

Wetland Education Network Pilot

Industry Action Group Summary Report

By: Liliun Consulting

MARCH 2017

Prepared for: North American Waterfowl Management Plan Partnership

We wish to extend a special thanks to the following individuals who participated in the Industry Action Group, providing their feedback and engaging in the collaborative sessions:

Bruce Cole, Les Fuller, Beverly Gingras, Amy Krawczyk, Lori Neufeld, Paul Short and Mark Svenson.

Table of Contents

1.0 Introduction	4
2.0 Industry Action Group Background	5
3.0 Meeting Objectives	5
4.0 Meeting Discussion Summaries	6
4.1 Current Situation	7
4.1.1 Existing Programs.....	7
4.2 Key Audiences	8
4.2.1 Additional Information Related to the Key Audience	8
4.3 Product and Tool Ideas	10
4.3.1 Basic Wetland Education Course Requirements for Industry Groups.....	11
4.4 Key Messages	12
4.5 Best means of delivering programs	12
6.0 Conclusion	14
7.0 References	14

Table of Figures

Figure 1. Industry Literacy Ladder	6
Figure 2. Literacy Ladder Focus Areas for Industry Action Group	7
Figure 3. Industry Action Group Tiered Framework for Wetland Education and Outreach	10

1.0 Introduction

The Government of Alberta (GoA) has implemented a province-wide Wetland Policy in order to address the great deal of wetland loss that has been occurring across Alberta for decades. The policy, which has a goal to “*conserve, restore, protect and manage Alberta’s wetlands to sustain the benefits they provide to the environment, society, and the economy*”, includes both regulatory and non-regulatory means. While the emphasis of the Wetland Policy is on the regulatory aspects of wetland management, there is also an acknowledgement of the role that wetland education and outreach will play for the policy to reach its goal successfully.

There are numerous wetland educators throughout Alberta, however education and outreach efforts have been occurring in an independent and non-coordinated fashion. The Alberta North American Waterfowl Management Plan (NAWMP) Partnership recognized the value in having wetland educators work collaboratively, and created the multi-stakeholder Wetland Education and Outreach Working Group in order to create a conceptual framework for a coordinated wetland education and outreach program.

The conceptual framework created by the Wetland Education and Outreach Working Group included an annual meeting for the wetland education community, a steering committee for future collaborations, and sector working groups (hereby referred to as Action Groups). The purpose of these meetings and groups being to identify wetland education needs, tools and products to improve the wetland education and outreach efforts in Alberta.

In order to follow through with the conceptual framework designed by the Wetland Education and Outreach Working Group, a pilot was created to gather each of the four Action Groups together for two half-day meetings a piece, to examine the wetland education and outreach needs of the particular sectors. In order to focus the meeting content and provide the opportunity to find synergies across the Action Groups, the members of each group were asked to concentrate on basic wetland education (i.e. basic wetland identification and function), and avoid some of the other topics of wetland education (e.g. understanding the Wetland Policy, roles and responsibility of specific groups, technical wetland topics, etc.).

The groups were populated and the process was facilitated by Liliium Consulting. Individual proceeding reports for each Action Group as well as a report outlining the state of wetland education and outreach in Alberta across the Action Group sectors were also performed.

This Industry Action Group report provides a summary of the discussions at the Industry Action Group meetings. The content represents the opinions of the workshop participants and experts, and not those of Liliun Consulting.

2.0 Industry Action Group Background

The Industry Action Group was assembled for the Wetland Education Network pilot in order to gain a balanced view of the current state of wetland education and outreach in various industrial sectors across Alberta. The group was also tasked with establishing the key wetland education and outreach needs. A variety of individuals from numerous sectors were selected by Alberta NAWMP based on their ability to speak about the state of wetland education in their sector, as well as the wetland education and outreach needs in their networks. This group was an excellent cross section of diverse industries in Alberta that have the opportunity to play a role in wetland management, and was not intended to represent every industry that could be associated with wetlands. Due to the nature of the meetings being held over a short time frame and in-person, the choices of who to include were recognized as representational but not inclusive.

3.0 Meeting Objectives

In order to create a collaborative atmosphere, all Action Group Members were asked to attend meetings in person. Time was allotted in the first meeting for Industry Group Members to explain who they were, the organization they represented and how they had been affiliated with wetland education in their sector. The group was very cohesive and followed up with each other to exchange pertinent information on the topic of wetland education.

The intended outcomes of the Industry Action Group meetings were as follows:

Meeting #1:

- gain a better understanding of the Wetland Education Network and get to know other members of the Industry Action Group;
- gain clarity on the key audiences, products (tools/messaging); and engagement strategies to develop effective wetland education and outreach materials for the industrial sectors.

Meeting #2:

- gain more detailed ideas on the wetland education and outreach strategy for the industrial sectors (Pro-10 focus); and

- share currently used internal industrial wetland education materials amongst group members.

4.0 Meeting Discussion Summaries

Members of the Industry Action Group were given an overview presentation on the Wetland Education Network, with explanation of the Wetland Education Working Group and the Wetland Education Network Framework that had been created. The vision of the Wetland Education Network was expressed to Action Group members and clarity around the role of the pilot was provided. While Action Group members understood that their role was to attend two, three-hour meetings over the course of the pilot, the Alberta NAWMP Coordinator, Michael Barr, explained that with ideal circumstances and funding, there was a desire to continue with the work of the Wetland Education Network and Action Groups.

The Industry Action Group members were asked to identify where they felt their sector was on the Industry Literacy Ladder created by the NAWMP Wetland Education and Outreach Working Group (Figure 1). They were also asked to discuss the various wetland education resources that were currently being used in their specific industrial sectors. The efficacies of the current wetland education resources were examined to determine some of the key points that could help inform future wetland education and outreach tools.

Figure 1. Industry Literacy Ladder

Ladder Steps	Outcome
Action	I am actively managing wetlands.
Skills	I have the skills to work around wetlands.
Attitudes	I know how to comply with wetland legislation.
Knowledge	I understand how policy, legislation and planning are used to manage wetlands.
Awareness	I am aware that water and wetlands belong to the crown

(NAWMP Wetland Education and Outreach Working Group 2016)

The Industry Action Group was then asked to move on to address the ‘who’, ‘what’ and ‘how’ for the creation of a wetland education and outreach program for the industrial sector.

The outcomes of these discussions are summarized below.

4.1 Current Situation

The Industry Action Group noted that there were individuals at various stages of the Industry Literacy Ladder within the various industries, however the group members chose to focus on the two lowest levels of the Literacy Ladder for their discussions on wetland education and outreach needs (Figure 2). The group members felt that the attitudes, skills and action elements on the higher levels of the ladder were being addressed by the discussions led by the Pro-10 groups.

Figure 2. Literacy Ladder Focus Areas for Industry Action Group

Ladder Steps	
Action	
Skills	
Attitudes	
Knowledge	←
Awareness	←

4.1.1 Existing Programs

The Industry Action Group members noted that most of the wetland education programs that are currently being used by various industries are internal programs created and run by individuals with an interest or background in wetland science. The group discussed that these programs were primarily “lunch and learns” or internal documents that were circulated ad hoc, but were not consistent programs required by new staff entering the workplace. Many of the internal wetland

education documents that were mentioned by the group centered around the topic of best management processes specific to individual sectors or activities.

The Alberta Society of Professional Biologists (ASPB) was however noted as having a successful annual wetland conference, open to both members of the ASPB and the public and a well-attended webinar series.

The group noted as well that the Ducks Unlimited Canada resources were well-received and applicable across many different types of industrial sectors for those who were aware of them. The boreal-based wetlands 101 program was noted as a program that could be put into broader usage if it was made more available and updated for the non-boreal portions of Alberta. The ability of the program to be tailored to various sectors was considered one of the key reasons it could be widely used in an effective way.

4.2 Key Audiences

The key industrial audiences that were identified by the group as being important for wetland education and outreach opportunities were as follows:

- Landowners
- Internal staff members (ex. designers, system planners, system operators)
- Forestry planners and operations staff
- Road-building consultants
- Executives
- Industry Associations (ex. CAPP, CPAC, Pipeline Association, professional designations)
- Surveyors
- Individuals in the political sphere (i.e. individuals creating or implementing policies)

The Industrial Action Group was quickly able to agree on a key priority audience for wetland education and outreach. The group of professional associations referred to as the “Pro-10” group were chosen as the key audience for any near-term wetland education efforts. The Pro-10 are a group of 10 professional and technical designation associations that have been selected by the GoA to possess the ability of authenticating wetland regulatory documents submitted in accordance with the Wetland Policy (GoA 2016). The Industry Action Group felt that capacity should therefore be built within the Pro-10 to engage individuals who could work towards meeting the specific competencies required to gain sign-off privileges.

4.2.1 Additional Information Related to the Key Audience

The Industry Action Group received an update on the professional practice standard for wetland, science, design and engineering from a member of the group engaged in

the process. Once released, this process will provide the basis for professional authentication of documents submitted under the Wetland Policy (GoA 2016).

The ten professional organizations (the Pro-10) that will have designated individuals eligible to authenticate documents are as follows:

- Alberta Association of Landscape Architects (AALA),
- Alberta Institute of Agrologists (AIA),
- Alberta Land Surveyors' Association (ALSA),
- Alberta Professional Planners Institute (APPI),
- Alberta Society of Professional Biologists (ASPB),
- Association of Chemical Profession of Alberta (ACPA),
- Association of Professional Engineers and Geoscientists of Alberta (APEGA),
- Association of Science and Engineering Technology Professionals of Alberta (ASET),
- College of Alberta Professional Foresters (CAPFT), and
- College of Alberta Professional Forest Technologists (CAPFT).

Individuals will need to meet specific competencies and work experience requirements as well as have their professional designation in order to be eligible to become a "Qualified Wetland Science Practitioner" (GoA 2016). While this title is not an official designation, it does describe the level of expertise required to authenticate Wetland Policy documents (GoA 2016). The detailed professional practice standard has yet to be released.

While the Industry Action Group members were evidently familiar with the Pro-10 (having chosen the group as their key audience for wetland education initiatives in the industrial sector), they learned about some of the specifics being discussed by the Pro-10 working group. The Industry Action Group members felt that the Pro-10 members that will be eligible to become Qualified Wetland Science Practitioners are likely receiving sufficient wetland education through their professional associations. However, the group identified that there are other members within or affiliated with the Pro-10 associations that could benefit from basic wetland education and outreach.

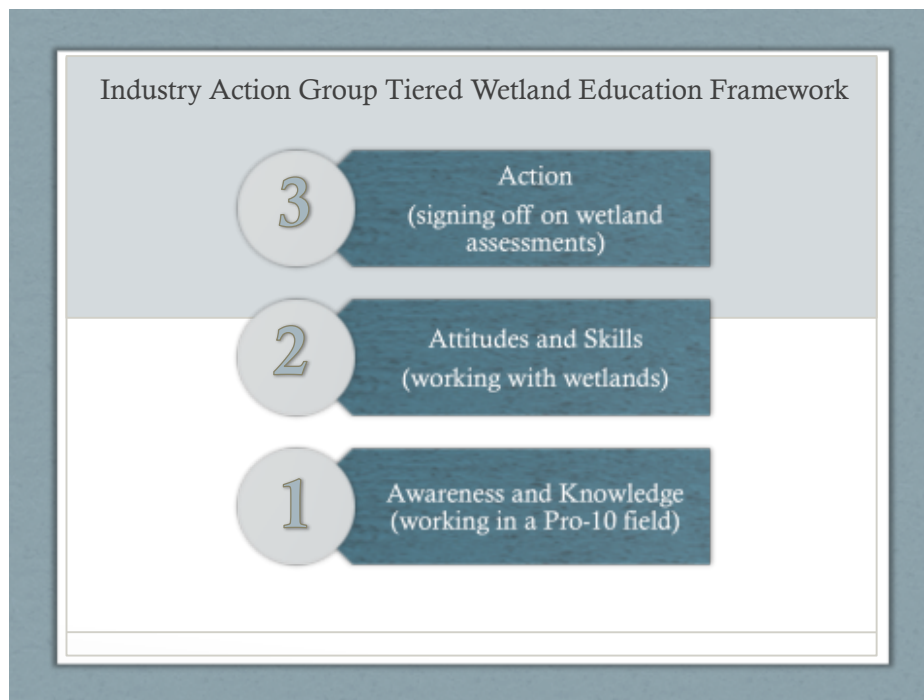
It was also mentioned that while 10 professional associations groups may be too many to target as an initial audience for wetland education (you can't be all things to all people), some of the associations in the Pro-10 will be playing a more active role than others in terms of their expertise and role with the Wetland Policy, therefore it would potentially be more strategic to focus on the groups not providing as much wetland education to their members.

4.3 Product and Tool Ideas

The Industry Action Group chose to focus on the Literacy Ladder concept (noted above in Figure 1) and expand on it with their key audience of the Pro-10 in mind. The group members created 3 categories to delineate the individuals within the Pro-10 fields (Figure 3):

- **Tier 1:** Individuals that work in a Pro-10 field but have little to no knowledge of wetlands and wetland functions. These individuals could potentially be engaging in some level of work around or pertinent to wetlands. This opportunistic group is composed of individuals who want to get involved in wetland work but need basic knowledge.
- **Tier 2:** Individuals who have basic wetland knowledge, but would like to gain a better understanding of wetlands and potentially work toward gaining the skill set that would allow them to become Qualified Wetland Science Practitioners.
- **Tier 3:** individuals that have extensive wetland knowledge and experience and are eligible (or have already completed the process) to be a Qualified Wetland Science Practitioner .

Figure 3. Industry Action Group Tiered Framework for Wetland Education and Outreach



The Industry Action Group used the Tiered Framework in Figure 3 to create a more specific target audience for wetland education and outreach in the industrial sector. The group members recognized the importance of bringing Tier 2 individuals up to Tier 3 and therefore increasing the number of Qualified Wetland Science Practitioners, however the group felt that this was best done by the Pro-10 groups and the GoA. The group also felt that the Pro-10 groups and the GoA were best suited to provide continuing (specialized) wetland education to the Tier 3 individuals.

The wetland education gap for industrial sectors recognized by the Industry Action Group was for the Tier 1 individuals. A few programs were noted as having potential for Tier 1 individuals (the UofA Faculty of Extension, the Lakeland Wetland Technology program and a few other courses being offered by consultants), but the fit of these programs was not considered ideal for creating an opportunity for Tier 1 individuals to advance on to Tiers 2 and 3 in an accessible way.

Bridging knowledge gaps for Tier 1 individuals was considered important not only to build capacity for Qualified Wetland Science Practitioners, but also to address the lack of front-end knowledge on wetlands that members of the Industry Action Group were experiencing in their own work. The group discussed many circumstances where front-of-the-line planners and field crews had a lack of wetland knowledge that ended in poor wetland procedures or expensive mistakes.

The Industry Action Group delineated a Tier 1 course that would cover all of the basic ideas the group members felt individuals working in fields associated with wetlands should be taught.

4.3.1 Basic Wetland Education Course Requirements for Industry Groups

The Industry Action Group took the time to create an outline for a basic wetland education course. The following modules were considered important for Tier 1 individuals in the industrial sector:

- **Wetland Identification**
 - Canadian Classification System standard
 - nomenclature
 - field component (or excellent visuals) essential for this module
- **Periodicity of Wetlands**
 - stages that include absence of water
 - soil indicators
 - mapping, including historical data with photos
- **Wetland Functions**
 - potential ways to affect wetlands

-biology, hydrology, greenhouse gases, etc.

- **Differentiation between Peatlands and Mineral Wetlands**
- **Wetland Relevance to Policy, Planning, Regulations and Management**
- **Why Wetland Conservation is Important**
 - financial and environmental reasons that retaining wetlands is important

4.4 Key Messages

The group members discussed how in order to create an impetus for employees to want to learn about wetlands, the employees would need to understand how wetlands can impact their specific jobs. This was reflected in two of the key messages that emerged from the group's discussions:

**“This is how wetlands are relevant to you...” and
“Wetlands effect how you work on the landscape”.**

This related back to the concept of having wetland education and outreach programs that could be tailored to suit the needs of individual industries and have examples of how wetlands are involved in specific areas of industry actions in regular operations.

In terms of the outcome of a wetland education program for industrial sectors, the key message was:

“Get them to know enough to know when to ask”.

4.5 Best means of delivering programs

The Industry Action Group was very focused on having a defined path that individuals could follow to go from Tier 1 to Tier 3 if they desired to become Qualified Wetland Science Practitioners. One idea for creating a defined path was to have a system that included certificates of completion for specific course modules.

With regard to delivering the specific modules laid out by the Industry Action Group members, the idea of having the material tailored to specific industries was again brought forward as important. Another idea that was well received by the group was to allow groups to pick and choose what modules would be delivered to key audiences, thereby ensuring that available time frames were respected and ensuring that the individuals taking the course stayed engaged in the course content.

Specific means to deliver the course were:

- **In-person presentations:** face-to-face interaction was considered one of the success factors of other similar courses brought forward to industry groups in the past. This would also allow for a field component to be presented, which was considered important for the wetland identification module. Affordability of a workshop or forum of this sort was brought forward as a key consideration. Allowing creation and delivery of the program by the same agencies creating content for Tier 2 and 3 programs would allow for consistency.
- **Webinars:** Creating webinar based modules was considered to be one of the most effective means of delivery by the Industry Action Group, due to accessibility and potential for broad impact. A series of webinars was considered necessary to present the wetland education modules, as group members felt that attempting to put an entire wetlands 101 course into one webinar would be too much content and take too long to watch. The group agreed that computer based learning with a quiz component for knowledge testing is commonplace in the industrial sector and that a webinar series had the potential to accommodate a constant influx of new employees that could benefit from wetland education. A system for tying wetland module completion to development credits or continuing competencies with a certificate of completion would be beneficial. The Industry Action Group members agreed that the program could have more success if the Pro-10 associations communicated the importance of the certification.

The Industry Action Group also considered having the webinar series as the wetland education modules and use in-person sessions as a means to explore specialty wetland topics. The recent economic downturn in Alberta was mentioned in many of the group conversations, it was noted that within the last year, in-person meetings were not well attended as companies attempted to cut costs associated with employee travel. Keeping program costs low was considered imperative to program success.

The Industry Action Group discussed that many of these ideas were aimed at educating employees in the workforce, however they agreed that many of the ideas in the modules that were created by this group should really be introduced at the post-secondary education level, in order to reach a broader audience and have employees trained with wetland knowledge and skills before entering the workforce.

6.0 Conclusion

The Industry Action Group was very keen on the idea of a Wetland Education Network and discussed and focused their efforts on very specific deliverables within the short time frame of the Wetland Education Network pilot meetings. Certain members felt that the idea of a Wetland Education Network could eventually evolve to be larger than a provincial scale. Resourcing a Wetland Education Network became a topic of interest as the group's time came to a close, and incentives for industry groups to pay for workshops or programs were discussed briefly.

The group members identified that wetland education was very piece-meal in the industrial sectors, and a directory of groups with education materials was an idea that came forward that could be utilized while a more cohesive program is being developed.

The Industry Action Group members were keen to engage with other Action Group members, as they identified that other groups had strong ties with what was being discussed in the industry sector (i.e. the Agriculture Action Group and the Post-Secondary portion of the Public and Education Action Group).

The ideas of the Industry Action Group are concise enough that a specific program could easily be created out of what the group discussed at the Wetland Education Network pilot meetings.

7.0 References

Government of Alberta (GoA). 2016. Status Update: Professional Practice Standard for Wetland Science, Design and Engineering. Available at: <http://aep.alberta.ca/water/programs-and-services/wetlands/documents/StatusUpdateWetlandScience-May6-2016.pdf>

NAWMP Wetland Education and Outreach Working Group. 2016. Draft Recommendations to Improve Wetlands Literacy in Alberta via a Wetland Education and Outreach Collaborative Framework.

Appendix A

Wetland Education Network Pilot Meeting Agendas

Industry Action Group



Wetland Education Network – Industry Action Group
Meeting #1 – Draft Agenda
Thursday October 27, 2016

Location: GoA Office, Pigeon Lake Boardroom
 304 4920 51 Street, Red Deer

Time: Meeting 9:00am – 12:00pm

Invited: Industry Action Group membership

Meeting Purpose:

- Introduce concept of Wetland Education Network and team members on the Industry Action Group
- Gain clarity on the key audiences, products (tools/messaging) and engagement strategies required to develop effective wetland education and outreach materials in the industrial sectors

Time	Agenda Item	Lead
9:00	1.0 Administration 1.1 Health and Safety 1.2 Welcome & Introductions 1.3 Review and Approve Agenda	Terra
9:30	2.0 Wetland Education Network 2.1 Explanation of the Wetland Education Network, history and path forward	Terra
9:45	3.0 Wetland Education needs of industry audiences: 3.1 Establish key audiences and level of literacy (who?) 3.2 What would some key products or messages be (what?) 3.2 Best means to convey/connect (how?)	Terra All
10:30	Break	
10:45	4.0 Review currently available wetland education products: 4.1 Compile list of current wetland education products and tools available to industrial sectors 4.2 Evaluate success of current wetland education products and tools	Terra All
12:00	4.0 Wrap Up	Terra



Wetland Education Network – Industry Action Group

Meeting #2 – Draft Agenda

Friday December 5, 2016

Location: GoA Office, Sylvan Lake Boardroom
304 4920 51 Street, Red Deer

Time: Meeting 1:00pm – 4:00pm

Meeting Purpose:

- Gain more detailed ideas on the wetland education and outreach strategy for the industrial sectors
- Share internal industrial wetland education materials amongst group membership in order to see what is currently being used

Time	Agenda Item	Lead
1:00	1.0 Administration 1.4 Health and Safety 1.5 Welcome & Introductions 1.6 Review and Approve Agenda	Terra
1:20	2.0 Review 2.1 Quick review of what was covered in the last meeting (Tiered diagram)	Terra
1:30	3.0 Pro-10 Wetland Education Ideas 3.1 Dr. Les Fuller to provide update on Pro-10 /GoA process 3.2 Further Develop Tier 1 and 2 ideas from last meeting 3.2 Best means to convey/connect to target audience 3.3 Webinars	Dr. Les Fuller Terra All
2:30	Break	
2:45	4.0 Wetland Education Information Exchange 4.1 Compile list of internal wetland education products and tools available to industrial sectors – brief description from each member 4.2 Evaluate success of current wetland education products and tools	Terra All
	5.0 Wetland Education Network Forum 5.1. Ideas for what industry membership would like to see or contribute at March 15, 2017 forum	
4:00	4.0 Wrap-up	Terra