

# PARKLAND COUNTY

# Nature Policy Framework

2025

The Parkland County Nature Policy Framework was co-developed by the *Corvus Centre for Conservation Policy* and *Parkland County*



Principal authors:

Guy Greenaway, Corvus Centre for Conservation Policy

Krista Quesnel, Parkland County

Stephanie Over, Parkland County



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# 1. Background & Purpose

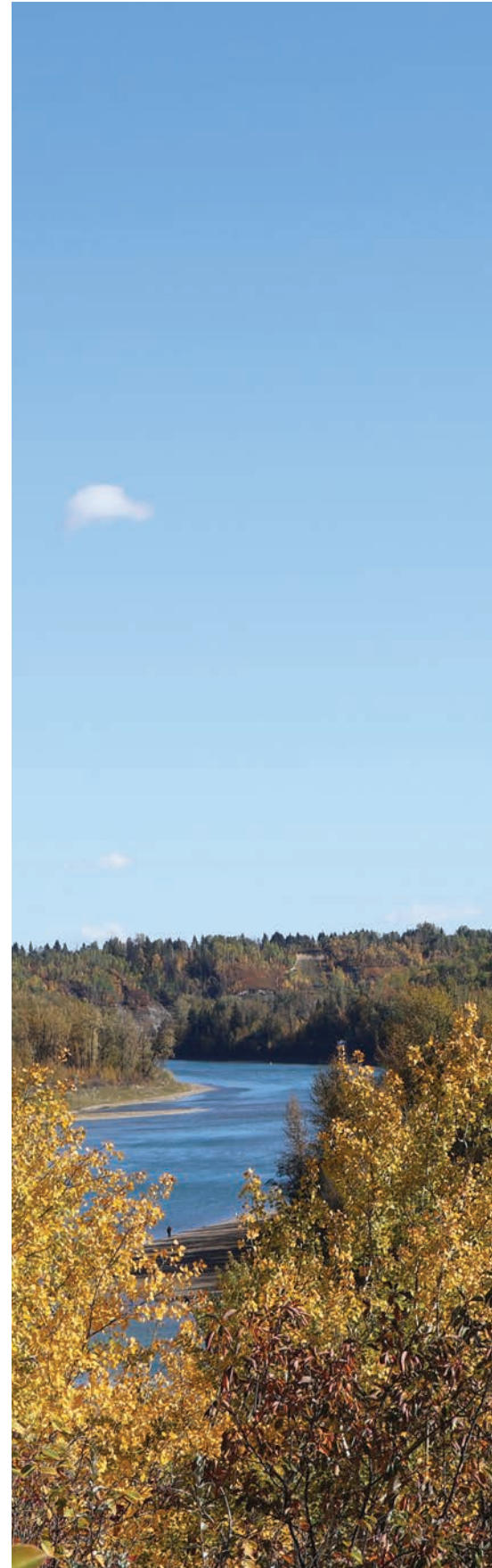
## 1.1 Municipalities and Nature Conservation

In Canada, municipalities play a pivotal role in the stewardship of natural environments, often serving as the first line of defense in the protection and conservation of local ecosystems. As urbanization and climate change continue to pose challenges to biodiversity and ecological resilience, municipalities have increasingly become leaders in advancing conservation initiatives that not only protect nature but also enhance the quality of life for their residents.

With their proximity to natural resources, diverse ecosystems, and growing populations, municipalities are uniquely positioned to implement effective, localized conservation strategies. They have the ability to create policies that integrate environmental sustainability into community planning, resource management, and infrastructure development. These efforts are essential for fostering sustainable neighbourhoods, restoring vital ecosystems, and mitigating the impacts of climate change on both natural habitats and human communities.

Parkland County demonstrates innovation through proactive conservation, private land stewardship, ecosystem restoration, community education, and the implementation of sustainable land-use practices. This Framework will add to the repertoire by outlining forward-thinking environmental policies that provide better protection for environmentally significant areas, while also providing flexibility for growth and development. Additionally, the County is focused on advancing natural infrastructure projects, such as bioengineered erosion control and constructed wetlands used for stormwater management, that provide both ecosystem services and cost savings in infrastructure service delivery.

This Nature Policy Framework recognizes the critical leadership role municipalities play in conservation, while highlighting the need for collaborative efforts across all levels of government, private sectors, non-governmental organizations and local communities. Through a shared commitment to sustainability and ecological resilience, Parkland County will ensure that natural features, their functions and the beneficial ecosystem services they produce are available for the community and preserved for future generations.



## 1.2 Conservation in the 21<sup>st</sup> Century

From the 1800s through to the 1980s, 'conservation of nature' consisted primarily of drawing lines around areas of high conservation value, and limiting human access. The land use matrix was simple, but threats to natural systems were becoming apparent. This simple triage approach did not require detailed knowledge about those systems, and the policy framework tended towards command and control. Outside of protected areas, nature received little attention.

The 21st century has seen the matrix of land uses become ever more complex, and conservation theory has evolved. There is more awareness of the need to protect 'systems' rather than 'pieces', and humans are recognized as existing within, not apart from, nature. 'Natural infrastructure' is known to support communities and economies, and to provide resilience to disasters. Nature policy in turn has become more aware of the built environment, agriculture, and the 'soft' purposes beyond ecology and dollars such as sense of place, and mental and physical health.

Perhaps most importantly, 'conservation' has come to focus on maintaining the 'function' of natural systems rather than simply the pieces.

## 1.3 Natural Environment in Parkland County

Parkland County is well known for the beauty and health of its natural environment, a characteristic that is valued by residents, businesses, and visitors. Parkland County's diverse landscape supports a wide variety of valued natural amenities and features. Well-connected networks of forests, lakes, wetlands, riparian areas, and other natural areas are important components of the rural landscapes that characterize the County. These networks of natural features support regional and local environmental processes and contribute to a high quality of life for residents. The values and benefits of natural areas demand wise stewardship in the face of growing development pressures.

Environmentally Significant Areas (ESAs) are important to the long-term maintenance of biological diversity. They encompass important physical landscape features, and/or ensure natural processes function with limited impairment, both locally and within a larger spatial context. Parkland County has identified 61 ESAs. The identification of ESAs was informed by an engagement process that was used to identify important landscape values within the County. Natural Features and functions that act as indicators were then assigned to translate these values into areas of significance.





## 1.4 Role of the Framework

The Parkland County Environmental Conservation Master Plan (ECMP) provides a comprehensive listing of the County's Environmentally Significant Areas (ESAs), and details how and why these areas were identified. However, the primary focus of the ECMP has traditionally been 'identification' of the natural features in the County, and not necessarily their conservation. For example, an Environmentally Significant Area is just that — an area identified as significant or sensitive, but it is not a protective designation. It therefore provides limited advance direction to the County and to development proponents as to what should be expected, allowed, and restricted in and near ESAs. As a result, development of this Nature Policy Framework was a goal and strategic priority of the 2022–2025 Parkland County Strategic Plan.

The County's 2025 Municipal Development Plan (MDP) policy 4.2.1a also directs that the County, "Develop and maintain a Nature Policy Framework to guide conservation-based activities, decision-making and investment in the County, and provide options to achieve nature-positive development that maintains the functions of natural features." This Framework will guide the County in expanding from simple identification to thoughtful conservation of natural features and the beneficial services they provide to residents, businesses, and visitors. It uses the ESAs identified in the ECMP and the high value natural assets mapped in the Natural Asset Inventory and Valuation report to prioritize conservation and restoration efforts. It also emphasizes that conservation of ESAs cannot come simply at the expense of growth or the development, recreation, and infrastructure necessary for the County and its residents to thrive and therefore enables innovative conservation approaches that can reconcile conservation and development in and near ESAs. These conservation tools help to identify opportunities for development activity to work with nature to contribute to overall quality of life for county residents.



**Goal C1** — To develop a policy framework that ensures protection of environmentally significant areas.

**Priority Strategy** — Review and update the County's framework on environmentally significant areas to support responsible management of natural assets and amenities.

### Moving from ESA 'Identification' to 'Conservation'

Discussions and workshops to inform the creation of the Framework used the simple but challenging notion of moving from ESA 'Identification' to 'Conservation.'

#### Identification

- Note the importance
- Catalogue characteristics
- Delineate and map

#### Conservation

- Maintain the identified values
- Facilitate action
- Articulate restrictions and requirements

This framework provides a vision for nature conservation by setting overarching guiding principles; defining natural features, their functions, and the beneficial ecosystem services they provide; specifying goals for conserving various types of natural features; and summarizing County policies and tools that enable the achievement of those goals. The Framework also includes a high-level action plan to kickstart implementation.

Overall, the Framework has five key functions:

## Give **DIRECTION**

Articulate the goals, policies, scope and objectives that will support the overall vision for nature conservation.

## Ensure **COORDINATION**

Integrate the provincial, regional, and County regulations and policies to provide a clear coordinated context for the County's nature conservation efforts.

## Enable **TOOLS**

Explicitly identify and enable a suite of pragmatic nature conservation tools that can be used by development proponents, landowners, citizens, and the County proactively, reactively, and innovatively.

## Provide **OPTIONS**

As well as identifying the constraints, provide a clear sense of the options for adding innovative, nature-positive approaches to secure development and planning approvals.

## Create **CLARITY**

Draw clear lines connecting the County's goals to the policy guidance for activities and developments that could impair the ability of the community's natural features to deliver beneficial services.

Gives <b>DIRECTION</b>	Ensures <b>COORDINATION</b>	Enables <b>TOOLS</b>	Provides <b>OPTIONS</b>	Creates <b>CLARITY</b>
Goals	Hierarchy	Proactive	"No, but ..."	Requirements
Policies	Policy Links	Reactive	Contributory	Consequences
Scope	Operational Links	Understood	Innovation	Authorities
Objectives	Role Clarity	Resourced	Incentives	Opportunities



The specific role of the Parkland Nature Framework is to expand on the direction from the MDP by:

- Establishing County-wide goals for the protection, conservation, and restoration of the community's natural features and systems;
- Articulating the policies necessary to achieve those goals, including new policies and coordination/rationalization of existing policies;
- Identifying and detailing the technical support that will be required by development and activity proponents;
- Listing and clarifying the tools which the County will use or enable to achieve those goals; and
- Creating a measurable implementation plan.

## 1.5 Natural Features, Functions, and Beneficial Ecosystem Services

A simple goal of 'conserving nature' does not explain what it means in practice, nor why it is valuable to do so. That clarity is critical in providing a rationale for policies to Parkland County citizens and development proponents. It is equally valuable in guiding management action, ensuring conservation actions are truly connected to the desired outcomes of this Framework.

This Nature Policy Framework is designed around the well-established idea that 'nature' — and human interaction with it — is best described as **Natural Features**, **Natural Functions**, and **Beneficial Services**. This structure sees nature as a system, with definable pieces and actions, and allows a municipality seeking to 'conserve nature' to target its management actions, and maintain the flow of benefits to people.

**Natural Features** — The physical parts of a natural system; what we can see and touch. Different models use different terms for this: natural capital, natural assets, natural infrastructure, etc.

**Natural Functions** — The actions and roles that these natural features play as they interact within a natural system, regardless of whether humans are present or not.

**Beneficial Ecosystem Services** — The myriad of valuable advantages that humans derive from the unimpaired performance of those functions.

All natural features perform numerous functions and provide multiple benefits. The natural systems with which we interact can be thought of as follows:

NATURAL FEATURES	NATURAL FUNCTIONS	BENEFICIAL SERVICES
The "things", the "parts"	What the feature does, even if humans are not around	The value people derive from that function
Example		
Wetlands	<ul style="list-style-type: none"> <li>• Retains stormwater</li> <li>• Provides aquatic habitat provision</li> <li>• Replenishes subsurface aquifers</li> <li>• Etc. ...</li> </ul>	<ul style="list-style-type: none"> <li>• Flood mitigation</li> <li>• Drought mitigation</li> <li>• Wildfire mitigation</li> <li>• Pollution filtration</li> <li>• Etc. ...</li> </ul>

The physical features of the County's natural systems (lakes, forests, wetlands, etc.) are critical to the health and well-being of the County's citizens. Humans derive numerous beneficial services from these pieces of nature spread across the landscape.

This community wealth is often referred to as 'natural capital', 'natural infrastructure', 'natural assets', or other terms used to characterize this natural 'stock'. Underlying these terms is the common sense that you must maintain the stock in order to maintain the flow of benefits. The challenge then is to know when our actions — direct and indirect — are depleting the stock.

The key to conserving community wealth is to focus on the 'functions' of those features. All natural features perform a series of functions, whether humans are around or not. As a result of the sustained performance of many of these functions, we benefit. For example, a wetland (natural feature) will capture stormwater and recharge aquifers (functions) whether humans are around or not. When we are around, we reap benefits (services) such as drought mitigation, flood mitigation, water storage, etc.

The focus then is on ensuring the natural features are not simply present, but can perform their functions without significant impairment. We can then continue to benefit from the services that result. Conservation of natural function therefore allows us to ensure that the community wealth generated from natural systems is not depleted over time.

## Beneficial Ecosystem Services

'Beneficial Ecosystem Services' in general refer to the benefits that natural systems, in the course of their unimpaired function, provide which support human wellbeing and quality of life.

In Parkland County, this includes the following:

**Flood mitigation** — Wetlands, moist soils, lakes, rivers, streams, and vegetated surfaces all collect and absorb the rainwater that falls in a catchment area reducing the risk of flooding and property damage.

**Aquifer recharge** — Groundwater is replenished by surface waterbodies, moist soils, and natural vegetation which deliver that water via a hydrological network.

**Pollution filtration** — As water moves across a heavily-used landscape, it picks up pollutants and excessive nutrients, transporting them toward human water supplies. Healthy, vegetated riparian areas and associated uplands can capture, and to a large degree neutralize, these contaminants.

**Wildfire mitigation** — Wildfire is largely a result of dryness, meaning nature's ability to store water in the landscape, and keeping soils moist can have a significant impact on reducing fire risk.

**Habitat provision** — The needs of wild species are important to people, and properly-functioning natural features can provide seasonal habitat, nesting sites, movement corridors, food, and other aquatic and terrestrial habitat needs.

**Food production** — The capacity of the land base to support food production for both local consumption and external markets, relies on natural systems providing pollination, healthy soils, and water.

**Heat mitigation** — Tree canopy and natural vegetation can mitigate the adverse effects of high temperatures by providing direct shade, absorbing solar radiation (vs reflecting it), keeping watercourses cool, and decreasing water evaporation.

**Air Filtration** — The quality of the air we breathe is heavily dependent on the natural vegetation and healthy soils which produce oxygen, collect and process airborne pollutants, and sequester carbon.

**Erosion control** — Healthy vegetated slopes, riparian areas, and associated uplands keep soils intact and provide the vegetative rebar that reduces slope instability and excessive erosion and sedimentation, keeping watercourses clean and hillsides safe.



**Natural aesthetics** — Trees, wetlands, grasslands, wildlife, flowers, and other natural features provide the backdrop to recreation areas, backyards, parks, and open spaces, providing enhanced mental and physical wellbeing, as well as enhanced property values.

**Sense of Place** — Especially for residents of a rural municipality, the natural environment provides 'sense of place' where the natural features are a large part of their self-perception, rooting people to the local area, creating gathering places and a common sense of value.

**Biodiversity** — Biodiversity characterizes a natural system; it is a measure of that system's resilience, sustainability, capacity, and health — i.e., its ability to function over the long term — meaning all beneficial services rely on it.

## 1.6 Deciding to Conserve Nature

Why does this structure matter? Because conservation effort is most effective when it is framed in terms of our impact — positive or negative — on the 'natural function.' Features give us a spatial focus, and services provide the rationale, but focusing management action on function enables the County to:

- Disallow activities that impair the function/ delivery of services;
- Encourage activities that enhance function/ delivery of services; and
- Set localized or system-wide goals.

A local authority's ability to conserve a community's natural features and functions depends on how that municipality says 'yes' and how it says 'no' to proposed plans and activities that come before it; In other words, if and how it 'decides' to conserve nature.

This manifests itself as 'restrictions' (saying, "no"), 'guidelines' (saying "yes, but ..."), and 'innovation' (saying "no, but ...").



## Restrictions, Guidelines, and Innovation

RESTRICTION	GUIDELINE	INNOVATION
Saying 'No'	Saying 'Yes, but ...'	Saying 'No, but ...'
Identifying proponent request circumstances where Council would say "no" to the proposed activity.	Identifying proponent requests circumstances where Council would say 'yes' to the proposed activity, but caveat that with guidelines that must be followed.	Identifying proponent request circumstances where Council would say "no" to the proposed activity, but immediately identify innovative efforts that a proponent could take to secure a yes'.
Critical to have these — and wield them — as it provides certainty and limits the number of inappropriate proposals that come forward.	Shows the Council as not being simply 'against things by demonstrating what Council is 'for'.	The only option that truly generates innovation.  Caution — if there is never a 'no' (first column) proponents will simply wait until they secure the 'yes' they want.

## 1.7 Becoming Nature-Positive

To conserve natural features and their benefits in an impactful way, government bodies should require a nature-positive approach to development and growth. Nature-positive means activities and developments that, on balance, protect, conserve, and/or enhance the beneficial functions of the natural features within Parkland County more than they impair, degrade, or nullify them. This includes actions that buffer or mitigate impact to natural function, provide protection for natural features, and/or offset or restore the beneficial functions of those features. It is commonplace for development proposals to speak to their impact on many sectors from a positive or contributory perspective to garner general support for a project. However, traditional expectations around environmental impact take a harm reduction lens which assumes an overall level of impact is guaranteed. Reframing proposals to demonstrate an overall nature-positive approach is key to successful conservation of natural functions and overall maintenance of community wealth.

	Contributory	Harm Reduction
HEALTH	<b>Increase available hospital beds</b>	Limit the number of people who die
EMPLOYMENT	<b>Add new jobs</b>	Limit the number of people who lose jobs
ECONOMY	<b>Dollars-worth of new economic activity</b>	Limit the drop in economic activity
AGRICULTURE	<b>Increase agri-business operations</b>	Limit the number of farmers who go broke
ENVIRONMENT	Add to/ protect the flow of ecosystem services	<b>Limit the amount of nature we destroy</b>

★ Bolded is often the default mindset for regulators of that impact area.

## 1.8 Municipal Conservation Realities

Conserving Environmentally Significant Areas (ESAs) also requires been cognizant of certain key municipal conservation realities that affect how Council can/can't/do make decisions around the environment.

1. "Foster well-being of the environment" is a purpose of municipal governments in the Municipal Government Act. It exists at the same level as providing good governance, providing services, and ensuring safe and viable communities.
2. Identifying ESAs is a necessary but not sufficient condition for conserving ESAs. Ecological importance is a "status" while conservation is an "action".
3. Municipal Development Plans set out high-level vision and policy for growth and enable more specific Council policies and regulations through bylaws.
4. Goals and thresholds can "bookend" a conservation desire but only if defined and monitored.
5. Environmental assessments traditionally measure pollution and liability, not nature or ecosystem conservation.
6. Development does not need to negatively impact natural systems and can in fact create, support and economically benefit from the environment.
7. The ability to conserve nature at the municipal level is also dependent on embracing a strategic approach where municipal decisions are not just 'reactive', but also 'proactive' and sometimes 'opportunistic.'

### Proactive, Reactive, and Opportunistic Actions

Proactive	Reactive	Opportunistic
Actions undertaken/ policies created/ tools created prior to proposals coming forward that may damage the function of ESAs.	Actions undertaken/ policies applied/ tools implemented as a result of proposals coming forward that may damage the function of ESAs.	Establishing enabling policy that can take advantage of emergent or unexpected opportunities to conserve ESAs.

This Policy Framework was designed to provide guidance and opportunities in each of these circumstances.

## 1.9 Regulatory Context

Conservation and environmental management in Alberta have many layers of regulatory oversight. There are several Federal and Provincial Acts that come into play and require careful consideration. In addition, municipal statutory plans and bylaws provide land use oversight which can require further environmental assessment and management. This regulatory environment requires thoughtful navigation to ensure compliance while limiting development impacts and achieving regulatory efficiencies. Below is an overview of the Federal, Provincial and Municipal legislation that is most often applied to activities at the municipal level. Although this is not a comprehensive list of all applicable legislation, it provides an overview of the regulatory environment within which municipalities make decisions.

### 1.9.1 Federal Regulations

#### *Species at Risk Act (SARA)*

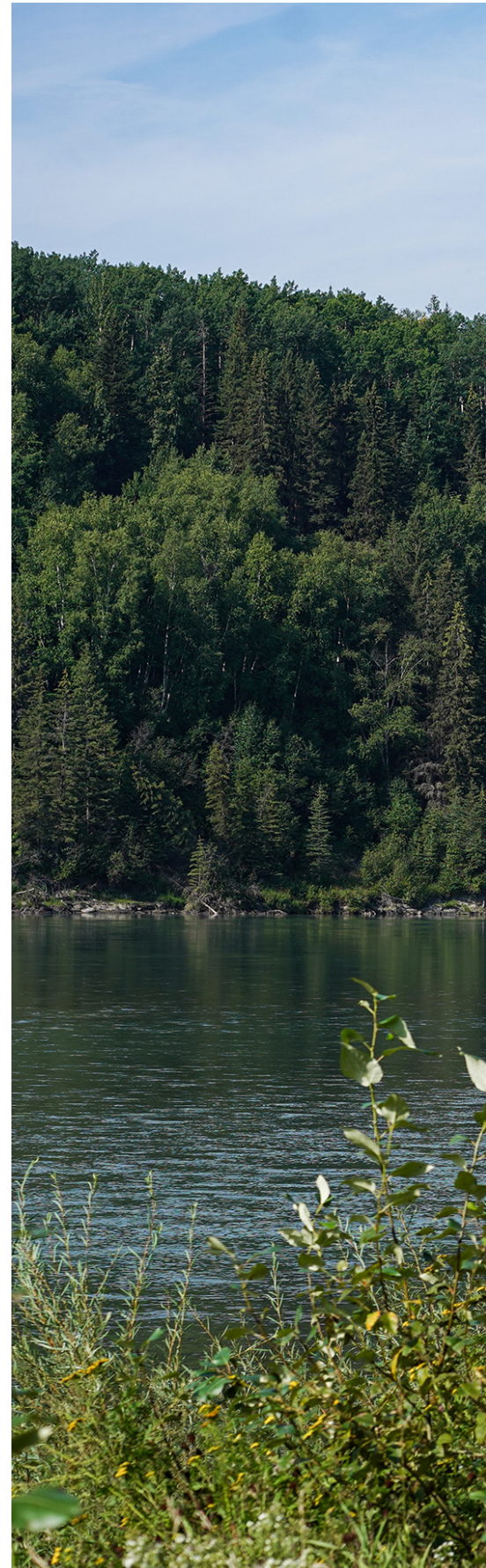
This Act supports the conservation and protection of Canada's biological diversity with the purpose of preventing wildlife species from becoming extinct or extirpated. The Act contains prohibitions against the killing, harming, harassing, capturing, taking, possessing, collecting, buying, selling or trading of individuals of endangered, threatened and extirpated species listed in Schedule 1 of the Act. The Act also contains a prohibition against the damage or destruction of their residences (e.g. nest or den).

#### *Fisheries Act*

This Act provides the regulatory framework for the proper management and control of fisheries, and the conservation and protection of fish and fish habitat. It applies to all Canadian waters that are frequented by fish.

#### *Migratory Birds Convention Act*

This Act supports the protection of migratory birds, their nests and eggs in Canada. Most species of birds in Canada are protected under this Act, which is implemented through the Migratory Birds Regulations and Migratory Bird Sanctuary Regulations.



## 1.9.2 Provincial Regulations

### *Environmental Protection & Enhancement Act*

This Act sets up the regulatory framework to ensure problems are identified and addressed before a development project is given approval, that conditions are applied to operations where required, and that activities are monitored to stringent environmental standards. It takes an integrated approach to the protection of Alberta's air, land, and water. It guarantees public participation in decisions affecting the environment. Public involvement includes increased access to information, participation in the Environmental Assessment and Approval Process and the right, when directly affected, to appeal certain decisions.

### *Public Lands Act*

This Act governs the administration and use of all public lands. It regulates development and activities that might affect the bed and shore of crown water bodies.

### *Water Act*

This Act is meant to ensure support and promotion of the conservation and management of water, including the wise allocation and use of water to sustain the environment and quality of life in the present and the future. This Act regulates all developments and activities that might affect streams, rivers, lakes, wetlands and aquifers.

### *Provincial Parks Act*

This Act provides for designation and management of Provincial Parks, Wildland Provincial Parks and Provincial Recreation Areas, including the bed and shores of naturally occurring rivers, streams, watercourses and lakes. It also deals with the management of natural heritage values and activities permitted on lands designated in these categories.

### *Wildlife Act*

This Act provides for the protection and conservation of wild animals in Alberta. It defines controls for hunting and trapping of wildlife and possession of wildlife and wildlife parts, as well as the sale, import and export of wildlife, controlled animals and endangered species.

### *Land Stewardship Act*

The Act enables government to provide direction and leadership in identifying current and future land-use objectives of the Province, including economic, environmental and social objectives, while respecting private property rights. The Act provides for the coordination of decisions concerning land, species, human settlement, natural resources and the environment while taking into account cumulative effects of human endeavours and other events.



### 1.9.3 Local Policy Context

#### *Municipal Development Plan*

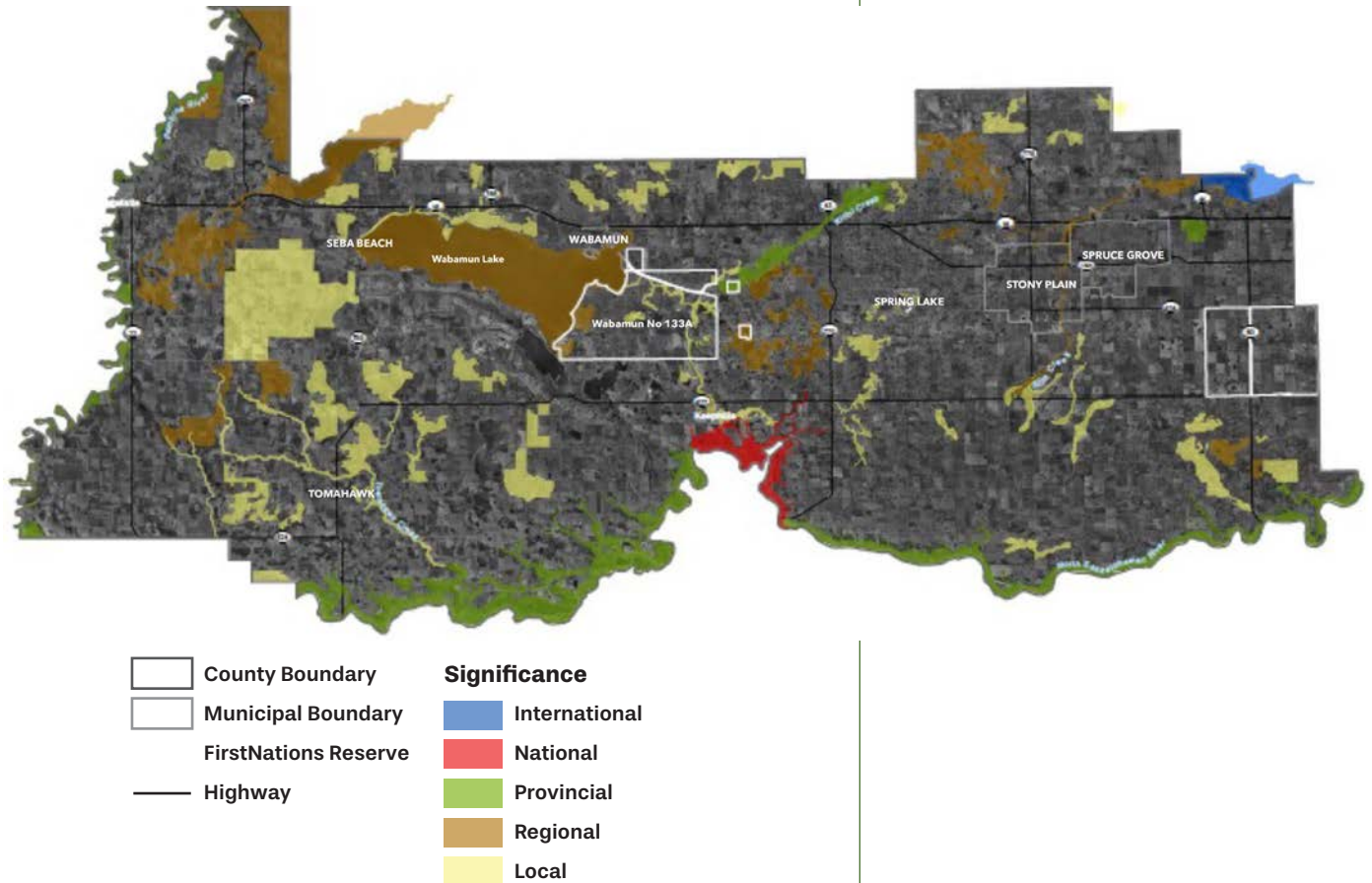
The Parkland County Municipal Development Plan (MDP) is a 30-year growth and development vision for Parkland County. The MDP sets out a plan for the county's natural systems, agricultural land, employment areas, residential development, and recreation spaces. It is a shared road map that helps the community navigate important decisions, ensuring that the natural areas are conserved, houses constructed, and money invested in Parkland County builds on the County's strengths.

#### *Land Use Bylaw*

The Government of Alberta's Municipal Government Act requires municipalities to have a Land Use Bylaw. The Land Use Bylaw regulates development activities within Parkland County with the goal of ensuring that neighbouring land uses are compatible. It establishes regulations for the use of land and buildings in Parkland County. It regulates the type, location and intensity of land use and buildings, and outlines the process for rezoning land and applying for permits to develop property.

#### *Environmental Conservation Master Plan*

This Environmental Conservation Master Plan (ECMP) outlines the methodologies, theoretical underpinnings, and data sources used to map the relative environmental significance and sensitivity of landscape features in Parkland County. It includes an inventory and description of 61 Environmentally Significant Areas (ESAs) at the Countywide scale. Through extensive data analysis, ground-truth investigations, and stakeholder and public consultations, these ESAs were deemed to have the greatest concentration of environmental values within Parkland County. Generally, the process for identifying ESAs consisted of obtaining, formatting, and integrating a wide variety of County-wide spatial data sets within a consistent, repeatable mapping framework.

**Figure: Environmentally Significant Areas**

### *Natural Asset Inventory and Valuation*

A natural asset is a naturally occurring feature, habitat, or ecosystem that contributes to the provision of one or more services required for the health, well-being, and long-term sustainability of a community and its residents. From a municipal management standpoint, natural assets are important because they provide ecosystem services that contribute to human well-being. These can be direct services, such as wetlands preventing downstream flooding, or indirect services such as bees contributing to food production by pollinating crops. To properly account for the benefits of natural assets, this study was initiated to identify and map natural areas within the County, and where possible, provide an estimate of the monetary value of key ecosystem services that flow from those assets. Further, this inventory will serve as a foundation for tracking the condition and status of these natural assets, which will allow for more objective and informed decision-making with respect to land management in the County.

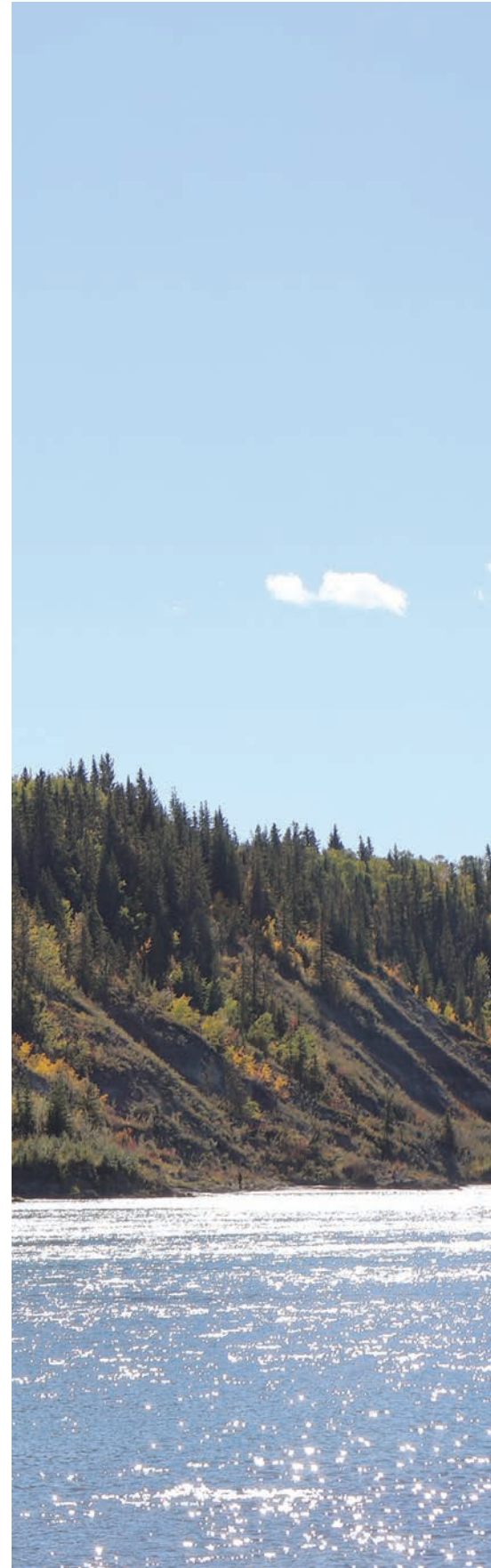
### *Wetland Inventory and Historical Loss Assessment*

Wetlands are vital to the long-term maintenance of biological diversity, water quality, flood mitigation and a host of other natural processes. Despite the importance of these habitats, there have been high rates of wetland loss across Alberta over the last century. It is estimated that Parkland County has lost 56% of its wetland area since the 1950s.

Parkland County's Wetland Inventory and Historical Loss Assessment was conducted to help inform meaningful land use decisions and better wetland conservation and management outcomes at the local scale. Mapping the current (2013) and historical (1950s) extents of wetlands allows for tracking of wetland loss, a key component and indicator of ecosystem health. By assessing the extent, distribution, and ecological value of existing wetlands, this study provides valuable information that is used to prioritize areas for conservation, as well as target restoration efforts, such that the limited resources available for wetland conservation and restoration can be maximized for the best possible outcomes.

### *Riparian Area Assessment*

Riparian areas are the transitional areas between water and surrounding land and they play an important role in improving water quality, mitigating flood and erosion, providing habitat diversity and recreational opportunities. Riparian intactness is a measure of the extent to which a riparian area has been altered or impaired by human activity. The North Saskatchewan Watershed Alliance, in partnership with other organizations, has coordinated Riparian Intactness Assessments across the majority of the North Saskatchewan River Watershed. Intactness was assessed using land cover data (created from high-resolution satellite imagery) to quantify percent cover of all natural vegetation cover classes, percent cover of land cover classes composed of trees and shrubs, and percent cover of all land cover classes associated with human activity (e.g. agriculture, urban, roads, etc.). Areas with little to no human development receive high intactness scores, and areas with high human activity result in low intactness scores. The results of this assessment can be used to educate and encourage stewardship of riparian habitats as well as identify where greater conservation or restoration efforts are needed.





### *Floodplain Overlays*

Land Use Bylaw Overlays are often used to apply specific regulations beyond standard district regulations to unique geographic areas where special considerations are needed. Parkland County's Floodplain Overlays are used to apply additional regulations in previously assessed flood hazard areas for the purpose of mitigating flood damage. The Land Use Bylaw currently includes a Floodplain Protection Overlay for the Atim Creek, Big Lake, and Wabamun Lake areas. The overlay areas are based on previous studies that mapped the 1:100-year design flood. Any future or updated flood hazard mapping associated with the Floodplain Protection Overlays will need to evaluate the 1:200-year design flood as per the 2025 Municipal Development Plan.





## 2. Strategy

To guide the County's overall long-term conservation direction, set priorities, and allocate resources; this Framework defines a high-level vision and accompanying guiding principles. It also sets out broad goals by natural feature type to more specifically articulate direction for various types of ESAs. This overarching strategy has become the foundation on which to build policies for the conservation of nature in the County.



## 2.1 Vision

Parkland County maintains its natural features, their functions, and the beneficial services they provide to the community, while offering innovative options to support development.

## 2.2 Guiding Principles

### *Nature*

- Parkland County's system of Environmentally Significant Areas (ESAs) is the backbone of the ecological networks that span the County.
- Natural features and their functions are recognized as critical contributors to climate change adaptation and mitigation.
- Proposed projects and activities should contribute to the maintenance of natural systems and their functions.
- Continuous improvement and refinement of ESA boundaries should occur over time.

### *Stewardship*

- The County is a good steward of County-owned property and incentivizes private land stewardship.
- A natural infrastructure approach to servicing is always considered first.
- Recreation activities within and near ESAs are sensitive to the maintenance of natural systems and their functions.

### *Decision-making*

- County decisions support the natural functions of ESAs.
- A robust toolbox is needed to support creative approaches to reconciling economic development and nature conservation.
- Proponents should be given nature-positive options to secure approvals.
- Nature-based restrictions and requirements on land use activities are used to maintain natural functions, not necessarily natural features.
- External partners are vital and actively engaged in conservation projects.



*Cumulative Effects*

- Development limits and carrying capacities should be used to manage cumulative effects.
- Previous approvals will not mean similar projects will be approved; each will be assessed based on the current context and cumulative impacts.
- Approvals will consider the impacts on natural features and their functions due to any growth in development and activities that could reasonably be expected as a result of the project being reviewed.
- A decrease in impact is considered a decrease in cumulative impact.

## 2.3 Goals

### Environmentally Significant Areas



**Goal:** **Core areas** of environmental significance are identified and conserved to anchor the water quality and conservation, disaster mitigation, habitat provision, natural rural character, recreational opportunities, and wildlife movement functions needed and desired by residents.

**Objective:** Conservation of ESAs is integrated into the County's planning, development, and permitting.

**Indicator:** Hectares of Protected Natural Areas designated in ESAs.

### Waterbodies



**Goal:** The ability of the County's **Wetlands** to provide habitat, retain stormwater, filter pollution, promote soil wetness, and recharge/discharge groundwater is maintained or enhanced.

**Objective:** Wetland loss in the County is reversed.

**Indicator:** Net gain/loss of wetlands (in hectares) as a result of County-approved projects.



**Goal:** **Groundwater** aquifers, upwellings, and springs are able to provide potable water, wetland and lake recharge, soil wetness, and wildlife habitat for the County and its citizens.

**Objective:** Development activities do not negatively impact groundwater resources, including recharge zones.

**Indicator:** Aquifer yields and water well data.



**Goal:** **Lakes** in the County are stewarded and enjoyed in such a way that runoff, access, and use do not impair their ability to provide clean and adequate water supplies, aquatic and riparian habitat, and natural rural character.

**Objective:** Lake health is maintained or improved.

**Indicator:** Trends in annually sampled water quality indicators and frequency of blue-green algae blooms.



## Watercourses



**Goal:** The **rivers and streams** running through the County's watersheds are able to provide unimpaired potable water, aquatic habitat, natural rural character, and disaster mitigation services.

**Objective:** Water quality and quantity meets the requirements for aquatic life.

**Indicator:** Trends in watercourse monitoring data.



**Goal: Riparian areas** in the County are able to perform their functions of soil stabilization, habitat provision, wildlife connectivity, flood mitigation, and pollution filtration.

**Objective:** Riparian intactness is increased across the County.

**Indicator:** Percentage of riparian area in ESAs with high intactness, and percentage of riparian area with low or very low intactness.

## Vegetation



**Goal: Forest canopy** and vegetation cover across the County provides the natural rural character, wildlife habitat, and disaster mitigation services that citizens need and desire.

**Objective:** Tree canopy within and around ESAs is maintained or augmented.

**Indicator:** Net gain/loss of treed and/or naturally vegetated land (in hectares) as a result of County-approved projects.



**Goal: Soils** in the County remain healthy, productive, and capable of supporting both agriculture and natural ecosystems and climate change adaptation by sequestering carbon.

**Objective:** Development projects comply with the Soil Conservation Act and ALUS projects are implemented to improve soil health and sequester carbon.

**Indicator:** Number of soil conservation complaints and area (in hectares) of rotational grazing projects.

## Wildlife habitat



**Goal: Wildlife species** in the County are **able to move** in order to achieve their habitat access, migration, seasonal movement, and dispersal needs.

**Objective:** Wildlife connectivity is maximized across the County.

**Indicator:** Number/proportion of ASPs with wildlife-connectivity development guidelines.





## 3. Policies

### 3.1 Moving From Identifying Natural Features to Conserving Them

This Framework and accompanying policies are intended to help the County evolve from simply identifying natural features and systems, to actively working to conserve them and the beneficial services they provide.

Identification is a critical first step. Knowing what natural features are present, where they are and prioritizing them based on assessments of environmental significance, environmental sensitivity, and/or non-market economic valuation is important. However, those designations don't inherently require any sort of conservation action. Achieving effective conservation action in a municipal government context requires creating the necessary policy conditions.

Parkland County has developed a suite of Council policies to support nature conservation. These policies prioritize conservation of environmentally significant areas and high value natural assets, while encouraging innovation in the development process through the application of a flexible



suite of tools and mitigation measures, and emphasizing the importance of designating Protected Natural Areas. Building on the direction in the County's Municipal Development Plan, these policies provide more detailed guidance on measures required to ensure the function of various natural features, from wetlands to wildlife corridors, are retained for the benefit of the community. Full policies, including detailed standards as approved by Council, can be found on the County website.

This policy refinement achieves the following goals:

- Ensures vertical alignment of conservation efforts across municipal documents
- Enables Restriction, Guideline, and Innovation approaches
- Develops approaches with Proactive, Reactive, and Opportunistic timing
- Includes 'contributory action' requirements as well as 'limited harm' requirements
- Develops system-wide targets and goals for ESA conservation
- Ensure policies support the desired tools

## 3.2 Council-approved Nature Policies

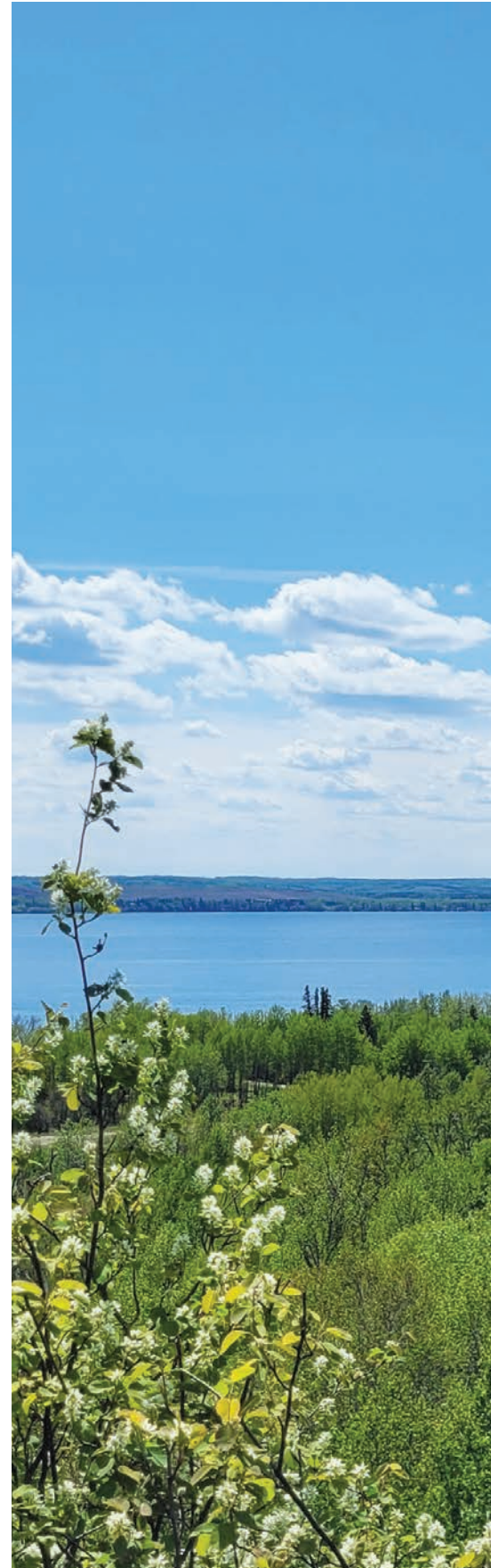
### 3.2.1 Environmentally Significant Areas

#### *Purpose*

1. That the natural features and functions within the County's environmentally significant areas (ESAs) can continue to provide the beneficial ecosystem services needed and desired by residents, businesses, and visitors.
2. That protection of environmentally significant areas is integrated into nature-positive planning, subdivision and development.
3. That the development proponents have clarity on the limitations, requirements and opportunities associated with development within and adjacent to environmentally significant areas.

#### *Policy Statement*

Ensuring natural systems are protected from being degraded, destroyed, or fragmented is one of the County's core values. Maintaining and protecting the function of natural features and systems within and adjacent to environmentally significant areas is key to achieving this core value. The County is committed to ensuring that growth and development of the community is nature-positive and does not impair environmentally significant areas and the beneficial ecosystem services they provide.



### 3.2.2 Protected Natural Areas

#### *Purpose*

1. Identify the municipal, provincial, federal, and private designations that constitute a Protected Natural Area in Parkland County.
2. Provide clarity by creating a single descriptor (Protected Natural Area) for all areas of this type.
3. Direct how County-initiated Protected Natural Areas are to be chosen, designated, and managed.

#### *Policy Statement*

The County is committed to protecting important natural systems that provide food, habitat, water, clean air, and other beneficial ecosystem services. The County shall identify and designate a system of Protected Natural Areas, including those held by the County and those held by provincial, federal, and private conservation agencies within Parkland County.

### 3.2.3 Innovative Conservation Approaches

#### *Purpose*

The County is committed to protecting important natural systems and features that provide water, food, habitat, and other important functions, and also to managing growth strategically to respond to local conditions and balance priorities for long-term sustainability.

The purpose of this policy is to enable and articulate voluntary, innovative options for nature-positive development which the County has deemed to be acceptable mechanisms for securing approval for subdivision or development proposals that might otherwise be deemed unacceptable by the County.

#### *Policy Statement*

The County will provide opportunities for project proponents to secure, on a case-by-case basis, approvals within the subdivision, planning, development, and permitting process, in exchange for changes in the proposal that contribute to maintenance of the community's natural features, functions, and associated beneficial ecosystem services.

**Protected Natural Areas** are areas that are environmentally significant and/or sensitive and whose natural features and functions are protected in some measure through land-use constraints.



### 3.2.4 Wetland Conservation

#### *Purpose*

1. That wetland loss in the county is reversed such that these natural features can provide the beneficial ecosystem services needed and desired by residents, businesses, and visitors.
2. That conservation of wetlands is integrated into the planning, development, and stormwater management processes.
3. That development proponents have clarity on the limitations, requirements and opportunities associated with development near wetlands.

#### *Policy Statement*

Wetlands are a critical part of the County, providing such benefits as aquatic habitat, stormwater retention, and holding soil moisture. Development and activities that may negatively affect the function of wetlands need to be conducted so as to prevent or minimize their impairment. Development and activities within or adjacent to wetlands that are part of an environmentally significant area (ESA) must avoid impairing the wetland's functions.

### 3.2.5 Riparian Area Protection

#### *Purpose*

Riparian areas are the transitional lands adjacent to waterbodies, between upland and aquatic ecosystems, which are influenced by and influence the water body. The purpose of this policy is to ensure that:

1. Degradation of riparian areas is prevented and riparian intactness promoted, such that these natural features can provide the beneficial ecosystem services needed and desired by residents, businesses, and visitors.
2. Maintenance of riparian areas is integrated into the planning and development processes.
3. Development proponents have clarity on the limitations, requirements and opportunities associated with development that may impact riparian areas.

#### *Policy Statement*

Intact and healthy riparian areas provide beneficial ecosystem services, such as minimizing soil erosion, filtering pollutants, and providing habitat for significant wild species. Development and activities that may negatively affect the function of riparian areas must be nature-positive and conducted so as to prevent or minimize their impairment. Development and activities within or adjacent to riparian areas that are part of an environmentally significant area must avoid impairing those riparian areas' functions.





### 3.2.6 Surface and Groundwater Protection

#### *Purpose*

Healthy waterbodies are critical to human health, economic sustainability, and biodiversity. The purpose of this policy is to ensure that:

1. Degradation of surface waterbodies and groundwater is prevented, such that these natural features can provide the beneficial ecosystem services needed and desired by residents, businesses, and visitors.
2. Protection for surface waterbodies and groundwater is integrated into the planning and development processes.
3. Development proponents have clarity on the limitations, requirements and opportunities associated with development that may impact surface waterbodies and groundwater.

#### *Policy Statement*

Development and activities that may negatively affect the function of surface waterbodies and groundwater must be nature-positive and conducted so as to prevent or minimize that impairment. Development and activities within or adjacent to surface waterbodies or groundwater recharge or discharge areas that are part of an environmentally significant area must avoid impairing their natural functions.

### 3.2.7 Wildlife Habitat and Connectivity

#### *Purpose*

Parkland County contains diverse natural landscapes, including forests, lakes, wetlands, and riparian areas that play critical roles supporting the region's wildlife. The purpose of this policy is to ensure that:

1. Degradation of important wildlife habitat and impairment of wildlife movement is prevented.
2. Protection of wildlife habitat and wildlife movement corridors is integrated into the planning and development processes.
3. Development proponents have clarity on the limitations, requirements, and responsibilities associated with development that may negatively affect wildlife.

*Policy Statement*

Parkland County is committed to protecting the important natural features and associated functions that serve the habitat and movement needs of the region's wildlife by ensuring development is nature-positive, conserves federally and provincially listed wildlife species, and maintains landscape connectivity, habitat patches, and wildlife movement corridors.

**3.2.8 County Forest Retention***Purpose*

The purpose of this policy is to ensure Parkland County retains and restores the forests and woodlands that provide important wildlife habitat, contribute to natural rural character, and deliver beneficial ecosystem services such as air purification, disaster mitigation, heat mitigation, and stormwater absorption.

*Policy Statement*

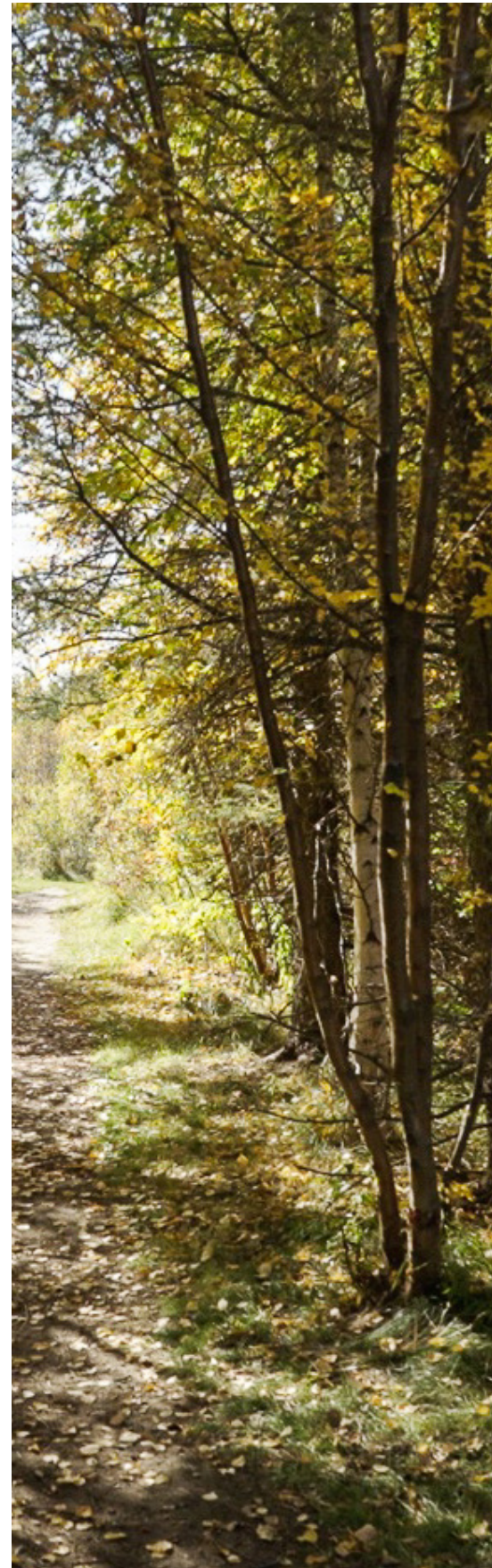
The County is committed to retaining the county forest by protecting existing forests and woodlands and adding to them through restoration and tree planting.

**3.2.9 Biophysical Assessment***Purpose*

The purpose of this policy is to ensure balanced land use within Parkland County by preserving and enhancing the County's high priority landscapes, environmentally significant areas, and other natural features that provide ecological goods and services in the form of natural ecological capital; through effective and appropriate conservation and management.

*Policy Statement*

Parkland County is committed to maintaining and promoting the retention of healthy ecosystems and their natural ecological capital, as these areas provide environmental, economic, social and cultural value. Parkland County considers the ecological goods and services produced by natural landscapes as an important asset to the community. As such, the County has invested in the development of landscape tools that can be used to prioritize environmental management within high value areas, support informed decision making and wise land use management practices, and build the foundation for an integrated land management framework. In order to effectively use these tools to further the County's strategic plan, Parkland County shall require that the Biophysical Assessment Process be followed for all qualifying activities. The results of the biophysical assessment will be used to evaluate the environmental impact associated with these activities, to inform decision making and ensure balanced land use management.



### **3.2.10 Local Conservation Fund**

#### *Purpose*

The purpose of this policy is to enable the County to acquire and devote financial resources for:

1. The proactive conservation of environmentally significant areas, high priority landscapes and high value natural assets.
2. Education, outreach, and research to support nature conservation in Parkland County.

#### *Policy Statement*

The County is committed to creating, maintaining, and resourcing a Local Conservation Fund to support the County's and the community's nature conservation goals.



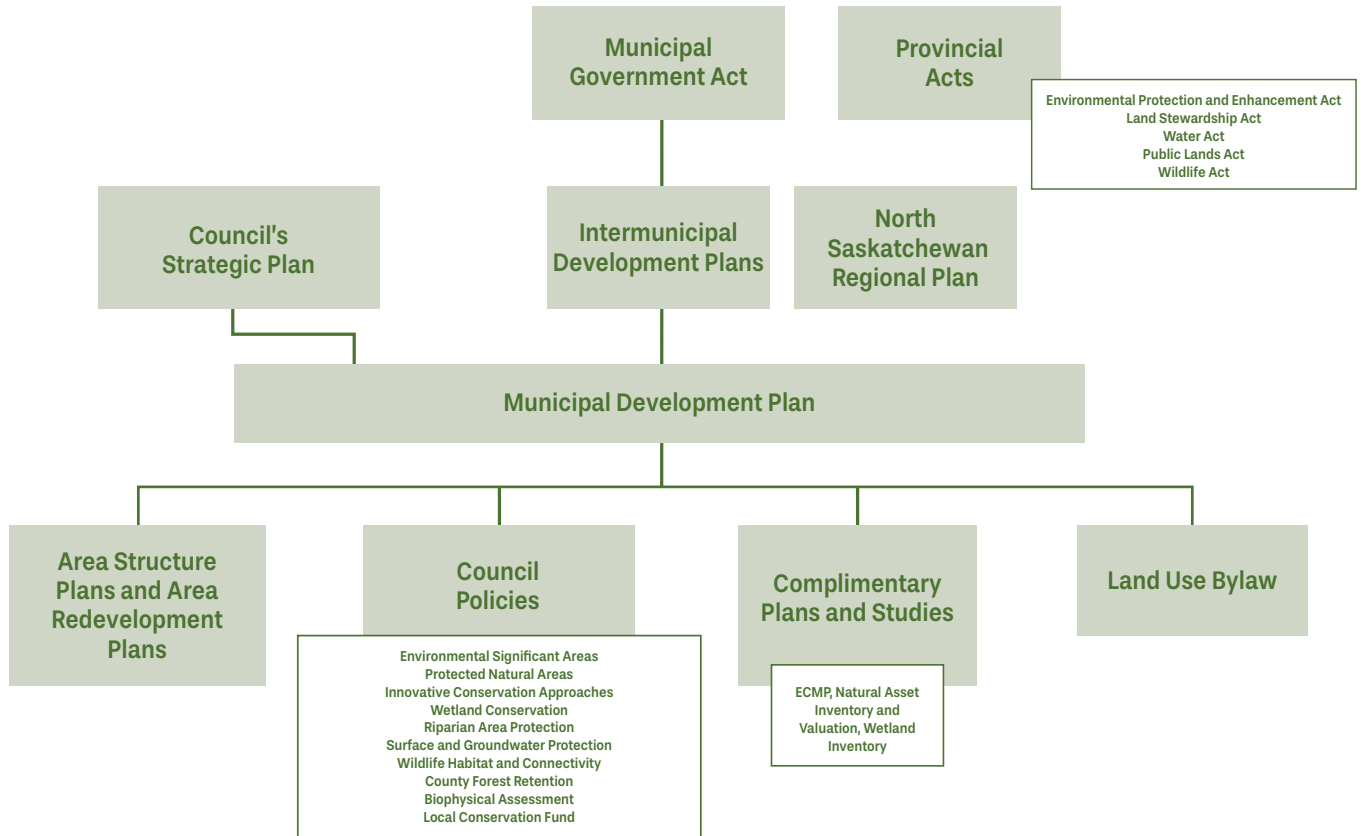
## 4. Applying the Framework

In order to achieve the County's strategic objectives and apply the policy to development projects and activities, the County must not only consider the regulatory context within which it operates but also set out a number of key concepts that can guide decision-making. This Framework outlines the tools and mitigation measures that can be used to achieve nature-positive development and ultimately the County's conservation goals. It also provides details on the technical reports and studies that may be required to evaluate an activity, plan or project's impact on the environment.





## 4.1 Municipal Decision Making



## 4.2 Key Concepts

### 4.2.1 Protected Natural Areas

Throughout Parkland County, there are many areas where land use constraints and requirements are in place for the benefit of nature. These have multiple designations and exist at multiple governance levels (federal, provincial, municipal, private). Despite having the same common thread of being areas of natural importance that are protected, they are represented in numerous ways. A single descriptor was created to provide clarity to ratepayers, development proponents, visitors, and conservation groups: Protected Natural Area. This term shall apply to all areas that are environmentally significant and/or sensitive and whose natural features and functions are protected in some measure through legal land-use constraints. Examples include Provincial Parks, environmental reserves, and conservation easements.

## 4.2.2 Innovative Conservation Approaches

Innovative Conservation Approaches are tools and practices which the County has deemed, on the whole, to be acceptable mechanisms for achieving otherwise unachievable approvals by providing additional nature conservation benefits. The purpose of these Innovative Conservation Approaches is to provide alternative options to proponents of land use plans, developments, land use changes, or activities that are not allowed under current bylaws and policy, but which could be deemed acceptable were they to provide offsetting nature conservation benefits.

A set of specific Innovative Conservation Approaches is enabled in the Council policy, with a general overview of a desirable model for each, but proponents are welcome to propose other Innovative Conservation Approaches based on the goals of this Framework. Specific cases will be subject to negotiation and modification and must ultimately be in a form satisfactory to the County. The onus is on the proponent to make a case for a modified approval; if a proponent chooses not to use an Innovative Conservation Approach, the original approval conditions will apply.

### *Benefits for Proponents*

Innovative Conservation Approaches represent an opportunity for proponents to secure changes to the planning, development, and permitting process which they see as beneficial, in exchange for changes in the development process that contribute to the ability of the County's natural features to provide beneficial services. The Innovative Conservation Approach options are not tied to specific development scenarios, so the potential benefits for proponents are likewise not prescribed and can be proposed by the proponent based on what might serve a current nature conservation priority. This allows the County to be flexible and achieve both conservation and economic development goals to provide the highest quality life to residents.

Example areas that proponents may wish to consider include:

- Bonus density
- Bonus development types
- Zoning changes
- Refined/shortened approval process
- Revised reserve dedication requirements
- Other refinements to the planning and development process that are deemed beneficial by the proponent





### 4.2.3 Natural Buffers and Development Setbacks

Several of the policies referenced in this Framework include direction around required Natural Buffers and Development Setbacks. Use of the terms 'buffer' and 'setback' can be confusing, especially since general usage can be different from municipal use. In general, a 'buffer' is something that forms a barrier or cushion between incompatible things, and a 'setback' is a physical distance something is placed back from something else.

However, in municipal planning, a 'setback' usually refers to the distance a structure needs to be from a property line, and in GIS (digital mapping), a 'buffer' is generally a consistent expansion beyond the footprint of a feature.

As a municipal tool for protecting natural infrastructure, the intent of Natural Buffers and Development Setbacks is the same: to ensure a physical separation from a natural feature so as to protect that feature or its function. However, setbacks can also be used to protect the built infrastructure from hazard lands.

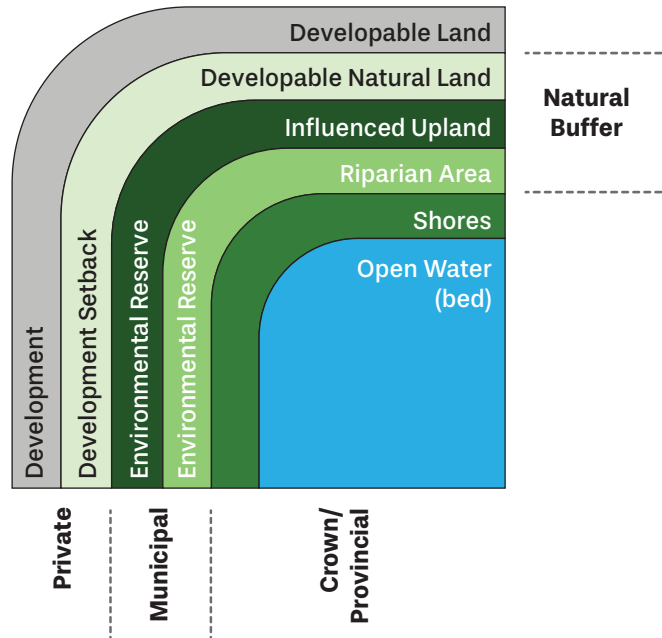
In the policies, the terms are distinguished as follows:

- A '*Natural Buffer*' is focused on the natural feature and is designated with reference to the feature. It is not necessarily specific to any particular adjacent land use activity.
- '*Development Setbacks*' are focused on the adjacent proposed development activity and gives that developer or builder a numeric distance they must be back from the defined edge of a feature.

Operationally, these are employed as one undertaking. For example, a Natural Buffer around a critical wildlife movement corridor may include a specific distance that adjacent development must be set back to accommodate the Buffer.

The diagram on the next page shows how a Natural Buffer might relate to developable land in the context of a water body.





#### 4.2.4 Avoidance, Offsetting and Mitigation Measures

When development is proposed in an area that contains natural features, the development must be proposed in a way that is nature-positive. In order to achieve a native-positive outcome, the proponent will be required to follow the hierarchy of avoid, mitigate and offset. In some areas, such as ESA and high priority landscapes, development must protect and enhance natural features and their functions. Avoidance will be the preferred wherever possible and strong justification as to why natural features cannot be avoided will be required. However, in general the focus of nature-based restrictions and requirements should be to maintain natural functions. This means that some level of impact to the natural feature may be allowed as long as the proponent can demonstrate through technical studies that the function of the feature and therefore the services it provides the community are maintained. Likewise, even if a feature is being avoided the proponent must still demonstrate that the function of the feature is not being impacted. For example, a proposal that avoids a wetland but cuts off or negatively impacts the majority of its recharge zone to the point at which it is not functional would not be considered an acceptable nature-positive development. If a natural feature can not be avoided, then the impact must either be mitigated to the point at which the natural function is not decreased and/or be offset using a conservation tool or innovative conservation approach. In most cases a combination of offsetting and mitigation will likely be required. Mitigation measures that reduce but do not entire



eliminate a reduction in function will not be accepted without accompanying offsetting measures. Proponents will be required to demonstrate the continued function of the natural features using technical studies. The following lists examples of mitigation measures that proponents can use to limit impact; however, proponents are also welcome to suggest other measures:

- c. Establishment of Natural Buffers
- d. Wildlife sensitive timing for construction activities and tree removal
- e. Invasive plant management
- f. Species-specific mitigation measures
- g. Wildlife movement mitigation measures
- h. Designation of reserves or easements
- i. Protection of water bodies during and/or after construction
- j. Erosion and sedimentation management
- k. Vegetation protection and/or management
- l. Strategic siting of human activity, development, or other intensive land uses
- m. Setbacks and vegetation requirements for steep slopes
- n. Restoration of native vegetation of natural features
- o. Inclusion of permeable surfaces or areas for infiltration
- p. Maintenance of natural drainage and hydrologic connectivity
- q. Dark sky lighting
- r. Additional studies to support mitigative measures

#### 4.2.5 Proactive vs Reactive Approaches

Successful implementation of this Framework will require a mix of proactive and reactive application of tools and tactics. 'Reactive' approaches are the most familiar as many of the most common conservation tools available to the County are 'triggered' by another activity, generally subdivision or development applications. In these cases, the County needs to respond to newly proposed activities to ensure the broader needs of the community, and of nature, are being satisfied. Several of the policies and tools listed in this Framework support the County's ability to react in a nature-positive way.

At the same time, the County is committed to 'proactive' nature conservation, establishing mechanisms that facilitate moving forward to protect natural features and their functions on behalf of residents without waiting for a threat to those natural features to arise. Several of the policies and tools support the County's ability to undertake initiatives and partnerships to retain natural features and functions proactively. Examples of proactive activities the County will



undertake include establishing a Local Conservation Fund for the purchase of land in environmentally significant areas and implementing wetland construction projects through the Wetland Replacement Program.

#### 4.2.6 Technical Reports and Studies

Technical reports and studies are a critical component in achieving nature-positive development. They are what the County relies on to determine what natural features are present, the level of impact that the development will have on their function, and how mitigation measures may lower that impact. They can also be used to identify hazard lands that are not suitable for development as well as the potential cumulative impacts of development on a specific area. All technical reports and environmental studies must be completed by a qualified professional who has a minimum three years of relevant experience to the subject matter and is licensed to practice in the Province of Alberta.

Some technical assessments or studies may have more specific requires for which professional bodies or even which practice areas a qualified professional needs to be certified in. For example, a Professional Agrologist may complete a wetland delineation only if their practice areas and years of experience qualify them as Qualified Wetland Practitioner per the Provincial standards. In addition to specific requirements for professionals, field assessments must be completed at the appropriate time of year. For example, timing wildlife surveys to species' activity pattern and conducting vegetation assessments during the active growing season is required. An overview of technical reports and studies often required during planning and development activities, along with their associated detailed requirements, can be found in Appendix 2.



## 5. Conservation Tools

The Municipal Development Plan identifies:

“Parkland County has a responsibility to protect important natural systems that provide food, habitat, water, clean air, and other important functions. Conserving and connecting natural areas supports the health and wellbeing of today’s residents and will preserve the use and enjoyment of these landscapes for future generations.”

To deliver on this responsibility, the County maintains a 'toolbox' of mechanisms that can be used to promote nature protection, restoration, and nature-positive development. The County also actively seeks to expand the applications of these tools, and to expand the toolbox itself.





The use of these conservation tools represents a range of possibilities. They may be:

- Pursued proactively by the County
- Incorporated into Area Structure Plans or other planning documents
- Negotiated or required as part of a development approval
- Entered into in partnership with like-minded organizations
- Encouraged through incentives or third-party support

Parkland County currently uses and encourages three types of conservation tools: direct securement, planning, and administrative.

## 5.1 Direct Securement

One class of conservation tools involves mechanisms that allow for direct 'securement' of a parcel, meaning that it is acquired or restricted specifically for environmental conservation purposes. The direct securement tools enabled via Council policies and this Framework are described below.

### 5.1.1 Environmental Reserve

Environmental reserves are enabled under Section 664 of the Municipal Government Act. They allow a subdivision authority to require the owner of a parcel of land that is the subject of a proposed subdivision to provide the County part of that parcel as 'Environmental Reserve' through transfer of ownership if it consists of: a swamp, gully, ravine, coulee or natural drainage course; land that is subject to flooding or is unstable; or a strip of land, 6 metres or more, abutting a water body. The purpose of the environmental reserve must be: to preserve the natural features listed above; to prevent pollution of an adjacent water body; to provide public access to an adjacent water body; or to mitigate risk of injury or property damage.

Environmental reserves are a key tool in the 'toolbox.' The County uses environmental reserves to provide direct protection of habitat, waterbodies, and other natural features inside and outside of environmentally significant areas, as well as to support the establishment of natural buffers. The County considers environmental reserves to be Protected Natural Areas.





The County details how it will designate and manage environmental reserves in the Municipal Development Plan, Protected Natural Areas Policy, Environmentally Significant Areas Policy, Riparian Area Protection Policy, Surface Water and Groundwater Protection Policy, Wetland Conservation Policy, and Wildlife Habitat and Connectivity Policy.

### 5.1.2 Environmental Reserve Easements

Environmental reserve easements are also enabled under Section 664 of the Municipal Government Act. While the reasons for requiring an environmental reserve easement are the same as for an environmental reserve, the purpose is simply for the protection and enhancement of the environment. The primary functional difference with environmental reserve easements is ownership of the land stays with the subdivision proponent, and an easement is registered on title in favour of the County. The easement must stipulate that the land remain in a natural state.

The County uses environmental reserve easements to provide direct protection of habitat, waterbodies, and other natural features inside and outside of environmentally significant areas, as well as to support the establishment of natural buffers. The County considers environmental reserve easements to be Protected Natural Areas. The County may give preference to an environmental reserve easement over an environmental reserve when allowing public access is not desired or may constitute a risk to personal safety, where management of or access to the land may be difficult or undesirable, or where the intent is purely the protection and enhancement of the environment.

The County details how it will use environmental reserves in the Municipal Development Plan, Protected Natural Areas Policy, Environmentally Significant Areas Policy, Riparian Area Protection Policy, Wetland Conservation Policy, and Wildlife Habitat and Connectivity Policy.

### 5.1.3 Conservation Reserve

Conservation reserves are enabled under Section 664.2 of the Municipal Government Act. They allow a subdivision authority to require the owner of a parcel of land that is the subject of a proposed subdivision to provide part of that parcel to the County as 'Conservation Reserve' if: it is not eligible as environmental reserve; has environmentally significant features; and the intent is to protect and conserve the land in alignment with the County's Municipal Development Plan. While the land may be required, the County is required to provide compensation for it, generally at fair market value.



When resources permit, the County may use conservation reserves to provide direct protection of habitat, waterbodies, and other natural features inside and outside of environmentally significant areas, as well as to support the establishment of natural buffers. Conservation reserves may be part of an Innovative Conservation Approach or pursued proactively. The County considers conservation reserves to be Protected Natural Areas.

The County details how it will use conservation reserves in the Municipal Development Plan, Protected Natural Areas Policy, Environmentally Significant Areas Policy, Riparian Area Protection Policy, Surface Water and Groundwater Protection Policy, Wetland Conservation Policy, and Wildlife Habitat and Connectivity Policy.

### **5.1.4 Conservation Easements**

Conservation easements are enabled under Section 29 of the Alberta Land Stewardship Act. The Act allows the owner of a property to grant an easement to a qualified organization (such as the County or a land trust) for the protection, conservation and enhancement of the environment. The easement is registered on title and prescribes land use requirements and restrictions in favour of nature conservation that must be followed by all current and future landowners. The land remains in private ownership and is not transferred to the County as is the case with conservation reserves.

The County may require use conservation easements to provide direct protection of habitat, waterbodies, and other natural features inside and outside of environmentally significant areas, as well as to support the establishment of natural buffers. Conservation easements may be part of an Innovative Conservation Approach or pursued proactively. They may be required as part of a subdivision approval or development or granted to the County voluntarily. The County considers conservation easements to be Protected Natural Areas.

Voluntary grants of conservation easements will be compensated in full through a charitable tax receipt. When resources permit, the County may provide a portion of the compensation in cash for conservation easements that are not required through the development process and are on a high-priority conservation parcel. Landowners with a conservation easement on their property may apply for a commensurate property tax relief. The County may accept a conservation easement granted to a relevant land trust as part of a subdivision approval. The County may also work in collaboration with area land trusts to incent, secure, manage and/or enforce conservation easements.

The County details how it will use conservation easements in the Municipal Development Plan, Protected Natural Areas Policy, Environmentally Significant Areas Policy, Riparian Area Protection Policy, Wetland Conservation Policy, and Wildlife Habitat and Connectivity Policy.

## 5.2 Planning

The second class of conservation tools involves mechanisms that are employed during the development of high-level plans (such as Area Structure Plans) or at the subdivision or development approval stage. The conservation planning tools enabled via Council policies and this Framework are listed below.

### 5.2.1 Conservation Design/Cluster Development

Conservation design refers to the arrangement of a planning area that clusters the built elements in one part of the planning area so as to conserve the natural features and their associated beneficial services in another part of the planning area. To prevent the area designated for conservation from being developed in the future, some type of perpetual protective mechanism, such as designating a Protected Natural Area, is applied.

The County encourages conservation design as part of its commitment to ensure development across the County is nature-positive. In developments proposing to use a conservation design approach, alternative development standards, such as increased density, may be allowed in the portion of the plan or parcel designated for built development.

Conservation design approaches acceptable to the County are detailed in the Innovative Conservation Approaches Policy, Schedule 3.

### 5.2.2 Conservation Offsets

A conservation offset means an effort to counterbalance the effect of an activity on a natural feature and its function, as defined under the Alberta Land Stewardship Act Sec 47(2), in such a way as to provide an equal or greater quantity of the affected natural feature and/or function.





Conservation offset schemes may include an initiative, program within a plan, or development proposal that involves:

- Rectifying or reducing an adverse effect on a natural feature and its function by repairing, rehabilitating, restoring or reclaiming the same or another natural feature and/or function.
- Reducing or eliminating an adverse effect on a natural feature and its function over time by protection, conservation, or enhanced maintenance of the same or another natural feature and its function.

Conservation offset approaches acceptable to the County are detailed in the Innovative Conservation Approaches Policy, Schedule 5. Conservation offsets acceptable to the County as part of a subdivision or development proposal must provide at least a 2:1 ratio of improvement over the pre-development scenario. The County may require any action described in a conservation offset proposal to be taken before or after an activity starts or before or after an activity ends, and/or to follow prescribed best practices.

The County may deem conservation offset requirements to be satisfied through a permittee-responsible conservation offset, or through provision of sufficient resources for the County to accomplish the related conservation offset initiative independent of the proponent.

### 5.2.3 Transfer of Development Credits

Transfer of Development Credits programs are enabled under Section 48 of the Alberta Land Stewardship Act. They allow municipalities to establish a Transfer of Development Credits Program to reconcile development and conservation goals by designating TDC Development Areas where developers can acquire bonus development through the purchase of credits from landowners in TDC Conservation Areas who commit to perpetual conservation of the natural features on their property.

The County will consider proposals for Transfer of Development Credits programs — or may proactively develop them — in areas where there is both development demand and natural features deemed important to conserve. Programs apply to all parcels in the program area but are voluntary; default zoning and development guidelines apply to all landowners who do not wish to participate in the Transfer of Development Credits program. The identification of TDC Conservation Areas will be based on environmentally significant areas and high priority landscapes. The identification of TDC Development Areas will be based on available/planned servicing, access, planning documents, and growth plan guidance.

The administration of Transfer of Development Credits programs will be undertaken by the County, but the negotiation of credit prices will be left to program participants in a "willing seller/willing buyer" market. The key requirements of Transfer of Development Credits programs acceptable to the County are detailed in the Innovative Conservation Approaches Policy, Schedule 4. Transfer of Development Credits programs should primarily be created within Area Structure Plans and may apply to all or a portion of the Plan area.

### 5.2.4 High-Ratio Wetland Replacement

Wetland replacement and enhancement is a mechanism used when avoidance of wetlands is deemed infeasible, and the natural feature is recreated or enhanced elsewhere. Because it is impractical to replicate the complexity of natural wetlands and the multitude of natural functions they provide, either for many years at the onset of replacement or even at all, there is usually a requirement to replace at a higher ratio.

The bed and shores of a water body, including wetlands that meet acceptable levels of permanence, belong to the Crown (the Government of Alberta). However, whether the Crown claims the wetland or not, the Water Act always applies. Therefore, activities in wetlands, such as draining and infilling, need to comply with the Water Act and are only acceptable through permit or approval. The Government of Alberta has also enabled wetland replacement through the Alberta Wetlands Policy, and the associated Wetlands Replacement Program. Through this policy, the wetland avoidance hierarchy must be followed. If wetlands can not be avoided and impacts that cannot be mitigated are permitted, the proponent must either replace the wetland on their own accord (permittee-responsible replacement) or a replacement fee must be paid to the Crown. This money is then distributed to partners for wetland replacement projects.

In Parkland County, wetland replacement is always a second choice. Pursuant to the Municipal Development Plan:

- In addition to Provincial requirements, development must avoid and retain High Value Wetlands, including areas necessary to support hydrological connections and recharge.



- Development must avoid or mitigate impacts to Moderate Value Wetlands, including areas necessary to support hydrological connections and recharge.
- Development should contribute to the net-gain of wetlands in Parkland County by:
  - Prioritizing wetland avoidance and retention over minimization or replacement;
  - Replacing or enhancing wetlands within the watershed using permittee-responsible means rather than paying a replacement fee; and
  - Designing stormwater management facilities as constructed wetlands where feasible.

The County will require all development proposals to meet the Government of Alberta's standards on wetland mitigation and replacement. The County may also require development proposals to exceed these standards in order to support Parkland County's goal of a net gain of wetlands. As part of a subdivision or development approval, the County may require permittee-responsible wetland replacement on site or in a proximate location; a wetland replacement ratio above and beyond provincial requirements; and/or additional enhancements to support the function of the wetland.

Wetlands in Parkland County are inventoried in the Parkland County Wetland Inventory & Historical Loss Assessment, and anchor several of the identified environmentally significant areas in the Environmental Conservation Master Plan. Conservation of wetlands is detailed in the Wetland Conservation Policy, while conservation of their associated riparian areas is detailed in the Riparian Area Protection Policy. Wetlands are also considered in the Innovative Conservation Approaches Policy, Surface Water and Groundwater Protection Policy, and Wildlife Habitat and Connectivity Policy.

### 5.3 Administrative

The third class of conservation tools involves mechanisms that focus on addressing the administrative and fiscal realities of implementing this Framework. The administrative tools enabled via Council policies and this Framework are listed below.



### 5.3.1 Local Conservation Fund

A Local Conservation Fund allows a municipality to specifically dedicate certain funding to the promotion of its nature conservation goals. Such a fund can be resourced by a small per-property allocation from property taxes, Council allocations, fines and penalties, grants, or other mechanisms. Both policy and a review committee consisting of public members guide Council decisions to allocate funds to specific projects or initiatives.

The County's Local Conservation Fund may be resourced by several mechanisms, including the sale of lands that are within environmentally significant areas or Protected Natural Areas, payments made as part of an Innovative Conservation Approach, special allocations, regular budget allocations, dedicated fees or property taxes; and/or other financially responsible means.

Funds from the Local Conservation Fund may be used for acquisition of Protected Natural Areas, wetland replacement or enhancement, support for land trust projects in the County, or education, awareness, and research related to the County's conservation goals.

The County details how it will use a Local Conservation Fund in the Local Conservation Fund Policy, Innovative Conservation Approaches Policy, and Protected Natural Areas Policy.

### 5.3.2 Sustainability Committee

The Parkland County Community Sustainability Committee was struck to consider matters relating to quality of life as it aligns with the County's Strategic pillars (including respecting the environment), provide input into County project and the decision-making process, and advise Council of matters of public concern. It was used as a primary mechanism for securing community input into the development of this Framework and will continue to guide decisions regarding implementation. This may include prioritization of projects, recommendations on key programs, review of annual reporting on objectives and indicators, and recommendations on expenditure of the Local Conservation fund to ensure allocations are meeting public priorities.





## 6. Implementation

Successful implementation of conservation into a community's long-term plan requires many levels of integration. Enacting the outlined strategy using the County's statutory plans, policies and bylaws is the first step in the journey to achieving outcomes for nature, however a robust conservation program is required to fully achieve desired results. This includes aspects such as detailed procedures to improve clarity for administration and the development community, long-term business planning to prioritize actions and renew plans and studies, investment planning to ensure appropriate revenue is available, leveraging partnerships, and dedicating resources to deliver community education, improved operations, and stewardship programming or other incentives.



## 6.1 Administrative Documents

It is common practice for Council to approve policies based on their values, priorities and strategic direction. While Council-approved policies set the standards for public services and programs, administrative directives set standards and provide direction to staff regarding operational matters and internal administration. Administrative procedures can also be helpful to add detail and clarity to the high-level policy direction and to establish processes that must be followed by employees. Developer guidelines or checklists can also be created to inform or assist proponents with utilizing the tools or innovative approaches outlined in this Framework.

Following approval of the Framework, administration will complete a detailed assessment of where administrative directives and procedures (or developer guidelines) may be required to integrate Council policy into operational direction, or to provide more detailed assistance for development. The development of administrative documents will be incorporated into department work plans, where appropriate, with their development prioritized based on level of impact or requirement. Together with Council policies, administrative documents will provide comprehensive direction to ensure nature is conserved throughout County operations and community development.



### Current Administrative Documents

- Biophysical Assessment Procedures



### Potential Future Administrative Documents

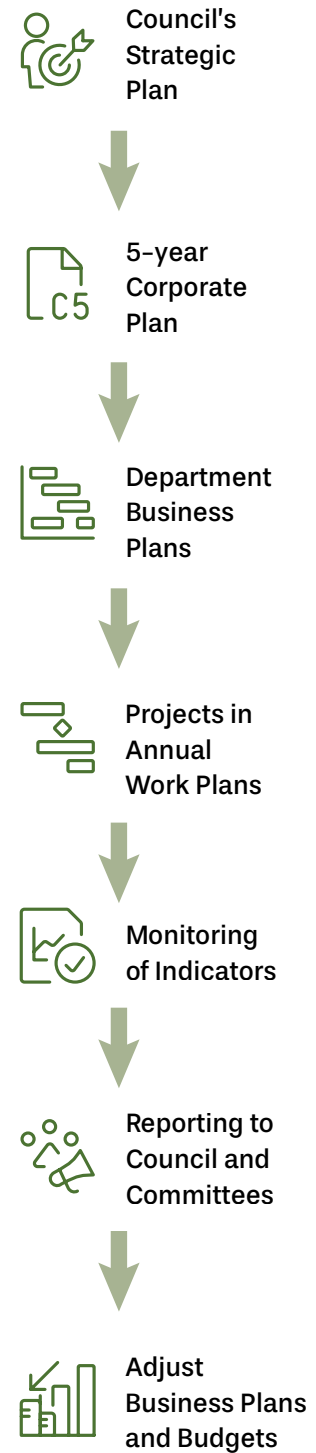
- Protected Natural Areas Directive
- Stewardship of County Lands Directive
- Community Stewardship Directive
- Wildlife Habitat Conservation Procedures
- Technical Requirement Guidelines
- Developer Check Lists
- Procedures for Innovative Conservation Approaches



## 6.2 Business Planning

The journey towards conservation of environmentally significant areas in the County requires both thoughtful policy development and ongoing integration into service delivery. This means that annual business planning and budgeting must include conservation work. At Parkland County departments are required to plan 5 years in advance through the Business Planning process, and Business Plans are required to indicate how ongoing programs and projects meet Council's strategic objectives. Implementation of this Framework should be incorporated and prioritized in Department Business Plans and may take the form of:

- Updated Environmental Conservation Master Plan including planned conservation lands
- Wetland Replacement Projects
- Map of planned reserve land in growth areas to maintain connectivity and system-wide function of assets
- Area Structure Plans with carry capacities or cumulative effects thresholds
- Setting collaborative conservation priorities with land trusts
- Modelling impacts of development concepts on natural features and function
- Establishing Transfer of Development Credits Programs
- Investigating natural asset insurance and credit systems for County owned assets
- Updating County policies, directives, and procedures
- Tools used for cost-benefit analysis of natural vs hard infrastructure options
- Updated Engineering Design Standards to support nature outcomes
- Creating a Developer Guide for natural feature conservation
- Prioritized restoration projects
- Targeted stewardship incentives for private landowners
- Wildlife corridor mapping
- Groundwater assessments and mapping



Parkland County is also committed to measuring and celebrating success by developing and reporting on performance measures that support Council's strategic objectives and the Corporate Plan. Administration, together with key stakeholders, will implement, track, and report on the progress the County is making towards the goals outlined in this Framework. Successful monitoring and reporting will enable the Framework to become a living document and support its iterative renewal thus achieving continuous improvement. By reporting to Council and Council's Public Committees, the Framework gains broader community buy-in and allows for community feedback.

### Administration

Manages policy implementation and public reporting



### Council Committees

Reviews progress and makes recommendations



## Ongoing Stakeholder Roles

### Community

Supports implementation and provides feedback



### Council

Sets priorities and makes final decisions



Implementation also includes keeping supporting documents up-to-date, relevant and ensuring they utilize new information as it becomes available. The following plans, studies and strategies should be updated regularly.

- Integrated Community Sustainability Plan — every 5 years
- Environmental Conservation Master Plan (including ESA boundaries) — every 5 years
- Climate Change Adaptation Plan — every 10 years
- Wetland Inventory and Historical Loss Assessment — every 5 to 10 years
- Natural Asset Inventory and Valuation — every 5 to 10 years
- Riparian Area Assessments — every 5 to 10 years
- Floodplain Analyses and Overlays — every 15 years
- Any other large-scale studies — every 5 to 10 years

## 6.3 Investment Planning

Although the use of some tools for the conservation of natural features and functions, such as environmental reserve or environmental reserve easements, is required during the development process; other tools, such as conservation reserves or fee-simple land securement, can require monetary compensation. Due to Parkland County's proximity to Alberta's capital region and major highway corridors, land securement for conservation can be expensive. This, combined with a current estimated non-market valuation of over \$4 billion dollars for just a handful of the services being produced by the County's natural assets, necessitates the development of a robust investment plan to support the implementation of this Framework and ultimately achieve the County's conservation goals. Traditionally, municipalities have looked to small pots of one-time grant funding to support environmental and conservation projects. However, this is not a sustainable funding mechanism to maintain the ongoing programs necessary for attaining the goals of the Framework. For these reasons, Parkland County is considering the following steps in establishing an investment plan for nature:

- Establishing a Local Conservation Fund (see Local Conservation Fund Policy).
- Updating County Land Management documents to ensure revenue from the sale, lease or license of Protected Natural Areas supports conservation/restoration programs and goals.
- Updating the Restricted Surplus Policy to ensure funds are available to complete projects in department business plans, lifecycle updates for plans and studies, and Local Conservation Fund priorities.
- Exploring innovative revenue generation such as credit systems or land transfer opportunities in high priority areas for conservation.
- Identifying and applying for grants to support one-time projects.

## 6.4 Stewardship and Conservation Programs

In addition to policy, Parkland County employs several stewardship and conservation programs to support proactive management of natural features, functions and the beneficial ecosystem services they produce for the community.





### Key Programs

1. **Protected Areas and Reserves:** Expanding and strengthening the network of Protected Natural Areas, including those owned by the County, land trusts or privately, will be central to conservation efforts. As these areas are managed to safeguard biodiversity and support the ecosystem services that benefit our community, land acquisition efforts will be prioritized in ESAs.
2. **Restoration of Degraded Ecosystems:** In the 2025 Natural Asset Inventory, assets were mapped and their condition was assessed. These condition assessments can be used to prioritize restoration efforts and target bioengineering projects. The County has an established on-the-ground restoration program which implements wetland replacement projects, erosion control, and flood mitigation to support County infrastructure and re-naturalization of significant or sensitive habitats.
3. **Incentives for Private Land Stewardship:** Parkland County residents have access to both the ALUS and Green Acreages Programs to support adoption of conservation and restoration projects on their acreages or within their agricultural operations. Both programs offer financial incentives and technical assistance for those who implement environmentally friendly practices.

## 6.5 Education, Outreach and Partnerships

To ensure the success of the Nature Policy Framework collaboration among government agencies, environmental organizations, indigenous groups, the private sector, and local communities will be essential. Cross-sector partnerships will help to mobilize resources, share knowledge, and create synergies in conservation efforts. Parkland County works directly with watershed stewardship groups, municipal watershed alliances, Watershed Planning and Advisory Councils, land trusts and other land conservation organizations, as well as non-governmental, charitable or non-profit organizations with a specific focus on nature and ecosystem service protection and restoration.

The County also offers education and awareness programs to residents, businesses and key stakeholders. These programs are designed and delivered to foster awareness and change towards environmental stewardship. The programs include building literacy of the environmental, social and economic benefits associated with maintaining, restoring and enhancing the ecological integrity of lands held in private ownership. They also encourage landowners to take action and contribute to the County's conservation goals on a voluntary basis.

**"If you want to go fast, go alone. If you want to go far, go together" is an African proverb that emphasizes the importance of teamwork and collaboration for achieving long-term success."**

# Appendix 1

## Glossary

### *Avoidance*

- means preventing negative impacts to a natural feature and its functions by identifying an alternate project, activity, design, or site, or ceasing to pursue the project or activity.

### *Beneficial Ecosystem Services*

- means the benefits that Natural Features and Systems, in the course of their unimpaired function, provide which support human wellbeing and quality of life. These include, but are not limited to pollution filtration, erosion control, flood mitigation, aquifer recharge, wildfire mitigation, habitat provision, food production, heat mitigation, air filtration, natural aesthetics, sense of place, and biodiversity.

### *Biodiversity*

- (or Biological Diversity) means the biological diversity, or variety, of plants and animals and other living organisms in a particular area or region, and the ecological processes that sustain them.

### *Biophysical Assessment*

- means, generally, the assessment of the biological (plants, animals, fish) and physical (soils, terrain, hydrology) conditions of a site to evaluate potential environmental impacts that may arise from a proposed development or activity; specifically the Parkland County Biophysical Assessment Process.

### *Conserve*

- See Conservation

### *Conservation*

- means maintaining the structures and functions of natural systems and ensuring the sustainable flow of the ecosystem services they provide.

### *Conservation Design*

- means the arrangement of a planning area that clusters the built elements in one part of the planning area so as to Conserve the Natural Features and in another part of the planning area as a Protected Natural Area.

### *Conservation Easement*

- means a Conservation Easement as defined and enabled by the Alberta Land Stewardship Act Sec 28, as amended.

### *Conservation Land Transfer*

- means the provision to the County of a parcel of land that contains valued Natural Features, or supports their Functions, with the intent that the parcel will be maintained in its natural state in perpetuity.

### *Cumulative Impacts*

- means additive or interactive changes to the natural environment as a result of a project's residual effects combined with the existence of other past, present and reasonably foreseeable future human activities and natural processes.

### *Conservation Offset*

- means an effort to counterbalance the effect of an activity as defined under the Alberta Land Stewardship Act Sec 47(2) as amended.

### *Conservation Reserve*

- means a Conservation Reserve as defined and enabled by the Municipal Government Act Sec 664.2(1), as amended.

### *Conservation Tool*

- means a protective device, planning tool, mitigative strategy, enabling mechanism or other procedure employed with the intent of ensuring or improving the ability of a natural feature(s) to function without impairment.

*County Forest*

- means all trees and associated vegetative understory including all trees and shrubs intentionally planted, naturally occurring, or accidentally seeded found in parks, river valleys, streets, roadways, natural environment parks, and commercial and private lands.

*Development Setback*

- means the area within which developments such as any excavation, grading, building, or built infrastructure are prohibited or restricted as part of a Natural Buffer.

*Disaster Mitigation Services*

- means contributions by Natural Features to the mitigation of drought, flood, heat, and wildfire risk. These include the services of retaining stormwater, maintaining soil wetness, maintaining slope stability, reducing heat effects, filtering pollution, and recharging waterbodies.

*Ecological Enhancement*

- means measures that actually improve the ecological condition or function of the development site (or an alternative site) after the development is complete; ecological enhancement measures must, therefore, be over and above any avoidance, mitigation and compensation measures required to neutralise the impacts of the development on Natural Features.

*Environmental Reserve*

- means lands defined as Environmental Reserve in the Municipal Government Act.

*Environmental Reserve Easement*

- means an easement created for the purposes specified in the Municipal Government Act.

*Environmentally Significant Area (ESA)*

- means an area that is important to the long-term maintenance of biological diversity, encompasses important physical landscape features, and/or ensures natural processes function with limited impairment, both locally and within a larger spatial context; and is identified within the Environmental Conservation Master Plan or its successor.

*Flood Fringe*

- The flood fringe is the part of the flood hazard area outside of the floodway. Water in the flood fringe is typically shallower and flows more slowly than in the floodway. The flood fringe may also include high hazard flood fringe, protected flood fringe, or overland flow (flood fringe) sub-zones.

*Flood Hazard Area*

- The flood hazard area is the area of land that will be flooded during the 1:200 design flood. The flood hazard area is typically divided into two main zones, the floodway and the flood fringe, and may include additional flood fringe sub-zones

*Flood Plain*

- Means the area of land bordering a river, other watercourse or water body which has been or may be covered by flood waters during a regional flood or a 1 in 200 (1:200) year flood, as determined by a qualified professional.

*Floodway*

- means the channel of a river and, in some places, the land next to the river, which carries the bulk of the floodwater downstream and is most hazardous. Flow is usually fastest, deepest and most destructive in the Floodway.

*Groundwater*

- means the water that exists underground in saturated zones beneath the land surface. The upper surface of the saturated zone is called the water table.

*Groundwater Recharge Area*

- means a part of the landscape where water moves from the land surface into the groundwater-flow system.

*Groundwater Discharge Area*

- means areas where groundwater flows upward to the land surface.

*Habitat Patch*

- means any discrete area used by a species for living, breeding or obtaining other resources.



*Hazard Lands*

- means land that consists of a swamp, gully, ravine, coulee or natural drainage course; land that is subject to flooding; land that is steeply sloped or unstable; or land where development could pose a risk to human safety or property.

*Hazard Tree*

- means a standing tree, dead or alive, having defects in roots, trunk or limb, which predispose it to mechanical failure in whole or in part where such failure has a probability of injury or damage to persons, property and therefore has been identified as a likely source of harm OR a tree situated in an area frequented by people or is located adjacent to valuable facilities and has defects in roots, stems, or branches that may cause failure resulting in property damage, personal injury or death.

*High Priority Landscape for Conservation*

- means an area characterized by overlapping features of ecological importance including multiple Environmental Significant Areas (ESAs) of various significance, wetland complexes, biodiversity hotspots and landscape connectivity, sensitive surface and groundwater features, and sensitive landforms.

*High-value Natural Asset*

- means a naturally occurring feature, habitat, or ecosystem that exists in relatively good condition and contributes to the provision of one or more services required for the health, well-being, and long-term sustainability or a community and is residents at a high level.

*High-value Wetlands*

- means wetlands identified in the Parkland County Wetland Inventory & Historical Loss Assessment as good to excellent value.

*Hydrologic Connectivity*

- means the ability of water to move through a watershed, and includes movement along the network of surface watercourses, between water bodies and adjacent landscapes, between subsurface and groundwater sources, and between groundwater sources.

*Important Groundwater Recharge Area*

- means a Groundwater Recharge Area that is identified as being either sensitive or significant due to its vulnerability to contaminants entering the groundwater system or its significance in facilitating infiltration into the groundwater system to support a major aquifer or water body.

*Innovative Conservation Approach*

- means the application of a non-traditional or non-regulatory Conservation Tool or practice which provides additional nature conservation benefits for Parkland County, and which the County has deemed to be an acceptable mechanism for securing approval for a proposal that might otherwise be deemed unacceptable.

*Land Trust*

- means a not-for-profit, charitable organization that has as one of its primary goals the acquisition of land or interests in land for the purpose of nature conservation.

*Landscape Connectivity*

- means the degree to which the landscape facilitates the movement of native plant and animal species through corridors and between habitat patches.

*Local Conservation Fund*

- means a fund, held and managed by a local government, devoted to achieving its nature conservation goals, accomplished through actions of the local government or its partners, financed through dedicated assessments or fees, and formally reviewed by a committee of residents.

*Low Impact Development*

- means systems and practices that use or mimic natural processes that result in the infiltration, evapotranspiration, or use of stormwater in order to protect water quality and natural hydrological processes.

*Mitigation*

- means management activities enacted to avoid or minimize negative impacts to a Natural Feature(s) and its Functions.

*Mitigation Hierarchy*

- means beginning with (and placing the greatest emphasis on) avoidance of Natural Features and impacts to their Functions, followed by minimization of impacts only if avoidance is not practicable, and finally artificial creation or offsetting of specific Natural Features and their Functions only as a last resort.

*Moderate-value Wetlands*

- means wetlands identified in the Parkland County Wetland Inventory & Historical Loss Assessment as moderate value.

*Natural Asset*

- a naturally occurring feature, habitat, or ecosystem that contributes to the provision of one or more services required for the health, well-being, and long-term sustainability of a community and its residents.

*Natural Buffer*

- means an area identified or established between a Natural Feature(s) and development or other human activity, maintained in a natural state, and intended to protect the ability of that Natural Feature to Function effectively.

*Natural Environment*

- See Natural System

*Natural Feature*

- means components and processes present in or produced by nature, including, but not limited to, soil types, geology, slopes, vegetation, surface water, drainage patterns, aquifers, recharge areas, flood plains, aquatic life, and wildlife.

*Natural Functions*

- means the operations of a Natural Feature or system of Natural Features that ensure its growth, persistence, and resilience, and from which humans may derive Beneficial Ecosystem Services.

*Natural Infrastructure*

- means the use of preserved, restored or enhanced elements or combinations of vegetation and associated biology, land, water and naturally occurring ecological processes to meet targeted infrastructure outcomes (Canadian Council of the Ministers of the Environment 2018).

*Natural System*

- means a system of Natural Features and areas that are linked and connected by natural corridors necessary to maintain biological and geological diversity, natural functions, viable populations of native species (including flora and fauna), and ecosystems. These are areas where growth should not be anticipated and specific mitigation measures may be required.

*Natural Living System*

- See Natural System

*Natural Vegetation*

- means plants that develop in a specific region with little to no influence or modification by humans.

*Nature Park*

- means a park which has been identified and designated by the County to maintain the Natural Features and Functions of the area, and which can be distinguished from other parks designated primarily for recreational facilities and/or mechanized outdoor recreational activities.

*Natural Rural Character*

- means the often-expressed sentiment of residents that their sense of place and conception of a 'rural' landscape is heavily reliant on the abundance of trees and other natural vegetation, healthy water bodies and watercourses, and abundant wildlife.

*Nature Conservation Purposes*

- means the intent to protect, enhance, or restore Parkland County's natural features, functions, and associated beneficial services.

*Nature-based Solutions*

- means strategies to address societal challenges through actions to utilize, protect, sustainably manage, and restore natural and modified ecosystems, benefiting people and nature at the same time.

*Nature-positive*

- means activities and developments that, on balance, protect, conserve, and/or enhance the beneficial functions of the natural features within Parkland County more than they impair, degrade, or nullify them. This includes actions that buffer or provide protection for natural features, and/or actions that offset or restore the beneficial functions of those features.

*Net Gain*

- means the view of an area or Natural Feature that reconciles the negative impacts of development with the mitigative actions taken to decrease those impacts, and enhance and/or protect the Natural Features, such that a quantitative gain in the Natural Features and their Functions can be demonstrated.

*Offset*

- means to counterbalance the effect of an activity as described in the Alberta Land Stewardship Act, s.47(2).

*Protected Natural Area*

- means an area that is environmentally significant and/or sensitive and whose Natural Features and functions are protected in some measure through legal land-use constraints. Examples include Provincial Parks, Environmental Reserves, Environmental Reserve Easements, Conservation Reserves, and Conservation Easements.

*Qualified Environmental Professional*

- means a designated environmental scientist or technologist, providing services within their area of expertise/certification, and licensed to practice in the Province of Alberta.

*Resilience*

- means the capacity of a system to withstand and recover from environmental or human disturbances, while retaining its structure, function, and adaptability.

*Restoration*

- means recreating, initiating, or accelerating the recovery of a natural feature and its functions that have been degraded, damaged, or destroyed, and which may include active (replacement, reestablishment, and management) or passive (removal of pressures to allow natural recovery) strategies.

*Riparian Area*

- means the transitional area, above and below ground, adjacent to a water body, between upland and aquatic ecosystems, and which is influenced by and influences the water body.

*Riparian Intactness*

- means, in reference to the condition of Riparian Areas, the extent to which the area has been altered or impaired by human activity, with areas where there is no human development being classified as high intactness.

*Riparian Lands*

- See Riparian Area

*Species at Risk*

- means species that are either federally or provincially listed as Endangered, Threatened or Species of Concern, under Canada's Species at Risk Act (SARA), the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), the Alberta Wildlife Act or Alberta Wild Species General Status-2015.

*Transfer of Development Credits Program*

- means a Transfer of Development Credit Scheme as defined and enabled by the Alberta Land Stewardship Act Sec 48, as amended.



### *Water Body*

- means a water body as defined by the Alberta Water Act, "any location where water flows or is present, whether or not the flow or the presence of water is continuous, intermittent or occurs only during a flood, and includes but is not limited to wetlands and aquifers", and includes rivers, streams, lakes, ponds, and wetlands.

### *Water Course*

- means a lotic water body including rivers, brooks, streams or other natural water channels (including ephemeral draws), and the bed and shore along which water flows continuously or intermittently.

### *Watershed*

- means an area of land, bounded by topographic features, where water drains into a specific basin such as a river, stream, lake, pond or ocean. Within each large watershed there are many smaller watersheds.

### *Wetland*

- means land saturated with water long enough to promote formation of water altered soils, growth of water tolerant vegetation and various kinds of biological activity that are adapted to the wet environment, and for the purposes of this plan includes all classes of permanent and ephemeral wetlands.

### *Wildlife Movement Corridor*

- See Wildlife Corridor

### *Wildlife Corridor*

- means an area of the landscape that facilitates movement needed by wildlife to meet their life needs, including accessing disparate habitat patches, seasonal or other migration, dispersal, and population genetic diversity. Wildlife corridors may be characterized by existing wildlife movement patterns, land use buffers intended to separate human disturbance, and natural or human-made crossing structures.

# Appendix 2

## Technical Reports and Studies

### Biophysical Assessment Process Requirements

Assessments must be completed by a qualified environmental professional who has a minimum three years of relevant experience to the subject matter and is licensed to practice in the Province of Alberta.

#### Desktop Biophysical Assessment

A desktop biophysical assessment may be required for simple subdivisions and lot line adjustments, as well as any stripping, filling, excavation, grading activities, vegetation clearing, or creation of a pond or dugout if the proposed activities take place within or adjacent to an Environmentally Significant Area, High Priority Landscape, watercourse, wetland or water body or is clearing of native vegetation is required. The desktop biophysical assessment is a simple assessment based on publicly available information that is used to identify if any Natural Features or Functions are present that require avoidance, mitigation measures, offsets, further investigation or additional permits/approvals from other government agencies. Field delineation may be required for any Natural Features, including wetlands, identified during the desktop assessment. Overall, a desktop biophysical assessment can be used to determine if an activity is Nature-positive.

#### Comprehensive Biophysical Assessment

A comprehensive biophysical assessment shall be required for all Area Structure Plans, Conceptual Schemes, multi-parcel subdivisions, Master Site Development Plans, and resource extraction activities. The Comprehensive Biophysical Assessment shall, at a minimum, include:

- an in-depth assessment of potential impacts to the existing environment associated with a proposed development project;

- completion of desktop studies, as well as detailed field surveys for specific environmental disciplines where applicable (e.g., soil surveys, vegetation and listed plant surveys, wetland assessments, species specific wildlife surveys, fish habitat surveys, hydrological and water quality surveys);
- identification of key issues or environmental sensitivities; and

identification of proposed conservation tools or Best Management Practices (BMPs) including avoidance, offsetting and mitigation measures that will be implemented, as well as the rationale of how those tools or BMPs will avoid or minimize potential development impacts and create a Nature-positive project.

The Comprehensive Biophysical Assessment should follow the suggested Table of Contents provided below:

1. Introduction
  - a. Project Overview and Scope (description of the project purpose and rationale; including proposed location)
  - b. Project Description (description of the project in terms of what is proposed — concept design and design considerations, extent of alteration/construction, timing of construction works)
  - c. Regulatory Information Requirements (Municipal, Provincial, Federal)
2. Study Area (description of regional ecological setting (e.g., natural subregion, general physiography, climate, surrounding landscape))
3. Assessment Methods (information review; data sources; field survey methods)

**4. Overview of Existing Environment**

- a. Terrain and Soils** (description of soil and landform classification)
- b. Hydrology and Water Quality**
  - i. Surface Water** (describe ephemeral and permanent drainage patterns; describe any known water quality issues and anticipated impacts)
  - ii. Ground Water** (describe potential for groundwater recharge or discharge; groundwater vulnerability)
  - iii. Riparian Areas** (delineate area and assess intactness level; relate to subwatershed pressure mapped in the associated Riparian Area Assessment)
- c. Wetlands** (describe all mineral and organic wetlands)
  - i. Historical Air photo Review** (dating back to pre-settlement, note: can be a summary from the WAIR)
  - ii. Wetland Delineation and Classification** (note: can be a summary from the WAIR)
  - iii. Identification of high value wetlands** (rated as having Excellent or Very Good ecological function) from Parkland County Inventory
- d. Uplands** (describe existing plant community types, listed plants, invasive plants (weeds)
  - i. Vegetation Communities**
  - ii. Tree canopy coverage**
  - iii. Listed Plants**
  - iv. Invasive Plant Species**
- e. Wildlife and Wildlife Habitat** (describe wildlife habitat potential including landscape connectivity or movement corridors and any wildlife species observations; species specific survey results (where required); provincially and federally listed wildlife species of concern)
- f. Fish and Fish Habitat** (where applicable, describe potential for fish or fish habitat — only applicable if water body has fish or is connected to a fish bearing water body)

**5. Key Environmental Sensitivities and Proposed Mitigation**

- a. Terrain and Soils**
  - i. Environmental Sensitivities** (describe potential impacts to soils associated with erosion, compaction; indirect effects of soil stockpiling)
  - ii. Proposed avoidance, mitigation and offsets**
- b. Hydrology, Water Quality, Surface Water and Riparian Areas**
  - i. Environmental Sensitivities** (describe potential impacts to water quality, flow)
  - ii. Proposed avoidance, mitigation and offsets**
- c. Groundwater**
  - i. Environmental Sensitivities** (describe potential impacts to groundwater recharge, discharge and contamination)
  - ii. Proposed avoidance, mitigation and offsets**
- d. Wetlands**
  - i. Environmental Sensitivities** (describe potential impacts to wetlands, including indirect impacts to wetland hydrology)
  - ii. Proposed avoidance, mitigation and offsets** (following the provincial wetland mitigation directive for avoidance, minimization, replacement)
- e. Uplands**
  - i. Environmental Sensitivities** (describe potential impacts to vegetation, listed plants, and tree canopy)
  - ii. Proposed avoidance, mitigation and offsets**
- f. Wildlife**
  - i. Environmental Sensitivities** (describe potential impacts to wildlife species, wildlife habitat, and movement corridors)
  - ii. Proposed avoidance, mitigation and offsets**



- g. Fish and Fish Habitat
  - i. Environmental Sensitivities (describe potential impacts to fish species/habitat, if applicable)
  - ii. Proposed avoidance, mitigation and offsets
- 6. Conclusions and Recommendations
  - i. Summary
  - ii. Wetland mitigation (avoidance, minimization, replacement)
  - iii. Setback recommendations for waterbodies, including wetlands (where applicable)
  - iv. Conservation tool recommendations, including dedication of Protected Natural Areas or Innovative Conservation Approaches.

## Requirements for Other Assessments and Plans

### Hydrological or Hydrogeological Studies

Depending on the form, design and construction of a development, some natural features may become wetter, while others may become drier, as surface water is either diverted toward or away from the natural feature. Developments that extract or divert groundwater away from natural features can also be problematic. Measures to adjust the quantity and quality of water that reaches a natural feature become necessary when it is likely that a proposed development will impact its hydrological functions. To address these risks, hydrological and/or hydrogeological studies may be required for multi-lot subdivisions and major developments where the Biophysical Assessment Process is insufficient for identifying risks to the hydrologic regime and groundwater resources within the proposed development area.

The assessment shall be prepared by a qualified water resource engineer, hydrologist, and/or hydrogeologist, and shall identify (where applicable)

- 1. Sensitive groundwater features such as kettle depressions, drainage courses, wetlands, recharge zones, and shallow aquifers.

- 2. Existing surface and groundwater conditions.
- 3. Natural drainage pathways.
- 4. Potential impacts to the water balance of Natural Features such as waterbodies, wetlands, and watercourses.
- 5. Potential impacts to groundwater recharge.
- 6. The potential for impacts to shallow aquifers vulnerable to contamination or overuse.
- 7. Appropriate measures to maintain groundwater recharge and groundwater quality.
- 8. Appropriate measures to maintain the water balance of Natural Features in a way that preserves their Natural Functions.

### ECO Plans

An Environmental Construction Operations (ECO) Plan is a contractor's plan to identify and mitigate the environmental impacts that may result from their activities. ECO Plans are required for resource extraction and major development applications, on sites within or near Environmentally Significant Areas or sensitive Natural Features. ECO Plans integrate environmental considerations into project decision-making and help ensure development projects are compliant with applicable regulations, bylaws, and guidelines and are implementing appropriate avoidance, mitigation or offsetting measures. The ECO Plan must be site specific and address all environmental regulations, conditions and sensitivities identified through the Biophysical Assessment Process. ECO Plans must be completed to the satisfaction of Parkland County and must be submitted at least 14 days prior to the scheduled start of construction.

ECO Plans shall, at minimum, include the following:

- a. A description of site activities, including site drawings and the project schedule.
- b. Identification of environmentally sensitive features and avoidance or mitigation measures for all potential project-related impacts.
- c. Control measures that address all environmental conditions prescribed by:
  - i. Applicable permits, approvals, authorizations and notifications.
  - ii. The Biophysical Assessment Process.

- d. Hazardous material handling, storage, containment and disposal procedures; these procedures must comply with all regulatory requirements (e.g. setback distance from a water body).
- e. Environmental Emergency Prevention and Response Procedures.
- f. An Implementation Strategy describing how staff will be trained to comply with the ECO Plan.

## Tree Protection Plans

Most tree roots are found within one metre of the soil surface and activities such as operating heavy equipment near trees, altering the soil structure, paving over roots, damaging branches and bark, and excavating in the root zone can damage or kill trees. A tree protection plan may be a report or drawing that outlines the steps that will be taken during construction activities to mitigate damage to retained trees and their root zones. The County will require protection plans for any public tree (a tree that has any part of its trunk located on County lands). Tree Protection Plans will be particularly important when contraction and grading activities are occurring next to an environmental reserve or conservation reserve, however they must be completed prior to development activities taking place within 6 meters of any public trees.

Tree Protection Plans must include:

- a. A site plan.
- b. Property lines.
- c. Details about the site, work and limits of land disturbances.
- d. Tree protection zones, which must extend 4 meters from the trunk of public trees.
- e. Protection measures for the trees and their roots.
- f. Tree protection barriers that will be used to mark the tree protection zone.
- g. A Tree Disclosure Statement.

## Shallow Water Table/Percolation Testing

The consultant must be a professional engineer or professional geologist or geophysicist (as defined in the Engineering and Geoscience Professions Act), whose area of competence lies within the groundwater field, and who is a member of the Alberta Association of Professional Engineers and Geoscientists of Alberta (APEGA). The Shallow Water Table/Percolation Testing shall identify the following:

- a. The area of developable land located on the parent parcel defined as lands with a water table that is 2.13m or deeper below ground surface.
- b. The area of each individual lot that is considered developable land containing a water table that is 2.13m or deeper below ground surface.
- c. The appropriate on-site septic systems based on the existing soil conditions.

## Domestic Groundwater Assessment

The assessment must be completed by a professional engineer, professional geologist or professional geophysicist (as defined in the Engineering and Geoscience Professions Act), whose area of competence lies within the groundwater field, and who is licensed to practice in the Province of Alberta.

The Domestic Groundwater Assessment shall identify:

- a. Quantity and quality of groundwater available to households within the proposed subdivision.
- b. Potential interference with existing groundwater users.
- c. Consistency with an applicable approved Water Management Plan.

The Domestic Groundwater Assessment shall include:

- a. A collection, summary and assessment of existing local groundwater data.
- b. Aquifer testing if existing local groundwater data is insufficient.
- c. Clearly stated major conclusions that address the following:
  - i. Whether groundwater in the underlying Proposed Subdivision Area can supply water for household purposes to each proposed lot and associated household during peak demand periods and over the long term (where each household has its own water well; each household can use a maximum of 1250 cubic metres of water per year).
  - ii. Whether the diversion of 1250 cubic metres of water per year for household purposes under section 21 of the Water Act for each of the households within the subdivision will interfere with any other household users, licensees or traditional agriculture users who exist when the subdivision is approved; and
  - iii. Whether the diversion of groundwater by the proposed subdivision's households is consistent with an applicable approved Water Management Plan.

## Flood Hazard Study

The potential for flooding exists along all streams and lakes in Alberta. Development within the 1:200 inundation area of a water body must address flood risk through a Flood Hazard Study. Flood studies include detailed engineering reports and flood maps to proactively manage potential flood risk to development.

The engineering reports are typically technical in nature and document the data, assumptions, and results of the hydrologic and hydraulic analyses required to create flood maps. Flood maps are created by combining hydraulic model results for different sized floods with high-accuracy ground information. Flood maps identify where water will flow during a flood, and what land could be flooded during different sized floods. Flood maps must define the floodway and flood fringe areas

for the 1:200-year design flood. The floodway is the portion of the flood hazard area where flows are deepest, fastest and most destructive. The flood fringe is the portion of the flood hazard area outside of the floodway, where flood water is generally shallower and flows slower than in the floodway.

Flood Hazard Studies shall be prepared by a qualified water resources engineer, and shall confirm:

- a. The Flood Hazard Area associated with the 1:200-year design flood.
- b. Where the floodway and flood-prone/flood fringe areas are.
- c. How often the Flood Hazard Area will be covered by water.
- d. How long the Flood Hazard Area will be covered by water.
- e. At what time of year flooding can be expected.

## Environmental Site Assessment (ESA)

Assessments must be completed by a qualified environmental professional who has a minimum three years of relevant experience to the subject matter and is licensed to practice in the Province of Alberta. Environmental site assessments (ESAs) are conducted to investigate potentially contaminated areas and are used to determine the quality of soil, groundwater, surface water, and sediments (where applicable). ESAs must be conducted in accordance with all applicable Government of Alberta and CSA Standards. The ESA process is typically implemented in phases.

The first phase, a Phase 1 ESA, involves the assessment of current and historical land uses and does not include any intrusive sampling. Site reconnaissance, a records review, interviews and other information gathering techniques are used to assess whether a site is or may be subject to areas of potential environmental concern (APECs) and associated contaminants of potential concern (COPCs).

The second phase, a Phase 2 ESA, includes intrusive sampling to collect quantitative analytical information. Phase 2 ESAs determine the nature



and extent of Contaminants of Potential Concern within previously identified Areas of Potential Environmental Concern and are used to assess risk on potential receptors and evaluate contamination management options (e.g. Risk Management and Remediation). Data collected during a Phase 2 ESA must be compared to appropriate guidelines and exceedance of guidelines acts as a trigger for remedial measures. Remedial measures may include further ESA and risk characterization of COPCs, remediation or risk management options (e.g. exposure control).

Phase 1 ESAs must include a clear conclusion on whether a Phase 2 ESA is required, and shall at minimum include the following:

- a. Scope, including the subject site and activities to be completed.
- b. Records review, including but not limited to, land use information, a historical aerial photograph review, title search, regulatory information.
- c. A site visit.
- d. Interviews with property managers or site owners/users.
- e. An evaluation of information and reporting.
- f. Reporting that shall conclude one of the following:
  - i. No evidence of contamination in connection with the property.
  - ii. Evidence of potential contamination in connection with the property (listed and described).
  - iii. Evidence of actual contamination in connection with the property (listed and described).
  - iv. Evidence of actual and potential contamination in connection with the property (listed and described).
- c. Sampling and analysis of all pertinent media within all areas where the Phase 1 ESA identified APECs, and/or has not been able to rule out COPCs or APECs.
- d. Description of the properties of media (e.g., soil texture classification) that will affect the generic or property-specific guidelines applicable to the property.
- e. Summary of site conditions, and interpretation and evaluation of the data gathered.
- f. Contaminant delineation in both horizontal and vertical directions to enable the proper assessment of all applicable exposure pathways and receptors.
- g. A receptor and exposure evaluation, including a Conceptual Site Model.
- h. Summary of conclusions which, at a minimum, provides interpretations of the data that will justify one of the two conclusions:
  - i. The ESA has provided sufficient information to support that there is no reasonable basis to suspect a substance release has occurred at the site that has caused, is causing, or may cause adverse effect.
  - ii. The ESA has confirmed a substance release has occurred at the site, and further assessment, remedial measures, or exposure control measures are required.

Phase 2 ESAs shall at minimum include the following:

- a. Review of existing Phase 1 ESA, previous Phase 2 ESAs, and other applicable background information.
- b. A Sampling Plan that includes sufficient sampling points to clearly delineate each APEC.

## Geotechnical Evaluation

The assessment must be completed by a professional engineer, professional geologist or professional geophysicist (as defined in the Engineering and Geoscience Professions Act), whose area of competence lies within the geotechnical field, and who is licensed to practice in the Province of Alberta.

The Geotechnical shall include:

- a. A test hole location plan and soil logs for each test hole.
- b. Results of the tests noted above.
- c. A water table contour map.
- d. Identification of any unstable terrain.
- e. Recommendation on suitability of site for the proposed development.

- f. Comments on the soil bearing capacity and recommended setbacks from escarpments for various types of infrastructure or building foundations.
- g. Recommendations with regard to trench excavation, backfill specifications, and road pavement structure requirements.

## Slope Stability Assessment

These assessments must be completed for any proposed development activities within or adjacent to a steep or unstable slope area. The assessment must be completed by a professional engineer, professional geologist or professional geophysicist (as defined in the Engineering and Geoscience Professions Act), whose area of competence lies within the geotechnical field, and who is licensed to practice in the Province of Alberta.

The assessment shall include:

- a. The location of significant slopes over 15%.
- b. The assessment of the factor of safety (FS) for the existing slope or the proposed design slope profile.
- c. The assessment of a safe set-back or buffer zone back from the crest and from the toe of the slope.
- d. If the development is proposed to be constructed on a slope, the geotechnical engineer shall recommend a suitable FS for the on-slope development, based on a specific risk assessment of the proposed development.
- e. If the FS for a slope or proposed setback is less than that recommended by the geotechnical engineer, the slope may be modified using remedial measures recommended by the geotechnical engineer. Any remedial measures to increase the FS must consider the effect on adjacent man-made and natural features and be approved by the geotechnical engineer.
- f. The slope stability analysis report must give clear and concise recommendations on the suitability of slopes for the intended use, and the recommended building setback distances.
- g. The report must also address post development conditions and recommend means and methods of mitigating any potential problems.
- h. The potential for a slope failure caused by septic fields, irrigation, access construction, stormwater erosion and other like considerations must be investigated and discussed.
- i. The report must clearly state whether the site is suitable prior to, during, and post development phases. The report shall contain analytical methodology, test hole logs, pertinent calculations and other relevant available information for County review.

## Noise Impact Study

The Noise Impact Study should include, but is not necessarily limited to:

- a. Details of assessment criteria.
- b. Methods and assessment locations and the appropriate figures and charts showing the detailed results including how the development complies with the Parkland County Community Standards Bylaw, any other published criteria or guidelines, and acceptable noise levels at similar land uses in Parkland County.
- c. Identification and analysis of the impact of noise from the proposed development on adjacent streets, parks, and properties.
- d. Identification and analysis of the impact of all noise generated from the immediately surrounding area, including without limiting the foregoing, the operations of the airports, transportation/rail infrastructure, corridors and yards, waste management facilities, industries and other noise generating uses on the proposed development.
- e. Identification and analysis of the impact of all noise generated within the proposed development itself.
- f. Recommendations for noise mitigation and any adjustments to the site plan and architectural design, as are necessary to comply with relevant regulations and standards including the need for filing certificates of approval (air & noise) to Alberta Environment and Protected Areas.

# Appendix 3

## Conservation Toolbox

The following is a list, and brief description, of several tools that can be used by municipalities to conserve the natural features and functions within their community.

### Direct Securement

<b>Environmental Reserve</b>	Take ER at time of subdivision to support goals of ESAs; seek to maximize such ER.
<b>Environmental Reserve Easements</b>	Take EREs at time of subdivision to support goals of ESAs.
<b>Conservation Reserve</b>	Secure high-value ESAs through non-voluntary, compensated taking.
<b>Conservation Easements</b>	Work with land trusts to place conservation easements on priority ESAs or develop County's own CE program.
<b>Municipal Natural Area Parks</b>	Designate ESAs/ areas of ESAs as municipal natural area parks.
<b>Conservation Land Transfer</b>	Enable mechanisms for private landowners and/or developers to transfer land to the County for conservation.

### Strategic

<b>Nature Policy Framework</b>	Establish a mechanism to gather and coordinate all nature conservation policy..
<b>Conservation Strategy</b>	Develop County-wide direction for all conservation initiatives.
<b>Nature Targets</b>	Set short-and long-term targets for nature protection, restoration, enhancement.
<b>Developer Incentives</b>	Proactively establish a suite of opportunities to incentivise developers to be nature positive.
<b>Community Conservation Advisory Group</b>	Strike a committee of ratepayers charged with advising Council on conservation priorities.
<b>Local Conservation Fund</b>	Create a per-property levy or offsetting payments that secures funding for community-approved conservation projects.



## Planning

<b>Conservation Design/ Cluster Development</b>	Require development to be clustered away from ESAs.
<b>Buffers and Setbacks</b>	Establish in-parcel setbacks and ESA buffers to protect wildlife corridors and waterbodies.
<b>Conservation Overlays</b>	Within Land Use Bylaw, establish overlays to support conservation goals.
<b>Conservation Offsets</b>	Create opportunities for proponents to undertake higher-benefit conservation initiative in exchange for development approval.
<b>Transfer of Development Credits</b>	Create mechanism for bonus development to be secured by purchasing credits from conserved parcels.
<b>Ecosystem Service Areas</b>	Establish planning areas based on the ecosystem services they provide.

## Development

<b>Wetland Replacement</b>	Require destroyed wetlands be replaced with equal or greater wetland function.
<b>Development Guidelines</b>	Draft activity-specific guidance for development to avoid or mitigate impacts.
<b>Restoration Directives</b>	Require restoration as part of subdivision and development approvals.

## Inventories and Assessments

<b>Environmentally Significant Areas</b>	Catalogue all areas in the County with environmental sensitivity or significance.
<b>Wetland Inventory</b>	Catalogue all wetlands in the County, ideally inclusive of drained and ephemeral, and assign a value.
<b>Natural Asset Inventory</b>	Catalogue all natural features in the County in terms of their ecosystem service production value.
<b>ESA and Open Space Typologies</b>	Categorize all open spaces and ESAs to facilitate clarity and prioritization for conservation.
<b>Flood Hazard Assessment</b>	Identify all areas with flood potential and direct development away from them.
<b>Local Values Mapping</b>	Workshop the natural values important to residents and convert to map layers.
<b>Conservation Threat Assessment</b>	Go beyond contamination using an Environmental Impact Assessment and assess all threats to nature.
<b>Natural Asset Impact Assessment</b>	Assess threats to natural asset classes and condition.
<b>ESA Status Reports</b>	Regularly report on the condition, change, and management effectiveness for each ESA.
<b>Ecosystem Services Assessment</b>	Assess the overall ability of the County's natural features to deliver specific ecosystem services.

## Stewardship, Education and Outreach

Education for Lakeshore Residents	Target informational materials to residents on lakeshores regarding threats and best practices.
Guidelines for Developers	Clarify and actively deliver information regarding nature-positive development approaches.
Restoration Factsheets and Guidelines	Information documents to support landowners and developers in voluntary stewardship.
Use and Access Restrictions and Advertising	Guidelines for use, access and restrictions on County land to support conservation goals. Advertise using signage and fencing.
Community Workshops and Webinars	Host interactive sessions to teach basis topics in conservation and hand on skills development.
Inspections and Advisements	Provide inspections of private properties to inform residents of potential environmental risks and areas for improvement.
Online Interactive Maps and Platforms	Develop and advertise online platforms such as mapping tools where landowners can learn more about their properties and management practices.
Stewardship Incentives Programs	Provide financial incentives and technical expertise to landowners who implement best management practices.

