

Two information streams: REGULATORY/ SCIENCE AND ECOLOGY/TECHNOLOGY WILL BE PRESENTED EACH WEEK

Each presentation is 30 minutes long followed by 30 minutes of questions and answers. All presentations start at 1:00pm

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TUESDAY SESSION, 1:00 PM: REGULATORY / SCIENCE

Week 1	April 21	Watercourse Crossing Management Directive: Wendy Giamberardino, AEP – REGISTER HERE
Week 2	April 28	Status of Alberta Native Trout Species: Adrian Meineke, AEP — REGISTER HERE
Week 3	May 5	Sediment Risk and Road Design: Michael Wagner, AAF — REGISTER HERE
Week 4	May 12	Measuring Fish Habitat Connectivity in Freshwater Ecosystems: Mark Poesch, UofA – REGISTER HERE
Week 5	May 19	Alberta WCC Regulatory Overview, including Area Based Closures: Mike Hunka, AER – REGISTER HERE
Week 6	May 26	Collaborating with Friends Colleagues and Enemies to Achieve WCC Goals: Matthew Pyper, FUSE Consulting – REGISTER HERE
Week 7	June 2	Roadway WCC Management in the Boreal Region: Paul Harrington, AER - REGISTER HERE
Week 8	June 9	Current Compliance and Enforcement Standards and Guidelines: Owen Cook, AEP – REGISTER HERE
Week 9	June 16	A Collaborative Approach to WCC Restoration During Area Based Closures: Luke Hincz, Northwind – REGISTER HERE
Week 10	June 23	WCC Data Mgmt. and Restoration Plan Development and Submission: Woodlands North Inc. — REGISTER HERE



THURSDAY SESSION, 1:00 PM: ECOLOGY / TECHNOLOGY & OPERATIONS

	April 23	WCC Inventory and Assessment and Mobile Applications: Jorden Hayes, WNI – REGISTER HERE
	April 30	Construction BMP's: Culvert Removal, Stream Restoration and Bridge Installation: Steve Acorn, Acorn Environmental – REGISTER HERE
	May 7	Use of Drones and Spatial Software for WCC Planning: lain Sharp, WNI — REGISTER HERE
	May 14	Use of Terrestrial LiDAR for WCC Management: Javed Iqbal, AAF — REGISTER HERE
	May 21	Engineering Design for Creek Crossings: Michael Bender, Millennium EMS – REGISTER HERE
STATE OF THE PARTY	May 28	Crossing Alternatives: Application of an Open Bottom Plastic Arch: Ben Poltorak, Earthmaster Environmental Strategies – REGISTER HERE
THE STATE OF	June 4	Ecological BMP's Required to Conduct WCC Repair, Replacement, or Restoration: Bruce Nielsen, Woodlands — REGISTER HERE
TO WEST STATES	June 11	Driving a Cultural Shift through the use of Resource Infrastructure Standard Specifications: Cody Ponting, SureSpan Construction — REGISTER HERE
	June 18	Landscape Level Cumulative Effects of Poor WCC, Swan River Watershed Case Study: B. Poltorak, I. Sharp, & J. Iqbal — REGISTER HERE
S. C. O. S.	June 25	Effects of Backcountry Use and Linear Disturbances Along WCC's: T. Boag, C. Lund, Applied Aquatic

Research Ltd. - REGISTER HERE

SPRING 2020 AWC3 WCC WEBINAR SERIES

WCC Information Transfer for Construction Practitioners, Environmental Professionals, Resource Managers

Week	April 21	REGULATORY: AEP Watercourse Crossing Management Directive: The 2019 revision of this Directive outlines a coordinated risk-based approach. It expands and clarifies responsibilities including the lifecycle approach to approvals, watershed risk, regulatory transition to an audit role, reporting and performance expectations, and compliance and enforcement, Wendy Giamberardino, AEP
1	April 23	INVENTORY: WCC Inventory and Assessment Procedures and Mobile Applications: WCC management and planning is based on inventory of crossings and developing a spatial understanding of the problem, this webinar will outline how both a detailed, and a basic watercourse crossing assessments are completed. Jorden Hayes, Woodlands North
Week 2	April 28	EVIDENCE BASED MANAGEMENT: This presentation will outline the current status of Alberta's native trout species, highlight common drivers of population decline and describe what the GoA is doing to promote recovery. In addition I will outline why road/stream crossing are both a driver of population decline (non-functioning crossings) and a recovery tool as the Province bands together to solve a legacy issue. Adrian Meinke, AEP
	April 30	CONSTRUCTION: Current Watercourse Crossing Best Management Practices (BMP's): Construction BMP's will include planning, preparing and executing a culvert removal and bridge installation including installation of an temporary bridge to maintain traffic on a busy, high and heavy traffic access road. Steve Acorn, Acorn Environmental
Week 3	May 5	EVIDENCE BASED MANAGEMENT: Sediment Risk and Road Design: Industrial unpaved roads are one of the largest sources of sediment impacting water quality and aquatic habitats; including aquatic Species at Risk. This webinar will showcase a watershed analysis platform to address risks of unpaved roads and non-point source pollution to water quality and fish habitat. Michael Wagner, AAF
	May 7	TECHNOLOGY: Use of Drones and Software: By using a drone and modern software packages, construction managers are able to gain a unique and important perspective of the project and determine volumes, hazards, and operations sequencing. Iain Sharp, WNI
Week 4	May 12	EVIDENCE BASED MANAGEMENT: Challenges and Opportunities With Measuring Connectivity in Freshwater Systems: Mark Poesch, UofA
	May 14	TECHNOLOGY: Use of Terrestrial LiDAR: Static LiDAR has become affordable, portable and has increased in accuracy and ease of management to help with site documentation, structure inspection, construction planning, and job siting. This webinar will review the use and application of this technology to help save time, money, and provide valuable site documentation. Javed Iqbal, AAF
Week 5	May 19	REGULATORY: Permitting and Regulatory Overview: This webinar will cover the requirements for permitting under the Water Act and the Public Lands Act and will also look at permitting projects under an Area Based Closure approach. Standardization of mitigation measures will be covered as a means to simply the approvals process. Mike Hunka, AER
	May 21	CONSTRUCTION: Engineering for resource road creek crossings: conveyance capacity, fish passage, and design options: Michael Bender, Millennium EMS Solutions Ltd.
Week 6 Week 7	May 26	PLANNING: Collaborating with friends, collogues and enemies to achieve watercourse crossing goals. Collaboration can be a key tool to efficiently achieve economic and ecological goals, but does collaboration mean we have to get along? This talk will explore a number of collaboration models and relate them to opportunities relevant to achieving efficiency and effective watercourse crossing outcomes. Matthew Pyper, Fuse Consulting
	May 28	CONSTRUCTION: Crossing Alternatives, Open bottom plastic culvert system for a fish friendly watercourse crossing on resource roads, Ben Poltorak, Earthmaster Environmental Strategies Inc.
	June 2	INVENTORY: Roadway WCC Management in the Boreal Region: The RWCID incorporated the boreal region of Alberta to be included in the Directive, AER WCC inspectors and provincial practitioners developed these criteria between 2018-2020. Paul Harrington, AER
	June 4	ECOLOGY: WCC Ecological Best Management Practices Overview: This webinar will give an overview of the ecological steps and current Best Management Practices which must be completed while conducting a WCC installation, replacement or restoration projects. Bruce Nielsen, Woodlands North Inc.
Week 8	June 9	REGULATORY: An Overview of Current Regulatory and Compliance Measures in Regards to WCC in Alberta: This webinar will outline the current compliance standards that roadway WCC owners are expected to understand and meet Owen Cook, AEP
	June 11	CONSTRUCTION: Driving a Cultural Shift Through the use of Resource Infrastructure Standard Specifications: Different jurisdictions construct and operate under different best management practices, greater long term success is realized in areas that use a standardized set of specifications. Cody Ponting, SureSpan Construction Ltd.
Week	June 16	PLANNING: Collaborative WCC Restoration during ABC: Area Based Closures of abandoned fields are becoming common practice, incorporating WCC restoration plans into this process has been mostly overlooked until this point and can be planned for and implemented to realize significant efficiencies and savings. Luke Hincz, Northwind Land Resources Ltd., Bruce Nielsen, WNI
9 9	June 18	ECOLOGY: Landscape Level WCC Ecological Modeling: A collaboration of industrial resources to mitigate compounding aquatic ecosystem cumulative effects within a watershed: A case study within the Swan River basin in north central Alberta. Ben Poltorak – Earthmaster, Javed Iqbal – AAF, Iain Sharp - WNI
Mack	June 23	DATA, PLANNING: WCC Data Management and Restoration Plan Development: All inspections comprise data that must be organized, compiled, and reviewed to allow for restoration and management planning to be completed. Daniel Monaco, Woodlands North
Week 10	June 25	ECOLOGY: Backcountry Use and Linear Disturbances on WCC's: This webinar stresses the importance of monitoring and maintaining all watercourse crossings, whether a highway, forestry trunk road or off-road vehicle trail, as each crossing may impact fish and their habitat differently: A case study on Dutch Creek Watershed Linear Features. Cody Lund, Thomas Boag, Applied Aquatic Research Ltd.
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Speaker	Biography		
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Steve Acorn	Acorn Environmental Inc. Steve has 20 years of operational experience in Land Resource Management. Steve's career has focused on Civil Earthworks Construction, Remediation Excavation, Frack Water Management and Stream Crossing installations, reclamation and rehabilitation. Steve currently contracts to one of the largest oil and gas producers in western Canada as a Senior Supervisor managin and executing Civil Earthworks projects, and Stream Crossing Projects.		
Michael Bender, PhD, P.Eng.,	Millennium EMS Solutions Ltd. Michael is a practitioner with 25 years of consulting experience in Alberta as a water resources engineer. He has supported the forestry and oil and gas sectors related to watershed and road crossing work since the 1990s. This includes hydrology, geomorphology, river training/engineering, culvert/bridge sizing, and erosion protection.		
Tom Boag, M.Sc., P.Biol.	Applied Aquatic Research Ltd. Tom has worked with fish populations and aquatic habitat for over 35 years. As a senior fish biologist, Tom has managed and participated in countless projects relating to fishes and their habitat in rivers, reservoirs and lakes throughout Alberta, British Columbia, Saskatchewan, Manitoba and the Arctic.		
Owen Cook,	Alberta Environment and Parks. Owen has been with GoA for 16 years and is currently a Senior Manager with AEP in the Regulatory Assurance Branch. He has spent the previous five years managing the compliance program in the Peace Region, which includes managing authorizations under the <i>Water Act</i> and Watercourse Crossing Code of Practice. Prior to this he was a forester, spending time monitoring timber operations including watercourse crossings.		
Wendy Giamberardino	Alberta Environmental Protection. Wendy has been the AEP Watercourse Crossing Program Coordinator for 2 years. She has worked for both the Federal and Provincial government as a regulator for 20 years with a background in environmental conservation sciences.		
Paul Harrington	Alberta Energy Regulator. Paul has worked within the GOA since 2005 where he is now an acting Senior Inspector. Paul's focus is on supporting the AER Water & Fisheries inspection program and compliance staff training. Paul recently lead the multi stakeholder task team that developed the Boreal Watercourse Crossing Management inspection flow chart and form and continues to be an active Steering Committee Member with the Directive.		
Jorden Hayes, ATT, QAES	Woodlands North Inc. Jorden has six years of ecology field work and has extensive field experience in inspecting watercourse crossings and developing crossing restoration prescriptions. With her field-based knowledge she has coordinated and trained many crews on inspecting watercourse crossings to meet client and government standards using several different applications.		
Luke Hincz,	NorthWind Land Resources. Luke has over 20 years of combined professional experience in upstream reclamation and forest management. He specializes in liability reduction and draws on his experience working as an area reclamation consultant for Canadian Natural Resources Limited as well as a forest officer for the Alberta Government. He has developed and managed several successful liability reduction programs for various clients with an emphasis on cost effective strategies and quick results.		
Mike Hunka, P.Biol	Alberta Energy Regulator. Mike has been a regulator since 2007, working as a fisheries biologist and senior environmental assessment analyst with Fisheries and Oceans Canada from 2007 to 2015 and as a fisheries biologist with the AER since 2015. Mike has experience regulating all aspects of oil, gas and mining as it pertains to interactions with the aquatic ecosystem and has been involved with the remediation of barriers to fish migration since 2008.		
Javed Iqbal, PhD, RPFT	Alberta Agriculture and Forestry. Javed completed his PhD from UNB in remote sensing and decision based modeling for natural resource management. Javed has been involved with WCC management in Alberta since 2014 and has developed numerous spatial inventory programs and restoration planning decision support systems to enable and further develop spatial learnings.		
Cody Lund, B.Sc.	Applied Aquatic Research Ltd. Cody is an Environmental Specialist with AAR and has 5 years of field experience in inspecting watercourses and watercourse crossings in oil/gas, forestry and environmental industries.		
Adrian Meinke, P.Biol.	Alberta Environmental Protection. Adrian Meinke is a father of four and a husband of one, he has been working in the GoA for 15 years. He started with the Alberta Conservation Association as a fisheries technician. He then moved over to work with Fish and Wildlife to lead monitoring activities during the Wabamun Lake oil spill. From there he moved to Grande Prairie to continue with Fish and Wildlife and has since moved to Team Lead and responsible for managing the fisheries within the Upper Peace Region.		
Daniel Monaco, B.Sc., QAES	Woodlands North Inc. Daniel is a Project Manager and Ecologist and has three years of WCC management experience in Alberta. Overseeing data management and quality control for watercourse crossing inventory field work has helped Daniel design and maintain large WCC data sets, help design mobile data collection applications, and use this knowledge into completing restoration plans.		
Bruce Nielsen, RPF, QAES	Woodlands North Inc. Bruce is an RPF and Forest Ecologist with 25 years of watercourse and creek crossing experience in northern BC and Alberta as a consultant to the forest sector, oil and gas industries, and government agencies.		
Mark Poesch, PhD	University of Alberta. Mark is a researcher and educator. He has studied over 20 freshwater fish species at risk. Mark sits on numerous provincial and national scientific bodies aimed to protect species at risk.		
Ben Poltorak, M.Sc., RPF, QAES	Earthmaster Environmental Strategies. Ben has been active in environmental consulting and delivery of services to the forestry and upstream oil and gas industry across Canada since 2007. He has a BSc in Forest Management from the University of Alberta and an MSc in Forest Engineering from the University of New Brunswick.		
Cody Ponting, MBA	Surespan Construction Ltd. Cody has been involved with a number of construction projects at all phases; from preliminary costing to contract close-out. Cody has over 10 years of experience with a centralized focus in resource and industrial infrastructure, including remote and limited access design build projects in mining, forestry and oil and gas sectors. Through this experience, Cody has also transitioned to oversee niche and specialized construction projects which demand innovative construction solutions.		
Matthew Pyper, M.Sc.	Fuse Consulting Ltd. Matthew is an Ecologist and Science Communicator, and co-owner of Fuse Consulting Ltd. He has facilitated complex collaborations involving organizations with tricky, and often competing interests. He draws on these experiences to help advise organizations on collaboration and science communication opportunities to break down barriers and achieve their goals.		
lain Sharp, M.Sc., P.Biol.	Woodlands North Inc. Iain is a recent graduate from the University of Alberta who studied at the Center of Earth Observation Science specializing in the use of remote sensing technology on environmental monitoring. He has practiced using multi-spectral, hyperspectral, and LiDAR technology to extract variables of interest for environmental and project management.		
Michael Wagner, M.Sc, RPF	Alberta Agriculture and Forestry. Michael is a Forest Hydrologist with over 20 years of experience in research hydrology, forestry and watershed management issues. The position he has with the Forestry Division focuses on developing decision support tools related to forest management and cumulative effects to address water and watershed management issues across Alberta's forested regions. Michael is also involved with watershed groups including the Oldman Watershed Council, the Bow River Basin Council and various watershed stewardship organizations.		