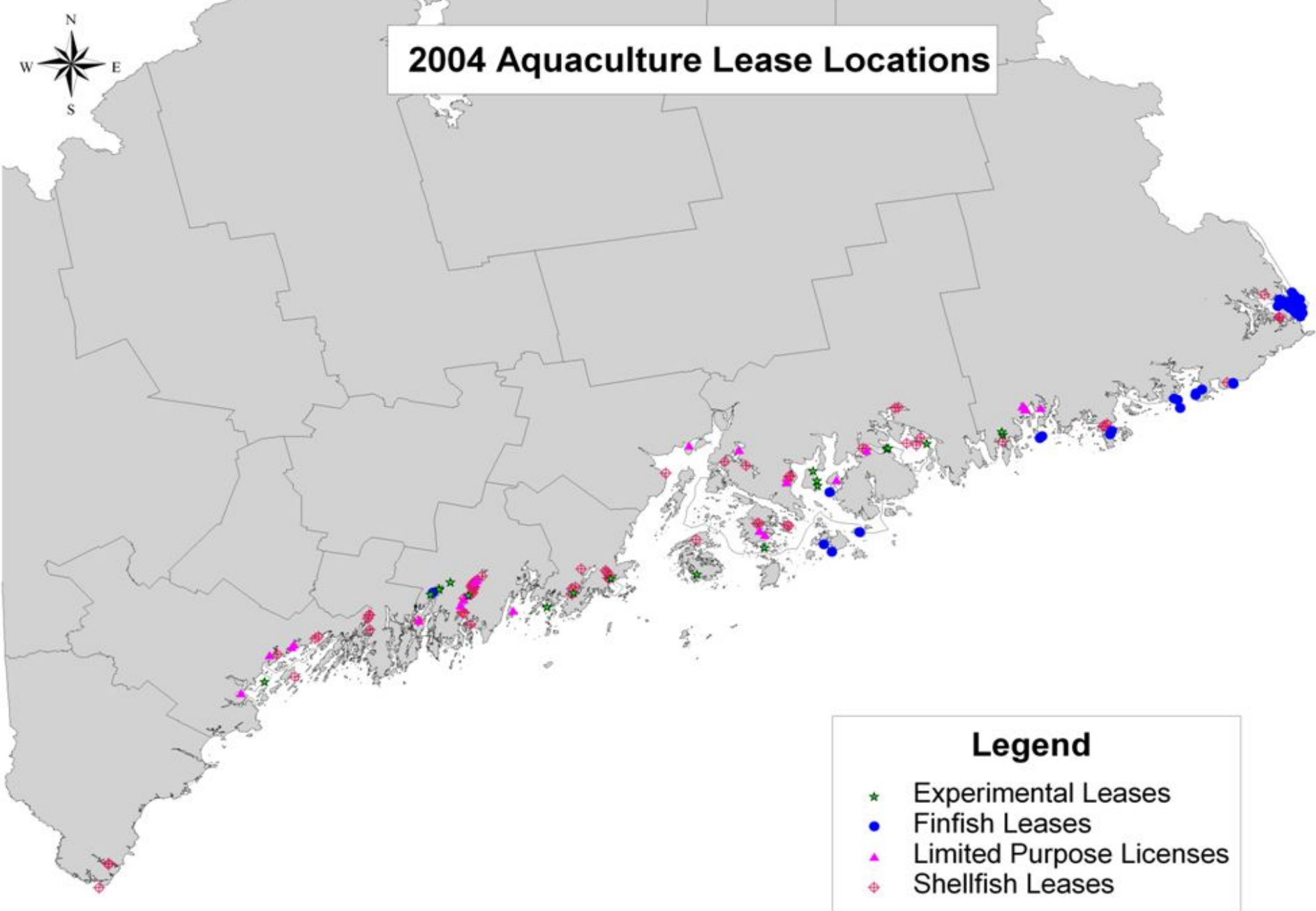




# Aquaculture Regulation: The Maine Experience

Samantha Horn Olsen  
Aquaculture Policy Coordinator  
Maine Department of Marine Resources

# 2004 Aquaculture Lease Locations



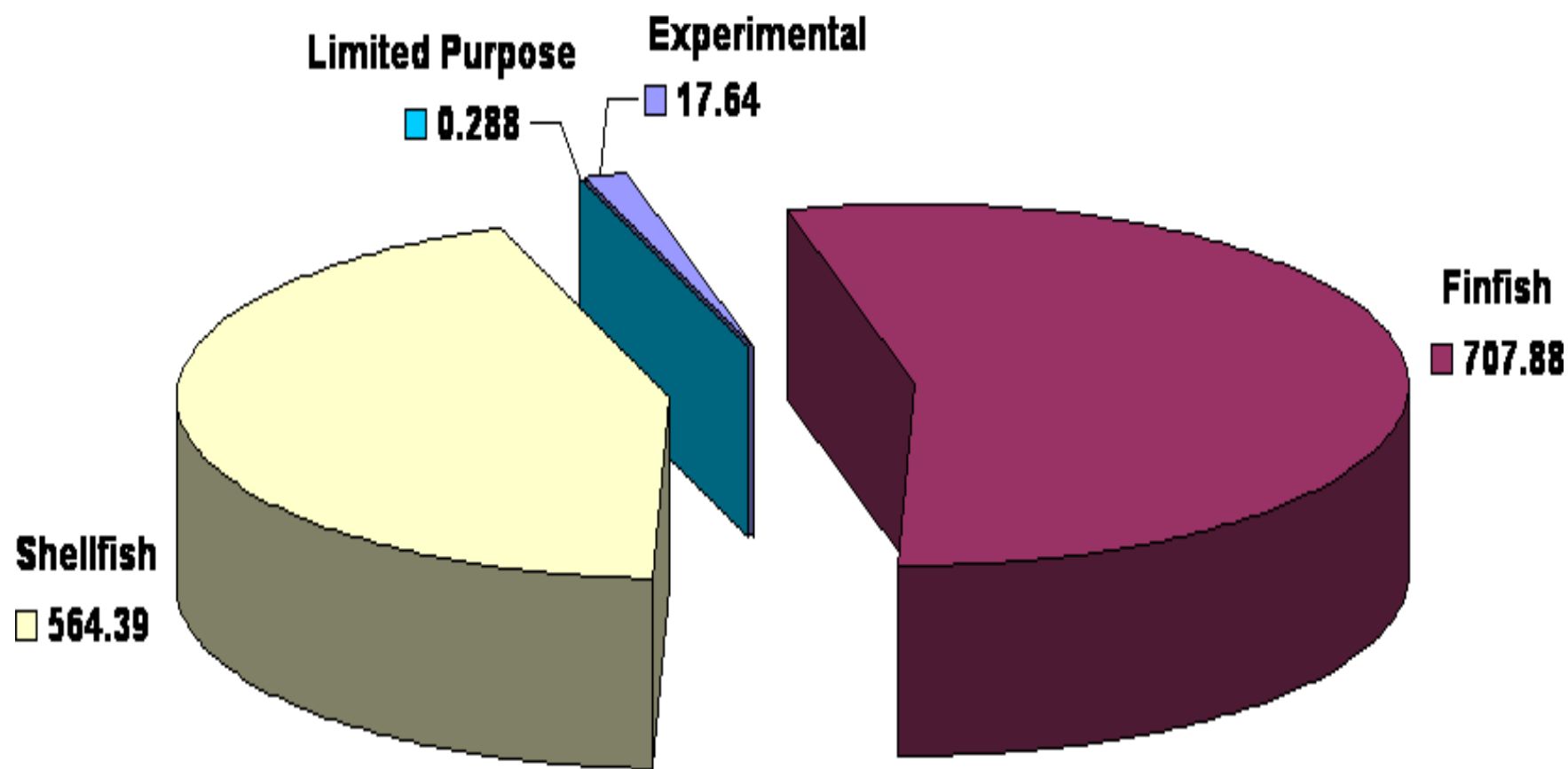
## Legend

- ★ Experimental Leases
- Finfish Leases
- ▲ Limited Purpose Licenses
- ◆ Shellfish Leases

# DMR is Lead Agency for Leases

- DMR accepts a coordinated application and conducts a public process to consider potential leases
- Applications are also forwarded to other agencies such as DEP (NPDES permit), ACOE, USCG, IF&W

# Acres of Maine Waters Leased for Aquaculture Categorized by Lease Type



# Pens & equipment



Salmon cages. (MAIC photo)

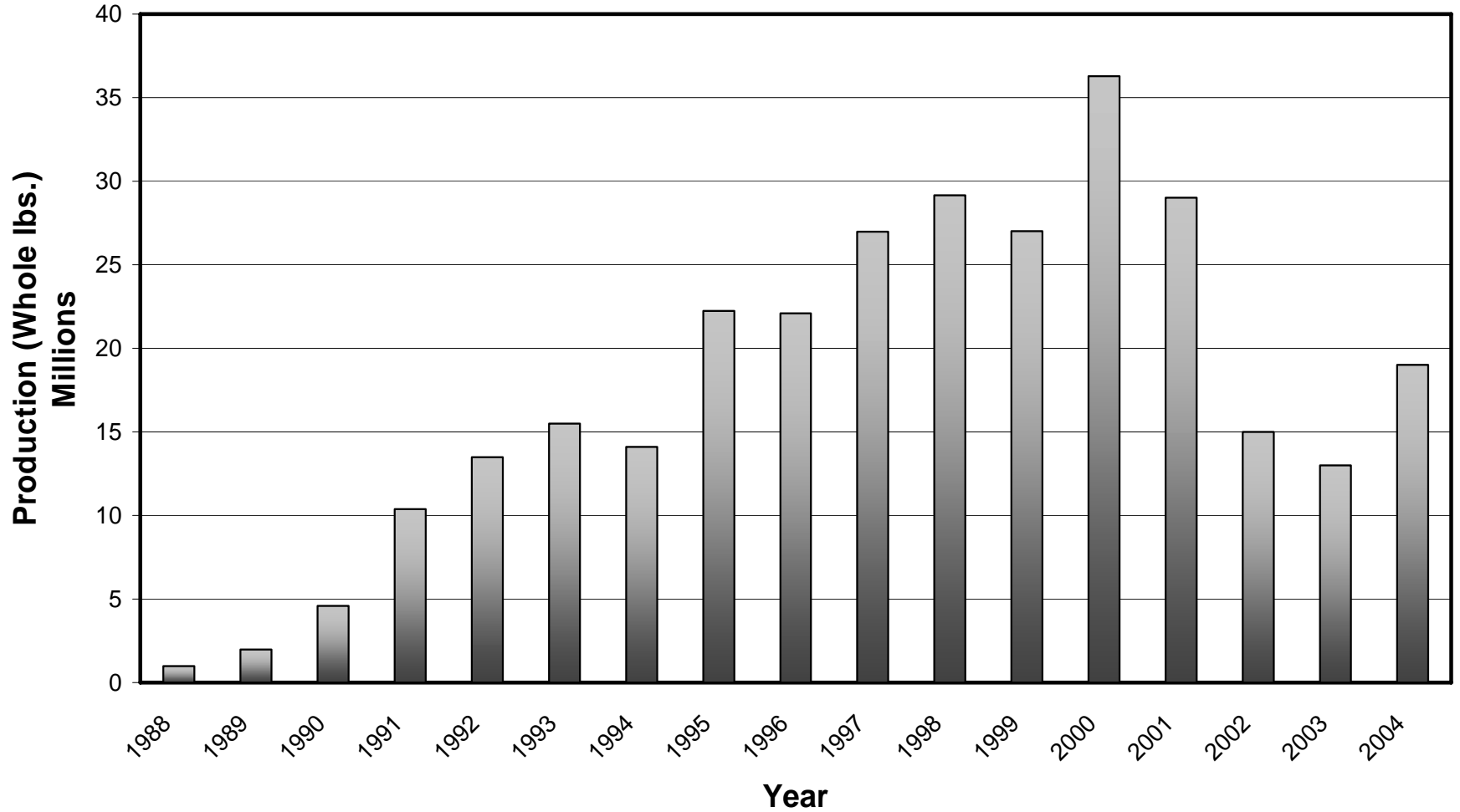
Steel cages – 12 m on a side  
12 to 40 on a site



Polar circles – 70 to 100 m circum.  
12 to 30 on a site

Leases range in size from 15 to 40 acres

# Atlantic Salmon Production 1988-2004 in Pounds Whole Weight











Sea ray  
17  
MICOLL

MERCURY




02 6 20

# Shellfish Production Annually

- Approximately 1 million lbs Blue Mussels
- Approximately 300,000-500,000 lbs American Oysters
- Smaller amounts of Quahogs and Surf Clams. (Urchins expected shortly)

# Governor's Task Force

- "Thoughtful Citizens"
- 6 month process
- Made recommendations for changes, but did not fundamentally alter existing structure
- Majority of Ecological Health recommendations were for research or for agency coordination and review of permit standards as performance data becomes available



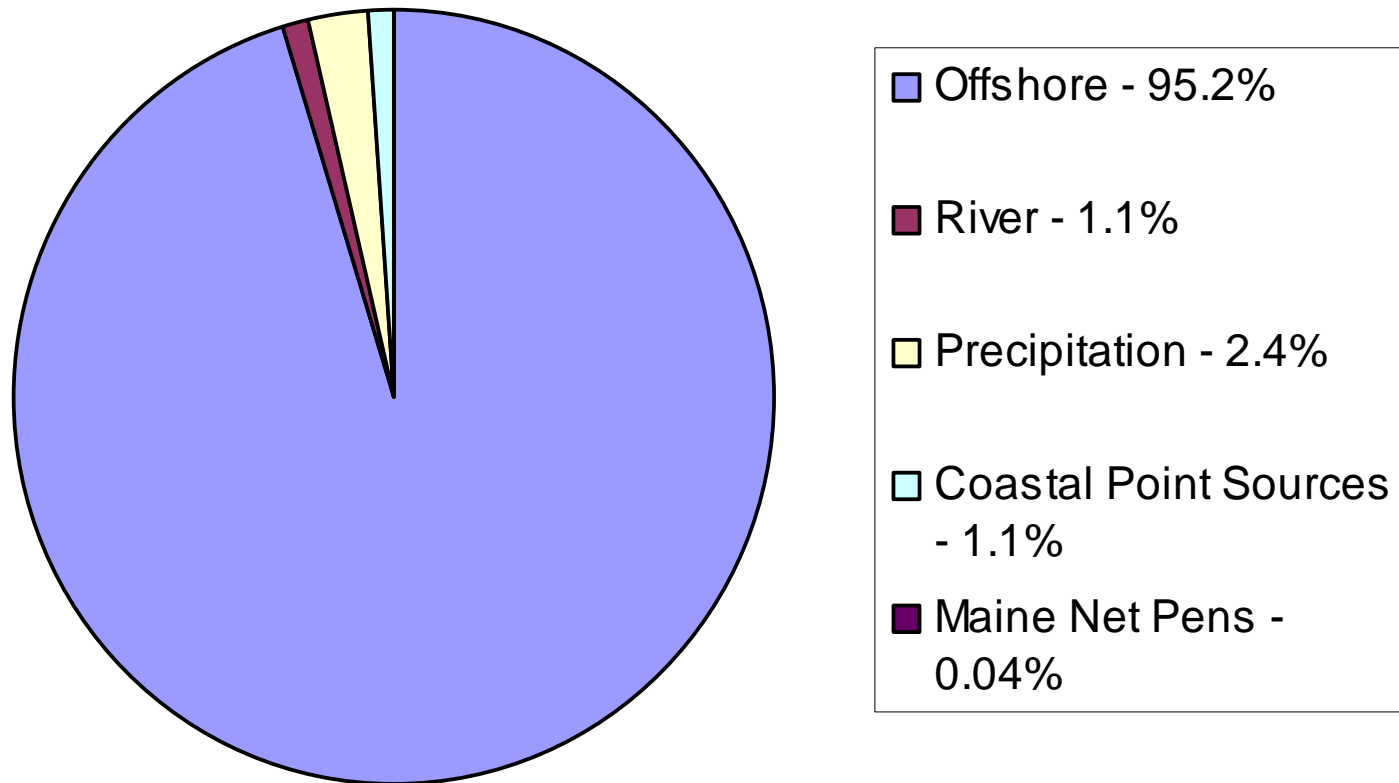
# Potential Hurdles for Offshore Aquaculture

# Environmental Monitoring

- What to monitor, what to model at offshore depths?
- Outcomes are more important than universal numeric standards (e.g. Redox/Sulfide issues)
- Maine's experience has been that flexible, outcome-based standards work better than rigid "triggers" at providing meaningful protection, but this requires constant scientific collaboration and dialog

Myth: Aquaculture universally contributes so much nitrogen to the Gulf of Maine that it upsets the balance of nutrients

Reality: Modeling and monitoring local effects is important, but there is no need to create elaborate standards for all farms



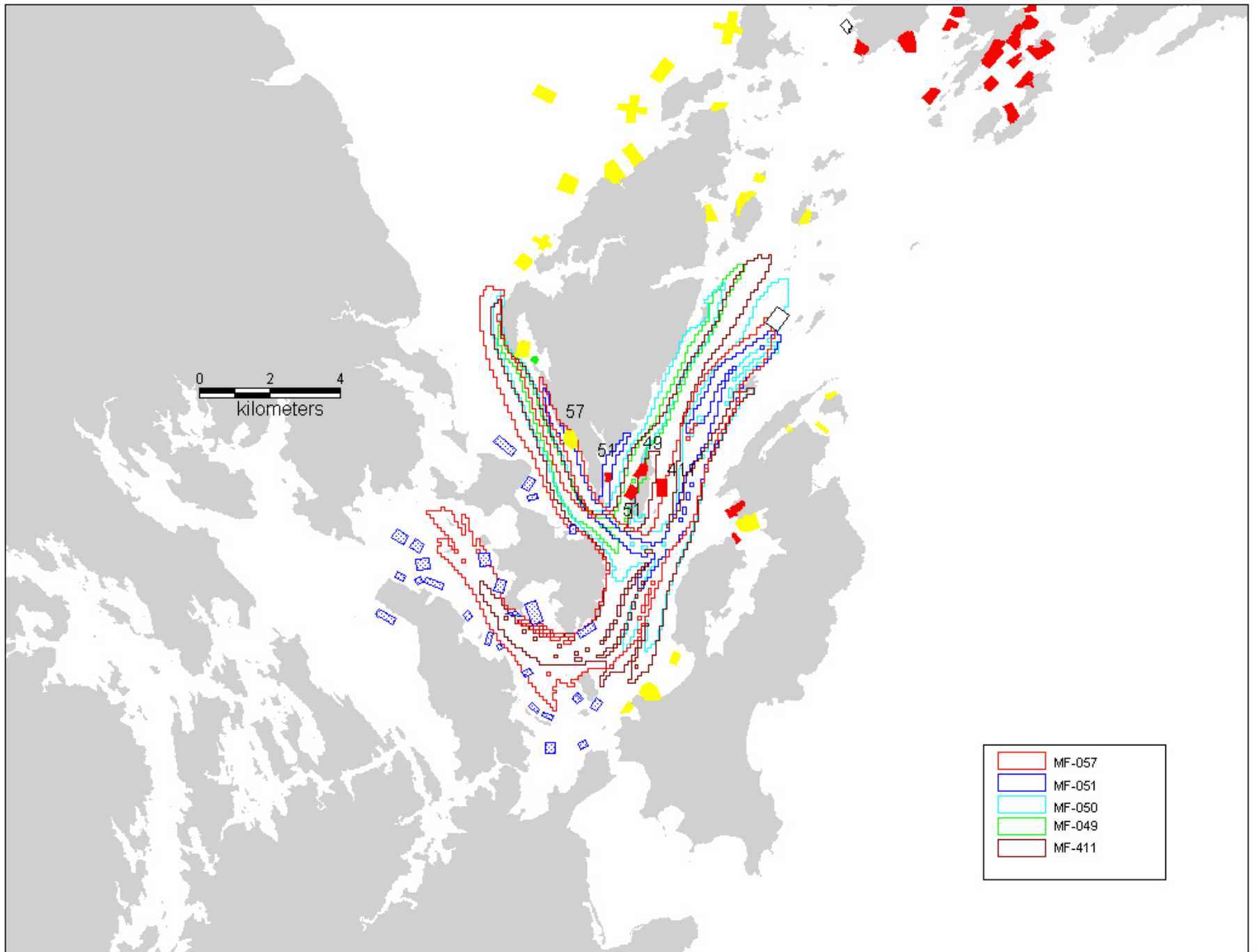
# Leasing Coordination

- Clear criteria, consistently and thoughtfully applied, with enough *flexibility* to allow creative problem solving
- True commitment by all regulators to work together and not strangle legitimate projects through indecision or delay
- Stakeholder involvement in a clear, consistent format that is accessible and efficient for the average person



# Fish Health

- Common and effective standards across borders is critical, but often hard to accomplish and sustain
- Standards should be based on level of risk and likely consequences
- Example – ISA in Maine/ NB (testing, sea lice counts, vessel permits)



# Maine “Lessons Learned”

- Safeguards that allow progress with course corrections as necessary (flexible, outcome-based)
- Multi-agency (including state) review should be *timely, coordinated*, and based on *criteria* that are clear and evaluate *local circumstances*.

# “Lessons Learned”

- Aquaculture policy needs to be clear at all agencies and staff levels
- State programs are very different from one to another. Standards need to respect local and regional differences while still insisting on coordination.

Samantha D. Horn Olsen

Aquaculture Policy Coordinator

Maine Department of Marine Resources

21 State House Station

Augusta, ME 04333-0021

voice: (207) 624-6554

fax: (207) 624-6024

[samantha.horn-olsen@maine.gov](mailto:samantha.horn-olsen@maine.gov)

# Favorite Myths

- Leases sited regardless of environment or community
  - Statutory Leasing Criteria: No **unreasonable interference** with
    - Ingress & egress of riparians
    - Navigation
    - Fishing & other uses of the area
    - Significant wildlife habitat, marine habitat, ability of the lease site and surrounding marine and upland areas to support existing ecologically significant flora and fauna
    - Public use or enjoyment within 1,000 feet of a government owned beach, park or docking facility or certain government owned conserved lands
    - Takes into account number and density of leases in an area
    - Must be an available source of organisms to culture
    - The lease will not result in unreasonable impact from noise or light at the boundaries of the lease site
    - Lease must be in compliance with visual impact criteria adopted by the commissioner relating to color, height, shape and mass.