

Alberta Transportation's Wetland Habitat Compensation Program

Water Technologies Symposium 2014

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Outline

- Wetland Facts
- Wetland Management in Alberta
- Wetland Mitigation Hierarchy
- Research and Documents
- Compensation Banking
- Conclusion

WETLANDS WORK...



...we work for wetlands!

New York & Long Island Field Offices,
U.S. Fish & Wildlife Service
<http://nyfo.fws.gov>

Wetland Facts...

- **A wetland is land saturated with water long enough to promote wetland processes as indicated by:**
 - Poorly drained soils,
 - Hydrophytic (water tolerant) vegetation,
 - Biological activity adapted to the wet environment.

- **Approx 20% of Alberta's surface is covered by wetlands**
 - More than 90% of these are peatlands (bogs and fens) found in the boreal forest.

Wetland Losses

- **Wetlands have been subject to loss and degradation since the late 1800s**
 - Urban expansion
 - Forestry
 - Oil and gas exploration and development
 - Mining
 - Agricultural activities
- **Approximately 67% of wetlands in the White Area have been lost**
 - Up to 85% in some areas



Wetland Management in Alberta

- **Managed by Alberta Environment and Sustainable Resource Development (AESRD)**
 - Legislation (*Water Act*)
 - Policy (Wetland Policy)
 - Guidelines



Wetland Mitigation Hierarchy

- Avoid impacts to wetlands where possible,
- Minimize impacts that cannot be avoided,
- Provide replacement for impacts that cannot be avoided or minimized.



Alberta Transportation's Mandate

- Provide a safe, innovative and sustainable, world-class transportation system that supports Alberta's economy and quality of life.
- Sometimes this means impacts to wetlands.



Compensation Options

- **Limited under the Interim Policy.**

- **New 'Alberta Wetland Policy' allows for additional forms of replacement:**
 - Restorative Replacement
 - *In-lieu* fee payment
 - Permittee-responsible replacement
 - Non-restorative Replacement
 - Specified research
 - Inventory work and data acquisition
 - Landscape level wetland health assessments or modeling
 - Public education
 - Wetland securement for long term conservation

What we did...

- Retained the services of Green Plan Ltd. Environmental Consultants to **examine characteristics of wetland development at borrow areas.**
- Assessed potential to be reclaimed and evolve into functioning wetlands.
- Utilized the research to develop a series of management instruments to assist with the implementation of the wetland habitat bank.

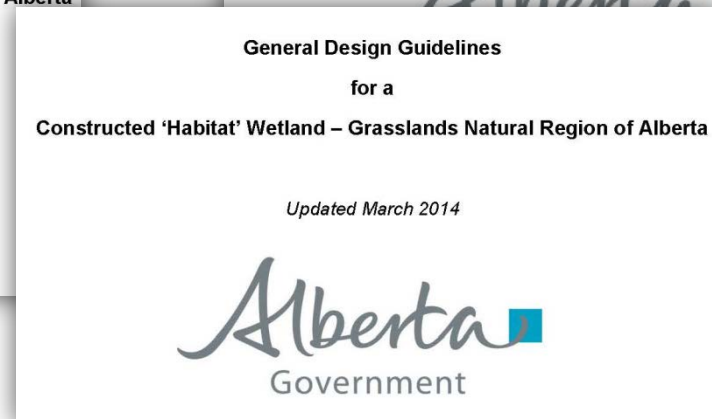
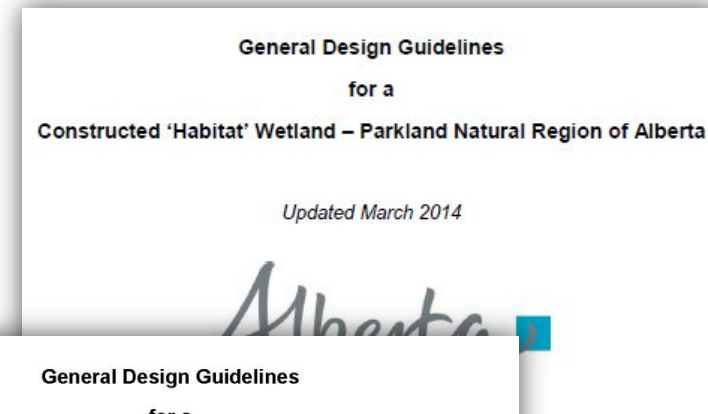


Design Guidelines for Wetland Construction

- General design guidelines for developing potential wetland opportunities into constructed habitat wetlands.
 - Boreal Forest Natural Region
 - Parkland Natural Region
 - Grasslands Natural Region



*Alberta Transportation



*Alberta Transportation

Standard Monitoring Protocols

**Standard Monitoring Protocols for Evaluating Wetland Performance for
Constructed 'Habitat' Wetlands**

Updated March 2014



***Alberta Transportation**

- **Criteria used to monitor the progress and evolution of constructed, enhanced, or restored wetlands towards an ecologically functioning wetland.**

Evaluation Form for Assessing Candidate Sites

- Provides the necessary information to determine if a candidate site meets AT's criteria to be transferred into the wetland bank.

Evaluation Form for Assessing Candidate Site Wetlands for AT Wetland Habitat Bank *Updated March 2014*

EVALUATION FORM FOR ASSESSING CANDIDATE SITES FOR ALBERTA TRANSPORTATION'S WETLAND HABITAT BANK

Supplement A

NOTE: This form is intended and instructed to be used by a qualified wetland professional as defined by Alberta Transportation.

1.0 Project Information

Alberta Transportation Project Name: _____ _____	Candidate Wetland Evaluation Form Prepared by: _____ _____
Major drainage basin: _____ _____	Evaluators Contact Information: Ph(office): _____ Cell: _____
Legal land location: ¼ Sec. Twp. Rge. W M _____	Date of Assessment: _____ _____

2.0 General Site Description

A. Surrounding land use:

Natural Cropland Hay Pasture Industrial Residential Other _____

B. Site Observations:

Waterfowl: _____

Wetland dependent wildlife: _____

Flora: _____

Other: _____

Candidate Site Wetland Classification: _____

*Note: When classifying the wetland, use **one** of the following most appropriate wetland classification systems:*

Stewart and Kantrud (1971), Draft Alberta Wetland Classification System, Canadian Wetland Classification System (National Wetlands Working Group, 1997)

Area of candidate site: _____

Wetted perimeter of pond: _____

Prepared for: Alberta Transportation

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Guidelines for Conducting Wetland Assessments to Meet *Water Act* Application Requirements

Alberta Transportation's Guidelines for Conducting Wetland Assessments to Meet *Water Act* Application Requirements

Updated March 2014



*Alberta Transportation

- Core components of a complete *Water Act* application.
- Forms the basis for conducting wetland assessments.
- Standardized reporting structure (similar to ECO Plan Framework).

Why?

- **Why is AT interested in this?**
 - AT is very good at creating holes in the ground and making them hold water.
 - Fill required for road construction
- **Where economically feasible; rehabilitation, creation, or enhancement of wetlands is being incorporated into project implementation.**
- **Any wetland area not related to compensation requirements for the project will be included in the bank as credits for use on other/future projects within the same watershed.**

Wetland Habitat Compensation Program

- **Objective:**
 - Reclaim or create a wetland before it is required as compensation.
 - Let the wetland establish, begin to function.
 - Proactive in approach.
- **NOTE:**
 - Does not replace existing compensation options but adds one more tool to the box.
 - onsite compensation should always be the 1st option if possible.



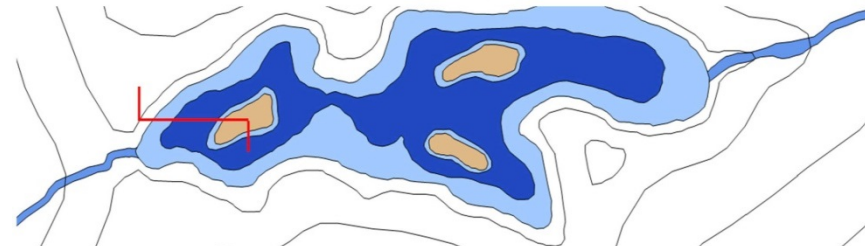
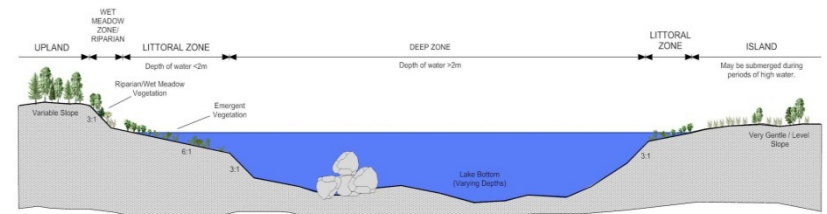
A Change of Practice

- **Reclaim borrows into naturalized wetlands**
 - Receive compensation for project impacts
 - Additional area “banked” for a later time/project

Old Borrow Construction



New Borrow Construction (guide)



Wetlands Bank and Assessment Tool

[ABOUT WETLANDS BANKING](#)
[RESOURCES](#)
[FORUM](#)

[BASE INFO](#)
[SETTINGS](#)
[SWITCH](#)
[LOGOFF](#)

[THE ASSESSMENT](#)

[WETLANDS BANK](#)
[CASH BANK](#)

WETLANDS BANK



Wetlands Bank

Hide Filter

Watershed

North Sask

Constructed

-No Filter-

Start Date

End Date

Submit Filter

(Number of items: 5)

Total Deposited 0

Total Withdrawn 1.92

Q#	Sec	Twp	Rng	Mer	Lat	Long	Name / Highway Location	Region	Watershed	Year	S&K	Area	Avail	Total Ratio	Area Offset	
NW	9	52	14	4	53:28:37	-112:00:23	Hwy 16:24	Central	North Sask							
NW	4	40	7	5	52:25:03	-114:57:22	Rocky #4	Central	North Sask		V	6.9	6.9			
SE	28	50	27	4	53:20:26	-113:52:56	Graminia	North Central	North Sask		V	3.15	1.23			
SW	16	53	27	4	53:34:22	-113:55:50	16:14 (Campsite Road Wetland)	North Central	North Sask	2004	V	18.52	18.52			
SW	30	62	5	4	54:23:12	-110:44:59	Hwy 41:24 (Beaver River Pit)	North Central	North Sask	2004						

Add

Campsite Road Wetlands

Details:
✕

Location					
Qtr	SW ▼	Sec	16	Twp	53
				Rng	27
				Mer	4 ▼
Lat	53:34:22		Long	-113:55:50	
Details					
Name	16:14 (Campsite Road Wetland)			Region	North Central ▼
Watershed	North Sask ▼				
Date Created			Year	2004	
S&K	<input type="checkbox"/> I <input type="checkbox"/> III <input checked="" type="checkbox"/> V <input type="checkbox"/> VII <input type="checkbox"/> II <input checked="" type="checkbox"/> IV <input type="checkbox"/> VI			Area	18.52
Avail	18.52		Total Ratio		
Area Offset			Constructed	Yes	



Campsite Road Wetlands



- **Constructed in 2004**
- **Project did not impact wetlands**
- **Accepted as compensation for three projects**

Deposit (Credits)

Details:
✕

Location

Qtr	<input type="text" value="SE"/>	Sec	<input type="text" value="28"/>	Twp	<input type="text" value="50"/>	Rng	<input type="text" value="27"/>	Mer	<input type="text" value="4"/>
Lat	<input type="text" value="53:20:26"/>	Long	<input type="text" value="-113:52:56"/>						

Details

Name	<input type="text" value="Graminia"/>	Region	<input type="text" value="North Central"/>	
Watershed	<input type="text" value="North Sask"/>			
Date Created	<input type="text"/>	Year	<input type="text"/>	
S&K	<input type="checkbox"/> I <input checked="" type="checkbox"/> III <input checked="" type="checkbox"/> V <input type="checkbox"/> VII <input type="checkbox"/> II <input checked="" type="checkbox"/> IV <input type="checkbox"/> VI		Area	<input type="text" value="3.15"/>
Avail	<input type="text" value="1.23"/>	Total Ratio	<input type="text"/>	
Area Offset	<input type="text"/>	Constructed	<input type="text" value="Yes"/>	

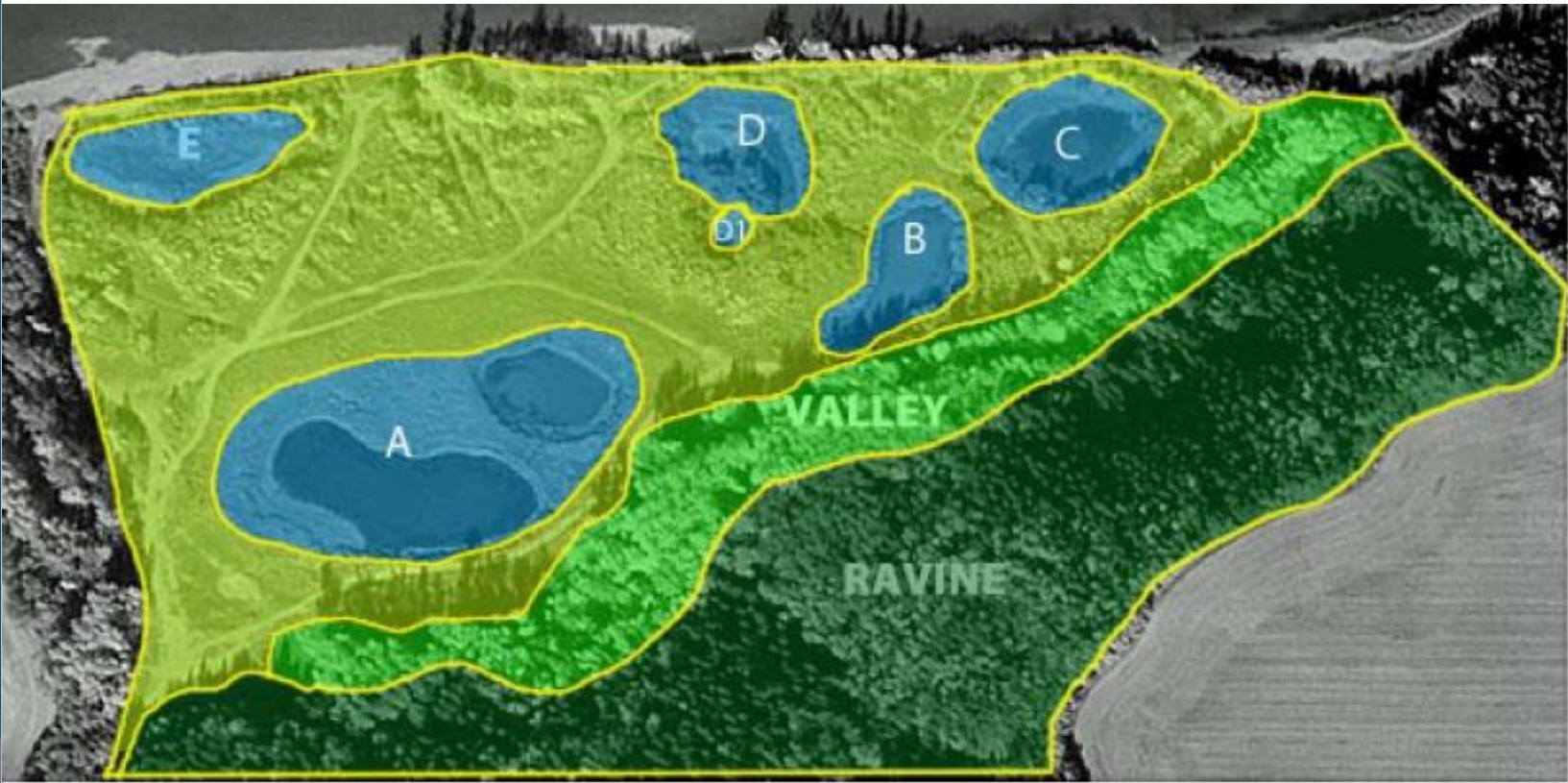
Transactions

Source	Type	Date	Area (sq m)	Estimated ratio	Area compensated
Hwy 759:04 Slide Repair	Withdrawal	November 15, 2013	1.92	3	0.64

Graminia Wetlands



Graminia Wetlands



Legend:

yellow-green	tree/shrub, grassy areas
lime-green	deciduous forest
deep green	coniferous or mixedwood forest
blue	wetland and associated riparian habitat

Withdrawal (Debits)

Details:
✕

Location

Qtr	SE ▼	Sec	28	Twp	50	Rng	27	Mer	4 ▼
Lat	53:20:26			Long	-113:52:56				

Details

Name	Graminia	Region	North Central ▼
Watershed	North Sask ▼		
Date Created		Year	
S&K	<input type="checkbox"/> I <input checked="" type="checkbox"/> II <input checked="" type="checkbox"/> III <input checked="" type="checkbox"/> IV <input checked="" type="checkbox"/> V <input type="checkbox"/> VI <input type="checkbox"/> VII		
Area	3.15		
Avail	1.23		
Total Ratio			
Area Offset		Constructed	Yes

Transactions

Source	Type	Date	Area (sq m)	Estimated ratio	Area compensated
Hwy 759:04 Slide Repair	Withdrawal	November 15, 2013	1.92	3	0.64

Close

Conclusion

- **The Government's Water for Life (WFL) Strategy and *Alberta Water Act* ensures there is a healthy, secure and sustainable water supply for our communities, environment and economy.**
- **AT's Wetland Habitat Compensation Program is aligned with the *Alberta Wetland Policy* and meets the spirit of the government's WFL strategy allowing environmentally responsible project delivery.**
- **AT is working with AESRD to ensure wetland priorities are aligned.**

Questions?



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