Green Bay & Lake Michigan Lake Whitefish Management

Green Bay, January 10, 2017
Green Bay DNR Service Center

Sturgeon Bay, January 11, 2017
Door County Government Building
Agenda/Schedule

6-7PM (First Hour)
• Introduction
• Summary of Public Comments
• Summary of Biological Information
• Open Questions and Discussion

7-8PM (Second Hour)
• Facilitated Discussion (Specific Topics)
  – Research, monitoring, data gathering
  – Potential compromises and solutions

*Post-meeting Online Survey / Comment Period
Why are We Here?

- Whitefish populations have changed
  - Less whitefish in Lake Michigan
  - Low recruitment in Lake Michigan
  - More whitefish in Green Bay
  - High recruitment in Green Bay
  - Recolonizing spawning areas in Green Bay

- Whitefish fisheries have changed
  - Zone 2 commercial catches are lower
  - Zone 1 (Lower Green Bay) catches are higher
  - New recreational fishery in Green Bay
Management Goals

• Add additional protection to Lake Whitefish on northern Lake Michigan spawning grounds (North-Moonlight Bay).

• Modify the commercial Lake Whitefish quota system to better reflect current Lake Whitefish distribution and abundance.
Time Table of Public Involvement

- Issues have been discussed with LMCFB, LM Fisheries Forum, and other stakeholders for last couple of years.
- Scope statement approved by Governor (May 19, 2015).
- Public meeting (May 12, 2016)
- Public comment period (May-June 30, 2016)
- Large amount of public feedback
Department Decisions

• We will **not** pursue rule changes at this time due to public feedback and concerns.

• We will work with stakeholders to gather more information, seek compromises / solutions, and develop a decision making process.

• Hence, we all are here today as part of this process
Stakeholder Concerns
(Changes in Zone Quotas)

From Commercial fishers, anglers, and others

• Increases in bycatch
• Impacts to G.B. whitefish population
• Need for additional research and monitoring
• Impacts to GB sport fishery
• Michigan harvest
• Increases in commercial nets in Zone 1
• Selling of bycatch
• General opposition to commercial fishing
• Concerns about propriety
• Desire to harvest more fish where the fish are located
Who Commented?

• Commercial fishers (Zone 1, Zone 2 & Zone 3)
• Recreational anglers
• Guides
• Business owners
• Others who did not self-identify
• Conservation / sporting groups
Path Forward

Work with stakeholders to develop an information and decision making process:

- Decide what information **needs** to be collected
- Identify potential compromises and solutions
- Develop decision making process
- Collect information as needed (could be multi-year process)
- Decide path forward based on decision making process and new information gathered
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Some Background Information
Green Bay Whitefish Fishery

- Considerable changes in WF pop over the past 15-20 years
- Re-colonization of tributaries
  - And Green Bay proper?
- Strong recruitment events
  - 2015 strongest to date
- Changing fisheries
  - Increased commercial catches
  - Substantial recreational fishery
- Increased stock complexity
Green Bay Whitefish Sport Harvest

No. Whitefish Harvested Green Bay

<table>
<thead>
<tr>
<th>Year</th>
<th>Harvested (No.)</th>
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<tbody>
<tr>
<td>2007</td>
<td>1,559</td>
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<tr>
<td>2008</td>
<td>61,746</td>
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<tr>
<td>2009</td>
<td>54,226</td>
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<tr>
<td>2010</td>
<td>78,464</td>
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<tr>
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<td>190,175</td>
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<td>58,675</td>
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<td>2013</td>
<td>155,120</td>
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<tr>
<td>2014</td>
<td>117,241</td>
</tr>
<tr>
<td>2015</td>
<td>148,889</td>
</tr>
<tr>
<td>2016</td>
<td>129,886</td>
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</table>

Specific Harvest Rate (whitefish/hr)

<table>
<thead>
<tr>
<th>Year</th>
<th>Rate</th>
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<tbody>
<tr>
<td>2007</td>
<td>0.028</td>
</tr>
<tr>
<td>2008</td>
<td>0.489</td>
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<tr>
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<td>2013</td>
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<td>2014</td>
<td>0.494</td>
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<tr>
<td>2015</td>
<td>0.619</td>
</tr>
<tr>
<td>2016</td>
<td>0.610</td>
</tr>
</tbody>
</table>

Photo: Alexander’s Sport Fishing

Poor Ice
Tributary/Green Bay Spawning Whitefish

- **Menominee** sampled annually since 2009
  - Fox, Oconto, and Peshtigo since 2013

- **Tagging**
  - ~2800 tagged in Menominee, Fox, Peshtigo, Oconto in 2015/2016
  - Examine for straying between rivers, Green Bay, and Lake Michigan
  - Angler tag reports important

- **Green Bay spawning**
  - Information suggests spawning in Green Bay proper
  - Have found larval whitefish in Sturgeon Bay last two years
  - Found eggs (likely lake whitefish) in Sturgeon Bay November 2016
Lake Whitefish Commercial Fishery Zone 1 (~ 10%)
Lake Whitefish Commercial Fishery Zone 2 (~ 80%)

WM-3 = North/Moonlight Bay stock
Lake Whitefish Commercial Fishery Zone 3 (~ 10%)
History Mean Length and Age NMB Stock

*500 mm = ~19.7”
*550 mm = ~21.5”
Whitefish Research 2017

- Acoustic telemetry (UWSP)
  - Approx. 300 fish to be tagged
  - Acoustic tags 3 year capacity

- Otolith microchemistry (UWGB)
  - Identification of populations based on chemical signature of ear bone
  - Origin: Rivers, Green Bay, Lake Michigan
Summary

• We have concerns over the recent decline in the North/Moonlight Bay stock abundance due to poor recruitment over several years
• Green Bay populations display contrasting trends to Lake MI with consistently good recruitment and expanding populations
  – Strong recreational fishery
• Extensive stock mixing confounds management actions
• Current Wisconsin Zone Management and ITQ (Individual Transferable Quotas) system confounds management actions
• New research should provide valuable information
Walleye

- Spring Electroshocking
- Fall Electroshocking
  - YOY Production
- Creel Survey
Walleye Year Class Strength (YOY/Hour)

CPUE (#/Hour)

Year

Green Bay

Fox River

Green Bay Walleye Catch and Harvest, 1986-2015

- **Harvest**
- **Catch**
Green Bay Surveys for Yellow Perch

- Creel (Open Water & Ice)
- Spring fyke netting (Little Tail)
- Shoreline seining (15 sites)
- Trawling YOY surveys (76 ¼ mile drags)
- Commercial monitoring (9 samples between May 20-Nov.)
YOY Yellow Perch from summer trawling surveys
Great Lakes Spotted Muskellunge

- Fox River
- Spring Netting
- Fall Electroshock
- Stocking
  - Fingerling
  - Yearling
- Creel Survey
Great Lakes Spotted Musky Stocking History
Fox River and Green Bay

- **Number Stocked**
- **Year**
- **Yearlings**
- **Fingerlings**

- **BAFF**
Total Effort and Catch Rate

Year

CPUE

Total Effort

Total Directed Effort (Thousands of Hours)

Catch per Effort (Fish/Hour)


0.0000 0.0200 0.0400 0.0600 0.0800 0.1000 0.1200

0 10 20 30 40 50 60 70 80 90 100
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Facilitated Discussion

• Research, monitoring, data gathering
  – Current status
  – What additional information is desired?
  – What is realistic given limited resources?

• Compromises / potential solutions
  – What are some ideas for compromises?
  – Pro / cons of some ideas already presented
  – Are there other ideas?
Current / Past Monitoring & Research

- SCAA Modelling for Wisconsin whitefish population
- Spawning population surveys (L. Michigan, Green Bay tributaries)
- Tagging studies (past tributary study; current tributary study)
- Spring juvenile whitefish survey (gillnets)
- YOY whitefish survey (larval surveys, trawling, seining—new)
- Commercial catch reporting & commercial catch sampling
- Recreational catch monitoring (creel) & catch sampling
- Past genetic stock structure work
Developing Monitoring & Research

• Separating SCAA Modelling – Split model; G.B. and Lake Michigan – requested through public feedback
• UWSP whitefish telemetry study
• WDNR G.B. diet study
• UWGB larval whitefish study
• Identifying new spawning populations in Green Bay
• USFWS Green Bay acoustic surveys
• USFWS & DNR early summer seining (YOY surveys)
• Guide harvest reporting
Research, monitoring, data gathering

• Limited resources (financial, staff, etc.)

• Many responsibilities (walleye, musky, perch, trout/salmon management, stocking, habitat restoration, inland fisheries management, etc.)
Lake Michigan Staff

• ½ Biologist, ½ Technician (Peshtigo; other ½ time spent on inland work)
  – Brown trout; yellow perch; yellow perch commercial fisheries; northern pike; habitat, permit review, and other coastal issues on westshore

• ½ Biologist & ½ Technician (Green Bay; other ½ time spent on inland work)
  – Walleye; Musky; Fox River; habitat, permit review and other issues for Brown County

• 2 Biologist, 1 Boat Captain, 1 Supervisor, 1 Technician, 1 Commercial Fishing Specialist, 2 vacant Technician positions (Sturgeon Bay)
  – Smallmouth Bass, Whitefish, Commercial Fishing Management; Large vessel surveys; Chinook salmon management; steelhead management; habitat, permit reviews and other issues for Door, Kewaunee, and Manitowoc counties

• 1 Biologist, 1 Supervisor, 2 Technicians, 1 vacant Biologist, 1 Vacant Technician (Milwaukee)
  – Coho salmon, lake trout, Chinook salmon, southern trout and salmon management, southern tributary management; bloater chub, southern yellow perch, Milwaukee harbor, habitat, permit review, and other issues for southern LM counties
Sturgeon Bay Fisheries Field Schedule

- **January**
  - Brown Trout Stocking

- **February**
  - Steelhead Spawning

- **March**
  - Juv. Whitefish
  - Spring Lake Trout

- **April**
  - Nearshore Survey

- **May**
  - Commercial Monitors

- **June**
  - South Lake MI Yellow Perch

- **July**
  - Commercial Monitors

- **August**
  - Whitefish/Perch Trawl Asst.

- **September**
  - Whitefish Spawning Assess. Cardy’s Reef

- **October**
  - Whitefish Spawning Assess Tributaries

- **November**
  - South Lake MI Yellow Perch

- **December**
  - CWT Head Hunting

**Other Activities**

- Chinook Spawning
- Creel Survey
- Fall Lake Trout
Public Feedback – We need more information

- Concerned about sustainability of increased commercial harvest on whitefish
- Concerned about bycatch of walleye, perch and musky during commercial fishing operations.
- Concern about impact of walleyes, musky and other predators on whitefish
- Concerned about great conflict from increases in commercial fishing
Public Feedback – We need more information

• Concerned about sustainability of increased commercial harvest on whitefish
  • Any increase would be within allowable harvest; likely still much lower than total allowable harvest
  • SCAA model for all of Wisconsin; we are under some developments with this model
  • Survey data indicate very strong populations in Green Bay
  • Do you think there is important information missing or needed?

Discussion
Public Feedback – We need more information

• Concerned about bycatch of walleye, perch and musky during commercial fishing operations.

  • Limited information
  • No current monitoring for Green Bay

Discussion
Public Feedback – We need more information

• Concern about impact of walleyes, musky and other predators on whitefish
  • Have survey information on all these species
  • Do not have populations estimates on all species
  • Beginning a Green Bay diet study
  • Very big question to answer – would take substantial resources

Discussion
Public Feedback – We need more information

• Concerned about gear conflict from increases in commercial fishing
  • Have information on total effort by zone
  • Do not have specific information on gear locations and conflicts

Discussion
Potential Compromises / Solutions

Do you have any ideas?
Potential Compromises / Solutions

• Small incremental increases in Zone 1 (Lower Green Bay) quota.
  • Could increase quotas over a period of years
  • Could have feedback mechanism that would stop increase or revert increase
Potential Compromises / Solutions

• Increase quota only in the northern portion of Zone 1 (Sturgeon Bay north to Chambers Island).
Potential Compromises / Solutions

• Increase Zone 1 (Lower Green Bay) quota but the increase is only available to trapnet fishing.
Conclusion & Wrap-up

Thank you for your time tonight

- Please sign in with your contact information, if you have not done so already
- Please fill out online survey; I will send the link tomorrow via email
- If you do not do the internet, please fill out a paper copy (in front of room)
- Additional comments can be emailed or mailed to:
  
  David.Boyarski@wisconsin.gov

David Boyarski – WDNR
110 S. Neenah Ave.
Sturgeon Bay, WI  54235

Comments and Survey Due February 10, 2017