



## **Alberta Wetland Mitigation Directive**

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June 2018



<b>Title:</b>	<b>Alberta Wetland Mitigation Directive</b>
<b>Number:</b>	<b>AEP, Water Conservation, 2015, No. 7</b>
<b>Program Name:</b>	<b>Water Policy Branch</b>
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## Purpose

The Alberta Wetland Policy provides a “strategic framework for conserving, restoring and protecting Alberta’s wetlands (Alberta Wetland Policy, 2013)”. The purpose of this Directive is to inform decision making to avoid and minimize negative impacts to wetlands and, where necessary, replace lost wetland area and value. Applicants must adhere to the Wetland Mitigation Hierarchy through all stages of a proposed activity, from initial planning considerations through operations and reclamation.

## Enforcement/Compliance

Adherence to requirements put forth in this Directive is mandatory. Applicants seeking to obtain an authorization to impact a wetland must mitigate wetland impacts and demonstrate that the requirements of this Directive have been met.

## Reference Documents:

- Alberta Wetland Policy
- Alberta Wetland Regulatory Requirements Guide
- Alberta Wetland Assessment and Impact Report Directive
- Alberta Wetland Identification and Delineation Directive
- Alberta Wetland Restoration Directive
- Alberta Wetland Construction Directive
- Alberta Wetland Construction Guide

## Citation

Government of Alberta. 2017. Alberta Wetland Mitigation Directive. Water Policy Branch, Alberta Environment and Parks. Edmonton, Alberta.

## 1. Policy Scope

The Alberta Wetland Policy informs the management of wetlands throughout the Province, excluding those on Federal lands. The Policy became effective province-wide on July 4, 2016.

Water Act Applications made under Wetland Management in the Settled Areas of Alberta – an Interim Policy (1993) and the Provincial Wetland Restoration/Compensation Guide (2007) will no longer be accepted as of June 1, 2018.

Energy resource activities regulated by AER as well as surface material activities regulated by AEP that will impact wetlands are subject to the Alberta Wetland Policy unless those impacts to wetland occur inside of:

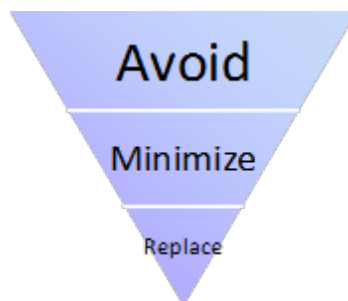
- An approved project boundary in place prior to July 4, 2016, including a Water Act approval boundary, Public Lands Act disposition boundary, or Environmental Protection and Enhancement Act (EPEA) approval boundary; or
- The local study area of an environmental impact assessment (EIA) or pre-disturbance assessment where
  - the field-based assessment was completed prior to July 4, 2016 in accordance with environmental regulatory requirements at that time; and
  - which is deemed complete by the regulatory body

Any questions about Wetland Policy applicability should be sent to [aep.wetlands@gov.ab.ca](mailto:aep.wetlands@gov.ab.ca).

## 2. Wetland Mitigation Hierarchy

The Wetland Mitigation Hierarchy (Figure 1) informs the management approach to wetland impacts in Alberta:

1. Avoidance – The primary and preferred response is to avoid wetland impacts
2. Minimization – Where avoidance is not possible, Applicants are expected to minimize wetland impacts
3. Replacement – As a last resort, and where avoidance and minimization efforts are not feasible or prove ineffective, wetland replacement is required



**Figure 1. Wetland Mitigation Hierarchy**

### 3. Avoidance

Avoidance is the highest priority for wetland mitigation; Applicants must demonstrate they have made a concerted effort to avoid wetland impacts in their application. Avoidance may be required by the regulatory body in consideration of, but not limited to, any of the following:

- Land management under the *Public Lands Act (PLA)*, *Forests Act* and *Transportation Act*, including where the Crown asserts ownership of the bed and shore of permanent and naturally occurring water bodies under the *PLA*
- Lands designated under the *Provincial Parks Act*, *Wilderness Areas, Ecological Reserves, Natural Areas and Heritage Rangelands Act* and the *Willmore Wilderness Park Act*
- Wetland-dependent species that are listed as Endangered or Threatened species under the *Wildlife Act*, *Wildlife Regulation (Schedule 6)*, or the *Species at Risk Act (Canada)*
- Wetland management objectives within the *Alberta Land Stewardship Act* Regional Plans, or nested Sub-Regional Plans
- Wetland management objectives within any other statutory plan or legislation
- Municipal plans and bylaws under the *Municipal Government Act*
- Effects on the aquatic environment under the *Water Act*, Section 38

The onus is on the Applicant to demonstrate a) avoidance of wetlands, and b) preservation of relative wetland value. Evidence of avoidance must include:

- Options considered for relocating the activity
- Alternative activities considered in the proposed area
- Modifications considered to the proposed activity
- Comparative analysis of alternative options to the proposed activity
- When there is need to balance wetland avoidance with achievement of the smallest footprint on the landscape, the rationale for this balance must be documented

Wetlands in the A-value category are the least common and highest value in the province; they therefore require the greatest effort of avoidance. Applicants must provide a comparative analysis of each alternative option to the proposed activity, including at least one option that will avoid the A-value wetland(s) entirely. The comparative analysis must provide rationale regarding the chosen approach for each of the options considered.

### 4. Minimization

Minimization is the second priority in the Wetland Mitigation Hierarchy when an Applicant has demonstrated that avoidance is not possible. Minimization refers to “reducing negative impacts on wetlands to the smallest practicable degree during the planning, design, construction, and operational stages of development, and when conducting activities that may harm wetland” (Alberta Wetland Policy, 2013). An Applicant must consider minimization of both direct and indirect impacts on the physical area of the wetland, the relative value of the wetland, or a combination of both.

Applicants may be required to minimize impacts on wetlands in consideration of any of the following:

- Land management under the *Public Lands Act*, *Forests Act* and *Transportation Act*, including impacts to wetlands that the Crown asserts ownership of under the *Public Lands Act*
- Lands designated under the *Provincial Parks Act*, *Wilderness Areas*, *Ecological Reserves*, *Natural Areas and Heritage Rangelands Act* and the *Willmore Wilderness Park Act*
- Wetland-dependent species that are listed as Endangered or Threatened species under the *Wildlife Act*, *Wildlife Regulation* (Schedule 6), or the *Species at Risk Act* (Canada) and Alberta Species of Special Concern
- Wetland management objectives within the *Alberta Land Stewardship Act* Regional Plans, or nested Sub-Regional Plans
- Wetland management objectives within any other statutory plan or legislation
- Effects on the aquatic environment under the *Water Act*, Section 38

The onus is on the Applicant to demonstrate a) that minimization of impacts on wetlands (where different from avoidance), including indirect impacts, has been achieved and b) preservation of relative wetland value. Evidence of minimization must include:

- Alternative activities considered in the proposed area
- Modifications considered to the proposed activity
- Comparative analysis of alternative options to the proposed activity
- Explicit commitment to reclaim the area back to wetland, post-operations

Wetlands in the A-value category are the least common and highest value in the province; therefore, they require the greatest effort of minimization. Applicants must provide a comparative analysis of each alternative option to the proposed activity, identifying how, to the greatest extent possible, the activity minimizes permanent loss of and temporary impact to A-value wetland(s). Applicants must provide rationale regarding their choice for each of the options considered.

### **Minimization Proposal**

Applicants must submit a Wetland Minimization Proposal, or other document deemed appropriate and acceptable to the regulatory body (e.g. forestry plans), as part of their application. The minimization proposal must include:

- Documentation of all options considered to minimize impacts on wetlands, including modifications to the activity, design, or location
- Commitment to apply best science, technology and ecological principles
- Minimization techniques proposed to maintain natural conditions and functions of existing wetlands
- Commitment to follow any available minimization guidance on Best Management Practices or Standard Operating Procedures for that activity
- Timing of construction and maintenance activities to prevent or minimize impacts to wetland-dependent species or the aquatic environment

## Reclamation Proposal

Impacts on wetlands can meet Policy requirements if the disturbed land is returned back to a wetland using appropriate reclamation techniques. Applicants proposing to mitigate wetland impacts through wetland reclamation will do so by providing a wetland reclamation proposal in the Wetland Assessment and Impact Report and by referencing their reclamation plan that commits to return a specific area of land back to wetland under the *Public Lands Act (PLA)* or *Environmental Protection and Enhancement Act (EPEA)*.

For activity types that do not require a reclamation plan under *EPEA*, a reclamation proposal must be included in the Wetland Assessment and Impact Report. Either the *PLA* or the *Water Act* (on private lands) will be used as the legislative authority to administer the reclamation plan to return the area back to wetland according to the Applicant's reclamation proposal.

The post-reclamation wetland area within the wetland reclamation plan that is approved under the relevant Act will meet the Policy's requirements for wetland mitigation, provided that the Applicant meets the following requirements:

- 1) Makes an explicit commitment to the total area of wetland reclamation
- 2) Compares pre-disturbance to post-reclamation characteristics, including wetland area, class, vegetation, soils, hydrology and habitat
- 3) Has specific, measurable, attainable, realistic and time-bound wetland reclamation objectives and outcomes
- 4) Discusses the projected impacts to the wetlands, technical feasibility of the reclamation plan to return the land to wetland, and the intent to apply appropriate and best available mitigation measures and reclamation techniques

The wetland area that will be wetland after reclamation and that is approved in the reclamation plan will meet the Policy's mitigation hierarchy requirements. Any deficit between the pre-disturbance and the post-reclamation wetland area is subject to wetland replacement requirements (See Replacement Section).

Lands and activities administered under the *PLA* or *EPEA* still maintain a requirement for reclamation under the activity's associated legislation, regardless of whether the Applicant commits to wetland reclamation.<sup>1</sup>

Updated information on impacted wetland areas and expected future reclaimed wetland area, which will be periodically requested by the regulatory body, may trigger additional wetland replacement, as will requests for changes in land use.

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<sup>1</sup> Reclaiming to an alternate vegetation community (e.g. wetland to: cultivated lands, forested lands, native grassland) or alternate end land use (e.g. industrial, municipal or recreational uses) must be approved by the municipality and landowner on private land and the land manager on public lands. On public lands, this is referred to as a change in land use request. Additionally, change in land use requests are not automatic and will only be considered when appropriate.

The application may be considered incomplete by the regulatory body if:

1. The plan to reclaim the area back to wetland does not meet reclamation requirements under the relevant Act
2. The reclamation plan, upon review by the regulatory body, does not seem technically feasible, or is not expected to return the land to a wetland within a reasonable timeframe
3. The plan does not meet one of the Policy's relevant Directives or other department reclamation criteria, such as Reclamation Criteria for Wellsites and Associated Facilities for Peatlands

## 5. Replacement

Wetland replacement is required when wetland impacts that cannot be avoided or minimized will result in permanent loss of wetland area. Permanent loss is defined as “the permanent elimination of wetland value resulting from a reduction/removal of wetland area” (Alberta Wetland Policy, 2013).

Applicants can fulfill their replacement obligations through any combination of the following options:

1. Purchase available credits from a third party **wetland bank**<sup>2</sup>. A wetland bank is a wetland, or collection of wetlands, that have been restored, enhanced or constructed for the explicit purpose of providing wetland replacement in advance of authorized loss of wetland area
2. Make a payment to the ***in-lieu* fee program**, instead of undertaking their own replacement action or obtaining credits from a wetland bank. A third party will expend these fees on replacement actions to restore, enhance or construct a wetland. At this time, *in-lieu* fees are paid directly to the designated Wetland Replacement Agent<sup>3</sup> (Schedule 1)
3. Undertake **permittee-responsible replacement**, where the Applicant restores, enhances or constructs a wetland, either in advance of- or soon after- permanent wetland losses have been incurred

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<sup>2</sup> The wetland banking program is under development. An overview of this program, entitled Wetland Offset Program Description, is available on the web.

<sup>3</sup> This interim process will continue until such time that the Government sets up a dedicated revenue fund to collect *in-lieu* fees for wetland replacement.

The replacement matrix (Figure 2) depicts wetland replacement ratios on the basis of relative wetland value that is lost versus what is replaced. The column highlighted in blue represents in lieu fee replacement ratios. Note that A-value replacement wetlands (far right column) are not accepted at this time.

		The Wetland Replacement Matrix			
		Value of Replacement Wetland			
		D	C	B	A
Value of Lost Wetland	A	8:1	4:1	2:1	1:1
	B	4:1	2:1	1:1	0.5:1
	C	2:1	1:1	0.5:1	0.25:1
	D	1:1	0.5:1	0.25:1	0.125:1

\*Ratios are expressed as area of wetland

**Figure 2. Wetland Replacement Matrix**

To the extent possible, wetland replacement must occur in the following geographic order of priority:

1. Within the same municipal boundary as the site of permanent wetland loss

If there are no restoration options available within the same municipality, replacement priority should be given:

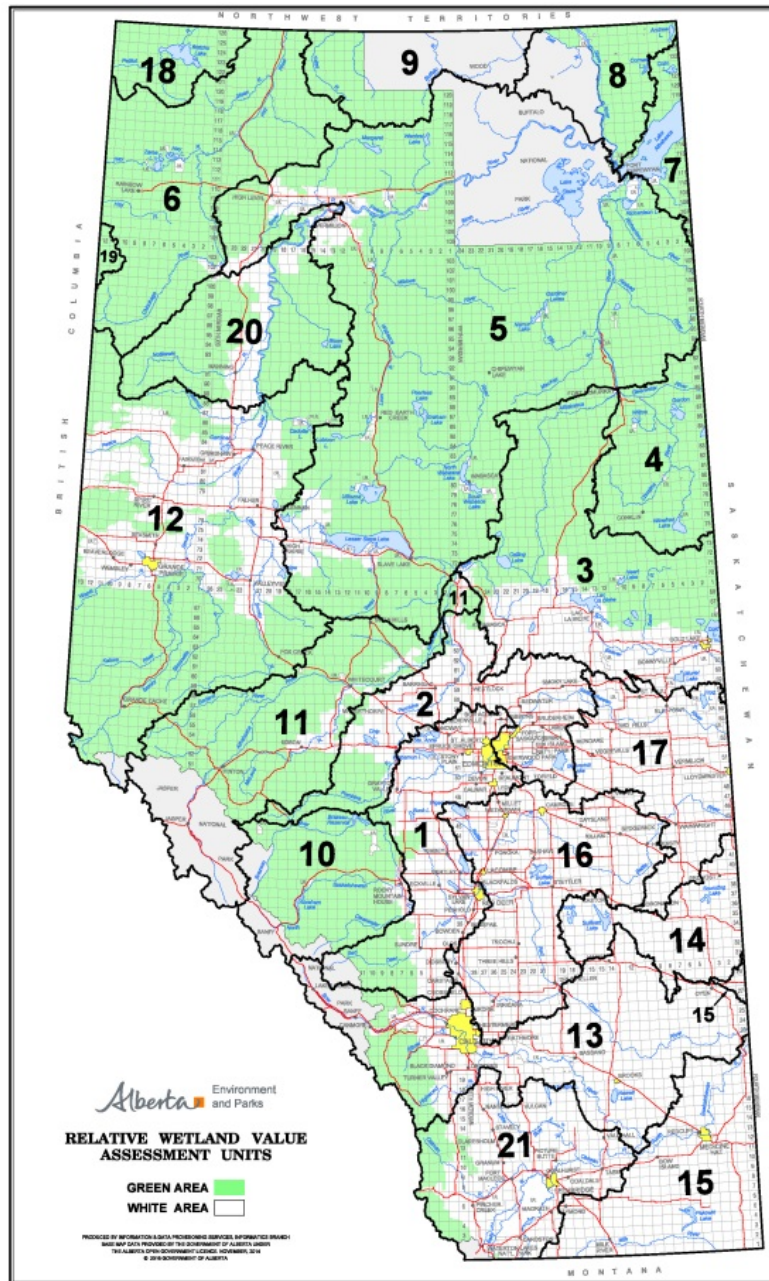
2. Within the same watershed<sup>4</sup>, upstream of the municipal boundary where the municipality will continue to derive benefits from wetland replacement
3. Within the same Relative Wetland Value Assessment Unit (RWVAU, Figure 3)
4. Within the same natural region<sup>5</sup>
5. In areas of high historical wetland loss<sup>6</sup> within the Province

<sup>4</sup> Watershed boundaries (Hydrologic Unit Code 4) are available through GeoDiscover dataset "Hydrologic Unit Code Watersheds of Alberta" or "Watersheds of Alberta (GOA)"

<sup>5</sup> Natural regions are available through GeoDiscover Alberta "2005 Natural Regions and Subregions of Alberta"

<sup>6</sup> Areas of high historical wetland loss include Relative Wetland Value Assessment Units (RWVAUs) 13, 14, 15, 20 (White Area), and 21.





**Figure 3. Relative Wetland Value Assessment Units (RWVAU)**

### Replacement Proposal

Where permanent wetland loss is unavoidable, Applicants must submit a Replacement Proposal for loss of wetland area, as part of their application. The Proposal must include:

- Area of the wetland(s), in hectares, that will be permanently lost
- Relative value of the wetland(s) that will be permanently lost

- Replacement area owed for each wetland impacted (refer to blue column in Figure 2)
  - Where there is deficit between the pre-disturbance land and the post-reclamation plan wetland area, the replacement requirement is calculated as:
    - $(\text{Pre-disturbance wetland area} - \text{post-reclamation wetland area}) \times \text{average in lieu replacement ratio of all pre-disturbance wetlands}$
- Replacement rate of each wetland (see Schedule 2)
- Proposed replacement mechanism(s) chosen (including rationale) to fulfill replacement obligations
- Replacement design plan, if conducting permittee-responsible replacement, following the Wetland Restoration or Construction Directive

### **Non-restorative Replacement**

Non-restorative wetland replacement options support the advancement of wetland science and management, wetland replacement research, wetland education and outreach, wetland stewardship, and wetland securement for the purposes of long-term conservation. Alberta Environment and Parks (AEP) will allocate a portion of *in-lieu* fee payments to fund these options. Applicants cannot contribute directly to non-restorative replacement actions. AEP will administer all non-restorative replacement priorities and actions.

## Schedule 1: Designated Wetland Replacement Agents

Table 1. Designated Wetland Replacement Agents and Service Areas

Wetland Replacement Agent	Service Area
County of Vermilion River	Municipal boundary of the County of Vermilion River (CVR)
Ducks Unlimited Canada	Entire Province

## Schedule 2: Wetland Replacement *In-Lieu* Fee Rates

*In-lieu* rates in Table 2 are based on the following:

- Average land values within each RWVAU, per hectare (except for Public Lands in the Green Area)
- The cost per hectare for materials and labor to restore a previously existing wetland that has been drained
- The cost of monitoring a restored wetland
- An administrative fee

**Table 2. *In-lieu* Fee Rates per Hectare**

	Relative Wetland Value Assessment Unit	<i>In lieu</i> Rate (\$/ha)
Public Lands <sup>7</sup> (in the Green Area)	Units 1-12 and 18-21	10,300
Public Lands (in the White Area)  All other lands <sup>8</sup> (province-wide)	1	19,100
	2	19,400
	3	19,100
	4	19,100
	5	18,400
	6	18,200
	7	18,400
	8	18,400
	9	18,400
	10	19,100
	11	19,400
	12	18,500
	13	17,700
	14	18,200
	15	17,300
	16	18,500
	17	18,600
	18	18,200
	19	18,200
	20	18,200
	21	17,700

<sup>7</sup> Public Lands are provincially owned lands administered and regulated by Government Departments or the Alberta Energy Regulator.

<sup>8</sup> Other land excludes provincially owned lands administered and regulated by Government Departments and the Alberta Energy Regulator, andland owned and administered by the Federal Government and First Nations. For clarity other lands specifically include land administered by Municipalities.

## Contact Information

Any comments, questions, or suggestions regarding the content of this document may be directed to:

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Edmonton, Alberta T5K 2J6  
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Additional copies of this document may be obtained by contacting:

Alberta Environment and Parks  
Information Centre  
Main Floor, Great West Life Building  
9920 – 108 Street  
Edmonton, Alberta T5K 2M4  
Call Toll Free Alberta: 310-ESRD (3773)  
Toll Free: 1 877 944-0313  
Fax: 780 427-4407  
Email: [AEP.Info-Centre@gov.ab.ca](mailto:AEP.Info-Centre@gov.ab.ca)  
Website: [AEP.alberta.ca](http://AEP.alberta.ca)

## Authorities

Original signed by: \_\_\_\_\_

Andy Ridge, Executive Director  
Water Policy Branch  
Alberta Environment and Parks

Date: Jun 1, 2015