



Sturgeon
C O U N T Y



Sturgeon County: Open Space Plan Update

Last Updated May 2022

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1.0 Executive Summary

“Open space” is defined as, “publicly owned land that is not intensively developed, excluding land under agricultural use, that serves a purpose to the public whether it be for active recreation such as programmed sport, a thoroughfare for walking or for passive use as simple as nature appreciation.”

In 2016 Sturgeon County oversaw the completion of an Open Space Plan, prepared to guide the acquisition, development and disposition of open space within the County. Some of the primary findings of the 2016 report included:

- the County is rich in land reserves however has few recreation-based facilities;
- there is a lack of diversity of open space within the County;
- environmental stewardship should be more important in land planning and management;
- trails are the primary recreational demand in the County and should be supported;
- while there are several local level open spaces and County-wide destinations, there are few other types of open space; and
- new open space is necessary in future growth areas as identified in the Municipal Development Plan, and the County needs to work diligently with the development industry to ensure adequate open space and recreational amenities are made available as the County grows.

The 2016 Open Space Plan recommended that a high-level review be conducted after five years to evaluate the progress made on recommended capital projects and to identify any trends and leading practices that may have changed over this period of time that may set a new course for the plan. This is not a re-write of the 2016 plan rather a re-calibration of efforts in light of current circumstances.

This plan update involved meetings with internal County staff and desktop level analysis. It did not include outreach to stakeholders nor did it include any public engagement. A more robust update to the 2016 plan will be done in approximately five more years, when a substantive public and stakeholder engagement program should be completed as part of the study process.

For the purpose of this plan, “open space” is defined as publicly owned land that is not intensively developed, excluding land under agricultural use, that serves a purpose to the public whether it be for active recreation such as programmed sport, a thoroughfare for walking and passive use as simple as nature appreciation. It is also important to consider the essential function that open space plays in support of ecological systems – wildlife corridors,

stepping stones and habitat areas that host a variety of flora and fauna. Sturgeon County has a willingness to demonstrate a balance between ecological protection and preservation with human use of open spaces, and this plan update seeks to instill a stronger environmental ethic as land is acquired, planned for, protected and enhanced for future generations of enjoyment.

Some of the contemporary trends and leading practices for open space development and recreation planning across Western Canada include:

- more individual pursuits and less of an interest in participating in team sports;
- managing extremely busy lifestyles and the challenge of people to find time for recreation amongst increasingly over-programmed families;
- a stronger affinity for passive recreation and a stronger passion for human-nature connections; and
- a stronger reliance on partnerships between municipalities and third parties such as stewardship groups, sports clubs and different levels of government to help sustain, build and optimize parks, open space and recreation assets.

Some of the policies in this plan update were influenced by these changes in values and trends in open space development and recreation planning.



The primary change from the 2016 Open Space Plan was the development of a new transect that now identifies three primary categories (wild and natural areas, working landscapes and developed areas) that collectively contain 16 classifications of open spaces (such as wetlands, grasslands, reclaimed resource extraction areas, urban forests and urban streetscapes). The County maintains approximately 1,695 ha of public open space, which was formally mapped during this process. While several of the proposed 16 classifications do not presently exist, such as large commercial open spaces, they are anticipated in upcoming development of future decades as Sturgeon County experiences its anticipated population growth.

This plan identifies several recommended actions, which for ease of reading have been included in pop-out text boxes in light blue. This plan update includes 15 new recommendations that should influence new policy and amendments to both existing statutory plans and non-statutory documents. These actions should also help prioritize the selection of future capital projects related to open space planning and development. As a new tool, this plan update includes a capital project scoring matrix that will allow Sturgeon County administration to prioritize anticipated projects based on a number of set criteria. A second tool that was initially anticipated at the onset of this plan update was to complete a land acquisition and disposition policy. Because it was determined that Sturgeon County has a lack of, and limited diversity of open space, land disposition is not recommended, and the full inventory of open space should be retained. Acquisition of open space and the selection of lands for Municipal Reserve (MR) as new development occurs can be guided by the proposed minimum and maximum parcel sizes and high-level human and ecological activities suggested for each of the 16 typologies included in the transect.

There are some limitations to this plan update that should be identified. First, this update did not include engagement with the general public or with stakeholders and relied on desktop research and experience of the consulting team selected for the work. Identification of national, provincial and regional trends and leading practices were based on literature review while local trends and practices will remain unknown until public and stakeholder engagement is completed. Secondly, the inventory of open space and classifying all areas into one of the 16 proposed classifications of open space was done by desktop review and not with ground truthing or site evaluation. More detailed assessments of sites will be required as site-level recommendations are sought.



2.0 Intent of this Plan

“This Open Space Plan Update is meant to calibrate the course set forth by the 2016 Open Space Plan and provide a mid-term assessment of progress to date while setting priorities for the remainder of the plan’s 10-year horizon.”

2.1 Where It Began: 2016 Open Space Plan for Sturgeon County

An Open Space Plan for Sturgeon County was completed in 2016, through a process of background research, site analysis, engagement and reporting. This 2016 plan was prepared to guide the acquisition, development and disposition of open space within the County, and was based on an existing situation review, which included an assessment of the County’s existing open space system, the current County statutory plans and policies, and updated assessment of needs and trends that were drawn from previous studies and current community consultation. This research informed the development of the guidelines and recommendations that formed the basis of the 2016 Open Space Plan.

Some of the key findings from the analysis of the existing situation review included:

- Sturgeon County is rich in open space land reserves but facility poor;
- there is a lack of open space diversity within the County;
- there needs to be more recognition of the role of environmental stewardship within the open space system;
- there is a strong desire for trail development throughout the County;
- there needs to be more recognition of neighbourhood (as defined in the Municipal Development Plan) level open space as a bridge between local level open space (playgrounds) and Countywide facilities (i.e., Cardiff Park);
- developers, community associations and municipalities contribute greatly to the open space system therefore continued / strengthened support and partnerships are important; and
- the provision of future open space is important especially in growth areas identified in the Municipal Development Plan.

In response to the findings, several guidelines were developed to provide direction on the acquisition and development of open space. More specifically guidelines were developed to address environmental protection, historic resources, open space allocation and management, facility development, trail development and scenic character. In addition to the guidelines, an open space typology outlines the types of parks and open spaces proposed for Sturgeon County. The typology includes recommended sizes, service standards, location

criteria and associated amenities for each level of open space together with relative priority for maintenance.

To provide specific guidance regarding the development of assets within the open space system, site-specific capital improvements were recommended for each level of open space. Recommendations were assigned a relative priority, and short-term priorities included associated budget implementations. Other key outcomes of this plan included an asset strategy for the development of an approach that would guide the long-term management of parks and open space and a suggested disposition process for non-contributing open spaces. The 2016 plan was developed to ensure delivery of an open space system that responds to both the current and future needs of the County.

2.2 Today's Outlook: 2022 Open Space Plan Update

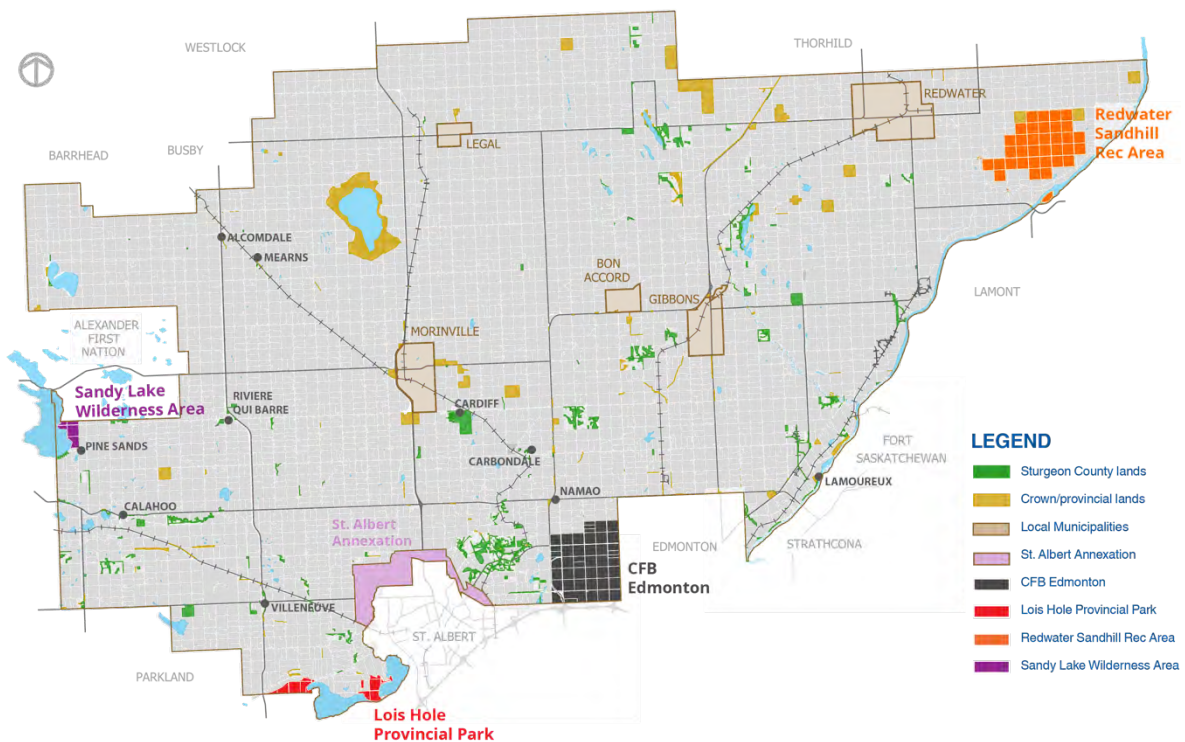


Figure 1 - Open Space in Sturgeon County

This Open Space Plan Update is meant to calibrate the course set forth by the 2016 Open Space Plan and provide a mid-term assessment of progress to date while setting priorities for the remainder of the plan's 10-year horizon. This plan applies to all public open space within Sturgeon County, with exception to land under the jurisdiction of CFB Edmonton, Lois Hole Provincial Park and crown land. For the purpose of this plan, "open space" is defined as, "publicly owned land that is not intensively developed, excluding land under agricultural use, that serves a purpose to the public whether it be for active recreation such as programmed sport, a thoroughfare for walking or for passive use as simple as nature appreciation." Figure 1 - Open Space in Sturgeon County (above) identifies the inventory of all open space in Sturgeon

County – including water bodies (as coloured in blue), Sturgeon County land (dark green), Redwater Sandhill Recreation Area (orange) and other Municipal land (orange). For the sake of legibility, this overall map of the inventory of all open space has been displayed in six tiles, labelled as Figures 2 through 7.

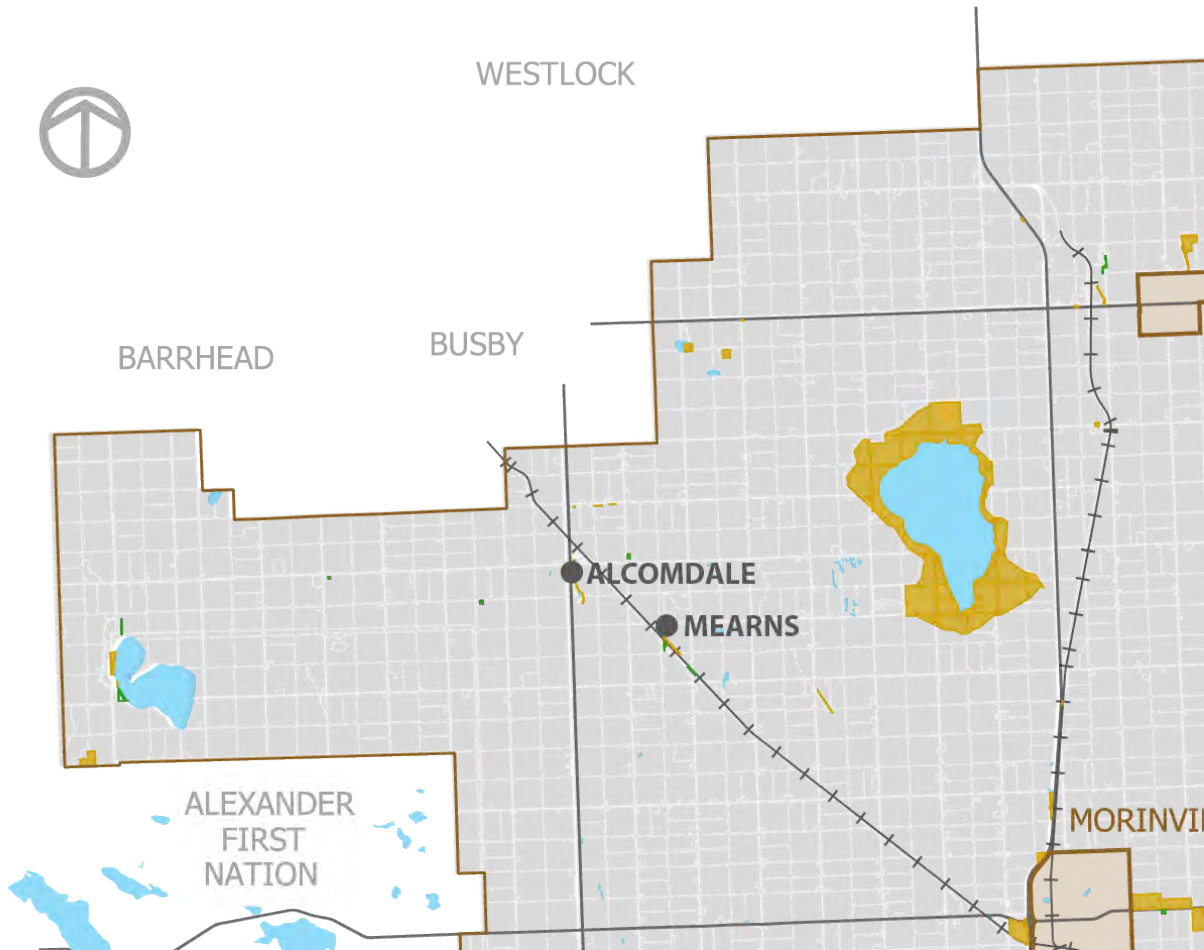
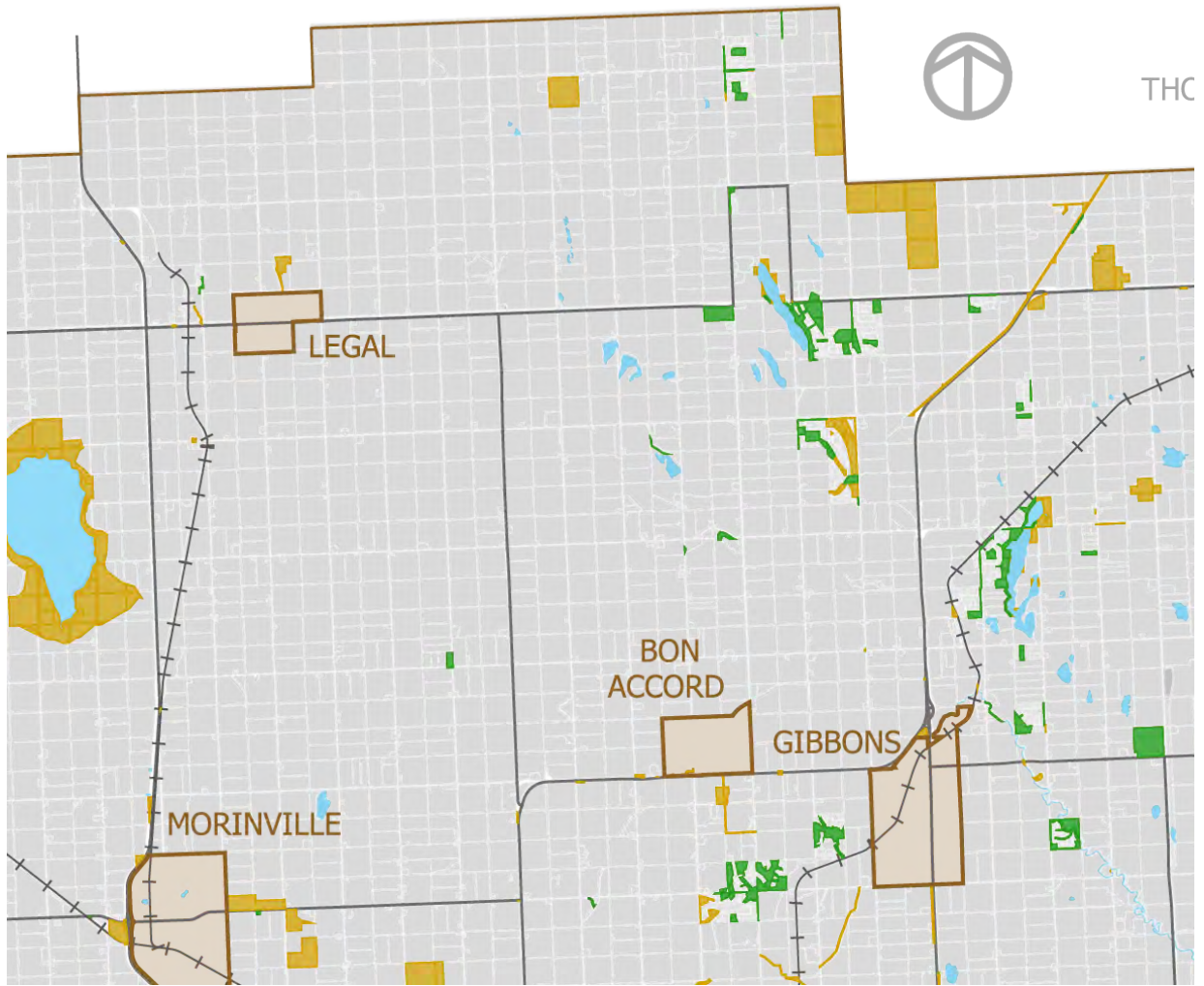


Figure 2: Enlargement 1 of 6 on Figure 1





**Figure 3: Enlargement 2 of 6
on Figure 1**



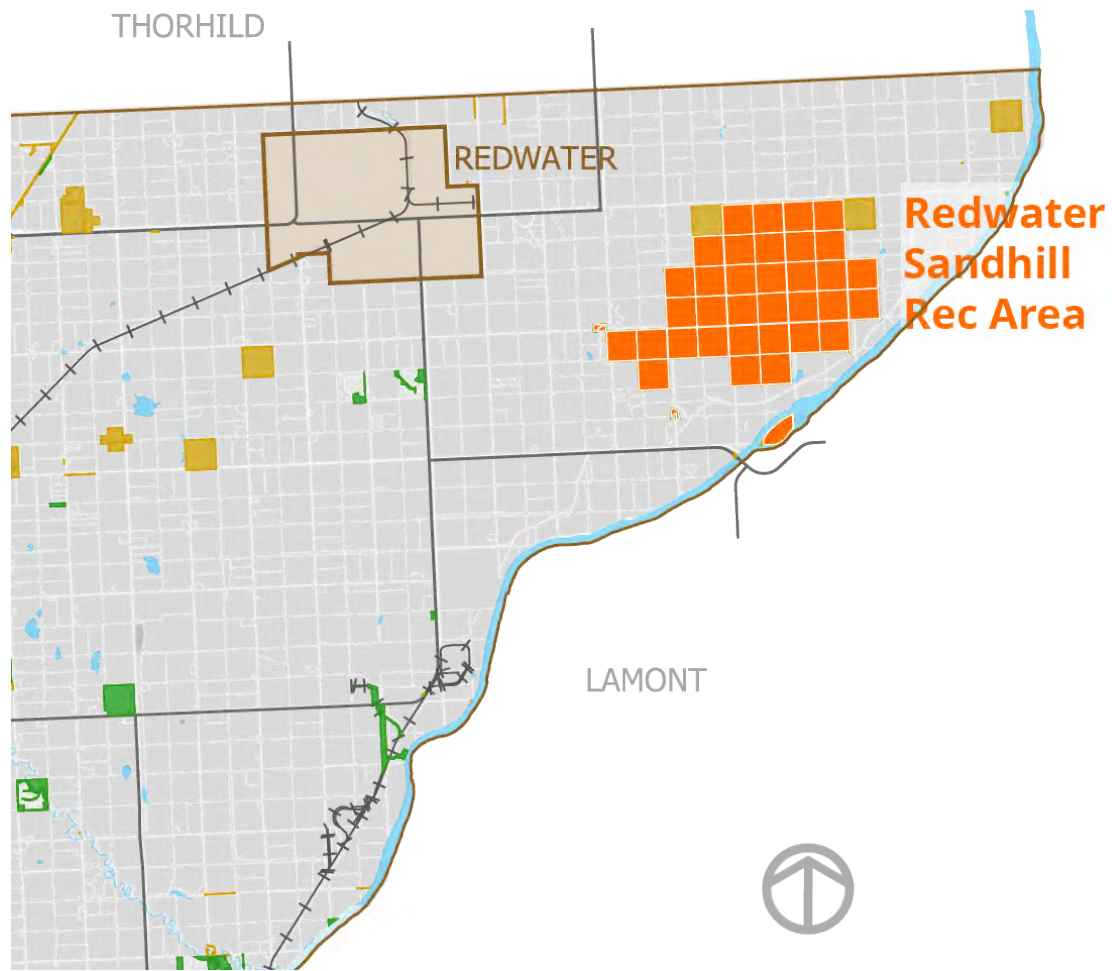
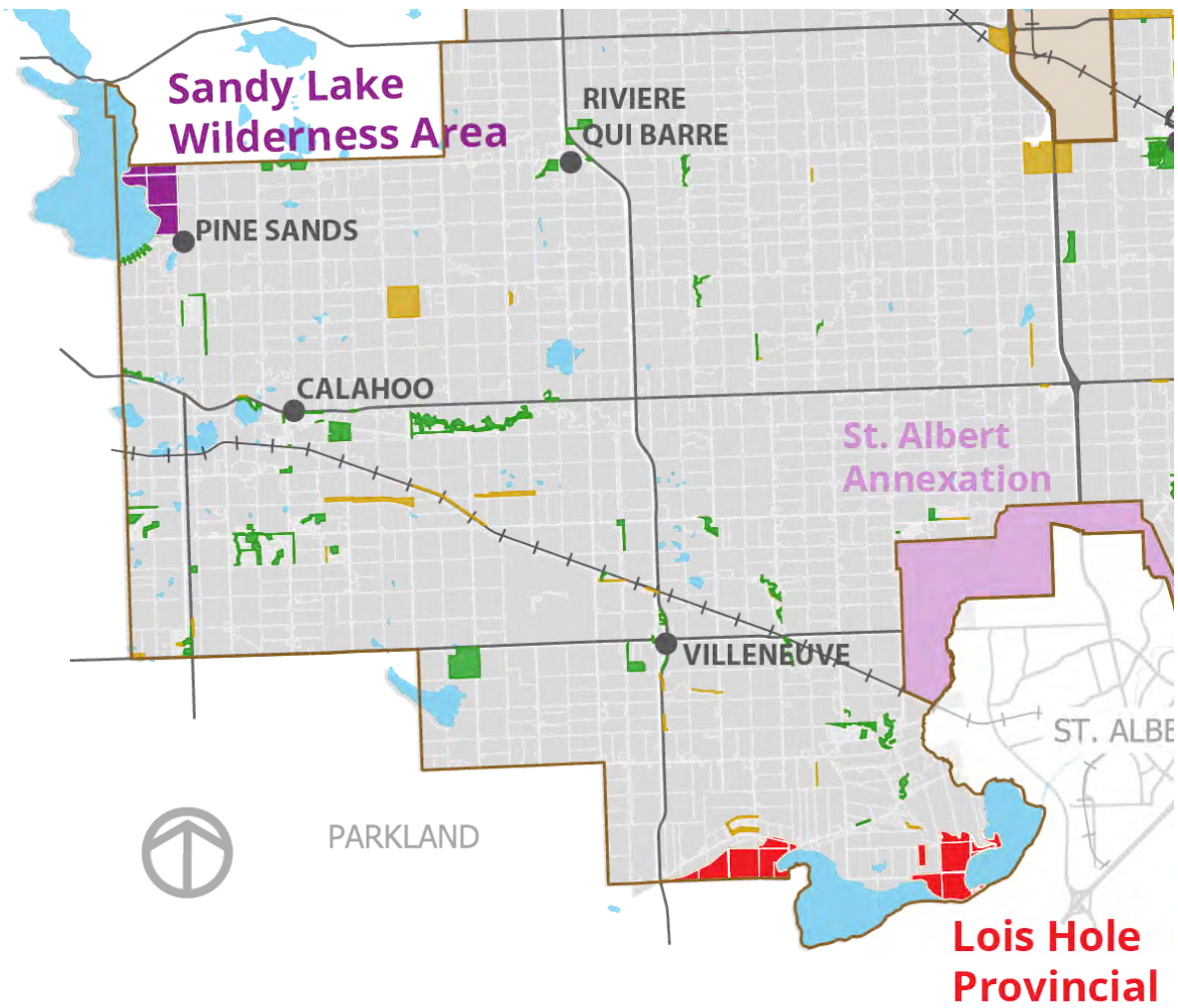


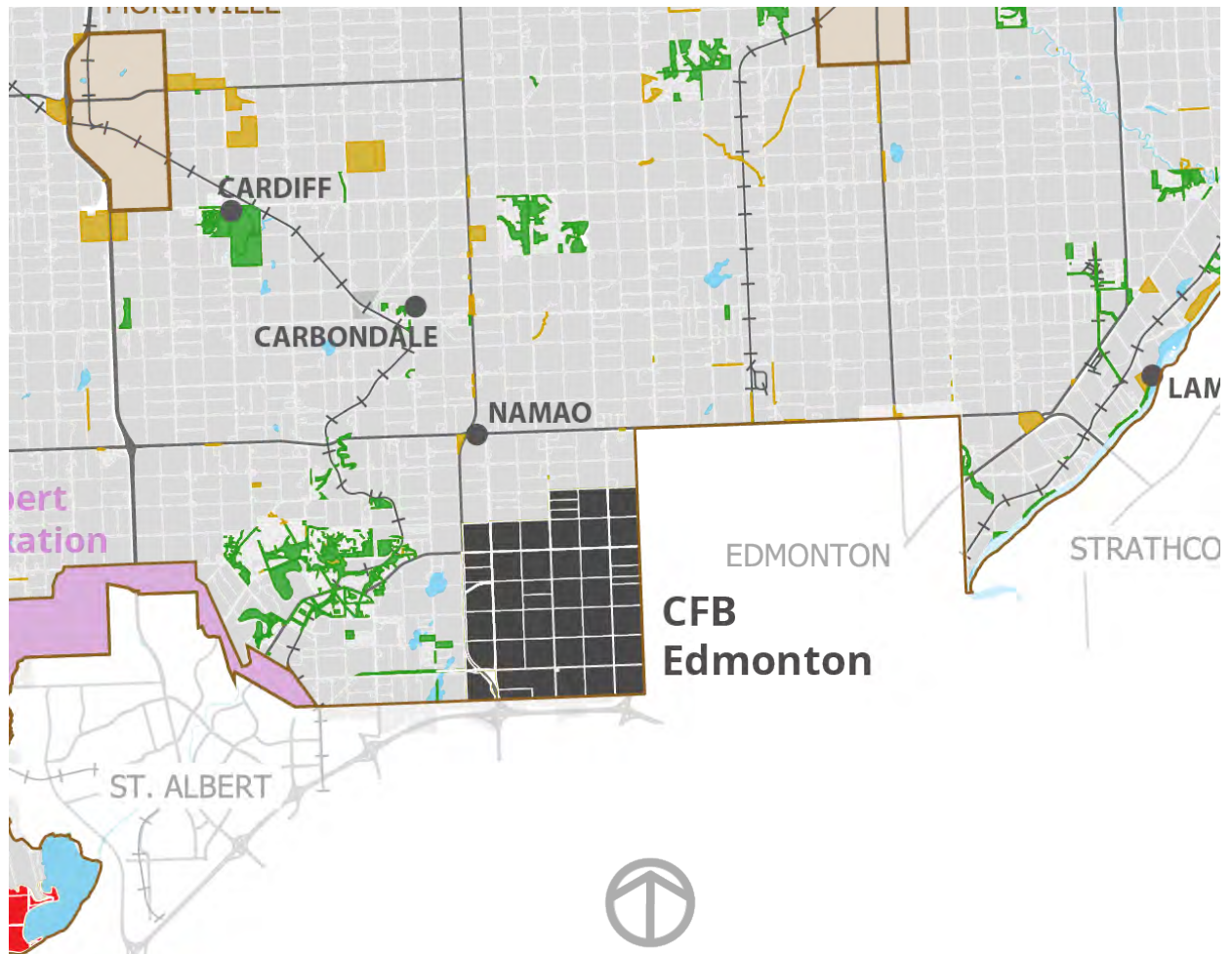
Figure 4: Enlargement 3 of 6 on Figure 1





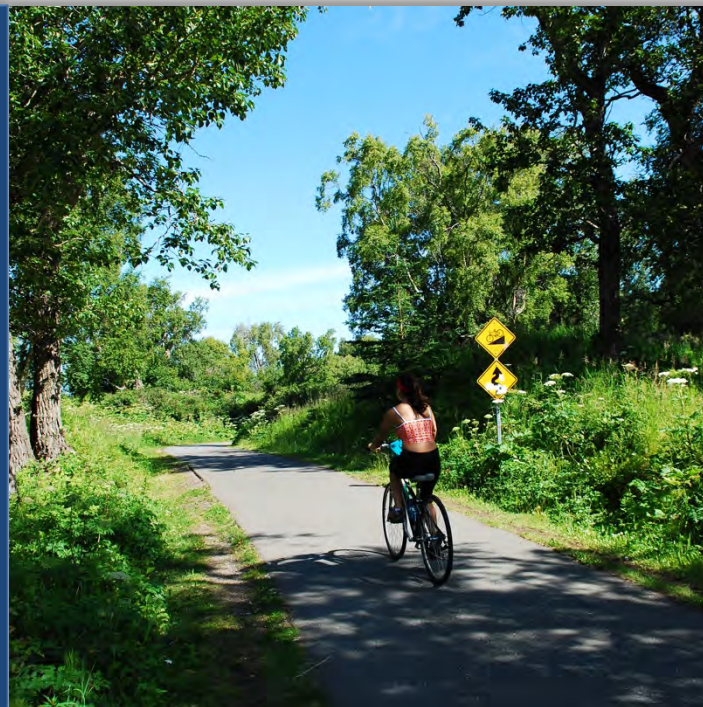
**Figure 5: Enlargement
4 of 6 on
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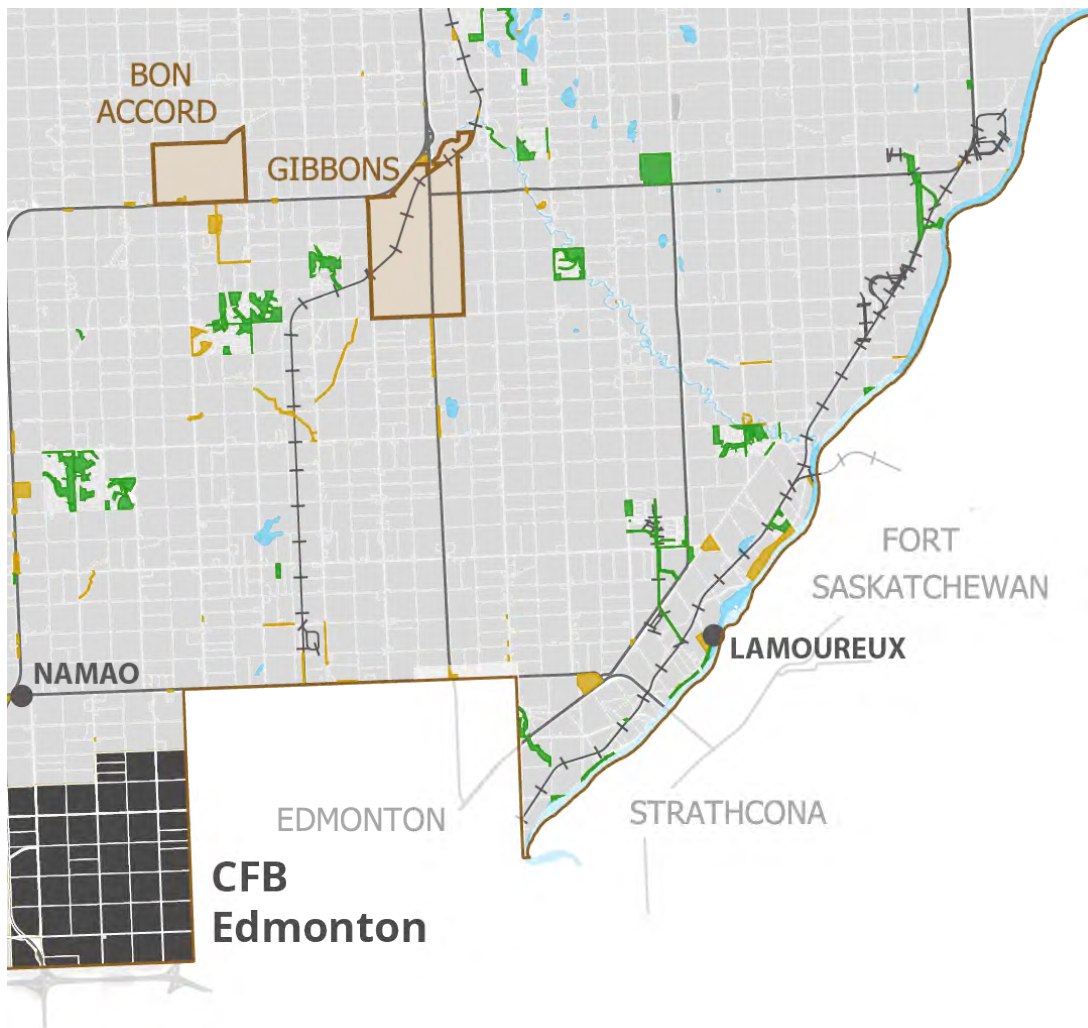


**Lois Hole
Provincial Park**

**Figure 6: Enlargement
5 of 6 on
Figure 1**



**Figure 7: Enlargement 6 of 6
on Figure 1**



Of the open space throughout the County, parcels have been designated as one of four types: water body (provincially and potentially federally regulated), environmental reserve (as defined by the MGA), municipal reserve (as defined by the MGA) and natural area. Figure 8 - Land Designations identifies the location of these four types.

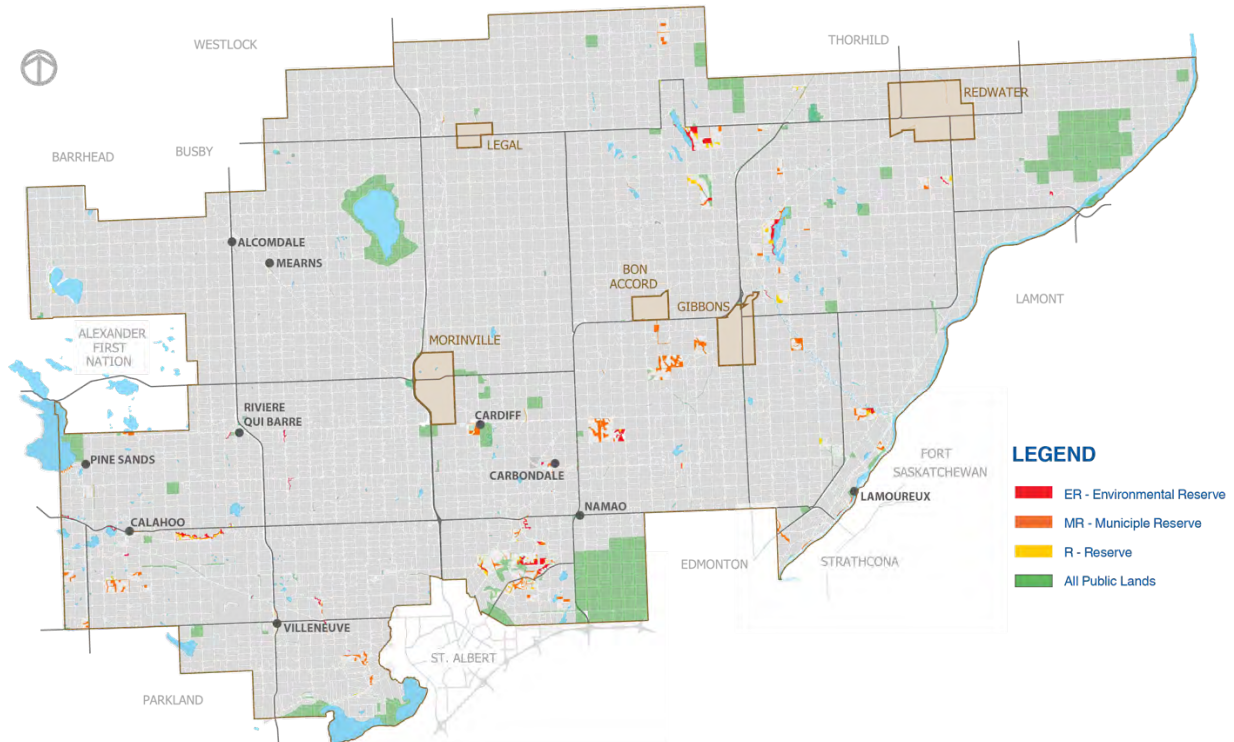


Figure 8 - Land Designations

Despite the 2016 plan covering a ten-year horizon, it identified the importance of conducting an interim review after five years. This update assesses the progress made on the capital plan, enhances key policy areas and develops decision-making tools for the next five years. To complete this update, stakeholder engagement was limited to working with internal County staff - a more robust stakeholder and community engagement program will be completed at the next plan update in approximately five years from now. Key attributes of this plan update include:

- updating mapping that was included in the 2016 Open Space Plan, based on updated GIS mapping data now available to Sturgeon County;
- developing a clear and concise definition of “open space” that will help rationalize future classification of all open space and appropriate uses within each one;
- revisiting the open space classifications of different open spaces will require review in light of plan objectives, current trends and leading practices amongst other factors;
- providing clear, action-oriented matrices for decision making regarding priorities for open space development and enhancement that engages various County departments effectively;
- understanding the array of statutory and non-statutory documents relevant to open space planning that strategically support the goals and objectives of this OSP update;
- developing an understanding of realistic financial and staff resources that would be available over the next five years to deliver on the recommendations of the updated OSP;
- addressing changes to the MDP and the need for new policies and legislative tools, such as enhancing environmental protection and conservation policies; and

- engaging internal administrative staff, senior leadership and Council to solidify the corporate vision and goals about open space.

2.3 Importance of this Plan

Parks and recreation are essential to high quality of life, community health and well-being. Recreation pursuits are key to individual health and well-being, create opportunities for both personal and community growth, and are strong contributors to community identity and vibrancy. Alike many other rural municipalities across Alberta, Sturgeon County boasts a collection of open space in various forms, from pristine natural ecosystems such as forested areas and wetlands to highly manicured urban parks that include playgrounds, trails and sports fields. The diversity of development in the County necessitates a malleable set of guidelines that facilitate planning for public open space for this great range of typologies.

A stronger environmental ethic not only helps promote ecological protection and preservation efforts, but it also reflects recent national and provincial trends in recreation. Healthy ecosystems support greater ecological diversity which not only benefits flora and fauna but also provides for more substantive human-nature connections. A stronger human-nature connection in how people chose to recreate is demanded by Canadians across the country, Albertans without exception. As open space policy continues to be developed, these policies should hold equal value between the needs of humans and nature. There needs to be a careful balance considered so that human recreation potential can be achieved while still respecting the carrying capacity of natural systems and the ability for ecosystems to thrive.

Recommended Action #1: open space policies and the way in which sites are planned and developed needs to strike a fine balance between maximizing human recreation potential and ensuring ecosystems can thrive.

The provision of public open space and recreation can play a significant role in the economic well-being of a municipality. Through that availability of natural areas for people to enjoy to recreation programs and activities, a well-planned open space network can entice and invite people to visit a community, invest in it or choose to call it home. These same assets are also instrumental in attracting and retaining residents along with the businesses with which they are affiliated. Open space and recreational assets draw visitors and provide a positive economic impact to municipalities. Additionally, quality open space and recreation amenities in communities improve overall community image which in turn makes Sturgeon County an ideal place to live, work, play and visit.

Communities alike Sturgeon County are faced with many challenges. While the availability of open space, recreational services and facilities are necessary pieces of what brings people together and creates feelings of unity within a community, goals and objectives must be accomplished within strict budgets, limited human resources, public health guidelines and various influences from stakeholder groups and residents. Finding efficiencies in how open

space and recreational opportunities are developed, operated and maintained is important. On the other hand, this plan does not operationalize open space planning and management, rather creates a framework for decision-making that prioritizes capital projects and initiatives which then must be aligned with available financial resources. It is strongly recommended that decisions on open space planning and recreation should not be solely based on financial considerations, but rather a fine balance between economic, social, environmental and political values while also considering long-term potential risks.

2.4 Moving Forward: Application of this Plan

This plan update does not replace the 2016 Open Space Plan, rather acts as a companion document that deviates the course of the initial plan. Over the next five years, both plans will be referred to simultaneously.

It is recommended that the 2016 Open Space Plan and this plan update be re-evaluated in approximately five years, including:

- refinement of trends and leading practices for recreation in rural and urban contexts that align with the varying typologies of open space found in Sturgeon County;
- a robust public and stakeholder engagement program that helps identify local priorities, determine current challenges with the existing open space network, appetite for risk and change to past recreational planning and determining local trends and leading practices;
- creating alignment with any new municipal policies developed since this plan update; and
- a review of Provincial and Federal acts, legislation and policy that impact open space planning at a municipal level.



3.0 Background Review

3.1 Past Plans

There are several statutory and non-statutory plans, reports and other information that is influential to this Open Space Plan Update. The following statutory documents were reviewed and applied where possible to this Plan:

- 2016 Open Space Plan;
- Municipal Government Act;
- Edmonton Metropolitan Region Board Growth Plan;
- Sturgeon County Municipal Development Plan;
- 2021 Sturgeon County Strategic Plan for 2022-2025;
- Intermunicipal Recreation Agreements (with five neighbouring municipalities);
- Sturgeon Watershed Alliance Plans and Reports;
- Sturgeon Valley Trails Plan (2004);
- Sturgeon County Land Use Bylaw;
- October 2021 draft plans, Sturgeon Valley Trails Gap Analysis; and
- Various Area Structure Plans.

Each plan had differing influence on this plan. Some provided influence on the recommended recreational activities for each open space typology within the transect, while others had statutory influences such as guidance on the processes to designate land through the Land Use Bylaw. As an example, the recently updated (2021) Strategic Plan for 2022-2025 included four main community outcomes – Planned Growth, Thriving Communities, Environmental Stewardship and Collaborative Governance. All of these outcomes are directly influential on open space planning. Refer to Appendix C for the Sturgeon County Strategic Plan (2022-2025) – Plan on a Page.

Recommended Action #2: open space planning and design should be coordinated with the desired community outcomes that have been identified in the 2021 Sturgeon County Strategic Plan for 2022-2025 as each of the guiding principles, community outcomes and the overall vision are directly relevant to open space planning.

This plan update includes an inventory of open space parcels that to date was never completed. This data was obtained through GIS files provided by Sturgeon County, a review of the Land Use Bylaw and a review of mapping included in various area structure plans.

3.2 Internal Staff Engagement

In November 2021, a workshop was facilitated as the primary engagement tactic for this project. The purpose of this engagement was to:

- present background research on progress made to date on delivering the OSP;
- review trends and leading practices in recreation, and how they relate to Sturgeon County;
- overview the County's inventory of open spaces, and discuss a transect of classifications and typologies;
- have participants complete a workbook-style feedback form that poses a series of questions; and
- share perspectives from a variety of County staff in different disciplines on the planning, operating and maintaining public open space.

27 Sturgeon County staff were invited to this two-hour session. Participants worked through a series of mini-presentations and resolved numerous questions. At the conclusion of the session, each participant was asked to complete a workbook that consolidated all comments and responses to several questions covered in the workshop. A collection of the raw responses has been compiled in a separate document. Summarized below are the most significant responses from the workbooks:

- A large proportion of open space in the County has yet to be properly designated under the Land Use Bylaw (EP, REC, POS, PU) or in accordance with the Municipal Government Act (ER, MR, CR). When asked what impediments existed to properly designating land, respondents indicated that prior efforts for re-designation was limited to desktop studies (air photo interpretation) due to time and financial constraints. Without sufficient information, many parcels remained as R – Reserve. Additional environmental screening is required. There has also been a lack of understanding on the potential land designations and their implications;
- When asked what recreational opportunities are missing from the various areas of Sturgeon County, some of the identified activities included Off-Highway Vehicle (OHV) programming, multi-use trails, equestrian trails, pickleball courts and community gardens;
- Based on trends and leading practices, activities that should be better promoted and made more available include non-structured play, risky play areas, skating ribbons / trails, private event spaces within parks, converting manicured areas into naturalized landscapes;
- Some of the immediate-term projects identified by staff included connecting existing trails with each other, and replacement of playgrounds in areas such as Bristol Oaks and Crestview; and
- When asked to evaluate a number of different types of recreational activity and delineating which ones are suited to Sturgeon County, there was a direct correlation between the least preferred activities and formal recreation such as tennis, outdoor swimming pools and waterslides. There was a strong preference for passive recreational activities.

3.3 Existing Character

Sturgeon County is located adjacent to three cities, including Edmonton, St. Albert and Fort Saskatchewan. Residential development density is generally higher along the south boundary of the County, with more sparse populations as you proceed north. There are also smaller communities encompassed by Sturgeon County, including Morinville, Gibbons, Legal, Redwater and Bon Accord.



The County has numerous permanent, semi-permanent and ephemeral waterbodies that form part of the open space network. Many of these waterbodies are used for recreational purposes, while numerous others offer only ecological value and do not serve a recreational function. Figure 9 - Watershed Boundaries and Water Systems of Sturgeon County identifies the boundaries of the three watersheds within the County, as well as the network of waterways and waterbodies. There are three primary watersheds covering the County, namely Beaverhill, WhiteEarth and Sturgeon. Some of the significant waterbodies located in the County that are an important part of the open space network include rivers such as the Sturgeon and North Saskatchewan, and lakes such as Sandy Lake, Big Lake, Manawan Lake and Kimura Lake. Considering impacts to open space at a watershed scale is very important as there are tangible connections across watersheds such as surface water flow from agricultural lands into regional-scale to international waterways.

Recommended Action #3: formulate policies so that they consider ecological impacts at a County-wide or watershed scale opposed to limiting impacts at a site scale. Partnerships with entities such as Alberta Biodiversity Monitoring Institute (ABMI), is recommended.

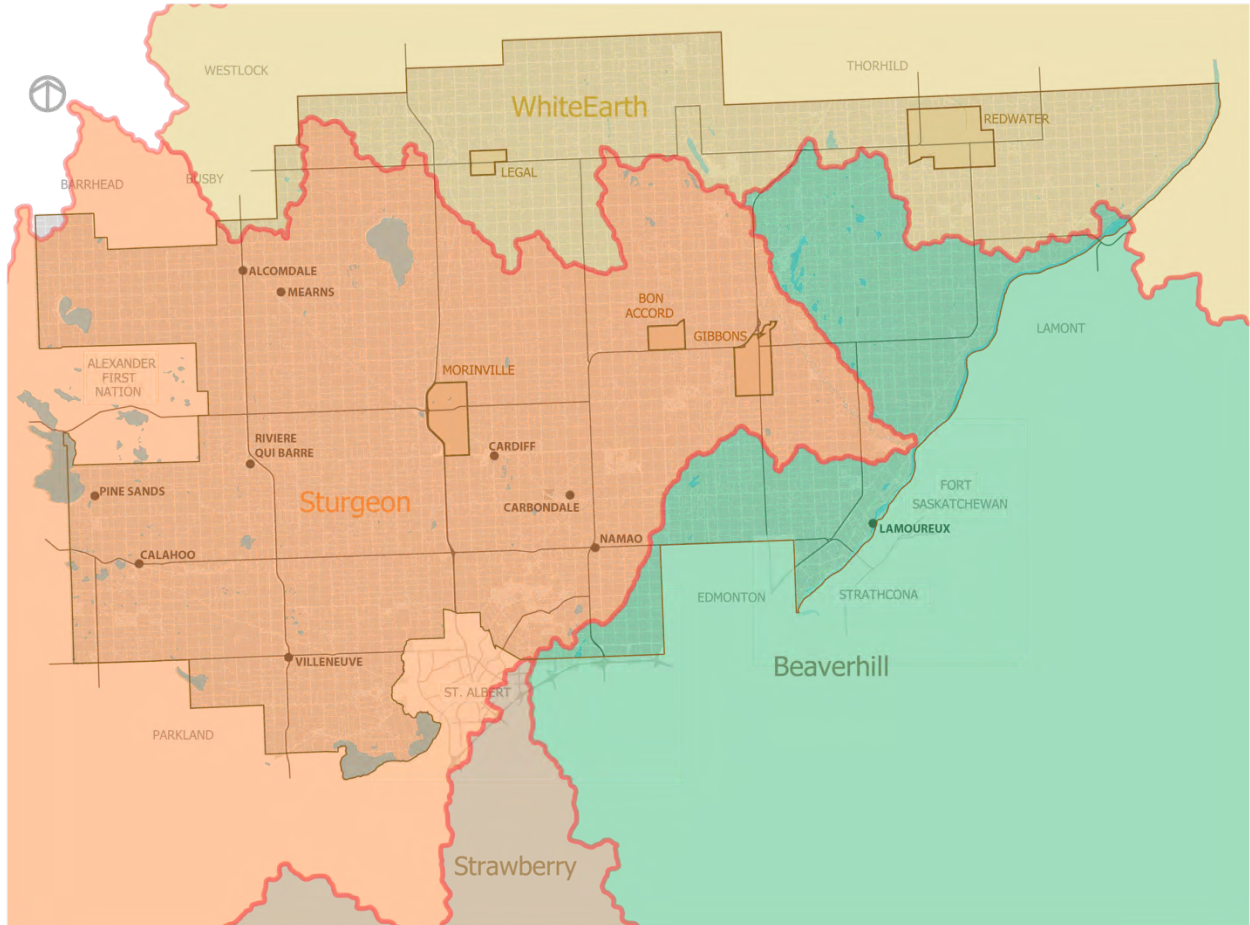


Figure 9 - Watershed Boundaries and Water Systems of Sturgeon County



The County contains numerous community destinations, ranging from golf courses and raceways to community halls and libraries. Figure 10 - Community Destinations identifies the location of numerous publicly accessible destinations that serve some degree of a recreational purpose, may they be for active recreation or sites of cultural significance.

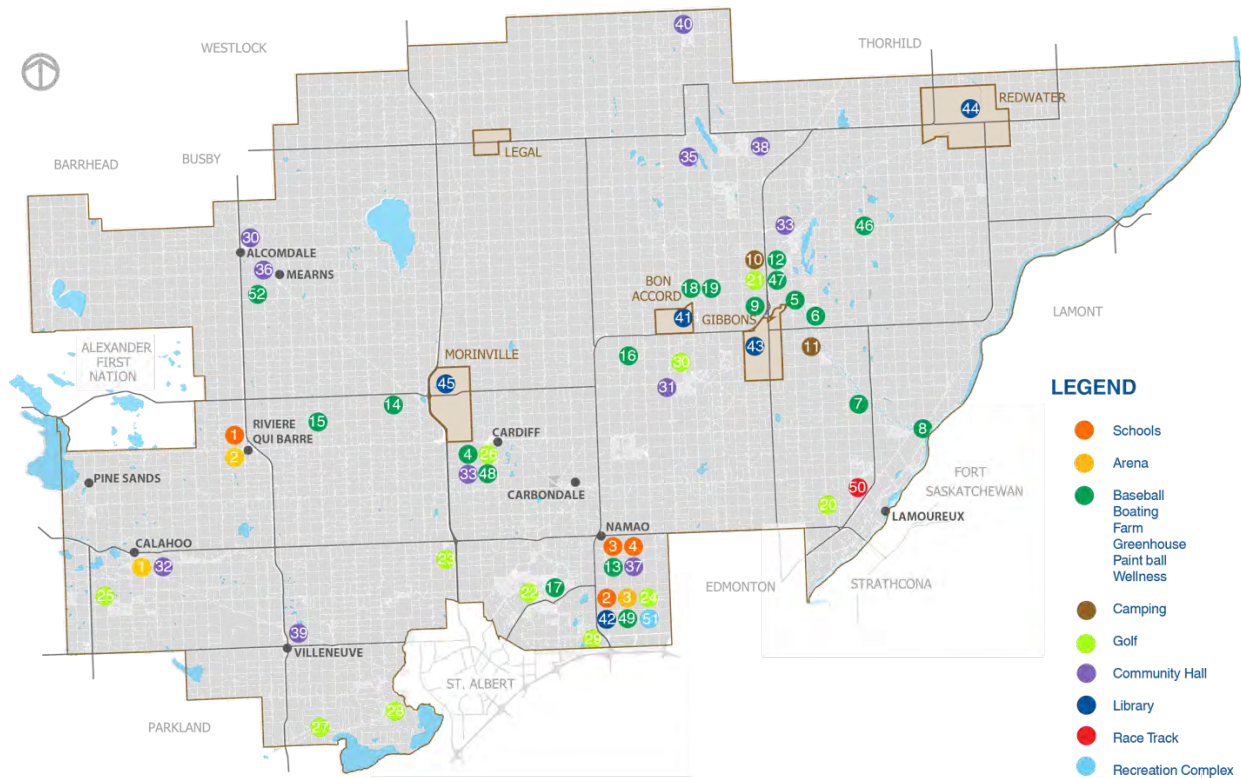


Figure 10 - Community Destinations (see appendix for detailed list of destinations)





The majority of the County is comprised of agricultural land with a mix of cultivated and cropped land along with pasture land for livestock and hay production. Figure 11 - Air Photo demonstrates the overall appearance by air photo, with a prominent division of land in quarter sections of land under agricultural use.

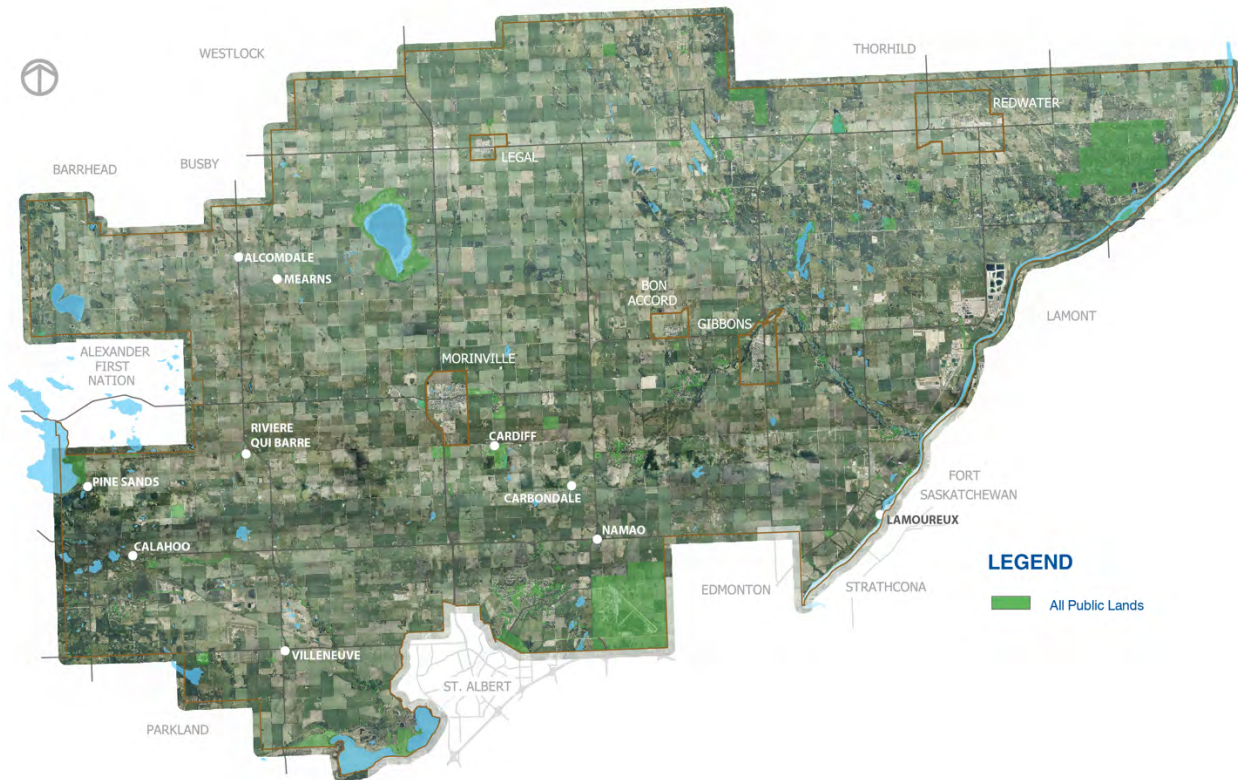


Figure 11 - Air Photo

4.0 Trends and Leading Practices in Recreation

Trends identified in this report range from those emerging across North America, within the general recreation sector, and at a municipal scale. Maintaining local relevance and context when implementing trends is integral to assuring their successful implementation. Ensuring that regional and national trends are aligned with the needs of a specific community is essential. The stakeholder and public engagement program of this Plan tested these trends against local perspectives. Applying trends and leading practices to a community can help:

- facilitate and optimize partnerships. Communities cannot deliver recreational amenities, services and programs alone and are reliant on outside organizations to provide a robust network of parks and recreation;
- reduce capital and operational costs of parks and recreation networks by prioritizing resources, exploring efficiencies and innovation used by others;
- adapt aging infrastructure to meet growing and changing community needs;
- balance natural environment and landscaped areas; and
- Increase local adoption of environmental practices and policies.

Recommended Action #4: apply national, provincial and regional trends and leading practices into newly proposed capital project plans to determine alignment and support project selection.



i) Spontaneous and Unstructured Recreation

Many institutions and establishments favour well-structured activities over free and creative time. While there are benefits associated with structured activities, establishing time for people, especially children, to let their minds and bodies roam free can help equip them for success. Structured play involves following steps to reach an established goal, helping build pattern-recognition, teamwork, and communication skills. Unstructured/free play involves improvising with no set goal, building creativity, problem-solving skills and self-expression in children. As there are benefits to both types of play, a combination of both can help children develop logical and creative thinking.

As highly structured play is traditionally chosen for children, there is a growing impetus to encourage self-directed play that boosts children's confidence to create their own boundaries. Free play often takes place outdoors, encouraging physical activity, reducing obesity and building long-lasting physical activity habits. Fitness is associated with improved school performance; reduced stress and chronic disease prevalence; and lower rates of alcohol and drug use and smoking. Free play also builds physical strength and motor skills among children and can help early development of social and communication skills. Playgrounds are microcosms for real-life: these childhood interactions prepare children for the future by building social and emotional awareness. The problem-solving skills developed during unstructured play are integral to proper development. Importantly, free play comes naturally to children, and is simply a fun way to spend time. The skills and benefits obtained in unstructured recreation will be lifelong. But at the time, these benefits seem pale in comparison to the mere great times spent outdoors making friends.

ii) Nature as Place

Many communities have embraced nature as its primary defining features. Looking to the natural world to define a community's sense of place and identity has become commonplace. Many community environmental conservations efforts have become highly valued by people as much to preserve local identity and a sense of place as to protect the natural environment. There is a very prominent trend nation-wide for communities to rely on natural systems – native flora and fauna of a region – as a means to theme open space planning, create local sense of place and to establish a unique identity true to its context.

iii) Physical Literacy

Early adoption of activities that promote physical literacy yields many lifelong benefits. Recreation agencies can improve overall health and wellbeing in the communities they serve, as well as promote proper childhood development by providing recreation opportunities that encourage development of physical literacy.

Physical literacy focuses on developing vital movement skills children require to participate in lifelong recreation. Basic principles are to:

- build confidence and motivation in people to enjoy day-to-day physical activity;
- increase knowledge and understanding of basic movements required for physical literacy, and how they contribute to active and happy lives; and
- instill desire in people to engage in regular physical activity, and make it a part of one's life, for life.

Being physically literate means learning basic movement skills required to participate in many sport and recreation activities. Fundamental abilities include running, jumping, hopping, balancing, throwing and swimming. These equip children with the means to participate in many sport and recreation activities, increasing their likelihood of pursuing physical activity as a youth and into adulthood.

iv) Decreasing Physical Activity

Due to declined physical activity, Canadians fall behind many other countries when it comes to active lifestyles. Recreation agencies must help promote active transportation along trail and road networks, create ready opportunities for physical activity, and provide areas to play outside. Despite physical activity's integral role in lifelong human health, overall activity begins to decline in individuals as early as childhood school age. Low physical activity is a risk factor for many chronic diseases (i.e., cardiovascular diseases, high blood pressure, type 2 diabetes, coronary heart disease, obesity, cancers) and low physical ability in adulthood. Maintaining regular physical activity mitigates risk factors for many diseases, but also yields improved mental and social health benefits. Physical activity is necessary to promote healthy growth and development among young people, and to assure healthy lifestyles are maintained long term.

As encouraging activity can be challenging, parks and recreation departments can help target the social determinants creating barriers for activity such as age, gender, and race and create accessible recreation for all. Understanding why people are not active can help fill gaps between sedentary and active behaviour, meeting people at their levels and creating attainable options for recreation. For instance, many are inclined to participate in leisurely physical activity, are not active while at work and at home, and have no option for active transportation. By creating changes in our built environments, parks and recreation agencies can help cure the epidemic of inactivity.



communities to promote a strong human-nature connection. The need for humans to interact with nature is embodied within, what various professional fields now call, the biophilia hypothesisⁱ. In essence, the biophilia hypothesis states a love for nature that is shared by all people across all cultures and economic classesⁱⁱ. The benefits of human contact with nature are well documented, for reasons such as maintaining biodiversity and fulfilling the inherent need we have to interact with the natural world. Nearly every culture - from the early First Nation communities to the most devoted urbanites of post-industrial Canada - has recognized that contact with nature is critical to human survival. As numerous disciplines support the validity of biophilia, they also endorse the health benefits afforded by routine contact with nature such as improved mental well-being, restorative experiences involving the renewal of depleted psychological resources and stress reductionⁱⁱⁱ.

Contrary to the trend for more engagement with nature, children spend significant amounts of time inside, much of it on the computer and with other digital devices in hand. Society's youth, particularly those from urban areas do not understand where food comes from (other than the store) and have an increasingly difficult time linking their health with the natural world. Connecting with nature can help move people from a place of isolation to one of connection.

Literature supports an inherent human connection with nature, and this relationship has numerous documented health benefits to humans. For generations, land planning professionals have been responsible for the creation of cities. Despite the known benefits of the human-nature connection, incorporating naturally-occurring ecosystems into urban fabric is not common. Although there is legislation at various levels of government to protect the natural environment, naturally-occurring ecosystems are still lost at alarming rates. There are four prominent variables that inhibit a strong human-nature connection in western Canadian municipalities, including a lack of place attachment, absence of local knowledge in planning processes, landowner rights to alter natural areas, and the lack of public education and consultation in land planning processes.^{iv} One key mitigation strategy to help promote a stronger human-nature connection is educating landowners and the general public on the values that nature affords – value, as in inherent value and not necessarily in any economic sense.

Recommended Action #5: promote education of Sturgeon County residents and landowners on the value of protecting natural systems and forge a stronger environmental ethic: value in a balanced sense that considers a balance of ecological, human health and monetary benefits.

vi) Youth Sport Participation

Despite the importance of sport in active lifestyles, over 40% of youth do not participate. Many children enrolled in sports also do not have other sources of physical activity. This is problematic for children who are not, or cannot be, enrolled in sports year-round and for children who are unable to access and be included in sports. Low sport participation may be due to various social determinants creating barriers preventing participation. Lower

household income may limit participation: 45.5 % of children from households with incomes over \$ 100,000 participate in sports, while only 27.5 % participate from households earning under \$ 25,000. The time commitment required for sport participation also deters many families. This can also be compounded by income, as many parents must prioritize their work to financially support their families. In many places across North America, sport participation has grown elitist.

The Government of Canada is increasing funding opportunities to promote gender equity and financial support for sport organizations, yielding more inclusive and affordable environments. It is also acknowledging sport safety by addressing concussions in sport as a public health issue – health risks are also a deterrent for many families. The Sport for Life framework aims to keep Canadians active for life by improving sport leadership, programs and services, and organizations. Affordable and accessible sport opportunities for all youth in Canada are necessary to increase participation. Parks and recreation agencies can increase sport participation by offering affordable, convenient, and safe programming and opportunities to get out and play.

vii) Overscheduled Children

Maintaining activity-filled calendars is convenient for many busy family lifestyles. There are benefits associated with participation in organized activities like sports and music lessons, but it is also important to leave time for spontaneous recreation – even if this time is scheduled. Overscheduling can stem from good intentions, but in the long run may increase risk of depression and anxiety and restrict childhood development of problem-solving and decision-making skills. The risks associated with overscheduling may override the benefits scheduled activities are intended to create. Many children grow bored of their schedules even before they reach high school and do not know what to do with free time. Having too stacked of a schedule leaves little time for children and youth to explore the world on their own. Overscheduling can also teach children they need to continually self-improve to succeed, which can negatively impact self-esteem.

Recreation agencies can help reduce overscheduling by providing areas where children and adolescents, and their families, can spend fun and active time together. More space will also be needed for people to relax away from screen time. Designing parks and recreation spaces in ways that stimulate creativity and are accessible for children to engage with on their own, can help ease many parents' anxieties associated with free time. Playing together as a family is important to help build strong relationships but leaving time for kids-only unstructured play helps build creativity in other ways, encouraging children to control of their own environments.

While scheduled activities are beneficial, it is important to remember that sometimes spending time just playing with friends or on a family bike ride yields just as many, if not more benefits than soccer drills.

viii) Physical Activity in Older Adults

There are many benefits associated with maintaining an active lifestyle over the age of 65, including:

- decreased risk of many cardiovascular diseases and cancers;
- higher cardiorespiratory and muscular fitness;
- healthier body mass and bone structures; and
- improved functional and cognitive health.

Engaging in regular, leisurely recreation can help produce such benefits. Parks and recreation agencies can help older persons attain healthier lifestyles by maintaining accessible, enticing and affordable services and facilities. Activities that help keep older adults fit include walking and biking, household chores, games and sports, and even family and community activities. Older folks are recommended to engage in an equivalent of 150 minutes of moderate, or 75 minutes of vigorous physical activity each week. If unattainable, you are encouraged to start off with 10-minute intervals and increasing as you get stronger – the benefits of physical activity increase the more active you are.

Many people can kickstart their active lifestyles simply by finding an activity they enjoy and increasing their activity level over time; a couch-to-marathon journey doesn't take place overnight. Facilitating social activity may also encourage more people to get involved. Fostering active transportation and motivating people to do simple things like taking the stairs are also integral to building active lifestyles. Encouraging people to start at a level they are comfortable with and listen to their bodies is an accessible place to start.



Parks and recreation agencies offer countless health and wellness benefits to the communities they serve, increasing overall quality of life. Outdoor parks and recreation facilities provide spaces for people to engage with nature and with each other. Ice rinks, picnic shelters, tennis courts and trail networks are important components of active and healthy lifestyles. Indoor facilities such as swimming pools, gymnasiums, recreation and fitness facilities, and ice rinks also support health and wellbeing by providing opportunities for programming, sport and group activities.

Measuring parks and recreation service performance is integral to assure community needs are addressed and met, and help existing services and facilities remain functional and relevant to people in the community. It is important for these agencies to prioritize efficient and effective service delivery to maintain high standards and community impressions. Creating attainable and beneficial objectives, targets, and initiatives that align with strategic and performance plans can help agencies organize pathways to success, and permit performance evaluation along the way.

Maintaining performance records can help organizations track and organize their progress via:

- communication of organizational goals;
- alignment of tasks and work within achievable targets;
- prioritization of work and services that need to get done; and
- measurement and monitoring of progress to strategic goals.

Performance management can also initiate financial savings, engagement with key stakeholders and community interaction. Overall, it helps organizations remain accountable to their communities by self-evaluating policy and decisions and keeping on a track that leads to success.

ii) Climate Change Resiliency

As climate change impacts continue to appear in frequency and severity, parks and recreation agencies can adapt their amenities to help their communities remain resilient in the face of a changing environment. Initiatives and services must consider how climate change will impact their implementation and longevity. At this point, all decisions must acknowledge the world is changing fast, and we need to keep up.

Nature-inspired design is increasing in popularity and there is growing impetus to design public spaces in conjunction with the environment. Green spaces provide areas for nature to thrive and can help preserve pieces of native habitat, all while benefitting the surrounding community. Urban parks provide grounds for urban forests to grow, mitigating some of the greenhouse gas problem by absorbing carbon emissions. Natural outdoor spaces can also mitigate some of the impacts that will be caused by harsh outdoor conditions such as winds, hot sun and natural disasters.



Integrating climate change resiliency with parks and recreation is an intriguing challenge. For instance, many spaces must balance climate mitigation measures with the need to foster human connection and interaction. These challenges must become key considerations in residential planning. Not only are urban areas associated with areas of intense heat, dangerous to the health of many, but many neighbourhoods are built in and around floodplains, and natural disasters are expected to increase. Design strategies that address these problems are key in building climate change-resilient communities.

Climate change response is primarily an adaptation strategy for cities and communities, as it cannot be directly managed. Understanding which activities and infrastructure will be impacted by climate change, and which planning strategies and mitigation measures can help, is key to building sustainable and long-standing cities.

iii) Changing Family Structures

Once commonplace, the nuclear family structure is declining. Many fathers are no longer primary breadwinners, and many families do not conform to the typical father-mother-children dynamic. As family demographics change, municipalities must adapt their public services to address increasingly diverse families.

Single-parent households, unmarried partners, same-sex families and childfree couples are increasingly common. Today, there is no longer one dominant family structure. Marriage rates are increasing, but many are waiting longer to tie the knot, shifting the overall age dynamic of married couples and families with children. Many couples are also waiting longer to have children and more are choosing to live child-free. Increased educational attainment and career roles among women, as well as improved and more accessible contraception are helping drive this population shift. With shifting parental roles, many families have had to make the difficult decision between prioritizing work and income, or family life.

Many families today are blended (i.e., composed of step-parents, step-siblings and half-siblings) or composed of re-marriages, cohabiting parents and single parents. Of single-parent households, single-mothers are more common than males and many families live below the poverty line. For many, it is difficult to balance financial stability with caregiving. Instability in local income demographics can help indicate whether children are likely to grow up poor; parks and recreation services will need to change to address income gaps and remain accessible to all.

iv) Diversity, Equity and Inclusion

For many organizations, and in particular public service agencies, maintaining a workforce strong in diversity, equity and inclusion improves leadership within organizations and quality of services provided to communities. Diverse workforces are not only good for representation in the workplace, increasing accessibility and inclusivity for the general public, but are also critical components of critical thinking and problem solving.

Workplace diversity helps create learning and adaptable environments. By hiring a diverse team and training staff to focus on diversity, equity and inclusion, workplaces will be more representative of the communities they serve. Unconscious bias can be minimized by maintaining staff with various perspectives and experiences. Cultural representation is important but building a multigenerational workplace will help integrate more perspectives. Supporting gender identity and inclusion is also integral to maintaining representation of the public.

As society evolves, employers will need to remain adaptable with changing societal attitudes. It is expected more people will be inclined to work at home as technology advances and as COVID-19 is a prevalent public health issue. Employers and employees will need to change expectations of each other as more people directly and/or indirectly suffer from COVID-19. Vaccination may pose interesting challenges for at-work environments, as well as feelings of safety.

Overall, workplaces must adapt with society's current needs for more diverse representation, but also be accustomed to adapting as the world has capacity to change drastically in short periods. Whether COVID-19 or another matter, workplaces must be ready to adapt on a moment's notice. As it relates to open space, sites should be developed with diversity, equity and inclusion in mind. The way in which we plan for open space development should reflect similar values.

v) Reconciliation

As diversity, equity and inclusion increase in popularity and necessity, organizations must consider reconciliation efforts to restore friendly relations with those who have been historically marginalized either by the organization itself, or the surrounding community. Reconciliation improves symbiosis between organizations and the people they serve by improving relationships and increasing diversity and representation of services. Learning from the people who benefit from their services, organizations can improve their relationships with the community and provide more representative and equitable benefits.

Reconciliation in North America is required for many cultural minorities, but particularly for Indigenous people. In Canada, Indigenous people have been systematically disadvantaged and harmed at the hands of the government; recently, there have been shifts towards repairing the relationship between Indigenous people and the rest of the country. While this relationship is complex and will require years of positive action, action is being taken to address and acknowledge past injustices and create new paths forward.

In Canada, the Truth & Reconciliation Commission (TRC) was established in 2008 to provide those impacted by Canada's residential school system an opportunity to share their stories and experiences. While the TRC released a report outlining suggestions to promote Indigenous healing, actions go beyond this report, and Indigenous representation should be considered whenever possible in governmental policy and decision making.

Intentions to shift cultural norms across the nation are increasing in support and awareness. Parks and recreation departments are integral components of reconciliation as:

- land stewards and custodians;
- distributors of public funds able to preserve Indigenous and historical sites and cultural artifacts; and
- interpreters of Indigenous sites, and decision-makers regarding public lands.

Parks and recreation agencies must make reconciliation a priority in strategic planning to increase Indigenous representation in management of public lands and improve the communities they serve.

vi) Wellness Through Recreation

Parks and recreation agencies are key contributors to the health and wellbeing of the people they serve, thus they should mandate a focus on increasing quality of life. By enhancing built physical environments, parks and recreation departments oversee decisions directly impacting access to healthy lifestyles and social cohesive mechanisms that increase public satisfaction. Parks and recreation facilities encourage wellness habits and increase community livability.



bans do not allow people to use tobacco in public parks). In many locations, public parks are important food sources for youth, helping combat malnutrition and hunger for low-income families. Social programs like after school care and summer camps are not only fun and safe places for children to recreate but can provide accessible sources of health information and nutrition for many low-income families.

Living in proximity of parks and recreation facilities is linked to increased physical activity in youth and adults and lower rates of obesity. Parks also provide stress-relieving connections with nature, improve interpersonal relations and have positive impacts on mental health. By providing facilities, outdoor areas and services that support the health of people of all ages, abilities and backgrounds, parks and recreation departments are integral to community health.

Parks are especially important during the current public health situation, as they are some of the only places people can gather safely and legally, allowing people to attain all the already-established benefits of parks, but also to satisfy social wellbeing.

4.3 Local Trends

i) Event Hosting and Tourism

Many communities struggle to become more than just stops along a highway. To promote tourism and draw people to a community, parks and recreation agencies must provide services and facilities attractive to newcomers. Many people are growing increasingly attracted to nature-based recreation and traveling to areas based on activities they offer. Plainly put, people are drawn to attractive things –enticing, dynamic and engaging spaces will draw new people, and more people to engage in local sightseeing and recreation.

Parks and recreation facilities are becoming key drivers in the tourism industry and should be seen as amenities that contribute to the economy by enticing people to visit and spend time in communities other than their own. Two factors influencing peoples' likelihoods of visiting new places are ease of planning and of course the type of amenities offered.

To fit in with modern-day schedules, many individuals and families prefer an option to pre-plan activities and book things ahead of time. Being able to plan ahead can also lead people to discover new activities, promoting more tourism. Technological tools like event websites and apps are valuable investments promoting local services. People may also be more likely to participate in an activity if they have committed ahead of time, especially if there is a payment required.

When traveling, more people are attracted by and inclined to make eco-friendly decisions and engage in environmentally conscious recreation. Sustainable preferences should be more prevalent when choosing accommodations, transportation and travel destinations. Highlighting sustainable decisions may encourage people to make them. Many want to but need starting places to make more environmentally friendly choices. Making these choices clear to tourists may promote them. Frequently, sustainable choices can benefit the communities themselves, as they may be less costly to offer, benefitting all.

ii) Planning for Expandability

Parks and recreation departments' expanding roles in community engagement and development will require their planning frameworks and implementation strategies to adapt. While many have long associated these agencies with simple things like green grass or public basketball courts, parks and recreation facilities are integral components of public service, just as important as traffic controls or water service.

It is anticipated that public service planning will become more community-oriented and will necessitate internal and external collaborations and partnerships. Improved coordination in planning will help meet more community needs, leading to the most benefit possible. Decision making frameworks and service delivery models will help avoid costly mistakes and provide guiding principles that reflect community values.

Initiating and maintaining liaison with key stakeholders – whether a parks user or funding source – is also integral to improved planning. Defining local context and needs should be employed early on in planning stages and should be adaptable with changing community needs. Community needs assessments can be useful tools for developing local profiles, determining what the public desires. Decisions made by public agencies should reflect both economic development and community needs – investing in bike-share infrastructure and trail connectors may be more utilized than a new recreation centre, but the only way to find out is to do the research.

iii) Multi-Use Spaces and Sport Trends

To maintain participation in sports and fitness facilities, it is important parks and recreation agencies keep up with new trends influencing the industries themselves. Not only do these factors drive local tourism, bringing more people to the community, but they provide ways to engage with the community and bring people together who are already there. Retro-fitting sport facilities from single-use facilities is expected to increase as demand for more options increases and people want more ways to interact with each other. To identify community desires and meet community needs, relationships between sport organizations and parks and recreations are necessary.



similarly increasing in popularity. While parks and recreation agencies may not participate in betting directly, it is important to acknowledge the monetization, and thus potential for profit, of many sports, viewing them as industries and not only pastimes.

Female representation and opportunity must also increase, as evidenced by the popularity of certain events like the 2019 FIFA Women's World Cup. Many companies and organizations are investing in women's sports and initiatives to increase participation. While there are many challenges still facing women in sport, increased support, awareness and even viewership are driving a momentum that will positively impact female athletes and those working in sport organizations.

iv) Sustainable Design and Facility Management

As the benefits are evident, sustainable design is becoming popular. Investing in Leadership in Energy and Environmental Design (LEED®) certified infrastructure and hiring LEED® certified professionals are of growing importance as built environments are no longer just buildings, but climate change mitigations, and energy and money savers.

Despite certain attitudes, many recreation agencies are finding LEED® certification is neither too cumbersome nor expensive. Many hurdles regarding sustainability originate from community leaders neglecting the topic, possibly considering it too expensive or revolutionary. However, many communities building LEED® certified infrastructure find there is no pushback from communities, instead support and positive reception.

Resource conservation, energy efficiency and improved indoor environments are some of the many benefits associated with sustainability upgrades. They inevitably cost money but doing something right the first time yields long-term cost-savings. Taking on small upgrades over a long period and practicing good design in planning stages are less expensive and efficient options.

Green upgrades can just as easily be taken outdoors. Increasing native greenery and trees, and xeriscaping are associated with improved social ties, higher test scores in children and lower crime rates. Resulting environmental benefits include reduced flooding, erosion and air pollution, air cooling, and improved biodiversity. Overall, the education component of sustainability is a first step. Changing public and leader attitudes is key. It is important to emphasize that sustainability is not revolutionary or too expensive – it is simply smart and efficient.

v) Maintaining Infrastructure

With any aging asset, a point is reached where it must be determined if the asset should be repaired or replaced. All infrastructure ages naturally, but this process may be accelerated by previous maintenance and repair neglect due to financial reasons and/or labour limitations, and an increased or decreased demand of the asset's use. Aging and deterioration of infrastructure cannot be stopped entirely, but the process can be slowed by proper asset management along the way. The recently developed Tree & Forest Inventory System developed by Sturgeon County should be influential in decision-making to help quantify the benefits of any enhancements or projects going forward.

Recommended Action #6: the County's asset management system needs to include the inventory of public open space, recreational amenities and all parks assets. The asset management plan must address the needs for infrastructure renewal while having equal importance on preserving natural systems.

Asset management is an integral component of proper function in public service agencies. It is a long-term process that takes place at all stages of the infrastructure lifecycle, from procurement to disposal. Asset management includes: making strategic and proactive decisions; long-term considerations of performance and cost; clear, visible, and transparent approaches to management; and smart and planned investment choices. While there may be short-term financial and labour benefits, decreased infrastructure service may lead to quality issues, or even health and safety hazards down the road. Service levels must always be maintained to prevent infrastructure damage which is frequently more expensive long-term.

vi) Regional Collaborations and Partnerships

There are many benefits to collaborations between parks and recreation agencies and various stakeholders, community organizations and other institutions. Partnerships like this help reinforce parks and recreation agencies' community importance and foster symbiotic relationships beneficial to all. A growing focus and reliance is being placed on partnerships in development which involves the public, private and non-profit sectors. These partnership arrangements have obvious benefits in capital and operational cost savings; they also enable increased service provision to a wide range of users.



Working together with educational institutions leads to many results, benefitting both organizations. Many educational institutions require or recommend their students participate in field placements to gain professional knowledge before entering the working world. Parks and recreation agencies can benefit from these placements from the labour and work completed by students, and by information obtained from participating in a high-level education program.

Collaboration between other stakeholders in planning will increase collaboration and conversation within local communities, and lead to more sustainable recreation. Many organizations are using “collaborative action” and “consensus building” to approach decision making, which can help improve service delivery. The importance of collaboration is emphasized in the COVID-19 pandemic. Coordinated response between related organizations will help with consistent messaging, limiting contradictory information which can be confusing. Consistent messaging during the pandemic may be a matter of public safety and may help improve peoples’ trust in and attitudes towards public agencies.

vii) Thinking About, and Valuing Biodiversity

Biodiversity is an important aspect of ecosystem function^v. Ecological theory and evidence obtained from experiments on a variety of ecosystems suggest that communities made up of many interacting species should be more stable (i.e., less temporally variable in terms of overall biomass or productivity) than simple communities made up of few interacting species^{vi}. While Canada’s federal Acts and legislation protect individual ecosystems, such as fish bearing streams and wetland areas, they do not include mechanisms to protect biodiversity. Protecting biodiversity needs to happen at the local, municipal level. Considering how one ecosystem (and the species that it hosts) compliments adjacent ones, it is important to protect a system of ecosystem types all at one time^{vii}.



viii) Low Impact Development (LID)

Many communities alike Sturgeon County across Alberta are adopting LID guidelines to reduce the impact that development has on the environment. There are numerous LID strategies compatible with our region, such as precipitation collection and water re-use, using permeable pavements, using bioswales and rain gardens opposed to conventional curb and gutter, and using constructed wetlands as stormwater management facilities.

Recommended Action #7: Sturgeon County is encouraged to create development guidelines and policy that includes principles of biodiversity and low impact development to help prioritize the protection of the natural environment.



5.0 Site Characterization

5.1 Open Space Classification

Sturgeon County has a wide variety of developed areas, from rural development and agricultural land to suburban subdivisions with traditional urban form. There are also a range of undeveloped areas that form part of the open space network, including river and ravine riparian areas to native forests and grasslands. Figure 12 - Open Space Transect identifies three primary categories of open spaces in Sturgeon County, namely Wild and Natural Areas, Working Landscapes and Developed Areas. Under these three categories are 16 classifications of open space that range from waterbodies and wetlands in the undeveloped natural areas of the County to streetscapes of existing and soon to be developed urban areas of southeast Sturgeon County.

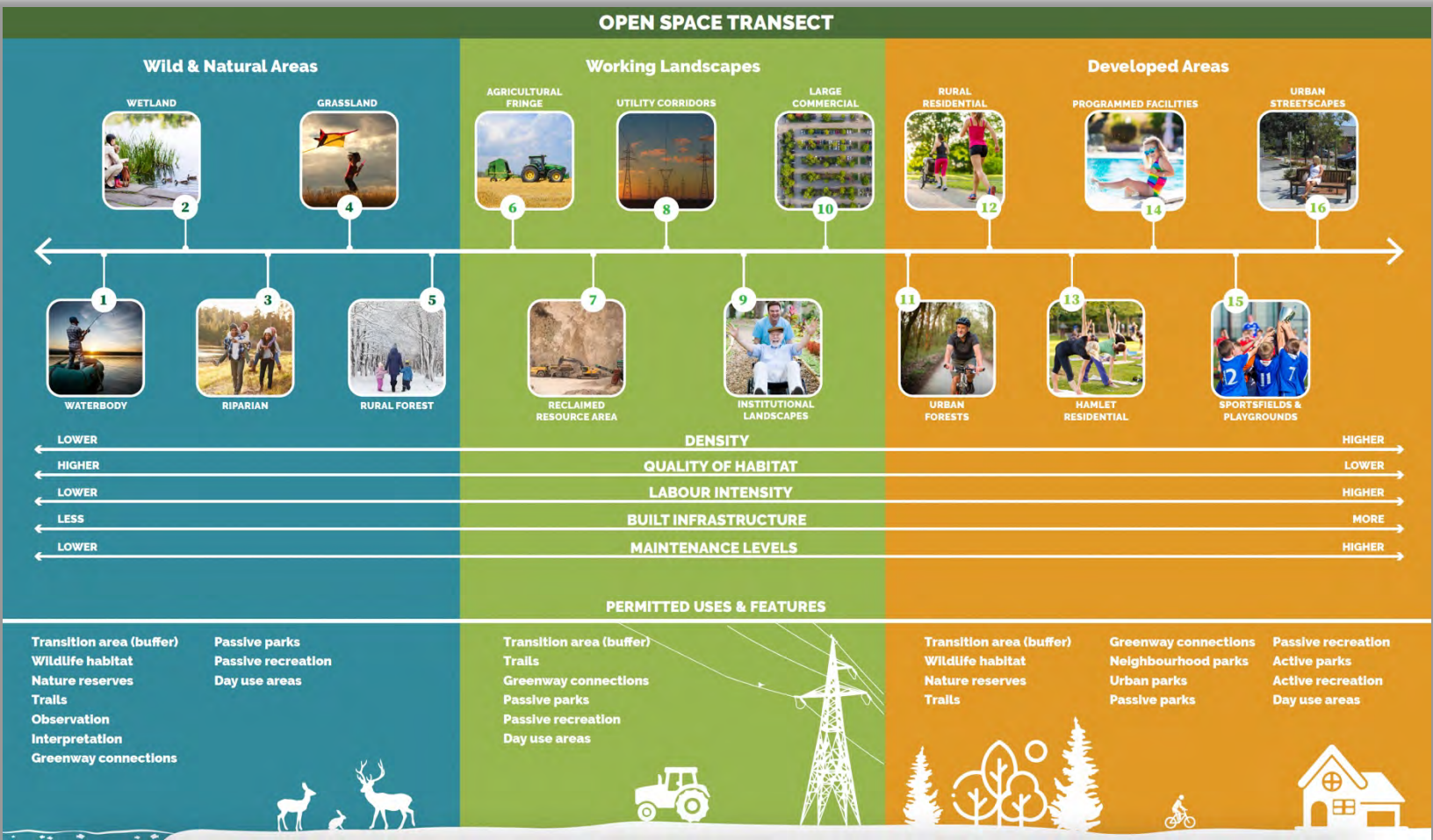


Figure 12 - Open Space Transect

The County maintains approximately 1,695 ha of public open space, which was formally mapped during this process. While several of the proposed 16 classifications do not presently exist, such as large commercial open spaces, they are anticipated in upcoming development of future decades as Sturgeon County experiences its anticipated population growth and are therefore part of this transect. Each category is accompanied by a chart that describes the following:

- **Ecological Activities** – the generalized types of ecological value the parcel can provide, such as bird nesting, habitat for large animals (ungulates), habitat for other smaller animals, or diverse, riparian area habitat that often has higher species richness than upland areas;
- **Human Uses** – the generalized types of human recreational activities that are compatible with each of the typologies. Larger patches are more compatible with human use as there is that ability to set development back from core areas of a patch allowing for co-existence of humans and wildlife;
- **Target Wildlife Considered** – when planning for development, this describes the largest species that should be considered when determining adequate setbacks to provide for wildlife movement and to determine minimum dimensions of a natural area or ecological patch;
- **Primary Human Audience** – the anticipated group size of people that would usually participate in recreation, such as individual pursuit (individuals or very small groups of people) versus much larger groups of people participating at the same place at the same time;
- **Minimum Parcel Size** – general guidelines on the minimum size of a patch of open space required to sustain activities, shown for both ecological function and for human use;
- **Maximum Parcel Size** - general guidelines on the maximum size of a patch of open space required to sustain activities, shown for both ecological function and for human use. Areas in excess of the values shown may be disposed of or sold, however more appropriately can be repurposed for other functions such as placing facilities and other types of open spaces such as sports fields and other recreational amenities;
- **County Land Available** – based on our assessment of all open spaces, this is the estimated area of open space under County control for each typology. The process to determine the distribution of open space is described below. In some cases there are typologies that do not yet exist in the County and therefore its value is zero – these typologies are placeholders for future anticipated open space that is established by the development industry or parcels that may be acquired by the County in future years as population continues to grow;
- **Description of Dispersal** – for the typologies that are present in the County, this is a generalized description of how these open spaces are distributed; and
- **Recommendations** – very general recommendations for each typology coming out of the land inventory process and a general statement on availability of each one.

The following describes each of the three categories and 16 classifications of open space on this transect:

i) **Wild and Natural Areas** – open space that is relative undeveloped, has high potential for quality of habitat, lacks built infrastructure and comes with lower levels of maintenance. These open spaces are also low in revenue generation and hold the lowest assessment value compared to land further to the right on this spectrum. Some recommended permitted uses include habitat areas for wildlife, nature appreciation and observation, interpretation, passive parks and day use areas. The following typologies are suggested within this category.

1 Waterbody 

Ecological Activities
Habitat for fish, bird nesting habitat and riparian edge habitat

 **Human Uses**
Fishing, recreational boating and viewing / nature appreciation

Target Wildlife Considered
Fish

Primary Human Audience
Individual pursuit

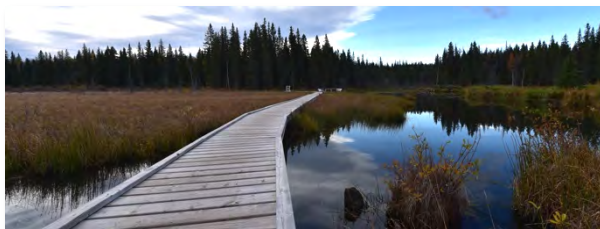
 **Min. / Max. Parcel Size Required**
Ecological: n/a-unlimited
Human: n/a-unlimited

County Land Available
13.78 ha

1. **Waterbody** – including permanent and semi-permanent surface water, typically under the jurisdiction of provincial and at times federal regulatory bodies. Waterbodies offer a range of human recreational functions such as motorized or non-motorized boating, fishing, paddling and nature appreciation;



2. **Wetland** – permanent, semi-permanent or ephemeral water bodies comprised of saturated land that include features such as marshes, swamps or bogs. Recreational use is limited to passive boating such as hand-launched paddle boats and nature appreciation;



2 Wetland 

Ecological Activities
Habitat for fish, bird nesting habitat and riparian edge habitat

 **Human Uses**
Hunting, viewing / nature appreciation and interpretive programming

Target Wildlife Considered
Migratory birds

Primary Human Audience
Small groups

 **Min. / Max. Parcel Size Required**
Ecological: 0.1 ha-unlimited
Human: 0.1 ha-unlimited

County Land Available
28.44 ha

3

Riparian



Ecological Activities

Habitat for fish, bird nesting habitat and riparian edge habitat



Human Uses

Hunting, viewing / nature appreciation and trails

Target Wildlife Considered

Ungulates

Primary Human Audience

Small groups



Min. / Max. Parcel Size Required

Ecological: min. 10m width
Human: min. 6m width

County Land Available

100.28 ha

3. **Riparian** – interacting closely with aquatic ecosystems, riparian areas are the zones of lush, often green and moisture-loving vegetation that surround waterbodies. Recreational uses are typically limited to trail access and nature appreciation given the high potential of steeper slopes and more sensitive ecosystems that are less tolerant of human disturbance;



4. **Grassland** – naturally occurring ecosystems that are primarily comprised of perennial grass species, fertile soils and generally flatter land than other ecosystems. Grasslands are compatible with a variety of passive recreational uses and offer greater vistas and views than other local ecosystem types; and



4

Grassland



Ecological Activities

Bird nesting habitat, ungulate passage and animal habitat



Human Uses

Hunting, viewing / nature appreciation and trails

Target Wildlife Considered

Ungulates

Primary Human Audience

Small groups



Min. / Max. Parcel Size Required

Ecological: min. 10m width
Human: min. 6m width

County Land Available

301.94 ha

5

Rural Forest



Ecological Activities

Bird nesting habitat, ungulate habitat and animal habitat



Human Uses

Hunting, viewing / nature appreciation and trails

Target Wildlife Considered

Ungulates

Primary Human Audience

Individual pursuit



Min. / Max. Parcel Size Required

Ecological: 0.1 ha-unlimited

Human: 0.25-100ha

County Land Available

402.26 ha

5. **Rural Forest** – naturally occurring or reclaimed forested area comprised of a mix of canopy, understory and groundcover plant species. These areas often support a wide range of wildlife, offers excellent interpretive and wildlife appreciation opportunities, and potential trail development with literal interpretive value.



ii) **Working Landscapes** – open spaces that have suffered a significant amount of disturbance from intensive use such as agricultural practices, resource extraction and site development. These areas contain passive open space that is less formalized and often has a naturalized landscape treatment. The following typologies are suggested within this category:

6. **Agricultural Fringe** – long and lineal open space can often be found along edges of active agricultural lands. For example shelter belts may have been either retained from natural forests or created over time beyond the active zone of cultivation or active pasture. These fringe areas offer excellent wildlife corridors, habitat for small animals and also serve a social benefit of visual breaks and a stronger perception of nature when experiencing public places such as rural roads;

6

Agricultural Fringe



Ecological Activities

Bird nesting habitat, ungulate habitat and animal habitat



Human Uses

Hunting, viewing / nature appreciation and trails

Target Wildlife Considered

Ungulates

Primary Human Audience

Individual pursuit



Min. / Max. Parcel Size Required

Ecological: 0.1 ha min.

Human: 0.25 ha-unlimited

County Land Available

7.56 ha

7 Reclaimed Resource Area 

Ecological Activities
Bird nesting habitat and animal habitat

 **Human Uses**
Hunting and interpretive programming

Target Wildlife Considered
Large animals

 **Primary Human Audience**
Individual pursuit

Min. /Max. Parcel Size Required
Ecological: 0.25 ha min.
Human: 0.25 ha-unlimited

County Land Available
0 ha

7. **Reclaimed Resource Extraction Areas** – this typology includes active gravel pits that have been reclaimed in some fashion. In most occasions, these areas are reclaimed to include a combination of constructed pond areas along with grasslands with undulating terrain. These areas can come with excellent opportunities for recreation such as safe swimming and paddle boating on waterbodies, hunting and nature appreciation within the reconstructed grasslands;



8. **Utility Corridors** – patches of open space that contain public utilities or utilities owned by others and has surface rights under County jurisdiction such as underground pipelines, overhead powerlines, access routes and other lineal infrastructure. Many of these corridors can be developed for passive recreational use such as trails, interpretive learning, sports fields and other development with minimal ground disturbance or permanent development;



8 Utility Corridors 

Ecological Activities
Bird nesting habitat, ungulate movement and animal habitat

 **Human Uses**
Hunting and trails

Target Wildlife Considered
Ungulates

 **Primary Human Audience**
Individual pursuit

Min. / Max. Parcel Size Required
Ecological: 0.25 ha-unlimited
Human: unlimited

County Land Available
119.20 ha

9 Institutional Landscapes 

Ecological Activities
Bird and animal foraging areas

Human Uses
Landscape as beautification and passive recreation

Target Wildlife Considered
Small animals

Primary Human Audience
Small groups

Min. / Max. Parcel Size Required
Ecological: 0.1 ha-unlimited
Human: 0.1 ha-unlimited

County Land Available
35.78 ha




9. **Institutional Landscapes** – institutional developments such as schools and hospitals often come with open space that has value for not only site patrons but also visitors to the County. These are mostly contrived open spaces, meaning they were landscaped after the site was developed with buildings, roadways, parking areas, amongst others. Sites often include passive open space, playgrounds, trails and seating / picnic areas; and



10. **Large Commercial** – these are exclusively contrived open spaces with little to no naturally occurring ecosystems or habitat areas. The landscaped areas of commercial developments are driven by the County’s Land Use Bylaw, which indicates areas of the development (typically along its outer edges) that require landscaping for public enjoyment, a minimum amount of tree and groundcover planting and to provide a visual buffer.



10 Large Commercial 

Ecological Activities
Bird and animal foraging areas

Human Uses
Active recreation, landscape as beautification and passive recreation

Target Wildlife Considered
Small birds

Primary Human Audience
Individual pursuit

Min. / Max. Parcel Size Required
Ecological: 0.05 ha-unlimited
Human: 0.05 ha-unlimited

County Land Available
0 ha




11 Urban Forests 

Ecological Activities
Bird and animal habitat

 **Human Uses**
Viewing/nature appreciation, trails and interpretive programming

Target Wildlife Considered
Large animals

 **Primary Human Audience**
Small groups

Min. / Max. Parcel Size Required
Ecological: 0.25 ha min.
Human: 0.25 - 20 ha

County Land Available
0 ha

iii) **Developed Areas** – open spaces that are found in conventional residential areas in the context of acreage subdivisions, hamlets and more dense residential areas with conventional streetscapes and boulevards. The following typologies are suggested within this category:

11. **Urban Forests** – naturally occurring stands of trees in a patch no less than a quarter of a hectare that are surrounded by urban development. These parcels can provide excellent habitat for small to medium sized animals and act as stepping stones for larger animals and migratory birds as they pass through the region. Larger forested areas can sustain recreational development such as trails and nature viewing areas, however tree stands smaller than a quarter of a hectare are likely too small to provide quality habitat if it is segregated by trails and other development.

12. **Rural Residential** – open spaces within rural residential developments such as country residential subdivisions. These include smaller patches of urban forests or grasslands that are under the minimum size thresholds listed in the charts for those transect items. While the smaller patches may not provide adequate conditions to have strong ecological value, they can have other human social values such as visual buffers, windbreaks and other aesthetic characteristics;



12 Rural Residential 

Ecological Activities
Bird habitat

 **Human Uses**
Active recreation, landscape as beautification and passive recreation

Target Wildlife Considered
Small birds

 **Primary Human Audience**
Individual pursuit

Min. / Max. Parcel Size Required
Ecological: 0.1 ha-unlimited
Human: 0.1 ha-unlimited

County Land Available
341.19 ha

13

Hamlet Residential



Ecological Activities

Bird foraging areas

Human Uses

Trails, active recreation and landscape as beautification



Target Wildlife Considered

Small animals

Primary Human Audience

Small groups



Min. / Max. Parcel Size Required

Ecological: 0.1 ha-unlimited
Human: 0.1 ha-unlimited

County Land Available

9.95 ha

13. **Hamlet Residential** – open spaces within hamlets such as Cardiff and Carbondale. These include smaller patches of urban forests or grasslands that are under the minimum size thresholds listed in the charts for those transect items. While the smaller patches may not provide adequate conditions to have strong ecological value, they can have other human social values such as visual buffers, windbreaks and other aesthetic characteristics;



14. **Programmed Facilities** – these areas would include recreational land surrounding major facilities such as recreation centers and County-supported riding arenas that have intensive recreational programming and few naturalized character of its open space. The open space is dominated by human use activities that support the facility;



14

Programmed Facilities



Ecological Activities

Bird foraging areas

Human Uses

Active recreation, landscape as beautification and passive recreation



Target Wildlife Considered

Birds and small animals

Primary Human Audience

Large groups



Min. / Max. Parcel Size Required

Ecological: 0.1 ha-unlimited
Human: 0.1-25 ha

County Land Available

63.20 ha

15 Sportsfield & Playgrounds 

Ecological Activities
Bird foraging areas

Human Uses
Active recreation, landscape as beautification and passive recreation

Target Wildlife Considered
Birds and small animals

Primary Human Audience
Large groups

Min. / Max. Parcel Size Required
Ecological: 0.1 ha min.
Human: 0.25 - 5 ha

County Land Available
15.90 ha




15. **Sportsfields & Playgrounds** – formal play fields and large playground areas with intensive maintenance and minimal naturalized open space; and



16. **Urban Streetscape** - very small patches of open space, usually limited to street boulevards of the most dense development in the County. This typology would be triggered by development densities of 20 units per hectare or greater.



16 Urban Streetscape 

Ecological Activities
Bird foraging areas

Human Uses
Viewing / nature appreciation, trails and active recreation

Target Wildlife Considered
Small birds

Primary Human Audience
Large groups

Min. / Max. Parcel Size Required
Ecological: 0.05 ha min.
Human: 0.0025-0.04 ha

County Land Available
254.75 ha




Recommended Action #8: ensure that there is a strong representation of open space typologies right across the transect provided, adding inventory to the open space network in areas that the system is deficient in as development continues and Municipal Reserve dedications and land swapping opportunities become available.

5.2 Level of Service and Distribution Analysis

Through an assessment of the mapping completed as part of this plan, a level of service and distribution analysis was conducted. The following recommendations are made at a coarse grain, County-wide scale. This analysis was not only about equity – as in ensuring that open space and recreational amenities were properly disbursed by population or geographical area. The analysis was based on numerous factors such as nearby ecological areas and future growth patterns. Based on analyzing trends and leading practices for open space and recreation in primarily a rural community such as Sturgeon County, the observations in this analysis also suggest high-level themes for the type of open space experience that is currently missing.

- 3 of the 16 typologies included in the proposed transect have yet to be developed. As the County grows – Municipal Reserve is dedicated by developers, Environmental Reserve is taken by the County and open space lands are acquired – a full diversity of open spaces in the spectrum will be apparent;
- open space availability is generally correlated with development, whereby open spaces are more prevalent near towns and hamlets;
- the majority of open space is concentrated in the south, south-east and east portions of the County, with few open spaces available in the predominantly agricultural areas to the north, north-west and west areas;
- there is very high recreational potential that meets current recreation trends around major waterbodies such as Sandy Lake, Manawan Lake and Deadman Lake. Upland areas around major waterbodies should be protected by land use classifications such as MR, ER and CR;
- there are very few open space segments along rivers and tributaries, whereby private property exists to the top of bank without any publicly owned setback. This prohibits the potential for public access and also increases potential impacts on riparian edges of adjacent land uses; and
- there is no apparent excess of open space in any of the 16 proposed typologies. This generalized statement leads to the conclusion that the County should hold back on land disposition of open space.

Recommended Action #9: prohibit the disposition of open space given the low supply of open space across the transect of different typologies. Develop a focus on enhancement of existing typologies and conduct a more detailed enhancement plan for key open spaces to more precisely delineate appropriate uses, setback requirements and environmental enhancement initiatives.

A significant area of many open space typologies within the Wild and Natural Areas category is privately-owned and not under the control of Sturgeon County. This observation is based on air photo review of the County and understanding which of land are under private ownership. Given municipalities have little to no control of landowner activities on private property,

stronger partnerships are needed to promote the protection of natural areas by private landowners. With a strong economy in western Canada there will continue to be substantial growth of municipalities alike Sturgeon County, with pressure mostly on peripheral areas where remnant natural areas are most abundant and on lands that are privately owned. While these natural areas are not necessarily available to the general public for recreation, they offer essential ecological benefits such as being habitat and acting as stepping stones for wildlife that can be found in publicly owned natural open spaces.

Recommended Action #10: encourage public education and develop stronger partnerships with private landowners to help preserve in-tact natural areas and to promote biodiversity, such as the Alternative Land Use Services (ALUS) program that is common here in Alberta.

