Lakeview - 2022/2023 Forestry Assessment - Activities Report

RECOMMENDATIONS	WHAT WE HAVE DONE	STATUS	NOTES
➢ **Removal (selective harvesting) of dead, decadent, dying and danger trees**	Work was done to clear brush on Municipal lands in the Spring of 2023.	**ONGOING**	Our contractor started this over the Spring and Summer of 2023.
➢ **Removal of dead spruce trees that maybe infested by spruce beetle**	Removal of dead trees was performed as part of recognizing data obtained from the Forestry Assessment.	**ONGOING**	Our contractor started this over the Spring and Summer of 2023.
➢ **Removal of logs fallen on trails**	Trails were cleaned up and debris was removed for safety purposes.	**ONGOING**	Debris and vegetation were burned where possible and the rest was taken to the transfer station.
➢ **Removal of wood piles along forest edge**	Work has been done to clear and burn piles of wood and debris from along the forest's edge. Residents were notified that dumping of vegetation (leaves, twigs, trees, grass, etc.)	**COMPLETED**	Our contractor did this over the Spring and Summer of 2023.
➢ **There is Dead Wood Material (DMW) on the forest floor. Removal of DWM such as wood/logs should be done to reduce the amount of forest fire fuel.**	Work has been done to clear and burn fallen trees and debris in Lakeview.	**ONGOING**	Our contractor did this over the Spring and Summer of 2023.
➢ **Where possible, leave some snag trees for various bird species as they provide valuable habitat for them.**	Our contractor was informed of all environmental concerns and acted accordingly and with respect while clearing the natural areas.	**ONGOING**	Our contractor did this over the Spring and Summer of 2023.
➢ **Monitor overall health of the stand especially after major storms, droughts, or pest infestation**	Council is always on high alert for any changes or issues needing to be handled in the Summer Village. They are very active in the community and that encompasses this recommendation.	**ONGOING**	Issues are brought to Council meetings where they are handled promptly. When waiting for a Council meeting is unavoidable, they take necessary action immediately.
RIPARIAN AREAS			
➢ **Consider a long-term plan for the restoration of riparian areas by using Alberta Environment's "Stepping Back from Water" (1) guide for Riparian areas.**	Designated ER Reserves. Residents were asked in the 2023 Newsletter to be mindful of the lake and limit the use of fertilizer. They were also asked to dispose of sewage properly and avoid removing vegetation from the shoreline to protect the riparian areas of Lakeview.	**COMPLETED**	Council is always keeping up to date on environmental concerns within the Summer Village. Administration will look more into "Stepping Back from Water" and provide Council with information to discuss and make decisions for the health of Lakeview's Riparian areas.

PRIVATE PROPERTY - Residential Area			
➢ **Proper tree hazard risk assessment of mature and large trees in close proximity to powerlines maybe be considered.**	We have completed a Fortis Tree Assessment, as well as a Firesmart Assessment.	**ONGOING**	An assessment of Lakeview is done annually and Summer Village residents also contact the office when they notice a problem.
➢ **Introduction of non-native trees and shrubs could have a negative impact on the natural forest vegetation in the area. Residents should carefully consider what they plant on their property.**	Education to residents on the invasive Caragana via the website and Spring 2023 Newsletter. Council asked residents to remove Caragana from their private properties.	**ONGOING**	Council has directed Administration to garner interest in a Village-Wide Caragana removal in the Spring. Residents will contact the Administration with interest in cutting down the trees and shrubs from their properties. If there is enough interest, the Summer Village will cover the costs of renting a woodchipper and disposal costs.
➢ **Avoid introducing ANY invasive tree or shrub species such as caragana, Russian olive, common buckthorn, salt cedar just to name a few.**	Work was done to transplant Spruce seedlings to Municipal lands in Spring 2023. Education was given to residents via Newsletter and website.	**ONGOING**	Lakeview is committed to planting only native trees, shrubs and vegetation on Municipal lands.
➢ **Education - Residents understanding how a forest functions will greatly help achieve overall goals and objectives. Include information on how to properly prune trees.**	Education to residents on the invasive Caragana via the website and Spring 2023 Newsletter.	**COMPLETED**	**Caragana's: VERBIAGE USED TO RESIDENTS** The Village has been on a mission to remove all the Carraganas from the public lands of Lakeview. As the Caragana's are invasive and seem to be taking over, we would like to ask all residents to also remove the Caragana's on their properties.
➢ **Education - Residents understanding how to properly clean up and protect their properties from Forest Fires will greatly help achieve overall goals and objectives. Include**	Residents were given education, information, and resources on how to protect their homes and properties from forest fires. Fire Smart Your Yard! By managing the	**ONGOING**	This is a friendly reminder to residents that the Summer Village of Lakeview does not allow any type of dumping on municipal lands.
information on how to properly FireSmart their yards and hoe to properly dispose of yard waste and debris,	vegetation around your house and buildings, you will limit the risk of a ground fire climbing up into the trees and potentially jumping to your home, especially if you live near a forested area. We encourage all residents to ensure all fuel is stored properly.	**COMPLETED**	As of late, we have seen an increase in the dumping of vegetation on Municipal lands.

ADDITIONAL RECOMMENDATIONS/SUGGESTIONS

In the Summer Village of Lakeview, most of the aspen and balsam poplar are mature and a forest area north of the playground is overmature. If a forest fire or harvesting activities do not occur to encourage the regeneration of the forest, within the next 5 to 10 years the older forest will eventually break up and die due to age-related mortality, insect infestations, and fungi diseases. In the future and in harvested areas, aspen and white spruce regeneration must be established and if not, a shrub-dominated plant community will likely occupy the area for several decades before trees reestablish themselves.

TREE REMOVAL/HARVESTING			
➢ **Mark trees to be removed in area where white spruce, aspen/balsam poplar tree are dead, decadent and declining**	Dead or declining trees were marked to be removed in the Spring of 2023.	**COMPLETED**	The Village is aware of aging trees and vegetation. We assess annually and have all dead trees removed and chipped to be burned when safe.
➢ **Reduce the amount DWM, branches, trees and logs, laying on the forest floor to reduce forest fire fuel.**	Work was done to remove DWM and forest debris from the forest floor in the Village, during the Spring of 2023.	**COMPLETED**	While this project was taken on in 2023, it will be an ongoing task to assess every year.
➢ **Do not harvest trees during high fire hazard season**	All work was completed safely and in a timely manner. Dangerous piles were not left to become fire hazards.	**ONGOING**	The Village will issue a reminder to residents each year of the safety of harvesting trees and brush while safe to do so.
➢ **Avoid harvest during rain or wet periods so as to not damage soils**	Harvesting commenced in the Spring of 2023.	**ONGOING**	Harvesting takes place when it is safe to do so.
➢ **On-site tree mulching to reduce DWM and disposal costs**	On-site wood chipping was performed to remove DWM.	**ONGOING**	Debris that could not be burned was taken to the Kapasiwin Transfer Station.
➢ **Use of wood chips for trail improvement**			This is something that will be considered when we get to that stage of beautification after ensuring all trails are safe to use, and future municipal budgets are deciphered.
➢ **Remove wood burning piles as they are "hot spots" for variety of insects as well as they pose high fire risk**	Residents were given education, information, and resources on how to protect their homes and properties from insects and forest fires. Information was distributed via the Website and the 2023 Newsletter.	**COMPLETED**	**Fire Smart Your Yard!** By managing the vegetation around your house and buildings, you will limit the risk of a ground fire climbing up into the trees and potentially jumping to your home, especially if you live near a forested area. We encourage all residents to ensure all fuel is stored properly.
➢ **Remove all downed trees on forest trails**	Trails were cleared of deadfall and dangerous debris in the Spring of 2023.	**COMPLETED**	
➢ **Perform brush clearing on forest trails**	Trails were cleared of deadfall and dangerous debris in the Spring of 2023.	**COMPLETED**	
FOREST REGENERATION			
➢ **Consider cutting some live aspen and balsam poplar trees to stimulate root suckering.**	Council will discuss this during the fall and Winter of 2023.	**IN PROGRESS**	
➢ **Plant a variety of native trees and shrub species along riparian area.**		**IN PROGRESS**	

➢ **Develop a tree catalog just for the summer village. This catalog will help summer village managers and the general public to choose the appropriate trees for the area.**			
➢ **Consider developing long term plan for caragana removal throughout the summer village.**	Caragana have been tasked as an invasive tree and shrub to be removed from the Village. We are actively removing all known Caragana and requesting that all residents remove the Caragana from their properties.	**ONGOING**	We will set a date in the Spring of 2024 to have residents cut down the Caragana on their properties and place all debris by the road. Council has approved renting a wood chipper to chip the trees before being burned. All Caragana debris that can not be burned due to size or safety reasons will be taken to the Kapasiwin Transfer Station for disposal.
➢ **Distribute educational information about trees. This may include articles and technical information on trees, pests, tree planting, pruning, etc. for staff and general public.**		**IN PROGRESS**	Administration has been tasked with collecting information on trees, pests, tree planting, pruning, etc. for staff and general public. Information collected will be added to the website during the Winter and Spring of 2023-2024.
➢ **Increase tree and shrub diversity on private properties by planting a variety of flowering trees and native shrubs. More diversity will add more resilience and beauty to the summer village.**	Work was done to transplant Spruce seedlings to Municipal lands in Spring 2023. Education was given to residents via Newsletter and website.	**IN PROGRESS**	
FIRE PROTECTION MANAGEMENT			
➢ **Remove logs and brush from the trails.**		**ONGOING**	
➢ **Remove "burn piles" during wintertime.**		**COMPLETED**	Burn Piles will always be handled only when safe to do so, as per the Summer Village of Lakeview's Open Burning Bylaw
➢ **Reducing DWM fuel loads by selectively removing dead and fallen wood.**	Work was done to remove DWM and forest debris from the forest floor in the Village, during the Spring of 2023.	**ONGOING**	We have tasked this work to be done on an ongoing basis.
➢ **Cut grass along parameters of the summer village.**	Work was done to remove DWM and forest debris from the forest floor in the Village, during the Spring of 2023.	**ONGOING**	We have tasked this work to be done on an ongoing basis.
➢ **Restrict activity such as tree cutting during period of high or extreme fire danger.**		**ONGOING**	All work completed is done with full consideration of fire advisories and restrictions.

➢ Monitor all activities on the environmental reserve. Activities that utilize machinery always have the potential to provide an ignition source for a fire.	Any work done in Lakeview, either by the Summer Village or its residents are closely monitored to ensure safety compliance, as well as to ensure damage does not take place.	**ONGOING**	We have tasked this work to be done on an ongoing basis.
➢ Scatter slash to facilitate quick decomposition.		**ONGOING**	When appropriate, quick decomposition is considered high priority to mitigate potential dangers and risks.
➢ Provide brochures and other educational materials related to forest fires. Educational material such as FireSmart for Homeowners. (3)	Information was distributed on the website on in the 2023 Spring Newsletter during the Spring and Summer of 2023 for Fire Awareness and Safety.	**ONGOING**	We have plenty of Fire Awareness Education and resources, such as FireSmart and the Alberta Emergency Alert App on the website.
➢ Consider the Firesmart Community Program. (4)	Council has begun directing Administration to promote the FireSmart Community Program to residents.	**ONGOING**	FireSmart Home Assessment information is provided on the Website.
PEST ASSESSMENT			
➢ Improve and maintain biological diversity as a pest control strategy. Planting varieties of trees and shrubs will increase beneficial insects into the area.		**TO DO**	
➢ Diversify forest age structure, which can increase the number of beneficial insects.		**TO DO**	Perhaps this can be attached to future goals of diversifying the trees in the area, with previous recommendations already sugested. Considering our native insects could determine the kinds of vegetation and trees we research for planting purposes.
➢ Learn to identify and recognize common pests and their activities in your area.		**IN PROGRESS**	We have a natural interest in the environment of Lakeview and we have already begun identifying the insects in the municipality. Creating an educational document or brochure could encourage residents to be mindful of what they plant and what those plants will attract by way of pests and insects.
➢ Do not panic in the case of large defoliation as most of aspen/balsam poplar will leaf out once insect goes into the cocoon stage.			
➢ Monitoring is key for pest management. Routinely monitor the incidence of insects and diseases in the forest as well as on adjacent forested land.		**TO DO**	

CARAGANA			
Caragana is a non-native shrub species and was observed throughout the Summer Village. It is very aggressive and very detrimental to the natural forest. It is prolific seed producer and very invasive. It is also very hard to destroy. Physical removal as well as education to landowners are two key recommendations in controlling this species. Removal is expensive and should be the long-term goal.			
If a decision is made to remove the Caragana, below are some of the steps to be taken to control these shrubs:			
➢ Machine brushing and mulching of the caragana	Work was done to clear as many Caragana trees and shrubs as possible in the Spring of 2023.	**ONGOING**	Trees and shrubs were cut down, chipped and all waste was taken to the transfer station of
➢ Stump treatment of herbicide application after individual harvesting.			As Per Lakeview's Herbicide and Fertilizer Bylaw, Herbicides may be used to treat stumps from invasive or noxious plants & trees.
➢ Selectively brushing caragana plants where they have crept into the native trees.			
➢ Consider new shrub or tree planting with the plan to constantly monitor of resurfacing of new caragana plants			
➢ Consider spot spraying with selective herbicide applications of caragana anticipated to occur from remaining roots and seeds.			As Per Lakeview's Herbicide and Fertilizer Bylaw, Herbicides may be used to treat stumps from invasive or noxious plants & trees.
➢ Cut some aspen and balsam poplar to encourage root suckering. Aggressive young suckers will try to compete with caragana and sea buckthorn for nutrients, water and light and may reduce their vigor and health.			
➢ In the area of removal, reintroduction of native trees, shrubs and grasses, and wildflowers. Caragana removal is a long-term project and together with resident education are key to suppress these shrubs.		**ONGOING**	

APPENDIX 1. TREE & SHRUB INFORMATION

ASPEN

Aspen grows in almost every soil type but grows best in well drained, sandy or loamy soils with good moisture regime. It will not tolerate shade, or soils which are saturated for a long period of time. Aspen is very often the pioneer species and is usually the first tree species in an unoccupied area. Aspen also acts as a “nurse trees” to softwood trees, mainly white spruce. The older aspen will provide a beneficial shade for these trees, which are tolerant to a shade.

Although, aspen produces tremendous numbers of seeds, it regenerates primarily by producing the new shoots from the root system of the parent tree. The new shoots are called root suckers and this process is called "suckering." Suckering usually occurs after a fire, harvesting and other disturbances. By removing the overstory canopy as much as possible, there is more heat and light available to the forest floor, which will stimulate suckering. In most cases aspen regenerates by suckering but some still comes from seedlings. Good seed crops are produced every 4 or 5 years and some open-grown clones may produce seeds annually.

WHITE SPRUCE

White spruce grows best in full sunlight but can tolerate shade. In mixed wood aspen/white spruce forest, a young white spruce tree tolerates shade and grows under the protection of other species canopy until the top of white spruce reaches first branch of aspen. After that, it is time for aspen removal and white spruce will grow faster. In mixed wood coniferous stand, white spruce will often become the dominant tree species as the stand ages.

White spruce produces thousands of seeds about every four years but doesn’t follow any set cycle. In natural stands, cone production occurs primarily on dominant and co-dominant trees. Seeds will remain viable for only 1-2 years. Under natural conditions, seeds overwinter under snow and germinate in the spring or summer when there is adequate moisture and soil temperatures have risen.

Seedling establishment is best on mineral soil but rarely on deep organic layers. Seedlings grow best in full sunlight but can tolerate low light and shade. For a successful natural regeneration, there must be nearby seed sources because the seed supply is greatest nearer the seed tree.

BALSAM POPLAR (BLACK POPLAR)

Balsam poplar is an important riparian species, which stabilizes riverbanks and maintains river islands. Balsam poplar flower production begins at about 8 years of age, with a good seed crop produced every year. Most seeds are wind-dispersed and fall within 650 feet (200 m) of the parent tree.

Vegetative reproduction: Balsam poplar is capable of regenerating from root suckers, stump sprouts; stem sprouts, and buried branches. Root suckering is thought to be primarily a means of expansion rather than a means of recovery following clearcutting or fire. Cutting mature balsam poplars results in sprouting from callus tissue and dormant buds.

Balsam poplar is considered one of the tree species best adapted to fire in the northern boreal forest. Its ability to produce sprouts from roots, stumps, and buried branches enables it to quickly recover after fire. Moose in small amounts commonly browses balsam poplar. Snowshoe hares utilize balsam poplar in times of food shortage. Snowshoe hares ignore first-year growth of juvenile balsam poplars but ring the bark of mature trees and eat the twigs when within reach.

PLANTS AS INDICATORS OF SITE QUALITIES

When the preferred habitat of some of these plants is considered, and how extensively they occupy a site, they can give indications of growing site qualities. These qualities are generally the amount of moisture and nutrients that are available for plant growth. They can also be used as an indicator of qualities such as soil temperatures, water permeability of soils, soil alkalinity or acidity and recent ground disturbances.

When extensive coverage of these plants occurs, this is an indication of uniform qualities of moisture and or nutrients suitable for that particular plant. Plants that are good site quality indicators include dogwood, hazelnut, river alder, marsh reed grass, Labrador tea and bishop's cap.

➢ **Dogwood**			
➢ **Hazelnut**			
➢ **River alder**			
➢ **Marsh reed grass**			

➢ **Bishop's cap**			

Most of these and other plant species commonly are found and it indicate average to above average growing site qualities. Average to good tree growth rates shown from limited tree core samples confirm this. There was insufficient information collected to accurately establish the number and location of different quality growth sites.

BIODIVERSITY

Biodiversity is the measure of the number of species within an area, the genetic variations within those species, and the degree of interactions that occur between them. The degree of biodiversity in an area largely depends on the opportunity presented by the vegetation growing there. Diverse plant age structures and high numbers of different plant species will encourage more animal species to use the area. Wildlife abundance and use of an area are good indicators of a healthy forest ecosystem. They are a significant part of a forest lifecycle that involves water, soils, plant-life, insects, birds and other animals of all sizes.

Biodiversity conservation of native species is increasingly being viewed as being an integral component of successfully applying the sustainable land management concept.

BIODIVERSITY COMPONENTS:

➢ **Genetic diversity**			
➢ **Species diversity**			
➢ **Landscape diversity**			

The conservation of all of these types of diversity needs to be considered in the area. Species diversity includes a variety of plants, birds, mammals and other components of forest ecosystems such as insects, fungi, bacteria and etc. Forest biodiversity changes through time. Areas with even aged plant structures and low numbers of different plant species will be used by fewer animal species. Old-growth mixed-wood forest has the highest number of different species. Riparian wetland areas also have a high number of different species.

NOTES: