

From CLI to CLRI

innovation in pursuit of sustainability

Learning form the past?

Bridging the data,science, policy gaps

Issues as drivers of Innovation

A Future Theme for CLRI

My Proposal

Canadian ILM Knowledge

Infrastructure
Commons

*Building Canada's Land Resources Knowledge
Infrastructure*

ISSUES AND ACTIONS

Driving Innovations in SD

Issues Driving Action & Innovation



Early Sustainability Issues

Indiscriminate Settlement

Marginal lands

Rural Poverty

The Promising West



NOTE.—This Card is issued by the Government of Canada.

ISSUE: 1st Climate Crisis 1930's

Response

Prairie Farm Rehabilitation Act (PFRA) of 1935.

- Soil and Water Conservation

- The first Land capability survey – to provide the knowledge base for adaptation



ISSUE: 1950s

Rural Poverty- Farm abandonment

Response

ARDA: Agriculture and Rural Development Act

'Multi-disciplinary resource planning and use'

Canada Land Inventory Provides the Knowledge Base

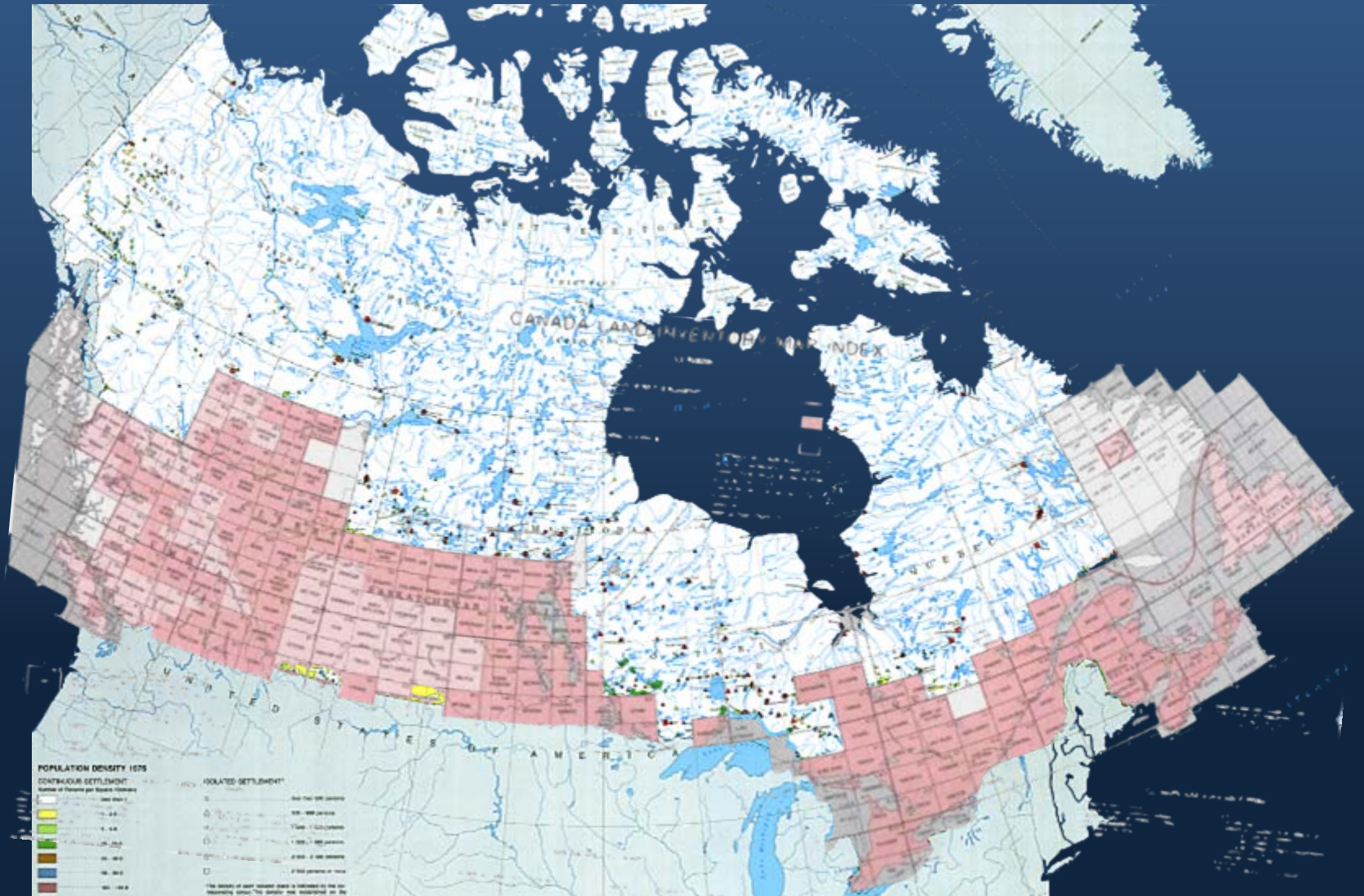
ARDA facilitated an Regional 'Resource Planning' Infrastructure

- Pilot Land use Planning Projects in All Provinces
- Developed a cadre of over 1000 professional
- Long term impact- Continued with DREE

Canada Land Inventory

*Then the Largest Inventory in the
'World!*

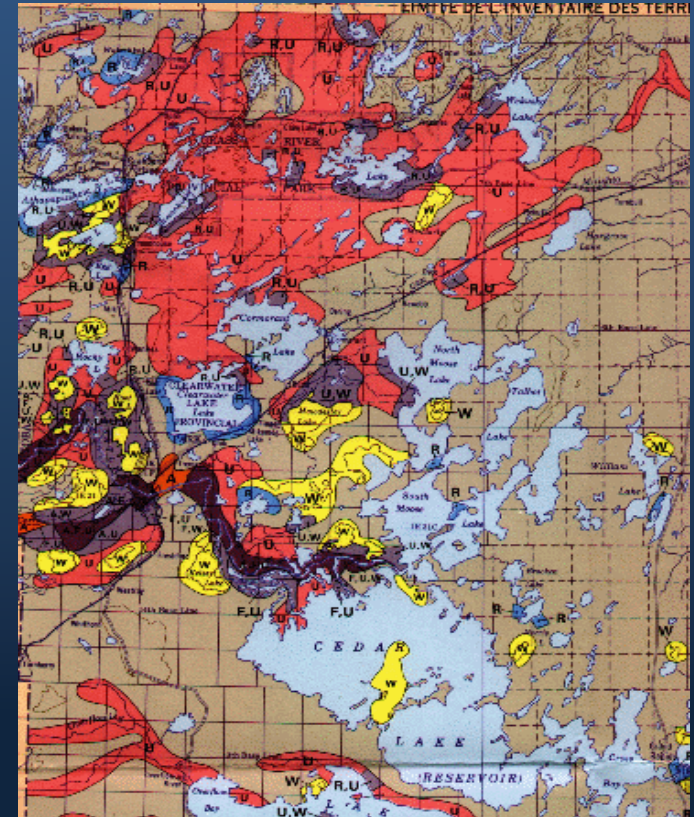
Focus- Settled Portion of Canada



Canada Land Inventory Data Base

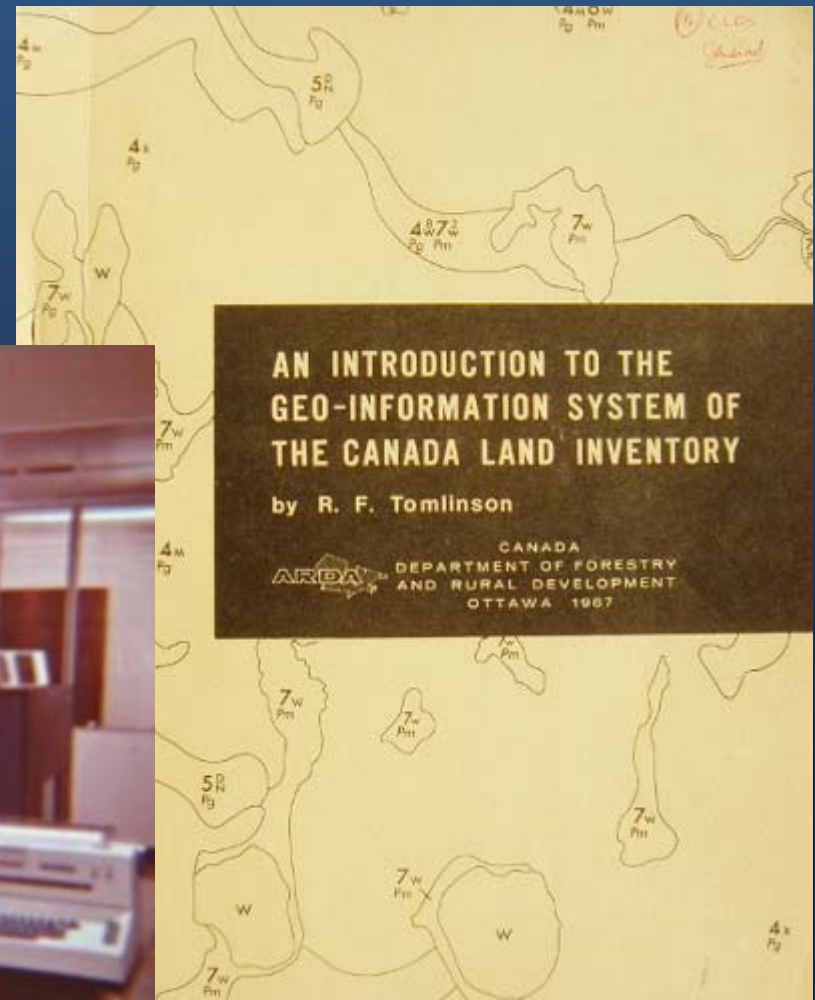
> 20'000 capability maps

- *Agriculture, Forestry, Wildlife (Ungulates and Waterfowl), Recreation, Sport Fish, Land Use*
- **Critical lands maps** →
- **Scales:**
 - *Policy – 1:1 Million- National and Provincial*
 - *Regional Planning: 1: 250'000*
 - *Local Planning: 1:50'000 (1: 25'000)*

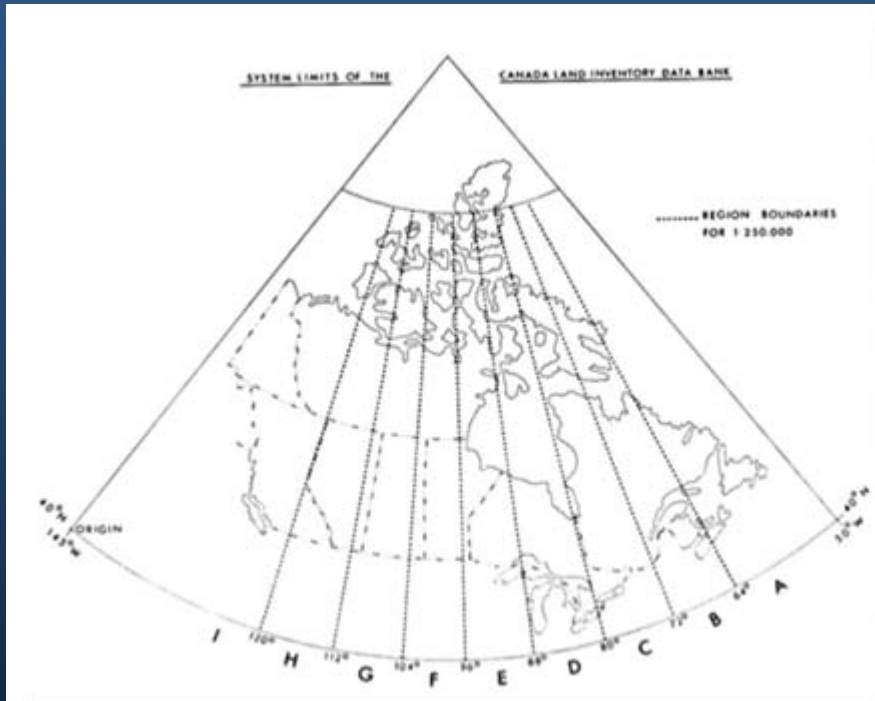


1967 *The World's first GIS*

- *30'000 maps! 5 years!*
- *Roger Tomlinson*



CGIS a Remarkable System Covering a Continent



1 St Drum scanner in the world
 – Now in Museum of S&T

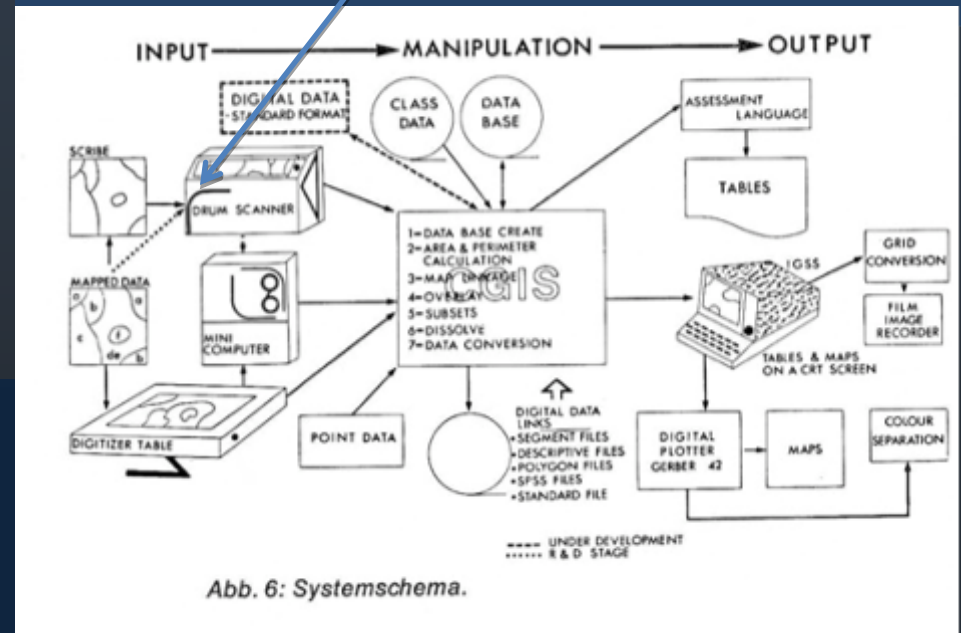
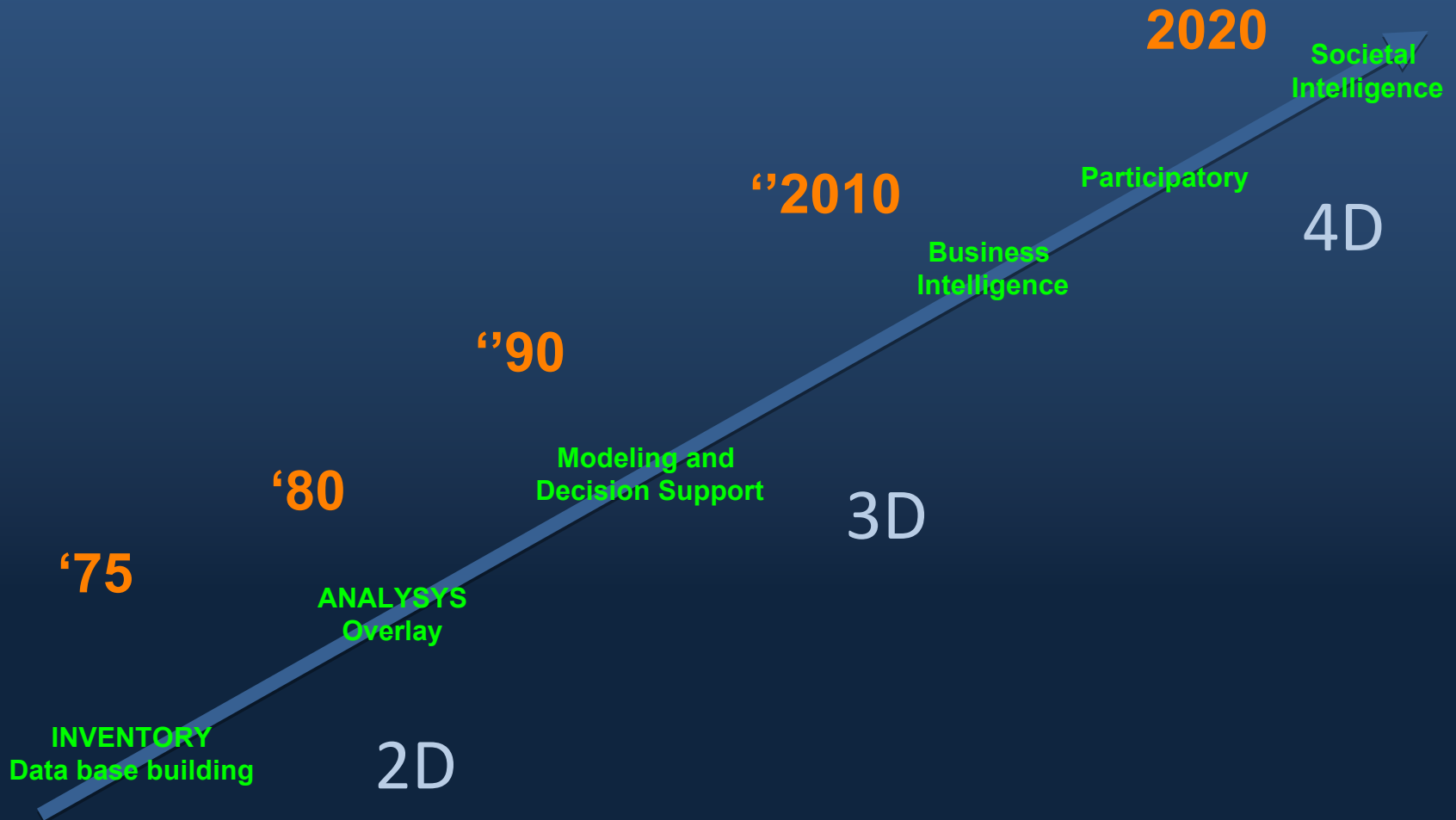


Abb. 6: Systemschema.

Evolution of GIS



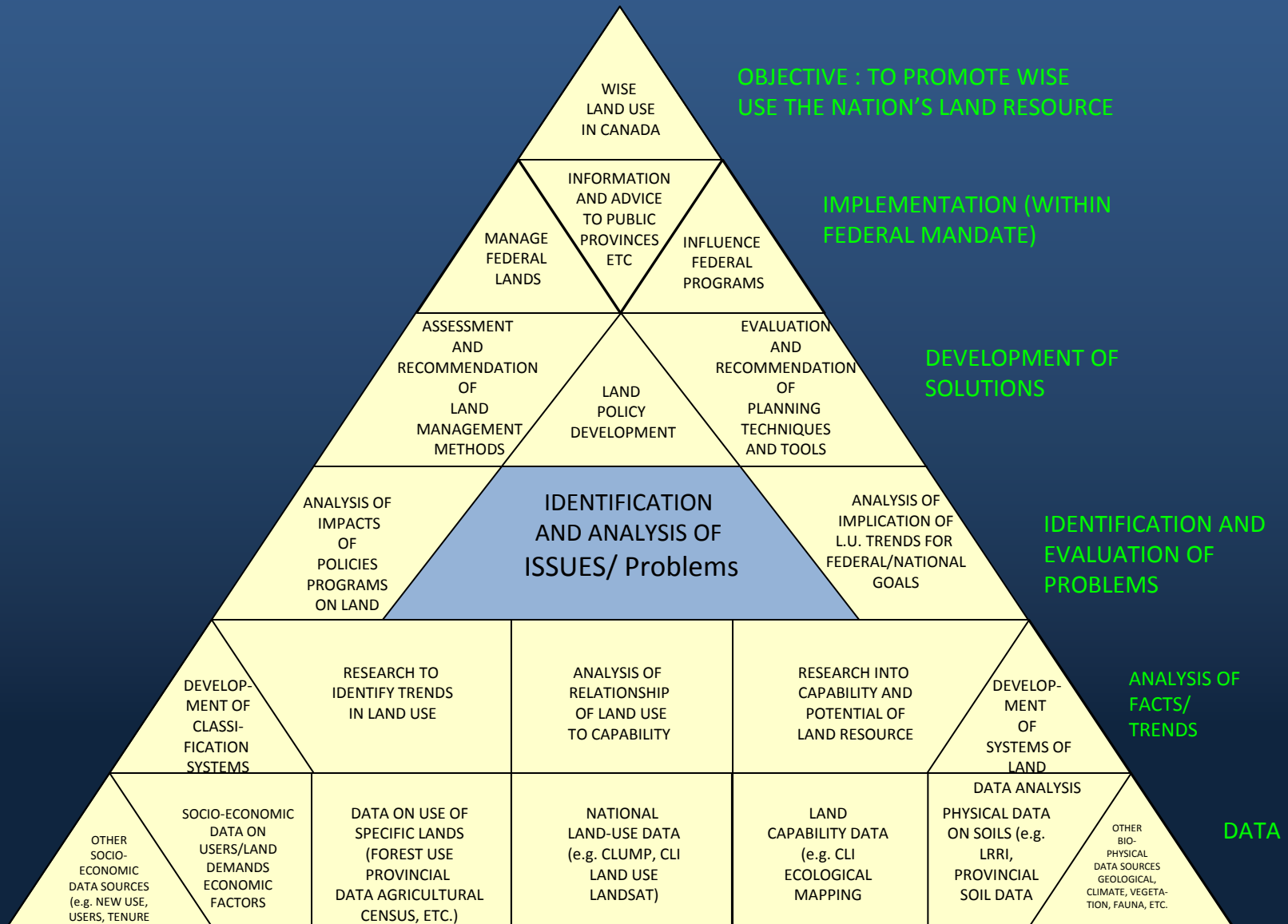
Council on Rural Development Canada

- *The CLI can be acclaimed as the single most significant and productive federal influence on rural land use.*
- *The CLI has fueled policy development in every Province.*

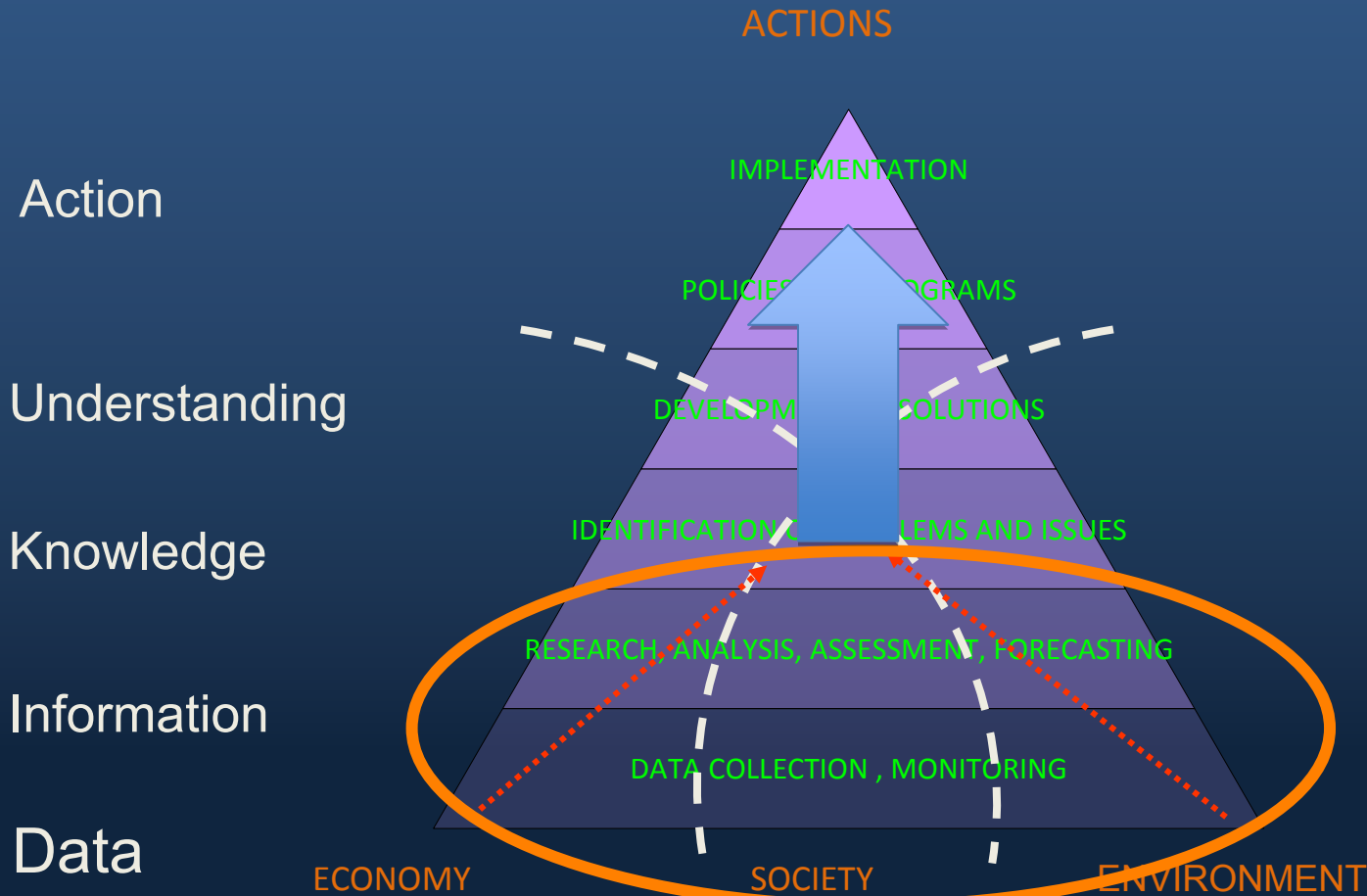
Lands Directorate

*Take CLI into National/ Federal
Policy and
Program Domain*

BUILDING TOWARDS WISE LAND USE AND MANAGEMENT IN CANADA -THE FEDERAL ROLE-

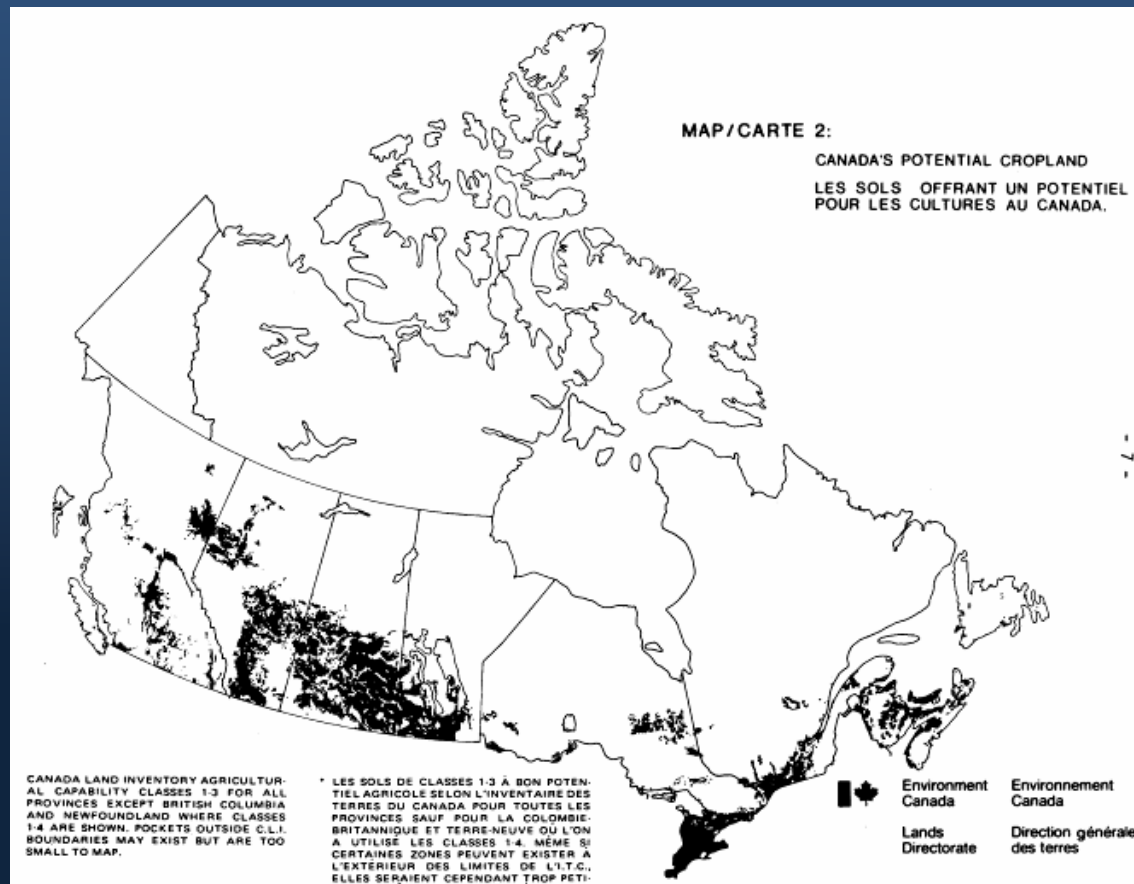


ILM Knowledge Commons

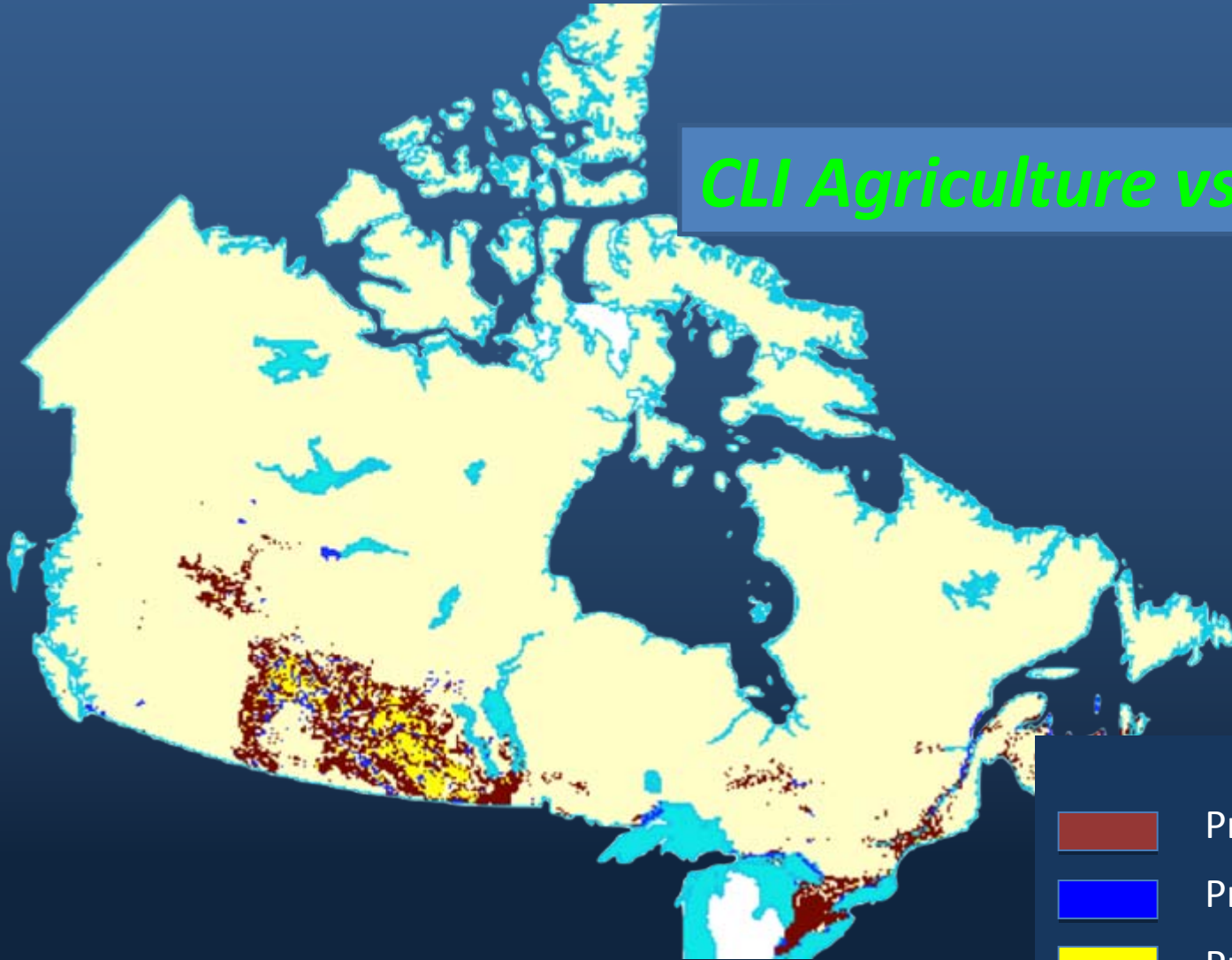


CGDI

POLICY MAP CANADA'S POTENTIAL CROPLAND



CLI Agriculture vs Waterfowl



- Prime Agriculture
- Prime Waterfowl
- Prime Agriculture & Prime Waterfowl

ISSUE: Wetland Habitat Loss

Response

North American Waterfowl Management Plan
'Paying Farmers to Grow Ducks'

Canada-US Prairie Joint Venture

- Paying farmers to protect wetlands
- Ducks unlimited and Governments raise over 500 M



CLI Agriculture vs Waterfowl

- Sustainable Financial flow?
- Adapting the business model to Cereal + Ducks

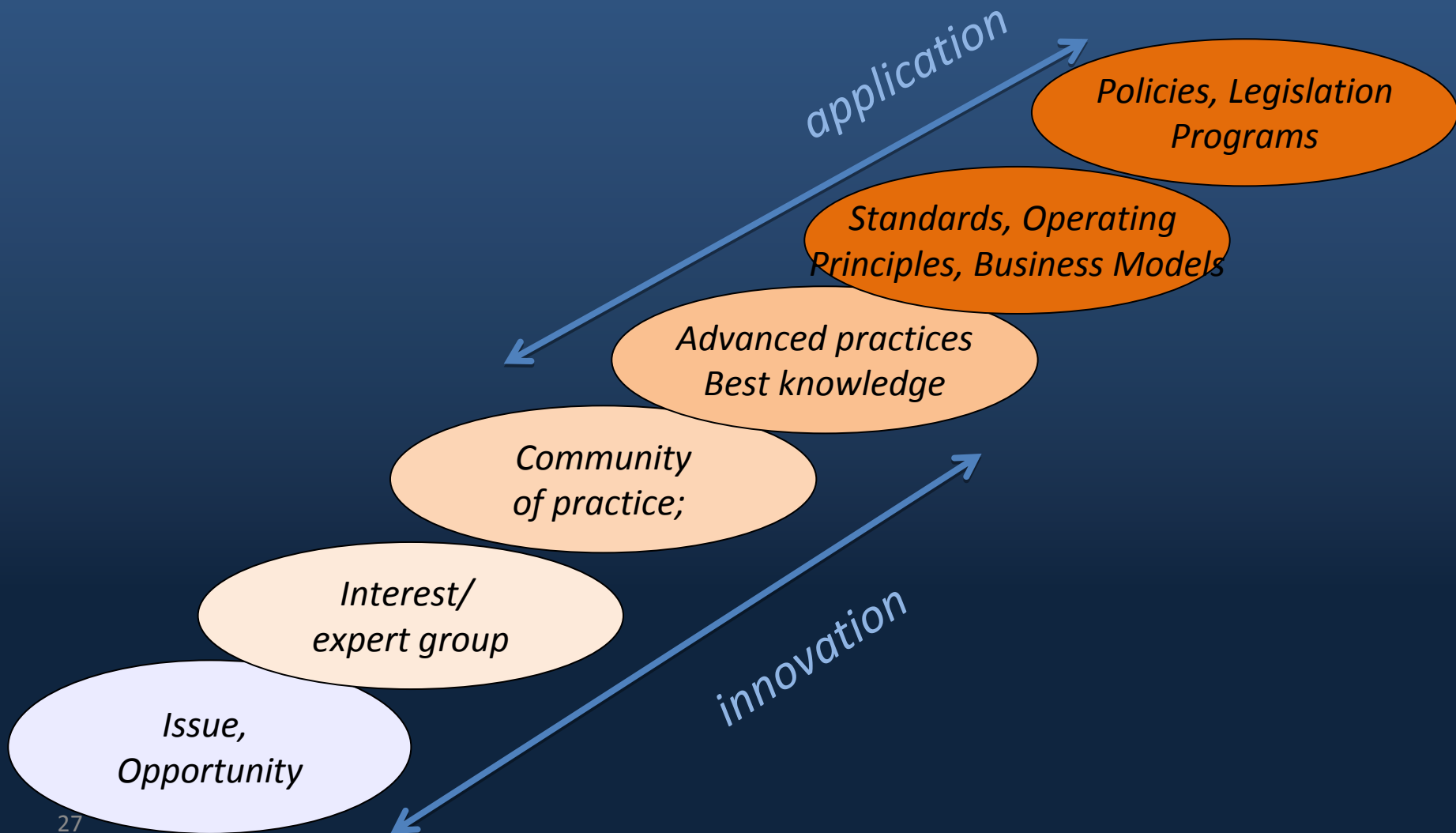
*Canada Committee
on Ecological Land
classification*

A forerunner of CLRI?

To encourage the continued development of and to promote the application of a uniform ecological (biophysical) approach to land classification for resource planning, management and environmental impact assessment purposes.

- *Objective:*
- *Over its 10 year lifespan over 500 contributors*
 - government, private sector, universities, NGO's

CCELC and Communities of *Advanced Practice*



CCELC and Communities of *Advanced Practice*

CCELC working groups

- Wetlands
- Ecoregions
- Biophysical/ Ecological Land Classification
- Remote Sensing/ Geographic Information Systems
- Land - Water integration
- Land - Wildlife Integration

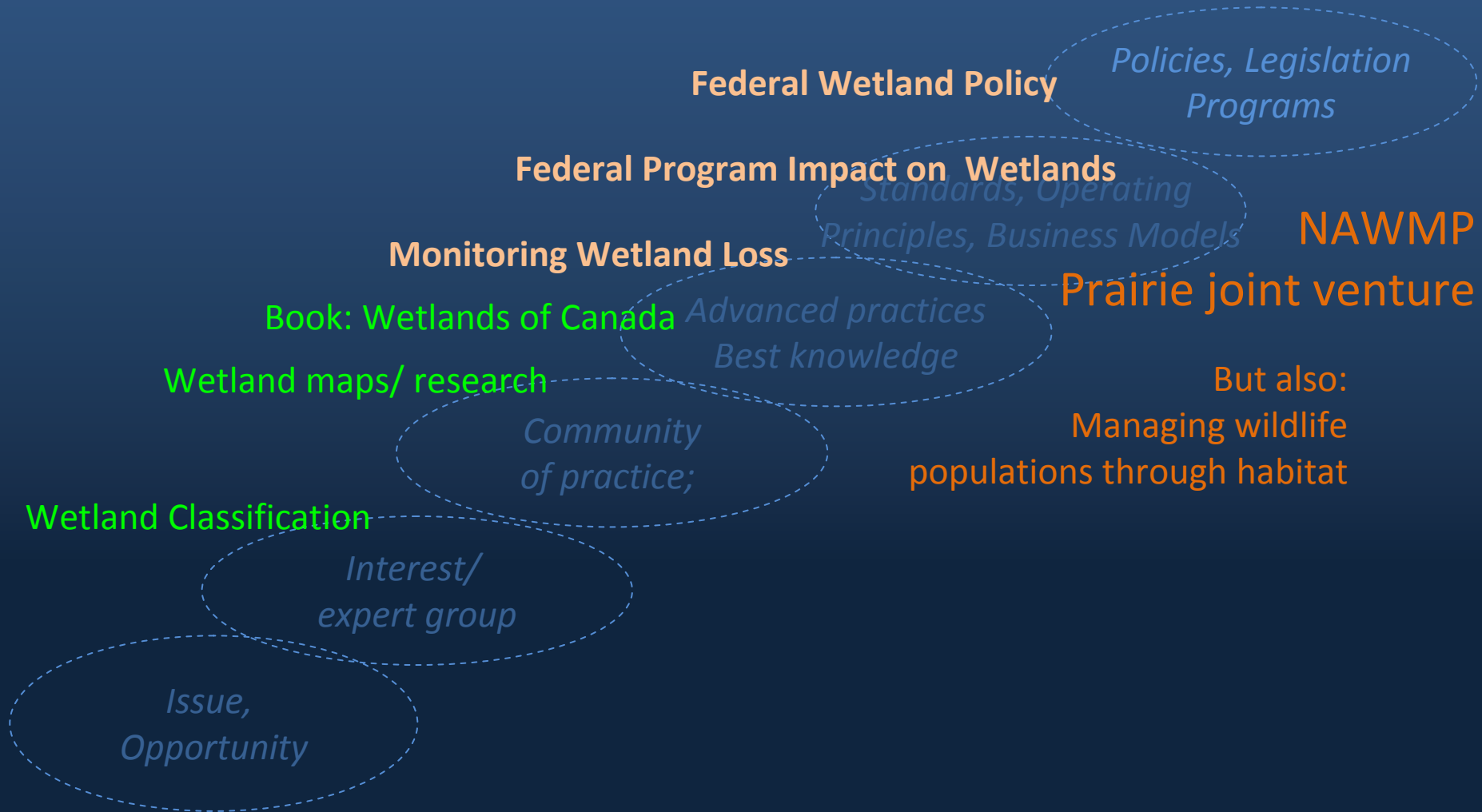
*Policies, Legislation
Programs*

*Issue,
Opportunity*

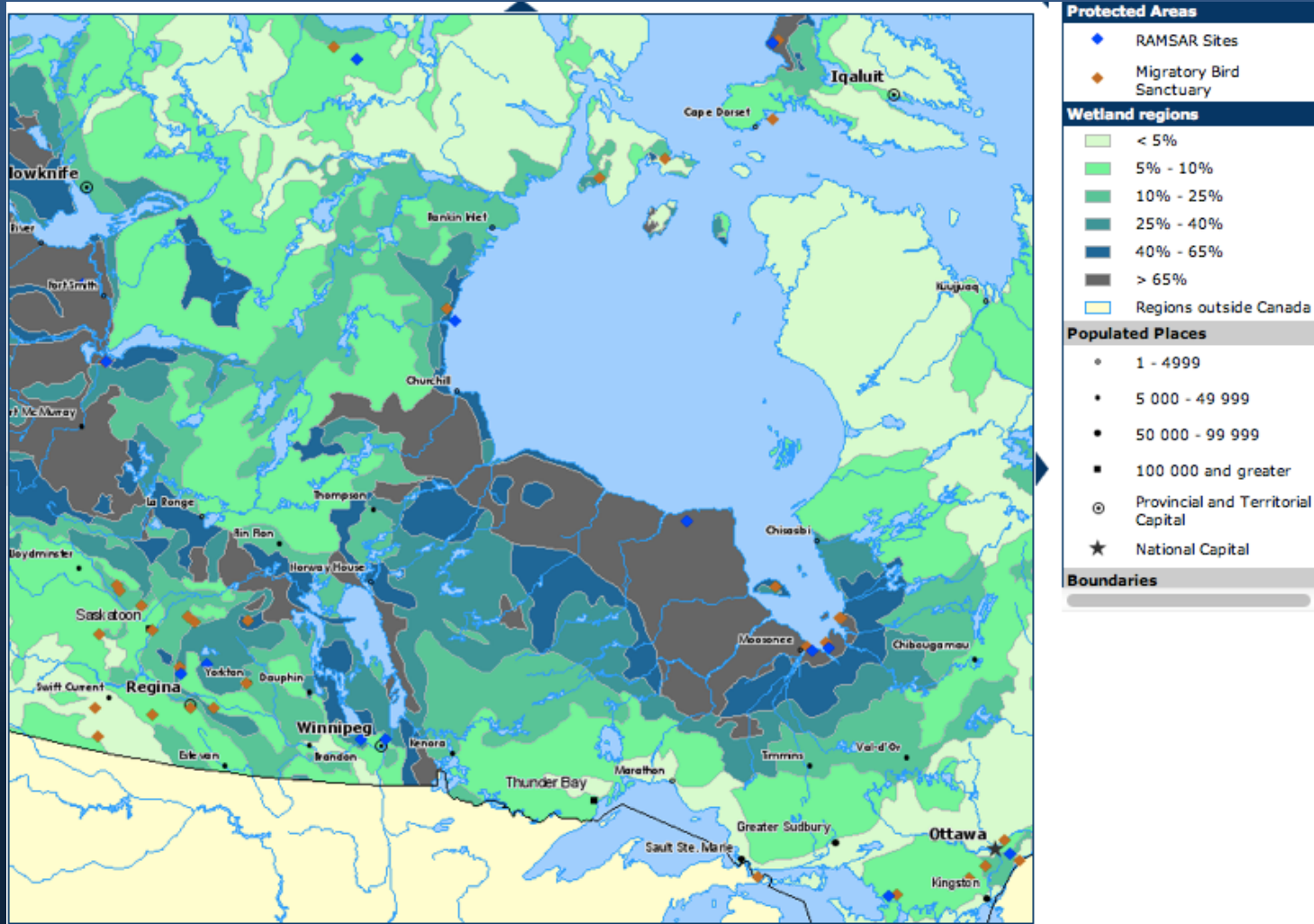
application

innova

CCELC and Communities of *Advanced Practice*



CCELC Wetlands Distribution



Federal Provincial Committee On Land Use

- 1987 "A Framework for Wetlands Policy in Canada".
- The Federal Water Policy adopted in 1987 also identified wetlands conservation as a significant water resource issue.
- 1991- Federal Wetland Policy

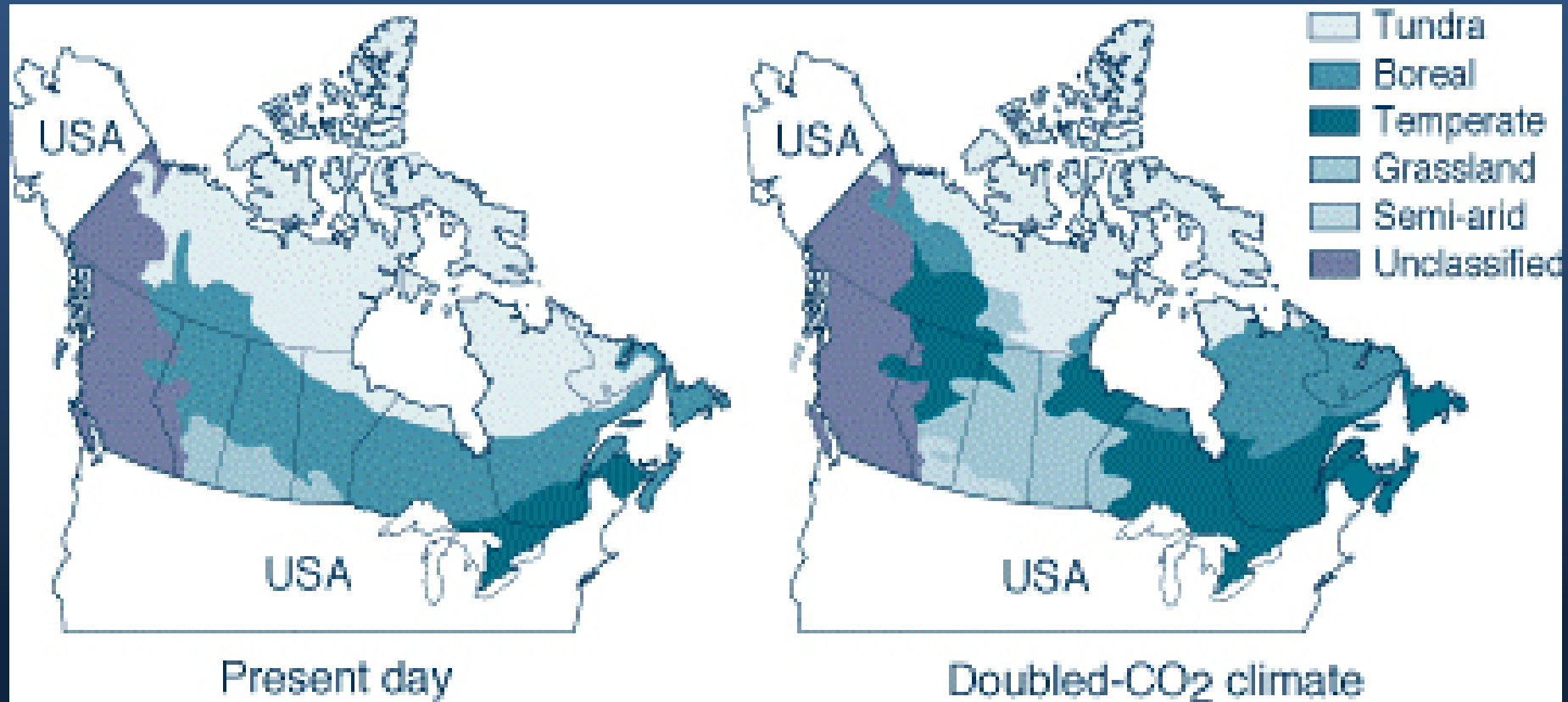
Ecological (biophysical) land classification



ECOCLIMATIC REGIONS OF CANADA

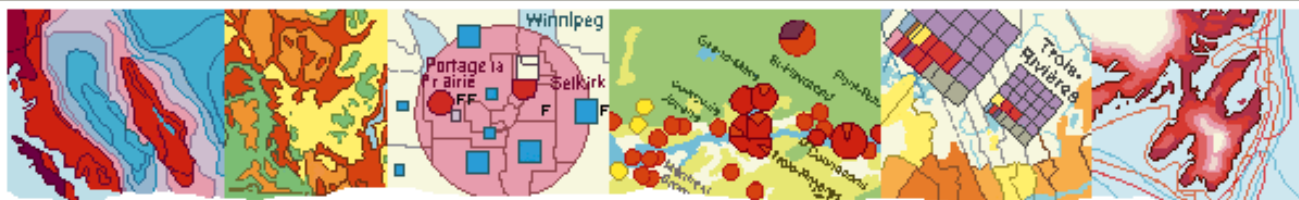


Ecoregions and Climate Change



SOURCE: Rizzo 1990.

National Atlas



**NATIONAL ATLAS INFORMATION SERVICE
SERVICE D'INFORMATION DE L'ATLAS NATIONAL**

presents/vous présente

*Your Gateway to Canadian Geography
Votre fenêtre sur la géographie canadienne*

1994 first Web based GIS

Le Service d'information de l'Atlas national (SIAN) est responsable du développement et de la tenue à jour d'une synthèse de la géographie canadienne faisant autorité. Ses produits, sous forme numérique et sur papier comprennent des fonds de carte, des noms géographiques et des cartes thématiques traitant des aspects sociaux, économiques, environnementaux et culturels du Canada. Nous fournissons également des services cartographiques et toponymiques.

[Find a Geographical Name](#)



[Trouvez un toponyme](#)

[Make a map with NAISMap](#)



[Réalisez votre propre carte](#)

[The Atlas of Canadian Communities](#)



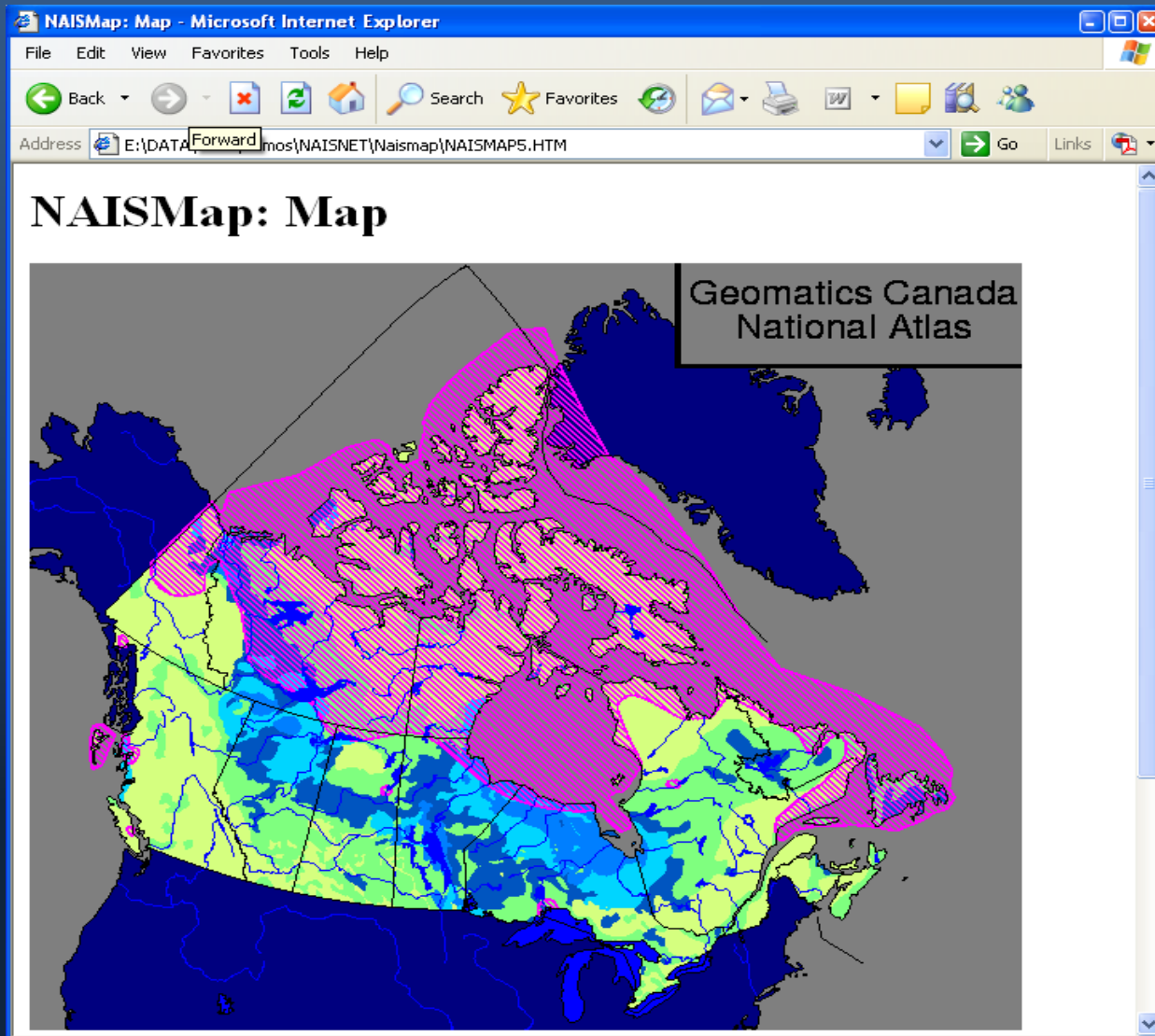
[L'Atlas des communautés canadiennes](#)

[National Pollutant Release Inventory](#)

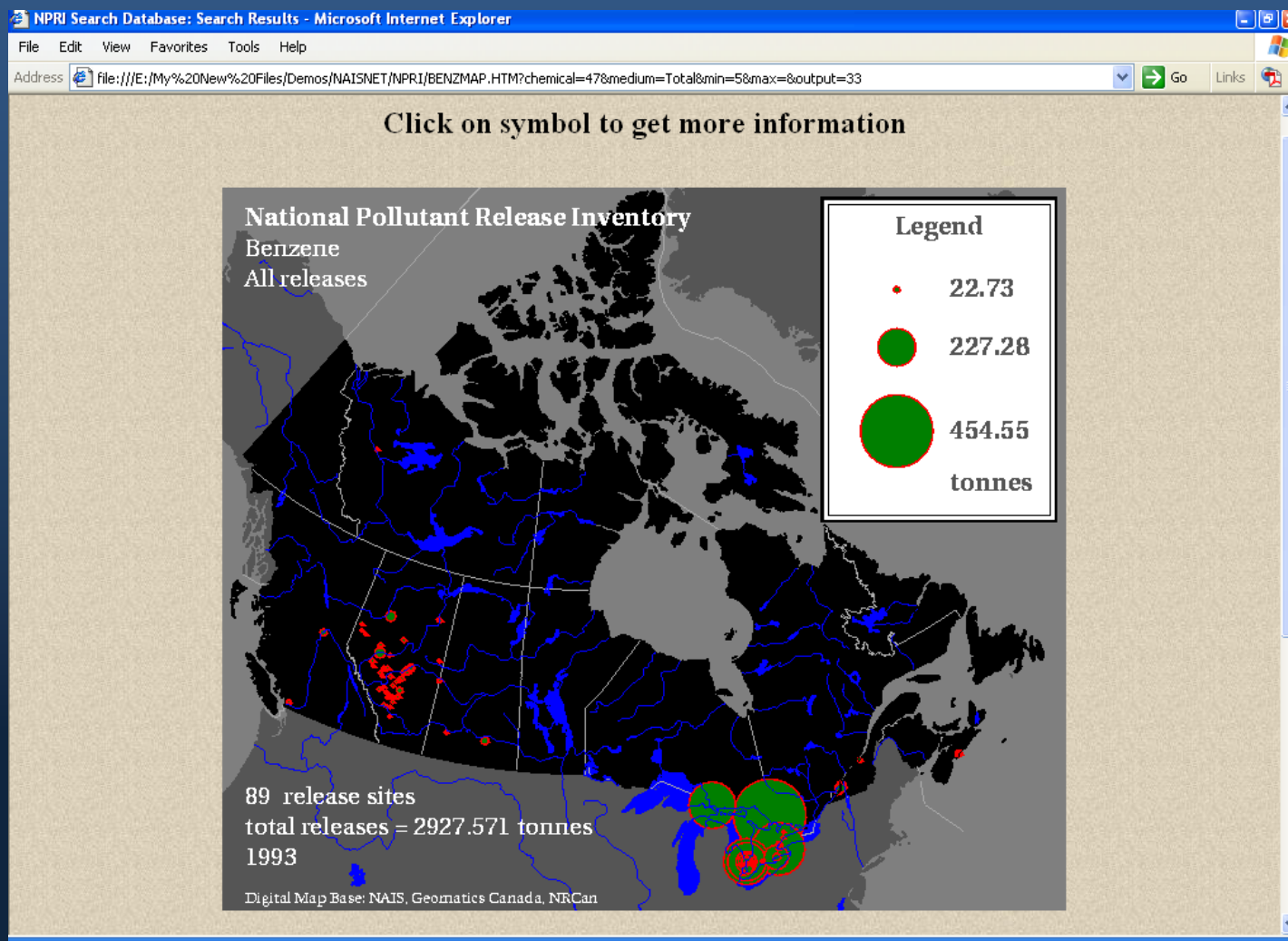


[Inventaire national des rejets de polluants](#)

Sample of the NAIS-web GIS, overlay of red-throated loon on wetland distribution



On-line creation of National Map, each of the circles is clickable and gives detailed statistics for the site



*Ecospatial
Infrastructure*

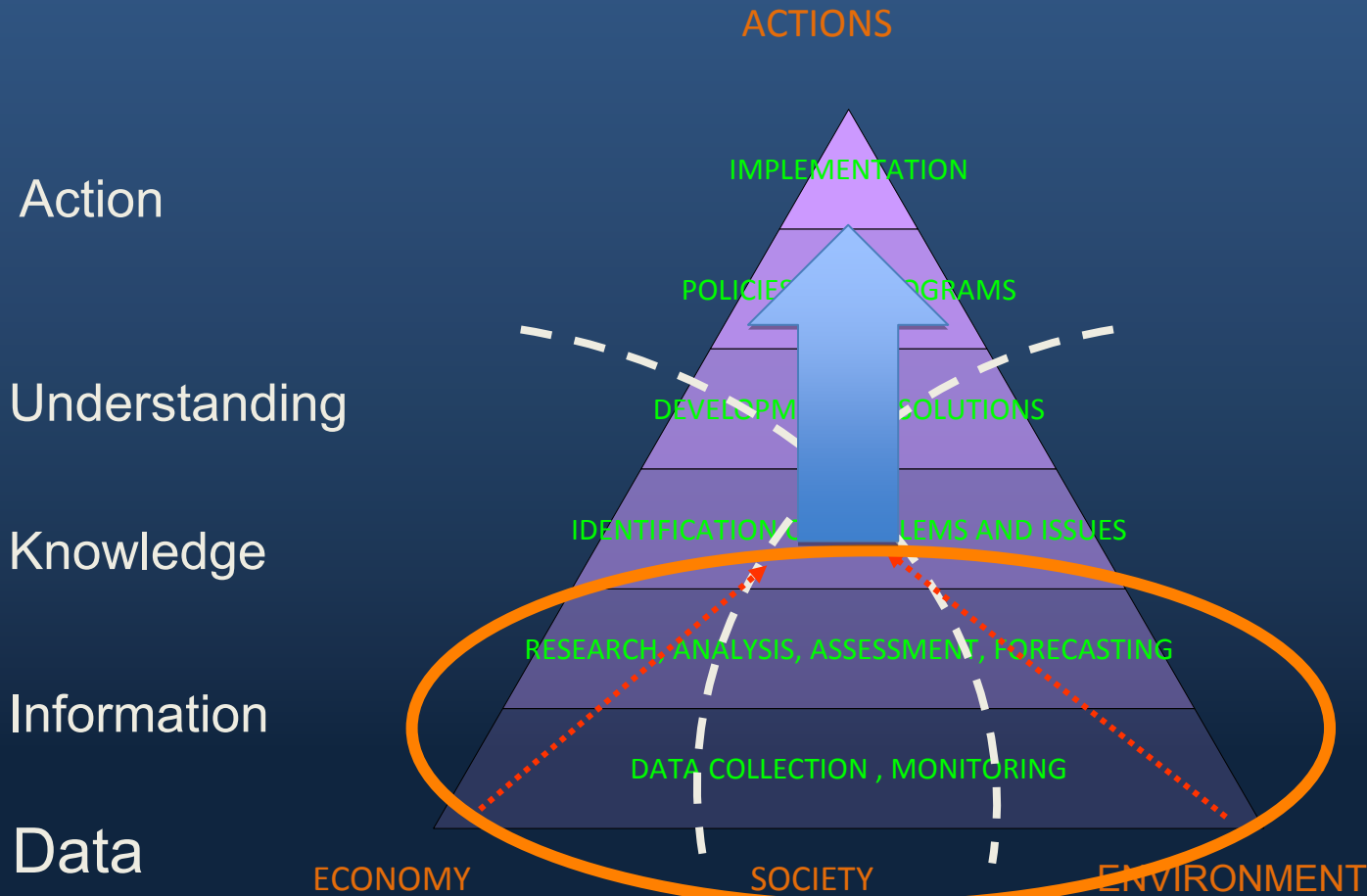


*Pooling, integrating and open access of data , information
and knowledge from all sources is critical to sustainable
development*

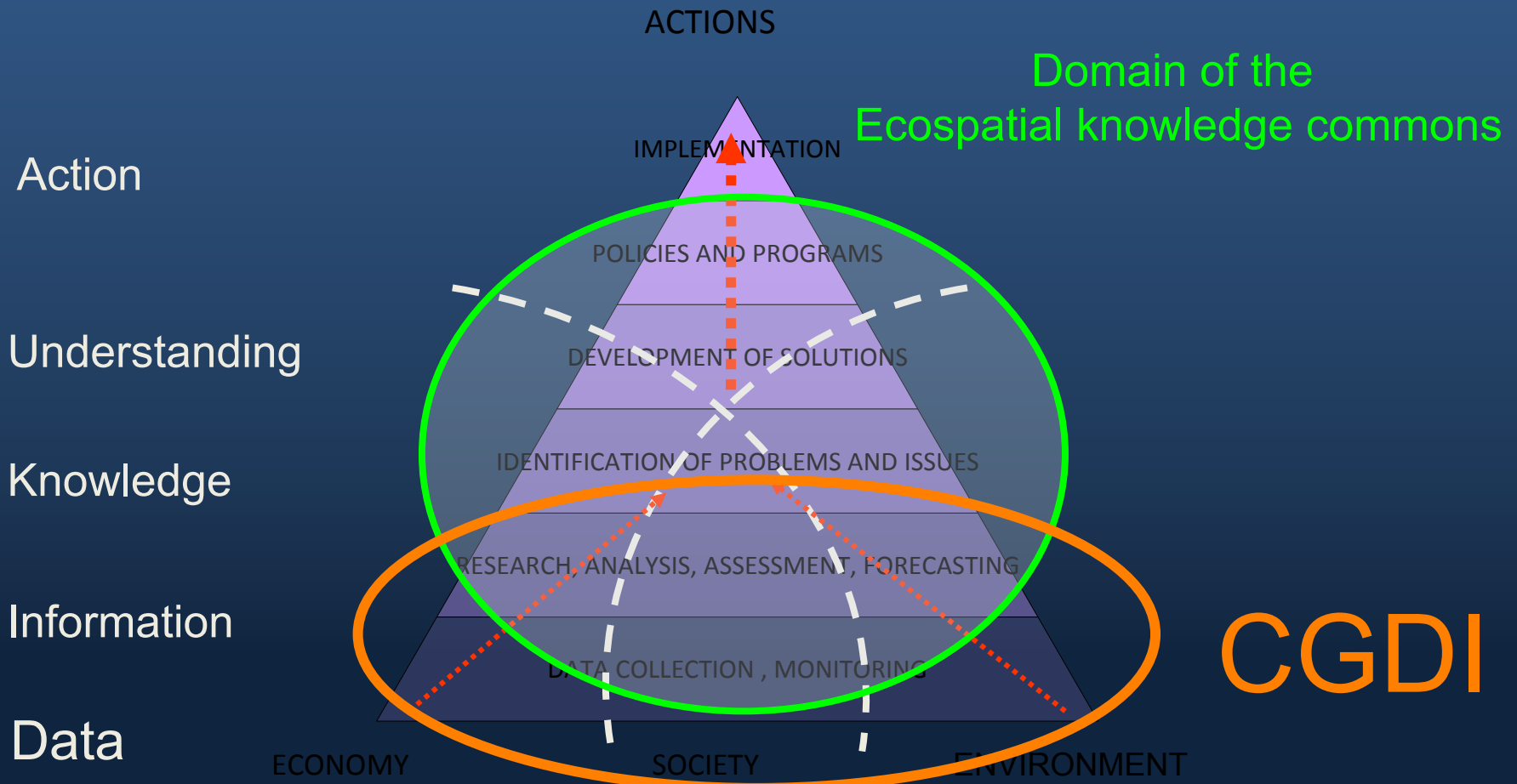
*multi-stakeholder participation , societal processes
realizing SD*

Why ILM Knowledge infrastructure?

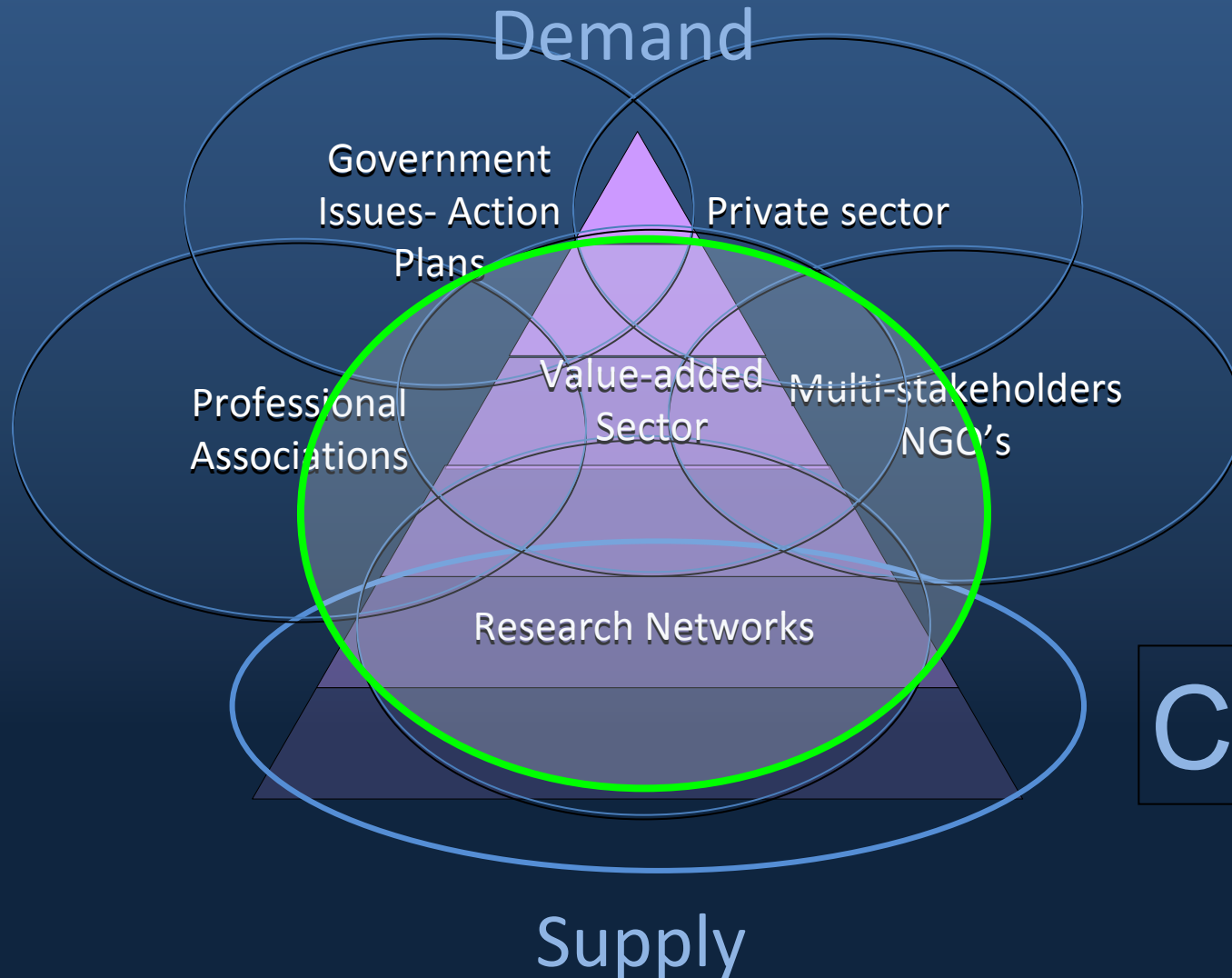
ILM Knowledge Commons



From CGDI to CGKI



ILM Knowledge Commons- Coalition



CGDI

ILM Knowledge Commons

ILM Knowledge Commons

Building on CGDI

Conservation Commons

Creative Commons

The Real Geo-Revolution still to come

Make it an Eco-Revolution !



Conclusion

The Power of Systems Integration

connect our assets

use unique tools

lead the next decade