Sustainable Small Harbor Management Strategy Project

Community “Work In Progress” Meeting
April 19, 2015
Pentwater, Michigan
Core Question

What are the key barriers to small harbor economic, social and environmental sustainability and what tools would help small harbor managers create more stability?

Project Outcomes

- Development of a placemaking strategy and economic analysis for coastal communities to use to ascertain the financial viability of their harbor/waterfront
- Establishment of a toolkit for small harbors including four full case studies on how the model was developed and applied
- Summary report, presentation, case study fact sheets, and a website that will assist communities in their planning efforts
Overall Project Team

Project Leadership Team

- Research Team
  - Donald Carpenter (LTU)
  - Sanjiv Sinha (ECT)
  - David Knight
  - Matt Bingham (VEC)
- State Agency Support Team
  - Bill Boik (MDNR)
  - Emily Finnell & Jon W. Allan (MDEQ - OGL)
  - Jim Tischler (MSHDA)
  - Amy Samples & Catherine Riseng (MSG)
  - Mark Breederland (MSU Extension)
  - Jennifer Rigertink (MEDC)

Advisory Board

- Stakeholders and Community Representatives (Invitation Only)

Charrette Team

- Leadership Team Representatives
- Design Team – studio[Ci] @ Lawrence Technological University
Design Team

Community Engagement Timeline

- Initial Community Vision Meeting – March 25
- Three Day Community Charrette – April 17 – 19
  - Public Input Workshop (April 17: 6pm – 8pm)
  - Preferred Option Public Open House (April 18: 6pm – 8pm)
  - “Work In Progress” Community Presentation: (April 19: 4pm)
- Final Community Presentation – May/June TBD
- Final Project Outcomes and Toolkit Dissemination – 2016
- Project Ends – August 2016
Pentwater Sustainable Small Harbor Design Charrette Process

Pentwater Background
History

- Channel constructed by Charles Mears in 1850’s
- Dredging funded by federal government since approximately 1876

- Dredged almost annually since 1963 at a cost of millions of dollars
- Wave Attenuators in 2000
Depths are unofficial, and change constantly.
Depths east of the area shown are generally 11+ feet.
Navigate carefully.
### Population

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<thead>
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</thead>
<tbody>
<tr>
<td>Village of Pentwater</td>
<td>1,050</td>
<td>958</td>
<td>857</td>
<td>-8.8%</td>
<td>-10.5%</td>
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<tr>
<td>Oceana County</td>
<td>22,454</td>
<td>26,873</td>
<td>26,570</td>
<td>19.7%</td>
<td>-1.1%</td>
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<tr>
<td>Michigan</td>
<td>9,295,297</td>
<td>9,938,444</td>
<td>9,883,640</td>
<td>6.5%</td>
<td>-0.6%</td>
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Education Level & Median Income

Pentwater $44,242
MI State Average $46,859

Pentwater Education Level (Pentwater Master Plan)

Did Not Graduate Highschool 0.0%
Graduated Highschool 30.0%
Some College, No Degree 15.0%
Associate Degree 10.0%
Bachelorors Degree 20.0%
Graduate or Professional Degree 5.0%

US Census 2010

AGE DISTRIBUTION OF RESIDENTS

US Census 2010
Marina Information

Pentwater Yacht Club
- (13) 24' Seasonal Slips
- (7) 20' Seasonal Slips
- (15) Dry Storage Racks
- Short-term Use Dock (Members & Transients)

Pentwater Municipal Marina
- 44 Slips (1/2 seasonal)
- Dry Storage Kayak Rack

Snug Harbor
- 56 Slips
- 250' of Broad Side Tie Up

Charlie’s Marine Service
- 85+ Slips

Pentwater Harbor Entrance
Pentwater Site Visit
March 25

Pentwater Site Visit
Pentwater Site Visit
Pentwater Site Visit
Pentwater Site Visit

Pentwater Site Visit
Pentwater Site Visit
Pentwater Site Visit

Exercise

Sustainability = meeting the needs of the present without compromising the needs of the future.

1) What are the key barriers to small harbor economic sustainability?
2) What are the key barriers to the small harbor social sustainability?
3) What are the key barriers to small harbor environmental sustainability?

Talk with your pen!
Environmental Sustainability

What are the key barriers to small harbor environmental sustainability?

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Day 1: Sustainable Small Harbors Design Charrette
Day 1: Public Input Session

Alternatives Exercise
Day 2: Sustainable Small Harbors Design Charrette

Technical Meetings & Tie in with Existing Plans

- Marina Manager
- Leadership Committee
Village Characteristics

- Natural Resources:
  - Over 90% of the respondents to the 2008 Community Survey identified preserving water quality and the area’s natural features as the top two issues facing the community.
  - Protecting the dunes, preserving the natural and small town character of the Village.
- Water Quality
  - Use of greenbelts and buffers

Source: Village of Pentwater Master Plan (4/13/15 Draft)
Vision

• The Village of Pentwater will be one with strong core values based on our small town character and the natural features which are treasured by our residents and visitors. These values will be supported and nourished by a balanced pattern of land use and a stable economy which provides opportunities for our residents but does not detract from core values.

Source: Village of Pentwater Master Plan (4/13/15 Draft)

Core Values

• Close communication between those who make decisions about our future and those affected by these decisions.
• A Village that values its surroundings and pledges to protect those natural features which make up the fabric of our area.
• Maintaining small town values of local responsibility, involvement of people, and cooperation with our neighbors.

Source: Village of Pentwater Master Plan (4/13/15 Draft)
Master Plan Goals

1. Land use decisions will support our core values through planned development that is of a Village-scale density and designed to create a community consistent with our existing small town character. These decisions will include the need to provide neighborhoods that are consistent with this character, yet offer a variety of housing that appeals to a wide range of individual and family circumstances and allow for residents to remain members of the community as they age.

Source: Village of Pentwater Master Plan (4/13/15 Draft)

2. Decisions regarding locations for new development will consider the capability of the Village to provide a suitable level of community facilities and services, be of limited size and intensity, and preserve the natural character of the landscape.

3. New commercial, tourism-related, or industrial development will be planned in locations where they fit the fabric of the community; where existing and potential new homes will not be affected; and where services are adequate. New development will be of limited size, scale and density, to keep with the rural small town character of the Village of Pentwater.

Source: Village of Pentwater Master Plan (4/13/15 Draft)
Master Plan Goals

5. The Village of Pentwater will continue to ensure that new development and redevelopment is sensitive to natural resources, such as shorelines, wooded areas, dunes, waterways and wetlands.

5. Housing options for the aging population will be explored…

Source: Village of Pentwater Master Plan (4/13/15 Draft)

Charting the Future

Infrastructure
…Land use policies should encourage infill

Commercial
…Central business district along Hancock Street
…Commercial activities related to marina and water activities… Relationship between the waterfront and the downtown is improving.

Source: Village of Pentwater Master Plan (4/13/15 Draft)
Charting the Future

Residential Design Guidelines
… affordable homes
… same neighborhood characteristics
… senior living facilities
… multi-family units
… limited mixed use with second and third floor apartments (limited in size and scale in relation to existing and historic structures)

Source: Village of Pentwater Master Plan (4/13/15 Draft)

Charting the Future

Commercial Design Guidelines
… Retail development concentrated on Hancock
… lack of centralized parking complicates the successful operation of these businesses.

Industrial Design
… Industrial site redevelopment shall conform to residential land use principles and shall conform to existing residential neighborhoods
… Create industrial redevelopment development standards

Source: Village of Pentwater Master Plan (4/13/15 Draft)
Zoning Map

- PD - Single Family Residential
- PZ - Multiple Family Residential
- R1 - Low-density Residential
- RPM - Low-Rise Multiple Family Residential
- VHP - Manufactured Home District
- RO - Residential/Office

- C1 - Greenbelt Commercial
- C3 - Central Business
- C4 - Hotel Resort
- U - Light Industrial
- AVD - Planned Unit Development

Future Land Use

- LDR - Light Density Residential
- MDR - Medium Density Residential
- HDR - High Density Residential
- Central Business
- Office
- Industrial
- Public/Service
- Environmentally Sensitive Development 

Village of Pentwater Future Plan

Scale: 500 1000 2000
Zoning options

- Future Land Use
  Category: Waterfront District (WD); new R-4 Lakefront Multiple Family Residential District (multiple family developments)
  - Example: Future land use plan from St. Joseph, Mich. master plan. Light blue area is designated as water recreational district.

Recreation Plan Amendment (2015)
2015 Amendment

• Infrastructure Replacement Schedules and Future Expansion
  – Expand current marina to provide additional slips
  – Improved electric hook-ups
• Annual Maintenance schedules
  – 2014 seawall damage
  – 2015-2016 repair of dock planking
• Dredging
  – Village marina dredged in 2013
  – Channel

2015 Amendment

• Non-motorized trails
  – Hiking trails
  – Roadways, shoulders, sidewalks and walking paths should be developed adequately for walking and biking
Developing Three Design Alternatives
Alternative 1: Pentwater Lake Systems Institute
### Alternative 1: Pentwater Lake Systems Institute

**Harbor/Waterfront Edge Driver**
- Landscaping, the New "Brain Trains," for Natural Systems, Civic and NGO Institute for Sustainable Pentwater, Inc.
- Generational Knowledge Transfer and Continuing Education
- Serve as a hub for local wide teaching and learning

**Land Use**
- Phase I: Hancock and Third - Relocated Police Station/Ground Floor Retail/77,000 sf of Institute and Parking
- Phase II: Sug Harbor Point - Destination Restaurant/Institute Foot Station/76,000 sf of institute and Parking

**Marinas**
- Expanded Public Marina
- Downtown:
  - Year Round Retail and Housing Options for Staff, Visiting Scholars and Students

**Infrastructure Development**
- A Principal Mission/Mandate to Transfer Innovative Ideas into Business Models worthy of Investment and Promotion for Economic Development
- Marina:
  - Launch Fees, Slip Rentals
- Downtown:
  - Retail Use (Increased Tax Base, Increased Spending)

**Natural Systems**
- Natural Shoreline/Water Management Features in Hancock

**Local Precedent(s)**
- "Interboro" Chautauqua NY: SCORE

**Engineering Considerations**
- New Building and Parking Lot
- Minor Underground Infrastructure Improvements (Water, Sanitary Sewer, Storm Sewer) to Site

*Alternative design lead by: Hai Bin Tan*
Precedent – Science/Artisan “Interlochen”

Alternative 2: Marine Craft and Technology School
### Alternative 2: Marine Craft and Technology School

#### Harbor/Waterfront Edge Driver
Leveraging the local Artisan Center and Patterson Marine, create Private/Public Marine Based School focused on Marine Craft and Technology at Public Boat Launch; serve as a hub for basin wide teaching and learning.

#### Land-use
- **Phase I:** Investment at Public Boat Launch, New 20 Slip Marina, $2000 sf of Wooden Boat School and Water Based Training Harbor
- **Phase II:** High Bay Large Boat Repair and Construction
- **Marina:**
  - Expanded Public Marina near Boat Launch
- **Downtown:**
  - Year Round Retail and Work Force Housing Options for Families

#### Economic Development
- **Vision:**
  - A Principal Mission/Mandate to Transfer Innovative Artisan and Maker Space Ideas into Business Models worthy of Investment and Production for Economic Development
- **Market:**
  - Launch Fees; Slip Rentals; Large Boat Repair and Construction; Tuition and Housing
- **Downtown:**
  - Mixed Use (Remodeled Tax Base Increased Spending)

#### Natural Systems
- **Natural freshwater Systems (ditch, lake, wetlands & submerged habitat, Creek, Inlet & Pocket Park)

#### Precedents
- Bayfront Maritime Center (Derry, PA), The Wooden Boat School (Brooklin, ME), Northwest School of Wooden Boat Building (Port Hadlock, WA)

#### Engineering Considerations
- Major Improvements to Marina with Floating Docks
- Major Underground Infrastructure Improvements (Water, Sanitary Sewer, Storm Sewer) to New School Construction
- IT/Security/Electrical Improvements to Public Marina and New School Construction

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Alternative design lead by: Andrew Bradford
Precedent – Bayfront Maritime
Erie, PA

Precedent – Wooden Boat School
Port Haddock WA
Precedent – Wooden Boat School
Brooklin ME

Precedent – Irish Boat Shop
Charlevoix
Precedent – Walstrom Marine Harbor Springs

Alternative 3: Mears University Center
## Alternative 3: Mears University Center

### Harbor/Waterfront Edge Driver
Leveraging Pentwater’s natural location and assets to create a Public University Center at Mears State Park for Research Practice and Economic Benefits Development around nearshore lake processes, serve as a hub for built-in water training and learning.

### Land Use
- **Phase I**: 9,000 sf of University Center and Parking
- **Phase II**: On-site Housing for Students and Visiting Researchers
  - Merit: Research, Vessel Dock Station and Kayak Launch; Expanded Public Venue Downtown:
  - Year-Round Retail and Housing Options for Staff, Visiting Scholars and Students

### Economic Development
- **Village**
  - A Principal Mission/Prerequisite to Transfer Research Ideas into Business Models worth of Investment and Production for Economic Development
  - **Marina**
    - Launch Fees; Slip Rentals; Large Boat Repair and Construction; Tackle and Housing
    - Mixed Use (Increased Tax Base; Increased Spending)
    - Local Jobs; Increased Tourist Spending; Student Enrollment and Faculty Engagement

### Natural Systems
- Naturalization of Lake Michigan Shoreline; Longshore Sediment Maintenance and Extended Sediment Cycle

### Local Proceed(s)
- Great Lakes Water Resources Institute (Kewlngen), Great Lakes Water Studies Institute (Traverse City), Great Lakes Research Center (Houghton)

### Engineering Considerations
- New Building Construction
- New Parking Lot
- Minor Road Improvements to Site
- Major Underground Infrastructure Improvements (Water, Sanitary Sewer, Storm Sewer) to Site
- IT/Cable/Electrical Improvements

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Alternative design lead by: Rachel Pieschek
Precedent – Annis Water Resources Center, Muskegon

Precedent – Great Lakes Research Center Houghton MI
Connectivity
Dot Voting

- Small green dot = Like this component
- Large green dot = Like this whole alternative
- Red dot = Uncomfortable with this component/alternative
Pentwater Small Harbor Sustainability Design Charrette
April 17-19, 2015
Pentwater Yacht Club

Alternative 1: PENTWATER LAKE SYSTEMS INSTITUTE

Harbor/Waterfront
- Edge Drive

Connectivity
- Expanded Public Marina
- New Roundabout

Economic Development
- Marine
- Oyster Bar
- Marina
- Offshore (New)

Natural Systems
- Marine
- Offshore (New)

Local Protection
- Offshore (New)

Engineering Consideration
- Offshore (New)

Alternative design lead by: HAI BIN TAN
Day 3: Sustainable Small Harbors Design Charrette
Developing A Preferred Design Alternative
PENTWATER 2035

1. Harbor & Driver/Con Dev
2. ALT 2. Marine Cntr + Tech School
3. Slight Tidal Wetland, Youth Sailing, Nautical Center, Marina Expansion, Destination Restaurant
4. Off-street parking, Pedestrian Safety
5. Natural Systems, LIDs on Hancock, Revegetation (Dune), Underwater Fish Habitat, City Park

3. Connectivity
   - Channel Crossings across 6th St
   - Complete Street (1) Section
   - Overall Network - 3rd St via Flats Vision

2. Land Use
   - Pen N Wharf "Future Bldg开发区" "Development Pocket"" "Infill 1) Police Station 2)"
PENTWATER MARINE TECHNOLOGY INSTITUTE
Harbor Waterfront Driver
Economic Development
Destination Restaurant
Natural Systems
Land Use
Connectivity
Funding Mechanisms

• To fund adaptation and sustainability efforts for waterfront operations, explore financing opportunities from the local, state or federal government including grants or loans supported through general fund revenue, bonds or indirectly through taxes.

Possible Funding Sources

• Federal
  – Coastal Zone Mgt. Funds (Commerce/NOAA)
  – Boating Infrastructure Grants (US Fish & Wildlife)
  – Land and Water Conservation Fund State and Local Assistance Program (National Park Service)
  – EPA Brownfields
• State
  – Natural Resource Trust Fund Grants - DNR
  – Recreation Passport Grants - DNR
  – Transportation Alternatives Program (Michigan DOT / SEMCOG)
  – DNR Waterways
  – DEQ Brownfields
  – Michigan Economic Development Corporation
  – Aquatic Habitat Grand Program – DNR
  – Michigan Housing Development Authority
Possible Funding Sources

- County
  - Brownfield Authority
  - Macomb County - other

- Local
  - Increased Taxes (Sales, Property, Income, Room Tax)
  - Increased Tax Base (More Residents)
  - Slip Fees
  - Launch Fees
  - Dredging Cooperative (share dredging resources across communities)
    - Business Plan

- Private
  - Family / Local / Statewide / National Foundations
  - Community Foundations
  - Other Corporations / Businesses

Funding Mechanisms

- Work at the local level to establish a Water Resources Tax Improvement Finance Authority or marine investment fund in which non-marine users pay to help offset working waterfront infrastructure improvements.
**Case Study** Portland, Maine: Balancing Maritime Uses and Waterfront Diversification Through Municipal Zoning

**Funding Mechanisms**

- 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 in support of working waterfront initiatives.
- Offer tax incentives to reward the type of development you seek.
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- Offer tax incentives to reward the type of development you seek.

Questions?

Contacts: Donald Carpenter (dcarpente@ltu.edu)
Amy Samples (asamples@umich.edu)