

The Integration of Permaculture into a Land Use Plan for the City of Guelph, ON



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Research Goal



- To integrate certain aspects of permaculture principles into the land use plan of the City of Guelph, providing a possible framework for a sustainable local food system.

Permaculture Design System

- ‘..the integration of self-perpetuating plant and animal species that supply human needs, or a complete Agricultural ecosystem.’ – Bill Mollison & David Holmgren (1978)
Permaculture One
- ‘..An ever-evolving design and management of agriculturally-productive ecosystems, integrating human settlements within the landscape, and providing food, shelter and energy sustainably.’ – Bill Mollison (1988)
Permaculture: A Designer’s manual
- ‘..A framework to incorporate permanent agriculture systems within communities.’ – David Holmgren (2002)
Permaculture: Principle’s & pathways beyond sustainability

Permaculture Principles

Ethical

- Care for the earth
- Care for people
- Set limitations on consumption, resources, population, and redistribute surplus

Design

- Twelve principles
 - (1)Observation (2)Energy storage (3)Yield (4)Self-regulation (5)Renewable resources (6)Produce no waste
 - (7)Patterns (8)Integrate (9)Small solutions (10)Diversity (11)Ecotones (12)Creative change

Principle Seven

- Patterns to Details (organization in the landscape)

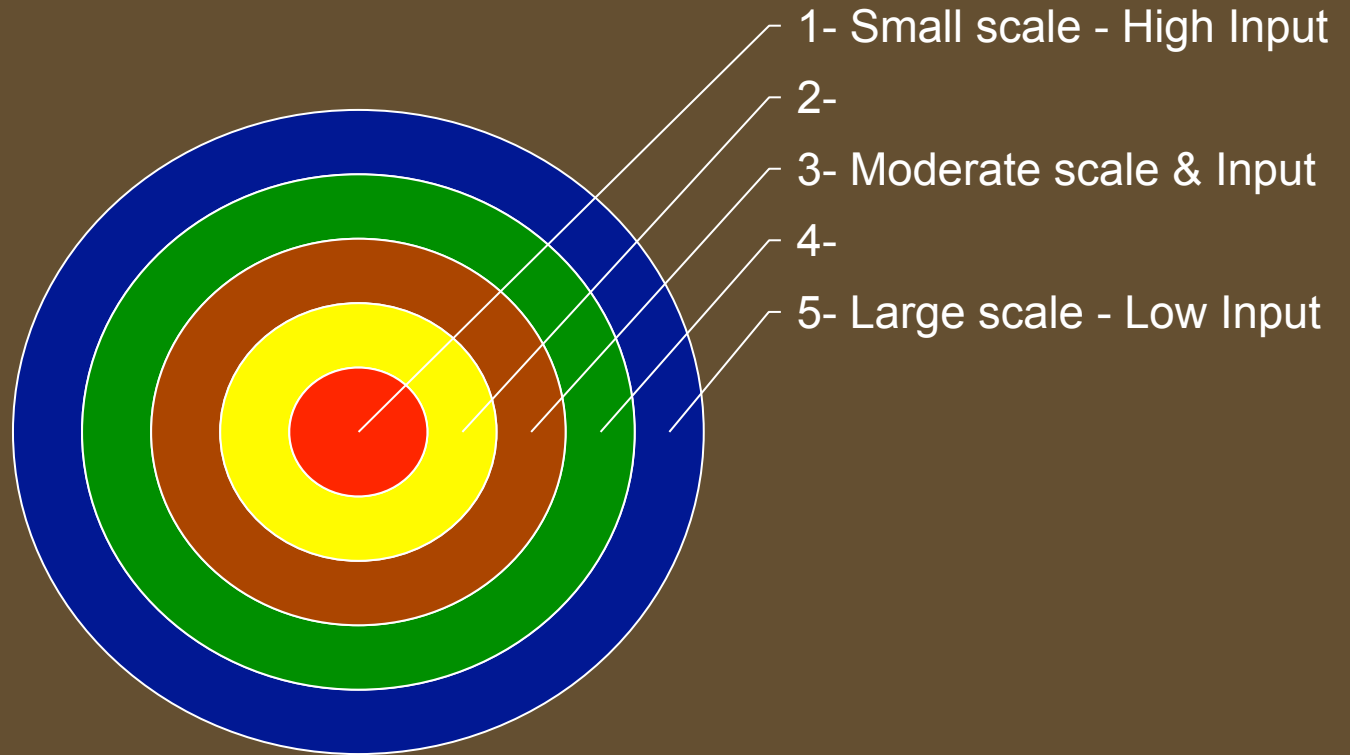
Permaculture Districts

- Five Land Use designations
- Related to Energy Inputs required and scale of land

Permaculture Land Use Districts

Intensity of use relates to the scale of land being used

Frequency of human activity coincides with a higher intensity of use



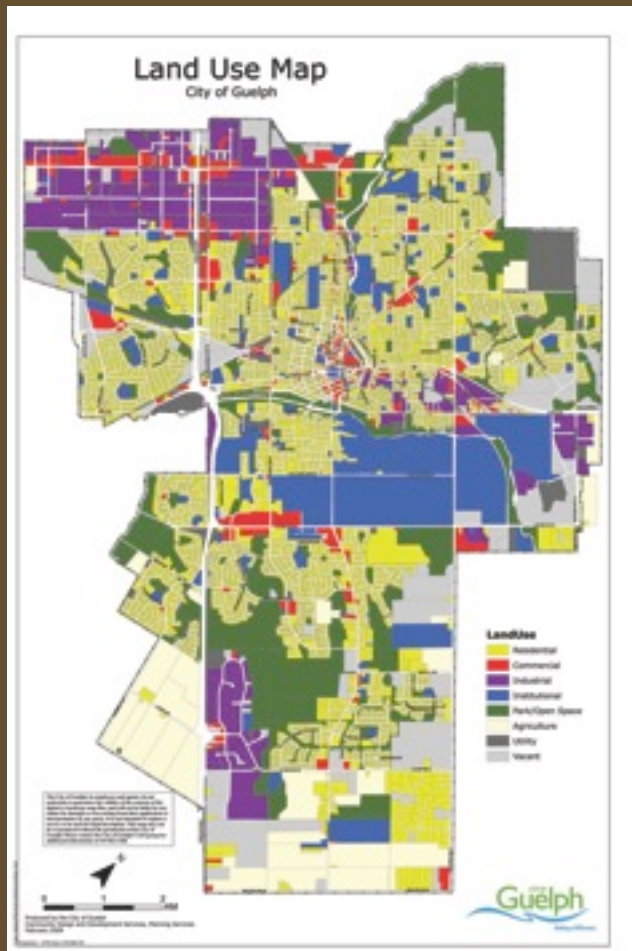
To reduce energy input required for maximum energy output

The Official Plan for the City of Guelph



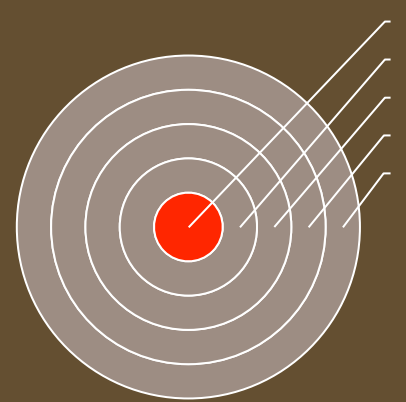
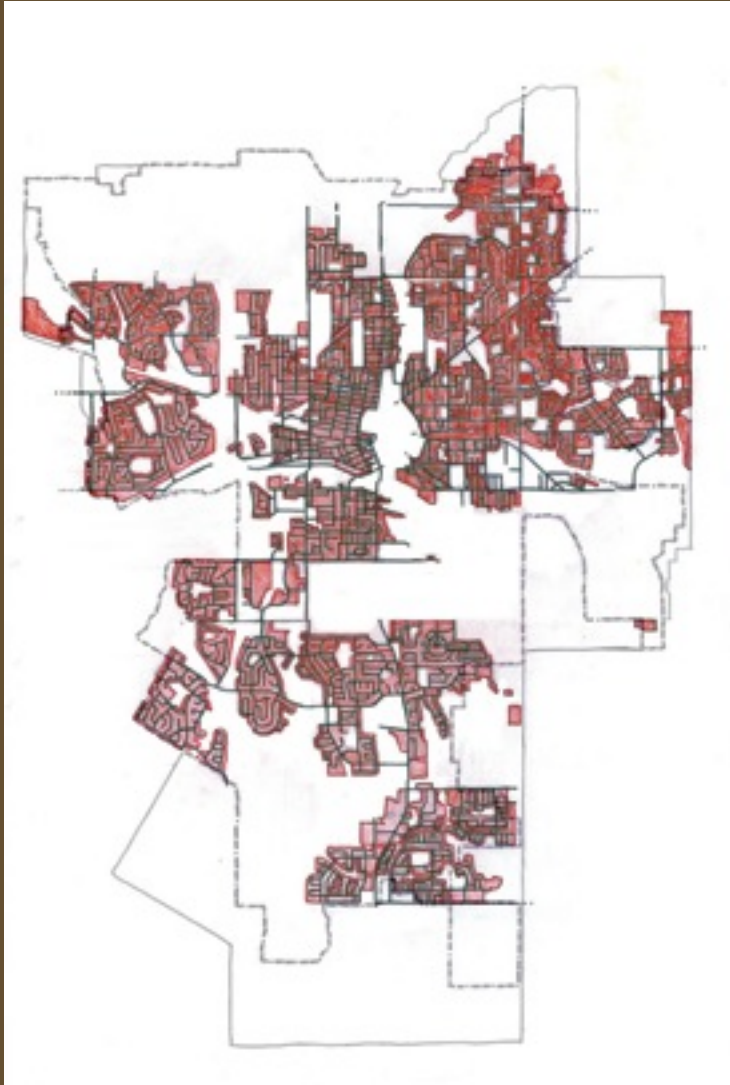
...Serves as a guide for **future land use** activity, promoting **long-term sustainability** of the community... intended to achieve **social** well-being, economic vitality and protection of the **environment**..

The City of Guelph Land Use & Zoning map



Permaculture District One (PD.1)

[Link to the Official Plan](#)



- Parcels of land with direct access to a place of residence
- Residential (R)
 - R.1 (A,B,C,D)
 - R.2
 - R.3

Permaculture District One

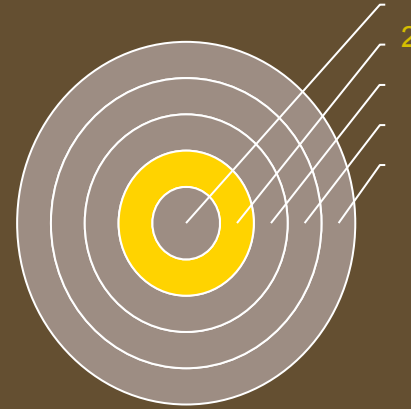
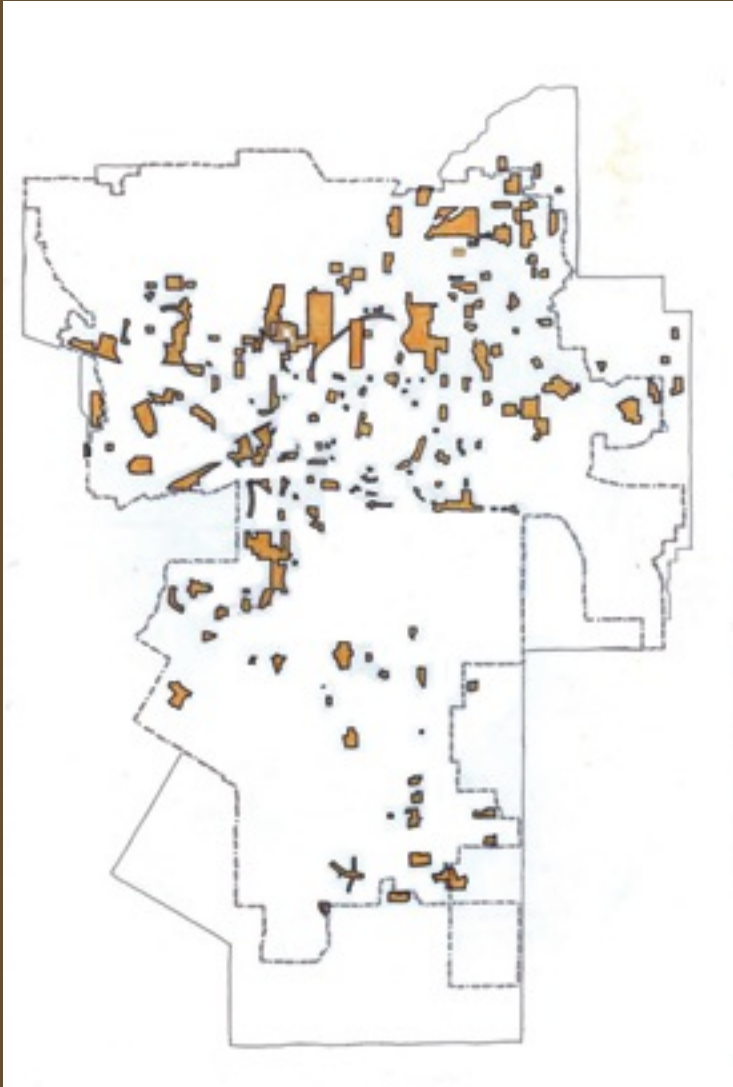
Land use

- Vegetable Garden & Herb Garden
- Roof Garden
- Patio & Balcony Garden
- Cold frames & Greenhouses
- SPIN Farming
 - Backyard Bounty



Permaculture District Two (PD.2)

[Link to the Official Plan](#)



- Public Parcels within residential areas, community parks and institutions
- Residential
 - R.4 (A,B,C,D)
- Parkland
 - P.2, P.3, P.5
- Institutional
 - I.1, I.3

Permaculture District Two

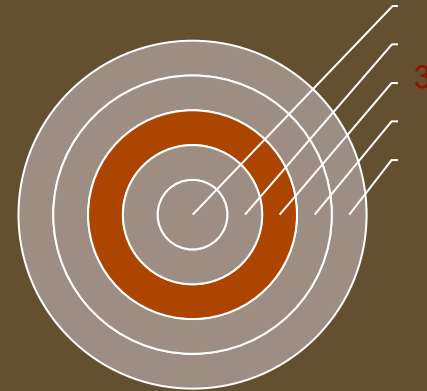
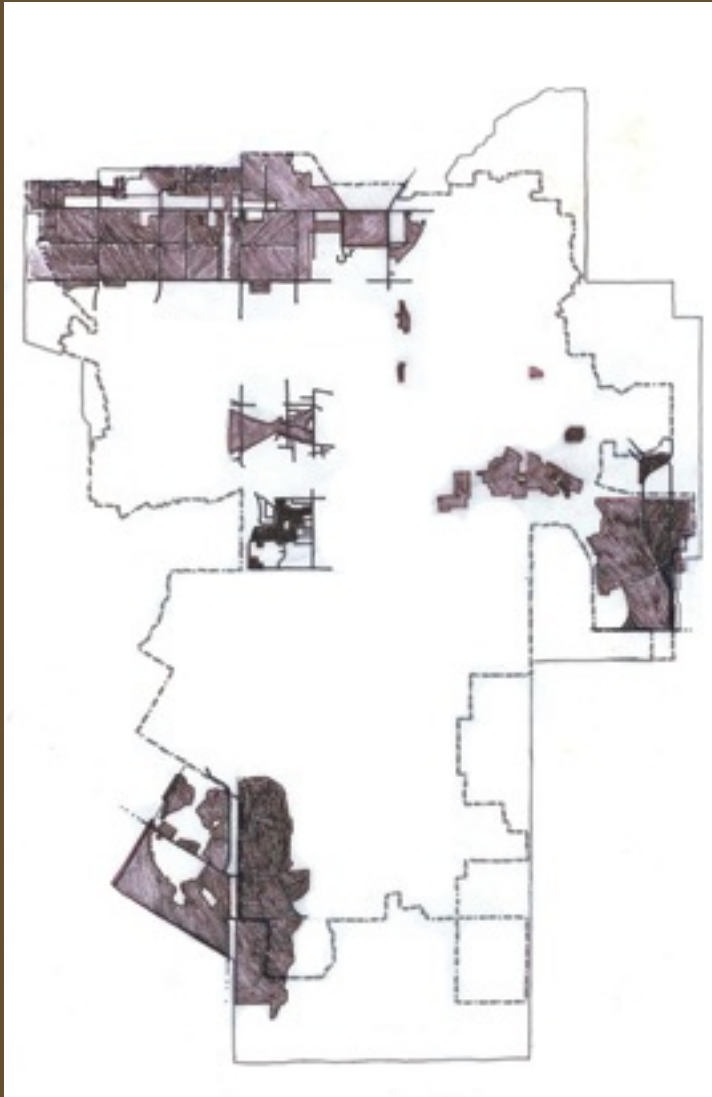
Land Use

- Community Gardens
- Small intensive fruit production
- Chicken coops
- Vermiculture & composting systems
- Market gardens
- Community farms
- Community cold storage units, seed saving & preserve/canning facilities



Permaculture District Three (PD.3)

[Link to the Official Plan](#)



- Parcels within Industrial areas, agricultural areas and regional parks
- Parkland
 - P.4
- Urban Reserve
 - UR
- Industrial areas
 - B

Permaculture District Three

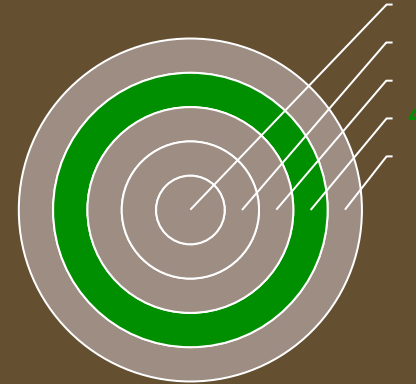
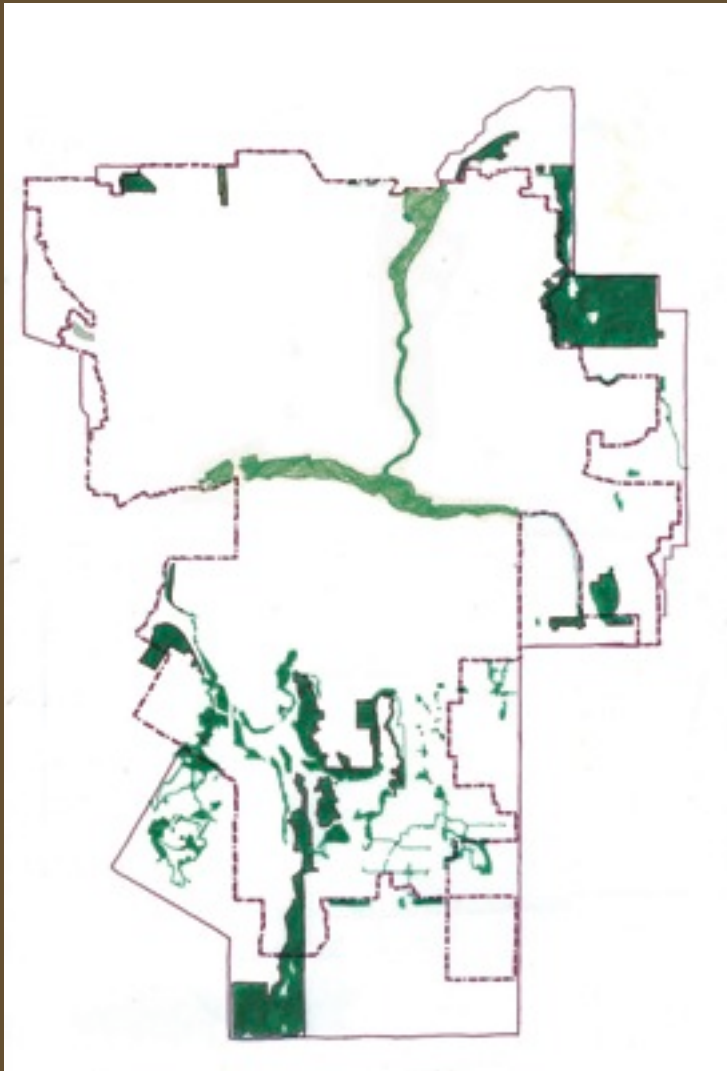
Land Use

- Plant Nurseries
- Cropland
- Small animal production
 - Turkey, sheep, goats
- Orchards
- Vineyards
- Bee hives



Permaculture District Four (PD.4)

[Link to the Official Plan](#)

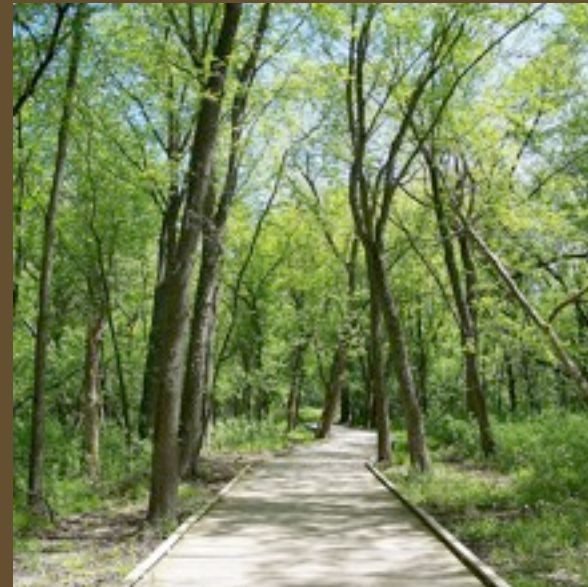


- Parcels within floodplains, existing forested parkland and land unsuitable for development
- Parkland
 - P.1
- Urban Reserve
 - UR
- Floodplain
 - FL

Permaculture District Four

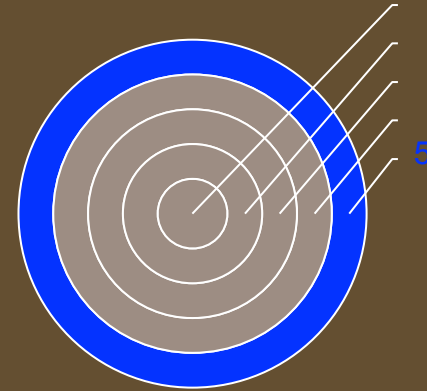
Land Use

- Pastureland
- Agro-forestry
- Sustainable woodlots
- Trails & Recreation



Permaculture District Five (PD.5)

[Link to the Official Plan](#)



- Parcels within protected wetlands, floodplains, wildlife corridors and any other unsuitable land for development
- Floodplain
 - FL
- Wetland
 - WL

Permaculture District Five

Land Use

- Conservation lands
- Waterways & Wetlands
- Native Seed banks
- Groundwater recharge
- Wildlife corridors
- Biodiversity



Conclusion



- Five Permaculture Districts were applied to the City of Guelph's Official Plan, creating Permaculture land use designations for the City of Guelph
- The establishment of these Districts could provide a key building block towards a food system plan for the City of Guelph