

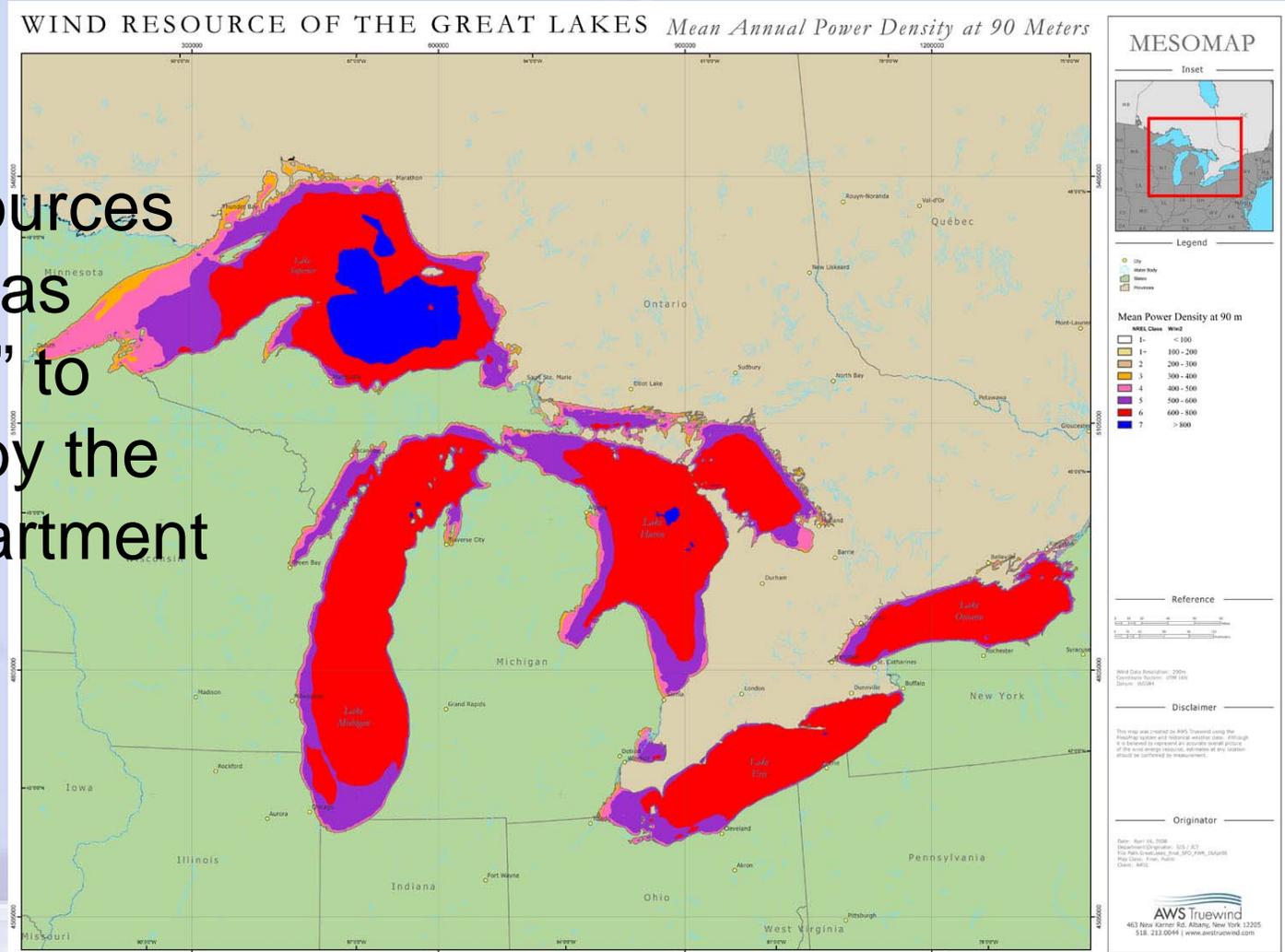


Michigan Offshore Update

Michael Klepinger, Staff Director (retired)
Michigan Great Lakes Wind Council

Great Lakes Wind Resources

- Wind resources classified as “excellent” to “superb” by the U.S. Department of Energy



Great Lakes Fundamentals

- + World Class Winds, Proximate to Load
- + Hungry Industrial Stakeholders
 - Regulatory Uncertainty
 - Engineering Uncertainty
- ? Public Acceptance

Challenges

- Industry, academia, and government must address key challenges and uncertainties:
 - Siting/environmental
 - Legal/regulatory
 - Economics
 - Technology
- Michigan lacks clear regulatory framework to handle development proposals



Michigan Momentum

- Dry Run 2008 (started agencies talking)
- GLOW Council 2009-10 (mapping, legis.)
- Scandia Aegir 2010 Project Lake Michigan (influenced the “public conversation”)
- MPSC/Federal money for MET research
In Lake Michigan (GVSU/UM)

Great Lakes Wind Council

- Appointed by Governor Granholm - February 2009 to December 31, 2010
- Serves as 29-member advisory body to Department of Energy, Labor & Economic Growth
 - 8 agency representatives
 - 21 other members
- Council does not review or make recommendations related to specific offshore wind projects

Charge to Council

- Phase I: Executive Order 2009-1
 - Recommend criteria to identify and map most/least favorable areas for offshore wind
 - Recommend permitting criteria
 - Recommend process for engaging public in permitting decisions and other findings
- Issued report September, 2009

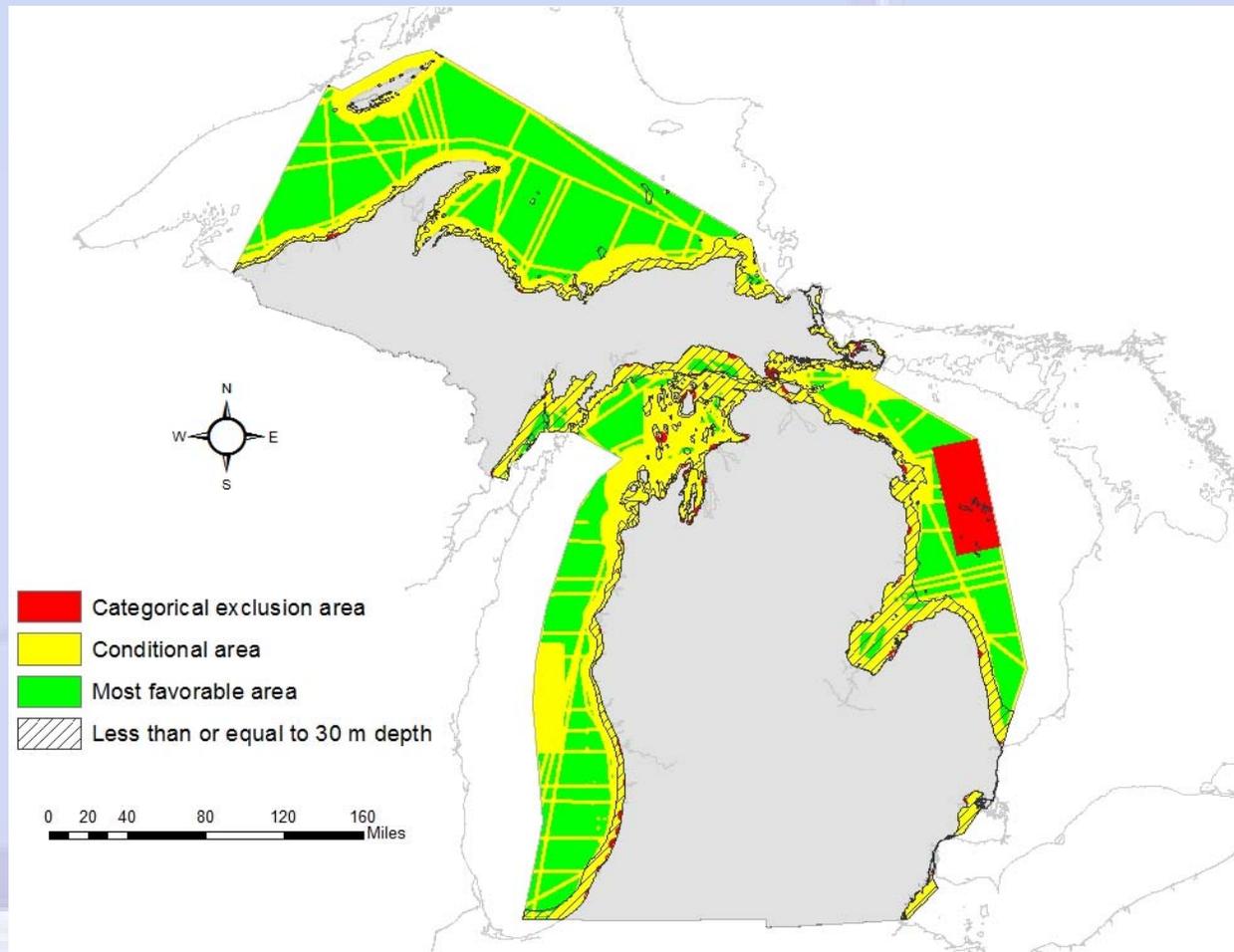
Charge to Council

- Executive Order 2009-46
 - Identify most favorable areas for potential leasing
 - Engage and inform the public
 - Provide guidance or recommendations on
 - Model lease and solicitation documents
 - Proposed legislation and rulemaking
 - Compensation structure for leasing of bottomlands
- Issued report October, 2010

Findings (2009 Report)

- Existing Great Lakes bottomland leasing and permitting statute not designed to address offshore wind
- Comprehensive legislation for leasing and permitting should be enacted and include opportunities for meaningful public engagement
- Criteria for mapping least/most favorable areas
 - Most favorable (green)
 - Conditional (yellow)
 - Categorical exclusion (red)

Application of Council's Criteria Using IFR's Mapping Tool



Council's Criteria

- Aids to navigation
- Buoyed navigation channels
- Coastal airports
- Military operation areas
- Submerged transmission lines
- Habitat/biological (5 criteria)
- Disposal sites
- Harbors/marinas
- Large river mouths
- Shoreline (6-mile viewshed)
- Shoreline (3-mile productivity)
- National park lakeshores
- State parks and wilderness
- Shipwrecks
- State bottomland preserves
- Underwater archeological sites
- Commercial fishing areas
- International and state boundaries
- Shipping lanes

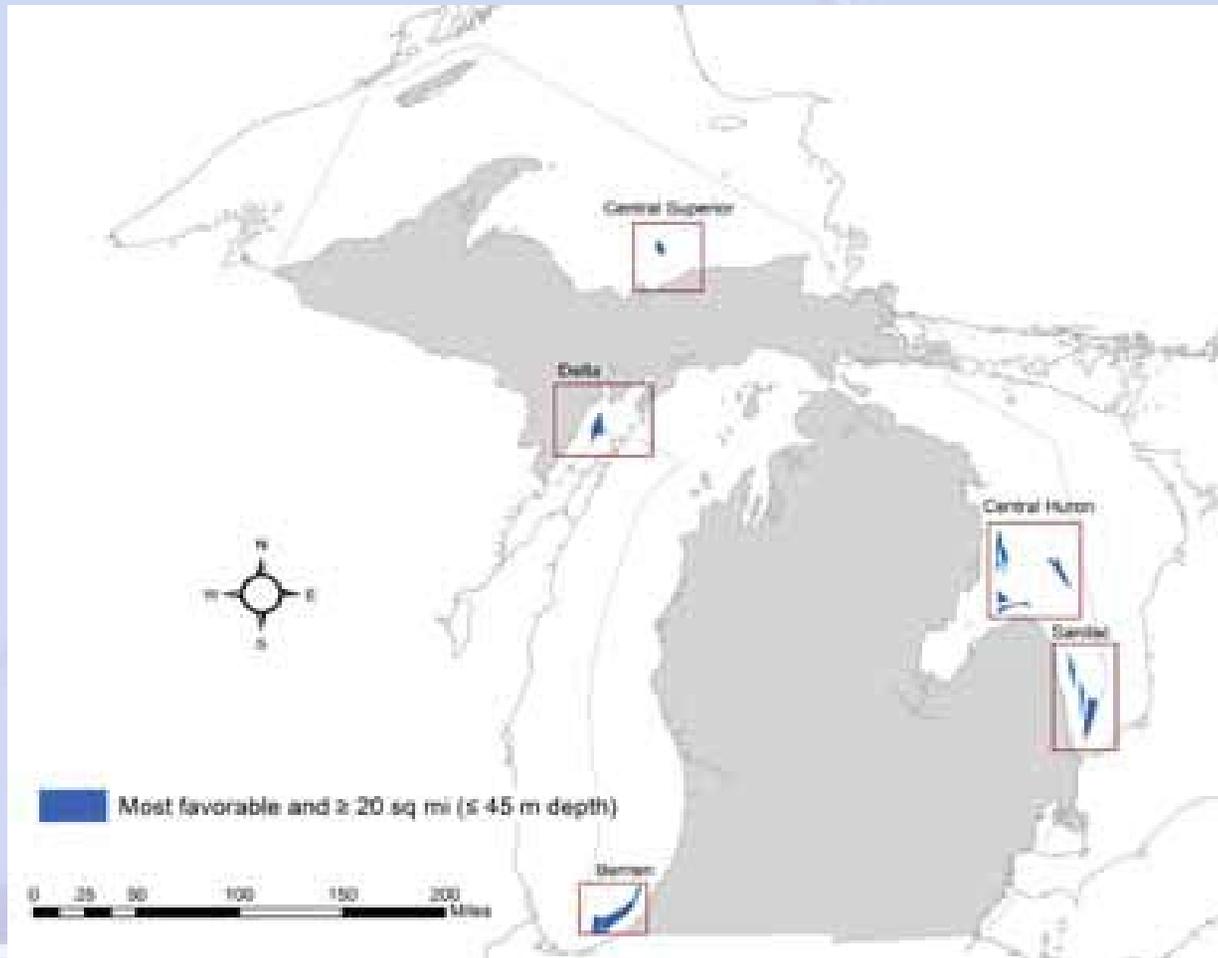
Criteria are applied to mapping tool, or “decision support tool,” developed by U-M/DNR Institute for Fisheries Research (IFR).

Square Miles of State-owned Bottomlands

	Area any depth (sq. mi.)	Area ≤ 45m deep (sq. mi.)	Area ≤ 30m deep (sq. mi.)
Categorical exclusion (red)	1,710	521	349
Conditional (yellow)	23,399	9,554	7,363
Most favorable (green)	13,339	565	157
Total area	38,448	10,640	7,869

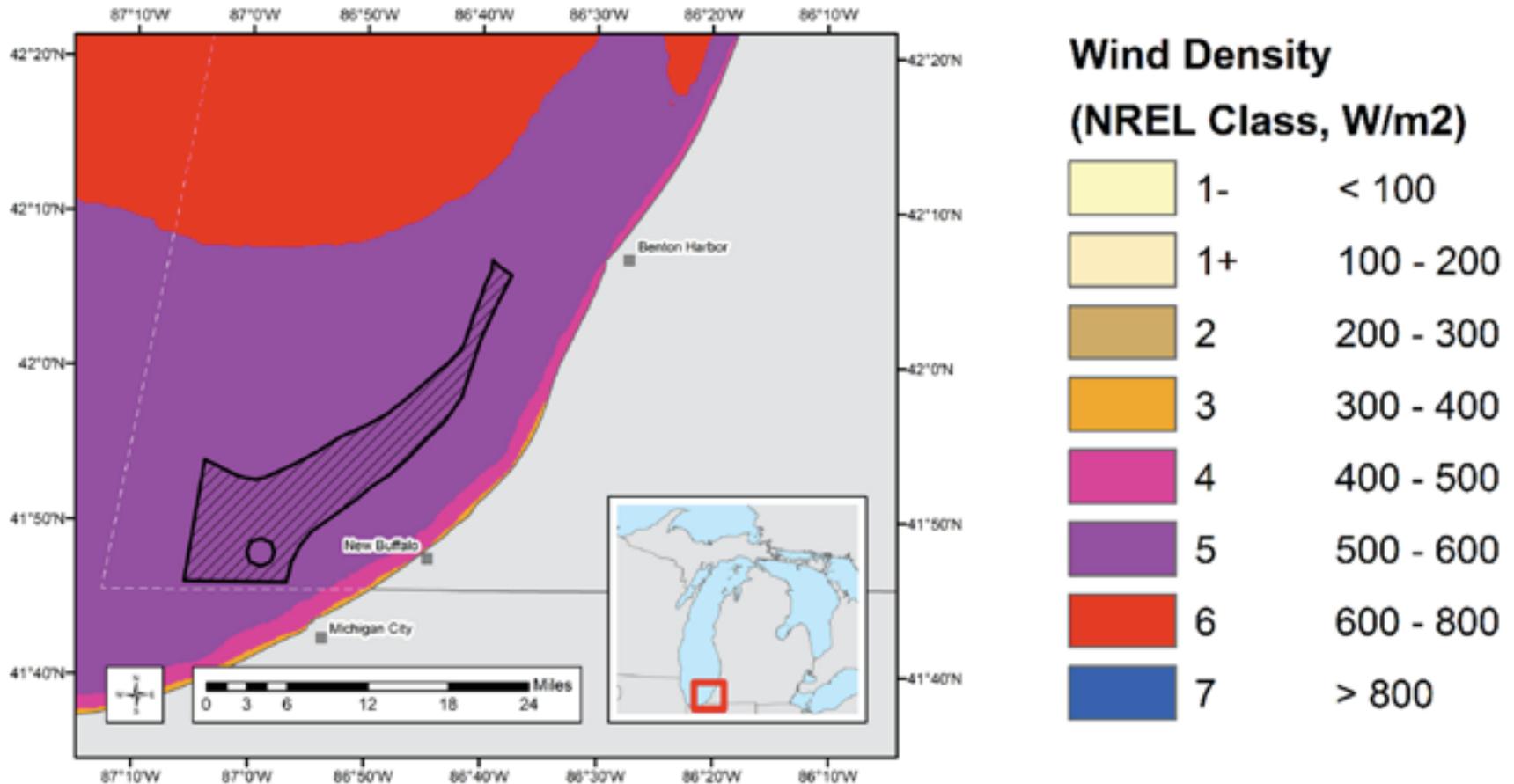
SOURCE: Institute for Fisheries Research, UM/MDNR, based on Michigan GLOW Council recommendations, October 2010.

Most Favorable Wind Resource Areas (WRAs)

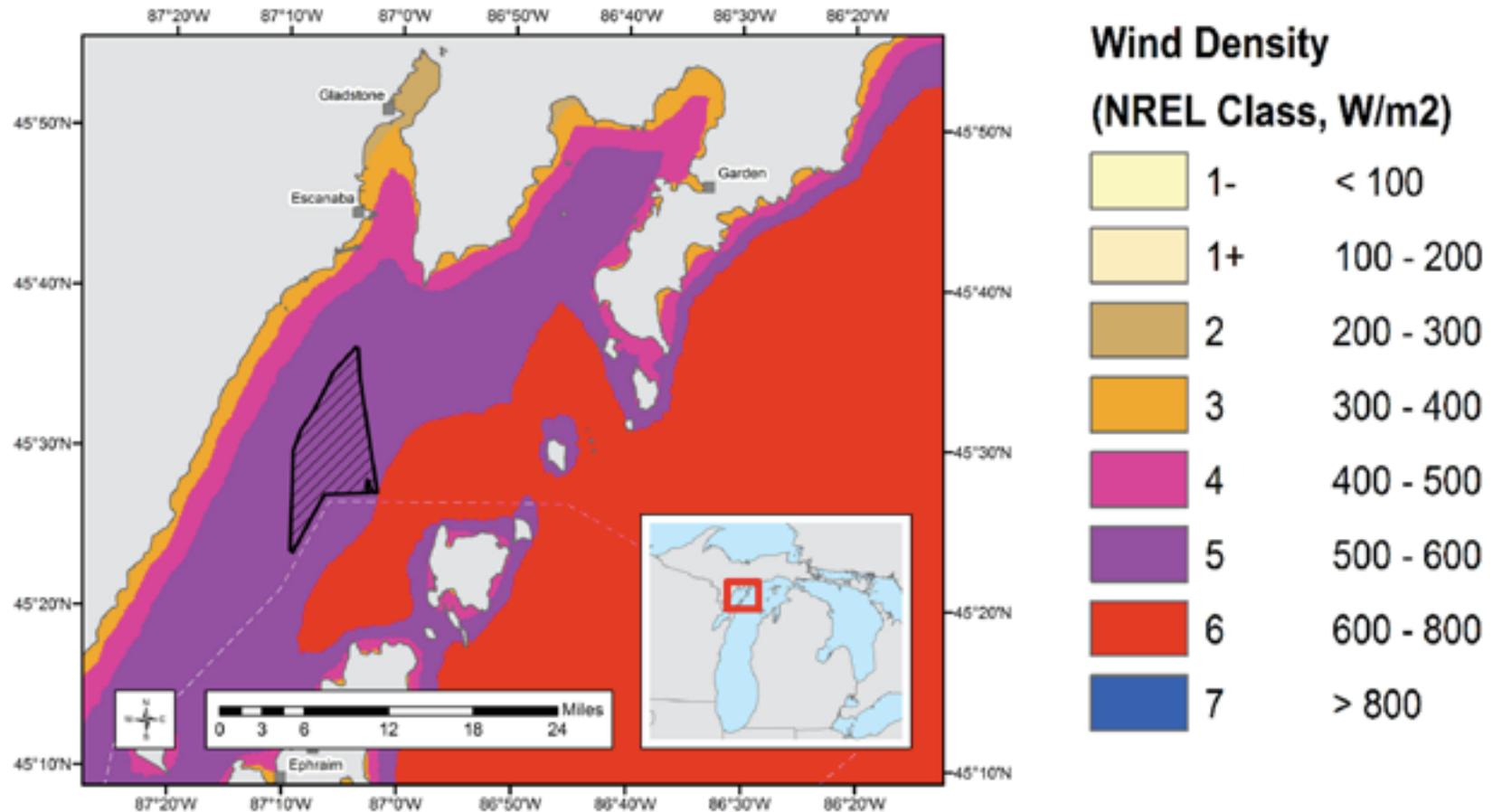


SOURCE: Institute for Fisheries Research, UM/MDNR, GLOW Final Report, October 2010.

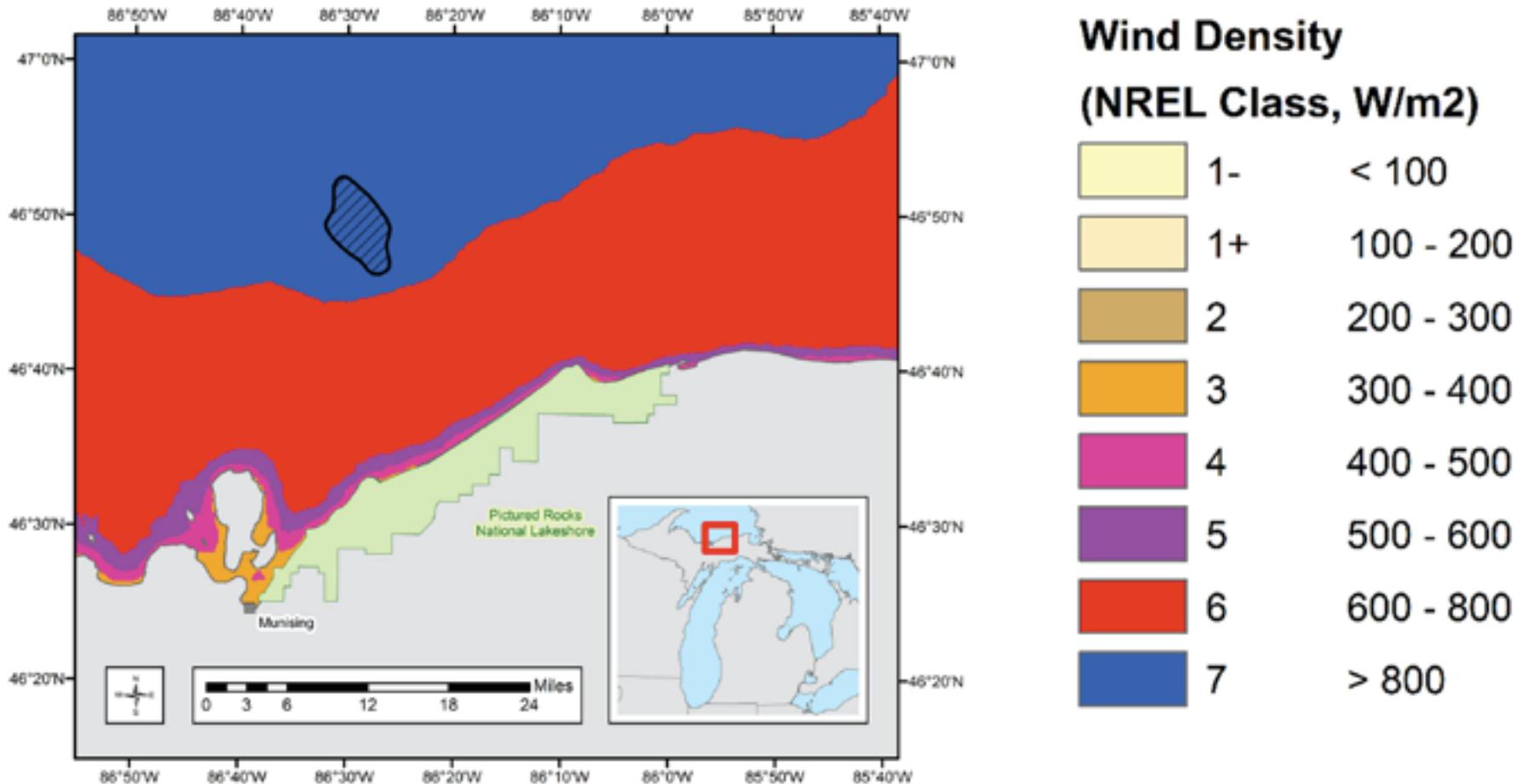
Berrien County WRA



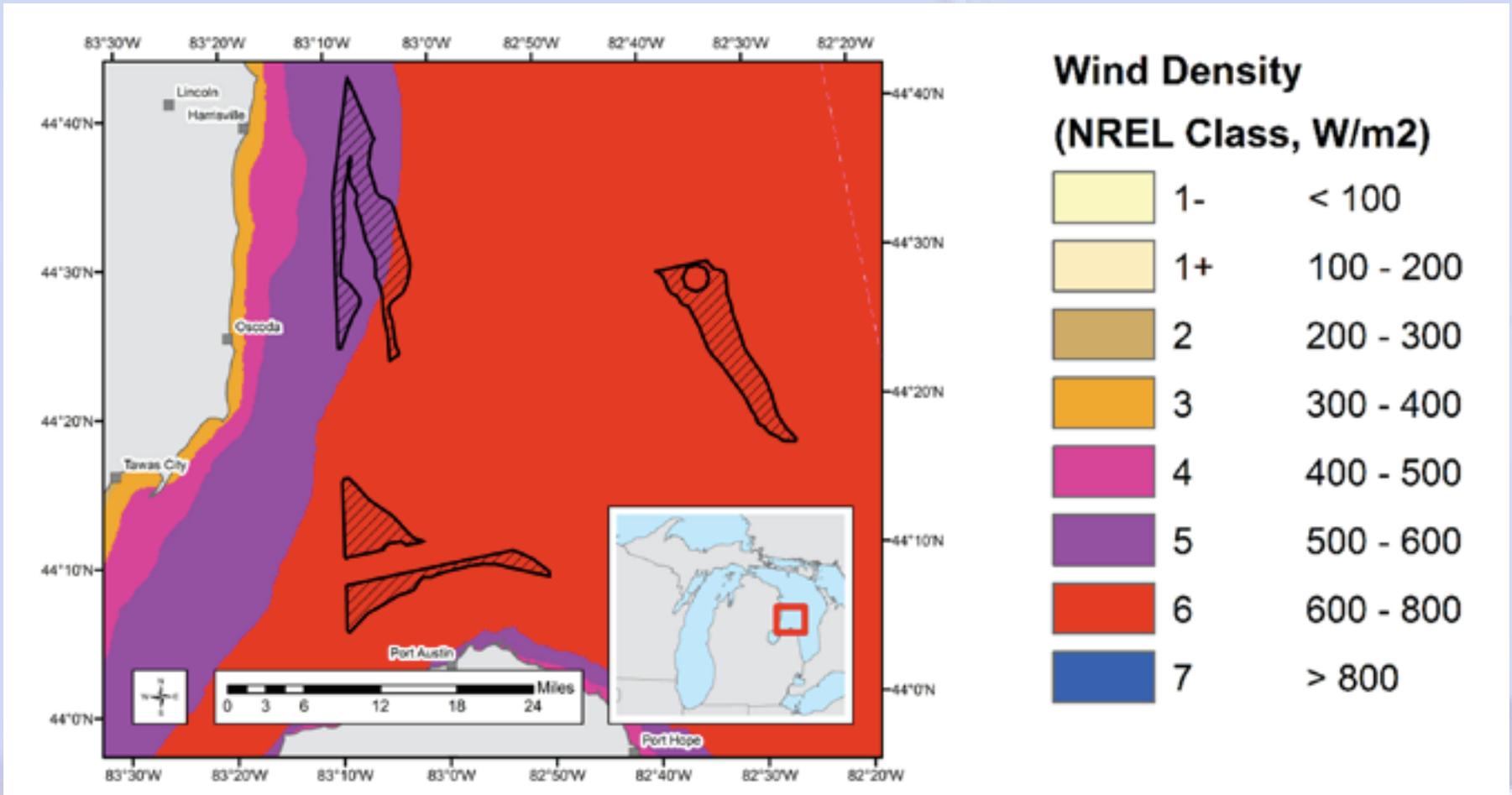
Delta County WRA



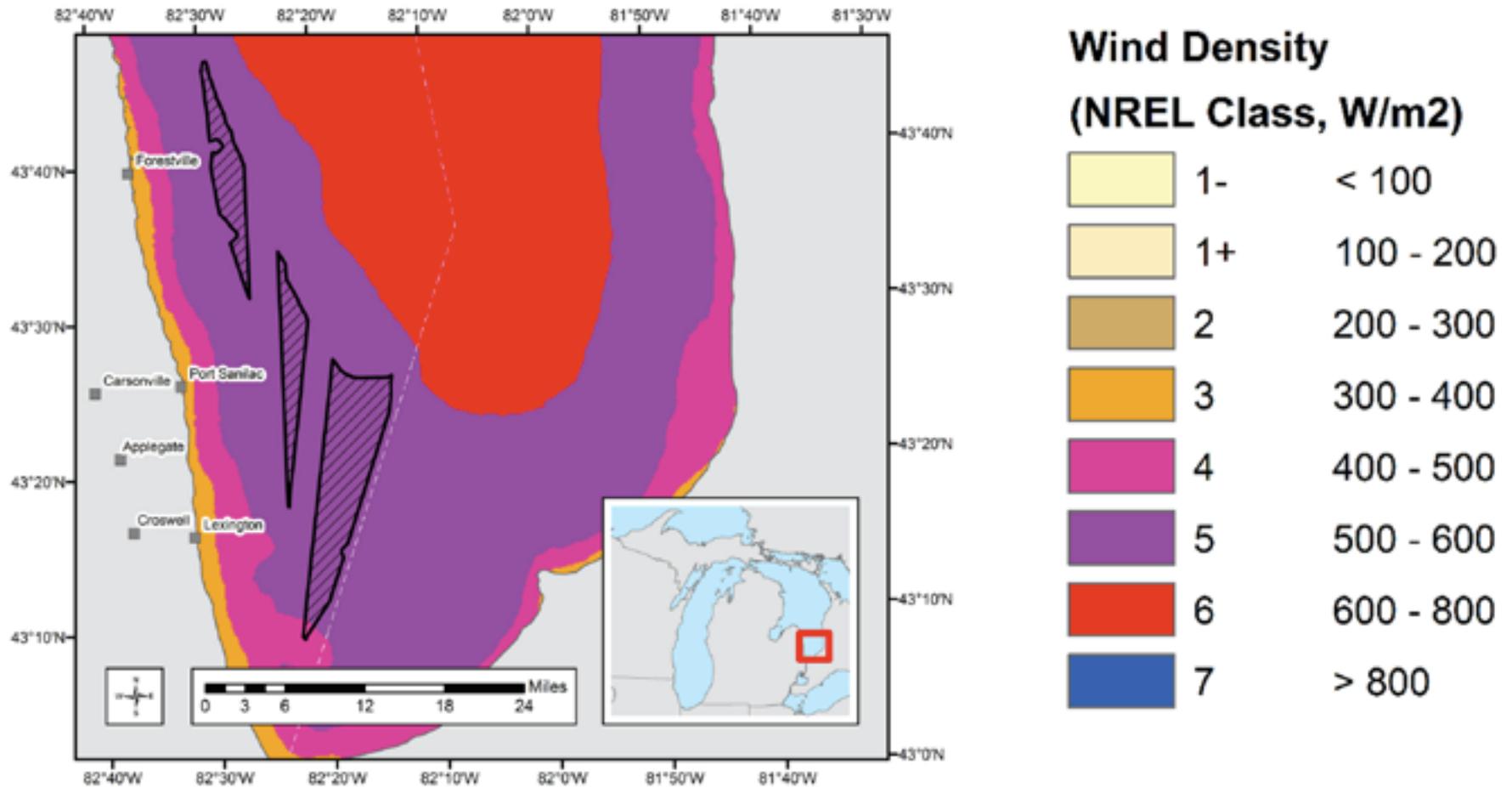
Central Superior WRA



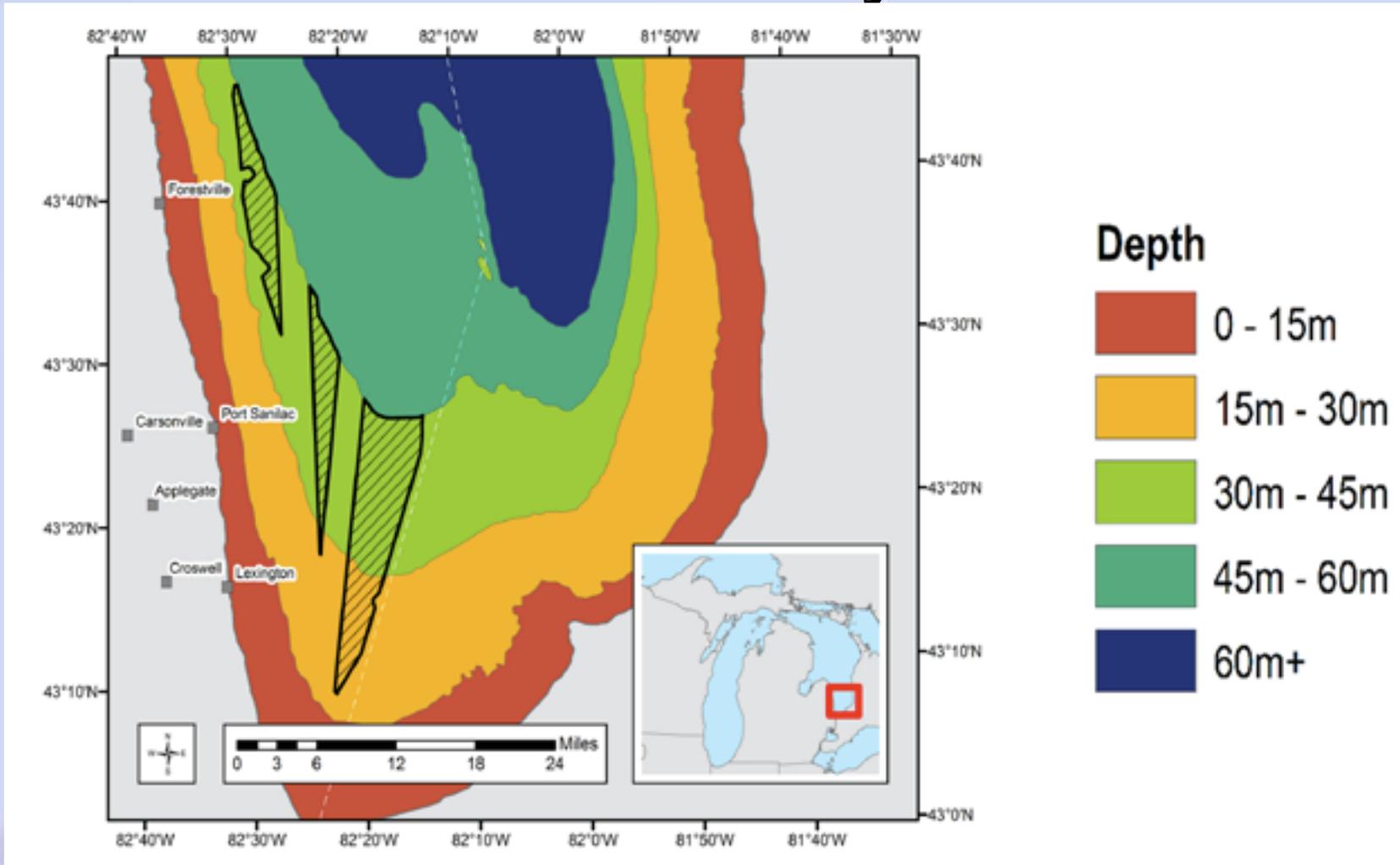
Central Huron WRA



Sanilac County WRA



Sanilac County WRA



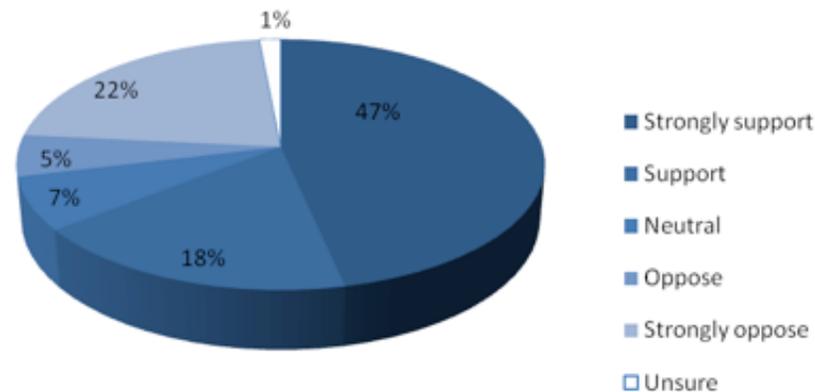
Council's Public Meetings

- Council hosted meetings in five communities to inform and get input from the public
 - March 25 in Saginaw, April 14 in Escanaba, May 4 in Muskegon, July in Grand Rapids and Dearborn



¿Public Acceptance!

Q4. To what extent do you support development of commercial wind farms offshore to help utilities meet the Renewable Portfolio Standard?



Answer Option	Number Answered	Percentage
1. Strongly support	157	47%
2. Support	60	18%
3. Neutral	23	7%
4. Oppose	18	5%
5. Strongly oppose	74	22%
6. Unsure	5	1%

Q5. Suppose that instead of the offshore wind project in Photo A, a natural gas power plant was proposed near the shoreline. Would you be more or less likely to support this than a wind project?

Council Input on Legislation: Overview

- A process for **identifying best lease sites**
- Statement that Part 325, Great Lakes Submerged Lands Act would not regulate offshore wind energy facilities
- An **auction process** for assigning development rights to the identified sites
- A **detailed set of requirements** for development plans:
 - Site assessment
 - Development
 - Construction
 - Operation
 - Decommissioning
- A process for **public involvement**

Recent Trends

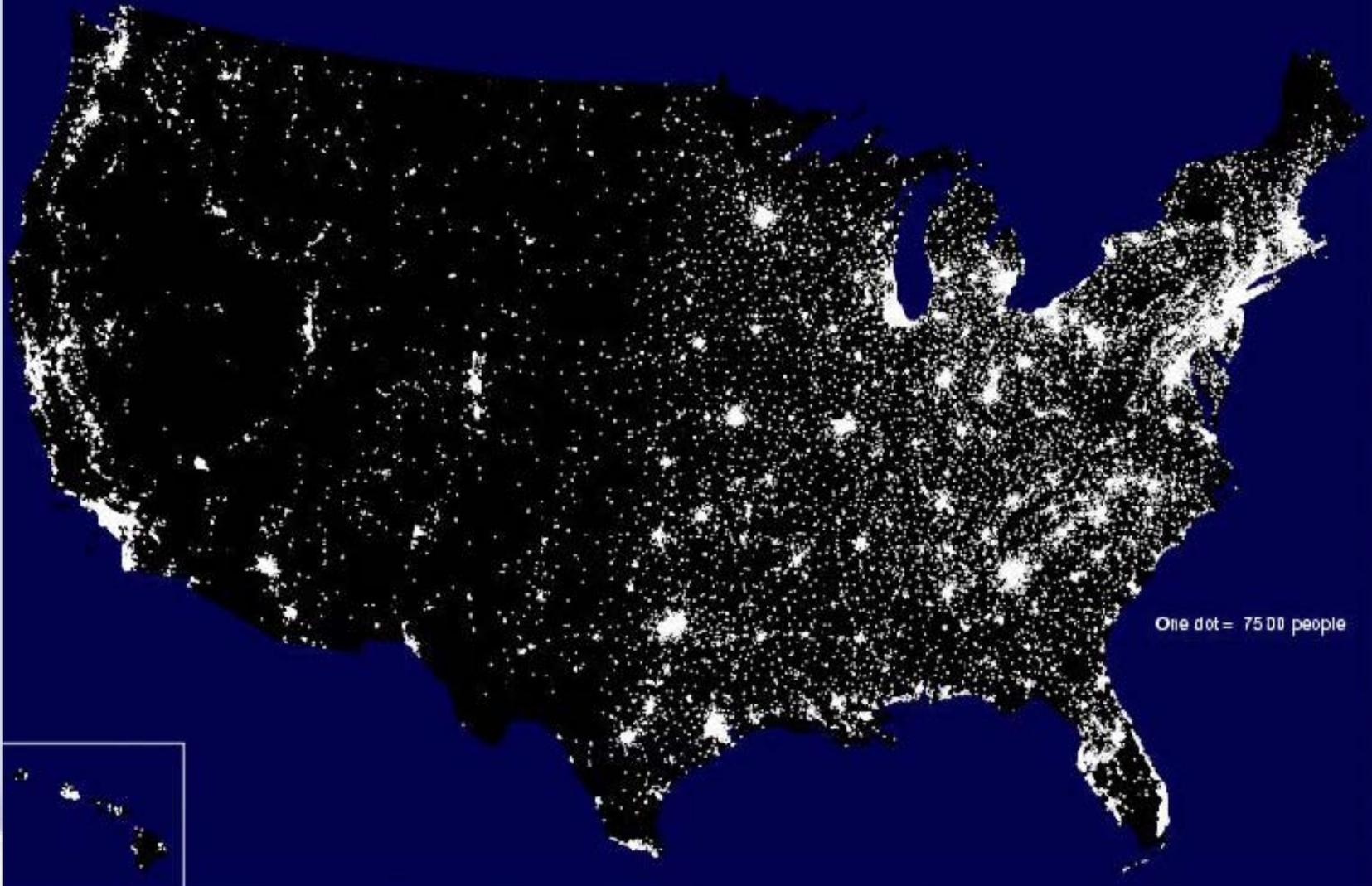
- Proposed policies to restrict carbon emissions and/or create a national renewable energy standard are dead
- Investors are interested in renewable energy, including offshore wind
- Continuing increase in offshore wind energy development in Europe, and the Chinese are moving billions into it
- No offshore wind systems installed in US but considerable interest, particularly along the East Coast
- Several Great Lakes states (e.g., WI, NY, OH, and MI) and Ontario are moving forward with planning and policy



Moving Forward

- Council provided input on legislation to House and Senate (available on council website)
- After bills introduced, legislative hearings will be held to accept input
- After legislation is in place, it will take three to five years to work through the site assessment and state and federal permitting processes

2000 POPULATION DISTRIBUTION IN THE UNITED STATES



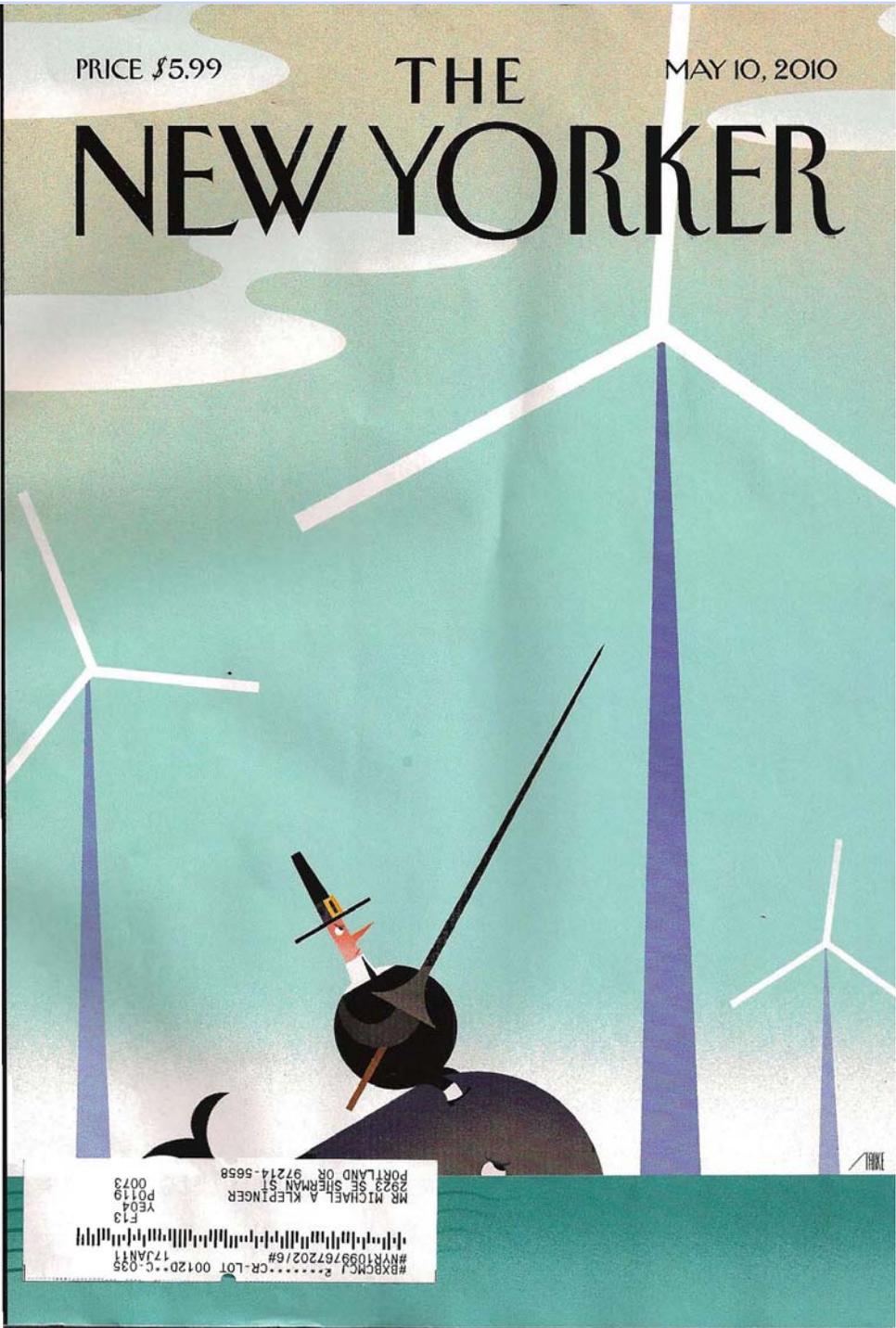


Michael Klepinger
Mikinetics Consulting, LLC.
mikinetics@gmail.com
517.676.9858

PRICE \$5.99

THE NEW YORKER

MAY 10, 2010



#BXGMC1 *****CR-L0T 00120-C-035
#RFR109767202/6# 17JAN11
F13
YE04
P019
MR MICHAEL A KLEPINGER
2923 SE SHERMAN ST
PORTLAND OR 97214-5658
0073