

**ClimateCHECK**  
SET THE STANDARD™



**Presented By:**

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**Presented To:**

**Developing a Wetlands Protocol:  
Science at Work**

**Edmonton, Alberta  
17 & 18 February 2010**

## KEY ISSUES

- **Seeking expert consensus to develop Wetlands Protocol for Alberta Offsets System.**
  - **Approach**
  - **Scope**
  - **Baseline Estimation**
  - **Quantification**
  - **Project Monitoring and Measurement**

# Approach

- **Emerging policy momentum**
  - UNFCCC / CDM — discussion concerning land use and land use change and forestry (LULUCF) sector.
  - **Involve:**
    - **Avoided emissions from decreased degradation (avoided release of sequestered carbon).**
    - **Enhanced sequestration of carbon.**
- **Existing protocols**
  - **Voluntary Carbon Standard.**
  - **Climate, Community & Biodiversity Association.**



# Approach

- **Building protocol for wetlands on mineral soils in the cool temperate plains.**
  - **Wetlands small, seasonal, and interspersed in an area highly transformed by agricultural activity.**
  - **Condition of wetland closely tied to management of upland.**
  - **Many wetlands have water chemistry predominated by sulphate.**
  - **Scientific and technical basis of protocol thus based on region-specific research and restoration practice.**



# Scope

- **Alberta Offset System requires:**
  - All gases are addressed
  - Boundaries determined by addressing all sources and sinks.
- **Must address issues of:**
  - Quantification
  - Ownership
  - Permanence
  - Verifiability



# Scope

- **Net emission reductions / removals associated with conservation and restoration activity**
  - Account for net emissions of CH<sub>4</sub> and N<sub>2</sub>O, and net CO<sub>2</sub> sequestration in soils of wetlands
- **Wetlands on mineral soils of Prairie Pothole Region**
  - Focus on Class 3, 4, 5, 6 wetlands?
  - Exclude public lands?
  - Include management of upland?
  - Require use of conservation easements?



# Baseline Estimation

- **Determine appropriate baseline scenario**
  - Represents what would happen in the absence of the projects prescribed by the protocol.
  - Possible range of scenarios:
    - All wetlands in the PPR are degraded (restoration).
    - All wetlands will be degraded (conservation and restoration).
    - All wetlands already degraded will remain so, but no more degradation expected (restoration).



# Quantification

- **No method in Canada's National Inventory Report**
  - Report does not quantify emissions associated with 'mineral' wetlands remaining wetlands, or with wetlands converted to cropland, or vice versa.
- **Extensive Research and Practice in Prairie Pothole Region**
  - Research — Agriculture and Wetlands Greenhouse Gas Initiative (AWGI), which builds on work by Bedard-Haughn, Euliss, Gleason, Pennock, etc. Plus watershed-level efforts such as Broughton's Creek.
  - Practice — extensive restoration work by Ducks Unlimited Canada



# Project Monitoring & Measurement

- **Public databases of wetland location and public processes for delineation are not well developed.**
  - **General classification scheme available (Stewart and Kantrud).**
  - **Restoration effort of Ducks can be used as reference point for delineation, reconstruction, monitoring.**





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