



Canadian Grasslands Protocol - Voluntary Carbon Market Opportunity under the Climate Action Reserve in the US

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Core Business Areas



Some of Our Clients / Partners



WHY?



52,500 ha perennial grassland
lost per year on average



Loss of Soil Carbon Stores



Equivalent to burning 1.22M barrels
of oil

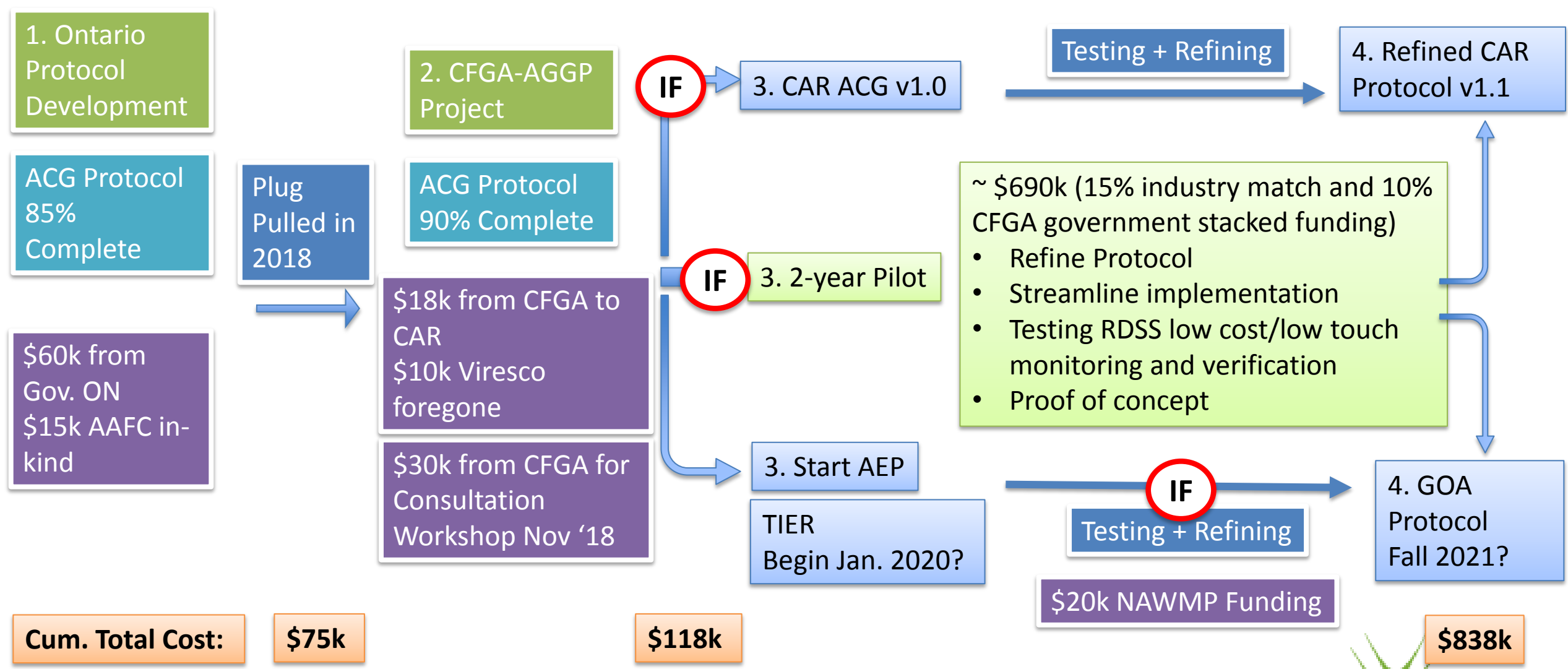


WHAT?

- In Alberta - opportunities for cropland have existed since 2007, despite grasslands being a significant carbon store
- CFGA and Viresco, in partnership with the Climate Action Reserve in the US have successfully established the Canadian Grasslands Protocol for voluntary carbon market opportunities – it's modeled after the US version.
- This is a series of firsts:
 - First for grasslands and forage lands in Canada
 - First for crediting the carbon from avoided conversion of these lands and retaining the carbon these lands store
 - If approved in Alberta's compliance based market – it is a BIG first!
 - The Regulator in California's Cap and Trade compliance based market will likely approve the US based version



How?



2018 CFGA Workshop Get the Protocol Approved!

CLIMATE
ACTION
RESERVE

CALIFORNIA
OFFSET PROJECT
REGISTRY

VOLUNTARY
OFFSET PROJECT
REGISTRY

CLIMATE
FORWARD ▶

CLIMATE
IMPACT
SCORE

NACW
NORTH AMERICAN
CARBON WORLD

RESOURCES

ABOUT US

CANADA GRASSLAND PROJECT PROTOCOL

PROGRAM

PROJECTS

PROTOCOLS

Adipic Acid Production

Canada Grassland

Canada Grassland
Development

Coal Mine Methane

Forest

Grassland

Mexico Boilers

Mexico Forest

Mexico Landfill

Mexico Livestock

Mexico Ozone Depleting
Substances

Canada Grassland Project Protocol

The Reserve partnered with Viresco Solutions to develop a Grassland Project Protocol for eligible projects in Canada. The protocol provides guidance on how to quantify, monitor, report, and verify GHG emission reductions associated with the avoided conversion of grassland to cropland. This protocol development effort has been funded in part by the Canadian Forage and Grassland Association. The protocol was adopted by the Reserve Board in October 2019.

- [Canada Grassland Project Protocol Version 1.0](#) (October 16, 2019)
- [Canada Grassland Project Protocol Version 1.0 Summary](#) (Coming Soon)

Protocol Revisions

The Canada Grassland Project Protocol is not undergoing revision at this time.

Protocol Development

The protocol development process for the Canada Grassland Project Protocol involved a multi-stakeholder workgroup, public comments, and responses to public comments. For more information, please visit:

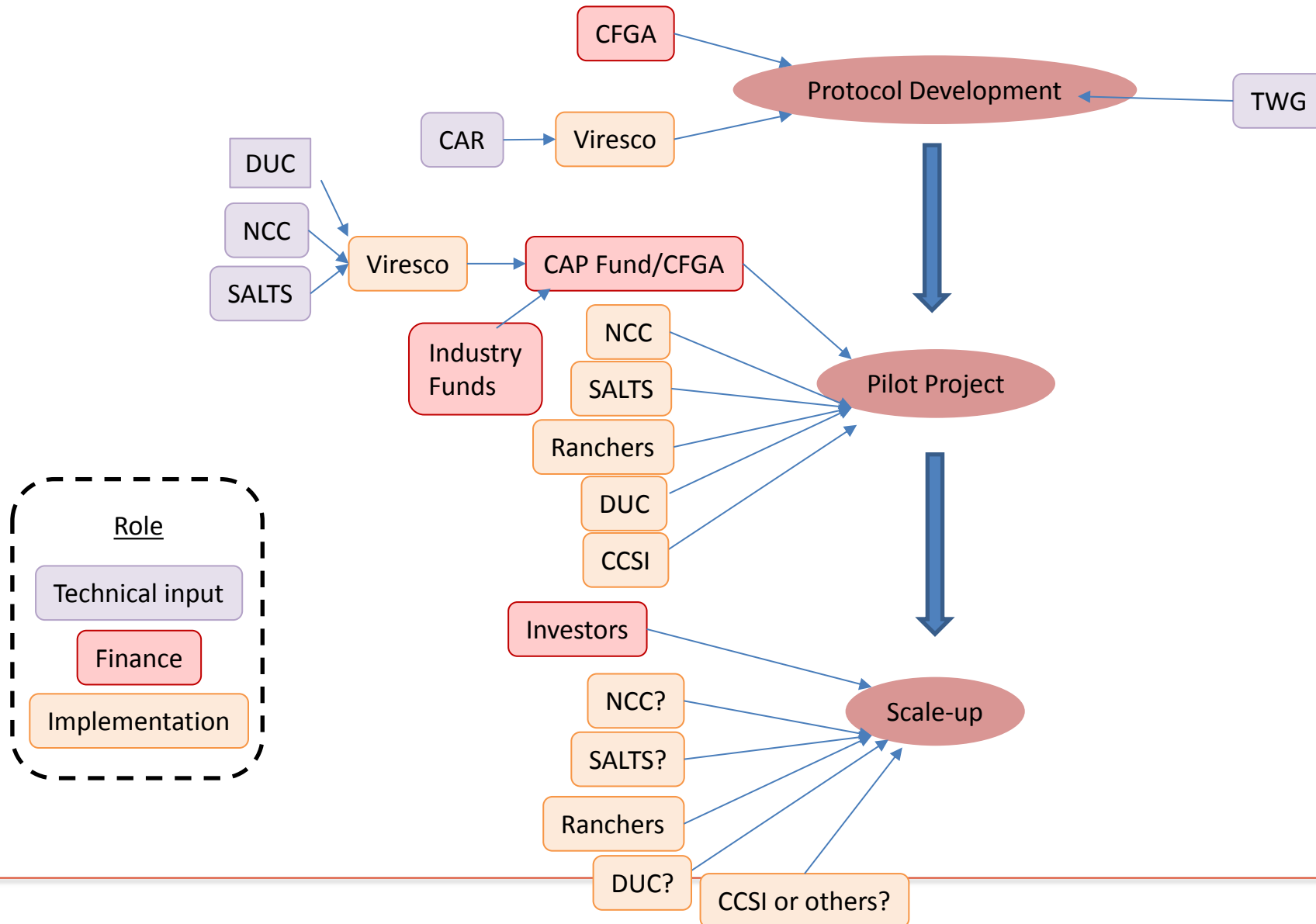
- [Canada Grassland Project Protocol Version 1.0 Development](#)

Please contact policy@climateactionreserve.org with questions or comments.

OLUTIONS



2018 CFGA Workshop – Test the Concept



CAR Canada Grasslands Project Protocol

- Estimated Credit Generation: On average, one tonne (credit) per hectare
- Revenue will vary with:
 - Location
 - Project setup and activities
 - Risk of conversion to cropping
 - Contracts with project developers
 - Carbon offset sale price



The Pilot Project

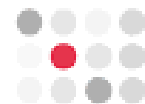
Two year pilot project targeting 5,000 hectares of grassland across Canada

Objectives:

- Test and refine the CAR Canada Grassland Project protocol
- Learn as a group how to effectively develop projects
- Discover options for cost-saving and streamlining:
 - Remote sensing
 - Alignment with other programs (e.g. EcoGift)
 - Discover least-cost ways of meeting the protocol's requirements (e.g. Land Appraisal)
- Develop a framework for **extension across Canada**
- **Proof of concept to help approval of Alberta Grassland Protocol and Environment Canada and Climate Change priority protocol**



Partners



Eligibility and Additionality Assessment

- Grassland for **10 years** with no current legal protection
- Financially viable for crop production:
 - (Land Appraisal)
- Land must be **suitable for crop cultivation**
 - LSRS or CLI soil rating: 1-4
 - Slope
 - Water availability and resources



- Minimum total project size: ~ **1 section** (640 acres).
- Can be **multiple discrete parcels**
- Can include Class 1-3 intact **wetlands**



Requirements

- Signing of a **Qualified Land Conservation Agreement:**
Easement, Agreement, Servitude or Covenant
 - **No breaking of ground**
 - **Moderate Grazing** is allowed – no confined operations
 - Moderate Forage cropping (**haying**) is allowed
- Commitment to allow monitoring for full permanence period (to ensure ground is not broken or developed)



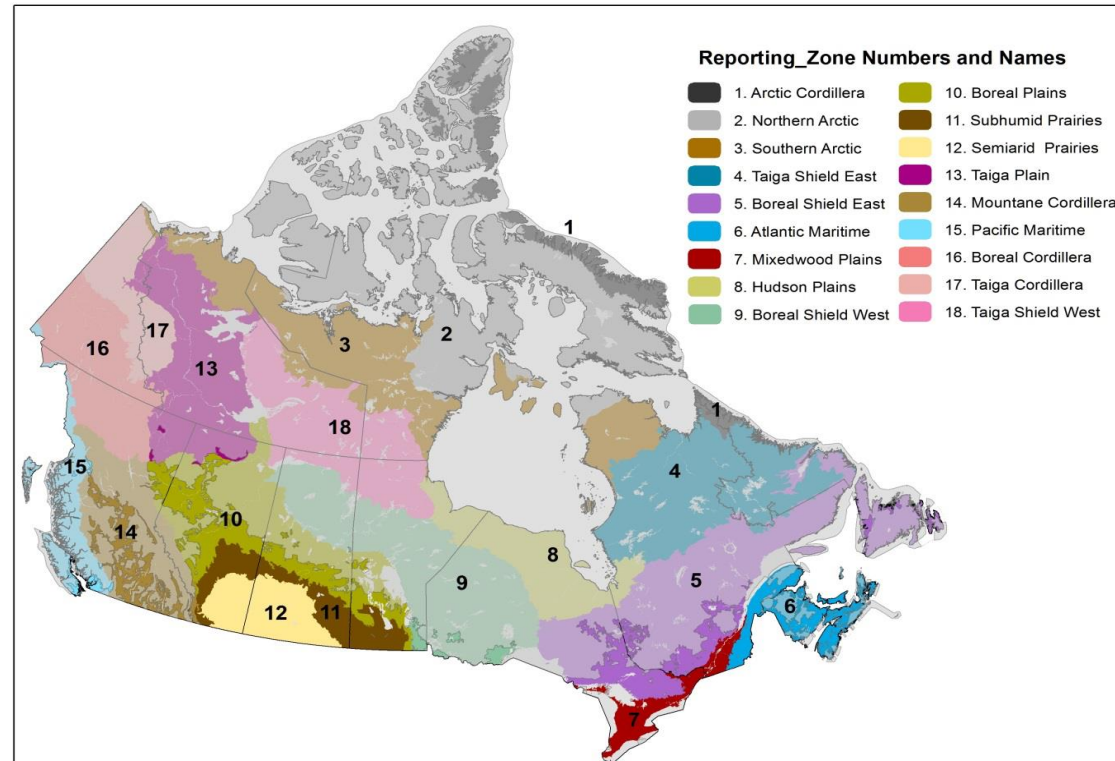
Reporting Zones Map

- Three steps to identify strata:

1. Geography & climate (Reporting Zones)
2. Soil texture (using government soil survey data)
 - Coarse
 - Medium
 - Fine

1. Zone 5: Boreal Shield East
2. Zone 6: Atlantic Maritime
3. Zone 7: Mixedwood Plains
4. Zone 9: Boreal Shield West
5. Zone 10: Boreal Plains
6. Zone 11: Subhumid Prairies
7. Zone 12: Semiarid Prairies
8. Zone 14: Mountane Cordillera
9. Zone 15: Pacific Maritime

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Potential Annual Offset Generation for Reporting Zones 11 and 12

Reporting Zone	Soil Texture	Potential Offset Credits Generated per Year (tCO ₂ e/yr)				
		Acres	160	800	1,600	16,000
11 - Subhumid Prairies	Coarse	49	246	492	4,921	24,605
11 - Subhumid Prairies	Medium	67	337	673	6,734	33,671
11 - Subhumid Prairies	Fine	64	321	641	6,410	32,052
12 - Semi-arid Prairies	Coarse	43	217	434	4,338	21,692
12 - Semi-arid Prairies	Medium	62	311	622	6,216	31,081
12 - Semi-arid Prairies	Fine	76	379	758	7,576	37,879



CAR Protocol: Testing how to Streamline and Gain Efficiencies

1. Protocol adaptations

1. Legal language
2. Thresholds: Cropland physical and financial suitability, reversal risk

2. Evidence and Contract Requirements

1. Land Appraisals
2. Historical and current land use
3. Qualified Land Conservation Agreement – legal terms and requirements, value, timeframe
4. Project Implementation Agreement – between CAR and Project Owner for ongoing monitoring

3. Monitoring

1. Remote sensing options:
 - i. Rangeland Decisions Support System - Low-cost, low-touch
 - ii. Shell Technologies
2. Alignment with ongoing easement monitoring
3. Rangeland health assessment streamlining



Benefits to Joining the Pilot

- Opportunity to generate (approx.) 0.25-0.5 carbon offsets per acre per year for up to 30 years.
- Help shape how this opportunity is developed
- Significant assistance in developing the project.
- Many upfront costs paid or partly paid.
- Honorarium for participation.
- Learning for all partners.

