☒Minister
☐Deputy Minister

BRIEFING NOTE

☒For Decision
☐For Information

AR

SUBJECT: Draft Alberta Wetland Policy

DATE: August 19, 2009

ISSUE:
Development of a Draft Alberta Wetland Policy. Criteria has been developed to assess wetland value and applied to the Lower Athabasca Region in consideration of potential policy implications.

BACKGROUND:
The Draft Alberta Wetland Policy will minimize the loss and degradation of wetlands, while allowing for continued growth and economic development in the Province. The goal of the Policy is to conserve, restore, protect, and manage Alberta's wetlands to sustain the benefits they provide to the environment, society and the economy.

To achieve this goal, the Policy will focus on the following outcomes:

1. Wetlands of exceptional value are protected for the long-term benefit of all Albertans.
2. Wetlands and their benefits are conserved and restored in areas where losses have been high.
3. Wetlands are managed by avoiding, minimizing and mitigating impacts.

Not all wetlands are of equal value. Alberta's wetlands are highly diverse in form, function, use, and distribution across the province. Under the Policy, wetland value will be assessed based on relative abundance on the landscape, supported biodiversity, ability to improve water quality, importance to flood reduction, and human uses, such as recreation and education. Individual wetlands will be assessed against these key criteria and assigned an overall wetland value of *very high, high, medium or low.*

Wetlands of outstanding value from an ecological and human perspective will become part of an Exceptional Wetlands Program. Only wetlands of the utmost value and greatest societal worth will be included in the Exceptional Wetlands Program.

The Draft Policy follows a risk and place-based approach that recognizes the differing relative value of wetlands and the importance of considering that value in the context of development.

The emphasis of the Policy and its application will be on avoiding and minimizing potential impacts to wetlands. However, where permanent loss of wetland value does occur after all possible avoidance and minimization measures have been exercised, compensation will be required. Higher value wetlands will require greater compensation than those of a lower value.

Compensation may include a combination of wetland replacement activities and non-replacement activities; where Replacement Measures may include wetland restoration, creation, or enhancement and Non-replacement Measures may include research, securement of wetlands, or education programs.

A phased approach will be required in implementing the policy to ensure the appropriate tools and information systems are developed to assist regulators and proponents in their assessment of wetlands. Focused stakeholder engagement will be conducted prior to Ministerial and Cabinet Approval with subsequent phases including:

Phase I (18 Months): Policy Implementation

- Establishment of a dedicated Wetland Policy Team; expansion of the regulatory framework (mitigation guidelines); completion of wetland value assessment, establishment of an Exceptional Wetlands Program; establishment of wetland inventory.

Phase II (2-3 years): Implementation of Complete Policy

- Continued Development of Supporting Elements of the Management System

RECOMMENDATIONS:

Approval of the Alberta Wetland Policy and overall policy direction presented for the provincial management of wetlands.

For Minister/Deputy Minister's Use:

☐ Agree with recommendations

☐ Disagree with recommendations

MINISTER AND/OR DEPUTY MINISTER'S COMMENTS/DECISION:

CONTACT: Bob Barraclough – Director, Water Policy Branch

TELEPHONE: (780) 427-0029

☐ Requires legislative/regulatory change

Introduction - The Need for a New Wetland Policy

Alberta has enjoyed economic prosperity, but this prosperity has brought challenges and responsibilities in terms of balancing the environmental, social, and economic needs of Albertans. The cumulative effects of rapid population and economic growth are placing considerable pressure on Alberta's landscapes.

Wetlands are an integral component of Alberta's diverse landscapes. They play an important role in sustaining healthy watersheds by protecting water quality, providing water storage and infiltration, providing habitat for wildlife, fish and plants, and sustaining biodiversity.

Wetlands cover 18% of Alberta's land base. The majority are located in the Boreal Forest and are predominantly peatlands (bogs and fens).The remainder are found in the Parkland, Prairie Mountain, Foothills and Canadian Shield regions of Alberta, and include bogs, fens, swamps, marshes and shallow open water wetlands.

Since the late 1800's, wetland loss and degradation have been occurring and can be largely attributed to land conversion for agriculture, resource development, infrastructure, and urban and rural expansion. It is estimated that Alberta has lost two thirds of its wetlands in the White Area (settled area) of the province and wetlands are still being lost today. Wetland losses and impacts in the Green Area are occurring but not fully understood.

The Alberta Wetland Policy provides the strategic direction and tools required to make informed management decisions in the long-term interest of the Alberta public. The Policy will minimize the loss and degradation of wetlands, while allowing for Alberta's continued growth and economic development.

Policy Context

The purpose of the Alberta Wetland Policy is to provide a strategic framework for conserving, restoring, and protecting Alberta's wetlands. Wetlands are integral to watershed health in Alberta and to the achievement of all three goals of *Water for Life: Alberta's Strategy for Sustainability*:

- Safe, secure drinking water
- Healthy aquatic ecosystems
- Reliable, quality water supplies for a sustainable economy

The Policy also supports the goals of Alberta's Land-use Framework, which sets out an approach to managing public and private lands and natural resources to achieve Alberta's long-term economic, environmental, and social goals.

There is a need for a broad suite of approaches and tools to manage wetlands effectively across the province. To effectively conserve and manage wetlands, the Alberta Wetland Policy will provide clear and consistent provincial direction to land and resource managers, developers, land owners, land users, and stewards.

Alberta Wetland Policy Overview

The Alberta Wetland Policy provides the strategic direction and tools required to make informed management decisions in the long-term interest of Albertans. The Policy will minimize the loss and degradation of wetlands, while allowing for continued growth and economic development in the Province.

The goal of the Wetland Policy is to *conserve, restore, protect, and manage* Alberta's wetlands to sustain the benefits they provide to the environment, society and economy. To achieve this goal, the Policy will focus on the following outcomes:

1. Wetlands of exceptional value are protected for the long-term benefit of all Albertans.

2. Wetlands and their benefits are conserved and restored in areas where losses have been high.

3. Wetlands are managed by avoiding, minimizing and mitigating impacts.

Not all wetlands are of equal value. Alberta's wetlands are highly diverse in form, function, use, and distribution across the province. Under the Alberta Wetland Policy, wetland value will be assessed based on relative abundance on the landscape, supported biodiversity, ability to improve water quality, importance to flood reduction, and human uses. Individual wetlands will be assessed against these key criteria and assigned an overall **wetland value.** Wetlands of outstanding value from an ecological and human perspective will become part of an Exceptional Wetlands Program. Relative wetland value will be used to inform wetland management.

Where development activities have the potential to impact wetlands, the wetland policy will promote avoidance and minimization. Where impacts cannot be avoided or minimized, and permanent wetland loss is incurred, compensation will be required. The level of compensation required will reflect the differences in relative wetland value.

This Policy is provincial in scope, and replaces the 1993 *Wetland Management in the Settled Areas of Alberta: An Interim Policy*. The primary legislative basis for implementing this Policy is the *Water Act*. There is also a number of federal, provincial, and municipal statutes and policies that regulate or guide aspects of wetland management. This Policy does not exempt a proponent from other regulatory requirements.

Policy Scope

This Policy covers:

1. Natural wetlands in Alberta, including bogs, fens, swamps, marshes and shallow open water.
2. All restored natural wetlands, as well as wetlands constructed for the purposes of wetland compensation.

Ephemeral wetlands are not subject to compensation; however, activities that impact these wetlands remain subject to the *Water Act*.

The Alberta Wetland Policy is a go-forward policy and will be effective from the date of approval. The Policy does not apply retroactively to *Water Act* approvals issued prior to the policy approval date.

Policy Goal

The goal of this Policy is to conserve, restore, protect, and manage Alberta's wetlands to sustain the benefits they provide to the environment, society and the economy.

To achieve this goal, the Policy will focus on the following outcomes:

1. Wetlands of exceptional value are protected for the long-term benefit of all Albertans.

2. Wetlands and their benefits are conserved and restored in areas where losses have been high.

3. Wetlands are managed by avoiding, minimizing and mitigating impacts.

The Alberta Wetland Policy also focuses on three strategic directions:

Integrate wetland management into planning

While the Policy sets overall provincial goals for wetland conservation and management, it allows flexibility for establishing more stringent goals through regional, watershed and municipal planning that reflect place-based environmental, social and economic values

Build effective tools, knowledge and capacity

To support the achievement of the Alberta Wetland Policy goal, the Government of Alberta will work with partners to undertake research, fill information gaps, and develop the tools and capacity required to ensure a sustainable wetland resource is available to Albertans, now and in the future.

Encourage conservation of wetlands and voluntary stewardship

All Albertans are encouraged to conserve and protect wetlands through active stewardship.

Wetland Value in Alberta

Alberta wetlands are highly diverse in form, function, use, and distribution across the province and are not all of equal value. Relative wetland value will be used to inform wetland management. Under the Alberta Wetland Policy, wetland value will be assessed based on relative abundance on the landscape, supported biodiversity, ability to improve water quality, importance to flood reduction, and human uses. Individual wetlands will be assessed against these key criteria and assigned an overall wetland value.

Information on wetland value will be used to inform regulatory responses in cases where development activities impact wetlands. This information will also be used to identify wetlands of exceptional value from an ecological or human perspective. These wetlands will become part of a wetland conservation network with the overall goal of conserving wetland habitat and biodiversity for the long-term benefit of Albertans.

Wetland Management in Alberta

Under the Alberta Wetland Policy, mitigation refers to management activities undertaken to avoid, minimize, and/or compensate for negative impacts on wetlands. Where development activities have the potential to impact wetlands, the Alberta Wetland Policy promotes the following courses of action, collectively referred to as mitigation:

1. Avoidance – The primary and preferred response is avoiding impacts to wetlands.
2. Minimization – *Where avoidance is not possible*, proponents are expected to minimize impacts to wetlands
3. Compensation – As a last resort, and *where avoidance and minimization efforts are not feasible or prove ineffective*, compensation is required

Where achievable, wetlands will be replaced type-for-type; where this is not possible; compensation will seek to replace wetland value. Additionally, it is preferred that compensation occur in the area where the original wetland value was lost.

Performance Measurement, Monitoring, and Reporting

This Policy, its administration, and its effectiveness will be evaluated and reported on periodically to ensure the goal and outcomes are being met. Performance measures will be developed and used to evaluate progress in achieving the policy goal and outcomes. The Alberta Wetland Policy and its implementation should be reviewed regularly to reflect the status of the province's wetlands, and to ensure that advances in wetland science are incorporated.

Definitions

Avoid
To prevent impacts to a wetland by identifying an alternate project, activity, design, or site, or abandoning the project or activity altogether or by denial of an application by the regulator.

Compensation
Compensation is restitution for wetland value that has been permanently lost due to human activity on the landscape. Compensation activities under this Policy include both wetland replacement and non-replacement measures. Replacement measures may include wetland restoration, creation, or enhancement. Non-replacement measures may include those activities that indirectly advance the goal of conserving of wetlands and their value, including research, securement, or education programs.

Conservation
The management of wetlands to ensure they are sustained for future generations.

Degradation
Negatively impacting the services and values of a wetland through human activities, resulting in long term damage to one or more wetland values.

Ephemeral Wetland
A shallow water wetland that temporarily contains water after spring snowmelt or a heavy rainfall and typically dries up within a matter of days to weeks. Ephemerals can be important in the life cycle of amphibians and other small aquatic organisms.

Exceptional Wetland
Wetlands of outstanding importance in terms of ecological processes and human values. These wetlands will be included in a provincial wetland conservation network and managed with the primary goal of conserving wetland habitat and biodiversity for the long-term benefit of Albertans.

Loss
The elimination of a wetland area such that wetland value is lost as a result of human activity.

Minimize
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 wetlands.

Mitigation
Management activities taken to avoid, minimize, and/or compensate for impacts on wetlands caused by human activities on the landscape.

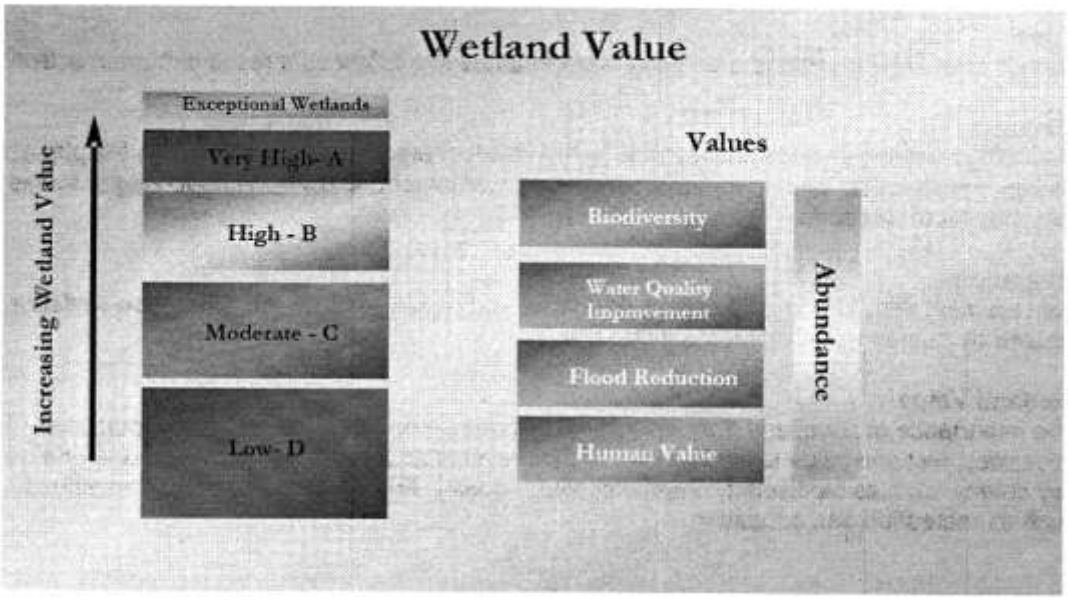
Wetland Value
The importance of a wetland from an ecological and human perspective. For the purposes of this policy, wetland value is assessed based on relative abundance on the landscape and other key criteria such as biodiversity, improving water quality, flood reduction and human values, such as recreation and education.

WETLAND VALUE ASSESSMENT

The value of a wetland is a measure of its worth to society. Under the Alberta Wetland Policy value will be assessed based on relative abundance on the landscape and other key criteria such as biodiversity, improving water quality, flood reduction and human values such as recreation and education.

WETLAND VALUES	
Abundance in the Watershed	The relative abundance of wetlands in a region strongly affects the sensitivity of a region to the negative effects of further wetland loss.
Biodiversity	Wetlands are dynamic, complex habitats that serve to support biodiversity. Examples of biodiversity measures include rare and endangered species; critical wildlife habitat.
Water Quality Improvement	Wetlands perform vital ecological and hydrological functions. Wetlands can improve water quality by facilitating sedimentation and removing pollutants through filtration.
Flood Reduction	Wetlands help reduce the effects of flooding and soil erosion by storing runoff water and slowing its downstream release.
Human Value	Wetlands with intrinsic human appeal (e.g., recreational value) and/or wetlands with outstanding historical, educational or cultural significance.

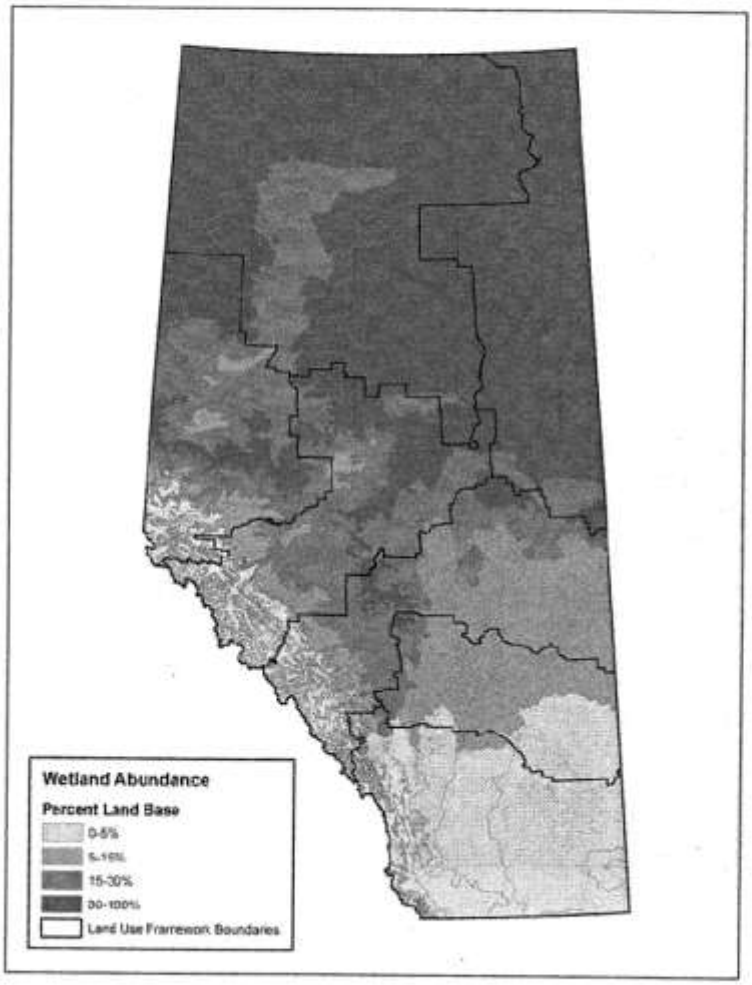
Individual wetlands will be assessed against these key criteria and assigned an overall wetland value of very high (A), high (B), moderate (C), or low (D). Wetlands of outstanding value for ecological and human purposes will become part of the Exceptional Wetlands Program.



The relative abundance of wetlands in a region strongly affects the sensitivity of that region to the negative effects of further wetland loss. In Southern Alberta, where wetlands are scarce, those wetlands that exist on the landscape have greater relative importance for flood reduction, biodiversity and other human values than in the North where wetlands are more common.

Figure 1: Illustrates estimated provincial wetland abundance. At present only partial wetland abundance data exist. A full inventory is currently scheduled for completion by 2014.

Figure 1: Provincial Wetland Abundance within Land-use Framework Boundaries



WETLAND VALUE MATRIX

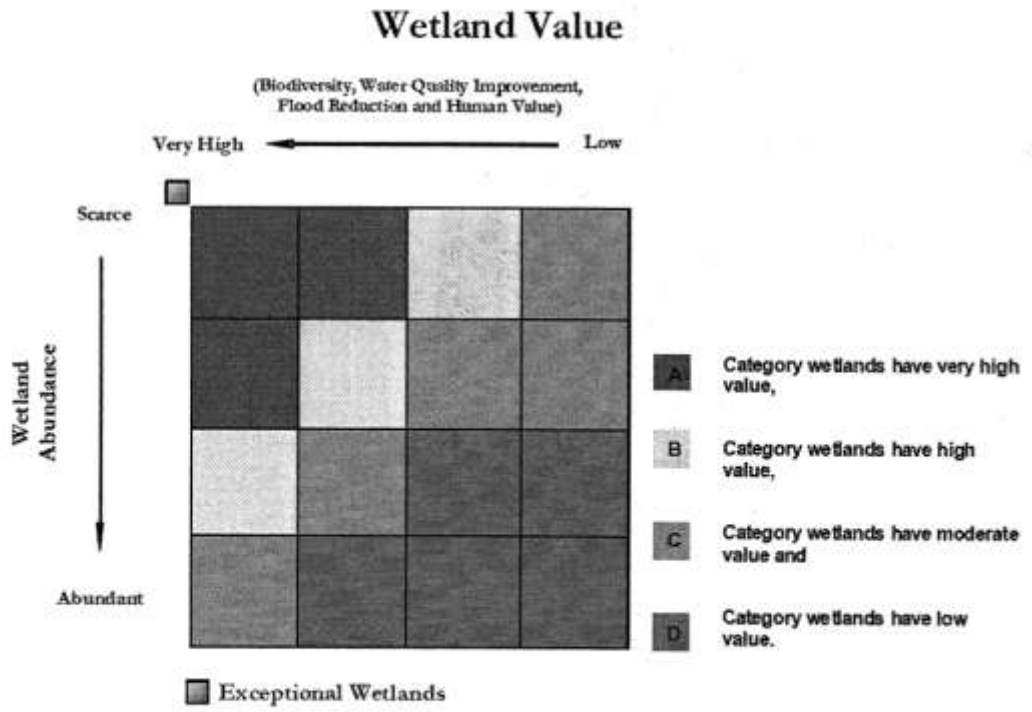
The wetland value matrix is designed to assign individual wetlands a ranking of high to low worth based on their relative abundance on the landscape and other key criteria such as biodiversity, improved water quality, flood reduction and human values such as recreation and education. The horizontal axis categorizes wetland value (biodiversity, improved water quality, flood reduction and human value) and the vertical axis categorizes relative wetland abundance on a regional scale (Figure 1).

Individual wetlands will be assessed against these key criteria and assigned an overall wetland value (A, B, C or D);

- **A** category wetlands have very high value,
- **B** category wetlands have high value,
- **C** category wetlands have moderate value and
- **D** category wetlands have low value.

Wetlands of outstanding value for ecological and human purposes will become part of the Exceptional Wetlands Program.

Figure 1: Wetland Value Matrix



The wetland value matrix provides a basis for evaluating the level of risk that development activities may pose to a particular wetland.

The resulting assignment of classes (A, B, C or D) to a wetland can be used for the following purposes:

1) Support risk-based decision making for proposed developments.
2) Support regional planning exercises such as the Land Use Framework regional plans, and sub-regional or municipal plans;
3) Identify candidate wetlands for the Exceptional Wetlands Program.

Different regions may assign different weightings to the values above in order to address regional issues. For example, the Lower Athabasca region may choose to assign higher weighting to water quality improvement, while the South Saskatchewan region may assign higher weighting to flood reduction.

ALBERTA EXCEPTIONAL WETLANDS PROGRAM

The Exceptional Wetland Program is a provincial scale conservation program for wetlands of outstanding value for ecological and human purposes. It builds on the Government of Alberta's wetland management system, which includes extensive provincial planning, policy, regulation, education and stewardship efforts around wetlands. It adds a new element to this system by a creating a wetland-specific conservation network that will assist the Government of Alberta ensure its land and water outcomes under the *Water for Life* strategy and the Land-use Framework.

The primary objective of the program is to conserve exceptional wetland habitat and biodiversity for the long-term benefit of Albertans. This will be accomplished by developing and maintaining a provincial network of wetlands of outstanding value for ecological and human purposes. Industrial and residential development will not be permitted in exceptional wetlands; however, land and water uses compatible with the maintenance of ecological and human values at a given site will be permitted.

Key features of the Exceptional Wetland Program are:

- Flexibility: The program will be applied flexibly and fairly. It will respect existing government commitments and minimize social and economic conflicts.

- Adaptability: The program will have a long-term focus but will be reviewed periodically to ensure new knowledge and values are incorporated.

- Inclusivity: The program will build in opportunities for Albertans to identify wetlands of outstanding value to their communities. It will maximize compatible uses such as low intensity recreation, education, and research.

The exceptional wetlands program will be aligned with provincial watershed and regional planning processes. It will be implemented through a series of ongoing, sequential steps including:

1) Identification of candidate wetlands;
2) Selection of exceptional wetlands;
3) Evaluation of permitted uses and formal designation; and
4) Periodic monitoring & reporting on the health of exceptional wetlands.

Exceptional wetlands value criteria will be harmonized with those of the wetlands management category criteria (A, B, C, D), to create a continuum of wetlands of differing value. Only the very highest value wetlands of the greatest societal worth will be included in the conservation network.

Identification & selection process:

Exceptional wetlands would reflect the highest value in each of the following areas:

WETLAND VALUES	
Biodiversity	Wetlands are dynamic, complex ecosystems that serve as a source of biodiversity and provide critical wildlife habitat. Examples of biodiversity measures are rare, threatened and endangered species, species richness and critical overwintering habitat.
Flood Protection	Wetlands help reduce the effects of flooding and soil erosion by storing runoff water and releasing it slowly downstream.
Water Quality Improvement	Wetlands perform vital ecological or hydrological functions. Wetlands can improve water quality by reducing sedimentation and removing pollutants through filtration.
Human Value	Wetlands with intrinsic human appeal (e.g., recreational value) and/or wetlands with outstanding historical, educational or cultural significance.

Feedback will be sought out on wetlands of outstanding importance from a social and cultural perspective including a traditional aboriginal use perspective.

Suitability criteria will be developed to support the selection process. Some of the factors that will be need to addressed include:

1) Ownership of surrounding land, current land use, government commitments (surface and subsurface rights);
2) Likelihood of human disturbance/pressure;
3) Connectivity, intactness and spatial contribution to the network.

Evaluation of permitted uses and formal designation

The exceptional wetlands network will become part of Alberta's existing parks and protected network system. Existing legislation and designations (parks, natural areas, ecological reserves etc.) will be

THE ALBERTA WETLAND CLASSIFICATION SYSTEM

At present, no single wetland classification system is comprehensively used across the province. In Alberta, wetland classification has traditionally relied on a number of different reference materials [I] and although each of these systems possesses inherent value, regional biases and general inconsistencies tend to render them incompatible at a provincial scale.

The purpose of a unique, made-in-Alberta solution to Wetland Classification is:

1) To provide a standardized provincial wetland classification system that:
    a. Encompasses wetlands from all parts of Alberta;
    b. Is reasonably consistent with existing provincial, national, and international wetland classification systems;
    c. Is reasonably compatible with existing provincial wetland inventories;
    d. Can be effectively applied in Canadian GIS databases.
2) To establish a system that is relatively simple and readily applicable for field identification and mapping purposes using information from various levels of observation (i.e., ground surveys, aerial surveys, remote sensing).
3) To promote general understanding of wetland ecology, function, diversity, and connectivity in Alberta.

An integrated Alberta Wetland Classification System (AWCS) has been developed to help facilitate wetland identification across the province of Alberta. It is designed as an aid for regulatory and management purposes, with an aim to minimize the need for high-level technical expertise in its application. The classification system is intended to capture the diversity of Alberta's wetlands in a manner that is consistent both across the province and with other commonly applied classification guides.

The proposed AWCS categorizes wetlands based primarily on the Canadian Wetland Classification System and components of the Stewart and Kantrud classification system. To the extent possible, the AWCS is aligned with existing Alberta wetland inventories, including the Ducks Unlimited Boreal Plains Ecozone Classification and the Alberta Wetland Inventory Standards.

[I] Reference materials currently used in classifying Alberta's wetlands include the Canadian Wetland Classification System (1977), the Stewart and Kantrud Wetland Classification System (1971), the Alberta Wetland Inventory Classification System (2004), and the Ducks Unlimited Field Guide to Wetlands (2007).

The proposed AWCS comprises the following hierarchical groupings:

Class Wetland Class is a function of hydrology (water source, position relative to water table, etc.), chemical composition (pH, minerals, nutrients, etc.), and characteristic plant communities. Recognized classes are Bogs, Fens, Swamps, Marshes, and Open Water Wetlands.

Type Wetland Type is based upon a fairly broad examination of general growth habit in the plant community. This designation includes such terms as 'Wooded' (dominated by trees), 'Shrubby' (dominated by shrubs), and 'Graminaceous' (dominated by grasses) for bogs and fens, for example. Similarly, Swamps are assigned to Types 'Coniferous', 'Broadleaf', 'Mixedwood', and 'Shrubby'.

Form Wetland Form addresses a relatively broad suite of characters that can significantly impact wetland appearance and function. Forms include such things as patterning in fens, the presence of permafrost in bogs, high alkalinity in marshes and shallow open waters, and modifications resulting from both human and beaver activity.

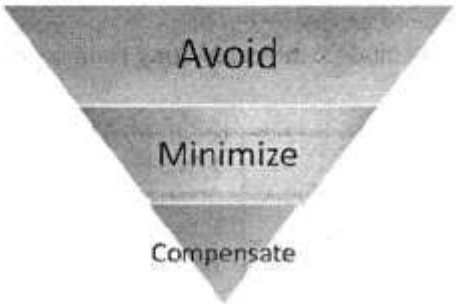
CLASS	TYPE	FORM
Bog - acidic peatlands - rainwater dominated - low nutrients - lie above water table	Wooded	Permafrost
	Shrubby	
	Graminaceous	
Fen - less acidic peatlands - groundwater dominated - high nutrients - lie at or below water table	Wooded	Poor Rich Patterned Floating
	Shrubby	
	Graminaceous	
Swamp - less or no peat formation - mineral soils - nutrient rich - fluctuating water level - >25% trees or shrubs	Coniferous	
	Broadleaf	
	Mixedwood	
	Shrubby	
Marsh - non-wooded wetlands - nutrient rich - standing open water - fluctuating water level - >5% emergent plants	Ephemeral Wetland	Alkaline Mineral Flats Constructed Modified
	Wet Meadow	
	Shallow	
	Deep	
Shallow Open Water - standing open water - <2 m water depth - <5% emergent vegetation	Shallow Lakes & Ponds	Alkaline Mineral Flats Constructed Modified
	Wetland Streams	Modified

WETLAND COMPLIANCE OPTIONS

The primary legislative basis for implementing the Alberta Wetland Policy is the *Water Act*. Under the *Water Act*, proponents are required to seek approval for any activity that may impact a wetland. Where development activities have the potential to impact wetlands, the Wetland Policy promotes the following courses of action, collectively referred to as mitigation:

1. **Avoidance** - The primary and preferred response is avoiding impacts to wetlands.
2. **Minimization** - *Where avoidance is not possible*, proponents are expected to minimize impacts to wetlands.
3. **Compensation** - As a last resort and *where avoidance and minimization efforts are not feasible or prove ineffective*, compensation is required.

Figure 1: Wetland Mitigation Approach



COMPENSATION

Proposed Definition of Compensation: *Compensation is restitution for wetland value that has been permanently lost due to human activity on the landscape. The level of compensation required will reflect the differences in relative wetland value.*

When permanent loss of wetland value and function occurs after all possible avoidance and minimization measures have been exercised, compensation will be required. **The level of compensation required will reflect the differences in relative wetland value.** Where achievable, wetlands will be replaced type-for-type. Where this is not possible, compensation activities will seek to replace wetland value. Proponents are encouraged to undertake compensation activities as close to the site of impact as possible.

Compensation activities under this Policy include both wetland replacement and non-replacement measures. Compensation may include a combination of replacement and non-replacement measures.

Replacement Measures: includes wetland restoration, creation, or enhancement.

Non-Replacement Measures includes those activities that indirectly advance the goal of conserving wetlands and their value such as research, securement of wetlands, or education and outreach programs.

TYPES OF REPLACEMENT COMPENSATION MEASURES	
Restoration	**Return of a wetland to a former condition**
Creation	**Establishment of a wetland in a location where it did not previously exist**
Enhancement	Activities that **increase particular functions of a wetland**

Natural, undisturbed wetlands are usually characterized by organic soils developed over thousands of years and subtle relationships between hydrology, soils, nutrients, vegetation, and animal life. Total restoration or creation of a wetland in a manner that completely duplicates all aspects of a naturally occurring wetland is unachievable in a short period of time. However, many wetland functions such as flood storage, erosion control, and pollution control can be partially restored.

Under Alberta Environment's current compensation guidelines, full replication of a natural wetland ecosystem is not considered possible. In order to increase the likelihood of success in offsetting lost or degraded wetland functions, proponents are required to restore a greater area of wetland than what is lost.

Proposed Principles of Compensation

The following principles were established in consultation with representatives from Alberta Environment, Alberta Sustainable Resource Development, Alberta Transportation, and the Energy Resources Conservation Board.

- Not all wetlands are of equal value; compensation will reflect differences in relative wetland value.
- In reflecting differences in relative value, compensation will provide additional incentive to avoid higher value wetlands.
- Where permanent loss occurs despite avoidance and minimization efforts, compensation will ensure that lost value is replaced.
- Compensation will be applied consistently with the overall goal of replacing lost wetland value.
- Compensation requirements will be flexible.
- Compensation requirements will be balanced in the context of ecological, social and economic considerations.
- Compensation activities will be encouraged to take place in the area of wetland loss. Compensation will be applied with no penalty incurred for the distance from the area where loss occurred.
- In regions where wetland loss has been high, restoration is the preferred compensation measure.
- Where achievable, wetlands will be replaced type-for-type (e.g. marsh for marsh). Where this is not possible, compensation will seek to replace lost wetland value.

POTENTIAL COMPENSATION OPTIONS

Please note that all ratios used in the options presented below are examples only and further detailed analysis will be required. All options reflect the understanding that some loss of wetlands will occur in the province.

Equivalent Wetland Value

Under the following proposed options, proponents would be given the choice of compensating for wetland loss at a ratio greater than 1:1 for higher value wetlands or replacing equivalent wetland value; the replacement of a lost wetland to one of similar ecological function and societal benefit. The option of replacing equivalent wetland value will require proponents to conduct more detailed assessment and monitoring to ensure wetland functionality and value are successfully replaced.

- Certain proponents are strongly advocating for this option.
- It is not yet possible to fully assess and replicate the complexity of natural wetland ecosystems over a short period of time. Only simple systems (i.e., marshes) have been replicated with a reasonable degree of success. More complex and valuable systems (e.g., fens and bogs) have not yet been replicated.
- Costs associated with replacing equivalent wetland value could be greater than replacement costs using the higher compensation ratios below due to increased monitoring requirements.
- This model will only be applicable in the Southern and Central parts of the province where marshes are the predominant wetland class.

OPTION 1: AVOIDANCE OF HIGH VALUE WETLANDS

This option promotes the avoidance of high value wetlands through elevated compensation ratios. ***Compensation may consist of replacement and/or non-replacement measures for all wetland value categories.***

AVOIDANCE OF HIGH VALUE WETLANDS

Wetland Class	Compensation Ratio
A	10:1
B	3:1
C	1:1
D	<1:1

Strengths:

- Higher compensation ratio provides increased incentive to avoid higher value wetlands.
- Compensation ratios greater than 1:1 offer greater potential for successful replacement.
- Respect for the differing relative value of wetlands.

Weaknesses:

- Higher ratios may be difficult to justify to proponents and could also represent higher costs.
- Less compensation required for a majority of wetlands than currently sought under existing wetland compensation guidelines (***all*** wetlands in the White Area are currently replaced at 3:1).

OPTION 2: RECOGNITION OF RELATIVE WETLAND VALUE

This option respects the value of higher class wetlands and seeks to replace wetland value through the use of higher ratios. ***Compensation may consist of replacement and/or non-replacement measures for all wetland value categories.***

RECOGNITION OF RELATIVE WETLAND VALUE

Wetland Class	Compensation Ratio
A	4:1
B	3:1
C	1:1
D	<1:1

Strengths:

- Incentive to avoid higher value wetlands.
- Respect for the differing relative value of wetlands.
- Compensation ratios greater than 1:1 offer greater potential for successful replacement
- Proponents may be more receptive to this option.

Weaknesses:

- Less compensation required for a majority of wetlands than currently sought under existing wetland compensation guidelines (***all*** wetlands in the White Area are currently replaced at 3:1).
- Lower incentive for avoidance of high value wetlands.

CURRENT WETLAND COMPENSATION PROCESS

Current Definition of Compensation (2007): Payment into a fund for wetland restoration work.

The Provincial Wetland Restoration/Compensation Guideline (2007) provides the primary guidance in establishing compensation rates for wetland loss across the province. Under the current Provincial System proponents are encouraged to avoid impacts to wetlands; and where avoidance is not possible, minimize any potential impacts. Compensation is required for impacts that cannot be avoided.

Restoration of previously drained or altered natural wetlands is the preferred form of compensation under current guidelines; however, replacement wetlands may also be created or enhanced. Proponents are encouraged to undertake compensation activities as close to the site of impact as possible. A minimum compensation ratio of 3:1 has been applied under the current system and it is preferred that an equivalent wetland type be restored for the one lost.

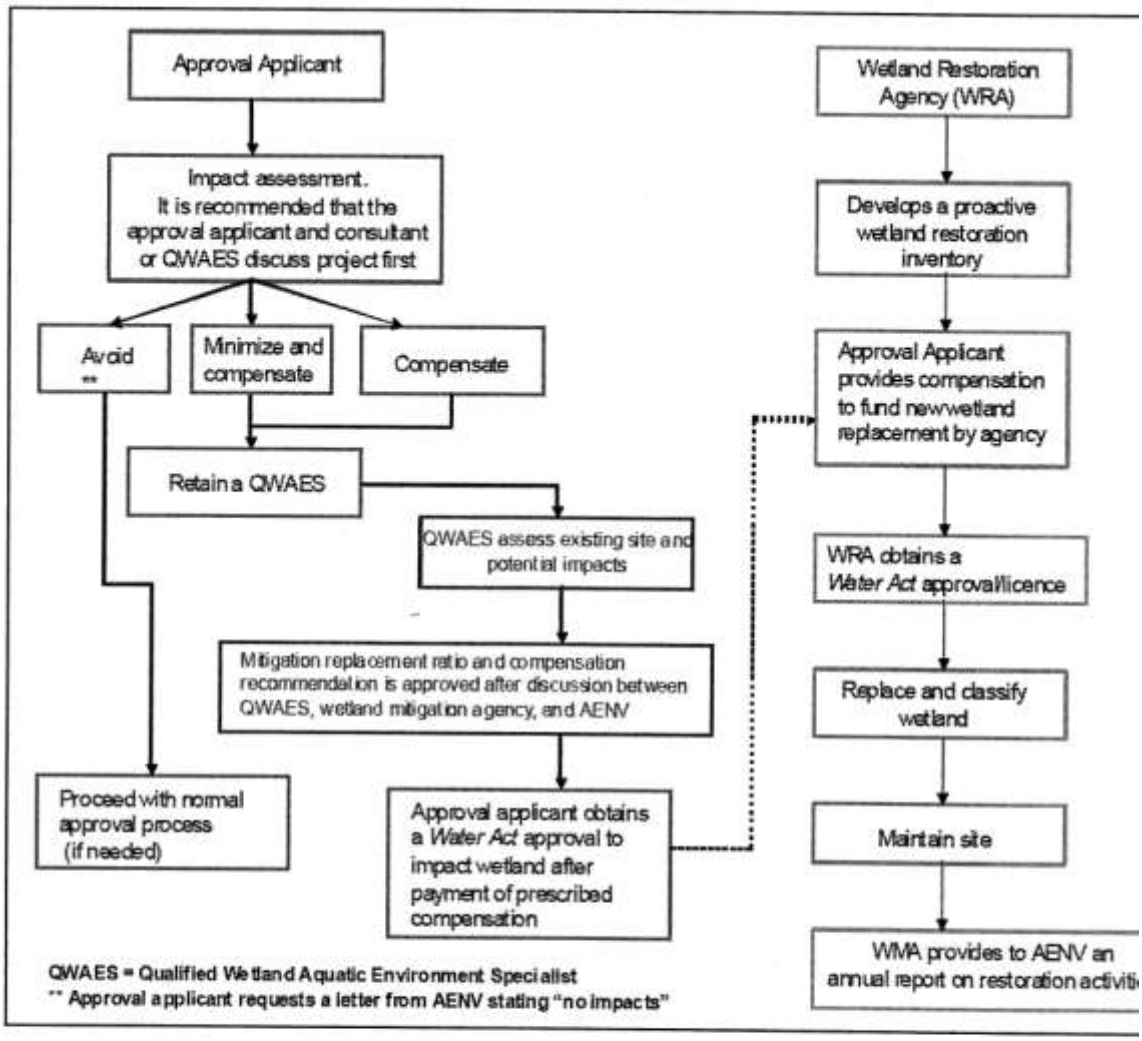
Compensation activities are managed primarily through a Wetland Restoration Agency, which examines the suitability of proposed sites for restoration, manages and maintains restored wetlands, manages an inventory of wetlands appropriate for restoration, and provides annual reporting to Alberta Environment. At present, the primary agency operating in Alberta is Ducks Unlimited, with the Alberta Conservation Association assuming a smaller role.

Compensation requirements are determined by Alberta Environment through the review of a Wetland Impact Assessment Form. This is done in consultation with a Qualified Wetland Aquatic Environment Specialist responsible for the assessment, as well as the Wetland Restoration Agency.

Alberta Environment Staff currently apply a certain degree of flexibility in determining appropriate compensation, including the use of restoration, construction, and/or fee in-lieu measures to wetland restoration agencies, and consideration of the pre-existing level of functioning of wetlands to be impacted.

Compensation relating to the alteration of a permanent and naturally occurring wetland may also be required under the Public Lands Act if Crown Land is converted, occupied, or sold. Compensation for the alteration of a wetland that compromises fish habitat is also required under the *Fisheries Act* (Canada). Currently the Department of Fisheries and Oceans Canada is issuing an average of fifty authorizations each year in Alberta; however, not all of these are associated with wetland disturbance.

Figure 1: The Current Compensation System Below



Source: Provincial Wetland Restoration/Compensation Guide, February 2007

CURRENT REPLACEMENT COMPENSATION

Wetland Class	Compensation Ratio
A	3:1
B	3:1
C	3:1
D	3:1

WETLAND POLICY IMPLEMENTATION: REGULATORY HIGHLIGHTS

A scan of provincial legislation was conducted to determine where the authority for key components of the wetland policy would be best housed. The scan revealed the following:

- The primary tool for implementing the Wetland Policy is the *Water Act*.
- Alberta Justice advises that the *Water Act* be amended to provide Directors explicit authority to request compensation for wetland loss. Compensation is currently being sought as a term and/or condition of receiving a *Water Act* approval.
- The Exceptional Wetland program could be implemented through the *Provincial Parks Act* and the *Wilderness Areas, Ecological Reserves, Natural Areas and Heritage Rangelands Act*.
- The *Alberta Land Stewardship Act* has limited utility in implementing the Wetland Policy, yet there is significant value in including and/or aligning aspects of the policy with regional plans (e.g., selection of exceptional wetlands and conservation areas).

DRAFT IMPLEMENTATION PLAN: ALBERTA WETLAND POLICY

PHASE 1: POLICY FINALIZATION & INITIAL IMPLEMENTATION (18 MONTHS)

Obtain Final Approval of the Alberta Wetland Policy

- Complete final cross-ministry review of Policy
- Conduct focused stakeholder engagement
- Obtain Ministerial approval (AENV)
- Present to Ministerial working group
- Present to Cabinet Policy Committee
- Obtain Cabinet approval

Establish a dedicated, Alberta Environment Wetland Policy Team

Five dedicated positions within Alberta Environment, including a Project Manager, Scientist, Regulatory Specialist and two Policy Analysts. Additional Alberta Environment staff time will also be required as components below are developed. Significant cross-ministry participation may be needed for key working groups during this Phase.

The development of all components below will require both internal Government of Alberta and external stakeholder consultation.

Expand Regulatory Framework for implementing the Policy

- Develop mitigation guidelines;
- Complete wetland compensation guidelines;
- Develop a repository for restoration opportunities and other non-replacement compensation opportunities.

Complete the development of the Wetland Value Assessment

- Establish wetland value metrics;
- Develop wetland value assessment guidelines and manual.

Complete the development of the Exceptional Wetlands Program

- Establish identification and selection criteria for the Exceptional Wetlands Program;
- Establish process for identifying exceptional wetlands;
- Identify and map exceptional wetlands.

Develop a provincial plan for completing a wetland inventory and establish a repository for wetland inventory data

- Complete the development of the Alberta Wetland Classification System;
- Build wetland inventory base layer for the province;
- Complete provincial wetland value assessment database;
- Map wetland value categories for the province (i.e. A, B, C, Ds);

- Develop inventory data standards;
- Continue the development of a provincial wetland inventory.

**This set of activities will require significant GIS Resources*

Develop a performance management system

- Develop performance indicators, internal monitoring requirements, and a database to record wetland gains and losses.

Ensure the integration and alignment of the Alberta Wetland Policy into existing government policies, programs, initiatives, and directives.

Build capacity and communicate changes in the approvals processes and/or responsibility, both internally and externally.

Develop a wetland research plan that identifies current research needs and priorities.

Develop and coordinate new and existing education and outreach activities to target audiences.

Consult with regulators and proponents throughout the implementation process to identify and address implementation challenges as they emerge.

PHASE 2: POST INITIAL IMPLEMENTATION

Develop a Wetland Stewardship recognition program.

Continue the development of guidelines to support the Alberta Wetland Policy.

Continue policy implementation and performance monitoring.

Continue wetland management-related research.

Continue education and outreach activities to target audiences.

Explore additional measures for protecting exceptional wetlands.

**** Please note the draft implementation plan is an approximation of activities and will need to be fully assessed in further detail.***