2019 Ishkode Project Report

Submitted to the Sault Ste. Marie Tribe of Chippewa Indians Wildlife Program
By the Inter-Tribal Council of Michigan, Inc.
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Introduction

In 2019, the Sault Tribe Wildlife Program initiated an Ishkode Project, in collaboration with the Hiawatha National Forest and the Inter-Tribal Council of Michigan. Wildlife Program and Inter-Tribal Council staff collaboratively pursued interviews with Sault Tribe elders, cultural staff, and regional Anishinaabeg in order to: 1) better understand past and present Anishinaabe relations with ishkode (*fire*) on the land, 2) enhance Wildlife Program and local Anishinaabeg communication and collaboration on Wildlife Program activities, and 3) guide Wildlife Program fire management planning on tribal and federal forest lands.

This document reflects the findings and lessons learned during interviews with eleven local and regional Anishinaabeg. Quotes from interviewed Anishinaabeg are italicized in this document and numbers of interviewed Anishinaabeg are included in parentheses, for example: (3 Anishinaabeg) or (3). Interview questions are included in Appendix B. The interview process may be extended in the future to include additional Anishinaabeg, as many more elders and community members have important knowledges and perspectives to share.

Ishkode and Anishinaabe Relations

Ishkode is an essential actor in Anishinaabe life, creation stories, and teachings. Ishkode was created by Gizhe Manidoo early in the life of the universe and is responsible for creating the earth that we know, as well as humanity.

> *Obviously that fire is something so important to us, you know, and it's one of the original four elements. So at the beginning, it didn't exist. Creator made it and you know the relationship with it is based on that and understanding ourselves as a part of creation and how we used all those things and how they were used to make the earth. That's what that - that fire is at the center. It's in our heart. All these things are meant to be - kinda connected - you know, fire, water, earth, and wind - air. Without those four things, nothing exists. It's all connected and we have to remember that and continue to talk about it or our young people will forget.*

Ishkode is an elder spiritual being, with their own purpose, roles, and relations in creation. As detailed in Anishinaabe original teachings, ishkode has the power to provide for new life and the power to destroy life. Ishkode creates complex benefits and risks in creation, some of which are knowable to and useable by Anishinaabeg.

> *They see it [fire] as being life-giving, versus I know the outside community or nonnative community sees these as destruction. But for us, we really seen and used it as something other than that. I mean, granted, if it was your home and everything that was lost in the devastation, that's a whole other thing. But, for us as Indian people, we've always used it as a method of rejuvenation.*

Anishinaabeg understand that ishkode is not controlled by people; ishkode was shared with the people by the manidoog (*spirit beings*) and mindimooyah (*elder women*). Creation stories, including ones centering Nanaboozhoo, detail the reasons and process of this gifting. The use of ishkode and ability to start fires is a gift to the people, the use of which necessitates respect and reciprocity.

> *I think the respect was really high with ishkode because they knew the power of it. And they respected that power of it too, because of just the way they used it. They used it in their homes, to cook, to smudge, you know, they used it like a tool so when it was time to use, they used it. If they didn't have to use it, they didn't use it.*

When starting and using fires, it is important to make clear to ishkode one's intentions for the fire and the fire's purpose. Anishinaabeg are instructed to maintain care and respect for ishkode, in consideration for the power and life of ishkode. Fire is used for specific purposes, including ceremony (7 Anishinaabeg), cooking (5 Anishinaabeg), gardening (5 Anishinaabeg), and on the land. Anishinaabeg value ishkode's role in communicating with the spirit world (5 Anishinaabeg).

> *You know, the other thing about our fire is its' a direct connection to Creator. When we use our semaa, when we're offering our medicines, we use that as like a - it's kind of like a pipe. It's a direct connection. The smoke goes straight up to the creator. So, we use that in a lot of different ways.*

Ishkode on the Land

A primary purpose and benefit of fire on the land is the resulting fresh growth and new life (11 Anishinaabeg). Fire is acknowledged as good for the land in general (3 Anishinaabeg) and an element of creation taking care of itself (7 Anishinaabeg). Specific benefits include clearing dead plants, weeds, and disease (9 Anishinaabeg); increased nutrient availability for new and continued plant growth (5 Anishinaabeg); invasive species removal (4 Anishinaabeg); and increased food and forage for wildlife (4 Anishinaabeg). Fire is also acknowledged as providing benefits that are unknown and unknowable to Anishinaabeg (3 Anishinaabeg), for reasons determined by elder spiritual beings and beyond human understanding.

Fire has been used by Anishinaabeg for gardening (5 Anishinaabeg), where fields are burned for specific crops, left fallow for crop-specific timelines, and gardens are planted in previous burns. Fire has also been used in yards to clear dead foliage, remove bacteria and disease, and to create and protect Anishinaabe living spaces (3 Anishinaabeg). The purposes and benefits of ishkode on the land, as shared by Anishinaabe interviewees, are included in **Table 1**.

Cultural Continuance

Anishinaabe use of fire on the land has been inhibited by settler-colonialism. Prescribed burning practices and knowledges have become rare over recent centuries, due to settler land-takings, religious and criminal persecution of Anishinaabeg, and U.S. forest management regimes. Six Anishinaabeg talked about the negative influence of U.S. legal and social persecution of Anishinaabeg on the continuance of Anishinaabe land care practices.

> *Our people would intentionally [set fires on the land]? No, no. I don't even think they would have thought about it back in those days because, hell that would have meant jail time…But they understood the need for it. And they understood the benefit of it. It's just we didn't practice it here because…it was too dangerous if we were to do it.*

Anishinaabe-ishkode relations have persisted, however. Interviewed Anishinaabeg discussed social and ecological changes in regional forest lands, both directly and indirectly related to ishkode.

Table 1. Purpose and benefits of fire on the land described during interviews with eleven Anishinaabeg in 2019.

Benefit	Example	Number of Anishinaabe	Number of Mentions
Fresh growth	*When the berry crop was poor, they would light a fire and let it burn. That was just it. They knew that if they -after so many years that the berry production was poor - that they needed to burn it.*	11	39
Clear dead, weeds, disease	*Bugs like that bacteria in the old grasses, all the brown left over, not the green. So, we burn to keep them out of the yard or area... Fire removes diseases, bacteria.*	9	22
Ceremony	*Well, there are different fires and different uses for each fire. You've got to know what you're doing, what you want, and the fire has got to know, too.*	7	34
Nutrient availability	*You get a lot of underbrush growing and, you know, when the fire goes through, it takes care of that. And then obviously the ash is very high in nutrients and everything and it replenishes. And so everything becomes new again.*	5	6
Animal benefit: food and habitat	*All the animals have benefitted from the fire. Not in the immediate. In the immediate they would kind of throw them off, but in the long run especially for the smaller animals, the plants start coming up fresh, it's better stuff.*	4	5
Remove invasive species	*I think it does [fire impact pest, disease, invasive species]. I think especially invasive species; I think - we don't know what you're going to destroy.*	4	4
Unknown benefits	*[Wildfire is] Something you can't prevent and it's done for a reason. Creator only knows what the reason is at the time, you know, maybe.*	3	3
Reduce risk of major fire	*Yes, I do [think it's important to have fire on the land now] because we're having a lot of climate change. And we don't really know what's going on with that, but trying to establish a kind of equilibrium would be important.*	2	2

Changes in forest lands

Sault Tribe Anishinaabeg described changes in forest lands across the Eastern Upper Peninsula, including changes in land tenure, unrestrained logging during the late-nineteenth and early-twentieth centuries, and recent fire suppression. Anishinaabeg talked about the forests becoming thicker or stagnant (4 Anishinaabeg), increasing human populations, resource extraction, and infrastructure development (5 Anishinaabeg), and changes in specific species. Two Anishinaabeg talked about decreases in bogs and other wetlands, due to human development and other causes.

> *Well, for me everything goes back to Sugar Island. As a youth, you remember things and there. We used to go picking blueberries down there at the prairie…around Sari's Road… That used to be all open. And so we called it the prairie. And so there was blueberries there and it was always open. I think for whatever reason, I remember it burning. I don't know if it was prescribed or intentional - it may have been - to keep it a prairie so the blueberries would continue to grow. And that stopped happening so it's all grown up.*

> *I've noticed a difference in people, they think they should just come up here from somewhere, and sit in a blind and shoot a deer. Without investing any time, in where they are and where they go and what they're doing, but we see lots of deer and people say they don't see any. But we see them.*

Species changes include decreased large diameter paper birch, decreased bat populations, decreased marten populations, increased flying squirrel populations, temporary changes in bird behavior, and decreases in cedar.

> *One of the things I notice is the birch trees. They are dying off quicker. They are not getting to an age, and I don't know why that is. I look around, there's, I mean birch grows, the last one I saw was just down by Hessel (Michigan), and some guy bought the property and just cut them all down… But I haven't seen anything like that since.*

> *And, now we have, we have flying squirrels. But they're the sub-arctic kind. They're not the northern flying squirrel. But there's a lot of them.*

Ishkode and Our Relations

Anishinaabeg discussed over sixty individual relations (*species*) and species-groups, emphasizing both benefits and risks from fire. The interview questions emphasized blueberries, snowshoe hare, grouse, and marten. These species were among the most frequently discussed, with heavy emphasis on blueberry (11 Anishinaabeg; 37 mentions). The next most frequently discussed species were deer (6 Anishinaabeg), berries in-general (5), hare (5), marten (5), pine trees (5), birch trees (4), birds in-general (4), grouse (4), invasive species in-general (4), and tamarack (4).

Sault Tribe Anishinaabeg emphasized plant and animal relations that provide food and medicine, as well as those that serve as clan animals. When gathering berries, mushrooms, other foods and medicines, and when hunting for birds, Anishinaabeg consider whether and when a site was burned (6 Anishinaabeg; 10 mentions). Fire is understood to impact landscape heterogeneity, including local abundance of food and forage for wildlife, as well as the presence of small and large land and water openings. Fire and water interactions were discussed at length by six Anishinaabeg (16 mentions). Another Anishinaabe discussed the role of fire in setting back cattails in maintaining manoomin stands. Three Anishinaabeg talked about the role of beaver in establishing new hydrologic patterns after catastrophic fire, which is a quintessential Anishinaabe teaching.

Beaver. Usually they go in after like a catastrophic fire. When it's coming back around, you'll see beaver coming in. They come in and they are damming up an area, bringing back in the water, working on rebuilding the area. And they're usually the first animals that go into the area before the rest of the animals start coming back…That's tied into one of those old teachings…about how you're supposed to use your gifts.

Hare

Anishinaabe legends often include waaboos, the form of which Nanaboozhoo liked to take. Sault Tribe Anishinaabeg discussed the value of waaboos in Anishinaabe life and teachings. Waaboos is a favored food that necessitates walking for hunting and snaring. Waaboos benefit from the fresh growth initiated through fire, especially around wetland-upland interfaces.

…Rabbit habitat will thrive because you create sprouts. Because rabbits need to have young saplings. That's the problem we're having here now is because everything's grown up and there's no suitable habitat. They live in the swamp but they also need to have other food. So, edge on these openings where you set it back and create sprouts. And that benefits the rabbit, plus it gives them a place to hide.

Grouse

Grouse benefit from the new growth after fire, including aspen buds, wild berries and shrubs. Openings, protective interior forest structure, and access to surface water were cited as important elements of grouse habitat.

And so I'd go where those 5-6-7 year old aspen were there growing up. Because the buds were there and the wildlife and those things I was looking for were abundant there. And then if you get into these mature evergreen, the young ones when it comes up has a lot to do with the shelter… and sometimes you don't have that young nourishment from the new growth like cedar. They'll eat cedar and stuff like that.

But for the other, say grouse, we're more likely to just go [hunt] where they were last year. Sometimes places get ruined or closed off. And one of the things that we've thought about is drought a lot with grouse.

Marten

Marten and fishers were discussed in relation to the marten clan and clan traits, as well as predator roles in Eastern Upper Peninsula forests. Anishinaabeg talked about past declines in marten populations due to over-harvesting and Anishinaabe responsibilities to care for forest communities. More recent population fluxes related to squirrel populations, within the confines of marten territories.

Years ago the martens been over-harvested… And as you know, that's one of our clans is the marten. And we have a lot of marten clans up here. I think a lot of us - they killed out a lot of them. It was a hard thing, I think. The only problem is we didn't lose all of it. There was some but we didn't lose all of it. They were able to come back. Then again, we have been able to keep at least some of our clans, as far as they can - what I'm trying to say is that we can use them as clans. They're still here. They're still needed in the community, per se, the animals of the clans. The only problem is there's not enough to do anything with anymore. There's no such thing as trapping anymore. Which is good, I think. In a way. But I don't know, we're supposed to be the keepers - the Tribe - the keepers of the ground, the keeper of the forest and stuff like that, I think. I would like to see us do more with that.

When the martens are highly concentrated, we have less squirrels. But when the squirrels come back, the martens are down. So they fluctuate quite a bit. But I think it's just a matter of food source that they fluctuate so much. But again, I could see if they had that edge effect, where there was more

concentration of prey, then the martens are going to come up. There's only going to be a certain amount because of territory. They have territory conflicts.

Anishinaabeg were prompted to discuss ishkode-relationships among certain forest types in the Eastern Upper Peninsula: oak-pine barrens, mixed conifer-deciduous, and bog transition forests. Photos of each forest type were shared with interviewed Anishinaabeg and questions addressed each forest type (see **Appendix B** for interview questions and photos).

Oak-pine forests

Oak-pine barrens have a clear and beneficial relationship with fire (7 Anishinaabeg). These forests are associated with blueberries, which all Anishinaabeg discussed (11 Anishinaabeg), and sandy soils (2 Anishinaabeg). Traditions around gathering blueberries, and identifying gathering sites based on burn history, form a relatively continuous link in Anishinaabe-ishkode knowledge and relations through time. Oak, jack pine, and other plants and animals in this forest type were acknowledged as benefitting from fire. Fire is used to set back tree and shrub species, open the canopy, and enhance soils and blueberry production. Early fall fires in this forest type were recommended by one Anishinaabe, in part to avoid ground-bird mortality.

But these places [mixed and pine oak forest] could probably benefit from prescribed fire once in a while. If you had a fire across this opening probably a lot more seeds and berries, plants and things like that would start working. And then you could have a year or two of mushrooms.

Like I see down here might be that reindeer moss. That reindeer moss, I'll tell you what, when you see that, you know berries are close. When I see that, I know berries are close. But you don't see that unless you're in an open area. You might see that, but not a lot unless you're in an open area.

Well, we know obviously the jack pines, for them to seed, the pine cones have to heat to a certain temperature for them to open. So they require fire to repopulate. And the oaks, it's just what I was told.

Mixed conifer-deciduous forests

Mixed conifer-deciduous forests are associated with a diversity of tree, understory, and wildlife species. Relationships with fire were less defined and focused on forest thickness and light availability. Fire is used to thin tree and shrub species and open the canopy. Early fall fires in this forest type were recommended by one Anishinaabe, in part to avoid ground-bird mortality.

Well, I understand the principle of a fire in a crowded place like this. Like these woods. You see a lot of conifers and a few of the leafy trees. So I can understand how fire would help, say in these areas in particular, if there was enough sun coming in. And say there's probably moss on the ground, that you'd get a lot of Chanterelle mushrooms… And lots of other mushrooms too, but those are my favorites. Say, sweet-tooth and black trumpets and things like that would like it in here, if there was enough light. But if there is not enough light or enough ground for them, then they won't grow.

Yeah [mixed conifer forest] because I see some stunt growth there, whatever they call it, hey? And this is - you know this - that really isn't nothing. There's a lot of dead trees around it. Notice the dead trees? The tree itself is not getting what it's supposed to be getting. I noticed that some here because of the growth. I don't know how long it's been growing here but the thing is is that sunlight can't get to some of these trees because they're overgrown there a lot of times. Like this is overgrown [mixed spruce]. A burn wouldn't hurt there a bit.

Bog transition forest

Bog transition forests are associated with a diversity of medicinal plants and wildlife species. Relationships with fire were least defined by Anishinaabeg, with high uncertainty in potential risks and benefits from fire. The valuation of rare medicinal plants increases the risk of loss from fire. Water, which balances fire, served as an indicator for some Anishinaabeg of the inappropriateness of prescribed fire in this forest type; however, some Anishinaabeg discussed seeing improvements in associated species after fire (e.g. cedar) and the important role of fire in these ecosystems.

> *They used to coexist years ago, but with the lack of knowledge in working together with our forests and our animals, we have over-harvested many of our animals. Beaver being one. So the importance of that is when we had an abundance of beaver - not of older ones - but we had an abundance of beaver. We had things like this all over [bog]. That's where those animals would seek refuge from the wolf. So, it wasn't like that the wolf had the advantage all the time, but now they have the advantage because [points to bog photo] that's just one portion of it. So, we're losing a lot of this [bog] and when we lose a lot of this and we have people that now enjoy the forest. And sometimes we get some that are a little reckless and might start a fire and not attend it, you don't have a resource to put it out and you don't have the wetlands that would deter an entire forest from burning. So it all relates is what I'm trying to say.*

> *I wouldn't. Because isn't there a lot of medicines in that area? In those kind of areas? I don't know, would that regenerate the medicines? Or it could just destroy them. Yeah, because you don't know… Of course on the other hand, too, it's not like these areas [bog] don't have fire too. Those beavers come in and start cleaning up those areas after the fire. So there would be some type of rejuvenation. I'd just hate to see you lose a nice lush area of Labrador tea. Because you don't know if it's one of those second or third generation things that come after.*

Prescribed Fire Recommendations

Due to the potential impacts of ishkode on forest ecosystems, Anishinaabeg discussed the complexity of designing prescribed burns to address weather, water, and forest characteristics (4 Anishinaabeg). Small fires are preferred over large or severe fires (6 Anishinaabeg). Light fires, which do not burn deep into the soil, were recommended for berry and mushroom production (1 Anishinaabe). Both spring and fall fires were discussed for gardening and berry production (4). Spring fires are used for yard maintenance (3). Fall fires were recommended for berry, mushroom, and other purposes (1). Recommendations for prescribed burns mentioned during interviews are included in **Table 2**.

Table 2. Prescribed fire recommendations shared during interviews with eleven Anishinaabeg in 2019.

Purpose	Burn season	Burn characteristics	Number of Anishinaabeg
Yard maintenance	Spring, just after thaw and first rain	Small, slow, controlled	3
Blueberry production	Fall after harvest	Small, controlled	1
Blueberry production	Spring after thaw	Small, controlled	1
Gardening	Spring	Small, controlled	2
Gardening	Fall	Small, controlled	2

Purpose	Burn season	Burn characteristics	Number of Anishinaabeg
Any/blueberry/mushroom production: mixed or pine-oak forest	Fall September-October	Small, controlled, shallow	1

Lightning strike ishkode

Fire by lightning strike maintains an important role in Anishinaabe ways of life. This kind of fire is created by non-human manidoog as part of their role in Creation, and produces medicine that cannot be created by prescribed burn. Prescribed burns do, however, produce similar ecological benefits as lightning strike fire, including plant and fungi production, clearing of land, and improved gardens. Large, uncontrolled lightning strike fires are part of Creation taking care of itself. Anishinaabeg stress the importance of small, controlled burns and do not recommend mimicking large fires on the land.

> *I think it's from Gizhe Manidoo and the thunder beings. Because that's how Raco fire started. It started with a lightning bolt… So I'm thinking, you know, the Creator knows where it needs to be done because there's a connection between Creator and Mother Earth. She's saying, "You know what, I need a purge or I need this."*

Ishkode-Wildlife Planning Recommendations

Most Anishinaabeg stated that prescribed burns are important for the Tribe to pursue (7 Anishinaabeg; 9 mentions). When asked for recommendations on how to move forward in a good way, Anishinaabeg discussed the importance of: 1) community education and involvement (7 Anishinaabeg; 21 mentions), 2) being careful and acknowledging manidoog in forest management (6 Anishinaabeg), and 3) pursuing collaborations with federal and state partners for prescribed burning (4 Anishinaabeg).

Interviewed Anishinaabeg stressed the need for revitalizing Anishinaabe ishkode relationships and several offered to teach Wildlife Program staff and community members about Anishinaabe-ishkode relations. Three Anishinaabeg talked about the need to address manidoog in prescribed fire and wildlife management planning. Many Anishinaabeg discussed the vital importance of respect when dealing with fire (6 Anishinaabeg; 19 mentions) and careful action in prescribed fire management planning (3 Anishinaabeg).

> *But you know, as far as the, I think the respect was really high with ishkode because they knew the power of it. And they respected that power of it too, because of just the way they used it. They used it in their homes, to cook, to smudge, you know, they used it like a tool so when it was time to use, they used it. If they didn't have to use it, they didn't use it.*

> *Oh, I think the more information you can possibly get, the better. Over time, and the more un-hasty you can be, the better. Not just jumping on the bandwagon. Not that I think you do, but I'm just saying in general. And encouraging the other agencies, state and federal, to all work together. Also, be more interested in information than running out and doing something hasty. Cause I suspect that some people like to just do that kind of thing and then collect information. 'What would happen if I did this?' And, you know, you can't really do that, there's lives at stake. And maybe you don't care about them but they care about them. You know, what you were just talking about: grouses, grouse and pine martens and snowshoe hare and everybody else.*

Slowly restoring community traditions of prescribed burns in yards was suggested as a way to engage the community and revitalize Anishinaabeg relationships with ishkode on the land. Programs such as the Youth Conservation Corps were also suggested as potential ways to engage community members, offer temporary employment, and reduce fuel loads on tribal and ceded territory lands (3 Anishinaabeg).

State and federal lands are important to Sault Tribe Anishinaabeg for hunting, gathering, and in Anishinaabe ways of life, more generally. Public lands were mentioned often, including lands by Raco (8 Anishinaabeg) and state and federal lands in-general (4 Anishinaabeg). State and federal fire programs and collaborations are important for forest health and wildlife (6 Anishinaabeg; 17 mentions).

> *My mom said that a long time ago, her mom and them, they would camp right out there [Raco] for days at a time. And that's, I know that's what our people did…I remember the older ones talking about how, I don't know if they meant the DNR or the Forestry, I mean we're talking back in the 60's, that they would do burns out there. But they would do it on purpose and then everybody was all happy about that because that meant better blueberries, the next year.*

> *Back when I was a youngster, we didn't have snowmobiles. We had snowshoes. So, when we would go, we would go out as far as we could go until we got tired, come back. So we went out into - a lot of it was the state and federal forest. And we did it all year round; not just in the summertime and the fall, it was in the wintertime.*

Sault Tribe Anishinaabeg talked about the importance of gathering sites on lands of all tenure types, as well as the need for maintaining or protecting specific gathering sites. One Anishinaabe offered to help identify specific medicinal plants and places for protection and enhancement in fire management planning.

Interviewed Anishinaabeg suggested both specific and general places for future prescribed burns. The purpose of these suggested burns include renewed plant growth, fuels reduction, invasive species removal, restoration of openings, and restoration of Anishinaabe relationships with ishkode, more generally. See **Table 3** for future prescribed burn suggestions.

Table 3. Places for future prescribed fire identified during interviews with eleven Anishinaabeg in 2019.

Place	Rationale
3 Mile Rd, Shunk Rd, and Lumsden Way, Sault Ste. Marie	Reduce fuel loading and wildfire risk; invigorate plant growth and wildlife habitat
Ice Circle Drive, Sault Ste. Marie	Reduce fuel loading and wildfire risk; invigorate plant growth and wildlife habitat
M-28	Reduce wild parsnip; restore cow parsnip
Residential lawns	Restore Anishinaabe use of fire and land care with fire; clear dead vegetation, weed, and disease
Tribal lands	Restore Anishinaabe use of fire on tribal lands, under tribal control

Place	Rationale
Burma Grade, Worth Road Trail - Godreau Truck Trail	Reinvigorate blueberry and other plant growth
Cranberry patch	Restore water, wetlands, landscape heterogeneity*
Saari's Road, Sugar Island	Restore openings and blueberry patch
Peek-a-Boo Hill, Hessel	Reduce fuel loading and wildfire risk; invigorate plant growth and wildlife habitat
I-75 Hessel to St. Ignace	Reduce fuel loading/dead standing tamarack; invigorate plant growth and wildlife habitat

* Potential role of fire uncertain

Conclusion

Interviews with Sault Tribe elders, cultural staff, and regional Anishinaabeg reveal support for Sault Tribe Wildlife Program prescribed fire planning and management for a diversity of values and in fulfillment of Anishinaabe responsibilities to our relatives in creation. Past and present Anishinaabe relations with ishkode on the land can guide Wildlife Program work with fire; Wildlife Program work can also encourage and embody a revitalization of Anishinaabe use of ishkode on the land. Continued communication and collaboration among the Wildlife Program and local Anishinaabeg will benefit and guide Wildlife Program fire management planning on tribal and federal forest lands now and into the future.

The findings within this document form a base from which further discussions with Anishinaabeg may continue, as many more Anishinaabe elders and community members have important knowledges and perspectives to share in restoring Anishinaabe-ishkode relations on treaty-ceded territories.

Appendix A: Relatives and Groups Discussed

Table 4. Relatives (species) and groups discussed during interviews with eleven Anishinaabeg in 2019.

Relative / Group	Example	Number Anishinaabe	Number Mentions
All	I'm sure, once you start thinking about it, it's the whole circle of life thing. Because once you got the blueberries and the flowers, then you got the smaller birds and the little mammals and then it just keeps going.	**6**	**8**
Balsam fir	Balsam. That's in this forest too [mixed]. Balsam boughs, oh my god, they used to cut them. You know, then they would take and weave them together, they would be like the floor of a lodge. And that's what you would lay your blankets on and sleep in. We'd do that once at the camp, it was these same ladies that showed us, she showed us how to weave them in between each other.	2	4
Basswood	Basswood, that's where you get what they call weegoop. It looks a lot like that spruce root, only it can be a root when you peel it off the inner bark of the tree. And you boil it, holy cripe, that stuff is strong.	1	3
Bats	Well, we used to have a lot of bats and we liked em. We used to watch them at night and they'd eat a lot of mosquitos, and they'd do funny things sometimes… But now they've disappeared. And it was after, we heard about that white nose disease and we didn't know why… and now we don't see any. And other people are saying they see bats, but we don't see any anymore.	1	1
Bear	Well, I imagine since I'm going there [to a burned site] to get things that other animals are going there to get things. Like bears.	1	1
Bearberry	[We look for] Bearberry, but there's a lot of that in Brimley, tons of it.	1	3

Relative / Group	Example	Number Anishinaabe	Number Mentions
Beaver	Beaver. Usually they go in after like a catastrophic fire. When it's coming back around, you'll see beaver coming in. They come in and they are damming up an area, bringing back in the water, working on rebuilding the area. And they're usually the first animals that go into the area before the rest of the animals start coming back.	3	7
Berries (in general)	Yeah, basically it [Anishinaabe prescribed fire] was wherever they had the berries. Wherever they had traditional sites that they would come to, that would be the ones that they would burn off. And back, I'm sure, back in pre-colonized, that they burned them. They would just set them on fire and let them go.	**5**	**8**
Birch	Well what they told me is that they can tell - my Uncle - I remember walking with my uncle and we saw this birch. And he said, 'this is the last place where the fire started here, and these birch trees came in.' And usually that was an indicator of when there was a fire there. Because once the birch start dying, the next set of trees start taking over. And I kinda half wonder if they set things on ï¬re to get those birch trees going, because they used to use them as housing and jiimans and you wanted to get those big birch trees. But again, as the area matures, I thought those birch die away.	**4**	**7**
Birds (in general)	Yeah, well when we pick blueberries, there are these little birds and they have these nests… And we don't want to step on them or anything either, but they spend a lot of time luring us away from their nest, even though we're not interested in them.	**4**	**9**
Black ash	I just see the trees not as healthy as they used to be. Of course then you got your black ash.	1	1

Relative / Group	Example	Number Anishinaabe	Number Mentions
Black trumpet mushroom	Say sweethtooth and black trumpets and things like that would like it in here [mixed forest], if there was enough light. But if there is not enough light or enough ground for them, then they won't grow.	1	1
Blueberry	Yeah, well, when it was blueberry time though. I remember, same little crowd of family. We'd go out to Raco. And spend the whole day out there. And I just remember them coming back with big dish pans full of berries. And they would go home and can that. Some of them, like Junie which was Freddie, or Moon's wife, and Nancy when she was highs, Nancy Pine, and they would bring some of their kids. They would go home, well my mom too, they would go home and can all of that for the winter. And they did that with different stuff too but mostly it was blueberries. I think it was cause they were more plentiful than other kinds of berries.	**11**	**37**
Cedar	You know, controlled burns are good. They reproduce really good. And they reproduce cedar really good. You know. I've seen a burn up in Raco, big burn up there. Now it's loaded with cedar trees.	3	6
Chanterelle	You see a lot of conifers and a few of the leafy trees. So I can understand how fire would help, say in these areas in particular, if there was enough sun coming in. And say there's probably moss on the ground, that you'd get a lot of chanterelle mushrooms.	1	1
Cow parsnip	And so, within that anyways, it's best to leave them alone [not burn in areas of good growth]. Unless you see where there's an invasive species coming in, like I mentioned the cow parsnips, there's that yellow invasive one [wild parsnip] that's all along 28, used to be Cheebeeweeygaywhenosh was all along there. And it's all gone because that yellow one has taken over everything and killed them off.	1	3

Relative / Group	Example	Number Anishinaabe	Number Mentions
Cranberry	And cranberry - I know some places I know where there's high bush and where there's some that grow under the water - you've got to break ice to. Those would be the two plants - blueberry and the cranberry - or any of the berries I think is something that I can relate to. Because I've harvested the bounty of those plants after a fire.	3	5
Crow	One year we saw all the birds acting weird. You know how crows are really smart, and they'll fly away before you can hit them with your car. Well, you'd have to beep at them cause they were like, 'where am I.' And it was really strange. And we heard after that, that the Earth actually moved, and we thought maybe they got all discombobulated…Yeah and needed to re-align themselves because they don't act like that anymore. And we thought, well maybe it's west nile.	1	1
Deer	For instance, our cedar swamps was not only a food source but it was a climactic thing. When we had hard winters, that's where our deer went. And we don't have those no more. So, I've seen management and regeneration of just about everything except for the cedar. And I don't understand it. I know it's easily replanted or regenerated. But they say, 'well, as soon as it comes up and that fresh young trees that [the deer will] come and eat.'	**6**	**9**
Ducks	Even ducks. I mean, I would hunt more for the teal - these smaller birds - because of the taste - in these smaller ponds, as opposed to the more open where the mallards were - the flight birds. So, if I couldn't find these ponds and they were gone for whatever reason, I didn't harvest the wildlife that I really wanted to.	1	1
Ferns	Yeah, all I know, is I look for the spruce trees and the ferns and I find me a nice shady spot and I find me a big [blueberry] patch right there. Under the shade.	2	2

Relative / Group	Example	Number Anishinaabe	Number Mentions
Flying squirrel	And, now we have, we have flying squirrels. But they're the sub-arctic kind. They're not the northern flying squirrel. But there's a lot of em. So I used to hear that there weren't any flying squirrels, but now there's flying squirrels.	1	1
Fox	If we like it, they like it [burned areas], we're all mammals. I don't see them running around while I'm there. But sometimes you know they're there. Because they, there's one animal whose scat smells like blueberries. And I think it's a fox.	1	2
Grouse	Well, grouse - we talked about grouse. Young aspen and different wild berries, certain wild berries and wild apples has an impact.	**4**	**11**
Hare	…Rabbit habitat will thrive because you create sprouts. Because rabbits need to have young saplings. That's the problem we're having here now is because everything's grown up and there's no suitable habitat. They live in the swamp but they also need to have other food. So, edge on these openings where you set it back and create sprouts. And that benefits the rabbit, plus it gives them a place to hide.	**5**	**9**
Hawthorn	And then one time I went over to Sugar Island and dug up some of the Hawthorn root there, in that little park there. Just enough for us to have some on hand, so if we can find a more remote area where we're not out and somebody thinks we're destroying a park or something. That would be the best way. But Hawthorn would be good. Because we get a lot of thorns out of quite a few branches. But we're kind of getting down to the last of that now. Hawthorn, I think we're actually out of that.	1	2
Hazelnut	Hazelnut, we use Hazelnut sticks and we use Hazelnut root.	1	1

Relative / Group	Example	Number Anishinaabe	Number Mentions
Insects	Yeah, all kinds, there's insects there and birds come and blueberries are popping out [after a fire]. And there's flowers, more flowers all over.	1	1
Invasive	So, anything we can do about that would be good, any place we can take care of the invasive species and keep them from encroaching on the medicine areas would be a good thing. Cause there sure was a lot [of Cheebeeweeygaywhenosh] out there at one time. Now you gotta keep going further towards Munising to even get a few, and find em. It's not like it was when I first got here. It seemed like, whoa we have a lot this year but they're gone already. I think work there would be very beneficial. Destroying that invasive species.	**4**	**4**
Ironwood	I think that the fire and as it relates even to our ironwood and anything, it doesn't matter what it is - if that plant comes from mother earth or that seed is implanted in mother earth, then the fire will impact that in some way, no matter what it is.	1	4
Joe Pye Weed	Because you usually get a lot, bugisowin you get a lot. I usually just dig a big, one big clump about this big. You gotta cut all the stalks down because you're only keeping the roots. But from this one big chunk, then I try to shake out as much soil as I can because we always try to put it back the way it was. Put the soil back in, put all the stuff back on top…I think it might be called Joe Pye Weed.	1	3
Mallard	Even ducks. I mean, I would hunt more for the teal - these smaller birds - because of the taste - in these smaller ponds, as opposed to the more open where the mallards were - the flight birds. So, if I couldn't find these ponds and they were gone for whatever reason, I didn't harvest the wildlife that I really wanted to.	1	1

Relative / Group	Example	Number Anishinaabe	Number Mentions
Manoomin	Another one - a friend of mine was talking about something to do with wild rice, you know, burning the marshes. But I can't remember who it was. But, I know they had to do something because of the encroachment in the wild rice. That they would kind of set the cattails and stuff back so that they could - but that was probably the general knowledge.	3	4
Maple	I like fir trees and I like oak trees, maple trees and birch trees and I like it all mixed together. And I like different mosses, and I like all different fungi. And then there's grouse running around.	2	2
Marten	So, the common thing is - who's the biggest predator. The fisher and the marten. So that can - but oftentimes they [managers] forget about what's going to happen when the staple is gone.	**5**	**11**
Medicine	But the thing I don't remember is anybody burning for medicine. That I don't know. Because the medicines are inter-mingled in different sites. I never heard of anybody ever saying anything about burning for medicines.	3	4
Minigan	My dad didn't - other than saying, 'ok, we're going to go get spruce pitch.' And it wasn't - 'we're going to go get it for minigan' - it wasn't 'we're going to go get it for this.' And I says, 'ok' so we'd go out and I'd chew half of what I'd pick up, you know.	1	2
Mishkiigowish	…there's one we get mishkiigowish. It's good in the fall, it's ready but people know about this area now, so the last time we went there, three of us picked all day, and it's just a little bitty tiny root, but yeah. After that dried, we had a little bitty jar full, half way grounded up. But that's getting over picked now… So, we're definitely looking for a new area.	1	2

Relative / Group	Example	Number Anishinaabe	Number Mentions
Moosewood	I gathered some medicines for Harlan, you know, not much, but it would get me out there and I was learning things. And Harlan would say, can you find – and one of them was striped maple. I didn't even know what striped maple was and he said, 'oh this is what you're looking for,' and I said, 'oh, yeah, I seen it all the time!' So, that has enabled me to have a bigger exposure and more knowledge.	2	6
Morel	Say like the Duck fire, the black, what was that, the Duck Lake fire? Ok, it went 'whooooosh' over everything. And it was really fast and there was tons of morels after that fire but maybe some other fire, just thinking about the 'whooooosh' makes you think that maybe it wasn't that deep even though it overtook so much forest. Cause you can't kill the, if you kill the mycelium then there's no mushrooms.	1	3
Moss	Like I see down here might be that reindeer moss. That reindeer moss, I'll tell you what, when you see that, you know berries are close. [laughs] When I see that, I know berries are close. But you don't see that unless you're in an open area. You might see that, but not a lot unless you're in an open area. That reindeer moss, I think it's a medicine for something, but I don't know what it's for. If you brought - I don't know- that guy Joe Pitawanakwat said 'Just look at it.' So I'm looking at it, thinking, it's dry, maybe it could be like a - maybe it's a poultice. But you'd want to make sure it's not something else!	2	2
Oak	The hardwoods like oak are what you have to have if you're going to turn our indigenous corn into dry corn or harmony… Anyways, but in indigenous corn you gotta get that outer shell off and the only way you can do that is if you boil it in wood ash. Hard wood ash because it has a higher content of lye in it.	3	7

Relative / Group	Example	Number Anishinaabe	Number Mentions
Fungi (in general)	Actually this area is known, it's coming back but it was once really well known as one of the premier wild mushroom sites in the whole country. There's just so much diversity. There's all different kinds of all these mini special habitats for different species… Like, these like to grow on tails, and these like to grow in the moss, and these like to grow in the sand, and these like to grow in the mucky stuff. And different trees because there's different nutrients there for different things.	2	3
Other plants	There are a lot of different plants that grow in where blueberries do. I'm sure a lot of them are medicines. So yeah, they would probably thrive [after prescribed fire].	1	1
Pine	I remember there's a big white pine in front of our - I mean this thing was huge. You know how that pine goes down - she says 'we need some of that.' I says 'for what?' She says 'we just need some of it because I want to, you know, I want to do something with it.'	**5**	**7**
Poplar	I was working with someone a long time ago in regards to that and they said you - like an aerial map, you can actually tell from an aerial map of where they practiced burning. And so there's certain species that would pop up moreso than others. Whether it be poplar or oaks, you know, they say certain oaks are a direct cause from some burning.	2	2
Raspberry	Well, but to say I'd seen Uncle go in and light a berry patch on fire, not really. Sugar Island always had a lot of raspberries, so we'd do that [pick raspberries].	1	1

Relative / Group	Example	Number Anishinaabe	Number Mentions
Shkitaagan	And that shkitaagan, that's a medicine in its own right. Tea, different things that you use it for, migrane headaches. But one thing we use it for, that's why we call it that Grandpa Fire, because we use that shkitaagan when we hit that steel and that flint. When they come together, it'll sit right on there and if you look at it - people don't see that part of it - it spreads right out. It gets bigger and bigger and that has got a relationship… we know that's going to help.	3	4
Small mammals general	I'm sure, once you start thinking about it, it's the whole circle of life thing. Because once you got the blueberries and the flowers, then you got the smaller birds and the little mammals and then it just keeps going…Because I always get so upset at the idea of little animals getting burnt up… You see so many nests, and little animals and their little holes and they live in the ground.	2	2
Snakes	They took caution to anything that might be under the ground, any animals there. They didn't really care too much about snake holes or anything, they burned right over those.	1	1
Spruce	I remember Pie doing this too, but it wasn't something we really had need of…Showed us how to find spruce root. Spruce root was for basket making and rope making.	2	7
St. Johns wort	And it's something certainly we can do because there's so many areas that we'd like to say, 'Let's protect it - because there's lots of yarrow, maybe there's lots of St. John's wort, maybe there's lots of bugsowin.	1	2

Relative / Group	Example	Number Anishinaabe	Number Mentions
Strawberry	Wild strawberries are nice but they just didn't seem to kind of grow in that kind of abundance. I don't remember us going to strawberry camp. CD And really, like I said a lot of our Anishinaabe people were more conscious of taking care of our yard so things would be safe there, but at the same time taking care of the woods too. Taking care of those little areas where the strawberries and the blueberries were.	2	5
Sugar maple	I spent a lot of time with them on the Island, Sugar Island. And sugarbush over here from the time I could walk. I remember first going to sugarbush like all the Pine brothers….	2	5
Sumac	Yeah so that [pipe] was, it was like Sumac, but it was just, I liked it.	1	1
Sweet tooth mushroom	Say sweethtooth and black trumpets and things like that would like it in here [mixed forest], if there was enough light. But if there is not enough light or enough ground for them, then they won't grow.	1	1
Sweetgrass	I don't think so [Anishinaabe burned for sweetgrass]…We left a lot of the natural marshes alone. But I never really heard that either. Sweetgrass was left by itself, because once it started to grow, there was no need to bother it. Because it was always going to grow back. I never seen them burn those areas unless the kids caught it on fire or something.	1	2
Tamarack	So we would go get some tamarack boughs and stuff. We would make like a - it wouldn't be a fence, it would be a tunnel. So those rabbits, I mean it's like this [circle/tent] and we'd put it like that [for snaring].	**4**	**5**
Teal	Even ducks. I mean, I would hunt more for the teal - these smaller birds - because of the taste - in these smaller ponds, as opposed to the more open where the mallards were… So, if I couldn't find these ponds and they were gone for whatever reason, I didn't harvest the wildlife that I really wanted to.	1	1

Relative / Group	Example	Number Anishinaabe	Number Mentions
White ash	I don't know how the white ash is doing. Do you know they used white ash, to make, not for baskets but to make snowshoes. Like the handles, the heavy duty handles to the baskets and stuff. I don't know how that one is doing. I don't know too many people that work with white ash. Pie used to… and that's what he said too that was best for canoes, because you can bend it so well and it's a light wood.	1	2
White pine	Oh yeah, the pitch from those trees, particularly the, I want to say White Pine, one of those Pine trees, I think Spruce tree too. I have to ask Bud, he would tell you that exactly, if you injured yourself when you were out in the woods and you needed an antiseptic, you would go and peel some of that sap off there, or keep it on hand and put it on that wound. So it acted, not only an antiseptic but as a band-aid, as a barrier against any kind of infection.	1	1
Wild apple	Well, grouse - we talked about grouse. Young aspen and different wild berries, certain wild berries and wild apples has an impact.	1	1
Wolf	But to my knowledge, my dad shot the last legal wolf. But my dad always said… that when our resources are threatened by whatever, including the wolf, the wolf was managed just like anything else. Only we had ceremony for them. It was out of respect not only for the animal, but for the specific animal.	1	2
Yarrow	I find a lot of yarrow there [Burma Grade].	2	3

Appendix B: Interview Protocol

Interviewees: Cultural knowledge holders; hunters; trappers; gatherers

Materials: Interview questions, forest type images, EUP map, gift, asemaa, phone/recorder

Interview questions are numbered. Potential follow-up questions are italicized and can be asked as needed and appropriate.

OPENING

Miigwech for meeting with me/us today. We're reaching out to community members, to try and better understand community knowledge and values related to ishkode, fire, and using fire on the land. The Sault Tribe Wildlife Program wants to work with community members on wildlife planning and is looking to our Anishinaabe knowledges to guide this work. Our conversation today will help guide this work. If you don't mind, I'd like to record our conversation so that I can type it out. I'll delete the recording after typing the notes. I can send you a copy of the notes and will only share them with the Wildlife Program. They'll keep copies of the notes to help with this fire project, as well as future tribal wildlife management activities. How does this sound?

We can keep your name with your notes, or remove your name so that your identity is kept confidential. Do you have a preference? Would it be ok if Wildlife Program staff contact you to follow up about your ideas or any other things that come up related to ishkode? Would it also be ok if Wildlife Program staff use the notes to help guide other Program activities in the future? [discuss, answer any questions]

Ok, I have some questions related to both wildfire and prescribed burns.

ANISHINAABE IZHITWAAWIN

1. Were you raised fishing, hunting, trapping, or gathering foods, medicines, or other

things? [Or, I know that you were raised hunting, trapping, and/or gathering - skip to #2] *Like baskets, canoes, or firewood?*

2. Where were some of the areas that you learned these ways?

3. Have you heard stories about Anishinaabe use of fire on the land? *In this area*

specifically, or somewhere else?

4. Do you know or remember any particular places that the Anishinaabeg burned?

**In mixed pine forests by Raco to increase blueberries and plants for wildlife, *to get*

moose to come in, along any rivers or in cranberry bogs over toward Naomikong and

south, or as part of a ceremony

5. What time of year and under what weather conditions would the Anishinaabe have

burned? *How about in the places you mentioned?*

HABITAT

In this project, we're focusing on these forest types [Photos]: oak and pine openings, mixed

conifer, bog/peatland areas

6. Do any of these forests benefit from fire? How so?

7. What kinds of fire benefit these forests?

How hot/intense, how large an area, what season or time of year, other conditions (how wet, recent rain), and how often

8. Do you know of any other plants or animals that respond well to fire?

9. How does fire impact the food bases for wildlife? Grouse, etc., anything else that stands out?

10. Do you know if fire impacts plant or animal diseases, pests, or invasive species? Are there any areas with diseases/pests/invasives that prescribed fire would help with?

11. What plants or animals don't respond well to fire?

12. Thinking about areas that have burned in wildfires or prescribed burns, can you describe how fire changed the area?

What was it like before the fire, right after, and a long time after?

Did it change the plants and animals in the area? How so?

What were the conditions leading up to the fire?

13. When you hunt/trap/gather, do you consider if or when an area has been burned when you decide where to go? If so, how?

14. Are there places that you hunt/trap/gather that would benefit from a prescribed burn?

15. How has fire suppression changed the forests in this area?

16. Have you noticed changes or losses in the plants or animals, that might be linked with changes in climate/weather/seasons? Grouse, marten, hare?

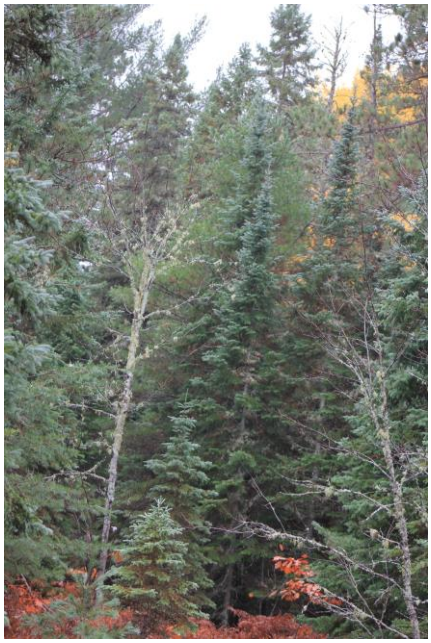
FINAL

17. Is it important to have fire on the landscape now? Prescribed burns or wildfire? How about fire lit by lightning?

18. How can the Wildlife Program help with this in a good way?

19. Are there any old stories or creation stories about fire that you'd be willing to share?

Mixed-wood forest images:



Bog transition forest image:

Oak-pine forest image: