDmU0RIl8Q2crc4lY4DQeMgVwz28g7xFIkC4/EDAProject_exec_summary_March2013.pdf

    Document name / Comments:_____

    _____

  - ☐ ***Clean Marina Program Dredging Best Practices***

    The *Dredging Best Practices* document contains information for dredging from the Clean Marina Program. Information includes how to determine jurisdiction, what you need to get started, permits, funding and additional dredging information.

    http://www.miseagrant.umich.edu/wp-content/blogs.dir/1/files/2012/05/15-702-CMP-Dredging-Practices.pdf

    Document name / Comments:_____

    _____

INVENTORY – WATERFRONT

ADDITIONAL RESOURCES

- ☐ **Read:**
  - ☐ ***Clean Marina Program Infrastructure Best Practices***

    Clean Marina Program Infrastructure Best Practices contains information from the Clean Marina Program regarding infrastructure risks and adaptations to changes in climate and wear. The document provides information on how to evaluate infrastructure and steps for maintaining marina grounds and multiple types of shoreline infrastructure.

    http://www.miseagrant.umich.edu/wp-content/blogs.dir/1/files/2012/05/15-703-Infrastructure-Best-Practices.pdf

    Document name / Comments:_____

    _____

  - ☐ ***Great Lakes Nearshore and Coastal Systems***

    This booklet briefly describes natural processes that take place along Great Lakes coasts and contains advice on bluff stabilization, runoff and groundwater control and shoreline protection. It discusses the coastal environment and how coastal investments including homes, developments, industrial buildings and recreational facilities can be protected. It is written for coastal property owners, potential owners, and those involved in related banking, insuring, reality, appraisal and development.

    http://glisa.umich.edu/media/files/NCA/MTIT_Coastal.pdf

    Document name / Comments:_____

    _____

  - ☐ ***Living on the Coast: Protecting Investments in Shore Property on the Great Lakes***

    This white paper report discusses long-term water level changes in the Great Lakes, increased storm magnitude and frequency, the impact of increasing intensity of storm events (changes in ice cover, temperatures, evaporation, algal blooms, etc.), erosion and other environmental changes.

    http://aqua.wisc.edu/publications/PDFs/LivingOnTheCoast.pdf

    Document name / Comments:_____

    _____

NOTES: **INVENTORY - WATERFRONT**

Completing this element of the Tools and Tactics Flowchart should bring you one step closer to developing an action plan for harbor sustainability. Please use this notes sheet to record any new ideas or actions needed.

After reviewing this section, are you able to identify interim actions toward building your harbor sustainability action plan (e.g., data to collect, meetings to schedule, plans to update)?

After reviewing the provided references, do you see any potential applications or inspirations for your community? If yes, what were highlights?

Are there resources you will need to revisit as part of your implementation efforts (e.g., three, six or 12 month intervals)?

EVALUATION: **INVENTORY - WATERFRONT**

Please use this notes sheet to reflect on strengths and weaknesses for this section of the Tools and Tactics guidance. The research team will take your feedback into consideration when making adjustments to this draft guidance.

Were the resources listed in this section helpful?

Did you gain any new insights into your waterfront?

Were any of the resources not helpful (too abstract, too long, etc.)?

Were there any resources you chose not to use? Why?

Are there any key resources not included in this guidebook that you have found helpful?

Would you re-rank any of the suggested resource/action priorities (highly recommended vs. recommended vs. additional resources)?

4.2.3 VISIONING/ PLANNING

4.2.3 VISIONING/PLANNING

The second element on the flowchart is Visioning/Planning. To implement a sustainable plan, the community must be involved in the planning process. A community-involved planning process is required as part of Michigan DNR Recreation Grant Program and is critical for the social component of a sustainable future. The project team highly recommends the community complete the Land Policy Institute's Placemaking Self-Assessment Tool, read the Michigan Economic Development Corporation (MEDC) Redevelopment Ready Community Best Practices and determine their Walk Score using the online calculator (www.walkscore.com). All of these tools are meant to initiate the Vision/Planning element.

The LPI Placemaking Self-Assessment Tool helps a community to:

- Understand the scope of what might be involved in different types of placemaking and which is the right one for their respective community;
- Think about placemaking in the context of larger efforts of strategic planning for the community and region;
- Determine their capacity to do effective placemaking at present time; and
- Determine what to do to become more effective in the future.

Source: Land Policy Institute

The Walk Score establishes connectivity within a community and assists in determining the accessibility of amenities. It's well documented that an increased Walk Score brings social and economic benefits to a community. Communities in Michigan with very high Walk Scores include several successful waterfront communities including Traverse City, Holland and Grand Haven. By completing the online Walk Score calculator, a community can see where they are relative to other communities in Michigan. They also will learn strategies to improve their Walk Score and achieve the subsequent social and economic benefits.

There are also several documents regarding planning that planning team and additional key community members should read for inspiration and future planning purposes. This includes reviewing the case study community fact sheets in the Toolkit. Once a community has completed the Highly Recommended level of tools, they can determine what level of community visioning and planning they are ready to undertake. At a minimum, a community must conduct a facilitated community visioning meeting focused on the waterfront. This meeting should be at least two hours and involve planning professionals. If a recent community planning process has not yet been initiated, it is recommended that a community conduct a National Charrette Institute (NCI) Charrette design process or comparable multi-day planning event. The NCI Charrette is an iterative rapid design process involving public interaction. The NCI Charrette Process™ was used for the four case study communities with extremely positive outcomes. For more information, see the four case study charrette reports: www.miseagrant.umich.edu/smallharborsustainability/get-involved

Finally, if a community does not have a dynamic water level plan, a hazard response plan or a capital improvements plan, they should initiate the process of creating these plans since they are important for implementing a long-term small harbor sustainability plan.

VISIONING/PLANNING

HIGHLY RECOMMENDED

- ☐ **Complete Land Policy Institute (LPI) Placemaking Self-Assessment Tool**
  This site contains the Land Policy Institute's placemaking tool to help communities develop quality places to live, work and play that are attractive and functional. The Placemaking Self-Assessment Tool helps communities understand what is needed for placemaking, the different types of placemaking, and explains how placemaking fits into larger planning efforts.

  http://landpolicy.msu.edu/resources/placemaking_assessment_tool

  Document name / Comments:_____

  _____

  _____

- ☐ **Read *Michigan Economic Development Corporation (MEDC) Redevelopment Ready Communities (RRC) Best Practices***
  This site contains the best practices for the Michigan Economic Development Corporation (MEDC) Redevelopment Ready Communities Program. It promotes effective BMPs for redevelopment and analysis to determine if a community or site is ready for redevelopment. The site includes checklists to evaluate community plans, public outreach, zoning, development review, recruitment, education, economic development, marketing and promotion.

  www.michiganbusiness.org/cm/Files/Redevelopment_Ready_Communities/RRC-Best-Practices.pdf

  Document name / Comments:_____

  _____

  _____

- ☐ **Determine your community's waterfront and downtown Walk Score**
  The Walk Score website provides a quick analysis of how walkable a specific location is. Use the address of city center, town offices and waterfront to see the walkability of your community. The site generates a score of 0-100 for walkability, transit friendliness or bike friendliness based on distance to amenities, services and programs.

  www.walkscore.com

  Document name / Comments:_____

  _____

  _____

VISIONING/PLANNING

HIGHLY RECOMMENDED

- □ **Conduct a facilitated community visioning meeting**
  Typically, someone from outside the community is brought in to facilitate a public meeting focused on community visioning. This may be one or multiple meetings that include discussion about visions for the future, positives and negatives about the community, strengths and weaknesses, and types of future development within the community. It may even include one or more designers to help the community visually represent their ideas. A more in-depth option is the National Charrette Institute's charrette process (See listing in Recommended section).

  Document name / Comments:_____

  _____

  _____

- □ **Review case study community charrette reports**
  This link has information and work products from the four case study communities: Au Gres, New Baltimore, Ontonagon and Pentwater

  www.miseagrant.umich.edu/smallharborsustainability/get-involved

  Document name / Comments:_____

  _____

  _____

VISIONING/PLANNING

RECOMMENDED

- ☐ **Review *National Working Waterfront Planning Tools - Tools in Action***
  The National Sustainable Working Waterfronts Toolkit has information and tools for policy and regulation, financing, planning, zoning, taxation, community engagement, mapping, land conservation and more. This link is to the financing section, which contains methods and sources of financial support.

  www.wateraccessus.com/financing.cfm

  Document name / Comments:_____

  _____

  _____

- ☐ **Read *Smart Growth Coastal & Waterfront Planning Report***
  The Smart Growth for Coastal and Waterfront Communities report was written by the National Oceanic and Atmospheric Administration, US Environmental Protection Agency, International City/County Management Association and Rhode Island Sea Grant. It describes 10 elements of sustainable development in coastal and waterfront communities.

  http://coastalsmartgrowth.noaa.gov/report.html

  Document name / Comments:_____

  _____

  _____

- ☐ **Conduct an National Charrette Institute (NCI) Charrette**
  This site contains information about the National Charrette Institute (NCI) accelerated design process (charrette) which is a multiple-day, collaborative design workshop with the public. It also has a database of NCI accredited facilitators who can help your community conduct a charrette.

  http://www.charretteinstitute.org/charrette.html

  Document name / Comments:_____

  _____

  _____

VISIONING/PLANNING

RECOMMENDED

- □ **Create a Dynamic Water Level Plan**
  If your community does not have a plan for varying water levels it should develop one. The plan should address the average, high and low situations determined in the Inventory - Waterfront Section. Varying water levels can impact dredging required, dock accessibility for fixed docks and other waterfront amenities.

  Document name / Comments:_____

  _____

  _____

- □ **Create a Hazard Response Plan**
  If your community does not have a plan for dealing with hazards, especially waterfront hazards, it should develop one.

  Document name / Comments:_____

  _____

  _____

VISIONING/PLANNING

ADDITIONAL RESOURCES

- ☐ **Review Regional Planning Efforts - Economic Prosperity Regions**
  The Economic Prosperity Initiative by the State of Michigan combines public, private and nonprofit sectors into similar service zones throughout the state. They provide grants to State Designated Planning Regions and Metropolitan Planning Organizations, but those organizations must be working with local businesses and communities. Contact your local planning organization and form a relationship with them to find out if they can help with planning efforts and financing.

  Document name / Comments:_____

  _____

- ☐ **Read *Land Policy Instititue (LPI) Building More Livable Communities: Corridor Design Portfolio***
  Land Policy Institute's guidelines for making attractive, livable corridors.

  http://landpolicy.msu.edu/resources/mmpgs_corridor_design_portfolio

  Document name / Comments:_____

  _____

- ☐ **Read *Michigan Coastal Community Working Waterfronts***
  MI Working Waterfronts contains case studies and a report on vibrant working waterfronts around Michigan. The report contains information about the economics, land use, best practices and recommendations associated with Michigan's working waterfronts.

  www.miseagrant.umich.edu/explore/coastal-communities/vibrant-waterfront-communities-case-studies

  Document name / Comments:_____

  _____

NOTES: **VISIONING / PLANNING**

Completing this element of the Tools and Tactics Flowchart should bring you one step closer to developing an action plan for harbor sustainability. Please use this notes sheet to record any new ideas or actions needed.

After reviewing this section, are you able to identify interim actions toward building your harbor sustainability action plan (e.g., data to collect, meetings to schedule, plans to update)?

After reviewing the provided references, do you see any potential applications or inspirations for your community? If yes, what were highlights?

Are there resources you will need to revisit as part of your implementation efforts (e.g., three, six or 12 month intervals)?

EVALUATION: **VISIONING / PLANNING**

Please use this notes sheet to reflect on strengths and weaknesses for this section of the Tools and Tactics guidance. The research team will take your feedback into consideration when making adjustments to this draft guidance.

Were the resources listed in this section helpful?

Did you gain any new insights into your waterfront?

Were any of the resources not helpful (too abstract, too long, etc.)?

Were there any resources you chose not to use? Why?

Are there any key resources not included in this guidebook that you have found helpful?

Would you re-rank any of the suggested resource/action priorities (highly recommended vs. recommended vs. additional resources)?

4.2.4
VALUE CAPTURE

4.2.4 VALUE CAPTURE

The third element is Value Capture which evolves from the Visioning/Planning element This element establishes future economic sustainability and determines revenues required for long-term harbor maintenance. The first step is assembling municipal harbor documents, which are part of the Michigan DNR Recreation Grant program and are necessary for the completion of an income vs. expenses balance sheet suggested in this element. A community needs to evaluate three years of expenses and revenues as part of determining a future economic sustainability plan. The MDNR Waterways Program indicates that a good example of a Five-Year Recreation Plan, featuring an income vs. expenses balance sheet, was provided by the City of South Haven. See: Resources: Value Capture (provided as a hard copy in this beta version.)

The project team recommends that community leaders explore value capture alternatives that leverage investment in municipal waterfront spaces. This includes reviewing the Finance and Economic Sections of the National Working Waterfronts Planning Tools and exploring which value capture options lend themselves to implementing the vision established in the previous element. There are also resources available to identify grant requirements for funding specific components of the community vision. Depending on the complexity of a future vision and community capacity, the community may want to hire a consultant to assist with value capture and subsequent implementation. For example, two of the four case study communities hired professional grant writer's to assist in obtaining funding for projects. As part of case study development, a professional economist was retained to evaluate redevelopment strategies using a customized small harbor economic modeling tool. A community might consider hiring an economist to evaluate which vision components would theoretically bring the most economic value to a community as part of implementation. Finally, there are several documents on planning, financing and economic placemaking best practices the project team recommends community leadership review both for inspiration and future value capture alternatives that could part of the Implementation element.

VALUE CAPTURE

HIGHLY RECOMMENDED

- ☐ **Complete expense vs. income balance for marina/harbor:**
  - ☐ **Compile life-cycle assessment, operations and maintenance, capital improvements, marketing, dredging**
    Community should develop and expense vs income balance sheet for municpal marina and/or waterfront amenities based on life cycle cost analysis (LCA), operations and maintenance (O&M), capital improvements, dredging and administration. This will determine how much revenue the community will have to generate for these amenitites to function in the long-term.
    Document name / Comments:_____
  - ☐ **Compile 3 years of harbor financial summaries**
    Community needs to compile three years of municipal harbor financial summaries both for the broader balance sheet as well as for submitting for MDNR grants.
    Document name / Comments:_____
  - ☐ **Compile 3 years of harbor logs**
    Community needs to compile three years worth of harbor logs that demonstrate harbor utilization based on watercraft type, length of stay, etc.
    Document name / Comments:_____

VALUE CAPTURE

RECOMMENDED

☐ Evaluate value capture options

- ☐ **Marine Investment Fund**
  Community should consider establishing a marine investment fund to finance harbor operations through various revenue streams.
  Document name / Comments:_____
- ☐ **Water Resource Tax Increment Financing Authority (TIFA)**
  Community should consider establishing a Tax Increment Financing Authority to finance waterfront improvement and harbor operations through tax capture.
  Document name / Comments:_____
- ☐ **Fee structures for public facilities**
  Community should evaluate its user fee based structure for maintaining public facilities.
  Document name / Comments:_____
- ☐ **Public/private partnerships**
  Community should evaluate public/private partnerships for enhanced revenue streams associated with waterfront amenities.
  Document name / Comments:_____

☐ Review MSHDA MIplace Toolkit

This site hosts a set of tools to encourage creating, improving and maintaining quality places in Michigan. Tools include loan and grant opportunities, resources, services and techniques for waterfronts, downtowns and other specific locations.

http://miplace.org/resources/funding?field_lead_value=All&field_project_type_value=Waterfronts&field_tool_type_value=All&field_geographic_applicability_value=All&body_value=

Document name / Comments:_____

_____

☐ Review National Working Waterfront Planning Tools - Financing Section

This site contains the National Sustainable Working Waterfronts Toolkit, which has information and tools for policy and regulation, financing, planning, zoning, taxation, community engagement, mapping, land conservation and more. This link is to the economics section which contains information from waterfront economic analysis around the country, trends and resources.

www.wateraccessus.com/financing.cfm

Document name / Comments:_____

_____

VALUE CAPTURE

RECOMMENDED

- ☐ **Review grant funding requirements:**
  - ☐ **Sustainable Small Harbors list of potential funding sources**
    Compiled by Michigan Sea Grant, this list contains possible funding sources and grant opportunities for waterfront communities.

    www.miseagrant.umich.edu/smallharborsustainability/files/2014/09/grant-loan-table.pdf

    Document name / Comments:_____

  - ☐ **Regional Prosperity Grant**
    This link is a grant opportunity from Michigan Department of Technology, Management and Budget to encourage local private, public and nonprofit partners to enhance regional economies.

    www.michigan.gov/dtmb/0,5552,7-150-66155---,00.html

    Document name / Comments:_____

  - ☐ **MSHDA MIplace grants/funding list**
    This site hosts a set of tools to encourage creating, improving and maintaining quality places in Michigan. This link has a list of grant and funding opportunities.

    http://miplace.org/resources/funding?field_lead_value=All&field_project_type_value=All&field_tool_type_value=Grant&field_geographic_applicability_value=All&body_value=

    Document name / Comments:_____

  - ☐ **Michigan Community Revitalization Program**
    The Michigan Community Revitalization Program (MCRP) has information about the incentive program to promote community revitalization available from the Michigan Strategic Fund and Michigan Economic Development Corporation.

    www.michiganbusiness.org/cm/Files/Fact-Sheets/CommunityRevitalizationProgram.pdf

    Document name / Comments:_____

  - ☐ **Waterways Program grant requirements**
    This link is to Michigan Department of Environmental Quality (MDEQ) available grants and loans for brownfields, coastal management, monitoring and stream cleanup, nonpoint sources, pollution prevention, scrap tire and stormwater and infrastructure.

    www.michigan.gov/deq/0,1607,7-135-3307_3515---,00.html

    Document name / Comments:_____

  - ☐ **Michigan Community Revitalization Program application**
    This link is to the application for the Michigan Community Revitalization Program (MCRP). It is an incentive program that offers grant and loan opportunities.

    www.michiganbusiness.org/cm/Files/Michigan_Community_Revitalization_Program_Project_Docs/WEB-CRP-Application-26MARCH2013.pdf

    Document name / Comments:_____

VALUE CAPTURE

RECOMMENDED

- ☐ **Review National Working Waterfront Planning Tools - Economics Section**
  This site contains the National Sustainable Working Waterfronts Toolkit, which has information and tools for policy and regulation, financing, planning, zoning, taxation, community engagement, mapping, land conservation and more. This link is to the economics section which contains information from waterfront economic analysis around the country, trends and resources..

  www.wateraccessus.com/econ.cfm

  Document name / Comments:_____

  _____

VALUE CAPTURE

ADDITIONAL RESOURCES

- ☐ **Consider advanced (professional) economic modeling**
  A community might consider hiring a professional economist to model different visioning scenarios to prioritize investment and plan improvements. Professional economic modeling was conducted on the four case study communities to evaluate alternatives.

  Document name / Comments:_____

  _____

- ☐ **Read *Water Trails Economic Data Resources***
  This site has economic studies of water trail implementation and grant opportunities. The resources can help communities with waterways develop trails, especially those with rivers.

  www.nps.gov/ncrc/portals/rivers/projpg/watertrails.htm

  Document name / Comments:_____

  _____

- ☐ **Read *Clean Marina Program Planning and Financing Best Practices***
  Clean Marina Program Planning and Financing has best practices information for marina adaptive planning. This document from the Clean Marina Program helps with planning and financial management in marinas.

  www.miseagrant.umich.edu/wp-content/blogs.dir/1/files/2012/05/15-701-Planning-and-Financing-Best-Practices.pdf

  Document name / Comments:_____

  _____

NOTES: **VALUE CAPTURE**

Completing this element of the Tools and Tactics Flowchart should bring you one step closer to developing an action plan for harbor sustainability. Please use this notes sheet to record any new ideas or actions needed.

After reviewing this section, are you able to identify interim actions toward building your harbor sustainability action plan (e.g., data to collect, meetings to schedule, plans to update)?

After reviewing the provided references, do you see any potential applications or inspirations for your community? If yes, what were highlights?

Are there resources you will need to revisit as part of your implementation efforts (e.g., three, six or 12 month intervals)?

EVALUATION: **VALUE CAPTURE**

Please use this notes sheet to reflect on strengths and weaknesses for this section of the Tools and Tactics guidance. The research team will take your feedback into consideration when making adjustments to this draft guidance.

Were the resources listed in this section helpful?

Did you gain any new insights into your waterfront?

Were any of the resources not helpful (too abstract, too long, etc.)?

Were there any resources you chose not to use? Why?

Are there any key resources not included in this guidebook that you have found helpful?

Would you re-rank any of the suggested resource/action priorities (highly recommended vs. recommended vs. additional resources)?

4.2.5
IMPLEMENTATION

4.2.5 IMPLEMENTATION

The fourth and final element is Implementation. The flowchart as depicted does not lead to small harbor sustainability, rather it leads to a small harbor sustainability plan. As such, after a community has initiated community planning and value capture efforts, it is necessary to implement their small harbor sustainability plan. This is also when the various plans that have been either created, updated, or are in the process of being updated should be synchronized.

The key here is to finalize an implementation committee and identify specific task leaders. It is likely that a majority of the implementation committee is already in place as part of the Vision/Planning and Value Capture elements. However, this is an opportunity to formalize the committee and draft action plans for specific elements. In all four case study communities, the implementation committee was a mixture of elected officials, municipal staff and key private stakeholders. In two of the case study communities, this committee was formal and in place before the project began. In the other two case study communities, the implementation committee was more ad-hoc but evolved to be more formal through the process. The Implementation element is really a continuation of the Vision/Planning element and the Value Capture element. Completion of this element helps a community determine which grants to apply for and creates a mechanism for value capture for the required long-term operation and maintenance of waterfront assets. The final element also includes contacting regional or state agencies that can assist in community implementation efforts. There are significant resources available for waterfront communities that are organized and pro-active.

IMPLEMENTATION

HIGHLY RECOMMENDED

- □ **Form implementation team and task leaders**
  Task leaders and implementation team may include mayor/manager/council chair, harbor master, DDA, Chamber of Commerce, public/private enterprise, grant writing and community planner, Extension staff or other state agency staff and consultants. These people should be contacted to determine how they will be involved during the implementation stages.

  Document name / Comments:_____

  _____

  _____

- □ **Synchronize new waterfront plans with existing plans**
  Through the processes in this guidebook new plans may have been generated. Review the new and old plans and synchronize them for future use.

  www.miseagrant.umich.edu/michigan-clean-marina-program/files/2012/12/15-501 Clean-Marina-certification-checklist.pdf

  Document name / Comments:_____

  _____

  _____

IMPLEMENTATION

RECOMMENDED

☐ Apply to applicable Michigan DNR Recreation Grant programs

☐ **MDNR Grant Opportunities**
This site contains grant opportunities from the Michigan Department of Natural Resources. Listed on the site are: recreation grants (Michigan Natural Resources Trust Fund, Land and Water Conservation Fund and Recreation Passport) as well as boating infrastructure grants, waterways program grants, dam management grants, trails grants and many other opportunities.

www.michigan.gov/dnr/0,4570,7-153-58225---,00.html

Document name / Comments:_____

_____

_____

☐ **MDNR Recreation Grant program fact sheet**
The Recreation Grant programs fact sheet is a brief overview of the three types of Michigan Department of Natural Resources (MDNR) grants available: Michigan Natural Resources Trust Fund, Land and Water Conservation Fund and Recreation Passport.

www.michigan.gov/documents/dnr/Grants_Management_-_Recreation_Grants_Fact_Sheet_510296_7.pdf

Document name / Comments:_____

_____

_____

☐ **Michigan Natural Resources Trust Fund (5-year Recreation Plan)**
Grants guidelines and requirements. Includes information on 5-Year Recreation Plans. The 5-year Recreation Plan is one of the requirements to apply.

www.michigan.gov/dnr/0,4570,7-153-58225_58301---,00.html

Document name / Comments:_____

_____

_____

IMPLEMENTATION

ADDITIONAL RESOURCES

- ☐ **Contact economic development agency (regional contact)**
  Community should contact the regional economic development agency for planning assistance.

  Document name / Comments:_____

  _____

  _____

  _____

- ☐ **Create a directory of contacts for important agencies for engagement/ implementation**

  A directory of contacts for important agencies for engagement/implementation may include the Harbor Coordinator, development support agencies (MDOT, MSHDA, MDEQ, MDNR, MEDC), Michigan Sea Grant, U.S. Army Corps of Engineers.

  Document name / Comments:_____

  _____

  _____

  _____

NOTES: **IMPLEMENTATION**

Completing this element of the Tools and Tactics Flowchart should bring you one step closer to developing an action plan for harbor sustainability. Please use this notes sheet to record any new ideas or actions needed.

After reviewing this section, are you able to identify interim actions toward building your harbor sustainability action plan (e.g., data to collect, meetings to schedule, plans to update)?

After reviewing the provided references, do you see any potential applications or inspirations for your community? If yes, what were highlights?

Are there resources you will need to revisit as part of your implementation efforts (e.g., three, six or 12 month intervals)?

EVALUATION: **IMPLEMENTATION**

Please use this notes sheet to reflect on strengths and weaknesses for this section of the Tools and Tactics guidance. The research team will take your feedback into consideration when making adjustments to this draft guidance.

Were the resources listed in this section helpful?

Did you gain any new insights into your waterfront?

Were any of the resources not helpful (too abstract, too long, etc.)?

Were there any resources you chose not to use? Why?

Are there any key resources not included in this guidebook that you have found helpful?

Would you re-rank any of the suggested resource/action priorities (highly recommended vs. recommended vs. additional resources)?