

Moose Management Review: Recommendations to the Minister of Natural Resources and Forestry on Moose Management

Big Game Management Advisory Committee
July 4, 2019

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BACKGROUND

Big Game Management Advisory Committee (BGMAC)

The Big Game Management Advisory Committee is a public agency that was established in February 2019 to provide advice to the Minister respecting policy and programs related to the management of species of big game in Ontario; to review and recommend changes to the allocation of hunting opportunities for big game as may be requested by the Minister; and to provide advice on such other matters as may be requested by the Minister.

The committee is made up of members with diverse knowledge and experience in moose management and quota review, moose hunting, tourist outfitter operations, and previous experience on wildlife advisory committees. Members of the committee are appointed by the Lieutenant Governor in Council.

Moose Management Review

In November 2018 the Minister announced the government would launch a two-year review of moose management focused on how tag quotas are developed and allocated through the draw to provincially licensed moose hunters. The first task of the new BGMAC was to work with the Ministry of Natural Resources and Forestry to undertake this review, *with the goal to make the moose draw fairer, more accessible and simpler for hunters*. BGMAC was asked to provide recommendations to the Minister on possible changes that could be considered to address these aspects of moose management.

METHODS

Listening Sessions & Moose Management Review Survey

Seven hunter engagement listening sessions were held around the province in May-June 2019 on the following dates and locations.

St. Thomas – May 21, 2019

Peterborough – May 22, 2019

North Bay – May 23, 2019

Sault Ste. Marie – May 28, 2019

Thunder Bay – May 29, 2019

Dryden – May 30, 2019

Kapuskasing - June 3, 2019

Each session was open house format from 4-8 pm where hunters had the opportunity to attend at their convenience, review information presented on posters and slides, and

ask questions and express their thoughts to BGMAC members and/or MNRF staff. Individuals who attended the sessions, as well as those who could not, had the opportunity to request the presentation materials so they could review them before providing their input.

From May 17 to June 7 interested individuals could also share their thoughts on moose management through a Moose Management Review questionnaire. Paper copies of the survey were available for completion at the listening sessions or the survey could be completed online at (<https://www.ontario.ca/page/moose-management-review>).

WHAT WE HEARD

Listening Sessions

Over 600 people attended the listening sessions. Input shared by participants at the sessions covered a similar range of topics to those captured on the Moose Management Review survey. However, the sessions provided the added benefit of allowing participants to explain their concerns, ask questions and seek clarification before providing their input on options.

Moose Management Review Survey Results

MNRF received a total of 2,103 responses to the Moose Management Review survey. The vast majority of surveys were completed online (n = 1976 or 94% of all responses) with 127 or 6% paper questionnaires submitted. Detailed results of questions asked on the survey are provided in the Appendix. Sample sizes for the results of each question vary because some respondents did not complete the entire questionnaire. A summary of the 2,927 written responses to open-ended questions are provided in Tables 16 and 17.

Other Submissions

MNRF regularly hears from hunters about quota setting, the draw and other matters regarding moose management. Ministry staff shared this input in discussions with BGMAC. Since the announcement of the BGMAC committee composition in April of this year, the members have been receiving input from hunters and stakeholders as well. This input was considered in developing ideas for consideration in the survey and these recommendations.

RECOMMENDATIONS

Improving Quota Setting

1. Recommendation: Modernize Ontario's selective harvest approach. Move to selective harvest by bull tags, cow/calf tags, and calf tags for both bow and gun seasons, with WMU-specific calf tag quotas across the province. With the implementation of direct controls on calf harvest in place, extend the calf hunting season for the full length of the moose hunting season in each WMU.
 - Description/details/explanation:
 - A hunter would be required to apply for and be allocated a tag to hunt a bull, cow/calf, or calf moose in a specific WMU.
 - The selective harvest approach would continue to provide the greatest restrictions on cow harvest, increase protections for calves and allow the greatest opportunities for hunting of bulls within defined criteria (see Recommendation 2).
 - Calf tags would be WMU but not bow or gun specific – i.e. they could be used by hunters who hold them during any part of the hunting season as hunting of calf moose would be allowed during all open moose hunting seasons.
 - Calf tag quotas would be developed for each WMU as part of the annual quota-setting process, which includes review by BGMAC. Quotas would be developed to restrict calf harvest where necessary to meet other objectives (i.e. adult moose hunting opportunities, population growth) and otherwise set at levels to meet demand for calf hunting opportunities (within established quota-setting criteria).
 - Make clear to hunters a calf moose can be harvested using a cow/calf tag to remove some additional harvest pressure from cow moose but prevent hunters from using a bull tag to harvest a calf moose.
 - Rationale:
 - Ontario's selective harvest system is intended to protect cow moose relative to bulls and calves because cows are the most important component of a moose population for reproduction. Calves are protected relative to bulls because they are the future prime-aged breeders, and because bulls can mate with multiple cows.
 - Hunters have expressed a strong preference for adult moose hunting opportunities (77% of hunters prefer to hunt adult moose, with only 1.5% preferring to hunt calves based on the results of a survey conducted during the Moose Project in 2013). However, in the absence of adult tags in some areas hunters are showing increasing proficiency at harvesting calves.

- Limiting hunting opportunities for moose calves will improve adult moose hunting opportunities in many areas and better support sustainable moose management.
 - Recent MNRF science indicates calf harvest may have a greater impact on moose populations than assumed under Ontario's current selective harvest approach. In addition, evaluation of four WMUs in eastern Ontario where calf tag quotas were introduced in 2004 demonstrates the success of this approach at re-growing moose populations and increasing adult moose hunting opportunities.
 - The shortened 2-week calf season that was implemented in 2015 in northern Ontario was initially successful at reducing calf harvest to intended levels (i.e. 50% reduction) but calf harvest has returned to previous levels in some areas and is increasing.
 - Moose hunters have also expressed frustration with the current two-week hunting season for calf moose, specifically that the control of harvest was inadequate, that the approach doesn't allow equal opportunity to hunt calves during all moose hunting seasons (i.e. bow and gun) and that the shortened season for calves-only may lead to greater orphaning of moose calves.
 - Calf tag quotas allow MNRF to manage calf harvest levels directly as opposed to the indirect control provided by a shortened hunting season.
 - During the listening sessions and on the Moose Management Review survey many hunters expressed concerns about the number of cow tags being issued, and high cow and calf harvest.
 - More Moose Management Review survey respondents supported than opposed permitting calf hunting only with tags that are specific to a WMU throughout the province and allowing hunting of moose calves during all open moose hunting seasons.
 - Currently hunters can use a bull tag or cow tag to harvest a calf moose instead but only during the two-week calf hunting season.
 - Hunters supported continuing to allow harvest of a calf moose using a cow tag but opposed allowing harvest of a calf moose using a bull tag.
 - Hunters electing to harvest a calf moose instead of a cow on a cow/calf tag may further reduce harvest of cow moose.
- Comments/concerns/anticipated reaction:
 - While this approach increases adult moose hunting opportunities and provides an effective tool to help grow moose populations, it will significantly reduce the number of hunters who hold their own moose hunting tag.
 - However, combined with Recommendation 3 and continued party hunting, preferred moose hunting opportunities for adult moose would increase or be maintained.
 - Large proportions of Moose Management Review survey respondents expressed support for eliminating calf harvest through calf hunting season closures. Regulating calf harvest through quotas is a more

flexible approach that can be adjusted annually to achieve appropriate calf harvest levels.

2. Recommendation: Assess moose quota setting to improve consistency and transparency across the province.
 - Description/details/explanation:
 - MNRF should develop, consult and communicate on updated Moose Harvest Management Strategy Guidelines to include more detailed quota setting criteria the ministry would apply.
 - The updated criteria must make clear how MNRF will develop bull, cow/calf and calf tag quotas under the new selective harvest approach (Recommendation 1).
 - BGMAC should provide input in development of quota setting criteria.
 - Updated moose harvest management policy needs to clearly outline the various roles MNRF staff have in developing and reviewing population estimates, sustainable harvest levels and tag quotas, including the role of district biologists in ensuring local information is considered in quota development.
 - When applying these guidelines, MNRF staff must clearly identify and explain any departures from the guidelines.
 - The policy also needs to outline a commitment from MNRF to give due consideration to BGMAC recommendations resulting from quota reviews.
 - Rationale:
 - The methods used by MNRF to develop moose tag quotas vary across the province and are largely unknown to hunters, leading to confusion, misinformation and distrust. MNRF is likely to hear fewer complaints about moose tag quotas if hunters have a better understanding how they are developed and confidence in the process.
 - Comments/concerns/anticipated reaction:
 - Recommendations 1 and 2 are related with a need for calf harvest quota setting criteria incorporated into harvest management strategy guidelines.
 - The timeline for development and consultation on policy changes for an updated Moose Harvest Management Strategy Guideline is very short to allow for implementation in spring 2020. Changes to the selective harvest approach could be implemented for 2020 while work continues on quota-setting criteria for 2021 if necessary.
 - Hunters will appreciate having input into criteria and a greater understanding how moose tag quotas are developed by MNRF.

3. Introduce a moose hunting licence that doesn't come with its own tag but can be associated with another hunter's tag to allow party hunting by moose hunters that are unsuccessful in the tag allocation process or did not apply. The moose hunting licence will provide the opportunity to hunt moose to those hunters who do not apply or are unsuccessful in the tag allocation process or decline the opportunity to purchase a tag they were allocated.
 - Description/details/explanation:
 - This recommendation is related to Recommendations 1 and 8. A hunter who applies for a moose tag but is unsuccessful, chooses not to claim a tag or a hunter who didn't apply for a tag would have the choice to purchase a standalone moose hunting licence requiring a hunter to hunt in a party with another hunter who was issued a tag.
 - This approach, combined with recommendations made below to make the draw fairer, would result in a restructuring of moose hunting licence products into component parts and consideration of prices (see Recommendation 8a and 8e). This improves fairness by allowing hunters to purchase separately only those products they desire (e.g. application only, licence only, tag if issued and they have a licence).
 - The standalone moose hunting licence must be associated with a tag before a hunter can hunt. This is related to Recommendation 5 below where a hunter must be identified with a tag(s) and each tag must identify what hunters have been associated with it.
 - Rationale:
 - Hunters who are unsuccessful in or who do not apply to the draw receive a calf tag valid anywhere in the province.
 - With the introduction of calf tag quotas not all hunters would have their own moose tag.
 - Hunters could be allowed to party hunt with another hunter who was issued a moose tag if Ontario creates a new standalone moose hunting licence.
 - This approach will help to maintain most moose hunting opportunities that might otherwise be lost with a move to calf tag quotas.
 - Hunters who responded to the survey expressed support for this approach. Individuals who attended listening sessions also expressed support for this option in discussions with BGMAC members and MNRF staff.
 - Comments/concerns/anticipated reaction:
 - Hunters are largely expected to support this option.
4. Create early bow-specific seasons and quotas in most WMUs with an open moose hunting season where they don't currently exist (except far north WMUs).

- Description/details/explanation:
 - For northern WMUs (WMUs 27, 28, 30, 31, 32, 33, 35, 36, 37, 39, 40, 41 and 42)
 - A bows-only season already exists in these WMUs.
 - Create separate tag quotas for bow and gun.
 - For southern WMUs (WMUs 46, 47, 49, 50, 53, 54, 56, 60, 61, 62 and 63)
 - Create a one-week bows-only hunting season to match the current bows-only season in WMUs 48, 55A, 55B and 57. Maintain the current one-week gun hunting season that is consistent across southern Ontario.
 - Create separate tag quotas for bow and gun.

- Rationale:
 - Hunter success using bow tags is generally lower than for gun tags.
 - This change would result in more overall moose hunting opportunities for hunters at the same level of moose harvest. It also results in more consistent seasons and quota setting across the province.
 - The four WMUs with calf tag quotas in eastern Ontario are also the only WMUs in southern Ontario with a bows-only season. The experience in these units has demonstrated it's possible to grow moose numbers while creating hunting opportunities for both bow and gun hunters. It also reduces hunter crowding which results in a more pleasurable hunting experience.
 - BGMAC members and MNRF staff heard from many bow moose hunters at the listening sessions frustrated that there are no dedicated bow seasons in southern Ontario and combined quotas for bow and gun in some areas where there are dedicated bow seasons in northern Ontario.
 - Hunters weren't as supportive of this option on the Moose Management Review survey but that is attributed to the additional qualifier provided on the survey that unless there is an increase in moose numbers this approach would require MNRF to convert some gun hunting opportunities for bow hunting. A small number of gun tags can be converted into a greater number of bow tags due to the relatively lower bow tag fill rates in most areas.
 - In this case, hunters may not have considered that there will also be less competition from other hunters (that change to bow hunting) for the remaining gun hunting opportunities.

- Comments/concerns/anticipated reaction:
 - Bow hunters will be very pleased with this approach.
 - If there is no increase in allowable moose harvest (i.e. population growth) bow hunting opportunities can only be created by converting gun hunting opportunities. Some gun hunters will be frustrated with having to give up a limited number of gun hunting opportunities to

create bow hunting opportunities. However, the creation of bow hunting opportunities also reduces competition for remaining gun hunting opportunities.

Changes to Hunting Rules to Increase Hunting Opportunities for Adult Moose

5. Continue to support the party hunting of moose but pursue changes to Ontario's lenient party hunting rules to reduce tag fill rates, increase hunting opportunities and spread them among more hunters.
 - Description/details/explanation:
 - Reduce the distance members of the hunting party can be from the tag holder from 5 km to 3 km.
 - Reduce party hunting size to maximum of 10 members that can hunt on a single tag.
 - Require the tag holder to identify the hunters in their party by including each member's Outdoor Card number on their licence summary.
 - All moose hunting licence holders to identify what tag(s) they are hunting on by including them on their licence summary.
 - Cap the number of tags/parties an individual hunter can be identified with at three.
 - Rationale:
 - A recent scan revealed that Ontario's party hunting rules for moose are far more lenient than any of the other jurisdictions surveyed. Very lenient party hunting rules contribute to high moose tag fill rates across much of Ontario.
 - High and increasing tag fill rates results in fewer tags for the same level of allowable moose harvest.
 - Allowing moose hunting parties to spread out to hunt over a relatively large area results in parties having difficulty in communicating and sometimes accidental harvest of more than one moose on a single tag. Reducing the area that a party can hunt will result in more timely and efficient communications to ensure that the accidental harvest of more than one moose is less likely to happen.
 - No limits on party size or who is in a party under the current rules makes it challenging to prevent illegal activities like "tag shopping" (where hunters kill a moose first and then seek out hunters who have the proper tag) and party "tag filling" (where different parties know what tags other parties in their area have and seek to help each other fill tags).
 - Hunters in some parts of northern Ontario have also expressed concerns about interference and safety concerns associated with large hunting parties in some areas.
 - More survey respondents were supportive than opposed to restricting the size of hunting parties to 10 or less or to 8 or less. The approach

outlined controls party size but accommodates the largest average group size reported by hunters on the Moose Management Review survey (9.3 for hunters who live and hunt in southern Ontario). A maximum party size of 10 would require large groups (often from southern Ontario) to split and hunt separately on more than one tag, but they could do this while staying together at a single moose camp.

- The requirement for tag holders to identify other hunters in their party is consistent with the approach taken in other jurisdictions that allow more than one hunter to hunt on a single tag.
- Comments/concerns/anticipated reaction:
 - It is difficult to predict the feasibility, enforceability and impact on tag fill rates with these options. There is also a potential lag between a reduction in tag fill rates and an increase in tag numbers because tag fill rates are averaged over the most recent three hunting seasons.
 - Most of the opposition likely to be heard regarding the party hunting changes outlined above will likely come from hunters with a tradition of hunting in a larger party and in multiple parties. Some of these concerns will be alleviated by allowing an individual hunter to be identified in up to 3 parties.
 - The specific recommended changes outlined would still be more lenient than any other jurisdiction reviewed in the recent scan.
- 6. Review and consider adjustments to moose hunting season length if other measures are ineffective at reducing tag fill rates. Consider pilot season adjustments to study the effectiveness of this strategy at reducing tag fill rates and supporting sustainable management.
 - Description/details/explanation:
 - If moose tag fill rates continue to increase or remain high, pursue changes to reduce season length to try to reduce harvest success.
 - MNR could consider changes to hunting season opening and/or closing dates that would reduce season length in a subset of WMUs as part of a pilot research project. The project would be designed to measure the benefits of season changes at reducing tag fill rates with the intent to increase opportunities for hunters.
 - Rationale:
 - Long moose hunting seasons across most of northern Ontario allow hunters an extended period to harvest a moose. Longer hunting seasons are thought to contribute to relatively high levels of hunter success observed in Ontario.
 - Season length does vary somewhat across northern Ontario with the longest seasons in northwest Ontario reaching up to 93 days in some years. Parts of northwest Ontario in Cervid Ecological Zones C₁ and D₁

are also the areas where MNRF and hunters have the greatest concerns about moose populations.

- If necessary, seasons could be shortened in some areas as part of an experimental approach intended to formally evaluate the impact of long seasons on moose harvest levels and tag fill rates.
- Comments/concerns/anticipated reaction:
 - Seasons could be shortened in a way that reduces impact to hunters by closing seasons during periods of time when moose hunter effort is typically lower. This may lead to consideration of a split moose hunting season with a closed period in the middle.
 - A split moose hunting season would also reduce overlap between moose and other gun hunting seasons for big game species like bear and deer, which may help to reduce tag fill rates by reducing incidental/accidental/illegal harvest.
- 7. BGMAC to work with MNRF to review any changes made to address tag fill rates and determine if they were successful, addressed specific concerns about accidental/illegal harvest and resulted in additional hunting opportunities. This review to be conducted after three years once the changes have been in place long enough to evaluate their effectiveness.
 - Rationale:
 - Many hunters understand the trade-off between moose tag fill rates and hunting opportunities (i.e. tag numbers) and specifically that high tag fill rates in Ontario have reduced opportunities. However, hunters will want to know that changes have been effective or that MNRF will take appropriate action to remedy any concerns if they are not.
 - Description/details/explanation:
 - MNRF must monitor the results and report back on the effectiveness of any changes through media channels frequented by hunters (e.g. hunting regulation summary) on the outcome of any changes made to address tag fill rates.
 - Comments/concerns/anticipated reaction:
 - Acceptance of these changes will be mixed. Hunters indicated a willingness to consider shortening seasons to address tag fill rates in discussions at listening sessions but were not supportive on the Moose Management Review survey. However, on the survey they showed more support for changes to party hunting rules and shortened seasons than they did for any access restrictions.
 - The recommendations are meant to address concerns about the impact high tag fill rates have on hunting opportunities, but the exact impact is difficult to predict. It is important to assess whether the recommendations are having the desired, positive effects.

- The commitment to evaluate any changes may soften the reaction from some hunters who don't like the changes.

Making Tag Allocation Simpler and Fairer

8. Create and implement a new moose tag allocation system that is simpler and fairer for hunters. The new allocation strives to address concerns regarding the cost of various licensing components, ensure that tags are allocated in a fair and predictable manner, and reduce the numbers of ghost hunters (hunters who do not hunt moose but whose credentials are used by moose hunters to increase their chances of acquiring a tag). Components of the recommended allocation approach are outlined below. BGMAC to work with MNRF to explore and design other finer aspects of the allocation system to meet the overall objective of ensuring simplicity and fairness.

8a. Application approach

- Description/details/explanation:
 - Allow hunters to apply to the moose tag allocation process with a reasonably priced application fee, similar to Ontario's elk tag application process.
- Rationale:
 - Hunters have increasingly expressed frustration with having to pay the full price for a licence to enter the moose draw/allocation due to the low draw success rates in many WMUs.
 - Discussions with hunters at listening sessions indicated strong support for this approach, but hunters expressed concerns about increasing the numbers of ghost hunter applicants with this approach.
 - General support for this approach was also confirmed on the Moose Management Review survey.
- Comments/concerns/anticipated reaction:
 - Most hunters are likely to view this approach as fairer as they are charged a reasonable price for the chance to receive a moose tag.
 - To address moose hunter concerns about increasing ghost hunter applicants with this approach the moose tag transfer rules will need to be more restrictive. See recommendation 8f for additional restrictions on tag transfers.
 - Moving to an application fee approach has revenue implications for the Special Purpose Account which funds moose management.

8b. Group applications

- Description/details/explanation:

- Eliminate the group application aspect of the moose tag draw/allocation and treat all moose hunters the same based on their own draw history (see part 8c below for details of the points-based stand-in-line allocation process).
 - Each moose hunter would apply individually and could choose to associate with other hunters as part of a hunting party as described in Recommendation 6 above.
 - Groups of hunters who continue to want to hunt together with only one tag would be able to take advantage of the opportunity to not claim a tag (see 8c).
- Rationale:
 - This recommendation is somewhat counter to the results of the Moose Management Review survey where the majority of hunters indicated they felt the group application approach was fair. What is unclear from the survey results is why hunters felt it was fair.
 - This approach seeks to improve fairness for all moose hunters by treating them as equal based on their own individual draw history.
 - The recommended allocation approach would maintain a couple key benefits of the current group application approach by allowing hunters to turn back extra tags and maintain their preference status (if more than one member of their hunting group is allocated a tag), and by allowing tag transfers (only in exceptional circumstances) within hunting parties.
 - Some hunters continue to be confused about the group application aspect of the current tag draw/allocation approach and how it influences their chance of associating with a tag.
 - With tag reductions that have occurred in recent years the number of WMUs with a guaranteed group size and large group allocation have continued to decline. Hunters are increasingly applying individually and/or being treated as individuals in the allocation process.
 - Eliminating the group application aspect greatly simplifies the application and allocation process.
 - Comments/concerns/anticipated reaction:
 - Some hunters will be frustrated with the loss of the group component, particularly groups that were still able to access tags by meeting guaranteed group sizes.
 - Some hunters may also express concerns about members of their hunting party having to accept more tags than they want. It will be important to clearly communicate that successful applicants will have a period of time to consider whether to claim a tag. Tags that are not claimed would go into the second chance allocation.

8c. Hunter preference/allocation approach

- Description/details/explanation:
 - Eliminate the current two-pool system and allocate tags to hunters primarily based on the cumulative number of years a hunter has been unsuccessful in the draw/allocation (i.e. the number of years they have applied since they were last successful in the draw or since they began applying).
 - A hunter would receive a preference point for each year they applied to the moose allocation process but didn't receive their preferred tag. Hunter point totals would be based on hunter draw success history going back to 1992 (since the Outdoors Card was implemented).
 - The special northern resident allocation step would be eliminated but northern residents (as currently defined) would receive an additional preference point each year. The additional point would not accumulate.
 - The primary allocation system would effectively be a stand-in-line approach where no hunter would receive a second preferred tag within a WMU until every other hunter has received that tag.
 - When there are more hunters tied with the top number of points than tags available a random draw will be used to allocate from among those hunters.
 - Hunters would be allowed to apply their preference points when applying for any WMU and type of moose, but they would lose their points as soon as they claim a tag they had been allocated in a preferred allocation.
 - Give hunters the option whether to claim tags they have been allocated. This will help address some concerns about elimination of the group application component (see 8b) and further restrictions on tag transfers (see 8f). If a hunter does not claim a tag, they do not lose any points.
 - Provide an option for hunters who do not wish to receive a tag in a given year but still wish to accumulate points.

- Rationale:
 - Hunters clearly expressed a desire for major changes to the tag draw/allocation system at listening sessions and on the Moose Management Review survey.
 - This reinforces input from hunters to MNRF in recent years that it's time for changes in the allocation approach.
 - The point-based stand-in-line approach described above was the system preferred by hunters in discussions at listening sessions and on the survey.
 - The point-based allocation approach generally eliminates concerns about hunters going a long time without a tag while others have been successful more frequently, as hunters who have gone the longest without a tag are the ones near the front of the line to be allocated tags.

- On the Moose Management Review survey hunters clearly indicated that greater certainty in when they were likely to get a tag was an important component in creating a fair allocation approach. Getting a tag is more predictable in the point-based allocation approach than any of the alternative draw systems considered.
- Views regarding northern resident preference varied based largely on where a hunter lives and whether they benefit from the northern resident preference. However, some northern hunters suggested eliminating the northern resident preference as it isn't fair to all Ontario resident hunters.
- Comments/concerns/anticipated reaction:
 - An overhaul of the current tag draw/allocation approach which has seen only minor changes since 1992 will be a significant change for hunters.
 - Many hunters will express frustration with significant changes, particularly if they don't understand how a new allocation approach works.
 - It will be critical to undertake significant communication efforts to explain any changes to hunters.
 - There will also have to be a willingness to accept that some hunters will not like the changes. New moose hunters and those recently successful in the current draw are likely to feel most disadvantaged.

8d. Allocation steps and timeline

- Description/details/explanation:
 - Implement a two-step allocation process to distribute tags to hunters and advance the timing of the allocation process as early as possible so hunters have certainty to plan for their hunts (e.g. request time off).
 - The first allocation step is the preferred step where a hunter applies for their top choice WMU and tag type. If the hunter is successful they must claim their tag by an established date. If they don't claim their tag it goes back into the second allocation and the hunter keeps their points.
 - Tags that are not allocated in the first step are made available for a second chance allocation. Hunters can re-apply for the remaining tags (hunters who applied in the first step aren't required to pay a second application fee to apply in the second allocation).
 - MNRF and BGMAC to work together to explore methods to address any tag opportunities that might go unallocated in the first two steps (e.g. surplus tags).
- Rationale:
 - Hunters were very vocal in their desire to know the results of tag allocations as early as possible in the year, so they could plan their hunts. Having the first allocation completed earlier will reduce the need for non-emergency tag transfers such as being unable to secure

vacation time. This in turn will increase support for the recommended restrictions on tag transfers (see 8f).

- Implementing a second allocation where hunters can apply separately for tags not allocated in the first allocation is a more effective way to distribute tags and allows hunters to make a more informed application choice based on the tags remaining after step one.
- Hunters have also expressed significant frustration with the current first-come, first-served phone-in system for distributing surplus tags. This approach eliminates the first-come, first-served component.
- Comments/concerns/anticipated reaction:
 - The approach must be carefully designed and monitored to minimize some problems that can be associated with a point-based allocation system (e.g. point creep – where the points required to be allocated a preferred tag continually increases because of high demand relative to the supply of tags, and negative impacts to hunter recruitment and retention because of the expected wait time to accumulate enough points for preferred tag types).
 - Modifications to the approach may be required after the system has been in operation for a few years to address issues/concerns that may have developed (see Recommendation 10).

8e. Moose hunting licence and tag prices

- Description/details/explanation:
 - Change the price of a moose hunting licence to reflect the implementation of the application fee approach. The cost of applying for a tag plus the cost of a moose hunting licence should be similar to what it currently costs a hunter for a moose hunting licence.
 - The application fee could be considered a deposit on a licence so hunters who apply only pay the difference but hunters who don't apply and just purchase a licence pay the full price for a moose hunting licence.
 - Sell moose tags as their own product separate from moose licenses. Develop a fee structure for moose tags that reflects the value of the resource and hunter demand such that bull tags cost more than cow tags, which cost more than calf tags. This will help maintain the funds available for moose management through the SPA.
 - The hunter must purchase a licence in order to accept a tag they have been allocated or they wish to hunt in a party with another hunter who has a tag.
 - A hunter purchases a tag when they claim it.
- Rationale:
 - Some hunters expressed support for increasing the costs to hunt moose, reflecting the value of the resource and high demand from

hunters. Even some hunters that didn't like increasing the cost understood that it is important to maintain adequate funding for moose management.

- Combined with the application fee this approach gives the hunter the choice to only purchase the products they desire (e.g. application only, licence only, tag if issued and they have a licence).
- For hunters that hunt in a party the cost of a moose tag will likely be shared by all hunters in the party and may not be incurred annually.
- Comments/concerns/anticipated reaction:
 - It may be challenging to determine the appropriate price for the various products unless it is based on current revenue collected from the sale of moose hunting licenses.
 - Some hunters will oppose any increase in the cost to hunt moose, even if their average cost per year has decreased.
 - If tag prices are not increased in conjunction with moving to an application fee approach, there is likely to be significant negative implications for the Special Purpose Account revenue that is used to support moose management efforts.
 - Increasing the costs of tags may have the greatest economic impacts on hunters who live in areas, generally the far north, where they are able to obtain adult tags on an annual or semi-annual basis as either an individual or a member of a small group.

8f. MNRF should further restrict tag transfers to address hunter concerns about lack of fairness with some hunters using ghost hunters (hunters who do not hunt moose but whose credentials are used by moose hunters to increase their chances of acquiring a tag) to access tags, particularly if the application fee approach is implemented.

- Description/details/explanation:
 - Allow hunters to transfer moose tags to another hunter in their declared party only in exceptional circumstances (e.g. medical emergency). A hunter would have to identify the party of hunters that will be hunting on the tag before a transfer is allowed.
- Rationale:
 - Through the public engagement sessions and the survey, numerous hunters voiced concern over ghost hunters.
 - Hunters were generally not supportive of eliminating tag transfers but were supportive of further restricting the opportunity to transfer a tag to very limited circumstances.
- Comments/concerns/anticipated reaction:

- The hunters most likely to oppose any changes to tag transfer rules are those who have been abusing this opportunity to unfairly gain an advantage in acquiring tags.
9. BGMAC to work with MNRF to solicit hunter feedback and review and recommend any required changes to improve effectiveness of the new allocation system once it has been in place for 3 years (i.e. long enough to evaluate hunter use and satisfaction).
- Description/details/explanation:
 - Review and recommend necessary changes once the allocation approach has been in place long enough to identify any issues/concerns.
 - Rationale:
 - It will be difficult to develop a completely new allocation system that functions flawlessly and to identify loopholes in the system that may be exploited in an unfair manner.
 - To maintain a fair allocation approach will likely require adjustments over time.
 - Comments/concerns/anticipated reaction:
 - Hunters that don't like a new allocation approach may at least appreciate that MNRF will continue to evaluate the system and consider further changes as necessary.
10. BGMAC to review Tourism Industry (TI) moose tag allocation approach and consider opportunities for tags that aren't being utilized to be shared between the resident and TI allocation.
- Description/details/explanation:
 - BGMAC to work with MNRF to review the TI allocation approach to ensure it remains fair and relevant for both the TI and resident hunters.
 - BGMAC to work with MNRF to explore opportunities to move tags that aren't being used between the resident and TI systems.
 - Rationale:
 - Outfitters have been expressing concerns about the TI allocation approach with the reduction of tags in recent years. Many outfitters have lost the opportunity to offer moose hunts to clients with the loss of their last tag in recent years.
 - Adult moose tags are in high demand but some tags for both the resident and TI allocation go unused each year. There is likely demand for some of these tags within the other allocation.
 - Comments/concerns/anticipated reaction:

- Recommendations 1, 2 and 4 on quota setting affect outfitters as well. However, outfitters are most interested in adult moose tags, particularly for bulls.

Other Topics

11. MNRF must do more to communicate to hunters regarding moose management to increase transparency and support for management efforts. This includes communicating/promoting opportunities for local stakeholder committee participation in moose management discussions (e.g. forestry Local Citizen's Committees, game and fish clubs) through their local MNRF district office.

- Description/details/explanation:
 - Given the high interest in moose in Ontario, MNRF should employ the full range of communication channels and opportunities to explain all aspects of moose management to hunters and the public.
- Rationale:
 - Discussions with hunters at listening sessions revealed many misconceptions regarding moose management in Ontario. Hunters had a much more positive view once additional explanation was provided.
 - If MNRF moves to consult on and implement some or all of the changes recommended here a massive communications effort will be required to help hunters understand what is being proposed/implemented. If not, hunters will not feel that the end result of this review is a fairer and simpler system, even if it is.
 - Some aspects of moose management are still undertaken at local levels. Encouraging local groups to participate in management discussions helps engage these groups and create a greater sense of ownership in management efforts. This is also likely to lead to a greater sense of understanding and appreciation for management efforts.
- Comments/concerns/anticipated reaction:
 - MNRF needs to consider that there are still many hunters who don't access electronic media channels. These hunters will need to be informed through direct mailings, print media and the hunting regulation summary.
 - The hunting regulation summary is the major, and often only, source moose hunters read and therefore should be central to all communication efforts.

12. MNRF must ensure habitat prescriptions for moose are being applied as part of forest management practices and conduct adequate monitoring to evaluate the effectiveness of moose management prescriptions.

- Description/details/explanation:

- Monitoring and evaluation should include the following:
 - Monitor and report on the implementation of forest management prescriptions for moose, including moose emphasis areas.
 - Evaluate provincial forest management guideline effectiveness in supporting moose population objectives, including the effectiveness of moose emphasis areas in supporting population growth and sustainability.
 - Ensure access is being addressed in moose emphasis area prescriptions to address concerns about potential for high levels of moose harvest mortality in recent cuts.
 - Re-evaluate science on the impacts of spraying glyphosate (forest treatment) on moose, and/or conduct research designed to evaluate glyphosate impacts on moose.
 - Ensure forest management prescriptions continue to support WMU-scale moose population objectives that were consulted on and approved in 2016 as part of the Moose Project.
- Rationale:
 - Moose are a featured species in forest management and Ontario's forest management guidelines include a number of prescriptions to provide for moose habitat.
 - However, there is no reporting on how these prescriptions are applied or how moose populations respond.
 - Hunters and some Indigenous communities have expressed concerns how forest management for caribou, particularly within the discontinuous caribou range, may affect moose numbers.
 - WMU scale moose population objectives were developed in accordance with the Cervid Ecological Framework which generally integrates moose and caribou management. Moose population objectives for WMUs within the discontinuous caribou range give consideration to management needs for caribou but recognize that specific prescriptions for caribou within this area have not yet been identified.
- Comments/concerns/anticipated reaction:
 - Some hunters and stakeholders may express concerns if prescriptions result in loss of access for moose hunting

13. MNRF should devote additional resources to moose science efforts.

- Description/details/explanation:
 - Conduct research to address uncertainties about factors affecting moose population sustainability and health in areas with population concerns.
 - Conduct research to evaluate uncertainties about the effectiveness of some harvest management strategies being employed in quota development.

- Better communicate the methods and results of Moose Aerial Inventory monitoring efforts to address concerns about hunter confidence regarding population estimates.
- Rationale:
 - While MNRF has conducted significant research on moose over time, it is unclear what factor(s) are driving the significant population declines in some areas, particularly CEZ D₁ and part of CEZ C₁.
 - MNRF has employed some harvest strategies as part of quota setting in recent years that haven't been fully evaluated. At the same time other changes were made to hunting regulations as part of the Moose Project. While moose numbers have shown improvement in some areas where these strategies have been employed it's not clear which management actions have been most beneficial.
 - Hunters continue to express a lack of confidence in MNRF moose population monitoring efforts (MAI) due to an unfamiliarity with the methods employed, concerns about the training received by observers and a perceived disconnect with what they are observing while hunting.
- Comments/concerns/anticipated reaction:
 - Increased investment of resources by Ontario to conduct science where necessary and communicate the results will help build confidence from hunters and the public in MNRF moose management efforts.

14. MNRF should address hunter concerns about the potential impacts of predation on moose populations to complement efforts to restrict hunter harvest.

- Description/details/explanation:
 - Permanently restore the spring bear hunt that will otherwise conclude at the end of 2019.
 - Extend the spring bear hunting season in northern Ontario (WMUs 1-42) until the end of June.
 - BGMAC to work with MNRF to review bear population objectives and development methods, and harvest allocation to resident and the tourism industry.
 - Remove the game seal requirement for wolves and coyotes and eliminate the bag limit for coyotes in northern Ontario (WMU 1- 37).
 - Review the harvest limit of two wolves per hunter per year in these WMUs to ensure that it is scientifically supported, not unnecessarily restrictive and sufficient to result in positive effects on the moose, elk and caribou population.

- Bring northern Ontario coyote regulations in line with southern Ontario by removing the closed season and providing an exception to the June 16th to August 31st small game licence restriction.
- Rationale:
 - Black bears are an important predator of moose calves and wolves are an important predator of all ages of moose.
 - While wolf and bear predation of moose is a natural occurrence, many moose hunters have expressed frustration that many of MNRF's efforts to address moose population concerns have been targeted at provincially licensed moose hunters.
- Comments/concerns/anticipated reaction:
 - MNRF consulted on the changes to wolf/coyote hunting regulations recommended above as part of phase two of the Moose Project but heard significant opposition, particularly from environmental organizations and their members and did not move forward with the changes.

15. MNRF must work to build relationships with Indigenous groups and communities to share information on harvest and pursue mutual interests with respect to moose management and populations.

- Description/details/explanation:
 - MNRF must work at all levels of the ministry to improve relationships and better communicate/share information with Indigenous groups and communities to improve moose management efforts.
 - At the local level, MNRF district or regional Indigenous liaisons must attempt to engage with Indigenous communities to discuss moose populations and management (including harvest levels).
- Rationale:
 - Provincially licensed moose hunters continue to express significant concerns about Indigenous hunting practices and speculate on the number of moose harvested by Indigenous moose hunters.
 - Moose are very important to Indigenous communities for food, cultural and ceremonial purposes within moose range but levels of rights-based harvest of moose is a significant unknown throughout much of the province.
 - MNRF, provincially licensed moose hunters and Indigenous communities have similar interests with respect to moose in Ontario. Working together is in the best interest of everybody.
- Comments/concerns/anticipated reaction:

- Some hunters will continue to be frustrated and insist this doesn't go far enough to address their concerns. They will need to be reminded of Aboriginal and treaty rights to harvest and that MNRF has no authority to require Indigenous communities to provide their harvest information.
- MNRF's move to require mandatory reporting by all provincially licensed moose hunters will help in discussions with Indigenous groups and communities about sharing moose harvest information.

APPENDIX

Detailed summaries of responses to questions asked on the Moose Management Review survey.

Table 1. Where respondents live by MNRF region.

Region Live	% of Responses	Count
NER	20%	428
NWR	24%	494
SR	56%	1168
Overall	100%	2090

Table 2. Where respondents hunt by MNRF region.

Region Hunt	% of Responses	Count
NER	40%	802
NWR	41%	832
SR	19%	389
Overall	100%	2023

Table 3. Where respondents live and hunt by MNRF region.

Region Live, Hunt	% of Responses	Count
Live NER, Hunt NER	18%	366
Live NER, Hunt NWR	2%	42
Live NER, Hunt SR	1%	11
Live NWR, Hunt NER	<1%	6
Live NWR, Hunt NWR	24%	484
Live NWR, Hunt SR	<1%	1
Live SR, Hunt NER	21%	427
Live SR, Hunt NWR	15%	304
Live SR, Hunt SR	19%	377
Total	100%	2018

Table 4. How hunters who responded prefer to hunt moose.

By myself	In a hunting party	No preference	Count
14%	70%	16%	2075

Table 5. For hunters that reported hunting moose in a hunting party, the reported typical size of hunting parties.

Region	Average	Standard Deviation	Count
NER	6.7	3.2	723
NWR	5.3	2.6	758
SR	9.2	4.9	372
Provincial	6.6	3.7	1894

Table 6. How hunters reported applying to the moose tag draw.

Individual	As part of a group	I do not apply to draw	Count
36%	62%	2%	2079

Table 7. For hunters who reported applying to the moose tag draw as part of a group, the reported typical size of groups.

Average	Standard Deviation	Count
7.0	3.3	1496

Table 8. Reported support or opposition to possible changes related to quota setting.

	Strongly support	Support	Neutral	Oppose	Strongly oppose	Not sure	Count
Permit calf hunting only with tags that are specific to a WMU throughout the province.	24%	25%	14%	13%	22%	2%	2054
Implement WMU-specific calf quotas and tags and allow hunting of moose calves during all open moose hunting seasons.	20%	24%	15%	15%	24%	2%	2042
Implement WMU-specific calf quotas and tags only in some additional WMUs where most needed.	14%	30%	19%	13%	20%	4%	2016
Eliminate calf harvest	29%	12%	15%	18%	23%	4%	2038
Offer a moose hunting licence without a tag for hunters who are	23%	23%	16%	11%	16%	11%	2006

	Strongly support	Support	Neutral	Oppose	Strongly oppose	Not sure	Count
unsuccessful in the draw.							
Allow hunters to use a cow tag to harvest a calf in WMUs where calf tags are required.	23%	24%	9%	17%	24%	3%	2058
Allow hunters to use a bull tag to harvest a calf in WMUs where calf tags are required.	19%	20%	10%	19%	28%	4%	2054

Table 9. Hunter preference for several calf harvest control strategies.

Calf harvest control strategy	% of Respondents
Reduce the calf hunting season and split it between bow and gun seasons	5%
Close the calf hunting season when necessary to support moose population growth	46%
Implement Wildlife Management Unit specific calf tag quotas to limit calf harvest	28%
None of the above	20%
Total responses	2058

Table 10. Reported support or opposition to possible changes related to reducing tag fill rates to increase hunting opportunities.

	Strongly support	Support	Neutral	Oppose	Strongly oppose	Not sure	Count
Restrict the size of hunting parties to 10 or less.	20%	21%	22%	16%	17%	3%	2002
Restrict the size of hunting parties to 8 or less.	24%	17%	21%	16%	19%	3%	2027
Do not restrict the size of hunting parties but require hunters to only be able to party hunt with individuals who applied to the draw together as a group.	18%	22%	16%	17%	23%	4%	2038

	Strongly support	Support	Neutral	Oppose	Strongly oppose	Not sure	Count
Restrict the party size and require hunters to only be able to party hunt with individuals who applied to the draw together as a group.	21%	19%	15%	19%	24%	3%	2044
Create early bow-specific seasons and quotas in most WMUs with an open moose hunting season (except far north WMUs) and convert some gun hunting opportunities to bow hunting opportunities (which generally have a lower tag fill rate).	17%	16%	21%	17%	24%	5%	2043
Restrict hunters from using vehicles on some forest roads to access areas to hunt moose.	14%	12%	10%	20%	39%	4%	2061
Remove forest roads in some areas to reduce hunter harvest and predator foraging efficiency.	12%	12%	12%	20%	40%	4%	2047
Limit ATV use to retrieval of harvested moose.	13%	8%	8%	17%	50%	4%	2065
Reduce season lengths	15%	18%	14%	17%	32%	4%	2049

Table 11. Hunter views on whether it's time for major changes to Ontario's moose tag draw/allocation approach.

Yes	No, I prefer to maintain the current approach as it is	Not sure	Count
77%	12%	11%	2055

Table 12. Hunter views about fairness of various aspects of the current moose draw/allocation system.

	Fair	Unfair	Not sure	Count
Requiring a hunter to purchase a licence to enter the draw	66%	30%	3%	2069
Allowing a hunter to go many years (some more than 20 consecutive years) without receiving an adult tag	8%	87%	6%	2076
Giving preference in the draw to group applications	56%	37%	7%	2062
Moving only the tag recipient in a successful group to Pool 2	74%	16%	10%	2066
Allowing hunters issued a tag to spend only one year in Pool 2	75%	14%	11%	2071
Allowing an individual applicant to draw a tag	76%	17%	8%	2070
Giving preference to northern residents for northern WMUs	54%	39%	7%	2073
Allowing tag transfers within a group of draw applicants	73%	21%	6%	2072
Distributing surplus tags in a first-come, first served approach with the current phone in system	45%	44%	11%	2069

Table 13. Hunter views on the importance of various components in creating a fair tag allocation approach.

	Very important	Important	Somewhat important	Not important	Not sure	Count
Increasing the frequency at which moose tags are allocated to hunters and hunting parties.	35%	36%	15%	9%	5%	2071
Striving to ensure all hunters and hunting groups hunting in a WMU receive a moose tag as frequently as other individuals or groups in that WMU.	44%	34%	12%	7%	3%	2069

	Very important	Important	Somewhat important	Not important	Not sure	Count
Providing greater certainty when hunters and hunting groups are likely to get a tag.	42%	36%	14%	6%	2%	2065
Making it less expensive for hunters to apply for the chance to get a tag.	37%	19%	18%	24%	2%	2070

Table 14. Hunter support or opposition for possible changes to help improve the fairness of the moose tag allocation process.

	Strongly support	Support	Neutral	Oppose	Strongly oppose	Not sure	Count
Allow moose hunters to apply to the draw with a modest application fee (e.g. \$15-\$25).	23%	27%	14%	16%	18%	1%	2056
If hunters can apply to the draw with only an application fee, charge more for moose tags to reflect the true value of this opportunity and support moose management.	18%	26%	13%	20%	21%	2%	2054
Use a simple random draw to allocate tags.	14%	21%	18%	22%	23%	3%	2023
Use a point-based stand in line system to allocate tags (see the above Point-based stand in line allocation section for details).	23%	29%	18%	12%	13%	5%	2026

	Strongly support	Support	Neutral	Oppose	Strongly oppose	Not sure	Count
Use a success-weighted random draw system to allocate tags (see the above Success weighted random draw section for details).	15%	29%	25%	14%	11%	6%	2011
Allow groups applying to the draw to combine points or chances in a point-based system or success-weighted draw.	16%	24%	16%	20%	18%	6%	2027
Penalize all members of successful groups in some way (e.g. all group members lose some points/chances or are moved to a lower priority pool).	12%	17%	16%	24%	27%	4%	2034
Treat all hunters as equals in the draw/allocation approach whether or not they apply to the draw as part of a group.	22%	22%	16%	18%	17%	3%	2035
Use a pool-based random draw system to allocate tags (see the above Pool-based random draw section for details).	14%	26%	27%	15%	12%	6%	1979
Provide northern residents with bonus points or bonus chances with a point-based	26%	18%	12%	16%	25%	3%	2048

	Strongly support	Support	Neutral	Oppose	Strongly oppose	Not sure	Count
system or success-weighted draw.							
Only allow tag transfers in exceptional circumstances (e.g. medical emergency).	29%	21%	10%	17%	21%	2%	2042
Eliminate tag transfers.	13%	7%	13%	24%	39%	3%	2023
Limit the maximum group size to no more than 10 applicants.	22%	19%	20%	15%	18%	5%	1993
Limit the maximum group size to no more than 8 applicants	27%	15%	19%	15%	19%	5%	2011
Distribute surplus tags using a random draw rather than first-come, first-served phone-in system.	38%	24%	11%	8%	14%	5%	2034

Table 15. Level of hunter interest/concern about other aspects related to moose populations and management.

	Very important	Important	Somewhat important	Not important	Not sure	Count
Season lengths	43%	36%	15%	5%	<1%	2050
Habitat Management	62%	30%	6%	1%	1%	2054
Predation	62%	24%	10%	3%	1%	2043
Parasites / disease	57%	32%	9%	1%	<1%	2050
Other sources of mortality	48%	35%	13%	2%	2%	2022

	Very important	Important	Somewhat important	Not important	Not sure	Count
Research / monitoring	57%	33%	8%	1%	1%	2043
Access	42%	34%	17%	7%	1%	2038
Age/sex aspects of harvest management	48%	35%	13%	2%	1%	2034

Table 16. Categories, descriptions and relative frequency of the 2,927 written responses to open-ended questions presented on the Moose Management Review survey. The frequency of each topic is coded based on the number of times it was mentioned by respondents as Rare (R), Low (L), Moderate (M), High (H).

Categories	Description	Frequency
Calf concerns	Eliminate calf hunting	H
	Allocate calf harvest	
	Close calf harvest for X years	
	Orphaning concerns	
	Population growth concerns	
	No calf hunting for bow hunters	
Cow concerns	Eliminate cow harvest	M
	Reduce cow harvest	
	Close cow harvest for X years to grow population where needed	
	Killing the reproducers	
Seasons	Align calf season with adult season	M
	Lengthen bow seasons	
	Shorten season (usually specifying adult gun season)	
	Split seasons (ex. Early season, mid season, late season) allocation for each season	
	Earlier seasons	
	Later seasons	
Closing hunting	Close all hunting of moose until population grows	L
	Close where necessary	
Application fee approach	Support for application fee approach	L
	Opposed to application fee approach	
	Reduced fee to apply desired	
	Opposition to increasing tag fee with reduced application fee	
	Willingness to accept an increase tag fee application fee	
Group (application) size, group priority	Group with X number of hunters should get a tag	H
	No individual applicant should get a tag	
	Remove group priority (everyone applies individually)	
	Increase max group size	
	Decrease max group size	

Categories	Description	Frequency
Party Hunting	All hunters in a party must apply to draw together	L
	Everyone applies as individuals and form party later (return tag option included)	
	All hunters must be listed on tag	
	Once tag is filled the hunt is over (everyone listed on tag must stop hunting)	
	Primary tag holder does not need to be present (if all hunters listed on tag)	
	Maintain unlimited party hunting size	
	Restrict party size	
	No party hunting	
Point System	Support for point system	L
	Opposed to point system	
	Similar stand in line approached described	
	Allow pooling of points	
	All members loose points if successful	
	Only the person who is issued the tag loses points	
	Average all group members points	
	Cumulative number of years instead of consecutive	
	1 point for each consecutive year	
	More points for more consecutive years (exponential)	
	WMU specific points	
Indigenous Harvest	Restrict harvest	H
	Require draw entry	
	Require reporting	
	Enforce limit (ex. 1 moose per family)	
	Harvest out of control	
	Night hunting concerns	
	Apply season	
	Restrict to traditional methods (bow and arrows) not guns	
Predation	Open wolf and coyote hunting	M
	Allow more bear and wolf tags	
	Moose tag comes with bear or wolf tag	
	Reduce or better manage predator population	
Habitat/Forest Management	Shift forestry practices from clear cutting to selective harvest	L
	Stop spraying operations	
	Restrict hunting in clear cut areas for X years	

Table 17. Other themes, their description and relative frequency of responses to the open-ended questions presented on the survey. The frequency of each topic is coded based on the number of times it was mentioned by respondents as Rare (R), Low (L), Moderate (M), High (H).

Other themes	Description	Frequency
Adaptive management approach	Take an adaptive approach in tag allocations to benefit moose	L
Aerial surveys	Increase number of surveys; increase survey accuracy; concerned about survey accuracy; need to improve survey methodology	H
	Better spotters on MAI surveys / require training for spotters	
Antlered/antlerless tags	Use approach similar to deer (antlered/antlerless). Allow harvest of a calf on a cow tag.	L
Bulls only allocation	Focus harvest allocation on bulls only	L
Co-management	Undertake co-management initiatives for moose management with indigenous groups.	M
Concern about Cervid management (caribou conservation and moose management conflicts)	Concerned about overlapping priorities for different cervids that impacts moose management activities	L
Concerns of potential increased tag fees	Against any increase in tag fees	R
Concerns with MNRF	Concerns about how MNRF has managed moose	L
Concern with BGMAC	Concern with representation on BGMAC	R
Create moose sanctuaries	Close certain areas to hunting to allow to allow for population growth	R
Disease/parasites	Winter tick, brainworm, CWD	L
Educate hunters	Improve education for hunters about moose hunting approaches and moose management and conservation	R
	Require shooting test as part of hunter education	
Funding for management	Government needs to invest more funding in moose management and conservation (often associated with more Cos, better monitoring, more field staff)	L
Impacts on SPA	Moose population declines, reduction in tags and hunter participation will impact SPA revenue	L
Improve data for management	Support for science-based decisions (and improving data sources)	M
	Better harvest reporting will benefit moose management and ultimately moose sustainability	
Bow hunting	Need more bow hunting opportunities (and consequentially less gun)	M

Other themes	Description	Frequency
	More bow tags (decreases success rates, can allocate more opportunity)	
	Concerns about humaneness of bow hunting and too many tags allocated for bow hunters	
	Decrease bow tag -Increase gun tags	
Monitoring mortality sources	Better research and monitoring of factors and sources of moose mortality (Disease, Parasites, Weather)	L
No restrictions on access	Opposed to methods of restricting access	L
No restrictions on motorized vehicles	Opposed to restricting the use of motorized vehicles	L
One moose tag for all age/sex	Allow harvest of bull, cow, or calf on a single tag	R
Preference for locals	Hunting within X kms of residence gets preference	M
	Northern residents get preference in northern WMUs	
	Northern resident preference everywhere	
Reduce hunter success	Undertake measures to reduce hunter success	R
Restrict hunter to one WMU	Any tag issued is only valid for the WMU requested (can only be one WMU)	R
Restrictions on motorized vehicles	Restrict the use of motorized vehicles for accessing remote areas	R
Support predator conservation	Need a healthy ecosystem to benefit moose which includes healthy predator population	R
Tag transfers	Restrict tag transfers	M
	Eliminate tag transfers	
	Pool 2 for X yrs. after tag transfer	
Preference to land owners	Preference for land owners/camp owners paying taxes or fees to government	L
	Registered camps get a tag	
Surplus Tags	Make surplus tags available earlier	M
	Call in system not fair (some areas have slow phone lines)	
	Allocate all surplus tags via random draw	
	Northern resident preference in surplus tag allocation	
Smaller WMUs	Split WMUs where distribution of Moose varies greatly from one part of the WMU to another part of that same WMU. Allowing for more tags to be allocated to the area with more moose.	R
	Split WMUs where access to one part of WMU is easier than another part. Allowing for more tags to be allocated to area that is harder to access.	

Other themes	Description	Frequency
Antler restrictions	Only “trophy bulls” with a certain spread or number of points can be harvested	L
	Only harvest “fork or spike” bulls	
Rotate age/sex	One-year bull, next year cow, next year calf (like Quebec)	L
Multiple tags per moose	Multiple tags required for adults and calves (less for calves) (ex. 4 tags required for an adult moose) (like Quebec)	M
Ghost hunters	Eliminate opportunity for ghost hunters	M
Years per tag	Every X years hunters get a tag	L
Enforcement/Poaching	Need more COs	H
	Higher penalties	
	Do something about all the poaching	
Other success weighted draw approaches	Preference pools	L
	Set # of consecutive years required to receive a tag in each WMU	
	Other	
Support current system	Support for the current draw and quota setting approach	R
Random draw variant	No group allocation or northern resident steps	R
	Random draw, remove pool 2	
Tag returns	Allow returning of tags for reallocation	R
Waiting period	If successful, need to wait X number of years to have another chance at a tag	R
Fish and Wildlife Licensing Service	Displeasure with Paper Tags (bring back yellow plastic tags)	L
Fish and Wildlife Licensing Service	Concerned about new paper licences and tags, and new outdoors card (e.g. could result in increased non-compliance)	L
Draw timing	Make results available earlier	R
	Make application period earlier	
Remote access tags	Increase tags where access is limited	R
Translocation of species	Bring in moose from other jurisdictions	R
	Introduce other species to hunt	
	Stop moving moose/wolves	
Increase fees	Current fees underestimate the value of moose	R
Climate change	Concern about climate change impacts on moose	R