FROM SCIENCE TO REGS -

How science is shaping fishing regulations and addressing fisheries concerns

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Ontario

Presentation Outline

Introduction/Background:

- MNRF's fisheries management role and mandate
- Ecological Framework for Fisheries Management in Ontario
    - Landscape (Zone) Level Management
- Main scientific fisheries data collection program (BsM)

Science/Research to Regs:

- Scientific Data collected (e.g., Walleye Management):
    - Walleye Management Strategy (and Fishing Regulations)
- Applied Research (e.g. Bass Management):
    - Bass Management Strategy (and Fishing Regulations)
- What other fisheries science data are we also currently collecting?

Introduction/Background

MNRF's Fisheries Management Role and Mandate:

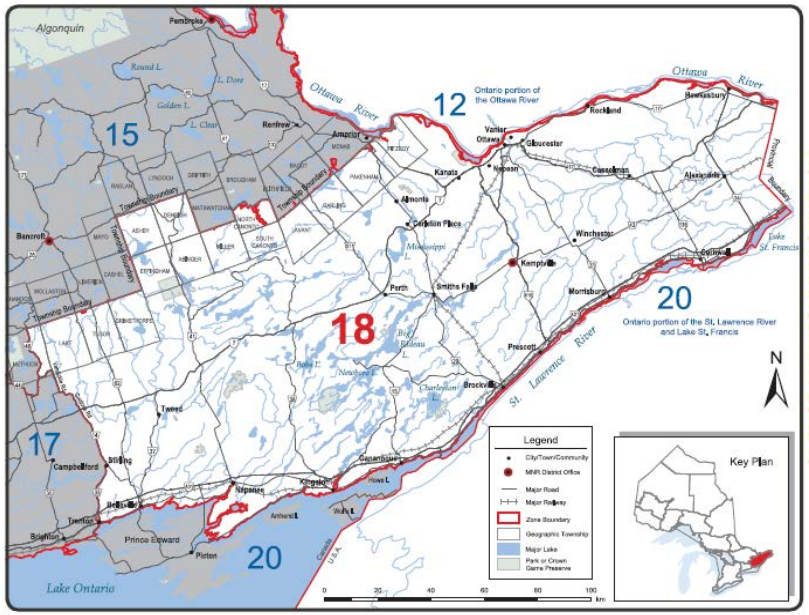
- Fisheries Management Mandate: Canada Constitution Act
  - Conduct fisheries assessments (District level) and long-term monitoring (Provincial level) to collect scientific fisheries data for analysis
  - Informs Management Strategies and Actions - e.g., Changes to Recreational Fishing Regulation (OFR's) under the:
    - Federal Fisheries Act
    - Provincial Fish and Wildlife Conservation Act
- Fish Habitat:
  - MNRF identifies critical fish habitats
  - We support fish habitat rehabilitation
  - Fish habitat protection mandate: Fisheries and Oceans Canada (DFO), under the Federal Fisheries Act.

Introduction/Background contn'd

Ecological Framework for Fisheries Management in Ontario (2007):

- 36 old 'Fishing Divisions' were converted, with boundaries redelineated to 20 'Fisheries Management Zones' (FMZ)
- Focus is now on managing and monitoring fisheries at the broad, landscape (zone) level, as opposed to individual lake (waterbody) management
- Focus on enhanced stewardship of the various fisheries and the creation of FMZ-specific Fisheries Advisory Councils
- Recreational Fishing Regulations are also being streamlined and simplified as part of this framework.
- Adaptive Fisheries Management Approach

Local FMZ's (12, 18 and 20):



How Science is shaping fishing regulations.

Ontario

Introduction/Background contn'd

Landscape (Zone) Level Management:

- Management is done on a fish species-specific basis, for the entire zone (e.g., one big lake).
- Priority species:
  - Walleye
  - Lake Trout
- Other fish species are managed with priority sport fish species in mind, again, at the zone level!
- Recognition that some fish populations will improve, some may remain stable, and some may decline.

Broad-scale Monitoring (BsM):

- MNRF regularly monitors a sub-set of lakes in every FMZ on a 5-year cycle, using gill nets:
- The BsM assessment protocol targets:
  - Walleye, Lake Trout and Brook Trout
  - Snapshot of entire fish community
- All scientific fisheries data collected is compiled, combined and analyzed for the entire zone:
  - State of the Resource Reporting

From Science and Research to Regulations

Walleye Fisheries Management and Bass Fisheries Management in FMZ 18 – most recent regulatory changes.

From Science/Research to Regulations

Walleye Population Assessment, Modeling and Size Limit Regulations (FMZ 18):

- Assessments (FWIN, BsM):
  - Population structure (relative abundance, # of year classes, year class strength, population recruitment level and patterns, etc.)
  - Biological attribute data (mean age, mean size, maturity schedules, maximum life/size expectancy, growth rates, etc.)
  - Average fishing pressure (historical creel surveys, aerial flights – boat counts)
    - 60 rod hours per hectare
    - Mean harvest per rod hour
- Modeling: inputting various regulatory options (size restrictions, creel limits, seasons)
- Management Strategy (2013):
  - Same season and previously reduced creel limit: S-4 and C-2
  - Harvestable slot size (40-50 cm) incorporating male and female vulnerability
  - Female maturity < slot; all small and large fish protected

From Science/Research to Regulations

Bass Population Nesting Research and Season Regulation Change (FMZ 18):

- Local bass nesting research by Academia in Eastern Ontario:
  - Snorkeling Surveys
  - Earlier spawning (early May)
  - Larger fish spawn first, are the best reproducers (eggs, nest guarders), free swimming offspring leave nests in 5-6 weeks, by mid-June = Open season changed from the 4th to the 3rd Saturday in June
- Mostly Catch and Release fish species
- A level of successful reproduction and population recruitment every year
- Climate Change, earlier ice-outs, warmer springs expected to continue = earlier spawning…but this hasn't necessarily materialized over the last decade.
  - Adaptive Fisheries Management
  - But at the zone level, when managing primarily for other sport fish species…

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What other scientific fisheries data are we currently collecting (FMZ 18)?:

- Assessing riverine Walleye, Sauger (when present), Northern Pike and Yellow Perch Populations:
  - Primarily to determine the suitability of the Size Limit Restriction Regulation for riverine Walleye populations
  - Secondly, to inform future Northern Pike management strategies
- Conducting Stocked (PGT) Fisheries Assessments:
  - Major $$$ are invested into these fisheries
  - Are they serving their purposes?
  - Assessing different stocking approaches (larger size fish, different species, strains, etc.)
- Also assessing suitability of new waters to potentially stock as PGT Fisheries (Trout or Walleye): water quality sampling, fish community assessments

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Questions?