

Wetland Policy Implementation Plan (September 2008)

Rec #	Recommendation	Implementer(s)	Implementation Target	Last Update	2023	Comments from Latest Update (Please include any new comments in track changes)
						<p>General comments: Recommendations were thoroughly considered in preparation of the Alberta Wetland Policy and have been a key resource throughout the policy implementation process. They form the basis for a multitude of operational tools and mechanisms that have been developed under the Alberta Wetland Policy, and represent a significant driver in recent conversations between AEP and the North American Waterfowl Management Plan, the Alberta Urban Municipalities Association, the Alberta Association for Municipal Districts and Counties, Watershed Stewardship Groups, and Watershed Planning and Advisory Councils toward a) enhanced wetland education and b) more broadly integrated wetland management and decision making.</p>
1.1.1	Implement the Wetland Mitigation Decision Framework across the province, using avoidance, minimization or compensation for all Water Act approvals and/or licenses (including temporary approvals to take water from wetlands) that affect wetlands, through the Water Act approval process.	GoA	Immediate	Previously Implemented or Closed		<p>Alberta Wetland Policy (AWPI) Alberta Wetland Mitigation Directive (AWPI) The Term “Compensation” has been replaced with “Replacement” to focus on getting “replacement wetlands” and not “money to replace wetlands”.</p>
1.1.2	Develop guidelines on how to avoid (e.g. smart-growth planning) and how to minimize (e.g. maintaining wetland hydrology through the use of flow-through culverts) development impacts, using sound ecological principles and the best science available.	GoA	Short-term		<p>Alberta Wetland Mitigation Directive (AWPI) Efficient Use of Land Tools Compendium on private and public lands (LUF) Integrated Land Management Tools Compendium on public lands (LUF)</p> <ul style="list-style-type: none"> A range of Minimization or Best/Beneficial Management Practices is currently being applied (agriculture, forestry (operating ground rules and resource roads), transportation, oil and gas, peat operations) A compendium of BMPs is being developed by Ducks Unlimited Canada. EP is working to formalize/codify BMPs that will be directly referenced through regulatory authorizations and Codes of Practice. 	
1.1.3	Working with stakeholders, develop guidance for compensation to support the policy. Until new guides are developed, the Provincial Wetland Restoration/Compensation Guide (2007) will continue to provide guidance to the regulator for the White Area.	GoA	Immediate		<p>Alberta Wetland Mitigation Directive (AWPI)</p> <ul style="list-style-type: none"> N.B. The Provincial Wetland Restoration/Compensation Guide (2007) has been replaced by the Directive and will be fully rescinded in 2018, after grandfathering provisions have expired. The Term “Compensation” has been replaced with “Replacement”. 	
1.2.1	Review the literature and provide evidence on appropriate implementation of the area-based approach for Alberta that can be incorporated into the revised Provincial Wetland Restoration/Compensation Guide.	GoA	Immediate		<p>The previous 3:1 area-based approach has been augmented with a relative value (wetland function-based) system that offers a mechanism for knowledge-based decision making, as well as a range of replacement ratios to reflect value of the individual wetland.</p> <p>Alberta Wetland Mitigation Directive (AWPI) Alberta Wetland Identification and Delineation Directive Alberta Wetland Assessment and Impact Report Directive (WAIR) Alberta Wetland Rapid Evaluation Tool - Actual – (ABWRET-A) – White Area Alberta Wetland Rapid Evaluation Tool – Actual – (ABWRET-A) – Green Area</p>	
1.2.2	Develop a research and/or pilot program to assess the scientific and economic feasibility of moving toward a function-based rather than an area-based approach for compensation.	GoA	Medium-term		<ul style="list-style-type: none"> In 2011, Environment and Parks undertook an ecosystem services approach pilot for wetlands in southern Alberta. Based on the success of this pilot, as well as demonstrated applicability of the Wetland Ecosystem Services Protocol for the United States (WESPUS), the department chose to pursue a wetland function-based approach to wetland management in the province. As part of Policy development, stakeholders supported an area-based approach with the inclusion of relative wetland value to support regulatory decision making and establish wetland replacement requirements. As a result, rather than a pure area-based approach, replacement is based on a combination of physical area, relative wetland value (ecosystem function), and historical loss. 	
1.2.3	If successful, incorporate the option of a function-based approach into the revised Provincial Wetland Restoration/Compensation Guide.	GoA	Long-term		<ul style="list-style-type: none"> Wetland function has been embedded within the wetland management system as a key component of regulatory decision making, as well as wetland conservation and restoration initiatives. Alberta Wetland Mitigation Directive (AWPI) Replacement implemented as a combined Area- and Function-based approach. Area is determined using the Alberta Wetland Identification and Delineation Directive and function using the ABWRET-A White Area and Green Area Tool. 	
1.3.1	Explore a regulatory framework for mitigation	GoA	Medium-term		<p>Wetland Conservation Offset Program and the related registry are under development. The wetland conservation offset</p>	

	banks as a compensation option for wetland loss and, if established under the appropriate legislative component, ensure these banks are appropriately regulated in law.				program is the pilot for the Conservation Offsets initiative Wetland Regulation (under the provincial Water Act) is in progress (AWPI).
1.3.2	If proceeding with mitigation banking, establish criteria for suitable providers of mitigation banks and maintain a registry of approved bankers.	GoA	Medium-term		<ul style="list-style-type: none"> • Alberta Wetland Restoration Directive sets out criteria for anyone wanting to restore wetlands, including for mitigation banking. • Assurance to the system is not provided through approved bankers. Rather, it is enabled through eligible signing authorities, as defined by the Professional Regulatory Organizations, operating in accordance with the Directive. • Similarly, no registry of approved restoration agents is required.
1.3.3	If proceeding with mitigation banking, set up a monitoring system to support and help achieve the policy goal.	GoA	Medium-term		<ul style="list-style-type: none"> • Alberta Wetland Restoration Directive (Verification) sets out the monitoring system. • A registry is under development to monitor wetland banking projects from design to verification. • Audit and tracking procedures have been developed to support system accountability and enable tracking of the policy goal/outcomes.
1.3.4	Explore systems of trading wetland credits to provide mechanisms that reward stewardship actions on private land as appropriate.	GoA	Medium-term		<ul style="list-style-type: none"> • Wetland Conservation Offset Program and the related Registry are under development. The wetland conservation offset program is the pilot for the Conservation Offset Framework initiative. • The Department continues to engage with Agriculture and Forestry, Crop and Stock Sectors, as well as producers/private landowners to explore appropriate mechanisms for encouraging/enabling stewardship (including the Alternative Land Use Services Program).
1.3.5	Develop a repository of restoration opportunities.	GoA	Immediate		<ul style="list-style-type: none"> • Alberta Merged Wetland Inventory (AMWI) - A data layer for wetland restoration opportunities is being developed to augment the existing Inventory. • Environment and Parks continues to work with a variety of key partners (municipalities, watersheds, etc.) toward establishment of a program for- and prioritized list of- wetland replacement opportunities.
1.4.1	Compile existing information on best practices through a review and assessment of the literature and existing restoration, construction and enhancement projects, within the last five to ten years in Alberta and elsewhere.	GoA	Short-term		<ul style="list-style-type: none"> • A range of Minimization or Best/Beneficial Management Practices are known to exist (agriculture, forestry (operating ground rules and resource roads), transportation, oil and gas, peat operations). • Ducks Unlimited Canada (Alberta Boreal Office) is currently working to establish a registry of these. • EP is working with Alberta NAWMP to develop a project for the collection and review of available BMPs across all sectors known to impact wetlands.
1.4.2	Provide guidelines on the best practices for restored, constructed and enhanced wetland design and monitoring for various landscapes.	GoA	Short-term		Wetlands Best Management Practices Workshop Wetland offset directives implemented (restoration) or under development (construction, enhancement, securement).
1.4.3	Develop consistent monitoring protocols, conditions for requirement under the <i>Water Act</i> , and assessment tools to assess wetland health and functions, for individual constructed, restored and enhanced wetlands, and on a landscape level.	GoA	Medium-term		<ul style="list-style-type: none"> • Various guidance pieces have been implemented or are under development, in support of the overall Wetland Management System and for use with the Alberta Wetland Restoration, Construction, and Enhancement Directives. • These include the ABWRET-A, Index of Biological Integrity, and monitoring requirements expressed in directives.
2.1.1	With stakeholders, develop a guidance framework for establishing watershed and regional wetland objectives.	GoA	Short-term		<ul style="list-style-type: none"> • Under development, in support of the broader Wetland Management System. Led by Land Use Planning Framework - Regional plans – specifically sub-regional and issue specific plans Supported by WPACs, NGOs Watershed Management Planning, and NAWMP partnership. • EP has been actively engaged with AUMA, AAMDC, and individual municipalities toward development of municipal mechanisms for the determination of wetland management priorities.
2.1.2	Ensure that a sound knowledge foundation supports and informs the objective-setting process, including inventory, watershed models and other predictive tools.	GoA	Medium-term		<ul style="list-style-type: none"> • Alberta Merged Wetland Inventory (continuous improvement) • Watershed Management Planning (LUF) • Alberta Wetland Rapid Evaluation Tool – Estimator (ABWRET-E) White Area completed / Green Area in progress • Alberta Wetland Rapid Evaluation Tool – Predictor (ABWRET-P) in progress
2.1.3	Examine how a watershed or water management plan developed under the provisions of the <i>Water Act</i> , or any future revisions of those plans, would recognize the Wetland Policy.	GoA, WPACs	Short-term		<ul style="list-style-type: none"> • As identified in Sections 3 and 4 of the Alberta Wetland Mitigation Directive, the Policy and its associated regulatory components are bound by statutory plans and objectives identified thereunder. • Further work is required, to clarify the relationships between municipal and inter-municipal plans, land-use plans, and water/watershed management plans, and wetland policy. Although instrumental to the conversation, wetland policy is not the driver, nor a deciding factor. • Watershed Management Planning • The GoA has marked this as Implemented, but the WPACs marked it as Pending. Therefore the recommendation remains pending.
2.1.4	Improve access to provincial wetland inventory information to municipalities, industry, Watershed Planning and Advisory Councils, or other multi-	GoA	Immediate	Previously Implemented or Closed	<ul style="list-style-type: none"> • Alberta Merged Wetland Inventory (subject to continuous improvement) • Alberta Wetland Rapid Evaluation Tool – Estimate (ABWRET-E) • Environment and Parks is currently working through the NAWMP partnership toward establishment of standards that will

	stakeholder groups, to use in the development of wetland objectives for watershed management and other planning processes.					inform government and others in the development, integration, and ongoing enhancement of high-resolution wetland inventories.
2.2.1	Incorporate wetland objectives from the watershed and/or regional scale into the programs, initiatives and directives of the GOA and its partners.	GoA, WFL Partners	Short-term	Pending – to be completed	Pending – to be completed	<ul style="list-style-type: none"> The implementation team is currently exploring multiple avenues for development and delivery of wetland management objectives, including EP regional planners, municipal authorities, and WPACs. GOA - Alberta Wetland Mitigation Directive (AWPI) Supported by WPAC - Watershed Management Planning The GoA has marked this as Implemented, but the WPACs marked it as Pending. Therefore the recommendation remains pending.
3.1.1	Create and maintain a website repository of provincial, municipal and federal legislative tools and directives, and common law pertaining to or potentially impacting wetlands.	GoA	Immediate	Previously Implemented or Closed		Alberta Wetland Policy Implementation Web Page
3.1.2	Revise and update “Alberta’s Wetlands: A Law and Policy Guide” to incorporate the Alberta Wetland Policy.	GoA	Medium-term		2nd Edition completed February 2016 by Arlene Kwasniak, and supported by the Alberta NAWMP Partnership.	
3.1.3	Establish and manage a process to review all appropriate legislation, policies, directives and intergovernmental processes for consistency and alignment with the Alberta Wetland Policy.	GoA	Medium-term		Alberta Wetland Policy (WPB) Alberta Wetland Mitigation Directive (AWPI)	
3.1.4	When developing new regulatory or policy instruments, government bodies and delegates will ensure that the policy is appropriately incorporated in all areas of the province.	GoA	Medium-term		Alberta Wetland Policy , Implementation Plan 2 Phase White Area first, Green Area 1 year later. Alberta Wetland Mitigation Directive	
3.1.5	Integrate the policy into the determination of equivalent land capability for the purposes of reclamation under the <i>Environmental Protection and Enhancement Act</i> .	GoA	Immediate		<ul style="list-style-type: none"> Alberta Wetland Mitigation Directive – reclamation only accepted if required under EPEA or PLA, and explicit commitment to reclaim back to wetland, not to equivalent land capability. Explicit guidance for peatland reclamation published in 2015. 	
3.2.1	Build capacity in the regional regulatory approvals and inspection system to successfully implement the Alberta Wetland Policy.	GoA	Immediate		Extensive and ongoing AWP Training provided to AEP and AER operations (approvals, resource management (referrals), and compliance) on Wetland directives, guides, processes. Internal Wetland Administrative Procedures published and available to staff.	
3.2.2	When a government body or delegate is a proponent of a proposed project or an activity that could impact a wetland, it will ensure that the policy is implemented in the proposal and project or activity process.	GoA	Immediate		<ul style="list-style-type: none"> Any and all activities impacting wetlands in the Province of Alberta are subject to the Water Act and associated Wetland Policy Requirements. All GOA entities are required to follow the Alberta Wetland Policy regulatory requirements. The Departments of Agriculture and Forestry, Municipal Affairs, and Energy have engaged to ensure their stakeholders are knowledgeable of their responsibilities. 	
3.2.3	Where a government body or delegate plays an approval, referral or other role in a regulatory process (including public land dispositions), the entity will ensure that the policy is implemented in the process.	GoA	Immediate		Regulators with both AEP and AER have been involved in policy development and trained to integrate policy tools within their respective processes. These include regulatory approvals, compliance/enforcement, and Resource Managers under the Water Act, Public Lands Act, and EPEA. Key tools include: Alberta Wetland Mitigation Directive, Alberta Wetland Assessment and Impact Report Directive (WAIR) and Wetland Administrative Procedure	
3.3.1	Work with Municipal Affairs to strengthen the current requirements under the Municipal Government Act where municipalities “may consider” environmental matters in preparing their Municipal Development Plans and are not required to consider environmental matters when developing Area Structure Plans.	GoA	Short-term	<ul style="list-style-type: none"> Municipal Government Act (MGA) is being modernized (completion 2017). EP staff is working with Municipal Affairs to address water issues/concerns, including treatment of wetlands. Additional tools available to municipalities include: conservation easements and Stepping Back from the Water: A beneficial management practices guide for new development near water bodies in Alberta’s settled region 		
3.3.2	Work with Municipal Affairs to review the wetland conservation provisions in the Land Use Policies under the Municipal Government Act and consider broadening the environmental reserve and setback provisions to allow for a range of uses to manage lands within municipalities, including the protection	GoA	Short-term	Extract from Modernized MGA direction “The new MGA creates a new type of reserve, called Conservation Reserve, to protect environmentally significant lands such as wildlife corridors, significant tree stands or other environmentally significant features municipalities may wish to conserve. Municipalities will have to provide appropriate compensation to developers for Conservation Reserve, since the land will be set aside and protected instead of developed. The new Act will also provide clearer definitions and purposes for lands deemed Environment Reserve, and tools to determine the reserve boundaries earlier in the planning process to help in		

	of other environmental purposes/components based on the best available science; or develop a new Wetland Reserve, or Ecological Reserve dedication clause.				<i>development.”</i>
3.3.3	Set up a committee with municipalities, Métis Settlements and Summer Villages to investigate how GOA can better support their efforts to protect wetlands within their jurisdiction.	GoA	Short-term		<ul style="list-style-type: none"> • Regular and ongoing engagement with municipal partners: AUMA, AAMDC, other municipal organizations/associations and individual municipalities. • A NAWMP/Municipal/GOA collaborative “Guide to Municipal Wetland Conservation in Alberta” nearing completion
3.3.4	Revise the Land-Use Framework to require municipal land use plans, including the Municipal Development Plan, bylaws (including zoning bylaws), and actions to reflect and incorporate the Alberta Wetland Policy.	GoA	Short-term		This is under active consideration, as part of the regional planning process. Extract from MGA Modernized MGA: “ <i>The current MGA land-use policies will continue to be phased out of force as new regional plans under the Alberta Land Stewardship Act come into force. The MGA will provide the authority, through regulation, to create land-use policies for municipal planning matters that are not included in a regional plan under the Alberta Land Stewardship Act.</i> ”
3.3.5	Develop and implement an education and awareness program for municipalities to review and align with provincial legislation and directives.	GoA	Short-term		<ul style="list-style-type: none"> • Regular and ongoing engagement with municipal partners: AUMA, AAMDC, other municipal organizations/associations, and individual municipalities. • A NAWMP/Municipal/GOA collaborative education and awareness project regarding regulatory compliance is in progress for completion March 31, 2017
3.3.6	Review the federal wetland policy and ensure there is congruence with the provincial policy on federal lands in Alberta.	GoA	Medium-term		<ul style="list-style-type: none"> • Done during policy development. The Alberta Wetland Policy is reasonably aligned with federal policy. However, Alberta does not govern Federal lands. • Most significant protection/conservation program for Wetlands in Canada is through North American Waterfowl Management Plan (NAWMP) Canada
3.3.7	Provide guidance that considers wetlands and mosquito abatement, health considerations, pesticide use and wetland drainage practices.	GoA	Medium-term		These pieces are variously in progress, but through other delivery mechanisms: Mosquito abatement in conjunction with Municipalities; health conditions in conjunction with water quality initiatives; pesticide use in conjunction with academia/research projects, and wetland drainage practices with Alberta Agriculture and Forestry.
4.1.1	Create a wetland education plan that provides an overarching framework for developing and coordinating wetland education and outreach activities to targeted audiences.	GoA	Immediate		NAWMP Partnership Education and Outreach Working Group, and targeted sub working groups (Public, Municipal, Agriculture, Industry)
4.1.2	Continue to develop, update and deliver wetland education material for grades 5, 8 and 12 school curriculums.	GoA	Short-term		School wetland education programs continue; plans exist to update materials as scheduled (continuous improvement).
4.1.3	Develop and use targeted education, awareness and compliance programs, including social-based marketing programs, to discourage draining of ephemeral water bodies and other wetlands.	GoA	Short-term		<ul style="list-style-type: none"> • A NAWMP/Agriculture Producers/GOA(AEP/AAF) collaborative education and awareness project is under development for completion March 31, 2017. • Education project to be focused on compliance with regulatory requirements with a goal reduce instances of non-compliance. Identified the need for a tool for landowners and approvers to identify ephemerals. • Need to shift public perspectives around drainage/conservation remains. Change expected to occur incrementally over time.
4.1.4	Develop, communicate and share beneficial management practices for activities in and around wetlands.	GoA	Short-term		<ul style="list-style-type: none"> • Municipal: Stepping Back from the Water: A BENEFICIAL MANAGEMENT PRACTICES GUIDE FOR NEW DEVELOPMENT NEAR WATER BODIES IN ALBERTA’S SETTLED REGION • Agriculture: Environmental Beneficial Management Practices; Crops and wetland; Livestock and wetland • EP is working with sectors to identify and codify BMPs that will be directly linked to conditions within regulatory approvals.
4.1.5	Integrate the wetland education plan with existing programs like Cows and Fish and the Alberta Stewardship Network, and disseminate it to other organizations, government departments and stakeholder organizations.	GoA	Medium-term		NAWMP Partnership Education and Outreach Network, including networking groups (Public, Municipal, Agriculture, Industry). The goal is to identify and share existing and new wetland knowledge and education work and avoid duplication of work.
4.1.6	Work with First Nations, Métis Settlements and other Aboriginal communities and individuals to develop an increased awareness of wetland values and functions using traditional knowledge and ecological perspectives.	GoA, FN, MSGC	Medium-term		<ul style="list-style-type: none"> • The work with Métis Settlements links with Municipal awareness and knowledge; this has been somewhat delayed by Green Area implementation. • First Nations land falls under federal jurisdiction; GOA does not govern Federal lands. • First Nations are consulted when activities in wetlands occur on Crown land.
4.2.1	Develop education and communication materials and programs on the <i>Water Act</i> and the value of ephemeral water bodies, appropriate for the intended audience.	GoA	Short-term		<ul style="list-style-type: none"> • A NAWMP/Agriculture/GOA(AEP/AAF) collaborative education and awareness project, including the value of ephemeral wetlands, is under development for completion March 31, 2017. • A wetland fact sheet has been developed for agricultural producers and private landowners.

4.2.2	Using the social-based community marketing approach, incorporate education and communication materials on the value of ephemeral water bodies into education initiatives, where appropriate.	GoA	Immediate		<ul style="list-style-type: none"> • Social based community marketing is not being considered at this time. However, it may be used as part of the roll-out of NAWMP education and awareness initiatives. • Two key initiatives are currently set to examine the immediate value of wetlands (including ephemeral water bodies) to agricultural producers and private landowners.
4.2.3	Develop and communicate beneficial management practices and/or codes of practice for activities around ephemeral water bodies when they are dry, such as grazing, haying, hunting and gathering, linear disturbance, etc.	GoA	Medium-term		<p>Municipal: Stepping Back from the Water: A beneficial management practices guide for new development near water bodies in Alberta's settled region</p> <p>Agriculture: Environmental Beneficial Management Practices including Crops and wetland; Livestock and wetland</p> <p>Up Stream Oil and Gas: Water Ministerial Regulation's Codes of Practice, to be updated, in view of the policy and policy needs.</p>
4.2.4	Determine performance measures and annually review education initiatives to determine beneficial management practice adoption.	GoA	Long-term		Captured as part of long-term wetland policy monitoring, which enables the evaluation and adjustment (continuous improvement) components of the system.
4.2.5	Undertake research to better understand the value and functions of ephemeral water bodies, their status including their rate of occurrence and/or loss, and the cumulative impact of current and future impacts including climate change.	GoA	Long-term		<ul style="list-style-type: none"> • Ephemerals projects will be considered as part of the Wetland Research Strategy. Priority to be established. • Immediate value and function of all wetlands (including ephemerals) to landowners to be more closely examined through a number of pending research projects.
5.1.1	Identify, review and communicate (i.e. develop a landowner directory) of existing incentives, including matters relating to tax assessment (e.g. conservation easement and agriculture property tax issues) to encourage the protection, conservation and restoration of wetlands.	GoA	Immediate		<ul style="list-style-type: none"> • Many incentives exist through Alberta Agriculture and Forestry programs (Growing Forward 2), Municipalities (ALUS), Ducks Unlimited Canada (wetland restoration) and other partners. • EP will be working with partners, including municipalities and NAWMP to identify avenues for communication of existing programs and opportunities, as well as evaluating new options and approaches for incentivizing stewardship.
5.1.2	Develop a Wetland Stewardship recognition program as an incentive by identifying, encouraging, promoting and awarding innovative and effective wetland protection, conservation and restoration efforts by governments, industry, conservation organizations and individuals.	GoA	Medium-term		Wetland Stewardship Grant Program added to AEP Stewardship Grants
5.2.1	Undertake a review of existing and new incentives in Alberta and other jurisdictions to explore the development of new incentives including market incentives that encourage protecting, conserving and restoring wetlands.	GoA	Short-term		<ul style="list-style-type: none"> • Many incentives exist and have been developed through Alberta Agriculture and Forestry programs (Growing Forward 2), Municipal Affairs (ALUS), Ducks Unlimited Canada (wetland restoration) and other partners. Continuous improvement occurring for all programs. • Environment and Parks is working to establish a wetland restoration offset program through its Conservation Offset Framework, which will establish credit-based incentives for proactive wetland restoration in the province.
5.2.2	Undertake a review of the use of mitigation banking and credit trading in other jurisdictions to determine if such market-based mechanisms create monetary value and provide incentive for landowners to protect wetlands.	GoA	Medium-term		Development of the Conservation Offsets Framework and wetland specific Wetland Restoration Offset Program
5.2.3	Explore incentives to reduce costs (e.g. expenses/fees for legal, planning, surveying and accounting) that are a barrier to using conservation easements. GOA could provide incentives to cover costs.	GoA	Medium-term		<ul style="list-style-type: none"> • Given the regulatory context, the need for conservation easements is considered relatively limited, and likely most applicable to securement of existing, at risk, high-value wetlands. • This will be further considered during development of outstanding replacement Directives (securment, enhancement, construction) and related Guides.
5.2.4	Explore the development of incentive programs to encourage academia, industry and others to undertake research and innovation projects to improve all aspects of wetland management.	GoA	Medium-term		<ul style="list-style-type: none"> • Included in the Alberta Wetland Policy – up to 10% of wetland in lieu funds may be allocated to non-restorative measures, including research. • Alberta Wetland Mitigation Directive – wetland research may be funded from the In-Lieu Replacement account. • Through the support of the Alberta Land Institute, a Wetland Research Strategy is under development.
5.3.1	All GOA departments and agencies should review and revise relevant policies, programs, directives, statutes and departmental or agency regulations to identify and remove disincentives to wetland protection, conservation and restoration.	GoA	Short-term		In progress and ongoing, as part of the Alberta Wetland Policy Implementation process, and to the extent that Environment and Parks has authority or influence.
6.1.1	Develop and fund a wetland research plan that identifies current research needs and priorities.	GoA	Short-term		A Wetland Research Strategy is under development through the Alberta Land Institute. Some proportion of funding will be available once the GOA Wetland In-Lieu Replacement Account has been established.

6.1.2	Create a mechanism to distribute the results of wetland research and monitoring to water and land managers.	GoA	Medium-term		As items are identified they will be made available on the Alberta Wetland Policy Implementation web page
6.1.3	Promote research efforts to better understand effectiveness of restoration activities.	GoA	Medium-term		<ul style="list-style-type: none"> Restoration effectiveness research will be considered as part of the Wetland Research Strategy. Priority to be established. The Wetland Research Strategy is currently under development. Audit processes have been implemented, as a means of testing the success of restoration projects linked to regulatory approvals.
6.2.1	Establish a wetland classification system (or systems) that reflect all areas of Alberta and that meets the needs of stakeholders.	GoA	Immediate		Alberta Wetland Classification System
6.2.2	Communicate the classification system to stakeholders and use it in wetland inventories, landscape assessments and other tools.	GoA	Short-term		Available on the Alberta Wetland Policy Implementation web page , under the Wetland Assessment Stage and regularly communicated at training and outreach sessions.
6.3.1	Develop provincial wetland inventory data standards, including how frequently inventories will be repeated.	GoA	Immediate		The data and inventory standards conversation has been kicked off by Alberta NAWMP partnership and currently includes EP, AF, Environment Canada, Ducks Unlimited, and ABMI.
6.3.2	Develop a seamless provincial wetland inventory of the distribution of wetland classes in Alberta.	GoA	Medium-term		Alberta Merged Wetland Inventory – Subject to continuous improvement
6.3.3	Disseminate provincial wetland inventories to municipalities, industry, First Nations, Métis Settlements and other Aboriginal communities for use in their planning and development activities, as soon as available.	GoA	Immediate		Alberta Merged Wetland Inventory Alberta Wetland Rapid Evaluation Tool – Estimator (ABWRET-E) – White Area available, Green Area in progress – Subject to continuous improvement. Available on the Alberta Wetland Policy Implementation web page , under the Wetland Planning and Legislative Alignment Stage Subject to continuous improvement
6.3.4	Where applicable, through the Environmental Impact Assessment process under the Environmental Protection and Enhancement Act, ensure any required wetland inventories are conducted using the provincial inventory and classification standards, and that such data are supplied to the GOA for compilation in the provincial wetland inventory database.	GoA	Medium-term		AEP and AER operations have been involved with the integration of the Policy into Approvals (<i>Water Act, Public Lands Act, EPEA</i>). Key tools include: Alberta Wetland Mitigation Directive , Alberta Wetland Assessment and Impact Report Directive (WAIR) and Wetland Administrative Procedure. Wetland inventory data are being submitted for eventual incorporation with the Alberta Merged Wetland Inventory (AMWI) database.
6.3.5	Classify and incorporate into the provincial wetland inventory any restored, constructed and enhanced wetlands.	GoA	Long-term		Restored and constructed wetland inventory data is being submitted and stored for eventual incorporation with the Alberta Merged Wetland Inventory (AMWI) database.
6.4.1	Develop a standardized methodology, appropriate indicators, and guidance material for conducting individual and landscape-level wetland health assessments.	GoA	Short-term		<ul style="list-style-type: none"> Directives and tools have been developed: Alberta Wetland Assessment and Impact Report Directive (WAIR); Alberta Wetland Identification and Delineation Directive; Alberta Wetland Rapid Evaluation Tool - Actual (ABWRET-A) for the White Area and Green Area. A wetland health assessment tool for restored wetlands is under consideration. All tools are subject to continuous improvement and refinement.
6.4.2	Where appropriate, develop long-term wetland monitoring programs for assessing wetland health.	GoA	Medium-term		Under development, to support both the Wetland Management System and broader policy evaluation. A wetland scientist was recently hired by the Environmental Monitoring and Science Division to oversee the Wetland Monitoring Program.
6.4.3	Periodically evaluate, at various scales, the rate and extent of wetland degradation and loss, as well as any associated watershed impairment. This information should be integrated with other <i>State of the Watershed</i> reporting and planning processes.	GoA, WPACs	Long-term		<ul style="list-style-type: none"> To be executed as part of the ongoing policy evaluation process, as supported by regulatory data and inventory/monitoring information captured through EMSD. Under development by WPACs, with direction from GOA Supported by WPAC NGO's Watershed Management Planning Likely to comprise a component of Lake Watershed Management Policy, to be developed in the near future.
6.4.4	Improve understanding of the relationship of wetlands to ground and surface water quality and supply.	GoA	Short-term		<ul style="list-style-type: none"> NAWMP Partnership Education & Outreach Network, including networking groups (Public, Municipal, Agriculture, Industry). The goal is to identify and share wetland knowledge and education, including water quality and supply. DUC and EP to undertake additional research projects in the near future that will provide additional understanding of wetlands and their functions at a more localized scale.

6.5.1	Develop criteria, an accreditation process and a registry to promote the development of Wetland Restoration and Construction Agencies.	GoA	Short-term		To be termed “Wetland Replacement Agent” Wetland Replacement Agents cease to exist as of April 2017. Instead, projects will be executed on a contract or grant basis, whereby any wetland replacement project must be overseen and authorized by a practicing professional. Standards and competencies for authorization on replacement projects will be administered by 10 professional organizations - Professional Practice Standard for Wetland Science, Design and Engineering
6.5.2	Hold awareness and training workshops with interested parties to improve expertise and share learnings on wetland restoration, construction and enhancement techniques, and in what is required to become accredited.	GoA	Short-term		Ongoing engagement with all interested stakeholders. Alberta Wetland Restoration Directive recently completed. Construction Directive in progress. Enhancement Directive will follow. These will be available on the Alberta Wetland Policy Implementation web page upon completion.
6.5.3	Encourage research, development and continuous improvement of restoration, construction and enhancement techniques.	GoA	Medium-term		Many projects commenced with approval of the Alberta Wetland Policy. The Wetland Research Strategy, under development, will further encourage such research and development. Priority of research projects will need to be established to focus research in needed areas.
6.5.4	Provide users with the appropriate guidelines, and best practices for restoring, constructing and enhancing functioning wetlands in natural and working landscapes, particularly for areas of mining, urban stormwater management, road-building and municipal development.	GoA	Short-term		As part of the Wetland Management System and the Wetland Offset Program , Wetland Restoration, Construction, Enhancement, and Securement Guides are planned to complement the Wetland Restoration, Construction, Enhancement and Securement Directives. Wetlands Best Management Practices Workshop Compendium or resource list of BMPs under development by Ducks Unlimited Canada.
6.5.5	Develop monitoring protocols for constructed and restored wetlands for various landscapes.	GoA	Medium-term		As part of the Wetland Management System and the Wetland Offset Program, a Wetland Monitoring Guide is planned. Alberta Transportation has piloted monitoring on wetlands constructed from borrow pits.
6.5.6	Ensure restoration, construction and enhancement guidelines and codes of practices for various sectors are consistent with the overarching policy goals and outcomes.	GoA	Medium-term		Clear and explicit guidelines for wetland restoration/construction/enhancement are a key deliverable of the provincial Wetland Management System and the Wetland Offset Program . EP is committed to developing BMPs and Codes of Practice for a range of activities impacting wetlands in the Province.
6.6.1	Encourage post-secondary institutions to provide opportunities for undergraduate and graduate students to develop knowledge and understanding of wetland functions and processes.	GoA	Medium-term		DUC is currently piloting a post-secondary wetland course through academic institutions in the province. Additional engagement with stakeholders is taking place through the Alberta NAWMP Partnership. The Competencies identified by the 10 professional organizations participating in Professional Practice Standard for Wetland Science, Design and Engineering may form the basis for future education focus.
6.6.2	Develop, facilitate and promote the use of professional educational opportunities.	GoA	Medium-term		EP is working with DUC and NAWMP to advance wetland education on multiple fronts, including opportunities for professionals. Competencies required for wetland science will be administered by 10 professional organizations - Professional Practice Standard for Wetland Science, Design and Engineering . Implementation of these competencies is expected to promote the establishment of more professional development opportunities for practitioners in the province.
7.1.1	Establish a process, criteria, tools and programs for identifying, designating and protecting local, regional and provincial wetlands of exceptional value.	GoA	Immediate		EP is working to elaborate existing tools to support staff and partners (municipal, WPAC, WSG) in identifying wetlands of exceptional value. Wetland conservation/protection is a key priority of the provincial policy, and will require the contribution of multiple players to need to be identified and designated locally and regionally. Engagement locally and regionally is ongoing through regional plans, watershed organizations, and municipalities and associations.
7.1.2	Where appropriate, investigate using statutory and policy tools to designate wetlands of exceptional value for protection.	GoA	Immediate		As identified in Section 3 (bullets 3-6) and 4 of the Alberta Wetland Mitigation Directive . EP is working with departmental elements and key external partners (e.g., municipalities) toward enabling and informing the use of existing tools and legislation (e.g., Municipal Government Act, Alberta Land Stewardship Act) in wetland conservation/protection.
7.1.3	Where wetlands suitable for protection have been identified on Crown land, utilize existing tools to protect and identify these areas within GOA databases (e.g. protective notation) so that developers, regulators and approvals staff are aware of wetland status.	GoA	Short-term		As identified in Section 3 (bullets 1-3) and 4 of the Alberta Wetland Mitigation Directive. Both the provincial wetland inventory and the relative wetland value estimator (ABWRET-E) are subject to continuous improvement, with the expectation that wetlands and wetland areas of high function/value will eventually be identifiable on the basis of remotely acquired information. This will help drive the conservation/protection conversation. Training has been provided to public lands officers on wetland avoidance and conservation.
7.1.4	When municipalities approve subdivision of land, use environmental reserve dedications to protect wetlands of exceptional value in the development area.	GoA, AUMA, AAMDC	Immediate		This is ultimately in the jurisdiction of the municipality, as enabled under the Municipal Government Act. EP is working with municipalities to develop the tools that will help municipal partners make key decisions around wetland conservation/protection, and to create the system for translation of those decisions into the provincial wetland management program. As identified in Section 3 (bullet 6) of the Alberta Wetland Mitigation Directive.
7.1.5	Work with Land Trusts and other appropriate organizations to encourage the use of conservation	GoA	Medium-term		EP will be working with land trusts and the Alberta Association for Conservation Offsets to develop a directive for wetland securement, once directives for construction and enhancement have been finalized and implemented.

	easements to protect wetlands of exceptional value.				
7.1.6	Where appropriate, purchase or lease lands and designate them as appropriate to protect wetlands of exceptional value.	GoA	Medium-term		Conservation of exceptional areas is being pursued as part of the EP mandate. However, these plans are comprehensive area, not wetland specific. Parallel with the Policy, The Beaver Hills Initiative resulted in the area being designated as a UNESCO Biosphere on March 19, 2016.
7.1.7	Develop guidelines for appropriate use of low-impact activities (bird-watching, gathering natural foods, etc.) on wetlands of exceptional value, including when water is absent.	GoA	Medium-term		To be pursued as part of the wetland securement directive.