

Topic: Biophysical Assessment Policy Overview

Introduction:

This report provides an overview of the County's biophysical assessment process including the policies and bylaws that create the strategic framework which directs/enables assessments for environmental impact in the planning and development process.

Facts (Background Information):

In Alberta, a municipality's obligation towards protecting the environment is delegated through the MGA which states, "to foster the well-being of the environment," as one of a municipality's six purposes.

Other provincial regulations which specify general environmental obligations include the Land Stewardship Act and Land Use Polices, the Water Act, the Environmental Protection and Enhancement Act, and the Public Lands Act. At the federal level the Canadian Environmental Protection Act, the Fisheries Act, the Species at Risk Act, the Wildlife Act, the Migratory Birds Convention Act, and the Impact Assessment Act all play a role in land use planning and development.

Rationale for environmental policy and processes specific to Parkland County is multifaceted and includes:

- Public engagement indicates that preservation of natural areas is the community's top priority for land use planning
- The services that natural features provide County residents are valued at over \$4 billion. These services are therefore fundamental to community wealth and quality of life.
- Natural features are vulnerable, and significant loss has led to issues such as residential and agricultural impacts from flooding and drought.
- Public criticism and appeals to land use decisions.
- Alignment with Federal and Provincial policy reduces the County's risk and allows for efficiencies that improve the process for landowners and developers.

Statutory Documents

Environmental protection is also grounded in statutory documents such as the Municipal Development Plan (MDP), Area Structure Plans (ASPs), Intermunicipal Development Plans (IDPs) and the Land Use Bylaw (LUB). Further direction on decision making is provided through Council policies.

The MDP also includes high-level environmental policy that:

- Encourages development that is nature-positive
- Protects the function of natural features and maintains connectivity in Environmentally Significant Areas
- Sets standards for reserve and easement dedication during subdivision
- Prioritizes high value wetlands for protection
- Requires protection of ground and surface water resources and natural drainages
- Requires biophysical assessments in Environmentally Significant Areas

Parkland County’s LUB outlines regulations that:

- Require setbacks from top of bank & hazard land (floodways, steep slopes, shallow water table, etc.).
- Protect waterbodies and wetlands
- Protect the function of natural features in Environmentally Significant Areas
- Manage tree clearing on steep slopes and around waterbodies

The LUB also establishes districts and overlays for the purpose of environmental protection such as the Natural Areas District and the Floodplain Protection Overlay. In addition to the MDP and LUB, ASPs and IDPs can contain high-level environmental policy that should be considered in applicable applications.

Biophysical assessments are the tool used to ensure these policies are being considered and adhered to in planning and development decisions.

Environmentally Significant Areas

Parkland County first identified and mapped environmentally significant areas within its boundaries in 2004. In 2014 this mapping was reassessed, and the current Environmental Conservation Master Plan (ECMP) was developed. The ECMP identifies priority areas for conservation based on their inherent significance (what natural features are important to the community based on public engagement) and ecological sensitivity (science-based assessment). These areas are called environmentally significant areas (ESAs) and are critical for the long-term maintenance of ecosystems across the County. They are also used as the primary metric for prioritizing environmental conservation in land use planning and development decisions. In this way, the areas the community values for environmental conservation are the foundational component of the County’s complex environmental strategic framework.

Biophysical Assessments

A biophysical assessment is an assessment of the biophysical (plants and animals) and physical (soil, terrain, hydrology) conditions of a site to evaluate potential environmental impacts that may arise from a proposed development or activity.

<i>Biophysical assessments requirements are outlined in both statutory documents and Council policies including:</i>	
MDP	• Required for development in or adjacent to High Priority Landscapes (HPLs) and/or ESAs • Otherwise by request of the County
LUB	• Comprehensive and Desktop assessment requirements aligned to Biophysical Assessment Policy • Additionally, required when variances to setback are requested

	• May be requested for other development permit or bylaw amendment
Biophysical Assessment Policy	• Comprehensive required for multi-parcel subdivision, ASPs, Conceptual Schemes, Master Site Development Plans, and Natural Resource Development • Desktop may be required for the following activities within 0.8km of an ESA or HPL, or adjacent to a water body or hazard land: - Subdivision, earthworks, tree clearing, water feature creation
ESA Policy	• Required for development in or adjacent to ESAs, as determined by the County

In 2017 Parkland County Council adopted the Biophysical Assessment Policy with the purpose of streamlining the decision-making process on environmental considerations and applying existing policy. It is the tool that allows efficient implementation of the entire complex strategic framework and the information gathered is often helpful to defend County decisions in appeals. It supports informed decision making and ensuring balanced land use by preserving and enhancing ESAs and natural assets that provide valuable ecosystem services for the community. This policy dictates two levels of assessment throughout the development and land use planning process that are required depending on the level of potential impact which is determined based on intensity of the development, level of environmental sensitivity, and presence of hazard land. Comprehensive biophysical assessments require both desktop and field-level work and are required for development or planning applications with an expected significant impact. Desktop biophysical assessments involve a short review of available data and no field work or site visit and are required for developments or subdivisions with an expected medium level of impact. The exception to this rule is in ESAs where all development requires a biophysical assessment as per MDP policy. Biophysical assessment requirements are generally waived if the development avoids natural features and little to no impact is expected.

The following chart provides biophysical assessment statistics from 2025. The metrics indicate that only a small percentage of development applications require assessments. Administration's goal is to work with applicants to avoid assessment requirement by avoiding sensitive features or mitigating impacts. The success rate of these efforts is indicative by only 35% of environmental reviews requiring assessments. Currently, a fee is charged for biophysical assessment reviews which is atypical of all other Planning and Development referral departments.

Conservation Tools (Reserve Dedication, Easements and Setbacks)

	Total Applications	Environment Reviews	Biophysical Assessments		Percent of Total
Subdivision	37	14	9		24%
			Comprehensive 0	Desktop 9	
Development	426	51	18		4%
			Comprehensive 8	Desktop 10	

Because biophysical assessment are the tool or mechanism used to ensure environmental goals are actualized and policies are adhered to, they often result in conditions or advisements for development. In many cases these can include recommended application of conservation tools such as environmental reserve (ER),

environmental reserve (ERE), conservation reserve (CR), conservation easements (CE), development setbacks and

buffers that protect natural features. Some standardized setbacks exist in the LUB but these may be modified based on the results of a site-specific assessment. Basic ERE/ERE dedication requirements are dictated by the MGA, and additional Parkland County-specific requirements are summarized in the MDP and Council's MR, ER and ERE Dedication Policy. In general, the MDP requires reserve or easement for:

- i. a swamp, gully, ravine, coulee or natural drainage course;
- ii. land that is subject to flooding or is, unstable;
- iii. High Value Wetlands, wetlands hydrologically connected to High Value Wetlands, or wetlands that cross property boundaries; or
- iv. a strip of land, not less than 6 metres in width, abutting the bed and shore of any body of water.

However, in Council's MR, ER, & ERE Dedication Policy exception is given for the following unless the land is in an ESA or the Subdivision Authority deems dedication reasonable or necessary:

- a. One lot is to be created from a quarter section of land;
- b. Land is to be subdivided into 16.0 hectares or more and is to be used only for agricultural purposes;
- c. The land to be subdivided is 0.8 hectares or less

Removing the requirement for a biophysical assessment does not remove the requirement for reserve dedication which is dictated by policy and informed by an assessment.

Standardization vs Flexibility and Technical Assessments

Generally, there is a trade-off between policy flexibility and the level of site-specific information required for applications.

This means that more standardization of setback and dedication requirements and less site-by-site discretion would limit the necessity for assessments. Generally speaking, a landowner has two options: meet the standardized setbacks set out in the Land Use Bylaw or utilize a biophysical assessment and/or the RSMM to provide a site-specific setback or boundaries for reserve dedication. Additionally, landscape-level data available for decision making can limit site-specific requirements, especially in low-medium risk scenarios. Since the development of the ECMP, administration has continued to refine policies and the County's technical knowledgebase to allow for flexibility of decisions on a case-by-case basis, while also reducing environmental impact. Resources we have developed include a wetland inventory, valuation and historical loss assessment, a natural asset inventory and valuation, lake/watershed management plans, riparian intactness and pressure assessments, a riparian setback matrix model (RSMM), water availability and scenario modelling, municipal infrastructure protection models, flood risk assessments, flood hazard maps, groundwater recharge/discharge area maps, and habitat connectivity maps. This breadth of information allows the County to make science-based decisions, prioritize areas and natural features, and work closely with proponents to flexibly meet their land development goals.

Regional Scan

	ESA Prioritization	Assessment Requirements	Reserve Dedication	Development Setbacks
Strathcona County	Yes	Similar for major development	Required	Yes

Sturgeon County	Yes	Similar for major development	Required for multi-parcel subdivision	No
Leduc County	Yes	Similar	Required	Yes

Analysis:

In summary, decisions to require a biophysical assessment are generally made according to the following factors:

1. Is the development in or adjacent to a HPL or ESA?
2. Can the development avoid the natural feature?
3. Is there an expected environmental impact and/or risk to the proposed development from hazard land?
4. For subdivisions, is there a potential requirement for Environmental Reserve or Environmental Reserve Easement, Conservation Reserve or Conservation Easement dedication?
5. For development, are site-specific setbacks or variances to setbacks required?

Administration has assessed options for adjusting the land use planning and development process to increase applicant satisfaction. Overall, policy wording determines policy strength and flexibility. Wording such as “should” and “may” has been used to allow for flexibility, whereas “must” indicates strong policy that requires adherence. Generally, discretion is given based on level of community commitment or value, level of potential risk, and Council’s risk tolerance. Risk assessment is based on the intensity of the development, sensitivity of the natural feature, and presence of hazards that pose a threat to infrastructure or safety. Assessments are conducted for the purpose of assessing suitability of development for the proposed site to limit both: the risk to people and infrastructure, and the impact on the environment. Previous Council direction indicated high environmental value and low risk tolerance; however adjustments can be made to the process to reduce the burden on development proponents if current direction sets lower environmental values and/or higher risk tolerance. Options for adjustments include:

- Adjust MDP policy to allow for reduced environmental reviews for small, low risk, and less impactful developments in ESAs
- Adjust Council Policy for reserve and easement dedication to remove ER/ERE requirements for agricultural remnant parcels
- Improvements to internal processes to reduce timelines and increase customer satisfaction
- Shift from requesting desktop biophysical assessments to completing internal assessments (reduces costs for landowners)
- Elimination of the review fees for biophysical assessments
- Development of communications & guides to build understanding and reduce misinformation

- Integration of additional desktop data to reduce field-level assessments (reduce costs for developers)

Current policy and processes are designed to provide flexibility and development support while also reducing environmental impact to meet public expectations, however adjusting policy strength to allow for more flexibility and lower requirements for agricultural parcels may better reflect the current Council's risk tolerance.

It should also be noted that changes to the strategic framework and reduced regulation scenarios could also create risk and negative impacts in a number of areas such as increased cumulative impacts, infrastructure damage (private and public), and increased maintenance costs.

In addition to policy adjustments, the following work is already planned or in progress to streamline decision making and support the current policy framework:

- Development scorecards, guides and communication/education materials
- Connectivity and conservation mapping to support ASPs
- Development & implementation of internal process improvements

Recommendations for reducing biophysical assessment requirements:

1. Incorporate review of the MDP policy directing biophysical assessment requirements in ESAs into the Planning & Development Red Tape Reduction Initiative to allow for flexibility in requirements, while still prioritizing ESAs. This will allow for exemptions for minor developments and agricultural subdivisions.
2. Incorporate a review of the MR, ER, and ERE Dedication Policy (C-PD15) into the Planning and Development Red Tape Reduction Initiative to remove barriers for minor developments and rural subdivisions involving 4 lots or less.
3. Incorporate biophysical referral process upgrades into the Planning & Development Redesign Project. This may include internal completion of assessments for minor development, increased meeting availability to further support proponents, and reduced circulation to improve review times.
4. Remove review fees for biophysical assessments from the Fees and Charges Bylaw and ensure Planning & Development fees capture efforts of referral departments to the degree desired.
5. Continue development of education and communication materials.

Alternatives:

1. Update the ESA Policy & MDP to remove all prioritization of ESAs and/or high value wetlands.
2. Update the Biophysical Assessment Policy to remove all requirements for desktop biophysical assessments.
3. Remove standardized setbacks in the LUB.

Conclusion/Summary:

Overall, the County's environmental strategic framework, programs and assessment procedures have been designed to support rather than control landowner decision making. Supports for stewardship, incentive, and education programs are favored over regulation. Voluntary programs such as ALUS and Green Acreages are promoted along with skills development and education campaigns to achieve environmental goals. Administration works closely with proponents through the land use planning and development process to discuss options that meet the landowner's goals while reducing environmental impact and therefore assessment requirements. The processes are also designed to help landowners navigate requirements from other jurisdictions to reduce confusion and ensure outcomes are aligned, which is a higher level of service than they would receive in most other municipalities. The County's environmental policy sets standards to achieve the desired conservation goals of the community while allowing for flexibility and landowner autonomy. This is possible when the County has adequate technical information, clear policy standards, and administrative capacity to deliver a high level of service to residents and developers.

Administration supports a review of policy and removal of review fees for biophysical assessments as recommended.

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