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## Determination of “In Scope” Enhancement and Proposal for Modifications to the Assessment Tree

### Enhanced Walleye in Chitek Lake, Inland Lake, Archie Lake, Crab Lake, and Swan Lake

#### **“In Scope” Enhancement**

As part of the Waterhen Lake walleye and northern pike commercial gillnet fishery’s reassessment, additional lakes are being assessed for inclusion in the overall fishery (to be known as the “Manitoba boreal forest lakes walleye, northern pike, yellow perch, lake whitefish, and lake cisco commercial gillnet fishery”). In total, this fishery will include 14 units of assessment (UoAs) (Table 1), some of which are enhanced: walleye fished in Chitek Lake, Inland Lake, Archie Lake, Crab Lake, and Swan Lake. (All other UoAs, including the already certified Waterhen Lake UoCs, are not enhanced.)

**Table 1. Manitoba boreal lakes fishery’s UoAs by lake(s) and target species**

UoAs	Lakes	P1
1.	Waterhen Lake	Walleye
2.		Northern Pike
3.	Chitek Lake, Inland Lake,	Walleye
4.	Archie Lake, Crab Lake	Yellow Perch
5.	Smaller Satellite Lakes	Yellow Perch
6.	Swan Lake	Walleye
7.		Northern Pike
8.	Cedar Lake	Walleye
9.		Northern Pike
10.		Lake Whitefish
11.	Clearwater (Bracken), Little	Walleye
12.	Limestone, Talbot, William,	Northern Pike
13.	East Arm Moose Lake, North	Lake Whitefish
14.	Arm Moose Lake, Pickerel	Lake Cisco
	Channel Moose Lake	

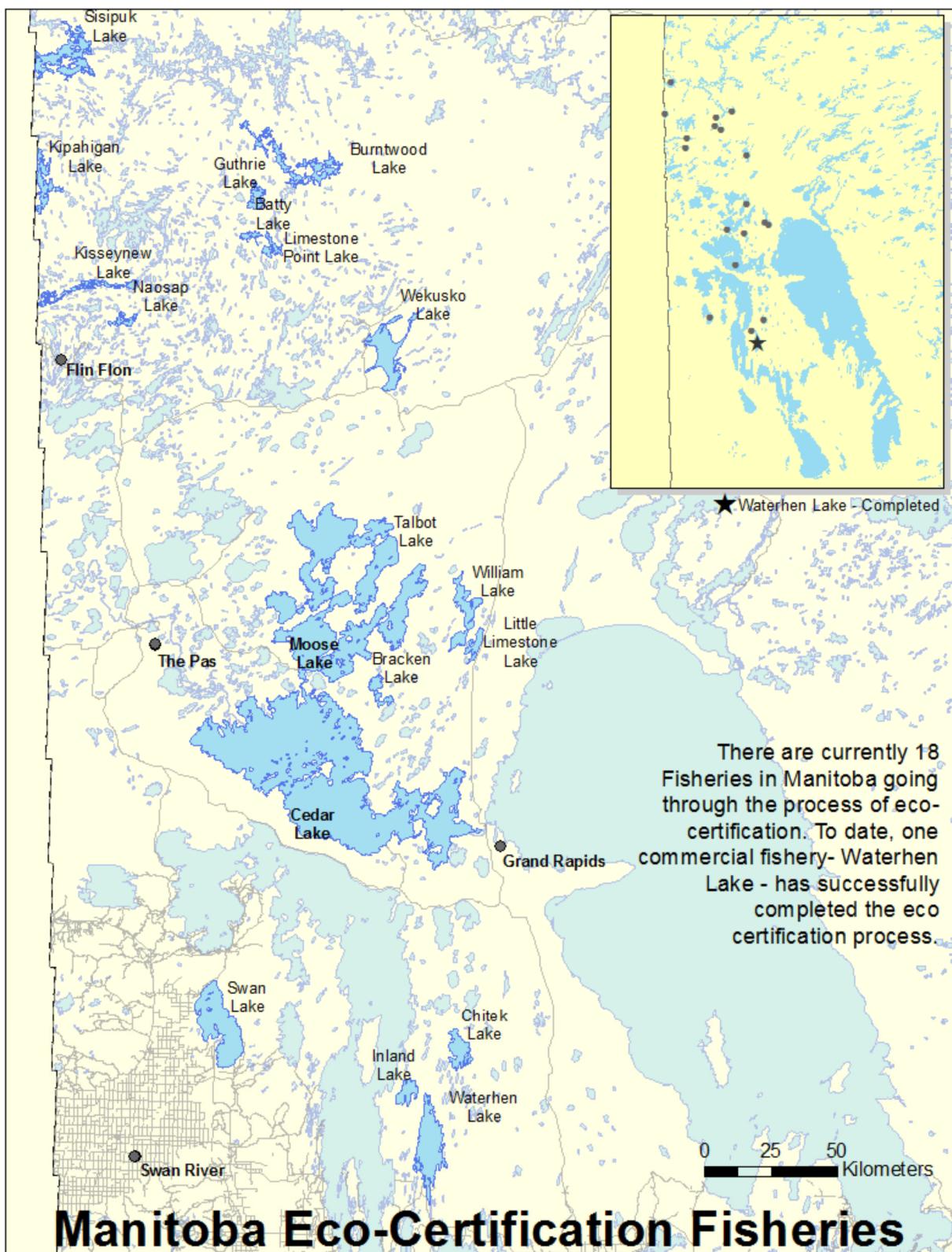
The MSC has determined that there are three types of enhanced fisheries that are potentially within scope: hatch and catch (HAC), catch and grow (CAG), and habitat modified. Based on the MSC Guidance (G7.4.3), the assessment team has determined that this fishery is HAC because its characteristics (discussed in more detail below) are more similar to salmon fry

collection than to mussel grow out. The assessment team also notes that the enhanced fisheries requirements were written with marine fisheries in mind, and therefore, the team has extrapolated for a freshwater system. As per FCR (v2.0) 7.4.3, the CAB shall determine if the fishery is an in-scope enhanced fishery by using Table 2 (Table 1 in the FCR). The rationale below addresses each criterion.

**Table 2. Scope criteria for enhanced fisheries**

A	Linkages to and maintenance of a wild stock
i	At some point in the production process, the system relies upon the capture of fish from the <b>wild environment</b> . Such fish may be taken at any stage of the life cycle including eggs, larvae, juveniles or adults. The ‘wild environment’ in this context includes marine, freshwater and any other aquatic ecosystems.
ii	The <b>species are native</b> to the geographic region of the fishery and the natural production areas from which the fishery’s catch originates unless MSC has accepted a variation request to include introduced species for the pilot phase.
iii	There are <b>natural reproductive components</b> of the stock from which the fishery’s catch originates that maintain themselves without having to be restocked every year.
iv	Where fish stocking is used in hatch-and-catch (HAC) systems, such <b>stocking</b> does not form a major part of a current rebuilding plan for depleted stocks.  Note: This requirement shall apply to the “current” status of the fishery. Wild stocks shall be managed by other conventional means. If rebuilding has been done by stocking in the past, it shall not result in an out-of-scope determination as long as other measures are now in place.
B	Feeding and Husbandry
i	The production system operates without <b>substantial augmentation of food supply</b> . In HAC systems, any feeding is used only to grow the animals to a small size prior to release (not more than 10% of the average adult maximum weight), such that most of the total growth (not less than 90%) is achieved during the wild phase. In catch-and-grow (CAG) systems, feeding during the captive phase is only by natural means (e.g., filter feeding in mussels), or at a level and duration that provide only for the maintenance of condition (e.g., crustacean in holding tanks) rather than to achieve growth.
ii	In CAG systems, production during the captive phase does not routinely require disease prevention involving chemicals or compounds with medicinal prophylactic properties.
C	Habitat and ecosystem impacts
i	Any modifications to the habitat of the stock are reversible and do not cause serious or irreversible harm to the natural ecosystem’s structure and function.  Note: Habitat modifications that are not reversible, are already in place and are not created specifically for the fishery shall be in scope. This includes: <ul style="list-style-type: none"> <li>• Large-scale artificial reefs.</li> <li>• Structures associated with enhancement activities that do not cause irreversible harm to the natural ecosystem inhabited by the stock, such as salmon fry farms next to river systems.</li> </ul>

- A. Linkages to and maintenance of a wild stock
  - i. Spawn are collected from mature male and female walleye in the parent stock in Waterhen Lake (the source lake for Chitek Lake, Inland Lake, Archie Lake, and Crab Lake) or Lake Manitoba (the source lake for Swan Lake) some time between early April and mid-May, depending on prevailing water temperatures. Spawn collection occurs once water reaches about 5-6°C, when the first females begin to express eggs, and can continue until it warms to about 10-12°C, by which temperature natural spawning would normally cease.
  - ii. Walleye are native to the fishery's geographic region and natural production areas from which the catch originates. While walleye are introduced into specific lakes, these lakes are in the same area (Figure 1) and have periods of time where they can be and/or are interconnected (e.g., times of increased precipitation, times of significant snow melt).
  - iii. The natural reproductive components of the parent stock maintain themselves without being restocked every year.
  - iv. This fishery is stocked using HAC so this criterion is relevant. Waterhen Lake's walleye stock is not depleted, is already certified, and is being reassessed as part of this assessment process. The walleye stock in Lake Manitoba is currently depleted but is rebuilding. There is a quota in place that limits the harvest of walleye to 900 tonnes. The fishery only operates from first ice to March 31, and there is a minimum gillnet mesh size of 3.75" (stretches) at present. (Until two years ago, the minimum mesh size was 3", which is reassessed annually.) While as a general rule, 10% or more of the hatched fry are returned to the source lake to compensate for the removal of spawn from the wild, stocking into Lake Manitoba is not a major part of the rebuilding strategy.
- B. Feeding and husbandry
  - i. In HAC systems, any feeding is used only to grow the animals to a small size prior to release. At this fishery's hatchery, fertilized eggs are held in jars (with sufficient water flow to maintain oxygen concentrations) from two to three weeks until the fry hatch. The exact time depends on prevailing water temperatures; the warmer the water, the faster the embryos develop. The hatched fry are quite small, about a cm long or so, and do not actively feed for a few days after they hatch, during which period they rely on their remaining yolk. On hatching in the jars, the fry "drift" with the water circulating in the hatchery to a holding tank. From there they are bagged (about 100,000 fry per bag) and transported to the stocking location. The fry are stocked before they begin to actively feed. (Walleye fry will eat each other, and holding the fry beyond a few days can result in significant losses to cannibalism if they are held in confined spaces.) Therefore, the production system operates without substantial augmentation of the food supply.
  - ii. This enhancement is not CAG so this criterion is not relevant.
- C. Habitat and ecosystem impacts
  - i. No structural or large-scale modifications are made to the habitat.



**Figure 1. Map of UoA lakes. (Note that not all lakes labelled here are part of this assessment.)**

## **Assessment Tree Modifications**

The assessment team proposes the following modifications as outlined below. The existing performance indicators (PIs) and scoring issues (SIs) of the salmon assessment tree (v1.0) and the default assessment tree were used as the starting point. For each PI, the team considered whether or not enhancement was relevant. Modifications to the relevant PIs are highlighted in red text with accompanying rationale for the modifications, noting if the PI originates from the salmon tree or the default assessment tree. All non-modified PIs will be assessed using the default assessment tree (v.2.0).

Overall, for the enhanced walleye UoAs, Principle 1 will assess the parent stock, which is in Lake Manitoba or Lake Waterhen (depending on the fished lake), with changes made to PI 1.1.2 (if scored) and PIs 1.2.1-1.2.4 and the addition of a new PI 1.2.5. Principle 2 will assess the fished lakes, and the salmon tree language for PIs 2.4.1, 2.5.1, and 2.5.2 will be used instead of the default assessment tree's PI language to allow for the consideration of enhancement activities on the lakes' habitat and ecosystem. Principle 3 will be assessed as normal with the default assessment tree but will consider clauses under SC4 where the salmon tree annex discusses Principle 3.

## Default Assessment Tree: Evaluation Table for PI 1.1.2 – Stock rebuilding

<b>PI 1.1.2</b>		Where the stock is reduced, there is evidence of stock rebuilding within a specified timeframe		
<b>Scoring Issue</b>		SG 60	SG 80	SG 100
<b>a</b>	<b>Rebuilding timeframes</b>			
	<b>Guide post</b>	A rebuilding timeframe is specified for the stock that is <b>the shorter of 20 years or 2 times its generation time</b> . For cases where 2 generations is less than 5 years, the rebuilding timeframe is up to 5 years.		The shortest practicable rebuilding timeframe is specified which does not exceed <b>one generation time</b> for the stock.
	<b>Met?</b>	(Y/N)		(Y/N)
<b>b</b>	<b>Rebuilding evaluation</b>			
	<b>Guide post</b>	Monitoring is in place to determine whether the rebuilding strategies are effective in rebuilding the stock within the specified timeframe.	There is evidence that the rebuilding strategies are rebuilding stocks, <b>or it is likely</b> based on simulation modelling, exploitation rates or previous performance that they will be able to rebuild the stock within the specified timeframe.	There is <b>strong</b> evidence that the rebuilding strategies are rebuilding stocks, <b>or it is highly likely</b> based on simulation modelling, exploitation rates or previous performance that they will be able to rebuild the stock within the specified timeframe.
	<b>Met?</b>	(Y/N)	(Y/N)	(Y/N)
<b>c</b>	<b>Use of enhancement in stock rebuilding</b>			
	<b>Guide post</b>	Enhancement activities are <b>not routinely used</b> as a stock rebuilding strategy but may be temporarily in place as a conservation measure to preserve or restore wild diversity threatened by human or natural impacts.	Enhancement activities are <b>very seldom used</b> as a stock rebuilding strategy.	Enhancement activities are <b>not used</b> as a stock rebuilding strategy.
	<b>Met?</b>	(Y/N)	(Y/N)	(Y/N)
<b>Justification</b>		[Note: Insert as much text as required to justify the SG level achieved for this scoring issue]		
<b>References</b>		[List any references here]		

<b>PI 1.1.2</b>	<b>Where the stock is reduced, there is evidence of stock rebuilding within a specified timeframe</b>
<b>OVERALL PERFORMANCE INDICATOR SCORE:</b>	
<b>CONDITION NUMBER (if relevant):</b>	

**Rationale for modification:**

If this PI were to be scored, it would also need to consider the effects of enhancement activities on rebuilding. Therefore, SI c was inserted from the salmon tree's PI 1.1.2.

**Salmon Tree: Evaluation Table for PI 1.2.1 – Harvest strategy**

PI 1.2.1		There is a robust and precautionary harvest strategy in place		
Scoring Issue		SG 60	SG 80	SG 100
<b>a</b>	<b>Harvest strategy design</b>			
	<b>Guide post</b>	The harvest strategy is <b>expected</b> to achieve <b>SMU stock</b> management objectives reflected in PI 1.1.1 SG80 including measures that address <b>wild</b> component population status issues.	The harvest strategy is responsive to the state of the <b>SMU stock</b> and the elements of the harvest strategy <b>work together</b> towards achieving <b>SMU stock</b> management objectives reflected in PI 1.1.1 SG80 including measures that address <b>wild</b> component population status issues.	The harvest strategy is responsive to the state of the <b>SMU stock</b> and is <b>designed</b> to achieve <b>SMU stock</b> management objectives reflected in PI 1.1.1 SG80 including measures that address <b>wild</b> component population status issues.
	<b>Met?</b>	(Y/N)	(Y/N)	(Y/N)
	<b>Justification</b>	[Note: Insert as much text as required to justify the SG level achieved for this scoring issue]		
<b>b</b>	<b>Harvest strategy evaluation</b>			
	<b>Guide post</b>	The harvest strategy is <b>likely</b> to work based on prior experience or plausible argument.	The harvest strategy may not have been <b>fully tested</b> but evidence exists that it is achieving its objectives.	The performance of the harvest strategy has been <b>fully evaluated</b> and evidence exists to show that it is achieving its objectives including being clearly able to maintain <b>SMUs stocks</b> at target levels.
	<b>Met?</b>	(Y/N)	(Y/N)	(Y/N)
	<b>Justification</b>	[Note: Insert as much text as required to justify the SG level achieved for this scoring issue]		
<b>c</b>	<b>Harvest strategy monitoring</b>			
	<b>Guide post</b>	Monitoring is in place that is expected to determine whether the harvest strategy is working.		
	<b>Met?</b>	(Y/N)		
	<b>Justification</b>	[Note: Insert as much text as required to justify the SG level achieved for this scoring issue]		
<b>d</b>	<b>Harvest strategy review</b>			
	<b>Guide post</b>			The harvest strategy is periodically reviewed and improved as necessary.

PI 1.2.1		There is a robust and precautionary harvest strategy in place		
	<b>Met?</b>			(Y/N)
	<b>Justification</b>	[Note: Insert as much text as required to justify the SG level achieved for this scoring issue]		
<b>e</b>	<b>Shark finning</b>			
	<b>Guide post</b>	It is <b>likely</b> that shark finning is not taking place.	It is <b>highly likely</b> that shark finning is not taking place.	There is a <b>high degree of certainty</b> that shark finning is not taking place.
	<b>Met?</b>	(Y/N/Not relevant)	(Y/N/Not relevant)	(Y/N/Not relevant)
	<b>Justification</b>	[Scoring issue need not be scored if sharks are not a target species]. [Note: Insert as much text as required to justify the SG level achieved for this scoring issue]		
<b>f</b>	<b>Review of alternative measures</b>			
	<b>Guide post</b>	There has been a review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of unwanted catch of the target stock.	There is a <b>regular</b> review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of unwanted catch of the target stock and they are implemented as appropriate.	There is a <b>biennial</b> review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of unwanted catch of the target stock, and they are implemented, as appropriate.
	<b>Met?</b>	(Y/N/Not relevant)	(Y/N/Not relevant)	(Y/N/Not relevant)
	<b>Justification</b>	[Scoring issue need not be scored if there is no unwanted catch of the target stock]. [Note: Insert as much text as required to justify the SG level achieved for this scoring issue]		
<b>References</b>		[List any references here]		
<b>OVERALL PERFORMANCE INDICATOR SCORE:</b>				
<b>CONDITION NUMBER (if relevant):</b>				

**Rationale for modification:**

Minor edits were made to the SIs to make them relevant for these fisheries.

**Default Assessment Tree: Evaluation Table for PI 1.2.2 – Harvest control rules and tools**

PI 1.2.2		There are well defined and effective harvest control rules (HCRs) in place		
Scoring Issue		SG 60	SG 80	SG 100
<b>a</b>	<b>HCRs design and application</b>			
	<b>Guide post</b>	<b>Generally understood</b> HCRs are in place or available that are expected to reduce the exploitation rate as the point of recruitment impairment (PRI) is approached.	<b>Well defined HCRs are in place that ensure</b> that the exploitation rate is reduced as the PRI is approached, are expected to keep the stock fluctuating around a target level consistent with (or above) MSY, or for key LTL species a level consistent with ecosystem needs.	The HCRs are expected to keep the stock fluctuating at or above a target level consistent with MSY, or another more appropriate level taking into account the ecological role of the stock, most of the time.
	<b>Met?</b>	(Y/N)	(Y/N)	
	<b>Justification</b>	[Note: Insert as much text as required to justify the SG level achieved for this scoring issue]		
<b>b</b>	<b>HCRs robustness to uncertainty</b>			
	<b>Guide post</b>		The HCRs are likely to be robust to the main uncertainties.	The HCRs take account of a wide range of uncertainties including the ecological role of the stock, and there is evidence that the HCRs are robust to the main uncertainties.
	<b>Met?</b>		(Y/N)	(Y/N)
	<b>Justification</b>	[Note: Insert as much text as required to justify the SG level achieved for this scoring issue]		
<b>c</b>	<b>HCRs evaluation</b>			
	<b>Guide post</b>	There is some evidence that tools used or available to implement HCRs are appropriate and effective in controlling exploitation.	<b>Available evidence indicates</b> that the tools in use are appropriate and effective in achieving the exploitation levels required under the HCRs.	<b>Evidence clearly shows</b> that the tools in use are effective in achieving the exploitation levels required under the HCRs.
	<b>Met?</b>	(Y/N)	(Y/N)	(Y/N)
	<b>Justification</b>	[Note: Insert as much text as required to justify the SG level achieved for this scoring issue]		
<b>d</b>	<b>Maintenance of wild population components</b>			
	<b>Guide post</b>	It is likely that the HCRs and tools are consistent	It is highly likely that the HCRs and tools are	There is a high degree of certainty that the HCRs

PI 1.2.2		There are well defined and effective harvest control rules (HCRs) in place			
		with maintaining the diversity and productivity of the wild component population(s).	consistent with maintaining the diversity and productivity of the wild component population(s).	and tools are consistent with maintaining the diversity and productivity of the wild component population(s).	
	Met?	(Y/N)	(Y/N)	(Y/N)	
	Justification	[Note: Insert as much text as required to justify the SG level achieved for this scoring issue]			
References		[List any references here]			
<b>OVERALL PERFORMANCE INDICATOR SCORE:</b>					
<b>CONDITION NUMBER (if relevant):</b>					

**Rationale for modification:**

The new SI was inserted from the salmon tree (PI 1.2.2 d), and the rest of that PI was deleted since it was more relevant to salmon fisheries than to these walleye fisheries. These modifications were made to assess whether or not HCRs and management tools appropriately consider the wild stock.

**Default Assessment Tree: Evaluation Table for PI 1.2.3 – Information and monitoring**

PI 1.2.3		Relevant information is collected to support the harvest strategy		
Scoring Issue		SG 60	SG 80	SG 100
<b>a</b>	<b>Range of information</b>			
	<b>Guide post</b>	Some relevant information related to stock structure, stock productivity, the contribution of enhanced fish to the fishery harvest, hatchery broodstock, and fleet composition is available to support the harvest strategy.	Sufficient relevant qualitative and quantitative information related to stock structure, stock productivity, the contribution of enhanced fish to the fishery harvest, hatchery broodstock, fleet composition and other data is available to support the harvest strategy.	A comprehensive range of relevant qualitative and quantitative information (on stock structure, stock productivity, the contribution of enhanced fish to the fishery harvest, hatchery broodstock, and fleet composition, including some that may not be directly related to the current harvest strategy, is available.
	<b>Met?</b>	(Y/N)	(Y/N)	(Y/N)
	<b>Justification</b>	[Note: Insert as much text as required to justify the SG level achieved for this scoring issue]		
<b>b</b>	<b>Monitoring</b>			
	<b>Guide post</b>	Stock abundance and UoA removals are monitored and at least one indicator is available and monitored with sufficient frequency to support the harvest control rule.	Stock abundance and UoA removals are regularly monitored at a level of accuracy and coverage consistent with the harvest control rule, and one or more indicators are available and monitored with sufficient frequency to support the harvest control rule.	All information required by the harvest control rule is monitored with high frequency and a high degree of certainty, and there is a good understanding of inherent uncertainties in the information [data] and the robustness of assessment and management to this uncertainty.
	<b>Met?</b>	(Y/N)	(Y/N)	(Y/N)
	<b>Justification</b>	[Note: Insert as much text as required to justify the SG level achieved for this scoring issue]		
<b>c</b>	<b>Comprehensiveness of information</b>			
	<b>Guide post</b>		There is good information on all other fishery removals from the stock.	
	<b>Met?</b>		(Y/N)	
	<b>Justification</b>	[Note: Insert as much text as required to justify the SG level achieved for this scoring issue]		
<b>d</b>	<b>Use of enhancement information in assessments</b>			
	<b>Guide post</b>	The effect of enhancement activities on	A moderate-level analysis of relevant	A comprehensive analysis of relevant

PI 1.2.3		Relevant information is collected to support the harvest strategy						
		wild stock status, productivity and diversity are taken into account qualitatively.	information is conducted and used by decision makers to quantitatively estimate the impact of enhancement activities on wild-stock status, productivity, and diversity.	information is conducted and routinely used by decision makers to determine, with a high degree of certainty, the quantitative impact of enhancement activities on wild-stock status, productivity, and diversity.				
<b>Met?</b>	(Y/N)	(Y/N)	(Y/N)					
<b>Justification</b>	[Note: Insert as much text as required to justify the SG level achieved for this scoring issue]							
<b>References</b>	[List any references here]							
<b>OVERALL PERFORMANCE INDICATOR SCORE:</b>								
<b>CONDITION NUMBER (if relevant):</b>								

**Rationale for modification:**

Relevant details from the salmon tree's PI 1.3.3 a were added to the default assessment tree's SI a with mention of escapement deleted since escapement is a salmon-specific term and not relevant to walleye. The salmon tree's PI 1.3.3 b was added as a new SI d. These modifications were made to consider the information needed to address the potential for negative effects of enhancement on the genetic diversity and reproductive capacity of the wild stock.

**Salmon Tree: Evaluation Table for PI 1.2.4 – Assessment of stock status**

PI 1.2.4		There is an adequate assessment of the stock status <b>of the SMU</b>		
Scoring Issue		SG 60	SG 80	SG 100
<b>a</b>	<b>Appropriateness of assessment to stock under consideration</b>			
	<b>Guide post</b>		The assessment is appropriate for the <b>SMU stock</b> and for the harvest control rule.	The assessment <b>takes into account</b> the major features relevant to the biology of the species and the nature of the UoA.
	<b>Met?</b>		(Y/N)	(Y/N)
	<b>Justification</b>	[Note: Insert as much text as required to justify the SG level achieved for this scoring issue]		
<b>b</b>	<b>Assessment approach</b>			
	<b>Guide post</b>	The assessment estimates stock status relative to generic reference points appropriate to salmon.	The assessment estimates stock status relative to reference points that are appropriate to the <b>SMU stock</b> and can be estimated.	The assessment estimates with a high level of confidence both stock status and reference points that are appropriate to the <b>SMU stock</b> and its wild component populations.
	<b>Met?</b>	(Y/N)	(Y/N)	(Y/N)
	<b>Justification</b>	[Note: Insert as much text as required to justify the SG level achieved for this scoring issue]		
<b>c</b>	<b>Uncertainty in the assessment</b>			
	<b>Guide post</b>	The assessment <b>identifies major sources</b> of uncertainty.	The assessment <b>takes uncertainty into account</b> .	The assessment takes into account uncertainty and is evaluating stock status relative to reference points in a <b>probabilistic</b> way.
	<b>Met?</b>	(Y/N)	(Y/N)	(Y/N)
	<b>Justification</b>	[Note: Insert as much text as required to justify the SG level achieved for this scoring issue]		
<b>d</b>	<b>Evaluation of assessment</b>			
	<b>Guide post</b>			The assessment has been tested and shown to be robust. Alternative hypotheses and assessment approaches have been rigorously explored.
	<b>Met?</b>			(Y/N)

<b>PI 1.2.4</b>		<b>There is an adequate assessment of the stock status of the SMU</b>		
	<b>Justification</b>	[Note: Insert as much text as required to justify the SG level achieved for this scoring issue]		
<b>e</b>	<b>Peer review of assessment</b>			
	<b>Guide post</b>		The assessment of <b>SMU stock</b> status, including the choice of indicator populations and methods for evaluating wild <b>salmon walleye</b> in enhanced fisheries is subject to peer review.	The assessment, including design for using indicator populations and methods for evaluating wild <b>salmon walleye</b> in enhanced fisheries, has been <b>internally and externally</b> peer reviewed.
	<b>Met?</b>		(Y/N)	(Y/N)
	<b>Justification</b>	[Note: Insert as much text as required to justify the SG level achieved for this scoring issue]		
<b>f</b>	<b>Representativeness of indicator populations</b>			
	<b>Guide post</b>	Where indicator stocks are used as the primary source of information for making management decisions on SMUs stock status, there is <b>some scientific basis</b> for the indicators selection.	Where indicator stocks are used as the primary source of information for making management decisions on SMUs, there is <b>some evidence of coherence</b> between the status of the indicator streams and the status of the other populations they represent within the management unit, including selection of indicator stocks with low productivity (i.e., those with a higher conservation risk) to match those of the representative SMU where applicable.	Where indicator stocks are used as the primary source of information for making management decisions on SMUs, the status of the indicator streams are <b>well correlated</b> with other populations they represent within the management unit, including stocks with lower productivity (i.e., those with a higher conservation risk).
	<b>Met?</b>	(Y/N)	(Y/N)	(Y/N)
	<b>Justification</b>	[Note: Insert as much text as required to justify the SG level achieved for this scoring issue]		
<b>g</b>	<b>Definition of Stock Management Units (SMUs)</b>			
	<b>Guide post</b>	The majority of SMUs are defined with a clear rationale for conservation, fishery management and stock assessment requirements.	The SMUs are <b>well-defined</b> and include definitions of the major populations with a clear rationale for conservation, fishery management and stock assessment requirements.	There is an <b>unambiguous</b> <b>description</b> of each SMU that may include the geographic location, run timing, migration patterns, and/or genetics of component populations with a clear rationale for

PI 1.2.4		There is an adequate assessment of the stock status <del>of the SMU</del>		
				conservation, fishery management and stock assessment requirements.
<b>Met?</b>	(Y/N)	(Y/N)	(Y/N)	
<b>Justification</b>	<del>[Note: Insert as much text as required to justify the SG level achieved for this scoring issue]</del>			
<b>References</b>	[List any references here]			
<b>OVERALL PERFORMANCE INDICATOR SCORE:</b>				
<b>CONDITION NUMBER (if relevant):</b>				

**Rationale for modification:**

SI s f and g have been removed since they are not relevant to walleye fisheries or this assessment. Minor edits were made to the remaining SIs to make them relevant for these fisheries.

**Evaluation table for PI 1.2.5 – Enhancement outcome and management**

<b>PI 1.2.5</b>		<b>Enhancement activities do not negatively impact wild stock(s) and effective enhancement and fishery strategies are in place to address effects of enhancement activities on wild stock(s).</b>		
<b>Scoring Issue</b>		SG 60	SG 80	SG 100
<b>a</b>	<b>Enhancement impacts</b>			
	<b>Guide post</b>	It is <b>likely</b> that the enhancement activities do not have significant negative impacts on the local adaptation, reproductive performance or productivity and diversity of wild stocks.	It is <b>highly likely</b> that the enhancement activities do not have significant negative impacts on the local adaptation, reproductive performance or productivity and diversity of wild stocks.	There is a <b>high degree of certainty</b> that the enhancement activities do not have significant negative impacts on the local adaptation, reproductive performance or productivity and diversity of wild stocks.
	<b>Met?</b>	(Y/N)	(Y/N)	(Y/N)
	<b>Justification</b>	[Note: Insert as much text as required to justify the SG level achieved for this scoring issue]		
<b>b</b>	<b>Management strategy in place</b>			
	<b>Guide post</b>	<b>Practices and protocols</b> are in place to protect wild stocks from significant negative impacts of enhancement.	There is a <b>partial strategy</b> in place to protect wild stocks from significant negative impacts of enhancement.	There is a <b>comprehensive strategy</b> in place to protect wild stocks from significant negative impacts of enhancement.
	<b>Met?</b>	(Y/N)	(Y/N)	(Y/N)
	<b>Justification</b>	[Note: Insert as much text as required to justify the SG level achieved for this scoring issue]		
<b>c</b>	<b>Management strategy evaluation</b>			
	<b>Guide post</b>	The practices and protocols in place are <b>considered likely</b> to be effective based on plausible argument.	There is <b>some objective basis for confidence</b> that the strategy is effective, based on evidence that the strategy is achieving the outcome metrics used to define the minimum detrimental impacts.	There is <b>clear evidence</b> that the comprehensive strategy is successfully protecting wild stocks from significant detrimental impacts of enhancement.
	<b>Met?</b>	(Y/N)	(Y/N)	(Y/N)
	<b>Justification</b>	[Note: Insert as much text as required to justify the SG level achieved for this scoring issue]		
<b>References</b>		[List any references here]		
<b>OVERALL PERFORMANCE INDICATOR SCORE:</b>				

PI 1.2.5	<b>Enhancement activities do not negatively impact wild stock(s) and effective enhancement and fishery strategies are in place to address effects of enhancement activities on wild stock(s).</b>
<b>CONDITION NUMBER (if relevant):</b>	

**Rationale for modification:**

PIs 1.3.1 and 1.3.2 from the salmon tree have been combined into one PI to streamline the assessment tree. These PIs are still relevant though since we need to ensure that enhancement activities are considered fully.

**Salmon Tree: Evaluation Table for PI 2.4.1 – Habitats outcome**

<b>PI 2.4.1</b>		<b>The UoA and its associated enhancement activities do not cause serious or irreversible harm to habitat structure and function, considered on the basis of the area covered by the governance body(s) responsible for fisheries management in the area(s) where the UoA operates.</b>		
<b>Scoring Issue</b>		SG 60	SG 80	SG 100
<b>a</b>	<b>Commonly encountered habitat status</b>			
	<b>Guide post</b>	The UoA is <b>unlikely</b> to reduce structure and function of the commonly encountered habitats to a point where there would be serious or irreversible harm.	The UoA is <b>highly unlikely</b> to reduce structure and function of the commonly encountered habitats to a point where there would be serious or irreversible harm.	There is <b>evidence</b> that the UoA is highly unlikely to reduce structure and function of the commonly encountered habitats to a point where there would be serious or irreversible harm.
	<b>Met?</b>	(Y/N)	(Y/N)	(Y/N)
<b>b</b>	<b>VME habitat status</b>			
	<b>Guide post</b>	The UoA is <b>unlikely</b> to reduce structure and function of the VME habitats to a point where there would be serious or irreversible harm.	The UoA is <b>highly unlikely</b> to reduce structure and function of the VME habitats to a point where there would be serious or irreversible harm.	There is <b>evidence</b> that the UoA is highly unlikely to reduce structure and function of the VME habitats to a point where there would be serious or irreversible harm.
	<b>Met?</b>	(Y/N/Not relevant)	(Y/N/Not relevant)	(Y/N/Not relevant)
<b>c</b>	<b>Minor habitat status</b>			
	<b>Guide post</b>			There is <b>evidence</b> that the UoA is highly unlikely to reduce structure and function of the minor habitats to a point where there would be serious or irreversible harm.
	<b>Met?</b>			(Y/N)
<b>d</b>	<b>Impacts due to enhancement activities associated with the UoA</b>			
	<b>Guide post</b>	The enhancement activities are <b>unlikely</b> to have adverse impacts on habitat.	The enhancement activities are <b>highly unlikely</b> to have adverse impacts on habitat.	There is a <b>high degree of certainty</b> that the enhancement activities do

<b>PI 2.4.1</b>		<b>The UoA and its associated enhancement activities do not cause serious or irreversible harm to habitat structure and function, considered on the basis of the area covered by the governance body(s) responsible for fisheries management in the area(s) where the UoA operates.</b>		
				not have adverse impacts on habitat.
<b>Met?</b>	(Y/N)	(Y/N)	(Y/N)	
<b>Justification</b>	[Note: Insert as much text as required to justify the SG level achieved for this scoring issue]			
<b>References</b>	[List any references here]			
<b>OVERALL PERFORMANCE INDICATOR SCORE:</b>				
<b>CONDITION NUMBER (if relevant):</b>				

**Rationale for modification:**

The salmon tree's PI 2.4.1 will be used instead of the default assessment tree's PI to allow for the consideration of enhancement activities on the lakes' habitat.

### Salmon Tree: Evaluation Table for PI 2.5.1 – Ecosystem outcome

<b>PI 2.5.1</b>		<b>The UoA and associated enhancement activities do not cause serious or irreversible harm to the key elements of ecosystem structure and function</b>					
<b>Scoring Issue</b>		SG 60	SG 80	SG 100			
<b>a</b>	<b>Ecosystem status</b>						
	<b>Guide post</b>	The UoA is <b>unlikely</b> to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm.	The UoA is <b>highly unlikely</b> to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm.	There is <b>evidence</b> that the UoA is highly unlikely to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm.			
	<b>Met?</b>	(Y/N)	(Y/N)	(Y/N)			
	<b>Justification</b>	[Note: Insert as much text as required to justify the SG level achieved for this scoring issue]					
<b>b</b>	<b>Impacts due to enhancement</b>						
	<b>Guide post</b>	Enhancement activities are <b>unlikely</b> to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm.	Enhancement activities are <b>highly unlikely</b> to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm.	There is <b>evidence</b> that the enhancement activities are <b>highly unlikely</b> to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm.			
	<b>Met?</b>	(Y/N)	(Y/N)	(Y/N)			
	<b>Justification</b>						
<b>References</b>		[List any references here]					
<b>OVERALL PERFORMANCE INDICATOR SCORE:</b>							
<b>CONDITION NUMBER (if relevant):</b>							

#### Rationale for modification:

The salmon tree's PI 2.5.1 will be used instead of the default assessment tree's PI to allow for the consideration of enhancement activities on the lakes' ecosystem.

**Salmon Tree: Evaluation Table for PI 2.5.2 – Ecosystem management**

<b>PI 2.5.2</b>		<b>There are measures in place to ensure the UoA and enhancement activities do not pose a risk of serious or irreversible harm to ecosystem structure and function</b>		
<b>Scoring Issue</b>		SG 60	SG 80	SG 100
<b>a</b>	<b>Management strategy in place</b>			
	<b>Guide post</b>	There are <b>measures</b> in place, if necessary which take into account the <b>potential impacts</b> of the UoA on key elements of the ecosystem.	There is a <b>partial strategy</b> in place, if necessary, which takes into account <b>available information and is expected to restrain impacts</b> of the UoA on the ecosystem so as to achieve the Ecosystem Outcome 80 level of performance.	There is a <b>strategy</b> that consists of a plan, in place which contains measures to <b>address all main impacts of the UoA</b> on the ecosystem, and at least some of these measures are in place
	<b>Met?</b>	(Y/N)	(Y/N)	(Y/N)
	<b>Justification</b>	[Note: Insert as much text as required to justify the SG level achieved for this scoring issue]		
<b>b</b>	<b>Management strategy evaluation</b>			
	<b>Guide post</b>	The <b>measures</b> are considered likely to work, based on plausible argument (e.g., general experience, theory or comparison with similar UoA/ ecosystems).	There is <b>some objective basis for confidence</b> that the measures/ partial strategy will work, based on some information directly about the UoA and/or the ecosystem involved	<b>Testing</b> supports <b>high confidence</b> that the partial strategy/ strategy will work, based on information directly about the UoA and/or ecosystem involved
	<b>Met?</b>	(Y/N)	(Y/N)	(Y/N)
	<b>Justification</b>	[Note: Insert as much text as required to justify the SG level achieved for this scoring issue]		
<b>c</b>	<b>Management strategy implementation</b>			
	<b>Guide post</b>		There is <b>some evidence</b> that the measures/partial strategy is being <b>implemented successfully</b> .	There is <b>clear evidence</b> that the partial strategy/strategy is being <b>implemented successfully and is achieving its objective as set out in scoring issue (a)</b> .
	<b>Met?</b>		(Y/N)	(Y/N)
	<b>Justification</b>	[Note: Insert as much text as required to justify the SG level achieved for this scoring issue]		

<b>PI 2.5.2</b>		<b>There are measures in place to ensure the UoA and enhancement activities do not pose a risk of serious or irreversible harm to ecosystem structure and function</b>					
<b>e</b>	<b>Management of enhancement activities</b>						
	<b>Guide post</b>	There is an <b>established</b> artificial production strategy in place that is expected to achieve the Ecosystem Outcome 60 level of performance.	There is a <b>tested and evaluated</b> artificial production strategy with sufficient monitoring in place and evidence is available to reasonably ensure with high likelihood that the strategy is effective in achieving the Ecosystem Outcome 80 level of performance.	There is a <b>comprehensive and fully evaluated</b> artificial production strategy to verify with certainty that the Ecosystem Outcome 100 level of performance.			
	<b>Met?</b>	(Y/N)	(Y/N)	(Y/N)			
	<b>Justification</b>	[Note: Insert as much text as required to justify the SG level achieved for this scoring issue]					
<b>References</b>		[List any references here]					
<b>OVERALL PERFORMANCE INDICATOR SCORE:</b>							
<b>CONDITION NUMBER (if relevant):</b>							

**Rationale for modification:**

The salmon tree's PI 2.5.2 will be used instead of the default assessment tree's PI to allow for the consideration of the management of enhancement activities on the lakes' ecosystem.