Identifying and protecting wildlife corridors and passages either side of Highway 10, in the Appalachians of Southern Quebec
Contents

- Appalachian Corridor
- The 3-fold « Corridors » project
- Goals of the « Highway 10 » part of the project
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Appalachian Corridor

Non-profit NGO founded in 2002
Based in Eastman, QC, Canada – 10 permanent staff members

**Our mission**

Protecting natural habitats in the Appalachians of southern Quebec (Northern Greens)

- Large forest blocks
- Connectivity
- Biodiversity
Territory of Action
Territory of Action

- 2 Administrative Regions
- 5 Regional County Municipalities
- 48 Municipalities
Ecological Network
Partners

National Partner: NCC

17 Affiliates Members, incl. 15 local conservation groups

American Partners: e.g. Cold Hollow to Canada, 2C1F (SCI) ...
400 ha protected on private land
2016

**12,650 ha** protected on private land
Green Mountains of Quebec & Vermont
3-fold approach to maintain connectivity: “Corridors” Project

- Landowners (Private Stewardship)
  - Active canvassing over the next few years
  - Focusing efforts on critical areas

- Municipal/Regional Authorities
  - Protecting connectivity at the planning & development levels

- Provincial Government (Transportation, Wildlife, Parks)
  - Collaboration with the identification and protection of wildlife corridors and passages (Highway 10)
  - Research projects with *Université de Sherbrooke* and Concordia University
HIGHWAY 10 PROJECT

Identifying wildlife corridors and passages either side of Highway 10 between Granby (km 63 and Sherbrooke (km 143)
Highway 10 and conservation cores
Objectives of the “Highway 10” Project

- **Improve road safety** for users and lower collision rates with large animals
- **Reduce wildlife mortality on roads**
- **Improve wildlife permeability** between habitats and populations
- In a context of climate change, ensure long-time protection and **improve connectivity** between natural habitats
HIGHWAY 10:
Phase 1: Protocol
HIGHWAY 10:
Phase 1: Development of a protocol

- **Partnership:**
  - Appalachian Corridor
  - Ministère des Transports du Québec (MTQ)
  - Ministère des Forêts, Faune et Parcs Québec (MFFP)
  - Ministère de l’Environnement (MDDELCC)
  - Université de Sherbrooke

- **Consensus on a reference document to be used as a practical guide:**
  - Written in French, can be applied anywhere in Quebec
  - Based on the latest scientific literature on connectivity, wildlife corridors and passages
  - Highlights the Highway 10 case study
Phase 2: Data gathering & analysis

- Training of Highway 10 patrollers for better wildlife ID (Appalachian Corridor and MFFP)
- Detailed roadkill data (MTQ)
- Characterization of Highway 10 infrastructures (Appalachian Corridor)
- Deer yards and moose overwintering areas (helicopter survey by MFFP)
- Ground-truthing of two natural corridors (Appalachian Corridor) and adjusted maps
- Data analysis: Masters’ project in partnership with Université de Sherbrooke
Phase 2: Training Highway 10 Patrollers

Training highway patrollers in both regions to identify animals/roadkills: 2-year pilot project 2014-2016 (became permanent in July 2016)
Phase 2: Overwintering areas

Helicopter surveys by the MFFP (winter 2014) for accurate mapping of White-tailed Deer yards and Moose overwintering areas
Phase 2: Characterization of infrastructures

- Characterization of infrastructures in and around preliminary linkages/corridors:
  - Description, measurements
  - Topography, hydrography
  - Biological data (e.g. vegetation cover at entrance/exit of culverts)

+ Validation and characterization of two natural corridors: ground-truthing along their whole length and width
Identification of Priority Sites
Methodology adapted from Clevenger (2010) *

Masters’ project with the University of Sherbrooke (student: Farah Salvant, professor: Jérôme Théau)

- Highway mortality (data from Quebec’s Ministry of Transportation)
- Regional conservation significance (network of cores & corridors)
- Local conservation value (deer yards, moose overwintering areas)
- Opportunities for highway mitigation (unsuitable road structures)
- Land-Use Security (degree to which adjacent lands are protected)

Final results and report are underway

→ Narrows the focus area (km 74-120 instead of km 68-143)
→ Preliminary results: Identification of 3 priority sites

Identification des zones d'intervention prioritaires pour les mouvements fauniques le long de l'autoroute 10: Analyse de l'indicateur spatial collisions véhicules-faune (espèces-cibles)
Identification of Priority Sites (preliminary)
Priority Sites: e.g. Between Chagnon & Orford

Classement des structures existantes au-dessus ou en-dessous de l'autoroute 10 et accidents impliquants des animaux

Espèce animale impliquée dans un accident (2008-2014)
- Autre
- Cerf de Virginie
- Ours
- Ours

Carte COR-0918, par Corridor appalachen, © Juin 2016
Next steps...

**Monitoring wildlife movements** at 3 priority sites: partnership with Concordia University in 2016-2017
(student: Daniella LoScerbo, professor: Dr. Jochen Jaeger)
Next steps...

Recommendations to Quebec’s Ministry of Transportation (highway mitigation, retrofitting culverts, etc.) to meet the objectives: road safety, wildlife permeability, connectivity
Next steps...

- Convincing and engaging key stakeholders (still!)
- Important issue in need of political support in Quebec
- Funding, funding, funding!...
Questions ?