SUPPORT for DEVELOPMENT of a

STANDARDIZED BASIN WIDE JUVENILE INDEX SURVEY

Great Lakes / St. Lawrence Jurisdictional Fishery Agencies

- 2 Provinces
- 8 States
- 34 U.S. Tribes
- 2 Federal governments

46 agencies

150+ First Nations and Aboriginal communities – few which currently have fishery programs

Management Plans

- About 15 lake sturgeon plans in existence or development that address Great Lakes waters
- Many plans address sturgeon populations in a portion of a lake or single population
- Lakewide plans in place or being developed for each Great Lake
- No standardized surveys exist within or among lake basins

Lake Superior
Lake Trout Management

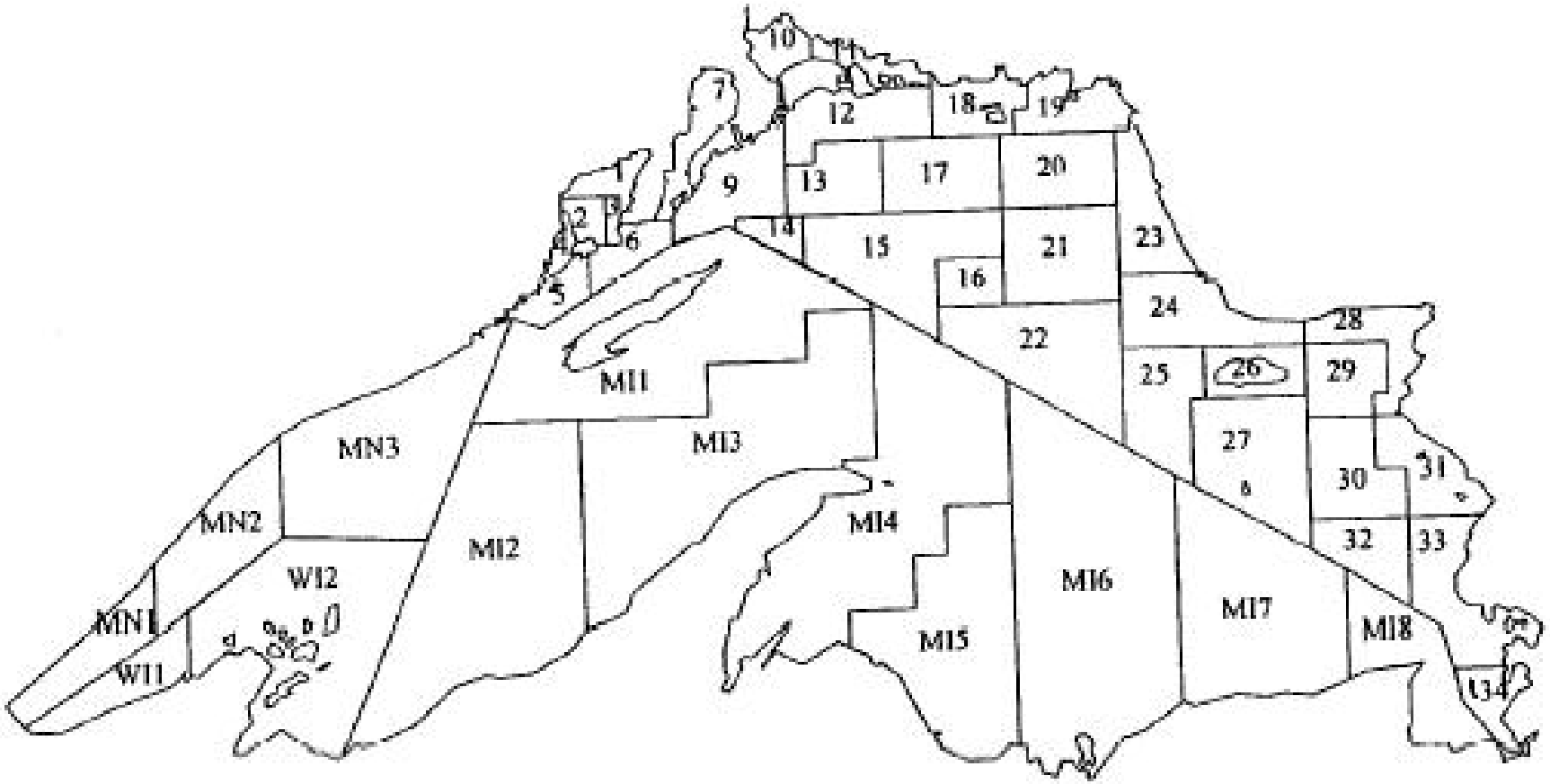


Fig 1. Lake Superior lake trout-management areas.

Standardized Spring Lake Trout Surveys

- Provide a mechanism to consistently evaluate rehabilitation progress lakewide
  - Targets set for catch per effort of wild fish within a management unit
  - Changes in abundance and population characteristics over time
  - Compare sea lamprey wounding rates
  - Data supports harvest allocation efforts

Lake Sturgeon Management

- 2005 OMNR Workshop

Develop a framework to monitor the status of lake sturgeon in Ontario waters

  - For the most part, lake sturgeon management has been dictated by local needs…

  - Current assessment and management approach has resulted in an incomplete understanding of the status of lake sturgeon populations across Ontario

Rationale for Development

- Depleted populations occur basin wide
- Widespread interest in rehabilitating populations
- Currently lack ability to adequately describe and compare lake sturgeon population status and trends
  - With and among populations
  - Within each lake
  - Throughout the GL basin
- Standardized basinwide index survey could provide comparable fishery data useful for evaluation of rehabilitation progress, status synthesis, population trends, and management purposes
  - (ex: standardized spring lake trout surveys in L.S.)

Questions to be Answered

- What is the population status in this river?
- Is recruitment occuring and at what level?
- How have lake sturgeon populations changed through time?
- What factors are responsible for the change?
- Is the change specific to this population, or is it common among other populations in the region or GL?
- Is the change outside of what would be considered normal for GL lake sturgeon?

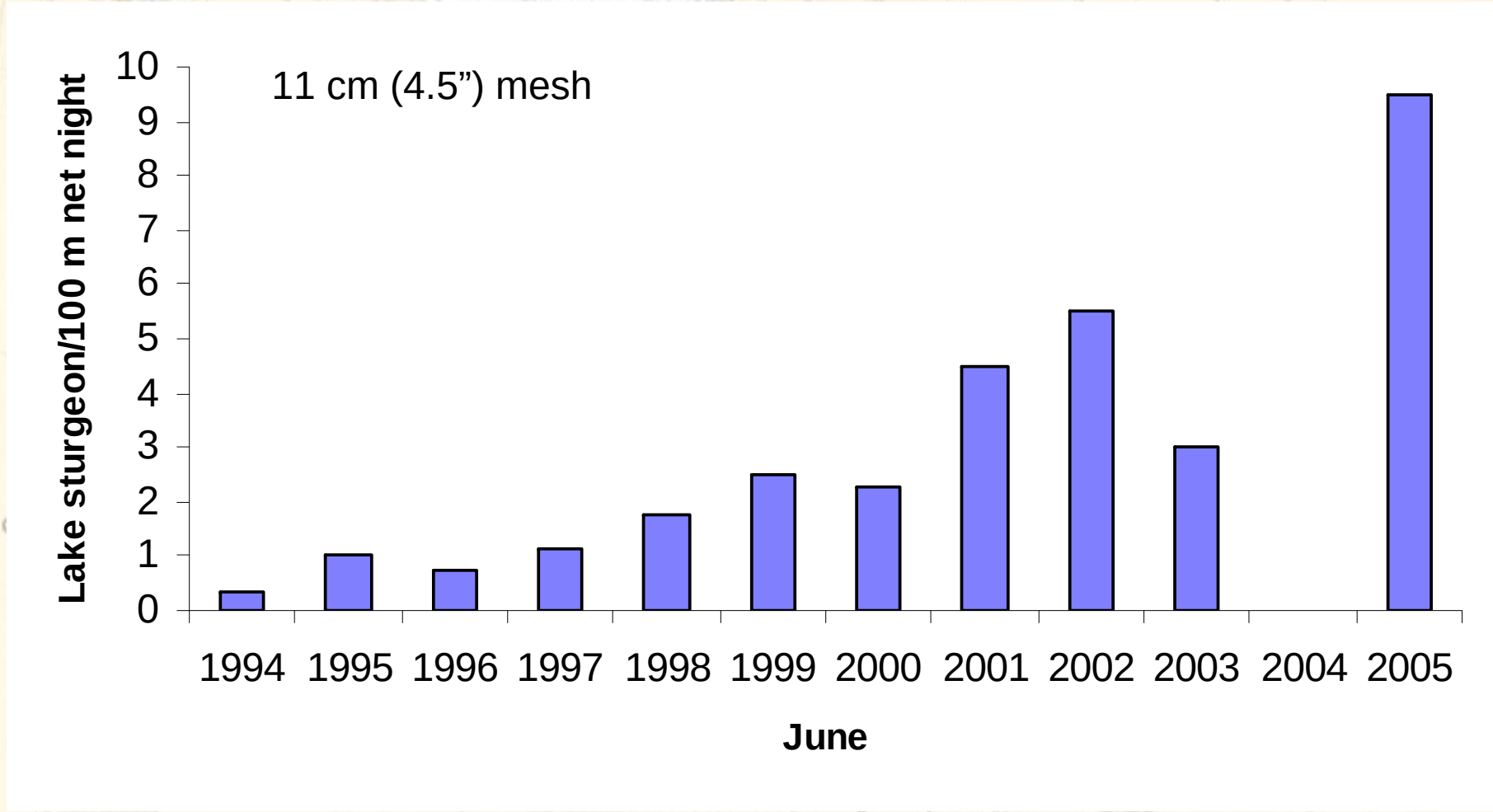
Recommendations from 2005 Ontario Workshop

- Monitor juvenile / sub-adult life stage
  - Juvenile 3.5 - 60 cm in length (ages 1– 5)
  - Sub-adult 60 - 100 cm in length (ages 5 – 15)

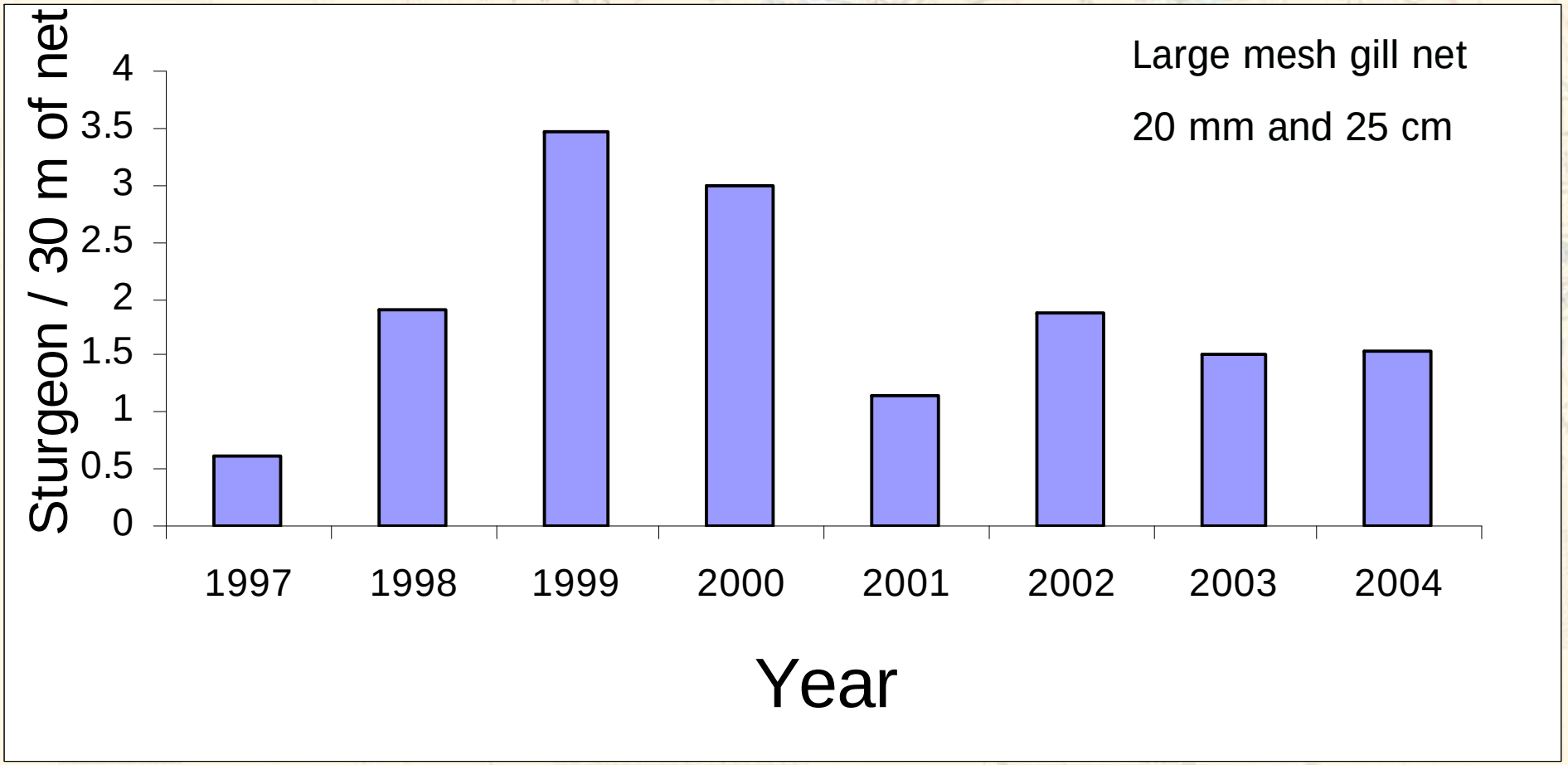
- Indicator of recruitment and future population status

- Identify year class strength Life stages readily captured

CPUE of Juvenile Sturgeon in Lake Superior at the Bad River



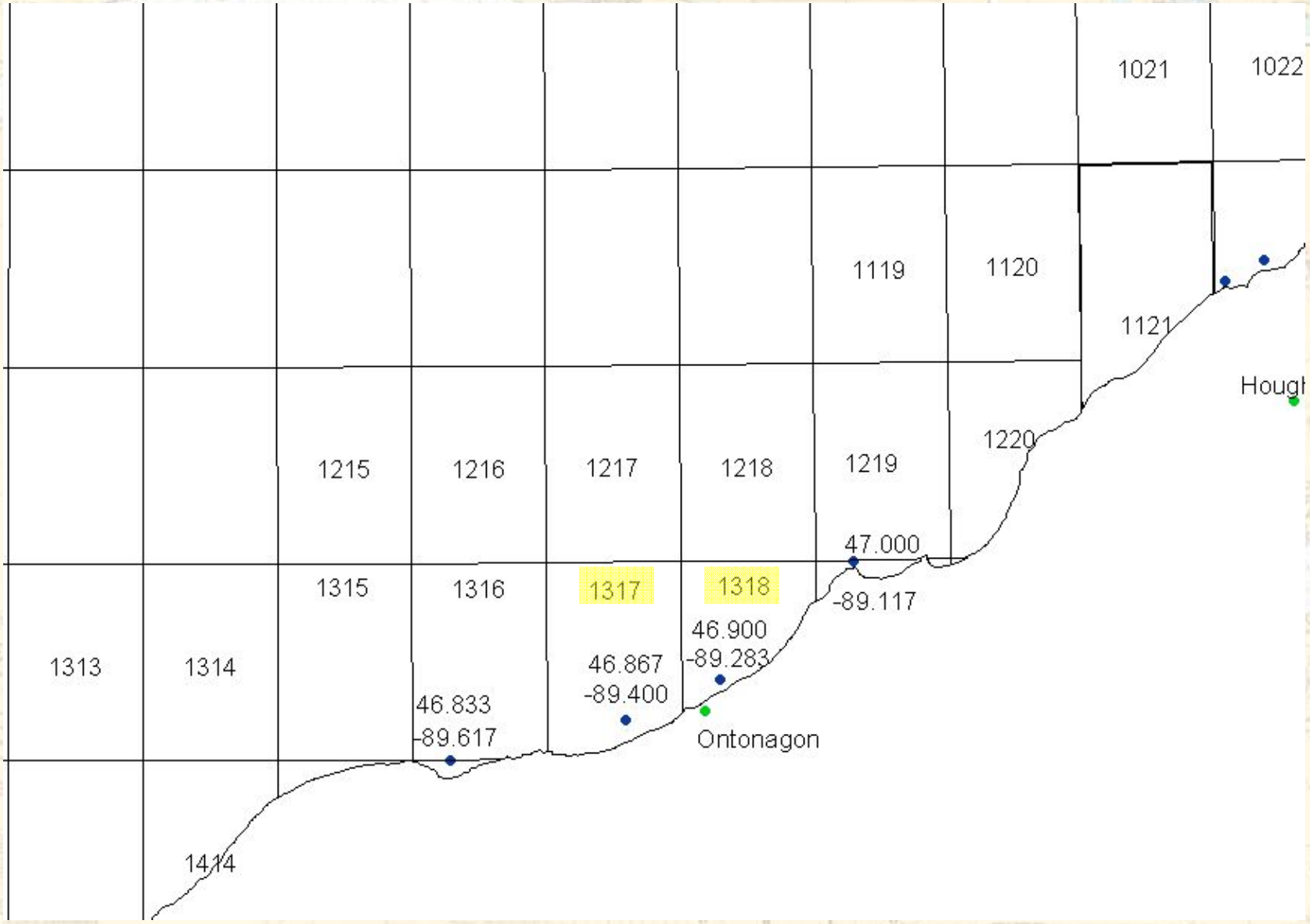
CPUE in the Bad and White rivers Spawning Run



Proposed Standardized Survey Structure

- Target areas of concentration – known or suspected spawning populations
- Work in stable environment – nearshore waters
- Standardize
  - Type and amount of gear
  - Season and deployment technique
  - Sampling strategy

Survey Design



Proposed Protocol

Criteria	Target
Season	• Fall @ H_2O temps. btwn 15 and 10 ^oC
Set Duration	• 24 hour (12 hour if non-targets mortality is a concern)
Gear	• 200 - 1000 feet of 4.5 inch mesh (61 – 305 m of 113 mm)
Orientation	• Perpendicular to shoreline contour
Depth	• 15 – 45 feet (5 – 15 m)

Proposed Protocol

Criteria	Target
Spatial Stratification	• Utilize Lake Superior statistical districts –10 minute coordinates of latitude • Extend from shore out 1 mile (1.6 km) • Area about 5,500 hectares • 8 – 36 net sets throughout area – 7,200 feet

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