



*Action Plan to Meet
Conditions of Certification
& Assessment Team
Recommendations for the
Waterhen Lake Walleye and
Northern Pike Gillnet
Commercial Fishery*

*Prepared by:
Sustainable Development
Sustainable Fisheries Unit
Wildlife and Fisheries Branch
Date: January 10 2018*

Manitoba 

I. Introduction & Background Summary

On January 13th, 2014 Sustainable Development (Sustainable Fisheries Unit, Wildlife and Fisheries Branch), as the client, received a copy of the main assessment report, version 3 public comment draft report, which set out the results of the assessment and peer review of the Waterhen Lake Walleye and Northern Pike Gillnet Commercial Fishery against the Marine Stewardship Council (MSC) Principles and Criteria for Sustainable Fishing.

The MSC Guidelines to Certifiers specify that the unit of certification (UoC) is "*The fishery or fish stock (=biologically distinct unit) combined with the fishing method/gear and practice (=vessel(s) pursuing the fish of that stock) and management framework.*" Accordingly, the Waterhen Lake Walleye and Northern Pike Gillnet Commercial Fishery proposed for certification was defined according to the following two UoCs:

Species:	Walleye (<i>Sander vitreum</i>)
Geographical Area:	Waterhen Lake, Manitoba, Canada
Method of Capture:	Gillnet
Management System:	Government of Manitoba, Manitoba Conservation and Water Stewardship and Department of Fisheries and Oceans, Canada (DFO)
Client Group:	Sustainable Development (Sustainable Fisheries Unit, Wildlife and Fisheries Branch)

Species:	Northern Pike (<i>Esox lucius</i>)
Geographical Area:	Waterhen Lake, Manitoba, Canada
Method of Capture:	Gillnet
Management System:	Government of Manitoba, Manitoba Conservation and Water Stewardship and Department of Fisheries and Oceans, Canada (DFO)
Client Group:	Sustainable Development (Sustainable Fisheries Unit, Wildlife and Fisheries Branch)

It was determined by the assessment team that the Waterhen Lake Walleye and Northern Pike fishery attained a score of 80 or more against each of the MSC Principles and did not score less than 60 against any PIs.

It is therefore recommended by the assessment team that the Waterhen Lake Walleye and Northern Pike Gillnet Commercial Fishery be certified against the Marine Stewardship Council Principles and Criteria for Sustainable Fishing.

A summary of the overall scores is:

Principle	Walleye	Northern Pike
Principle 1 – Target Species	86.9	83.8
Principle 2 – Ecosystem	82.0	82.0
Principle 3 – Management System	88.6	88.6

The fishery attained a score of below 80 against three (3) PIs. This leads to conditions for continuing certification that the client is required to address. The conditions are applied to improve performance to at least the 80 score level within a defined period. As a standard condition of certification, Sustainable Development (Sustainable Fisheries Unit, Wildlife and Fisheries Branch), as the client, is required to develop an 'Action Plan' to address the conditions for continued certification.

II. Conditions for Continuing Certification & Corresponding Action Plan

Condition 1	Northern Pike: There is a robust and precautionary harvest strategy in place
Performance Indicator	<p>PI 1.2.1 The fishery has a research plan that addresses the information needs of management</p> <p><u>Issues at Scoring Guideline 80</u></p> <p>a. The harvest strategy is responsive to the state of the stock and the elements of the harvest strategy work together towards achieving management objectives reflected in the target and limit reference points.</p> <p>b. The harvest strategy may not have been fully tested but evidence exists that it is achieving its objectives.</p>
Score	70
Rationale	Issue b. As the harvest strategy has been designed to respond to walleye management it cannot be said that it is responsive to the state of the Northern Pike stock. The fishery does not meet Scoring Guideline 80.
Condition	By the fourth annual audit, the following Scoring Guideline 80 scoring issues must be met: The harvest strategy for Northern Pike is responsive to the state of the stock and the elements of the harvest strategy work together towards achieving management objectives reflected in the target and limit reference points.

<p>Milestones</p>	<p>At the first annual audit the client will present the Certification Assessment Body with evidence that there has been formal consideration of a harvest strategy for Northern Pike.</p> <p>At the second annual audit the client will present the Certification Assessment Body with evidence that the defined harvest strategy has been formally accepted by Manitoba Sustainable Development and data and analysis are underway to provide the basis for development of biological reference points to support the strategy.</p> <p>At the third annual audit the client will present the Certification Assessment Body with the analytically determined biological reference points.</p> <p>At the fourth annual audit the harvest strategy for Northern Pike will reflect findings on the stock status in relation to the defined reference points.</p>
<p>Client action plan</p>	<p>In the first year of certification, Sustainable Development (Sustainable Fisheries Unit, Wildlife and Fisheries Branch) will undertake the following activities:</p> <ul style="list-style-type: none"> • Expand the sample of Northern Pike to at least 200 specimens as part of the Branch’s on-going annual indexing program. • Start an annual commercial catch sampling program for Northern Pike as part of the Branch’s data collection activities in support of effective monitoring and analysis that is part of a formal harvest strategy for sustainable management of the Northern Pike fishery. • Discuss with the Waterhen Lake commercial fishers a precautionary approach to fishery management of Northern Pike. <p>In the second year of certification, Sustainable Development (Sustainable Fisheries Unit, Wildlife and Fisheries Branch) will draft a harvest strategy in full consultation with the Waterhen Lake Fishermen’s Association including related associated specific harvest control rules & other management actions for Northern Pike. Sustainable Development (Sustainable Fisheries Unit, Wildlife and Fisheries Branch) will analyze data and information from Waterhen Lake and other sources to identify potential limit and upper stock reference points for Northern Pike together with related stock performance indicators.</p> <p>In the third year of certification, Sustainable Development (Sustainable Fisheries Unit, Wildlife and Fisheries Branch) will provide the Certification Assessment Body with the outcome and results of discussions with Waterhen Lake commercial fishers and other stakeholders on potential harvest control rules, biological reference points and performance indicators.</p> <p>In the fourth year of certification, Sustainable Development (Sustainable Fisheries Unit, Wildlife and Fisheries Branch) will provide the Certification Assessment Body with evidence of the use of biological reference points to inform the management</p>

	decision-making process as part of a formal harvest strategy, together with evidence of the defined harvest control rules.
Consultation on condition	No consultation is required on meeting this condition, as the client is solely responsible for meeting this requirement of certification.

Condition 2	There are well defined and effective harvest control rules in place
Performance Indicator	<p>PI 1.2.2</p> <p><u>Issues at SG80</u></p> <p>Well defined harvest control rules are in place that are consistent with the harvest strategy and ensure that the exploitation rate is reduced as limit reference points are approached.</p> <p>The selection of the harvest control rules takes into account the main uncertainties.</p> <p>Available evidence indicates that the tools in use are appropriate and effective in achieving the exploitation levels required under the harvest control rules.</p>
Score	70
Rationale	Issue a. As harvest control rules are not well defined for Northern Pike they do not ensure that exploitation rates for Northern Pike may be adjusted if required.
Condition	By the fourth annual audit, the following Scoring Guideline 80 scoring issues must be met: For Northern Pike, well-defined harvest control rules are in place that are consistent with the harvest strategy and ensure that the exploitation rate is reduced as limit reference points are approached.
Milestones	<p>At the first annual audit the client will present the Certification Assessment Body with evidence that there has been consideration of the appropriateness of existing Harvest Control Rules for Northern Pike and, that options have been identified.</p> <p>At the second annual audit the client will present the Certification Assessment Body with evidence that the identified options have been discussed with stakeholders and may be implemented according to the status of the stock in the context of the harvest strategy.</p> <p>At the third annual audit, the client will present the Certification Assessment Body with evidence that harvest control rule options have been discussed with stakeholders and confirm that these will be implemented according to the status of the stock in the context of the harvest strategy by the fourth annual surveillance audit.</p> <p>At the fourth annual audit there will be evidence that the harvest control rules required by the strategy have been implemented as required and in accordance with the stock status.</p>

<p>Client plan action</p>	<p>In the first year of certification, Sustainable Development (Sustainable Fisheries Unit, Wildlife and Fisheries Branch) will undertake the following activities:</p> <ul style="list-style-type: none"> • Expand the sample of Northern Pike to at least 200 specimens as part of the Branch’s on-going annual indexing program. • Start an annual commercial catch sampling program for Northern Pike as part of the Branch’s data collection activities in support of effective monitoring and analysis that is part of a formal harvest strategy for sustainable management of the Northern Pike fishery. • Discuss with the Waterhen Lake commercial fishers a precautionary approach to fishery management of Northern Pike. <p>In the second year of certification, Sustainable Development (Sustainable Fisheries Unit, Wildlife and Fisheries Branch) will draft a harvest strategy in full consultation with the Waterhen Lake Fishermen’s Association including related associated specific harvest control rules & other management options/actions for Northern Pike. Sustainable Development (Sustainable Fisheries Unit, Wildlife and Fisheries Branch) will also analyze data and information from Waterhen Lake and other sources to identify potential limit and upper stock reference points for Northern Pike together with related stock performance indicators.</p> <p>In the third year of certification, Sustainable Development (Sustainable Fisheries Unit, Wildlife and Fisheries Branch) will provide evidence at the third annual surveillance audit that harvest control rule options have been discussed with stakeholders; and the agreed harvest control rules will be implemented according to the status of the stock in the context of the harvest strategy by the fourth annual surveillance audit.</p> <p>In the fourth year of certification, Sustainable Development (Sustainable Fisheries Unit, Wildlife and Fisheries Branch) will provide the Certification Assessment Body with evidence of the use of biological reference points to inform the management decision-making process as part of a formal harvest strategy, together with evidence of the defined harvest control rules.</p>
<p>Consultation on condition</p>	<p>No consultation is required on meeting this condition as the client is solely responsible for meeting this requirement of certification.</p>

Condition 3	The fishery has a research plan that addresses the information needs of management
Performance Indicator	<p>PI 3.2.4</p> <p><u>Issues at Scoring Guideline 80</u></p> <p>A research plan provides the management system with a strategic approach to research and reliable and timely information sufficient to achieve the objectives consistent with MSC's Principles 1 and 2.</p> <p>Research results are disseminated to all interested parties in a timely fashion.</p>
Score	70
Rationale	Issue b. Research results are disseminated to all interested parties in a timely fashion. The auditors have not seen any evidence to indicate that the results of the research are disseminated or that they are available to <u>all</u> interested parties.
Condition	By the second annual audit, the following Scoring Guideline 80 scoring issues must be met: Research results are disseminated to all interested parties in a timely fashion.
Milestones	<p>At the first annual audit the client will present the Certification Assessment Body with evidence that there has been consideration of how to disseminate research results in a formal established approach.</p> <p>At the second annual audit the client will present the Certification Assessment Body with evidence that research results are being disseminated in a formal established way.</p> <p>By the third audit the required minimum score for PI 3.2.4 is 80.</p>
Client Action Plan	<p>Monitoring and research results will be disseminated to the general public through the Sustainable Development, Fisheries Branch website, which, within one year of Waterhen Lake becoming certified, will include a section dedicated to Waterhen Lake eco-certification. This website will include, in addition, materials related to certification efforts on Waterhen Lake including the management plan, the action plan, the certification assessment report and annual audit reports.</p> <p>Where University research is involved, theses and peer-reviewed publications will be prepared by the home organization and be available through normal University channels. In addition, these documents, links to these documents or citations for these documents (depending on copyright restrictions) will be made available to the public on the Sustainable Development, Fisheries Branch website.</p>

	<p>For directly involved stakeholders and interested parties, all monitoring and research results and associated materials, including University based research projects, will be presented, discussed and distributed at the annual Waterhen Lake commercial fisher association meeting, which will be followed by a general public meeting to be held in the Waterhen Lake area.</p> <p>These materials will also be made available upon request to the Department of Manitoba Conservation and Water Stewardship, Fisheries Branch or to interested parties that attend the Fisheries Branch head office in person.</p> <p>The approach stated above will provide the venue to disseminate and share information to all involved stakeholders and interested parties in a timely fashion and ensure the materials are widely and publicly available.</p>
Consultation on condition	<p>There is no consultation required on meeting this condition since Manitoba Conservation and Water Stewardship, Fisheries Branch is solely responsible for meeting this requirement of certification.</p>

III. Recommendations

In addition to the above stated condition, the auditors also made the following 12 recommendations:

1. (a) To better understand the stock structure of Northern Pike in Waterhen Lake, commercial-catch sampling should be conducted.

(b) The index sampling effort should be increased to catch a minimum of 200 Northern Pike as part of the indexing program.
2. Water temperature and water quality, particularly winter oxygen levels, be measured routinely in Waterhen Lake. This data should be collected to see whether they have any aspects of winterkill or local oxygen depletion, which would concentrate Northern Pike, while supporting a better understanding of the Walleye resource.
3. Validated procedures of accurately interpreting age and growth of Northern Pike be used in the future, probably using the cleithral method, in routine indexing and commercial catch sampling and that size-at-age be compared with a growth standard and used to develop age-related performance indicators.
4. Various types of reproductive information be acquired and used to develop and monitor an indicator of the spawning stock of Northern Pike in Waterhen Lake. Indeed, as in Walleye, a Northern Pike index of spawning stock biomass could provide a target reference point.

5. Appropriate techniques are developed to annually determine mortality rate of the Northern Pike population of Waterhen Lake and that it be used as a reference-point performance indicator to assess Northern Pike exploitation on an ongoing basis, preferably refined for thermal conditions (GDD).
6. A carefully monitored spring live-capture trap-net commercial fishery be considered and, if necessary, used to reduce disproportionately abundant prey fish, including small Northern Pike, to maintain a sustainable, high-quality commercial Walleye and Northern Pike harvest.
7. (a) Log books are made compulsory as a condition of license.

(b) Part of the log book is used to record discards in order to ensure the completeness of information.
8. The external audit of the Fisheries Management Plan is completed in the third year of the MSC certification so that the results and the MCWS response are available to the team engaged in any re-certification.
9. The Fisheries Management Plan be considered “evergreen” to reduce the need for future staff inputs.
10. (a) The auditors are concerned that there may be too broad a range and subsequent overlap of size and age of fishes caught by either mesh size due to snagging, entangling, and age variation etc. to provide the protection desired, and more drastic means may be required. It is recommended that there is some evidence to support the effectiveness of mesh size selectivity to obtain the desired results.

(b) It is recommended that assessment be conducted using specific nets to determine gill-net selectivity for Northern Pike and that selectivity curves be prepared and considered when designing performance indicators. Likewise, selectivity and catchability of Northern Pike should be taken into consideration in the FWIN index gill nets. Indeed, retention of various types of gill nets has been studied recently not only for Northern Pike but for other species, providing valuable correction factors (Walker *et al.* 2012).
11. Currently the Waterhen gill net ice fishery targets Walleye. The retained by-catch of Northern Pike has also been certified. While it is understood that the roe of captured eggs of female Northern Pike may be extracted to provide the specific product of Northern Pike caviar, the auditors are concerned that any increase in the market value of the roe may lead to the inception of a dedicated roe fishery which may, in turn, be detrimental to stock status and may have implications for other populations in the Lake including walleye. On that basis it is strongly recommended that fishery managers regulate against a specific roe fishery until such time there may be science based Northern Pike TACs and quota that could take account of the potential catch in such a fishery.

12. Given the vintage of the data we recommend that the client reviews other sources to ensure that the Lake Winnipeg findings used to estimate the Limit Reference Point for walleye continue to be relevant or are the most appropriate.

13. The auditors recommend an explicit definition of a habitat strategy in the Fishery Management Plan.

Sustainable Development (Sustainable Fisheries Unit, Wildlife and Fisheries Branch) has reviewed the assessment team’s recommendations and determined the following responses as to whether to adopt/implement the recommendation or not; as well as, the corresponding rationale for the decision:

Recommendation Matrix - MSC Certification of Waterhen Lake Walleye & Northern Pike Commercial Gillnet Fishery			
Recommendation	Adoption	Rationale	Implementation Plan / Strategy
1 (a) To better understand the stock structure of Northern Pike in Waterhen Lake, commercial-catch sampling should be conducted.	Yes		The department will work with commercial fishers and the Freshwater Fish Marketing Corporation to acquire the necessary commercial catch samples on an annual basis.
1 (b) The index sampling effort should be increased to catch at least 200 Northern Pike as part of the indexing program.	Partial	The Department will continue current annual index netting program.	The Department is searching for areas with high Northern Pike density and low Walleye by-catch that will augment the sample size of Northern Pike. However it is premature to commit to 200 samples of Northern Pike.

<p>2. Water temperature and water quality, particularly winter oxygen levels, be measured routinely in Waterhen Lake. This data should be collected to see whether they have any aspects of winterkill or local oxygen depletion, which would concentrate Northern Pike, while supporting a better understanding of the Walleye resource.</p>	<p>Yes</p>		<p>There will be monthly monitoring during the winter commercial fishing season for the first two years to determine if oxygen depletion occurs.</p>
<p>3. Validated procedures of accurately interpreting age and growth of Northern Pike be used in the future, probably using the cleithral method, in routine indexing and commercial catch sampling and that size-at-age be compared with a growth standard and used to develop age-related performance indicators.</p>	<p>Yes</p>		<p>Validated aging procedures will be used for Northern Pike.</p>
<p>4. Various types of reproductive information be acquired and used to develop and monitor an indicator of the spawning stock of Northern Pike in Waterhen Lake. Indeed, as in Walleye, a Northern Pike index of spawning stock biomass could provide a target reference point.</p>	<p>Yes</p>		<p>The Department is currently collecting maturity schedules for both sexes in the hope of eventually developing a harvest control rule.</p>
<p>5. Appropriate techniques are developed to annually determine mortality rate of the Northern Pike population of Waterhen Lake and that it be used as a reference-point performance indicator to assess Northern Pike exploitation on an ongoing basis, preferably refined for thermal conditions (GDD).</p>	<p>Partial</p>	<p>Currently the Department is limited to gillnet surveys which are recognized as inappropriate due to biased harvest to gravid females. Mortality rates will be calculated from the current index program to at least provide a trend in</p>	<p>The Department will explore opportunities to enhance its monitoring using different gear types and/or techniques.</p> <p>Ontario FWIN summary will be consulted to determine if any relation to thermal conditions can be</p>

		ersatz mortality rates.	detected.
6. A carefully monitored spring live-capture trap-net commercial fishery be considered and, if necessary, used to reduce disproportionately abundant prey fish, including small Northern Pike, to maintain a sustainable, high-quality commercial Walleye and Northern Pike harvest.	Yes	This will serve as a valuable management tool to adjust fish community if needed.	Regulations and areas where a fishery would occur will be determined in advance of a spring live-capture trap-net commercial fishery.
7 (a) Log books are made compulsory as a condition of license.	No	A subgroup of sentinel fishers should be sufficient. This approach is consistent with recommendations made during the pre-assessment survey of fishery.	This would be implemented in conjunction with the on-site basin hole inspection program.
7 (b) Part of the log book is used to record discards in order to ensure the completeness of information.	Yes		Already being conducted. Log book records two types of data: (1) retained (non FFMC) by-catch as well as (2) discarded by-catch.
8. The external audit of the Fisheries Management Plan is completed in the third year of the MSC certification so that the results and the MCWS response are available to the team engaged in any re-certification.	Yes		The external review of the management plan will be completed in the third year of the MSC certification.
9. The Fisheries Management Plan is considered “evergreen” to reduce the need for future staff inputs.	Yes		

<p>10.(a) The auditors are concerned that there may be too broad a range and subsequent overlap of size and age of fishes caught by either mesh size due to snagging, entangling, and age variation etc. to provide the protection desired, and more drastic means may be required. It is recommended that there is some evidence to support the effectiveness of mesh size selectivity to obtain the desired results.</p>	<p>Yes</p>	<p>Mesh sizes are broadly selective for age and size, particularly smaller meshes.</p>	<p>The Department will provide distributions of fish size by mesh so reviewers can assess selectivity. The Department understands that deduction of small or large Walleye will not be total, but the Harvest Control Rules will provide the greatest protection possible for age classes.</p>
<p>10 (b) It is recommended that assessment be conducted using specific nets to determine gill-net selectivity for Northern Pike and that selectivity curves be prepared and considered when designing performance indicators. Likewise, selectivity and catchability of Northern Pike should be taken into consideration in the FWIN index gill nets. Indeed, retention of various types of gill nets has been studied recently not only for Northern Pike but for other species, providing valuable correction factors (Walker <i>et al.</i> 2012).</p>	<p>No</p>	<p>The Department considers a consistent index netting program sufficient to track the Northern Pike population.</p>	<p>This recommendation would provide very interesting information to managers and will be forwarded as an undergraduate or Masters research project. There are simply too many gauges of twine, materials, colours and hanging ratios for the Department to undertake this recommendation.</p>
<p>11. Currently the Waterhen gill net ice fishery targets Walleye. The retained by-catch of Northern Pike has also been certified. While it is understood that the roe of captured eggs of female Northern Pike may be extracted to provide the specific product of Northern Pike caviar, the auditors are concerned that any</p>	<p>Partial</p>	<p>The Department agrees with the precautionary approach; however, to determine the exact scope will research Northern Pike roe deliveries</p>	<p>Data will be compiled in time for the 2nd annual surveillance audit.</p>

<p>increase in the market value of the roe may lead to the inception of a dedicated roe fishery which may, in turn, be detrimental to stock status and may have implications for other populations in the Lake including walleye. On that basis it is strongly recommended that fishery managers regulate against a specific roe fishery until such time there may be science based Northern Pike TACs and quota that could take account of the potential catch in such a fishery.</p>		<p>from Waterhen Lake to determine whether concerns of a dedicated roe fishery are warranted.</p>	
<p>12. Given the vintage of the data we recommend that the client reviews other sources to ensure that the Lake Winnipeg findings used to estimate the Limit Reference Point for walleye continue to be relevant or are the most appropriate.</p>	<p>Yes</p>		<p>The Department will conduct reviews of relevant literature.</p>
<p>13. The auditors recommend an explicit definition of a habitat strategy in the Fishery Management Plan.</p>	<p>Yes</p>	<p>The Department agrees that habitat is a component of any fishery. The Department is collaborating with the University of Manitoba in monitoring edaphia characteristics of Waterhen Lake.</p>	<p>Habitat strategy will be developed which incorporates protection as outlined in the Federal <i>Fisheries Act</i> and Departmental development policies.</p>