



# Green Communities Guide: Tools to Help Restore Ecological Processes in Alberta's Built Environment

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- Land Stewardship Centre of Canada
- Green Communities Guide – Need
- Developmental Process
- Green Communities Guide – Format
- Phased Approach
- Next Steps
- Case Studies - Application



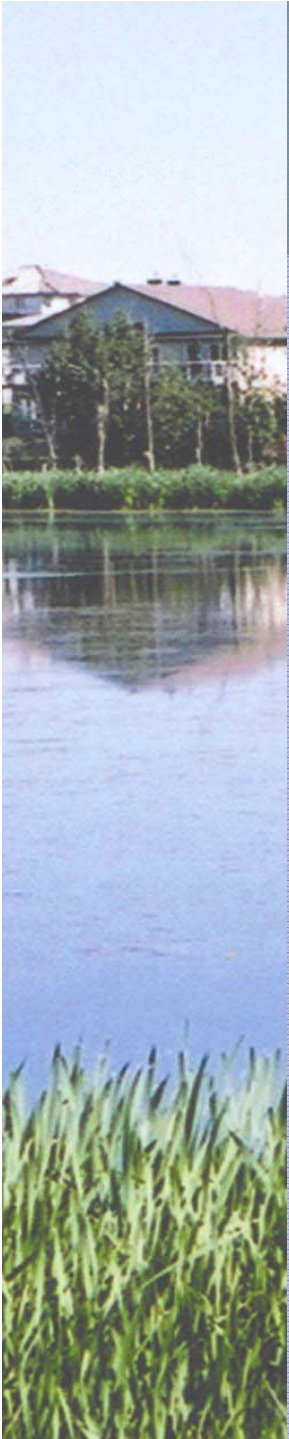
## Land Stewardship Centre of Canada

- Independent, not-for-profit organization
- Incorporated in 1996
- Registered charitable organization
- Our work:
  - Bringing people and industry together
  - Working on common priorities
  - Responsive to partner needs
  - Achieving sustainability on the landscape



## Land Stewardship Centre of Canada

- Our goals:
  - Practical solutions for healthy working landscapes
  - Building partnerships to advance stewardship
  - Promoting key principles of stewardship
  - Sharing knowledge to conserve land, water & biodiversity
  - Engaging landowners and land managers
  - Flexible and responsive to emerging opportunities



# The Green Communities Guide

## The Need

- Alberta's rapid population growth
- Alberta cities Edmonton & Calgary among least densely populated in Canada
- Development strains existing infrastructure
- **Loss of ecological function** and wildlife habitat



# The Green Communities Guide

## The Need

- Explore “green development” by planning & design decisions.
- Are these decisions ***ecologically functional?***
- Ecologically-functional development:
  - Protects the ecological processes and functions,
  - Restores them in areas where previously lost, or
  - Creates them to compensate for the loss of ecological functions in other areas

# Guide Development

*To provide community stewards with tools to make built areas more green or ecologically-functional*

## Phased Approach to Development

### 1. Case study focus

- Water cycling
- Water filtration
- Wildlife movement
- Soil-building
- Predator-prey relationship
- Nutrient cycling
- Ecosystem succession
- Climate moderation, GHG sequestration

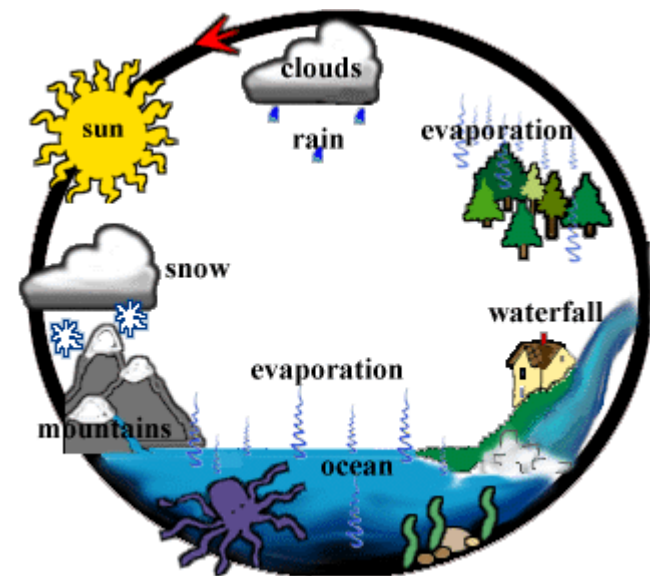


Image from Fen Ditton Community Primary School





# Guide Development

## 2. Target audiences identified:

- Municipal officials & staff
- Developers
- Stewardship groups

## 3. Audience survey for key issues:

- Declining water quantity/quality
- Competition for water supplies
- Streambank erosion / sediment build-up
- Wildlife habitat loss and fragmentation



# Guide Development

## 4. Identified barriers to adoption

- Overly restrictive development guidelines & standards
- Lack of understanding of long-term return on investment
- Lack of resources within municipal departments
- Lack of information & awareness
- Lack of understanding for maintenance of non-conventional infrastructure
- Lack of demonstration sites & case studies
- Perceptions about safety & attractiveness

## 5. Compiled suite of 25 tools

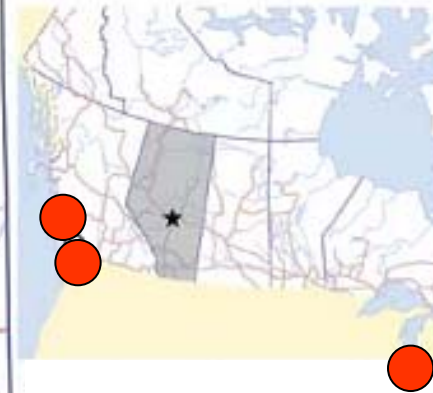
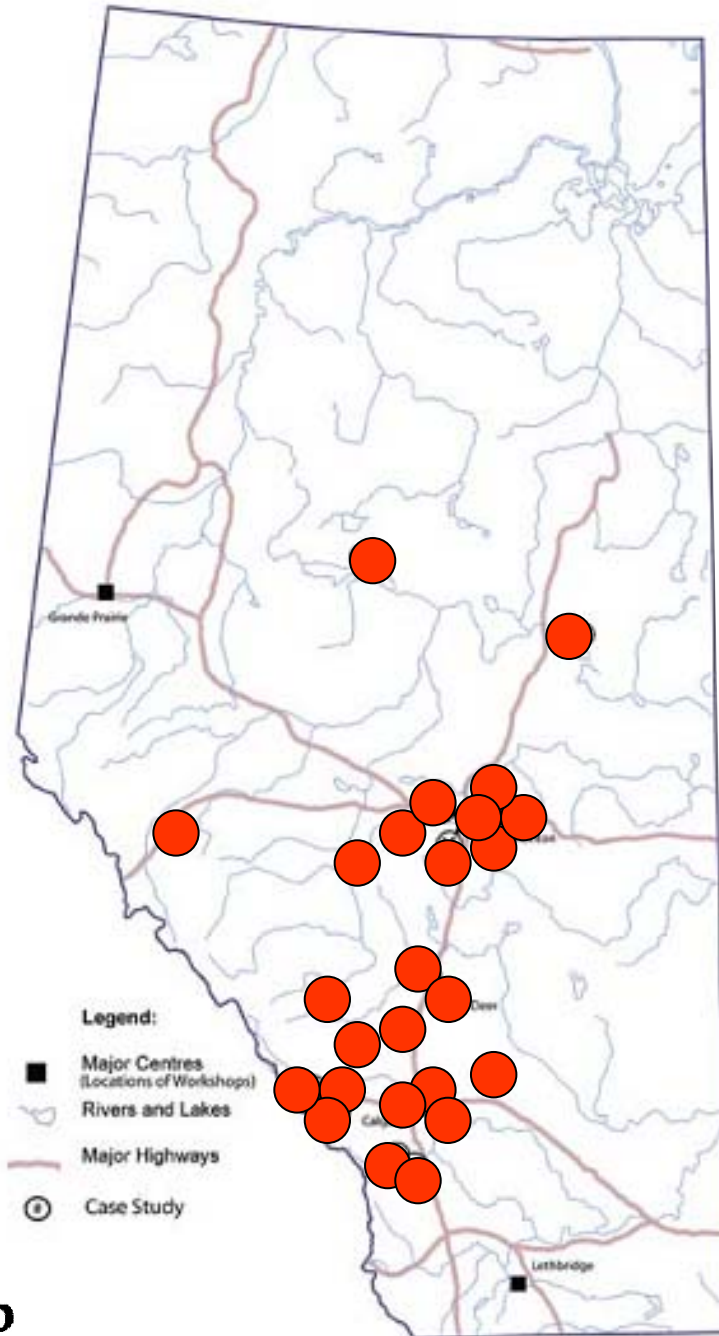
- Incorporated case studies & expert opinion



## Guide Features

- Focus on Alberta context
- General information on tools
  - Current & recommended practices, cost/benefit, special considerations, recommended resources
- Implementation of case studies highlighted
  - Description, overcoming barriers, successes & outcomes, economics & contact information
- Addresses barriers to adoption
  - Workshop discussion









# Case Study Locations





# Green Guide Tools / Case Studies

- Focus areas:

	Protect water quality		Encourage healthy activity (open space)
	Protect water supply/quantity		Reduce greenhouse gas production
	Support energy conservation		Save money over the full life-cycle costs of a project, including externalities
	Protect wildlife habitat		Protect agricultural land



## Design and Policy Tools

1. Alternative Road Design, Parking Design, and Permeable Pavement
2. Biodiversity and Species at Risk Planning
3. Bioinfiltration Basins, Rain Gardens, and Bioswales
4. Brownfield Reclamation
5. Community Planning with a Sustainability Focus
6. Conservation Design (Cluster Development)
7. Density Bonusing and Direct Control Districts
8. Floodplain Protection and Flood Management Tools
9. Green Neighbourhood Certification Programs
10. Green Roofs
11. Inventories of Environmental Assets
12. Low-Impact Recreational Trail Design



## Design and Policy Tools (Cont'd)

13. Rainwater Capture
14. Riparian Setbacks
15. Schoolyard naturalization
16. Site Clearing and Grading Standards
17. **Stormwater Wetlands**
18. Stream Daylighting
19. Streambank Bioengineering
20. Transfer of Development Rights, Conservation Easements, & Land Trusts
21. Wastewater Recycling
22. Wetland Protection
23. Wildlife Habitat Creation and Restoration
24. Wildlife Movement Corridors and Linkages
25. Xeriscaping - Water Wise Gardening



## Stormwater Wetlands

- Tool for storing and possible treating runoff water
  - Partial treatment by; UV light, microbial activity, soil binding & sedimentation
- Hold large volumes of stormwater
- Slowly releases water into a receiving system





## Outreach Phase One

- 2000 print & 1000 CD copies May/09
  - ~900 print & 600 digital copies distributed
- Targeted at municipalities, developers, planners & stewardship groups
- Alberta workshops
  - Lethbridge, Calgary, Red Deer, Edmonton & Grande Prairie
  - ~160 attendees
- Web-based [www.landstewardship.org](http://www.landstewardship.org)

## Outreach Phase Two

- 1200 print , 2000 Compact Disc & 2000 Cards
- Target events
  - Alberta Association of Municipal Districts and Counties
  - Alberta Urban Municipality Association & Alberta Municipal Services Corporation
  - Alberta Association, Canadian Institute of Planners
  - PECHA KUCHA NIGHT (PKN 5)
  - Alberta Recreation and Parks Association
  - Alberta Low Impact Development Partnership
  - Alberta Development Officers Association





## Outreach Phase Three

- Revised on-line data-base development
  - New/emerging tools & practices
- Guide development – new audiences
  - Urban home-owners
  - Rural residential – small acreage owners
  - Primary producers – farmers & ranchers
- Municipal partnerships
  - Case study development & outreach



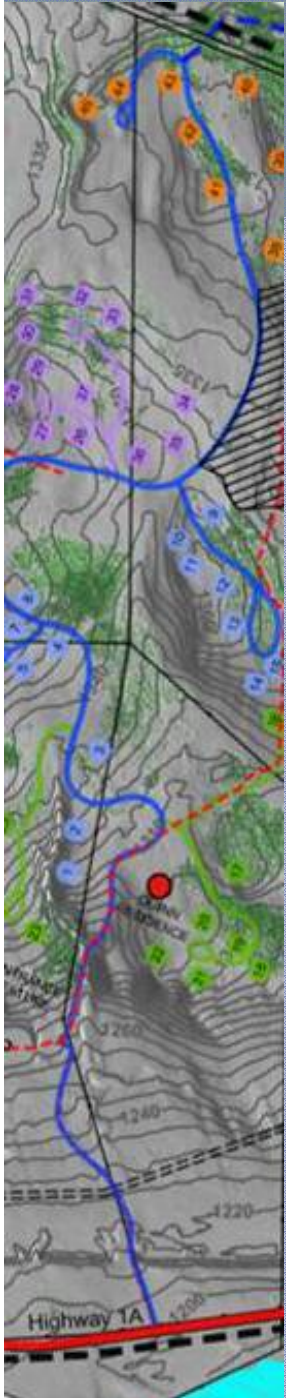
## Summary

- Green Communities Guide is a helpful collection of 25 design and policy tools for restoring ecological functions in built spaces
- Designed to stimulate interest in ecologically-oriented development
  - Identify case studies & leaders
- Multiple Alberta examples of stewardship through innovative and green development
  - Need to raise awareness of these projects to show it's possible.

# Acknowledgements



- LSCC Project Management
- External direction
  - City of Edmonton
  - Alberta Municipal Affairs
  - Alberta Environment
  - Alberta Tourism Parks & Recreation
  - Alberta Sustainable Resource Development
- Case Study Contributors



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