

# FINAL REPORT

## Peace Fish and Wildlife Compensation Program Colloquium PEA-F19-W-2623

*Prepared for:*

**Fish and Wildlife Compensation Program**

*Prepared by:*

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**April 24, 2019**

*Prepared with financial support of the Fish and Wildlife Compensation Program on behalf of its program partners BC Hydro, the Province of BC, Fisheries and Oceans Canada, First Nations, and public stakeholders.*



## Executive Summary

This project continues a long relationship between the Natural Resources and Environmental Studies Institute (NRESi) at UNBC and the Peace Region's Fish and Wildlife Compensation Program (FWCP) (previously B.C. Hydro) with the delivery of 3 research colloquium presentations. These presentations provided an education and outreach venue where we could discuss emerging research projects and the current state of knowledge on natural resource issues relating to the FWCP Peace region. The presentations provided an opportunity to develop relationships between UNBC and local stakeholders and to assess current FWCP information needs. The project addressed the FWCP's strategic objective in the Peace Basin Plan – Stewardship and Education and Community Engagement, to increase community engagement by building and maintaining relationships with stakeholders and aboriginal communities.

Dr. Mark Shrimpton (University of Northern British Columbia) presented on "One fish, two fish, red fish, lots of fish: Where did they come from and what are they doing?" in Mackenzie, British Columbia, on November 27, 2018. On February 21, 2019, Dr. Roy Rea (University of Northern British Columbia) discussed moose and forest management in his presentation "You cannot love softwoods and hate hardwoods... Considerations for moose in forest management." to an engaged audience in Fort St. John, and Dr. Steve McAdam (BC Ministry of Environment and Climate Change) presented "White sturgeon in BC: Moving from recruitment failure to restoration" to over 60 people in Prince George on April 11, 2019. Each of the three presentations were well attended by a broad cross-section of the local community members representing various interest-areas (e.g., industry, academia, First Nations, government, general public) and generated many questions and interesting post-presentation discussions. The three topics presented also contributed to the achievement of Objective 1 in the Peace Basin Riparian and Wetlands Action Plan, Upland Action Plan, and Stream Action Plan, as well as Objective 2 of the Peace Basin, the Streams Action Plan. It is recommended that this project be continued in the future. One of the topics presented was on a project funded by the Peace Region's Fish and Wildlife Compensation Program. Future presentation topics should continue to incorporate suggestions for presentation content from First Nation's as well as continuing to include previously funded Fish and Wildlife Compensation Program – Peace Region project results. Presentations should also include topics that educate stakeholders on emerging issues within the FWCP Peace Region landbase, including networking to UNBC faculty with research interests in the topic area, provide examples of fish and wildlife management from other jurisdictions that are directly applicable to the

FWCP Peace Region landbase, and incorporate regionally appropriate topics for presentations in each of Prince George, Mackenzie, and Fort St. John. Participation by Fish and Wildlife Compensation Program Peace Region Board and committee members should be encouraged.

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## Introduction

The Natural Resources and Environmental Studies Institute (NRESi) at UNBC has had a long relationship with the FWCP and previously B.C. Hydro to provide extension of knowledge concerning relevant topics in the FWCP Peace Region. Over the years, this project has hosted 16 lectures, providing the opportunity to share knowledge and creating networking opportunities. This project continues that relationship with the delivery of 3 presentations aimed at providing an education and outreach venue for building connections and developing relationships with those who have an interest in the area, as well as providing an opportunity to share knowledge and expertise that is being developed in or could be applied to the Peace region. It addresses the need identified in the Peace Basin Action Plan – Stewardship and Education and Community Engagement, to increase community engagement by building and maintaining relationships with stakeholders and aboriginal communities, recognizing the important of engaging aboriginal communities, local stakeholders, and other interest groups to contribute toward making good decisions and delivering effective projects. The project also addresses the identified need to improve science and knowledge by allowing researchers to share and discuss their latest research findings with others with similar interests and thus foster productive interactions among the FWCP, the public, research consultants, and the academic community.

## Goals and Objectives

The goal of this project is to share knowledge and information and to provide a venue for networking and open discussion of fish and wildlife research results and management implications which will help to improve the management of fish and/or wildlife in both the short- and long term.

The objectives of the project were to;

- 1) Provide an important extension vehicle for the Peace Region's Fish and Wildlife Compensation Program;
- 2) Increase community engagement by fostering productive interactions and dialogue among the FWCP partners, the public, First Nations, industry, the consulting community, and academia;
- 3) Inform local communities and agencies on the best practices from other jurisdictions and communities regarding the strategic priorities of the Peace Region's Fish and Wildlife Compensation Program; and
- 4) Address the FWCP Peace Region's strategic objective of community engagement by supporting stewardship and education projects (Section 4.3 – Peace Basin Plan).

## Study Area

As this project consisted of a series of three presentations, there is no study area for this project per se. However, sponsored presentations were held in three northern British Columbia communities, Mackenzie, Fort St John, and Prince George. In addition, all three presentations were available for viewing live over the Internet using UNBC's Blue Jeans system (Mackenzie and Fort St John), and Live Stream system (Prince George), thus making it available to interested people not able to attend the presentation in person. All presentations were also recorded and posted on the UNBC Video archive for future viewing by those interested.

## Methods

A series of 3 evening talks were organized, one in each of the following locations in British Columbia: Mackenzie, Fort St. John, and Prince George. Presentation topics were chosen using the list of FWCP-Peace Region funded projects and in consultation with the FWCP First Nations Working Group, the Peace Region FWCP manager, and the NRESi Steering Committee, choosing themes that supported FWCP strategic research directions, while illustrating new and emerging themes within the scientific community as they apply to the FWCP Peace Region. Speakers were identified to address those themes and were contacted to determine their interest and availability. Once presentation dates were determined, venues were contacted and booked, and arrangements made for catering. For the events in Mackenzie and Fort St John, catering consisted of basic refreshments (e.g., coffee, tea, cookies, muffins, etc), while for the Prince George event, a pre-event buffet dinner was held for invited guests and dignitaries. For the Mackenzie and Fort St John events, arrangement for using the UNBC's Blue Jeans system for livestreaming and recording the presentations were made, and for the Prince George event, held at the University of Northern British Columbia, arrangements for Live Streaming and recording of the presentation were made with the Educational Media Services department.

Events were advertised via local media in Mackenzie, Fort St John and Prince George, in the Natural Resource and Environmental Studies Institute's bi-weekly newsletter, and through posters (see section 10 for samples) hung at various public locations in Mackenzie, Fort St John and on the UNBC Prince George campus. In addition, email announcements were distributed to First Nations, Industry, Government and general public contacts in Mackenzie, Fort St John and Prince George. Email announcements were also sent to the Fish and Wildlife Compensation Program Peace Region Board,

technical committees and First Nations Working Group. The Mackenzie, Fort St John, and Prince George local radio stations were also contacted with information on the presentations. Presentation announcements with event details were also shared via the Fish and Wildlife Compensation Program and the University of Northern British Columbia webpages and the FWCP LinkedIn page.

## **Results and Outcomes**

### ***Mackenzie***

The Mackenzie presentation took place on Tuesday, November 27, 2018 at the Mackenzie Recreation Centre in Mackenzie, BC. The theme of this presentation was the Kokanee introduction to the Williston reservoir between 1990-1998 and featured Dr. Mark Shrimpton (University of Northern British Columbia) who spoke about “One fish, two fish, red fish, lots of fish: Where did they come from and what are they doing?” Dr. Shrimpton provided a review of the results to date for the on-going Fish and Wildlife Compensation Program funded study on the effects of the introduced Kokanee on the nutrient dynamics and the web of interactions between Kokanee, aquatic insects, and the surrounding riparian zone. Methods, hypotheses, and some of the techniques that were used in this research were presented, including stable isotope analysis. A recording of Mark’s talk is available on-line at: [https://video.unbc.ca/media/Fish+and+Wildlife+Compensation+Program+-+November+27+2019/0\\_d756hw5a/19801](https://video.unbc.ca/media/Fish+and+Wildlife+Compensation+Program+-+November+27+2019/0_d756hw5a/19801)

The engaging presentations generated much discussion and interest among the 20 people in attendance with 4 people tuning in remotely. Attendees included representatives from the forest industry (Canadian Forest Products Ltd., Conifex, and BC Timber Sales), the Mackenzie Community Forest, the Provincial government, academia, the consulting community, the BC Trappers Association, the Mackenzie Nature Observatory, and the general public. Prior to the presentation, Ms. Chelsea Coady, the Peace Region Manager, made a remote presentation through the Blue Jeans system on the Fish and Wildlife Compensation Program.

### ***Fort St John***

The Fort St John presentation was held on Thursday, February 21, 2019 at the LIDO theatre in Fort St. John, British Columbia. The theme for the evening was Moose and Forest Management. Following a brief introduction by Al Wiensczyk, Ms. Chelsea Coady, Peace Region Manager, made a presentation on

the Fish and Wildlife Compensation Program. Ms. Coady was not able to attend the event in person and so utilized the UNBC Blue Jeans system to give her presentation remotely. The main speaker of the evening was Dr. Roy Rea (University of Northern British Columbia) who discussed “You cannot love softwoods and hate hardwoods... Considerations for moose in forest management”. This talk focused on the impacts of forest management, particularly silviculture treatments, on moose habitat. He suggested that moose are better served when we leave more mature forests for thermal and security cover and promote the growth of you mixed hardwood/softwood stands for foraging. He made the argument for why we should be practicing Jerry Franklin’s “1980s New Forestry” that urges us to “consider not only how much we take, but also how much we leave behind” and why this benefits not only moose, but also myriad other species. Although Roy’s presentation was broadcast through Blue Jeans and was recorded, there were some technical issues with the recording and as such it is unavailable. However, Dr. Rea gave a similar presentation in the fall as part of the UNBC Natural Resources and Environmental Studies Institute’s Friday colloquium series and this is available online at:

[https://video.unbc.ca/media/You+Cannot+Love+Softwoods+and+Hate+Hardwoods+%E2%80%A6+and+Other+Thoughts+About+Silvicultural+Racism+by+a+Flaming+Moosologist.+Dr.+Roy+Rea%2C+UNBC+-+September+21+2018/0\\_g6kgffts/19801](https://video.unbc.ca/media/You+Cannot+Love+Softwoods+and+Hate+Hardwoods+%E2%80%A6+and+Other+Thoughts+About+Silvicultural+Racism+by+a+Flaming+Moosologist.+Dr.+Roy+Rea%2C+UNBC+-+September+21+2018/0_g6kgffts/19801)

Approximately 55 people (+ 5 online) attended the presentation which included representatives from the forest industry (Canadian Forest Products Ltd, and BC Timber Sales), West Moberly First Nations, the Provincial government, the natural resource consulting community, and the general public. There were also a couple of representatives from the Fish and Wildlife Compensation Program Board and First Nations Working Group in attendance.

## ***Prince George***

Dr. Steve McAdam (BC Ministry of Environment and Climate Change) discussed his research on white sturgeon in his presentation “White Sturgeon in BC: Moving from recruitment failure to restoration” to over 60 people at the University of Northern British Columbia, Prince George campus, on Thursday, April 11, 2019. Sixteen (16) additional people listened to the presentation online. Dr. McAdam shared information on the status of sturgeon species around the world, some of the basic biology of the species and noted that, for white sturgeon in BC, half of the populations have been undergoing recruitment failure for over 40 years, and that natural juvenile production is insufficient to sustain the population. Populations in the Nechako, Columbia and Kootenay Rivers are currently sustained by inputs from



conservation fish hatcheries. However, restoration of natural recruitment is the long-term recovery goal. He discussed his research on the causal mechanisms for recruitment failure in which it was found that there are important links between recruitment failure and infilling of early rearing habitats by sand and fine sediment. Biological investigations indicate that the presence of suitable interstitial spaces is critical for early development and survival. The negative consequence of substrate changes in early rearing habitats, combined with an improved understanding of the fluvial geomorphology of these habitats, has led to the implementation of experimental substrate restoration. While substrate restoration provides a promising approach further evaluation over multiple years is required to verify response from current restoration studies.

Attendees included faculty, graduate and undergraduate students, and representatives from the consulting community, the Provincial government, the general public, and the Fish and Wildlife Compensation Program Board and First Nations Working Group.

Prior to Dr. McAdam's presentation, Chelsea Coady, Peace Region Manager, gave a brief presentation on the Fish and Wildlife Compensation Program. These two presentations were recorded and are available at: [https://video.unbc.ca/media/NRESi+FWCP+Special+Colloquium+-+White+sturgeon+in+BC%2C+Moving+from+recruitment+failure+to+restoration.+Dr.+Steve+McAdam+-+April+11+2019/0\\_zvmn6jo7/19801](https://video.unbc.ca/media/NRESi+FWCP+Special+Colloquium+-+White+sturgeon+in+BC%2C+Moving+from+recruitment+failure+to+restoration.+Dr.+Steve+McAdam+-+April+11+2019/0_zvmn6jo7/19801)

## **Discussion**

This project was successfully delivered and achieved the project's objectives of providing an important extension vehicle for the Peace Region's Fish and Wildlife Compensation Program, increasing community engagement by fostering productive interactions and dialogue among the FWCP, the public, First Nations, industry, the consulting community, and academia, and informing local communities and agencies on the best practices from other jurisdictions and communities regarding the strategic priorities of the Peace Region's Fish and Wildlife Compensation Program.

Each of the three presentation events were very well attended by a broad cross-section of the local community members representing various interest-areas (e.g., industry, academia, First Nations, government, general public) and generated many questions and interesting post-presentation discussions, thereby contributing to the Fish and Wildlife Compensation Program's strategic objective to

build and maintain relationships with stakeholders and aboriginal communities. In addition, members of the Peace Region's Fish and Wildlife Compensation Program Board and its committees also attended. In addition, a number of people (Online viewers: Mackenzie - 4, Fort St John - 5, Prince George - 16) took advantage of the presentations being available remotely.

The three topics presented in this year's colloquium series also addressed several of the objectives described in the Peace Basin Action Plans. Specifically, the presentation by Dr. Roy Rea on moose and forest management contributed to the achievement of Objective 1 in the Peace Basin, Upland Action Plan to improve the understanding of the abundance, distribution, trend, and connectivity of ecologically important upland habitats (Fish and Wildlife Compensation Program 2014a) and Objective 1 in the Peace Basin, Riparian and Wetlands Action Plan to improve the understanding of the abundance, distribution, trend, and connectivity of riparian and wetland ecosystems (Fish and Wildlife Compensation Program 2014b).

The presentation by Dr. Mark Shrimpton on the Kokanee project contributed to the achievement of Sub-objective 2a. Understand the effects of Kokanee introductions on the aquatic food web of the Peace Basin Streams Action Plan (Fish and Wildlife Compensation Program 2014c), while the presentation by Dr. Steve McAdam on white sturgeon contributed to the achievement of Objective 1. Conserve or enhance high priority species and habitats in the same action plan.

There was a significant challenge encountered this year during the presentation organization process for the Prince George event. A suggested speaker, contacted via email in December 2018, had agreed to present in early April, 2019. However, for reasons unknown, follow-up emails sent in January, February and early March to set a date and make travel arrangement elicited no response whatsoever from the potential speaker. Other avenues were explored to contact the potential speaker but were ultimately unsuccessful. Fortunately, an alternate speaker was found a couple of weeks prior to the potential presentation date.

There were also some technical challenges (audio quality) with the remote broadcasting of the presentations in Mackenzie and Fort St. John through the BlueJeans system. We will work with the UNBC IT department to address these challenges for future remote events.

## **Recommendations**

It is recommended that this project be continued in the future. Future presentation topics should continue to incorporate suggestions for presentation content from First Nations as well as continuing to include previously funded Peace Region Fish and Wildlife Compensation Program project results. Presentations should also include topics that educate stakeholders on emerging issues within the FWCP Peace Region landbase, including networking to UNBC faculty with research interests in the topic area, provide examples of fish and wildlife management from other jurisdictions that are directly applicable to the FWCP Peace Region landbase, and incorporate regionally appropriate topics for presentations in each of Prince George, Mackenzie, and Fort St. John. Participation by Fish and Wildlife Compensation Program Board and committee members should be encouraged.

## **Acknowledgements**

Thanks to the Peace Region's Fish and Wildlife Compensation Program for the financial support for this project. Thanks also to Sarah Curtis (Canfor – Mackenzie), and Dawn Griffin (Canfor- Fort St John) for their assistance with the presentations and advertising in Mackenzie and Fort St John.

## References

Fish and Wildlife Compensation Program. 2014a. Peace Basin. Upland Action Plan. BC Hydro. 20 pp. <http://fwcp.ca/app/uploads/2015/07/fwcp-peace-uplands-action-plan-march-31-2014.pdf>

Fish and Wildlife Compensation Program 2014b. Peace Basin. Riparian and Wetlands Action Plan. BC Hydro. 20 pp. <http://fwcp.ca/app/uploads/2015/07/fwcp-peace-riparian-and-wetlands-action-plan-march-31-2014.pdf>

Fish and Wildlife Compensation Program. 2014c. Peace Basin. Streams Action Plan. BC Hydro. 30pp. <http://fwcp.ca/app/uploads/2015/07/fwcp-peace-streams-action-plan-march-31-2014.pdf>

# Confirmation of FWCP Recognition

<p>Presented By: UNBC's Natural Resources &amp; Environmental Studies Institute</p> 	<h2 style="text-align: center;">PUBLIC PRESENTATION</h2> 
<p style="text-align: center;"><b>Tuesday November 27, 2018</b></p> <p style="text-align: center;"><b>7:00pm</b></p> <p style="text-align: center;"><b>Mackenzie Recreation Centre</b></p> <p style="text-align: center;"><b>400 Skeena Dr. Mackenzie, BC</b></p> <p style="text-align: center;"><b>Participants can also attend remotely by going to:</b></p> <p style="text-align: center;"><a href="http://www.unbc.ca/nres-institute/colloquium-webcasts">www.unbc.ca/nres-institute/colloquium-webcasts</a> <i>(BlueJeans feed only)</i></p> 	<h3 style="text-align: center;">One fish, two fish, red fish, lots of fish: Where did they come from and what are they doing?"</h3> <p style="text-align: center;"><b>Guest Presenter: Dr. Mark Shrimpton</b> University of Northern British Columbia</p> <p style="text-align: center;"><b>Presentation Summary</b></p> <p>The Williston Reservoir was created in 1968 following the construction of the WAC Bennett Dam and impounding the Peace River in the canyon near Hudson's Hope, BC for hydroelectric generation. With a surface area of 1,779 square kilometers, the Williston Reservoir is the largest lentic freshwater system in British Columbia. Kokanee (<i>Oncorhynchus nerka</i>) were stocked into southern tributaries to the Williston Reservoir from 1990 to 1998 to create a Kokanee sport fishery and a prey source for large piscivorous fish species. Recently, spawning Kokanee have been observed throughout tributaries in the Williston watershed that flow into the north-western portion of the reservoir – not the regions originally stocked. The introduced Kokanee to the Williston Watershed have the potential to dramatically affect the flow of nutrients from the reservoir to streams where they spawn and die, affecting fish, aquatic insects, and lichen from the surrounding riparian zone. We sampled stream resident fish, assessed diversity of aquatic invertebrates and the lichen community within the riparian zone in streams where Kokanee spawn compared to streams where Kokanee do not spawn. Diversity is high for aquatic invertebrates and lichen, but most small tributary streams have few species of fish. Using stable isotope to trace the source of nutrients for tributary streams, we found signatures from the reservoir in streams where Kokanee spawn. Our findings are strongly suggestive that Kokanee provide a source of nutrients to tributary streams in the Williston Reservoir watershed.</p> <p style="text-align: center;"><b><i>All are welcome to attend. No registration required.</i></b></p> <p>The Natural Resources &amp; Environmental Studies Institute at the University of Northern BC, together with its partners, invite those with interest in learning more about amphibians in north-central British Columbia to attend this presentation and discussion. This presentation will also be viewable on the internet via the BlueJeans feed only. Visit <a href="http://www.unbc.ca/nres-institute/colloquium-series">www.unbc.ca/nres-institute/colloquium-series</a> for information on how to connect.</p> <p>This project is funded by the <b>Fish and Wildlife Compensation Program</b> on behalf of its program partners <b>BC Hydro, the Province of BC, First Nations and the public</b>, who work together to conserve and enhance fish and wildlife impacted by existing BC Hydro dams.</p> 

Figure 1. Poster for Mackenzie Presentation

Presented By: UNBC's Natural Resources & Environmental Studies Institute



# PUBLIC PRESENTATION



## You Cannot Love Softwoods and Hate Hardwoods ... Considerations for Moose in Forest Management

**Guest Presenter: Dr. Roy Rea**

Senior Laboratory Instructor  
University of Northern British Columbia

**Presentation Summary:**

Aldo Leopold said: "Harmony with the land is like harmony with a friend; you cannot cherish his right hand and chop off his left. That is to say, you cannot love game and hate predators...the Land is one organism." If Aldo Leopold were still around, he might also agree with me that you cannot love softwoods and hate hardwoods for the same reason that you cannot love game and hate predators; moose might agree with the former, but not the latter. Moose might also agree with the recently released Chief Forester's guidelines on stand- and landscape-level retention in forests now targeted for sanitation and salvage logging in spruce leading forests of the Omineca Region. Unfortunately, moose are having a hard time articulating what they'd like to see happening on the landscape, so I will attempt to speak for the moose (as Dr. Seuss' Lorax did when he claimed he would speak for the trees). I suggest that moose are better served when we leave more mature forests for thermal and security cover and promote the growth of young mixed hardwood/softwood stands for foraging. In essence, I will make an argument for why we should be practicing Jerry Franklin's "1980s New Forestry" that urges us to "consider not only how much we take, but also how much we leave behind" and why this benefits not only moose, but also myriad other species.

Roy Rea obtained a BSc in Biological Sciences from California State University, Stanislaus in 1992 and a MSc, Biology from UNBC in 1999. In 2014, Roy completed a PhD in Ecology from the Norwegian University of Life Sciences in Ås, Norway. Roy has worked as a Senior Lab Instructor in the Ecosystem Science and Management Program at UNBC since 2000 where he teaches Introductory Biology, Field Applications in Resource Management and labs in Plant Systematics. Roy has worked with the PG Airport Authority on several projects aimed at reducing potential conflicts between aircraft and animals since 2007 and also works jointly the provincial Ministry of Transportation on projects aimed at mitigating wildlife-vehicle collisions on highways in northern British Columbia.

Thursday  
Feb 21, 2019

7:00 pm

LIDO Theatre  
10156 100 Ave  
Fort St John, BC

Participants can also attend remotely by going to:

[www.unbc.ca/nres-institute/colloquium-webcasts](http://www.unbc.ca/nres-institute/colloquium-webcasts)

**All are welcome to attend. No registration required.**

The Natural Resources & Environmental Studies Institute at UNBC, together with its partners, invite those with interest in learning more about considerations for moose in forest management to attend this presentation and discussion.

This project is funded by the **Fish and Wildlife Compensation Program** on behalf of its program partners **BC Hydro, the Province of BC, First Nations** and the **public**, who work together to conserve and enhance fish and wildlife impacted by existing BC Hydro dams.



Figure 2. Poster for Fort St John Presentation








<p>Presented By: UNBC's Natural Resources &amp; Environmental Studies Institute</p> 	<h1 style="text-align: center;">PUBLIC PRESENTATION</h1> 
 <p style="text-align: center;"><b>Thursday April 11, 2019</b></p> <p style="text-align: center;"><b>7:30 pm</b></p> <p style="text-align: center;"><b>7-212 UNBC Prince George Campus</b></p> <p>Participants can also attend remotely by going to: <a href="http://www.unbc.ca/nres-institute/colloquium-webcasts">www.unbc.ca/nres-institute/colloquium-webcasts</a></p> 	<h2 style="text-align: center;">White sturgeon in BC: Moving from recruitment failure to restoration</h2> <p style="text-align: center;"><b>Guest Presenter: Dr. Steve McAdam</b> Hydroelectric Impacts Biologist BC Ministry of Environment and Climate Change Co-chair—National White Sturgeon Recovery Team</p>
	<p style="text-align: center;"><b>Presentation Summary:</b></p> <p>Most of the 27 sturgeon species in the world are threatened or endangered according to the IUCN. For white sturgeon in BC half of the populations have been undergoing recruitment failure for over 40 years, and natural juvenile production is insufficient to sustain the population. Currently populations in the Nechako, Columbia and Kootenay Rivers are sustained by inputs from conservation fish hatcheries, however, restoration of natural recruitment is the long term recovery goal. While recruitment failure is linked to the presence of dams and flow regulation, a detailed understanding of the causal mechanisms is critical to reversing this effect. Research in the past decade has identified important links between recruitment failure and infilling of early rearing habitats by sand and fines. Biological investigations indicate that the presence of suitable interstitial spaces is critical for early development and survival. The negative consequence of substrate change in early rearing habitats, combined with an improved understanding of the fluvial geomorphology of these habitats, has led to the implementation of experimental substrate restoration. While substrate restoration provides a promising approach further evaluation over multiple years is required to verify response from current restoration studies.</p>
	<p>Dr. McAdam is broadly interested in the impacts of dams and flow regulation on riverine fish and ecosystems. Currently his work is focussed on the mechanisms causing white sturgeon recruitment failure, larval white sturgeon habitat needs, and remediation of white sturgeon spawning and early rearing habitat. He is currently involved in planning, implementing and monitoring habitat restoration on the Nechako and Columbia Rivers. Steve has been involved in white sturgeon recovery throughout BC since its inception in 2001, and he is the co-chair of the National White Sturgeon Recovery Team as well as the leader of the Habitat Restoration Working Group of the World Sturgeon Conservation Society.</p>
<p style="text-align: center;"><b>All are welcome to attend. No registration required.</b></p> <p>The Natural Resources &amp; Environmental Studies Institute at the University of Northern British Columbia, together with its partners, invite those with interest in learning more about White Sturgeon to attend this presentation and discussion.</p>	
<p>This project is funded by the Fish and Wildlife Compensation Program on behalf of its program partners BC Hydro, the Province of BC, Fisheries and Oceans Canada, First Nations and Public Stakeholders, who work together to conserve and enhance fish and wildlife in watersheds impacted by existing BC Hydro dams.</p> 	

Figure 3. Poster for Prince George Presentation