



Blue is the New Green – Michigan’s Emerging “Blue Economy”

**Ottawa County’s Ninth Annual Water Quality Forum
Friday, November 7, 2014
West Olive, Michigan**

**John Austin, President, Michigan State Board of Education
Brookings Institution Non-Resident Senior Fellow
Director, Michigan Economic Center at Prima Civitas**

We always talk about the Great Lakes region, with 20% of world's surface freshwater, around which live **50,000,000 people**



And the scale of our waterfront real estate...

**THE GREAT LAKES & ST. LAWRENCE RIVER REGION
HAVE OVER 11,000 MILES OF LAKE FRONTAGE**

**THIS EQUATES TO THE DISTANCE BETWEEN CHICAGO,
ILLINOIS, & PERTH, AUSTRALIA.**

CHICAGO

PERTH

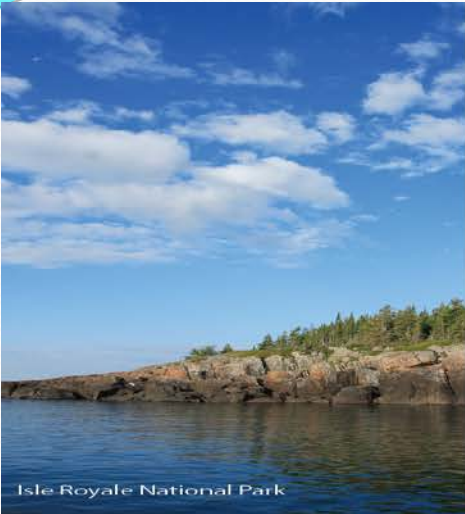




And our world leading centers of research and learning...

- TOP INSTITUTIONS OF HIGHER LEARNING
- 20 OF WORLD'S BEST RESEARCH UNIVERSITIES ARE HERE – MORE THAN ANY OTHER REGION
- JOINING RICH NETWORK OF COLLEES & COMMUNITY COLLEGES TO PRODUCE THE TALENT - ENGAGED IN THE FUTURE OF WATER, TECHNOLOGY AND THE PLANET
- PUBLIC-PRIVATE SECTOR INNOVATION
- GLOBAL CLASSROOM
- LED GREEN REVOLUTION – CAN LEAD BLUE REVOLUTION

And how water makes magical places to live, work & play



Isle Royale National Park



Caledonia Canyon, Ontario



Pt Pelee, Lake Erie



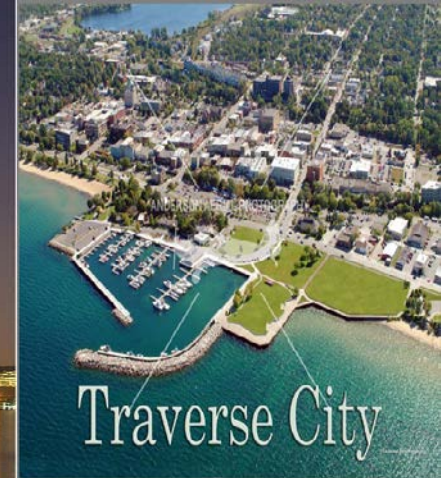
Algonquin Provincial Park



ROCHESTER



TORONTO



Traverse City



BROOKINGS

And with *Healthy Waters, Strong Economy: Economic Impact of Great Lakes Restoration* report, came the reality that clean water and restoration make you rich! Lakes and their waterways are a major economic and environmental asset

Metro benefits of restoration, in millions of 2006 dollars:

Milwaukee:
\$1,500-2,300

Chicago:
\$7,400-13,300

Detroit:
\$3,700-7,000

Buffalo:
\$600-1,100

Cleveland:
\$2,100-3,700

Water defines us, and gives us “Pure Michigan”



But what does this really add up to?...What is this Blue Economy?



Great Lakes & Michigan's Blue

Economy - *Building on Great Lakes region's abundant water, access to water, water education and innovation assets to grow jobs and incomes*

Five ways water matters to the economy today

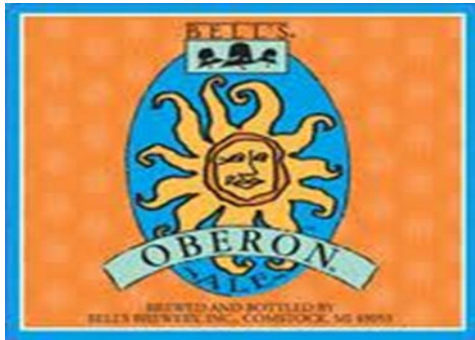


Legacy Uses: Shipping, Ports, Commercial Fishing



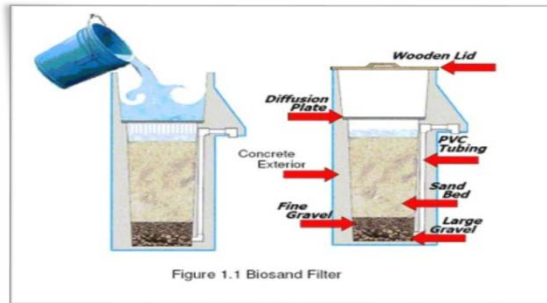
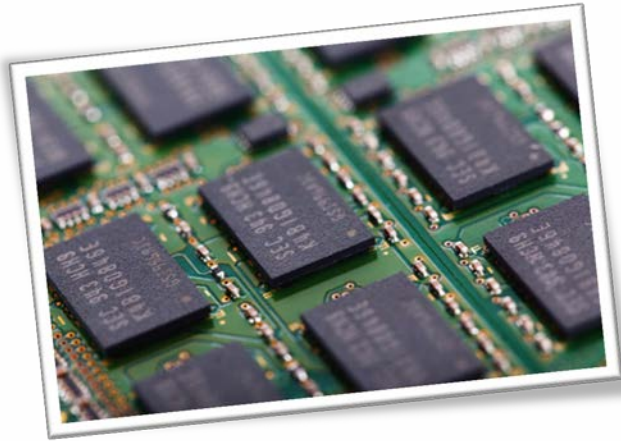
Great Lakes States and Provinces: Over 200,000 jobs, including 65,000 jobs, \$3.3 billion wages/yr. in Michigan

Big Water Using Businesses: Agriculture, Energy, Manufacturing, Beverages



581,000 jobs (8th in nation in share of employment) and \$40 billion annual wages in Michigan – 1.2 million jobs in Great Lakes

Emerging Water Products and Services For Trillion \$ Global Water Technology Market

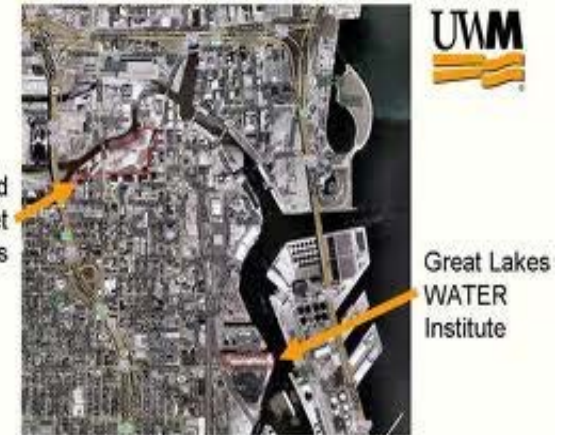


Great Lakes States and Provinces: 1.2 million jobs
Michigan - 140,000 jobs (10th in nation)
Fast-growing VC \$ to water tech: over \$370 million in
US; \$50 billion water asset funds globally

Centers of Education, Research and Innovation



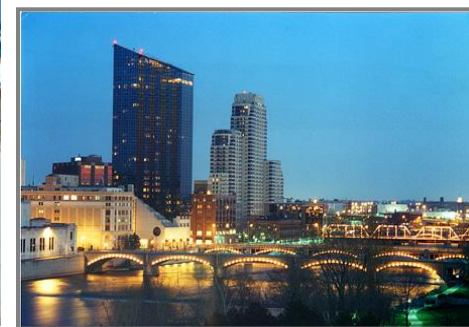
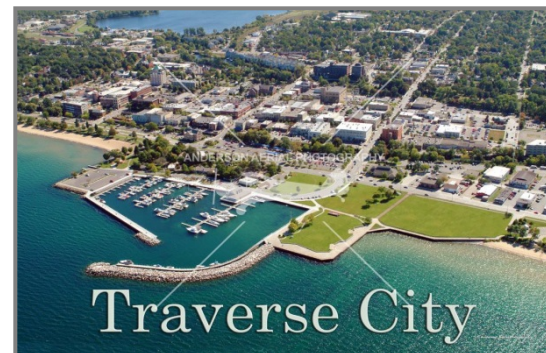
Michigan Tech



If Michigan's 3 top Research Universities do \$300 million in R&D
Great Lakes 20 Top Tier: \$2 billion in water R&D

If Michigan's 9 Univ. Water Centers, 18 Community Colleges train thousands in water work; Great Lakes Universities-Colleges educate tens of thousands

Water Place-making and Lifestyle



If Michigan's Restoration, Place-Making, Boating, Fishing, Recreation and Tourism adds up to 210,000 jobs and \$7.5 billion annually

Great Lakes States and Provinces well over 1 million jobs - \$50 billion

‘Blue really is the New Green’

Green Economy

Wind, solar, battery, bio-mass, next energy technology creation

Building retrofits, turbine machining, solar panel production, transit-building: “green collar jobs”

“Greenways”, parks, open-space: “green” places

Green lifestyles and values: Green roofs, recycling, local food, energy conservation, sustainable living

Blue Economy

Water cleaning, monitoring, conservation products and services

Building retrofits, water infrastructure repair, Filter making, “blue-collar” jobs

“Blueways”, wetland preservation, waterfront renewal, water trails

‘Blue’ lifestyles and values: Rain-gardens, grey water systems, green infrastructure water-saving lifestyles

And when you put the Blue Economy building blocks together

Look at Milwaukee....

River makeover.... Open up Lake Michigan... Celebrate Lake Univ. of Wisconsin-Milwaukee Water Institute.... Marquette Water Law and Business... Water Cluster - The Water Council.... BadgerMeter, A.O. Smith, Veolia, Koehler.... One of UN global cities leading in water innovation



Grand Rapids....“Greenest” US mid-size city, led by smart water use...putting “rapids” back in the Grand...core city re-development facing the river for talent retention...repurpose manufacturing like Cascade Engineering water purifying products.... GVSU- Annis Water Resources Institute.



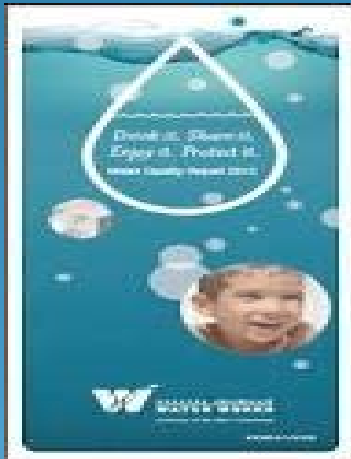
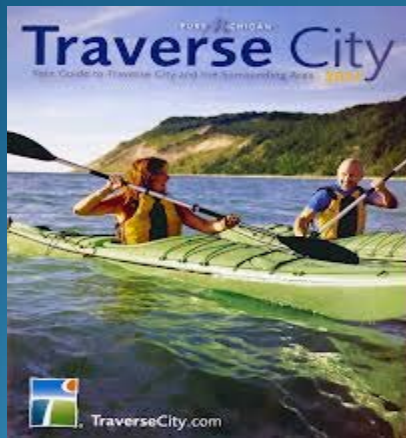
BROOKINGS

Macomb County Blue Economy Initiative: 32 miles of freshwater coast, largest freshwater estuary, boating, fishing, metro-parks, nautical mile, birding, blueway trails, Clinton watershed...Freshwater studies and problem solving (Macomb, St. Clair CC's and WSU)...firms finding new water technology products to make



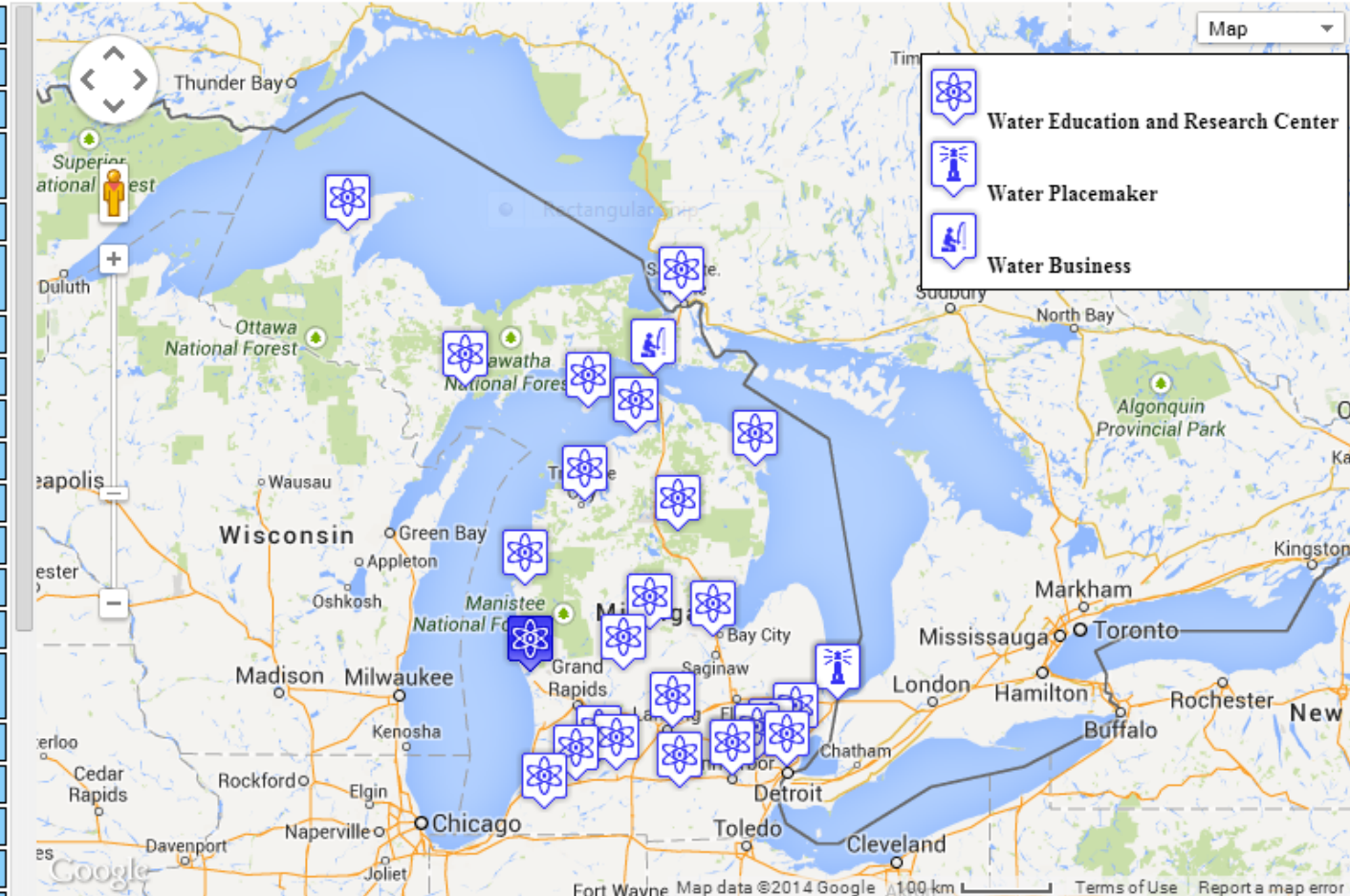
BROOKINGS

Marquette, Duluth, Hamilton, Cincinnati, Pittsburgh, Cleveland, Traverse City, now Buffalo are “doing it” ...



Michigan's Blue Economy

Water Education and Research Centers
 Water Placemaker
 Water Business



Alpena Community College
Bay de Noc Community College
Central Michigan University
Central Michigan University Biological Station
Delta College
Grand Valley State University Annis Water Resources Institute
Jackson College
Kalamazoo Valley Community College
Kellogg Community College
Kirtland Community College
Lake Superior State University
Lawrence Technological University
Macomb Community College
Michigan State University
Michigan State University W.K. Kellogg Biological Station
Michigan Technological University
Montcalm Community College
North Central Michigan College
Northwestern Michigan College

Examples: Water Place-Making

- “Your Bay – Your Say” – Bay Shore Corridor
- Boardman River Prosperity Plan

Marquette Harborfront

- Bay County Roadmap
- Saginaw Watershed Initiative

Manistee : Explore the Shores” & Lakes to Land” initiative

St. Clair “Blue Meets Green”

Muskegon Harbor – Waterfront

Stitching Grand River into Grand Rapids

Huron “River-UP!”

- Macomb Blue Economy Initiative
- Detroit Riverfront- Refuge
- Clinton River “WaterTowns”

Water Education, Research, Problem-Solving

An aerial photograph of the Great Lakes basin in Michigan, showing the five Great Lakes (Superior, Michigan, Huron, Erie, and St. Clair) and their connecting waterways. The land is a mix of green and brown, indicating forested and agricultural areas. Several orange callout boxes with white text are overlaid on the map, each pointing to a specific location. The callouts are: Michigan Tech Great Lakes Research Center (pointing to the western shore of Lake Superior), Northwestern Michigan College – Freshwater Studies (pointing to the western shore of Lake Michigan), SVSU Environmental Science Programs (pointing to the western shore of Lake St. Clair), Lawrence Tech Great Lakes Stormwater Management Institute (pointing to the western shore of Lake Erie), WSU – Macomb Community College HEART Alliance for Water Research (pointing to the western shore of Lake St. Clair), U of M Water Center (pointing to the western shore of Lake St. Clair), Michigan State University Center for Water Science (pointing to the western shore of Lake Erie), and Grand Valley State Water Resources Institute (pointing to the western shore of Lake Michigan).

Michigan Tech
Great Lakes
Research Center

Northwestern
Michigan
College –
Freshwater
Studies

SVSU Environmental
Science Programs

Lawrence Tech
Great Lakes
Stormwater
Management
Institute

Grand Valley State
Water Resources
Institute

WSU – Macomb
Community
College HEART
Alliance for
Water Research

Michigan State
University Center
for Water Science

U of M Water
Center

Water Technology Product and Service Firms

Keewanaw
Geothermal
Research Group

- Dow: membranes, filters
- Serv-a-Pure: super-prue water

- Algal Scientific – water recovery
- Plymouth Technologies – waste water treatment

Cascade
Engineeering – Bio
Sands Filter

Parjana
Distribution–
stormwater
Treatment

Limnotech &
ECT - engineering,
water ecosystem
management

Mannik Smith
Group - green
infrastructure

Healthy Waters, Strong Economy –3:1 to 6:1 Economic Impact for clean-up. AOC's – Some Superfund sites getting done. So far under Great Lakes Restoration – Michigan -\$163 million spent

Sault St. Marie
St. Mary's River
Superfund Site

Kalamazoo River
Superfund Site

St Clair River Bi-
National AOC

Muskegon - White
Lake, Area of
Concern

Monroe Area of
Concern

Lessons in Blue Economy-Building

Restore, Clean, Re-Connect to, and Celebrate Water

Leverage and Grow the Water Education, Research and Innovation Centers of Excellence and Activity

Support Businesses Growing Sustainable “Smart Water” Solutions – new products and services solving emerging global freshwater challenges

Embrace Values of Sustainable Water Use, Water Stewardship, Water Innovation- Sends message Great Lakes is the place where we care for our water, and are solving world’s water challenges.



Then Rust *will* become Blue





John Austin

www.MiEconomicCenter.org

[@John_C_Austin](https://twitter.com/John_C_Austin)

jcaustin@umich.edu