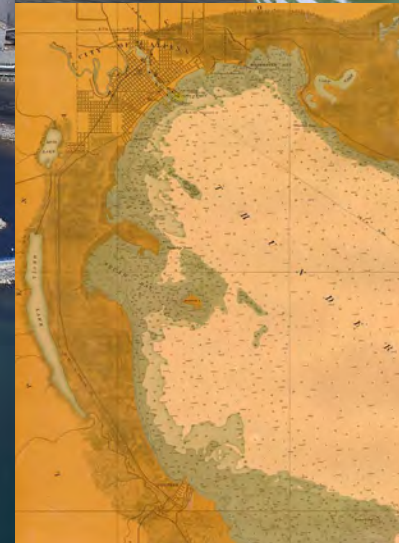




A CASE STUDY

THE CITY OF ALPENA



Michigan Coastal Community Working Waterfronts

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Michigan Coastal Community Working Waterfronts

This case study was compiled as part of a set of 11 working waterfront case studies in coastal communities. For more information on the series, please see the Introduction, Value and Context, Waterfront Land Use, Best Practices, and Recommendations and Next Steps sections.

OTHER CASE STUDIES IN THIS SERIES:

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TABLE OF CONTENTS

Introduction.....	4
Summary	5
Context	7
Community Profile	8
Community Overview	9
Waterfront History.....	10
Waterfront Summary	11
Zoning.....	13
Working Waterfront SWOT Analysis	14
Tools, Strategies and Best Practices for Maintaining Working Waterfronts.....	15
Guiding Principles.....	16
References and Resources	17

FIGURES AND TABLES

Figure 1. State of Michigan and Alpena County and aerial image of the city of Manistee with Lake Huron on in Lake Huron and the Thunder Bay River..... 6

Table 1. Intent, permitted uses and special uses of zoning districts that accommodate water-dependent uses and/or public access 13

Figure 2. City of Alpena 2010 zoning districts..... 14

Table 2. Strengths, weaknesses, opportunities and threats related to maintaining Alpena's working waterfront 20



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INTRODUCTION

Many coastal communities have areas known as working waterfronts — waterfront lands, waterfront infrastructure and waterways that are used for water-dependent uses and activities. These uses may include ports, small recreational boat and fishing docks and other types of places or businesses where people use and access the water. Coastal communities' working waterfronts offer economic and cultural value, contribute to a community's identity and are intrinsically tied to a region's natural resources.

A number of factors — such as population change, competing land uses and development pressure, fluctuations in water levels, changes in

fish stocks and regulations, aging and inadequate infrastructure, decline in waterfront industry and economic recession — threaten the viability of water-dependent businesses and access to the public trust waters. Left unchecked, these threats can result in the slow loss of working waterfronts and permanent conversion of waterfront property to non-water-dependent uses.

Active waterfront planning and the sharing and implementation of tools, resources and strategies for maintaining and protecting working waterfronts can ensure access for water-dependent uses and activities, as well as preserve options for future waterfront uses.

This case study:

- Characterizes one of many working waterfronts found throughout Michigan's diverse coastal communities.
- Identifies existing waterfront amenities, waterfront history, waterfront zoning and land area occupied by water-related uses.
- Highlights examples of waterfront challenges, threats and opportunities as well as tools and strategies for maintaining the working waterfront.

SUMMARY



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Alpena, Michigan was settled mid 1800s in Northeast Lower Michigan at the mouth of the Thunder Bay River along Lake Huron's Thunder Bay. The city's 2010 population (10,483) decline approximately 7.3 percent since 2000.

The abundance of natural resources including furs, fisheries, forest, farmland and limestone made this region a prime location for early settlement and industry. Major industries in Alpena include logging, commercial fishing, extraction and manufacturing, including cement manufacturing. In addition to the manufacturing industry, the medical and tourist industries are important to the local and regional economy.

Alpena Harbor is a deep draft commercial, cargo and recreational harbor. The harbor ranks 20th among Great Lakes Harbors (2008) with 3.1 million tons of material shipped or received by the harbor annually. Bulk commodities that pass through the

harbor include cement, coal, petroleum products, sand, gravel, salt and limestone. This shipping generates \$78 million annually in direct revenue and supports 700 jobs.

The two major channels used for shipping in Alpena include the Port of Alpena/Thunder Bay River and the Lafarge Corporation port. The city's marina is the only public or private marina in the area. Alpena has a harbor advisory committee, marina department and is engaged in a regional ports study. Boating, diving and fishing are among the popular recreational opportunities in Alpena.

Thunder Bay and surrounding waters near shipping lanes are home to over 80 discovered shipwrecks. Most of these shipwrecks are protected within the boundaries of the National Oceanic and Atmospheric Administration's Thunder Bay Marine Sanctuary Boundary.

Nine of the city's non-residential districts permit water related uses by right or special use permit. The city has a waterfront development district that is intended to promote mixed uses that incorporate the waterfront, promote public access and integrate the riverfront and riverwalk with the downtown.

The city is invested in the economic development and potential future use of the Lafarge Dock and the currently underutilized West Dock. Alpena is also collaborating with the Northeast Michigan Council of Governments to investigate opportunities to increase the viability of ports in the region through collaboration. The community's waterfront planning includes rezoning of waterfront property for public access and waterfront redevelopment, reuse of former industrial waterfront property and new launch and dock facilities along the Thunder Bay River, for example.

Potential threats to the long term sustainability of the community's working waterfront include the loss of industry, decline in tourism, lack of an exit plan for Lafarge and the combination of a lack of adequate, available dock to attract new businesses or the commodities and shipping to finance construction of a new dock.

Best practices for maintaining access to the waterfront for the public and water-dependent uses include:

- Regional port collaboration.
- Collaboration with regional council of governments and Michigan State University to conduct a port study.
- Riverwalk construction.

ALPENA, MI



FIGURE 1. STATE OF MICHIGAN AND ALPENA COUNTY (LEFT) AND AERIAL IMAGE OF THE CITY OF ALPENA WITH THUNDER BAY IN LAKE HURON AND THE THUNDER BAY RIVER.

1 mile N

CONTEXT

Jurisdiction / Government	City
Region	Upper Peninsula
County	Alpena
Land Area	5466 acres / 8.5 square miles
Watershed / Subwatershed	Lake Huron / Thunder Bay River
Dominant Land Use of subwatershed	Forest
Adjacent Bodies of Water	Lake Huron / Thunder Bay, Thunder Bay River
Types of Water Body	Great Lake / Bay, River
Percent of Land Area within the CZM	14%
Population (2010)	10,483
Percent of County's Population	35%
Percent of County's Land Area	1.5%
Urban / Suburban / Rural	Urban
Federally Authorized Harbors/Projects	Alpena Harbor
Type of Port	Commercial, Cargo, Recreational



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COMMUNITY PROFILE

POPULATION

- The population of Alpena declined 7.3 percent from 2000 to 2010. In 2010, the city's population density was 1,227 persons/square mile.
- The population of Alpena County decreased by 5.5 percent from 2000 to 2010.
- The median age in Alpena increased from 39.6 in 2000 to 42.5 in 2010.

EDUCATION

- Of the city's population age 25 and older (69% of the city's total population), 89 percent have a high school degree or higher and 19 percent have a bachelor's degree or higher.
- Of the county's population age 25 and older (72% of the county's total population), 88 percent have a high school degree or higher and 16 percent have a bachelors degree or higher.

INCOME

- The median household income between 2006 and 2010 in the City of Alpena was \$31,463, compared to the median household income in Alpena County of \$36,695.

EMPLOYMENT

Of the city's population over age 16:

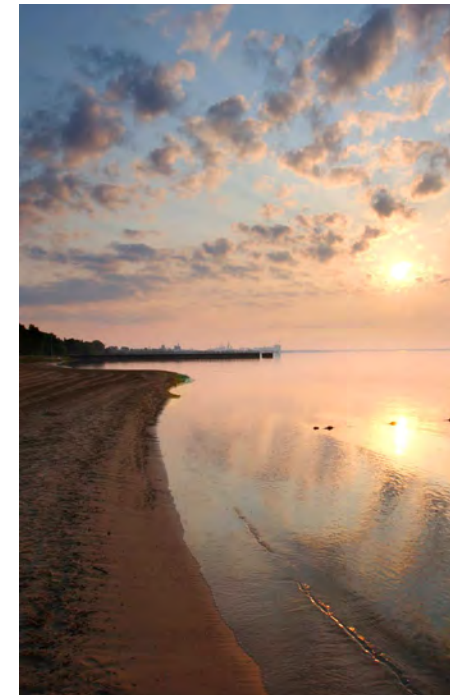
- 52 percent are in the labor force and employed and 11 percent are unemployed.
- 50 percent are employed in the top 3 (of 13 total) industries classified in the American Community Survey: educational services and health care and social assistance (15%); retail trade (13%); and arts, entertainment and recreation and accommodation and food services (11%).
- 30 percent are employed in sales and office occupations, 29 percent in management, business, science and arts occupations, 22 percent in service occupations, 15 in production, transportation and material moving occupations and 6 percent in natural resources, construction and maintenance occupations.

Alpena County Great Lakes Jobs Snapshot (NOAA)

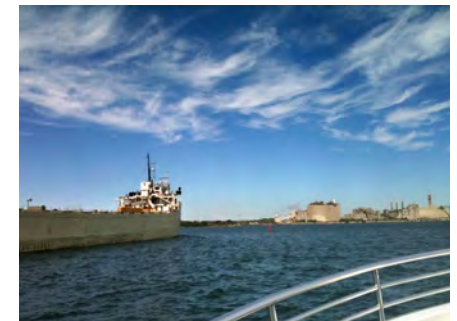
- In 2009, Great Lakes related jobs accounted for 3.8 percent of total jobs in Alpena County, a decrease of 26 percent since 2005.
- Great Lakes related jobs provide employment for 425 people, provide \$4 million in wages and provide \$9 million in goods and services.

HOUSING

- From 2000 to 2010, the total number of housing units in Alpena increased by 1.5 percent and the percent occupancy of housing units decreased by 4.3 percent.
- Owner occupied housing units decreased by 4.3 percent and renter occupied housing units increased by 0.1 percent from 2000 to 2010.
- Residential construction in Alpena County declined from 312 buildings in 1990 to 129 buildings in 2000 and then to 21 buildings in 2010.



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COMMUNITY OVERVIEW

The city of Alpena is located in Northeast Michigan at the mouth of the Thunder Bay River on Lake Huron. The city is approximately 240 miles north of Detroit and 100 miles southeast of the Mackinac Bridge. Alpena is the county seat of and largest city in Alpena County. The city is a commercial, cultural, medical and educational center in rural Northeast Michigan. Alpena is characterized by an urban core with surrounding industry and residential land development.

From the early days of logging and commercial fishing to today's extraction and manufacturing industries, natural resources have been the foundation of the local and regional economy in Alpena. Major industries in the city include Lafarge Corporation, a cement manufacturer and exporter and Besser Company, a manufacturer of concrete block making machinery and Decorative Panels International, a drywall board manufacturing facility. The city's industrial based economy is augmented by the medical industry and tourism. The Alpena Regional Medical Center is the largest employer in the city.

Alpena has a rich maritime history. The city is home to the National Oceanic and Atmospheric Administration (NOAA) Thunder Bay National Marine Sanctuary and Great Lakes Maritime Heritage Center. Over 50 shipwrecks have been discovered and are protected within the boundary of the 448 square mile sanctuary and additional 30 shipwrecks are located nearby.

Among the region's natural assets include the Michigan Islands National Wildlife Refuge, Thunder Bay River State Forest and the Huron National Forest.

The city considers the Thunder Bay River, Lake Huron, waterfront, natural beauty combined with city layout, parks and wildlife, recreational opportunities, marina, Thunder Bay Marine Sanctuary and industry to be among its top assets to protect. Among the city's desired future visions include a city waterfront acquisition program and controlled, planned growth that balances waterfront development and open space.

CAPACITY

The city of Alpena operates under a city manager/city council form of government with five council members. The city has a Planning and Development Department with one director who is also the interim city manager. Alpena has a Marina Department and two Thunder Bay Shores Marine, Inc. staff who operate the city marina.

The city has a comprehensive plan and an Area Wide Transportation Plan. Alpena has a number of boards including a seven member harbor advisory committee and eight member planning commission. The Northeast Michigan Regional Council of Governments (NEMCOG) is currently conducting a regional port study.



Riverwalk. *Michigan Sea Grant*



Alpena shoreline. *Elizabeth Durfee*



Vessels docked in the Thunder Bay River. *Elizabeth Durfee*

WATERFRONT HISTORY

The city of Alpena was incorporated in 1871. The community was founded in 1856 as Fremont and became Alpena in 1859. The community was originally part of Anomickee County, which was founded in 1840 and changed to Alpena in 1843.

History and development of the region centered on natural resources including furs, fisheries, forests, farmland and limestone. The first Europeans in the region were likely French trappers in the 1600s. The first major European vessel, the Griffon, passed by Thunder Bay in 1679. The Thunder Bay region was purchased by the federal government from Native Americans in the 1819 Treaty of Saginaw.

Alpena's industrial history includes logging, commercial fishing, extraction and manufacturing. Logging was the first major industry in Thunder Bay and thrived from 1836 to 1921. A fishing camp was established on Thunder Bay Island in 1835 and by 1840s Thunder Bay Island and surrounding island were used extensively for fishing operations. By the 1850s, Alpena was a center for fur trading, fishing and lumbering. Residences

and businesses developed in the 1880s. Fish stocks - impacted by the lumber industry, settlement and the port - declined by two-thirds within 50 years. Today the fishing community is comprised of recreational anglers, commercial fishers and Native Americans fish comprise the fishing community in the region.

Coal was a major import in the 1800s. In 1887 the Detroit and Mackinac Railroad reached Alpena and the city became a transportation hub for logging and milling. The region emerged as a major limestone producer and cement manufacturer in the late 1800s and into the 20th Century.

Trading and supply boats frequently passed by Thunder Bay on the way to Mackinaw, Sault Ste. Marie and Green Bay. Numerous shipwrecks occurred in the region as ships passing though nearby shipping lanes sought shelter in the Bay. U.S. Life-Saving Service Stations were established at Thunder Bay after frequent shipwrecks occurs in the region in the early 1900s. There are six lighthouses located in or near the National Marine Sanctuary, five of which are still operational.



Alpena industry. *Elizabeth Durfee*



Thunder Bay Underwater Preserve. *Elizabeth Durfee*



Thunder Bay River with NOAA facilities in background. *Elizabeth Durfee*

WATERFRONT SUMMARY

The city of Alpena has over 7.5 miles of frontage on Thunder Bay. Land use along Thunder Bay consists of residential uses on the south side of the Thunder Bay River and industrial uses to the north. Frontage along the Thunder Bay River consists of a mix of commercial, waterfront development, industrial and residential uses. The greatest designated land use along the river is parkland.

Alpena Harbor is a deep draft commercial, cargo and recreational harbor. The harbor consists of approximately 700 feet of breakwater structures and 12,000 feet of maintained channels with project depths ranging from 18.5 feet at the upper limit of the project in the Thunder Bay River to 25 feet in Thunder Bay to 300 feet lake-ward of the Alpena Light. The harbor requires dredging on a 5 to 10 year cycle. In 2008 the harbor ranked 91st nationally and 20th among Great Lakes Harbors with 3.1 million tons of material shipped or received by the harbor. Bulk commodities that are shipped or received by the harbor, including cement, coal, petroleum products,

sand, gravel, salt and limestone, generate \$78 million annually in direct revenue, \$32 million annually in personal income and support 700 jobs. A loss of one to two feet of channel depth increases the cost of transportation by \$285,000 to \$708,000 annually. The harbor is a regionally significant harbor and a Harbor of Refuge. Major stakeholders of Alpena Harbor include the U.S. Coast Guard, Lake Carriers' Association, Lafarge Corporation, Alpena Oil, Seaway Marine Transport, DPI and Everett Goodrich Trucking.

Two channels are used for Great Lakes shipping in Alpena: the port of Alpena/Thunder Bay River and the Lafarge Corporation port. The city's West Dock is not able to accommodate cargo ships but with approximately 16 feet of draft the port meets depth requirements for cruise ships. Alpena's municipal marina is a full service marina that accommodates both seasonal and transient boats of a variety of sizes. The marina has 177 slips, launch ramps, courtesy docks, a fish cleaning station, marine store and maintenance facilities. The City of Alpena Marina is the only public

or private marina in the area. The marina is operated by Thunder Bay Shores Marine, Inc.

The primary boat launch locations include is the North Riverfront Park downstream of the Ninth Avenue Dam and the Eleventh Ave Boat Launch upstream of the dam. Deep water dockage for larger boats is available at South Riverfront Park. City owned parks with swimming beaches on Lake Huron include Thomson, Blair Street, Starlite Beach and Michigone-kewis Park. Six of the city's nine parks (North Riverfront, South Riverfront, LaMarre, Eleventh Avenue Boat Launch, Water Town and Washington Ave Park) are located on the Thunder Bay River. Riverfront parks including Island, Duck and Sytek Parks collectively comprise part of the Wildlife Sanctuary, a 600 acre natural ponding area upstream of the Ninth Ave Dam.

The city has an abundance of boating and water related recreation opportunities and is well known for its fishing and shipwreck diving. NOAA's Thunder Bay National Marine Sanctuary and Underwater Preserve - one of 14 protected



Alpena Marina. *Michigan Sea Grant*



Thunder Bay River riverwalk. *Michigan Sea Grant*

sanctuaries - and the Great Lakes Maritime Heritage Center are located in Alpena.

A number of festivals including the Great Lakes Lighthouse Festival, Lafarge Downtown Alpena Riverfest, Michigan Brown Trout Festival and Thunder Bay Maritime Festival are held in Alpena.

CHALLENGES AND ACTIONS

The lack of city ownership of a deep water port is a barrier to attracting new business in Alpena. The city is invested in the economic development and potential future use of the Lafarge Dock and the currently underutilized West Dock.

The city is collaborating with NEMCOG to assess the role of regional port collaboration in increasing the viability of Northeastern Michigan ports. In 2011 NEMCOG received funding from the Michigan Coastal Zone Management program to assess the economic potential of ports in Alpena, Cheboygan and Rogers City. NEMCOG identified a four stage regional port plan including: 1) establishing a regional ports committee, 2) conducting an inventory of port assets and community assets, 3) compiling community and port background information and 4) assessing the regional role of ports.

A team of Michigan State University students partnered with NEMCOG to assist with the port and community assets inventory as well as the documentation of community and port background information. The team assessed options for the West Dock, which was formerly used by Flecher Paper Company. Among the team's recommendations for the dock include maintaining communication between adjacent land owners LaFarge, DPI and West Dock Properties and the city, conducting a site analysis, expanding dredging and extending rail access to the dock.



Alpena Harbor. Elizabeth Durfee



Glass bottom boat Lady Michigan. Elizabeth Durfee



Boat launch on the Thunder Bay River. Elizabeth Durfee

ZONING ORDINANCE

ZONING DISTRICT	INTENT OF DISTRICT	PERMITTED USE	SPECIAL USE
Residential Districts R1, R2, RM1, RM	Designed for single and multi-family dwellings	Nature Parks/natural areas (R1, R2), wind energy systems	Docks, launch ramps, Nature parks/natural areas (RM1, RM2), public parks, playgrounds, rec area
Central Business District	Designed to promote uses that generate a high volume of people activity among the business, institutions and public spaces in the downtown	Boat tours, public parks, playgrounds, rec area, sporting goods stores, wind energy systems	Commercial wind energy facilities and anemometer towers
Commercial Corridor District	Designed to accommodate office and retail uses serving the overall community and the general region and encourage mixed use development	Boat tours, public parks, playgrounds, rec area, sporting goods stores, wind energy systems	Commercial wind energy facilities and anemometer towers
General Business District	Designed to provide sites for more diversified business types requiring a city-wide general market area and/or arterial exposure	Marinas including boat fuel sales, boat supplies and accessories, boat tours, public parks, playgrounds, rec area, sporting goods stores, wind energy systems	Docks, launch ramps, commercial outdoor recreation facilities, boat and boating accessory sales, commercial wind energy Facilities and anemometer towers
Commercial District	Designed to provide sites for more diversified business types requiring a city-wide general market area and/or arterial exposure	Marinas including boat fuel sales, boat supplies and accessories, boat tours, public parks, playgrounds, rec area, boat and boating accessory sales, sporting goods stores, freight terminals, scenic and sightseeing transportation, wind energy systems	Docks, launch ramps, commercial outdoor recreation facilities, commercial wind energy Facilities and anemometer towers
Light Industrial District	Designed to accommodate wholesale activities, warehouses and industrial operations	Marinas including boat fuel sales, boat supplies and accessories, commercial docks and assoc. facilities, boat and boating accessory sales, freight terminals, scenic and sightseeing transportation, wind energy systems	Docks, launch ramps, water and wastewater treatment plants, commercial wind energy facilities and anemometer towers
General Industrial District	Designed for manufacturing, assembling and fabrication activities	Marinas including boat fuel sales, boat supplies and accessories, commercial docks and assoc. facilities, freight terminals, scenic and sightseeing transportation, wind energy systems	Docks, launch ramps, water and wastewater treatment plants, commercial wind energy facilities and anemometer towers
Waterfront Development District	Intended to promote mixed commercial, residential and institutional uses that incorporate the waterfront into the development and permit and encourage public access and use of the waterfront and link and integrate both sides of the river with each other and the downtown urban core	Tourist/commercial fishing boat docks, maritime vessels, marinas including boat fuel sales, boat supplies and accessories, boat tours, public parks, playgrounds, rec area, temp. docking of maritime vessels, commercial docks & assoc. facilities, boat and boating accessory sales, wholesale trade of fresh fish, wind energy systems	Docks, launch ramps, commercial wind energy facilities and anemometer towers
Conservation and Resources District	Intended to permit the establishment of natural resource conservation areas to preserve these areas for the benefit of the public and to protect and enhance the ecological resources in the city and Thunder Bay Watershed		Docks, launch ramps, public parks, playgrounds, rec area
Parks and Recreation District	Intended to permit the establishment of recreational uses that preserve and enhance these area, provide recreational aesthetic and economic benefit to the city	Nature parks/natural areas, public outdoor recreation facilities, public parks, playgrounds, rec area	Boat tours

TABLE 1. INTENT, PERMITTED USES AND SPECIAL USES OF ZONING DISTRICTS THAT ACCOMMODATE WATER-DEPENDENT USES AND/OR PUBLIC ACCESS.

WORKING WATERFRONT SWOT ANALYSIS

There are a number of factors that influence a community’s ability to maintain a robust working waterfront. The strengths, weaknesses, opportunities and threats (SWOT) analysis below (Table 2) provides examples of the challenges and opportunities associated with maintaining Alpena’s waterfront as a place that provides public access and supports and is well integrated within the community from a planning and physical perspective. A SWAT analysis is a

strategic planning tool with four elements: strengths, weaknesses, opportunities and threats. The analysis identifies the positive, negative, internal and external factors that influence an individual, business, organization or place’s ability to achieve an objective. For example, internal factors may include human, physical or financial resources and past activities or programs. External factors may include future trends, the economy, or the physical environment.

<p>STRENGTHS</p> <ul style="list-style-type: none"> ■ Public access on both sides of the River from 9th street almost to the mouth ■ West Dock can accommodate cruise ships and tall ships ■ NOAA relocated to an old paper mill site, active use of waterfront, National Marine Sanctuary ■ History and tourism - shipwrecks, glass bottom boat ■ NOAA, DNR Fisheries, USFWS facilities ■ Rezoning of existing uses on the south side of the river to waterfront redevelopment, rezoning of 28 acre former paper company site along river now open to public ■ Industrial facilities ■ New facilities and amenities including new launch and a dock with sliders at Duck Park, canoe/kayak rental ■ Regional collaboration ■ MSU student practicum Port Inventory 	<p>WEAKNESSES</p> <ul style="list-style-type: none"> ■ All docks are proprietary, is not an open dock that the city or public can use, need a dock for port authority, West dock has 3 private owners, Alpena Oil Co. could permit other ship to utilize dock but it is not in an ideal location and would require everything to come through downtown ■ Industries vital to local and regional economy, blending tourism and industrial activity can be a challenge ■ Marina at about 60 percent capacity in summer ■ Location and distance from potential markets ■ Need a feasibility study of the community’s capacity ■ Need improved stormwater and river bank management
<p>OPPORTUNITIES</p> <ul style="list-style-type: none"> ■ Increase use of west dock, a priority, potential to redevelop rail tracks to the west dock ■ Increase shipping ■ Regional collaboration ■ Potential for wood pellet production or similar product ■ Passenger ships a possibility 	<p>THREATS</p> <ul style="list-style-type: none"> ■ Loss of industry and/or a decline in tourism would have significant impacts ■ Need a long term exit plan for Lafarge ■ Without a suitable port/dock it is challenging to attract new business, without new business it is challenging to finance construction of a new dock, need export and import at port to be viable ■ Low lake levels and shallow bedrock, light loading ■ Current county priority is unmanned aircraft ■ Population aging and declining ■ Loss of jobs

TABLE 2. STRENGTHS, WEAKNESSES, OPPORTUNITIES AND THREATS RELATED TO MAINTAINING ALPENA’S WORKING WATERFRONT.

TOOLS, STRATEGIES AND BEST PRACTICE FOR MAINTAINING WORKING WATERFRONTS

REGIONAL PORT COLLABORATION

Investigate the potential to increase the viability of ports through regional collaboration. Partner with local governments, regional councils of governments and universities to evaluate assets, challenges and needs across the region. Identify opportunities to increase efficiency and reduce the cost of shipping by receiving goods at one port in a region and exporting at another in ports that do not both import and export products or materials. Use resources such as Coastal Zone Management Program grants to assist with funding regional port studies.

CONSTRUCT A RIVERWALK

Capitalize on local assets, incorporate local heritage, link maritime assets and increase connectivity between the downtown and waterfront by converting a formerly industrial waterfront to public and recreational use. Include interpretive signage along a riverwalk to educate residents and visitors and help to create a sense of place along the river. Install rain gardens to create visual interest and manage stormwater adjacent to the river. Grants from the Cool Cities and Coastal Zone Management Programs can help a community plan and implement a riverwalk.



CZMP staff and the Lady Michigan . Elizabeth Durfee



Lake Huron beach and park. Elizabeth Durfee



Thunder Bay River. Elizabeth Durfee

GUIDING PRINCIPLES

MANAGING WATERFRONTS AND WATER-DEPENDENT USES AS AN IMPORTANT ELEMENT OF A SUSTAINABLE COASTAL COMMUNITY

PROCESS-BASED

- Engage diverse stakeholders and local, regional and state partners in waterfront planning.
- Integrate waterfront planning with local and regional master and comprehensive planning.
- Incorporate adaptation planning into waterfront planning.
- Articulate the community's vision for future of the waterfront.

OUTCOME-BASED

- Protect the natural resources that working waterfronts uses are intrinsically tied to and dependent upon.
- Maximize the public benefit of working waterfronts through visual and physical access and amenities.
- Permit compatible mixed uses along the waterfront.
- Emphasize the economic and cultural value of local water-dependent uses.
- Preserve visual and physical access to water resources.
- Balance waterfront land uses to meet the needs of residents, visitors, water-dependent uses and ecological communities.
- Increase resiliency by promoting diverse and flexible water-dependent uses.

CITY OF ALPENA

- ✓+ **Preserve visual and physical access to water resources.**
- ✓+ **Emphasize the economic and cultural value of local water-dependent uses.**
- ✓+ **Protect the natural resources that working waterfronts uses are intrinsically tied to and dependent upon.**

How does your community stand up?

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