

Securing the Farm Edge & Urban Green Fingers

Strategic Sustainable Planning on the Vital Green Edges



SSP_{4U}



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Welcome to SSP sessions '08

- 2005 Vancouver Planning Commission SSP I Peak Oil Game
- 2005 Peak Oil Motion taken to GVRD, FVRD, HSRD, SCRD
- 2006 World Urban Forum: session on Agriculture & food.
- 2006 VCPC, Post Carbon & New City Institutes SSP2
- 2007 BC Agrologists Session: exposure to SSP Global Impacts
- 2007 SSP3 Nelson BC Food Security Conference
- 2008 Kwantlan goes global on impacts exposure. ★ YOU are here.
- 2008 Pan Canada SSP: Food Security and Mass Migration



Sponsors/Participants/Advocates



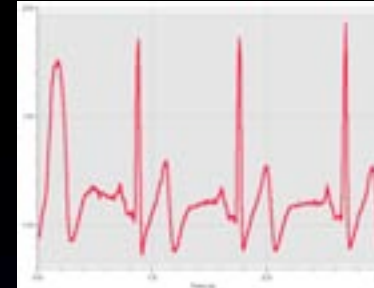
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2638 W 14 Ave., Vancouver, B.C. V6K 2W9 T (604) 731-0206 Fax (604) 734-2638
email: balfourarch@telus.net ; www.plancanada.com Planning Advocate Urban Design Transportation



Metro Vancouver Planning Coalition

405-375 West 5th Avenue, Vancouver, B.C. V5Y 1J6 Ph. (604) 688-5585 Fax (604) 688-7486



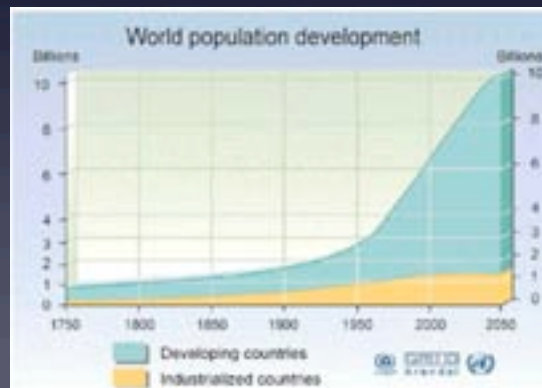
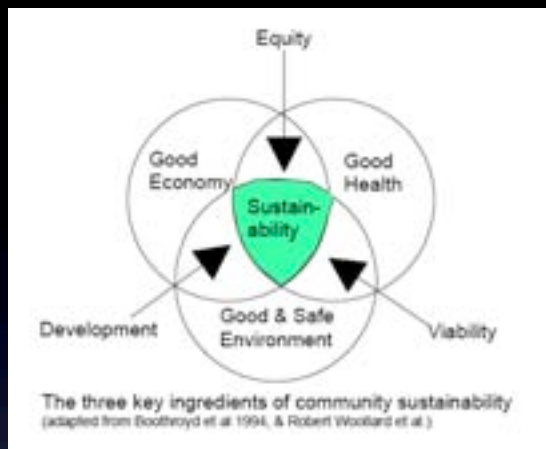
You...

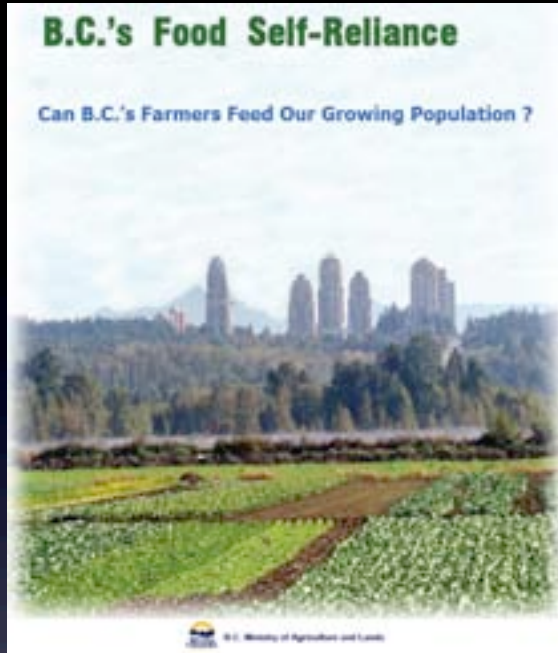


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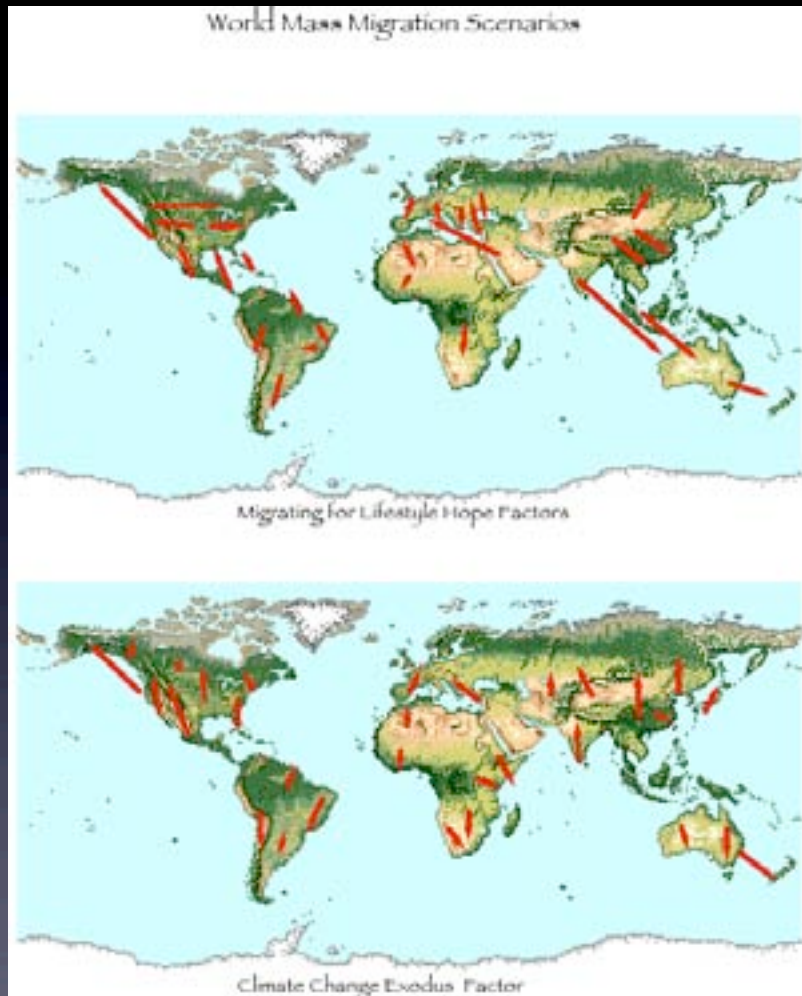
Thinking Laterally

- Bend the old rules to get **more green edge by adding more sustainable density to the urban side** of the boundary.
- Add more green to the urban side, in fact **claw back lost farmlands**.
- Deepen the secured edges and put the **critical wedge pieces into permanent public land trusts**.
- Provide for young farmer leasing, new farms and community garden functions for urban residents to have access to farm and field and forest uses.
- Don't forget to add agro-industrial/**food processing** to urban sides.

Food Group	B.C. Consumption Million Kg's	B.C. Production Million Kg's	% Self-Reliant
Dairy	1080	607	57%
Meat & Alternatives ¹	467	298	64%
Vegetables - Grown in B.C.	764	331	43%
Fruit - Grown in B.C.	372	273	156%
Grain for Food	335	43	14%
Total - Grown in B.C.	2798	1562	56%
Fruit - Not Grown in B.C.	330		
Vegetables - Not Grown in B.C.	1		
Sugar	136		
Total - B.C.	3245	1562	48%



Re-ruralization, Relocalization



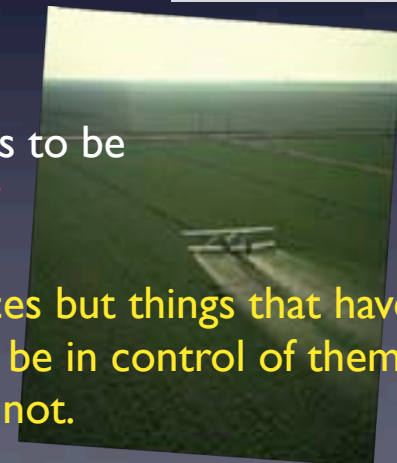
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Post Oil Impacts

- We should have altered our pattern of community long ago for the post oil conditions but now we MUST. (Club of Rome 1972)
- Land use & transportation MUST undergo radical and rapid change.
- Farm & industry reintegration into local community is a MUST.
- Marbelization or new distribution for sustainable community has to be executed now, and most of our current planning does not really recognize the new reality.



These are not really choices but things that have to happen, our choice is to be in control of them....
...or not.

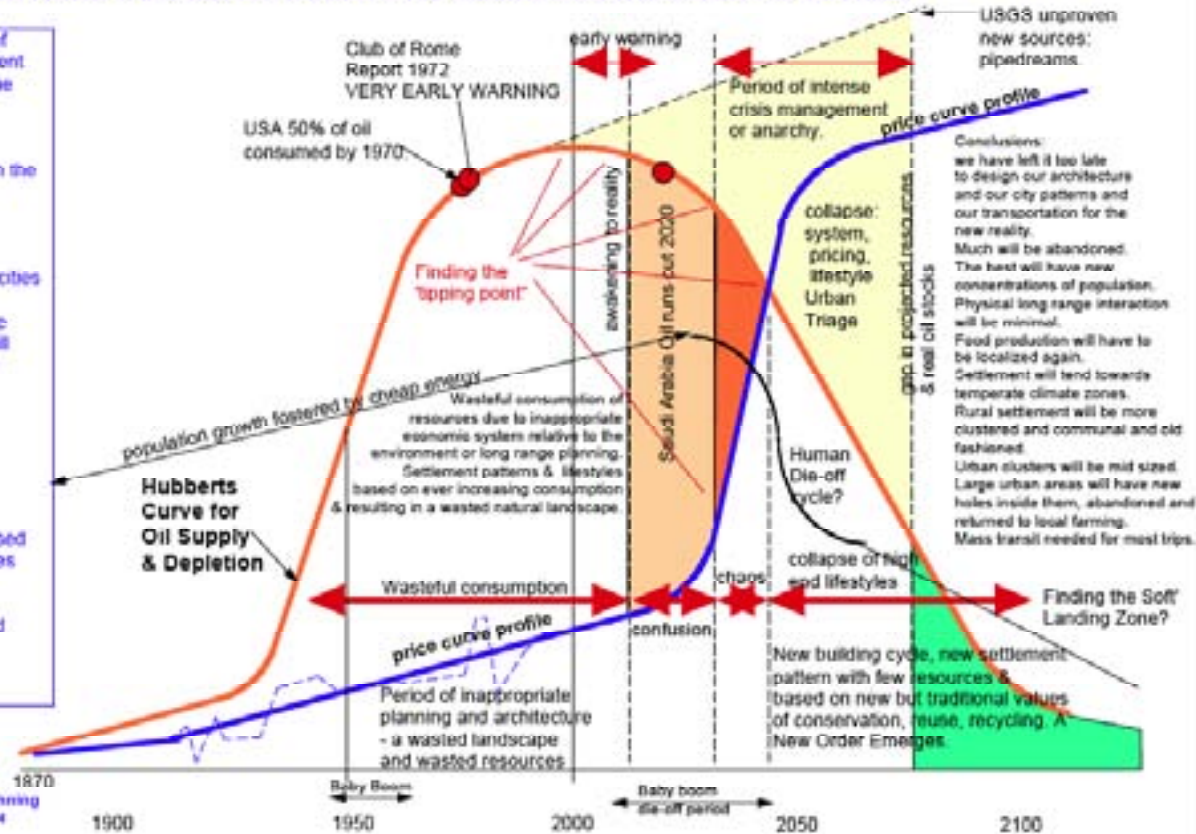


THE DEPLETION OF RESOURCES & THE IMPACT ON PATTERNS OF HUMAN SETTLEMENTS: THE NEED FOR LONG RANGE STRATEGIC SUSTAINABLE PLANNING.

We are neglecting the design of appropriate patterns of settlement & transportation systems for the fast approaching new reality of energy scarcity & resource depletion.

We need strategies to deal with the following new realities:

- settlements will tend to be located in temperate climate zones & on higher ground.
- large sections of our existing cities will be abandoned as they are unsustainable. New appropriate concentrations of population will emerge as physical long range interaction becomes minimal.
- food production will return to restricted smaller areas and serving local needs.
- mass transit will be used for inter and intra city movement of people & goods.
- settlements will be compromised of smaller towns, smaller houses & narrower streets.
- localized industry, farming & market return. Proximity to food production, social networks & natural reserves will mark points of new community.



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2003.11, after Hubbert, Rees, rev 00.04

...and what exactly is your plan B?

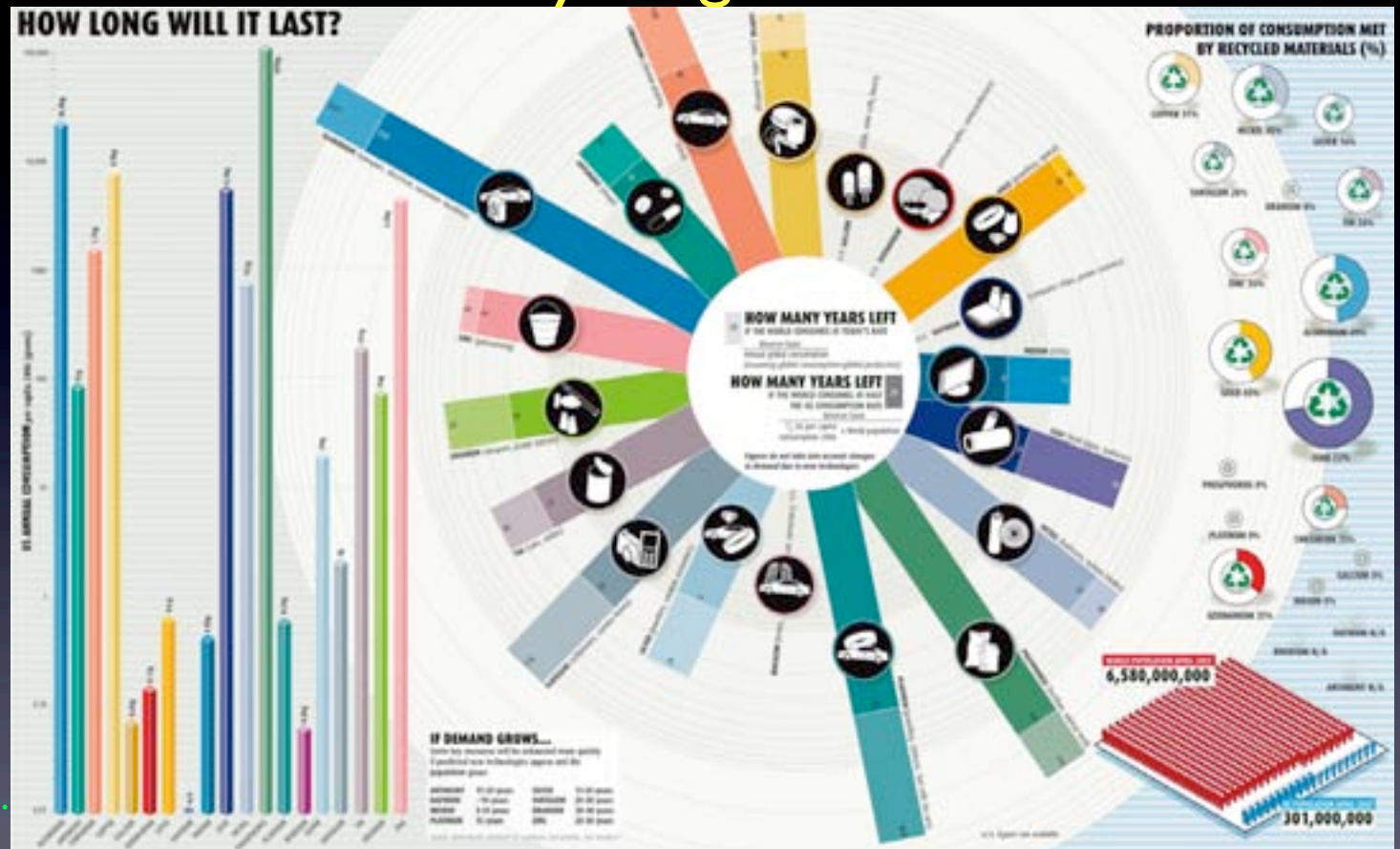
..where are you on this time & cultural motion curve?



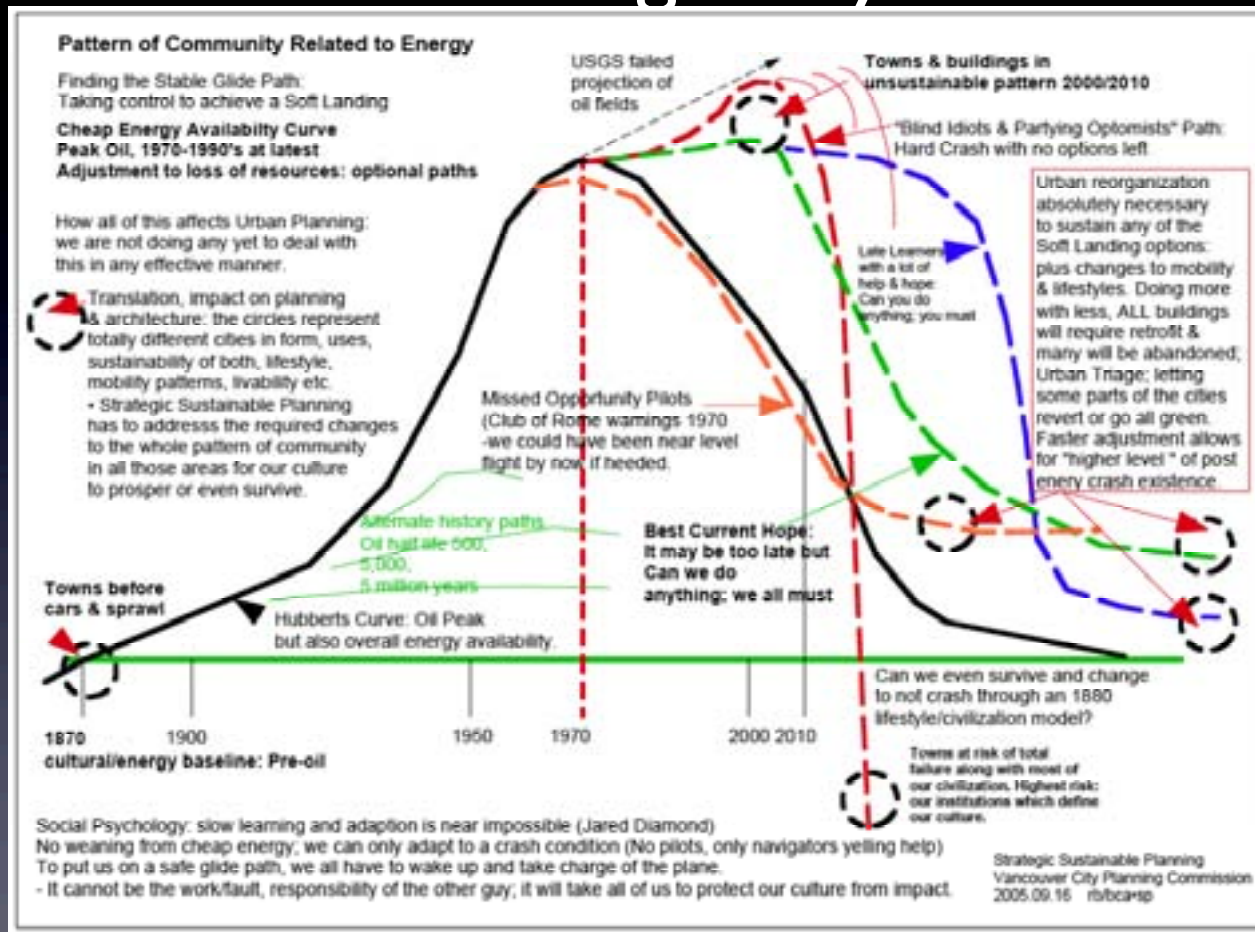
It is not just Oil:

- We have consumed most of our resources of this planet in almost every category.
- All current linear plans for more growth have less than a decade of possible realization.

The Peak Everything Era....



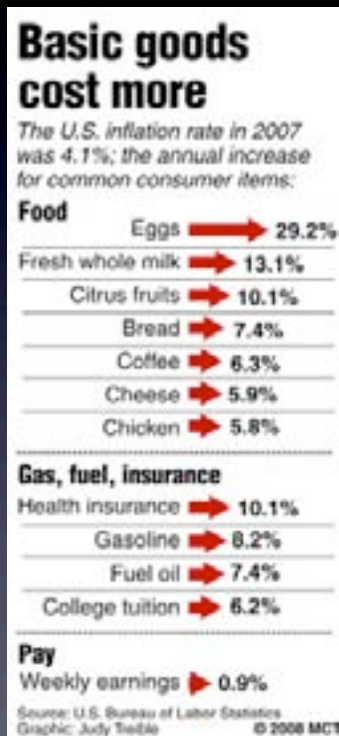
Radical Change: city rescues



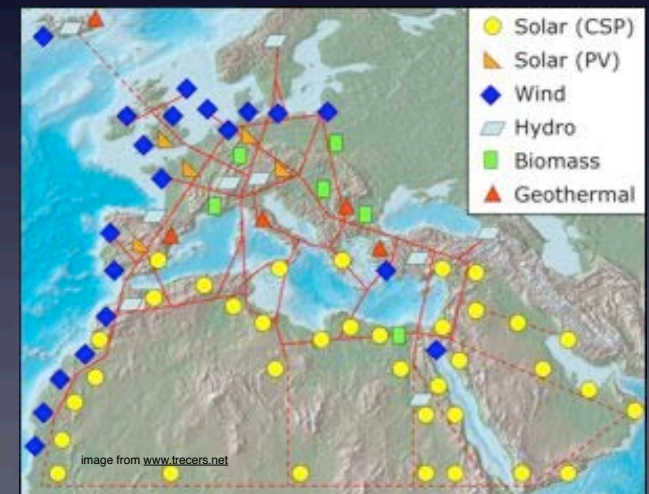
You actually have to do something this time to save yourself, your family & community.



Agro-Inflation Has Started...



- High priced food is not some new anomaly, but a return to a reality after the century of an oil based civilization now ending
- We need to learn from the Old World... can we?
- At the same time the Old World is racing ahead of us to rapid alternate energy capture.

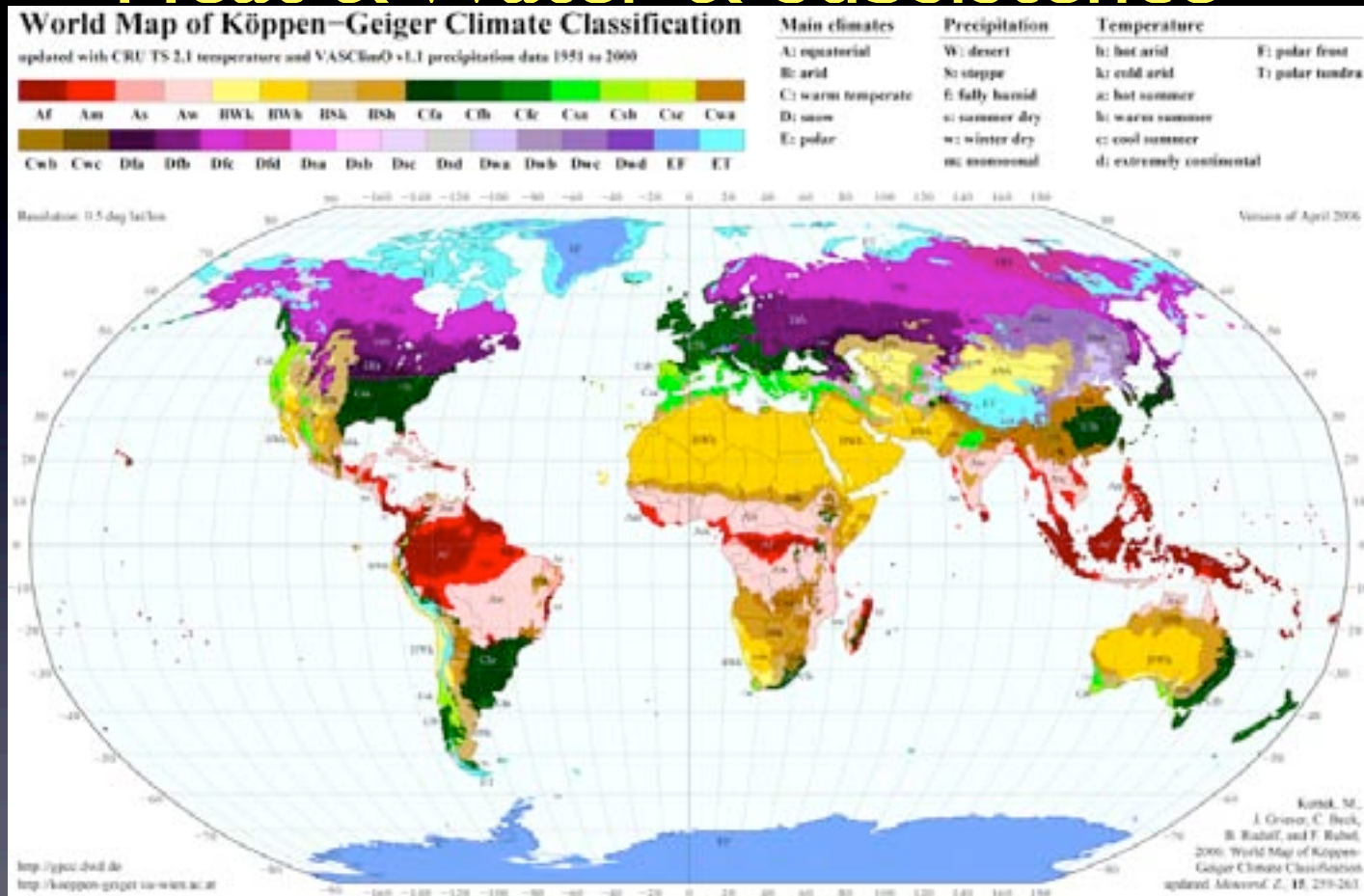


Climate Change Impacts

- Loss of cheap oil is only the start to the end of cheap food.
- Long distance off-season food will be restricted to special goods.
- Total relocation of food production is unavoidable, a necessity.
- Land use price shifts will occur along with loss of suburbia and formation of new urban villages with green fingers of food production. You cannot eat development: you need FOOD.
- Marbelization will also impact the rural areas; rural village or clusters, not unbroken single land uses as now practiced.



Heat & Water & Subsistence

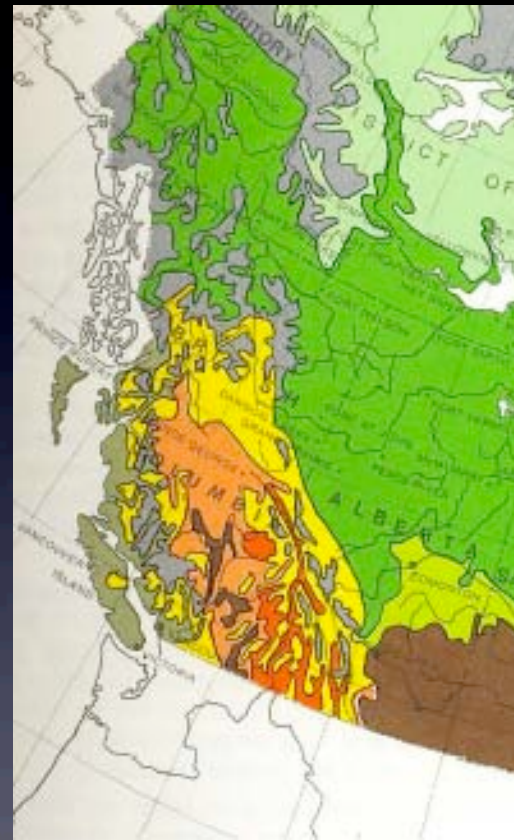


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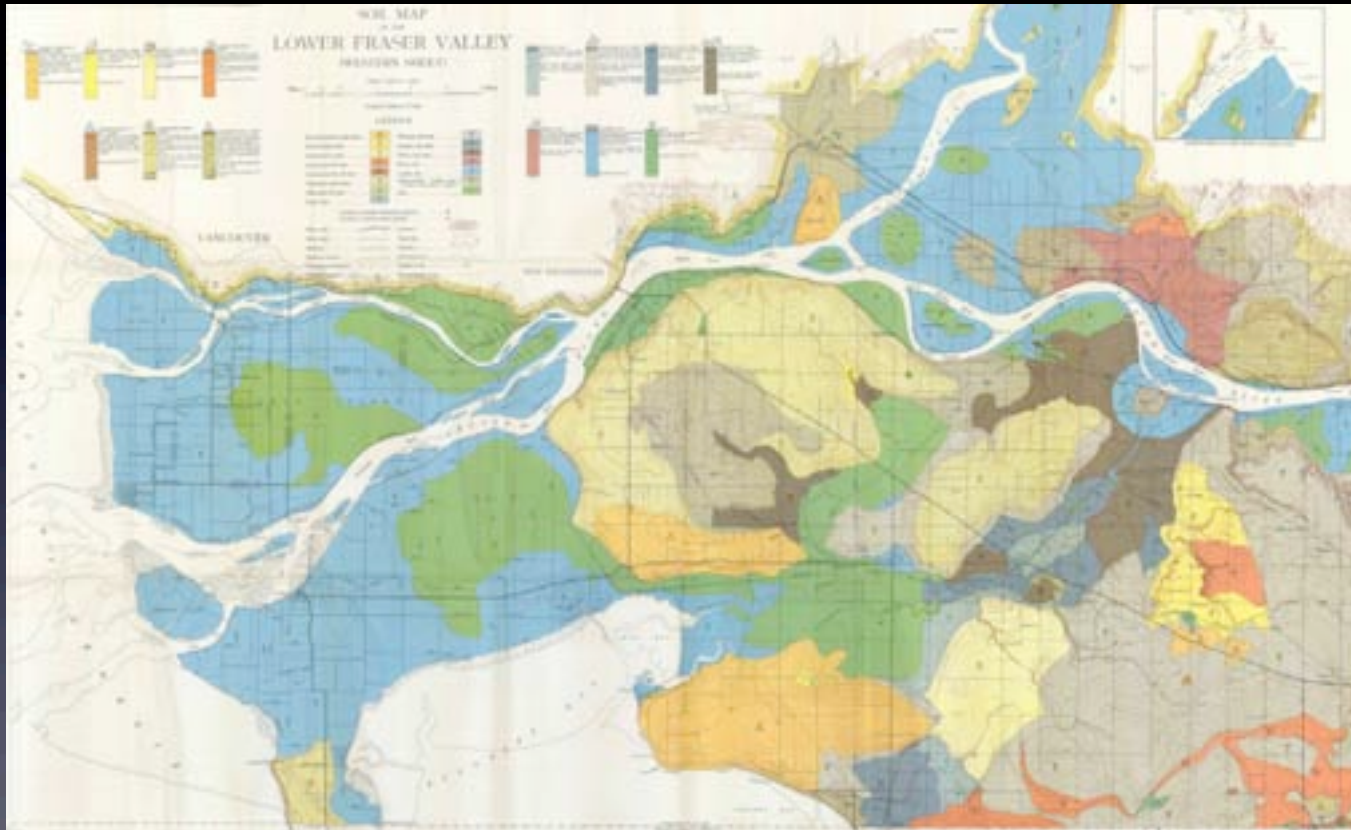
BC Snapshots

- Ecological basins well defined.
- Break down of large scale grids means local self reliance & control is essential.
- Variation in the BC landscape is a fact: the solutions will be from adaption to the local conditions without cheap oil to allow for unsustainable solutions.
- The bounty of BC will therefore also attract many new migrants & cause social upheaval unless we plan for it.



Fraser Valley West Soils

Starting with the Basics- if it can grow food protect it. if it floods, move higher, if it is too dependent on others, you are at higher risk.



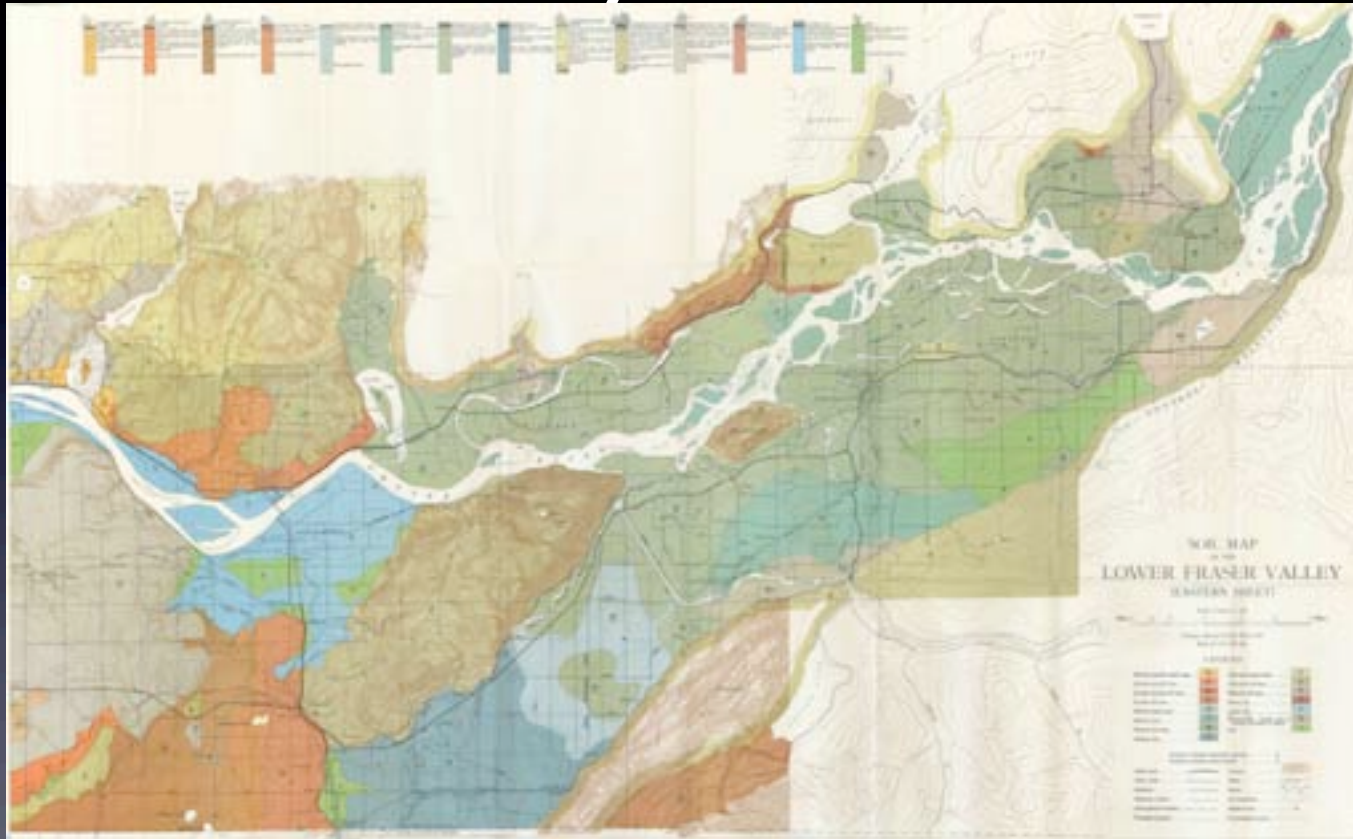
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Fraser Valley East Soils

Geologic time, most of this was under water and will be again. Where is your hill town?



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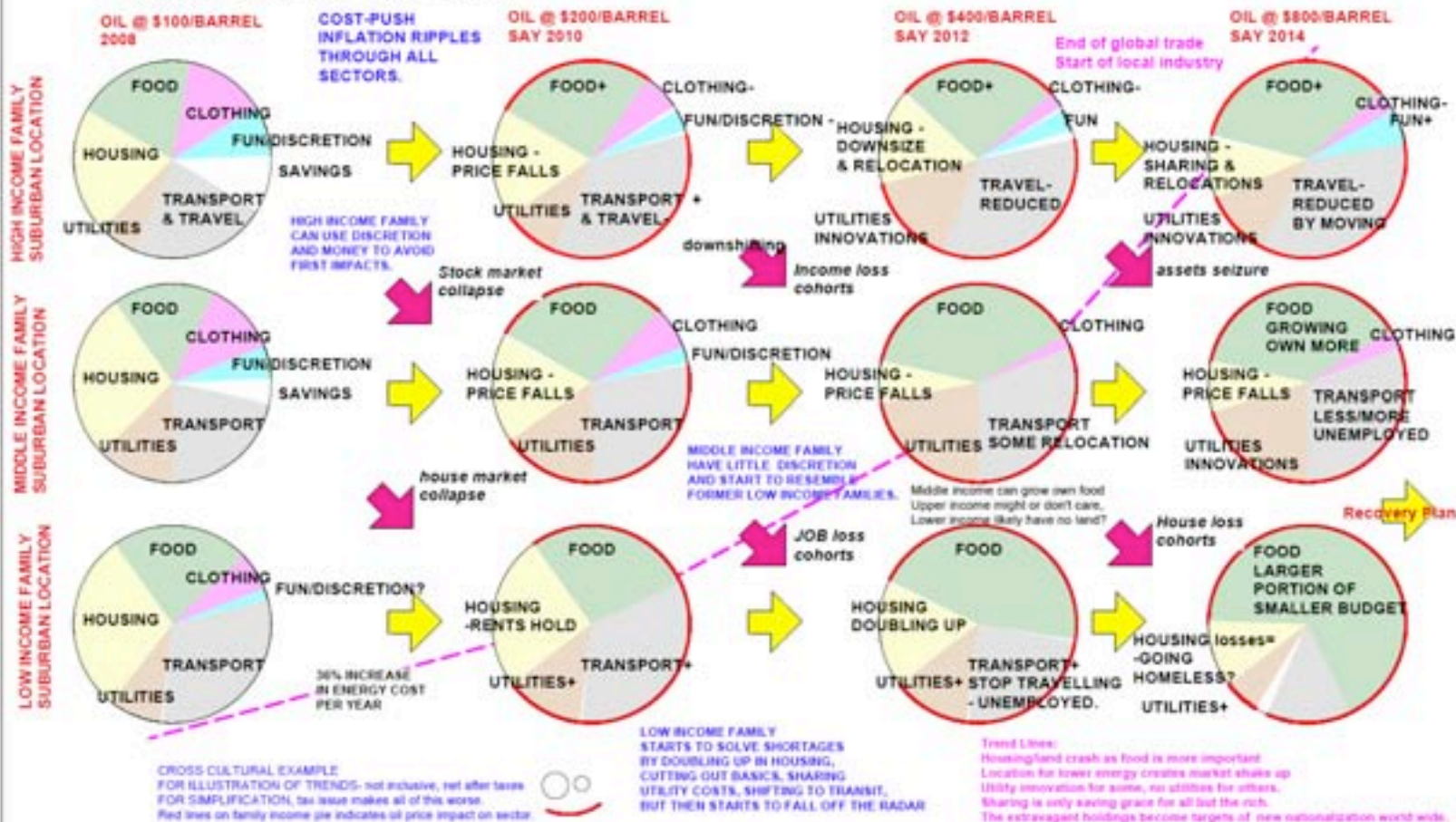
Mass Migration Impacts

- Post Oil Price Shock plus climate change will trigger a massive **reshuffling of populations**.
- BC is one of the **great net attractors**; tens of millions of new migrants within a decade or two is a mid range expectation.
- Existing towns are mostly **at their limits for sustainability**.
- New communities are to be expected; where, what, how and why?



OIL PEAK PRICE ESCALATION DIFFERENTIAL IMPACT ON INCOME, LIFESTYLES AND 'BASICS' OF LIFE.

A sociological perspective on Peak Oil and Family



Some BC New Towns

- Metro Vancouver, Vancouver Island and South Mountain Valleys: New Hill town sites are available. The farmland will be under increased pressure from farm use plus impacted by rising ocean levels and **creeping salinity from ocean levels** and water table rise in deltas.
- Cariboo New Towns in self managed **eco-basins will need to be given charters to properly be self sustaining.** (Part of the Mid-Canada Line of new settlement under climate change.)
- Railway oriented small towns in the Circle Rail route can provide another **new alternative** for more Swiss-like re-localized comprehensive towns with mixed local industry and rail exporting.





Comprehensive Community

- The end of the oil age and oil age planning and engineering necessitates a **restoration of complete community uses**.
- At each opportunity look to **restore the scale and uses of traditional rural and urban villages**. (food processing, abattoir, blacksmith, think of pre-automobile days).
- Mix housing types and scales.
- Co-operative & village models: rather than corporate land assault.



- Similar to 'density transfer', push for principles like saving half the land for field and forest, and double the density again.
- The fourfold approach then allows for increasing the green areas for farm and forest but also increases the access to green edges for all.
- The resultant urban or village population takes on forms and density that are more sustainable and economically viable compared to oil age suburbs.
- Don't forget to add the village commercial, social functions, schools, parks and play areas, and housing for seniors.



Don't be
afraid of
density.



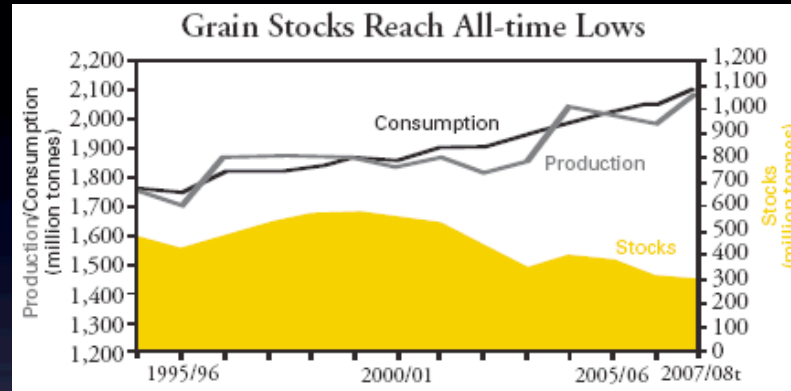


The Withering of Globalization

- Current growth of globalization is heavily oil dependent
- Real costs are now hidden and when revealed, will cost a rapid shrinkage in the current blip of rabid growth.
- The re-localization of agriculture, industry and discovery of old ways of doing things will send a shock wave through current wasteful land use.
- Reclamation of oil era highway lands, warehousing non-essential service areas like white collar city cores will be a full time scavenging industry: we need to look to adaptive re-use of some buildings as new greenhouses.



Agricultural Inflation



- Loss of agricultural lands, loss of coastal plains & cities
- Mining of soils cuts food production and nutrients
- Growing & migrating population demands more food
- Farmland rush will outstrip supply.



Solutions: Edge Marbelization

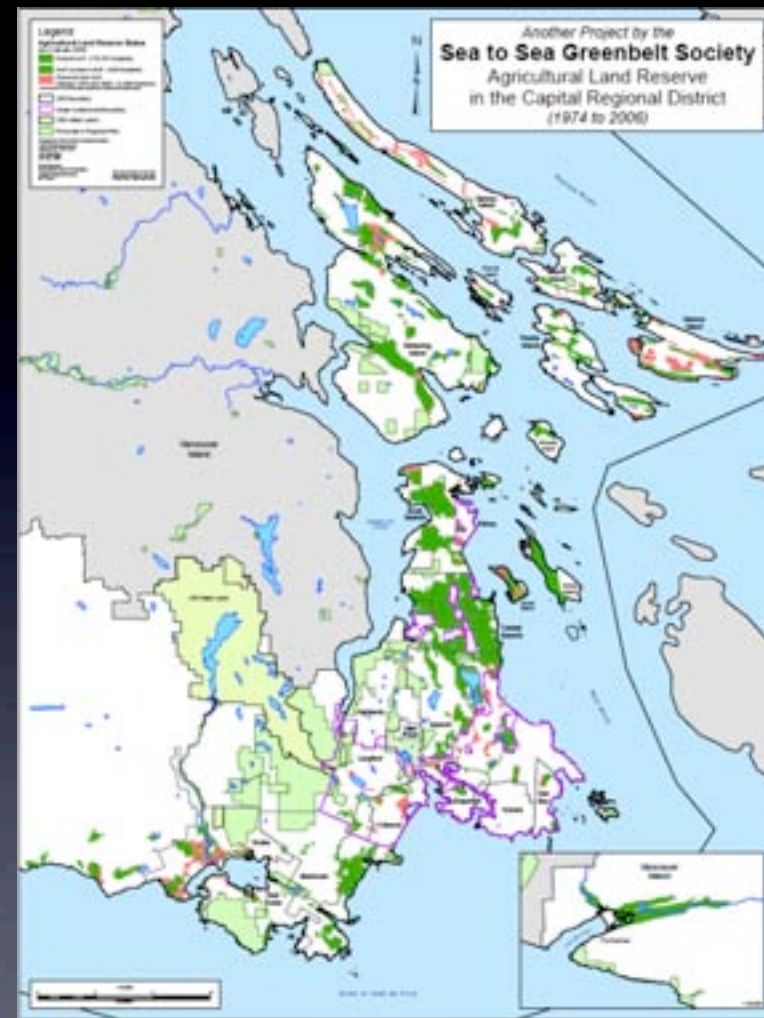
- The resultant shift in pattern in securing the green edge and new green fingers inside new urban fingers starts to create a **marbelized edge pattern** to towns.
- The new **string of pearls of villages on the edge** and on **radial patterns from the town** centres will facilitate more viable public transit systems but also more green pathway links for bikes and pedestrians.
- The new **green fingers** provide a new identity and even addressing for houses and community use. Cars can have the back door/urban lanes.
- Water capture and re-use becomes important: local water & hydro power. **Local management & control is essential to survival.**



Capital Region

Victoria County

A “Green Fingers” Example



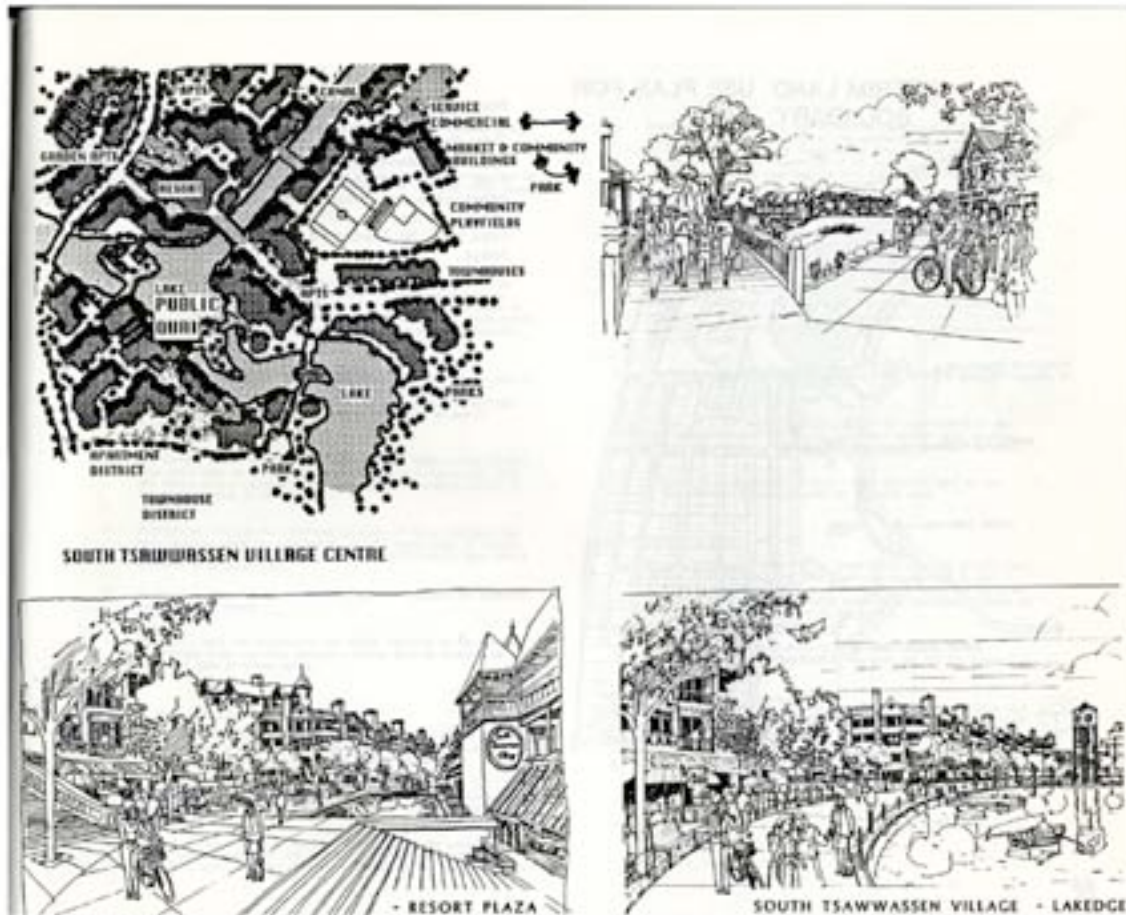
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New towns & Green networks

A 1987 plan for South Delta Spitifore Lands, with half of lands in farm and open space.

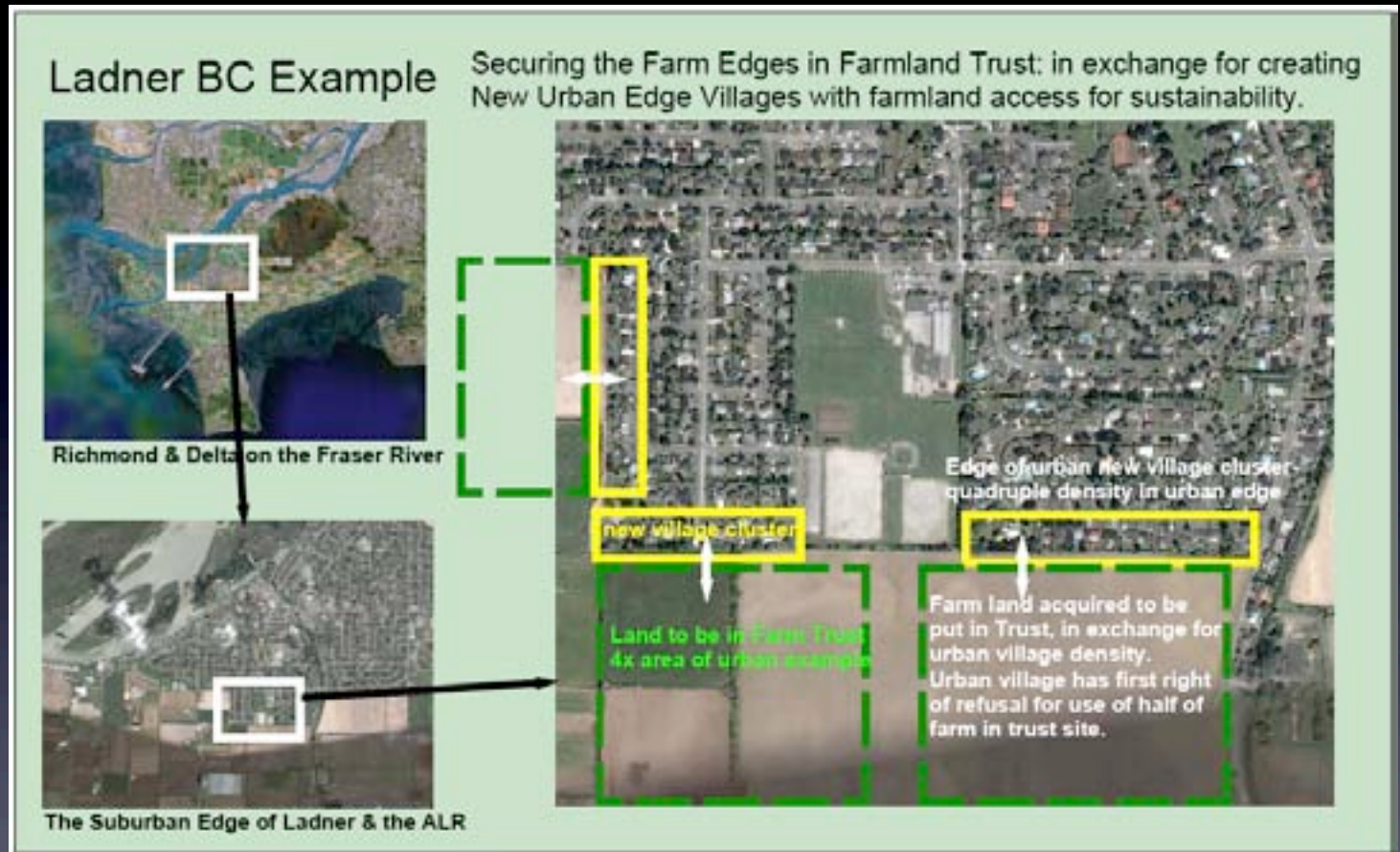


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Ladner urban Edge & ALR



- Using urban redevelopment to secure the sustainable green edges.



Ag Land Defense

Community
Survival in a post oil
economy.
...or not?

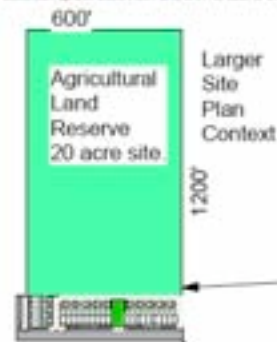
Concept 1.0 Edge of Towns Farmland Conservation and Immediate Use by new young village farmers: Real Sustainable Communities.

Strategy Plan

Before ALR Cerebellum Options: existing edge protection comprehensive strategy:

Cooperative Community Action:

1. New owners secure ownership of farm
 2. New owners secure ownership or dedication of farm
 3. Joint application: new village density tied to ALR site used by co-operative owners but owned by Farmlands Trust and taxation of farmland removed. Trust puts land into land bank
- new young farmers gain farm hamlet with affordable densities
 - town gains sustainable density plus secured farm plus defensible farm edge
 - society gains another layer of farmland protection
 - the total density package is the same as if the farm was carved up for an sustainable suburban spiral subdivision and with no cost of extra services



Sustainable Plan

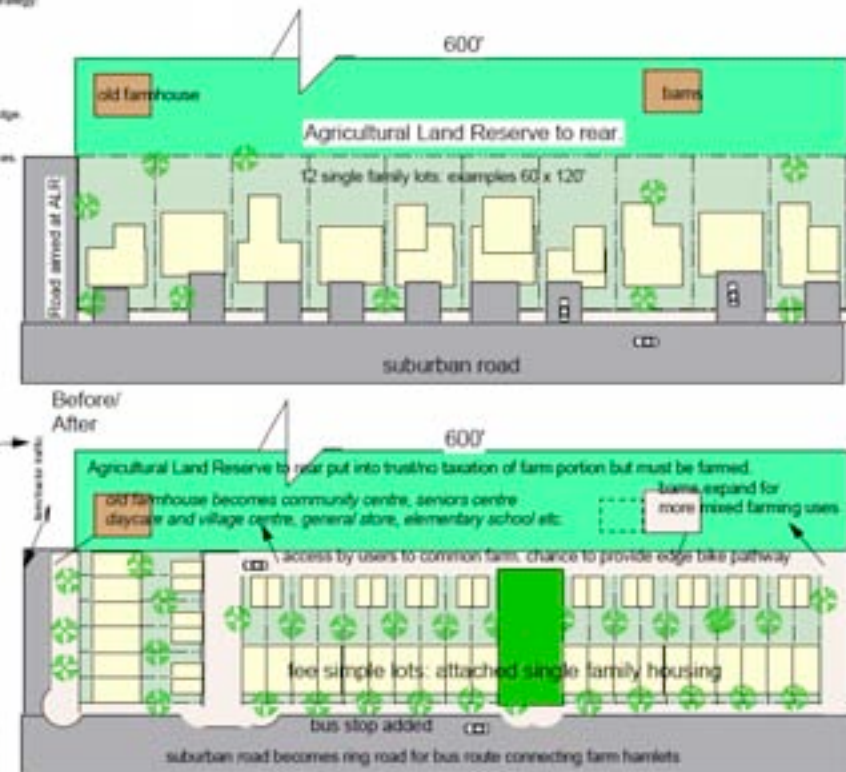
Redevelopment of old fronting single family subdivision to double density but still single family on condition of 20 acre site used by group in common & farm put into permanent covenant and public trust for agriculture.

Old urban density 12 houses (8 upst)
New urban density 24+ houses (12 upst)
Plus in law suites 30 upst

Blended density with ALR site 1.5 upst
or suburban spiral equity density but with preserved farmland, affordable housing density and sustainable urban forms.

Plus farm security guaranteed with ALR link to the urban site.

Concept Evolution: Agricultural Land Use Adj to post WUP
From Nelson Food Sustainability Conference 2007 Policy discussion
For application to BC Min of Agriculture and to Municipal Policy UBCM
Draft for policy options/urban Green Fingers, Unsustainable City Book
Richard R. Balfour 2007.



Principle
Developer to gain urban density protects the farm but still get to use it under the co-operative model.
Farm Hamlet is achieved without infringing on farmland: no impact formula.

Five rowhouse site: 26 lots plus public green park, add access to rear for car access turn old street stub into lanes plus access to farm now held in commons under new restricted covenant in the name of a public farmland trust.

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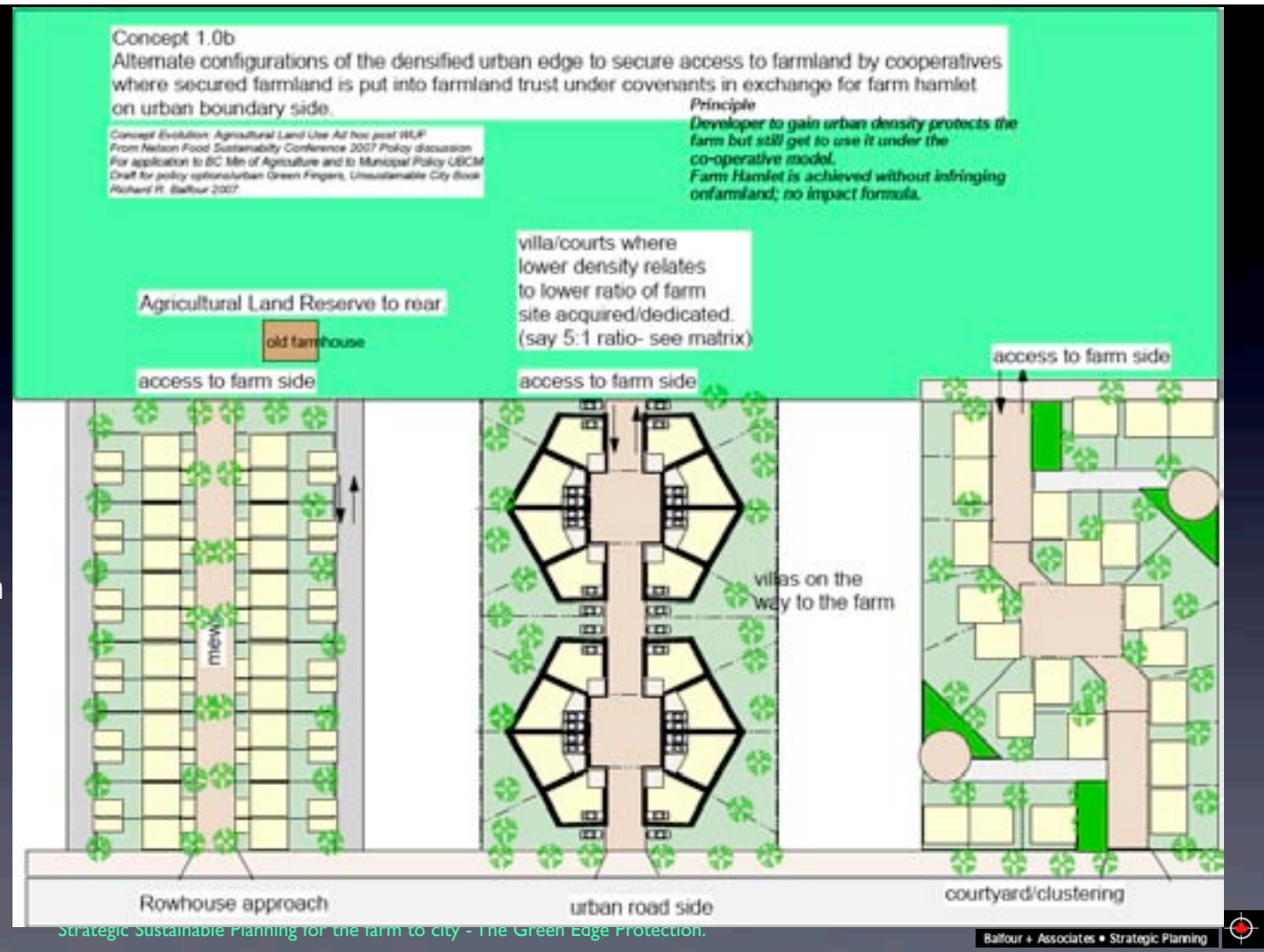
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Ag Defense

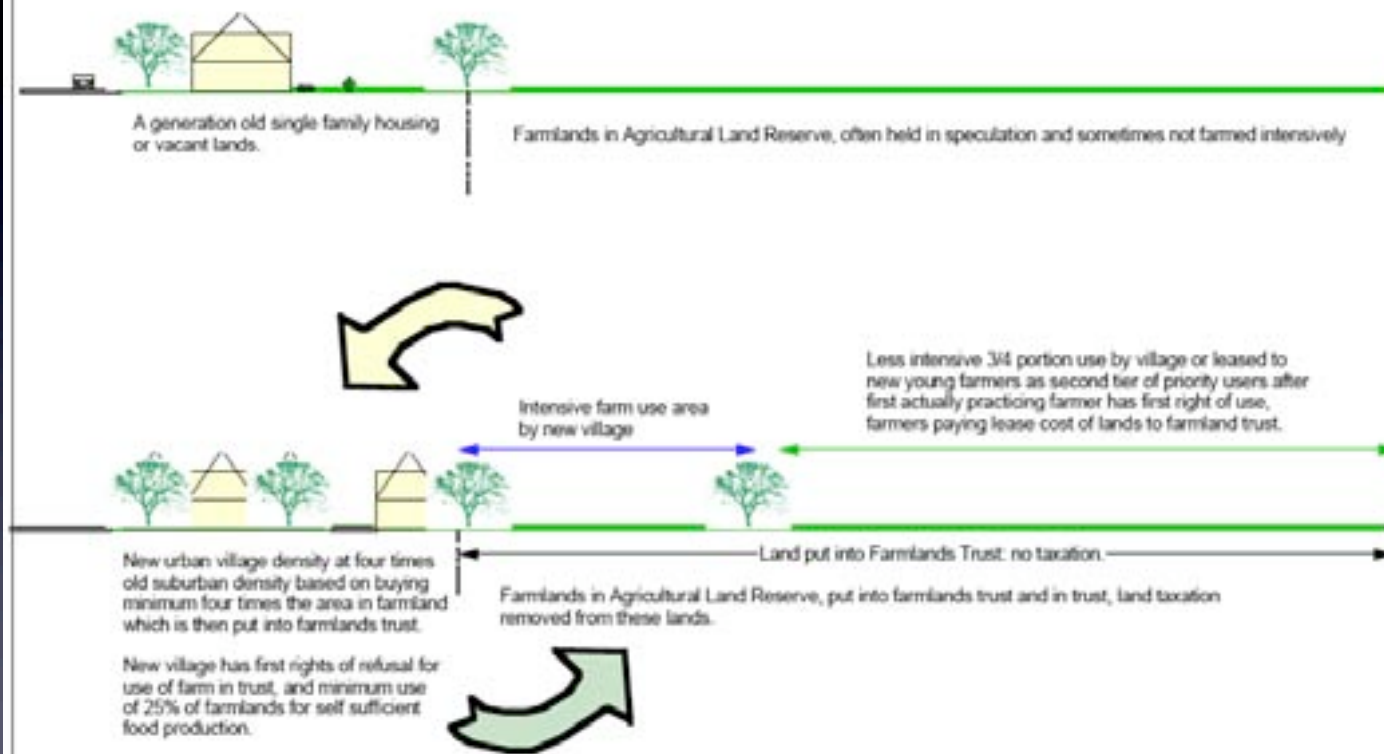
1. Role of the road yet to be redefined.
2. Civic space is more than circulation.
3. Essentials: food, community, sustainability.



Securing the Green Edges

Farmland Edge of Urban Protection in Farmlands Trust

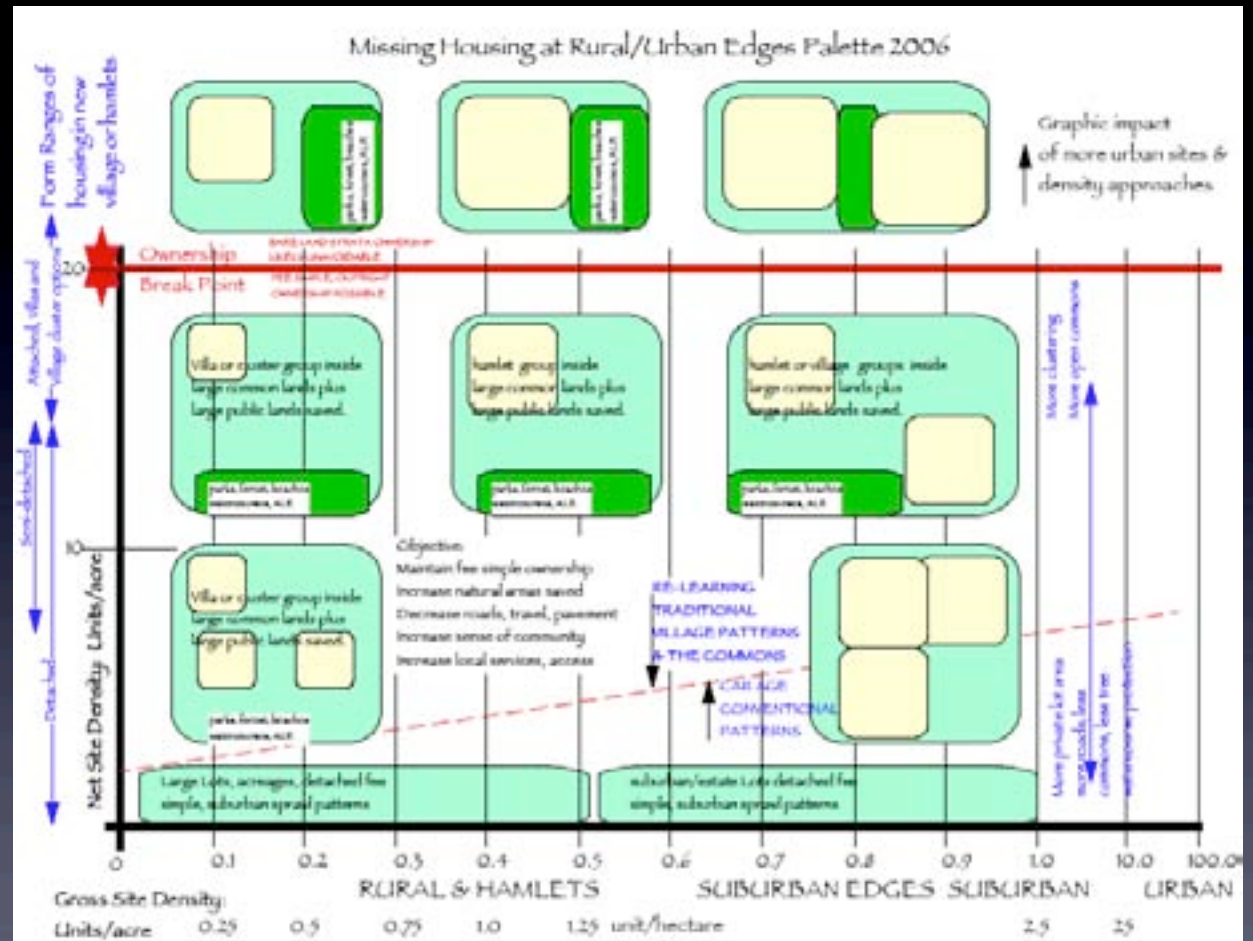
Using new sustainable urban edge villages to secure the green fingers and edge of urban.



Edge security in Section



Rural Village Restructuring



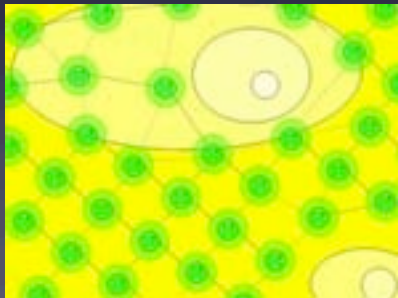
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Limits to growth in the Green Zones

Re-Learning Old World Lessons

Town Edge: not
more suburbs
but new Village,
farm & forest



"A Theory of Power", by Jeff Vail. An exploration of the development and structure of hierarchy and empire through political anthropology, economic theory, evolutionary ontogeny and developmental psychology.

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Rural Hamlet: Little River, Comox



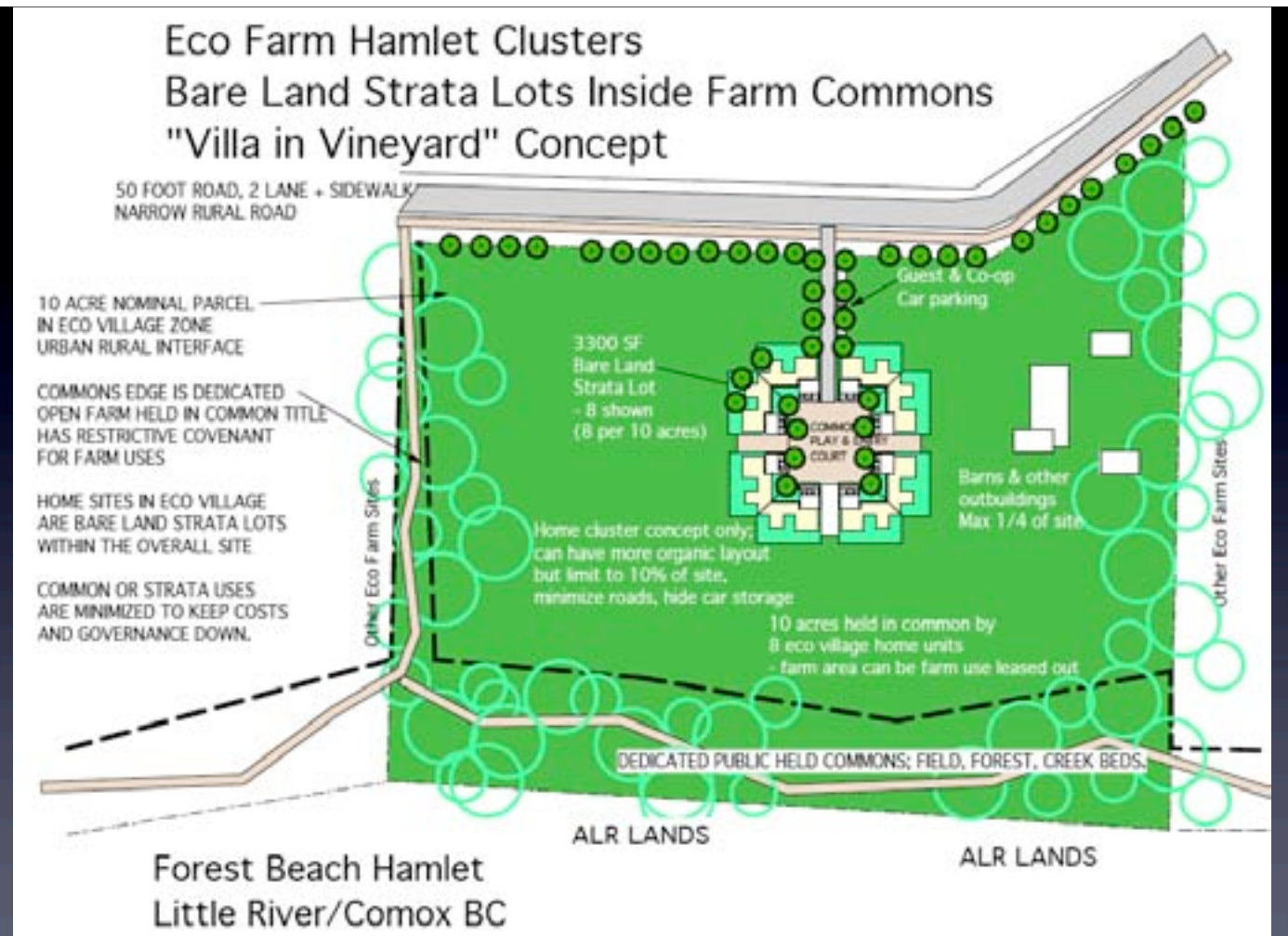
2007 • Balfour/Murchie

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Villas in the Vineyards

- A farm friendly eco-cluster option to suburban sprawl
- restoration of the commons

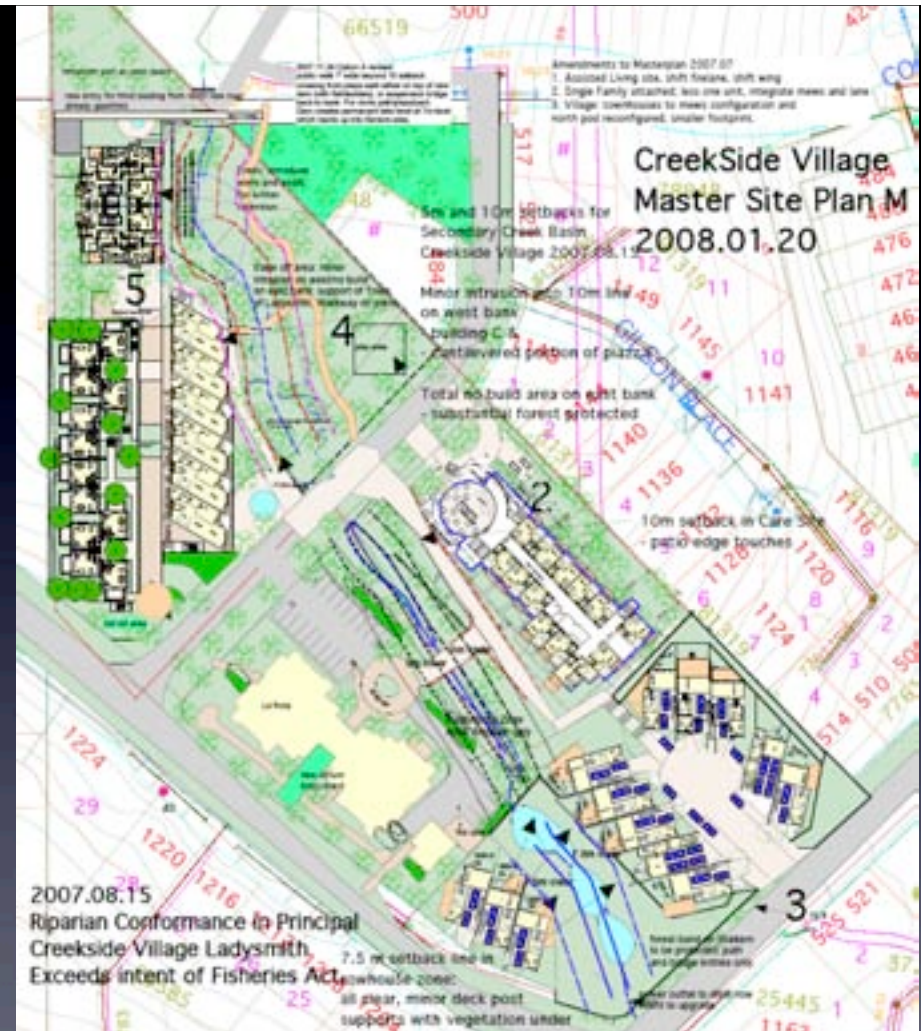


example



Ladysmith Creekside Village

- No farm here but half of land set aside as park and open space
- Seniors uses augmented by other use to avoid sense of 'ghetto'
- Arts and commercial use, bistro on plaza added for village life
- The creek becomes the community focus.



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Tsawwassen Sea Villages

- No farmland need be lost
- Seashore accretion could be helped along
- Whole new opportunities are waiting for the lateral thinkers to arrive.

example



Albion/Grant Hill Forest Clusters



example

- Clusters for protection of the commons
- Social grouping of housing
- Minimal roads & driveways
- Forests maximized & protected



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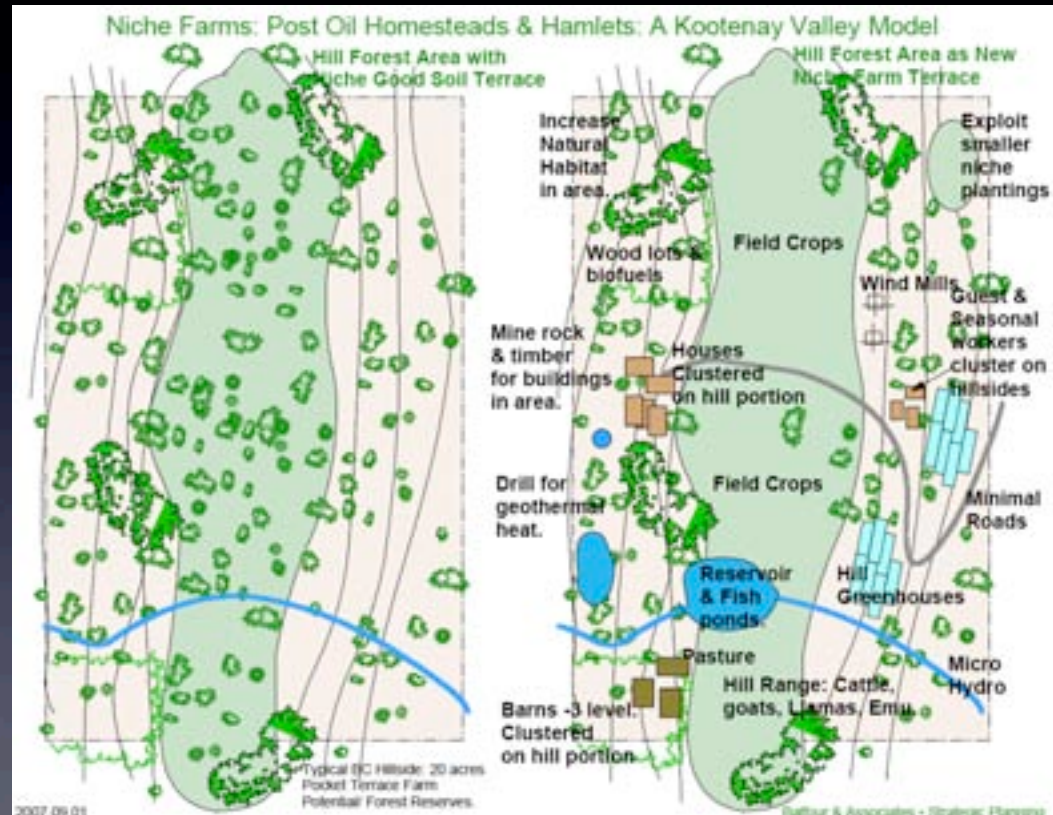




Nelson SSP3: Niche Farms

- BC melding farm field & forest.

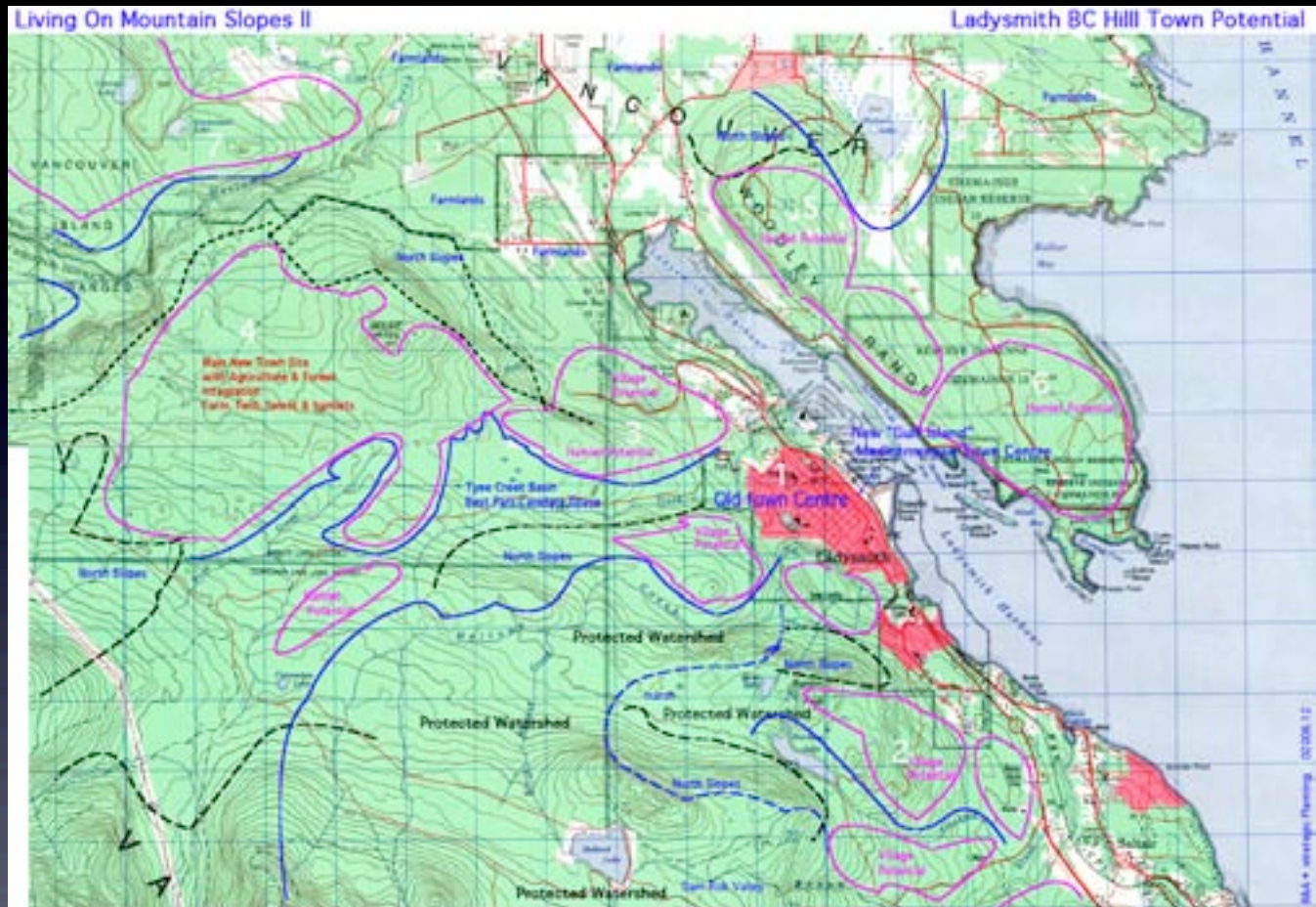
example



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Hill Towns Revival



- Design With Nature Approaches: a Vancouver Island Example



- Building on Hills, farming the terraces.



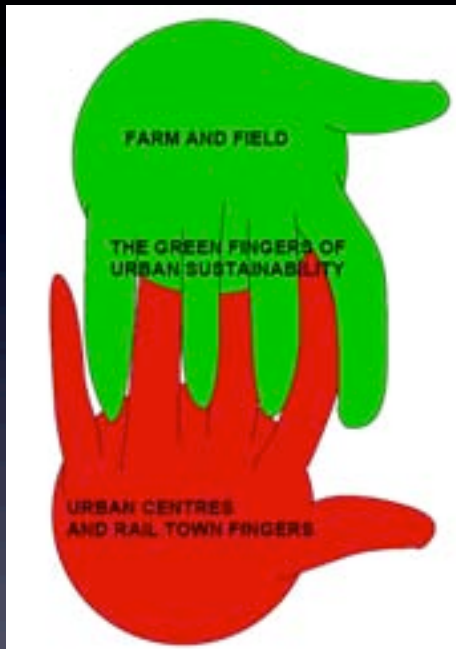
Industry errors & ALR Clawbacks



- Radical & Rapid **Changes to the Pattern of Community**
- Urban Triage & **Marbelization**
- Shift to **rail** from road
- Ramp up of **local food** production
- Shift to **local manufacturing**
- Change form big box industry to farm, local industry, **mixed use villages**



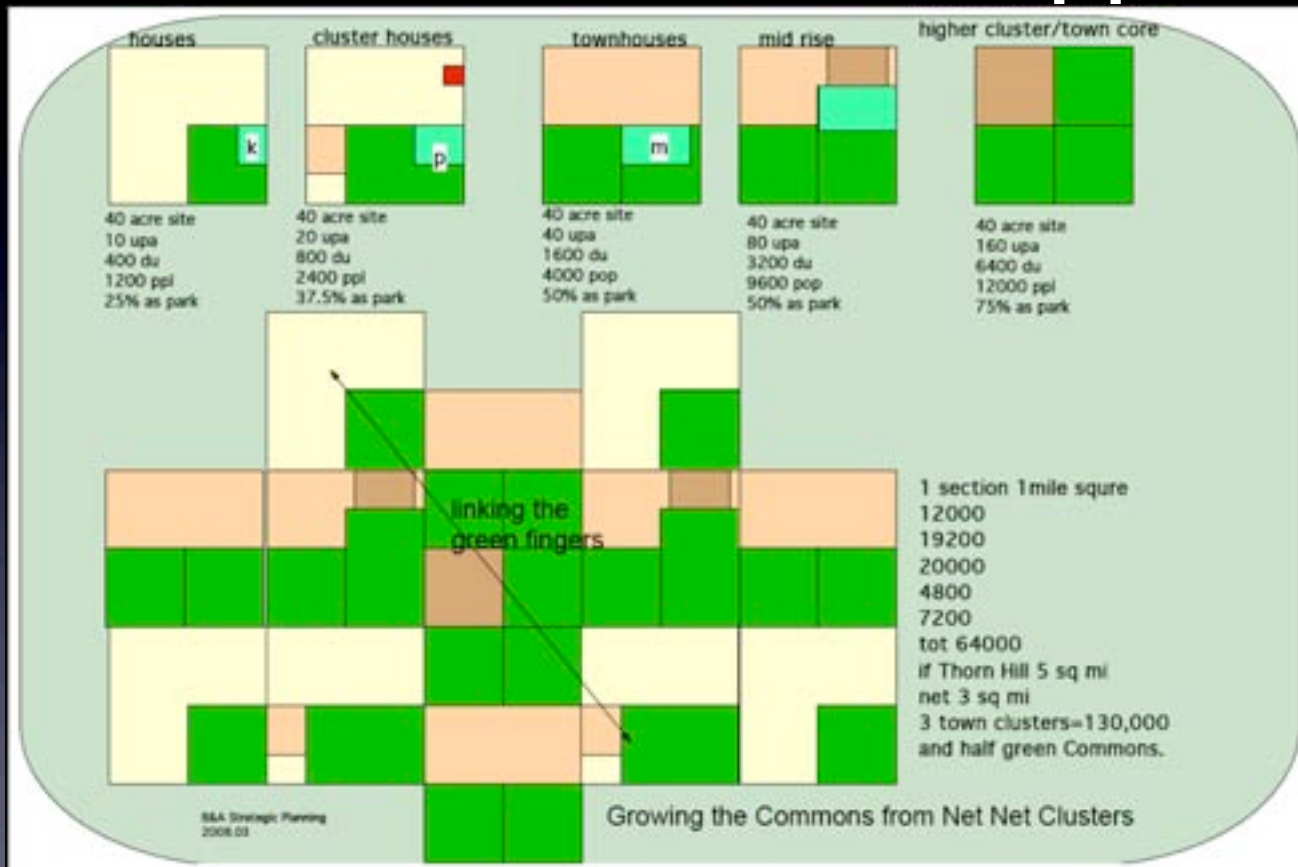
Inner City Green Fingers



- 1. To raise urban food, the urban gardeners precious need- land, soil, water and sunshine.
- 2. Community land uses on hugely surplus land given over to roads. Take them over.
- 3. New green network for pedestrian and bikes.
- 4. Make better use of green fingers by bumping family housing density on the new mews, park streets and lanes.
- 5. Use streets to treat water as a system, to capture geothermal energy, retain water for irrigation.



The Thorn Hill Opportunity



Triple Net
Accounting
for Green

New Green
First Urban
Modeling



A Farm Hamlets Agenda

- Megaculture farming is oil dependent & can only shrink in scale.
- A few luxury items like an air freight \$200 Papaya will persist, but not in a large scale.
- Economic stress will lower real income/raise food prices (see aginflation factors.)
- Restoration of community based agriculture is unavoidable, not wishful thinking.
- (a) Green urban fingers to service adjacent urban areas plus
(b) dispersed farm hamlets are essential.

More of us will be spending more of our time raising food.



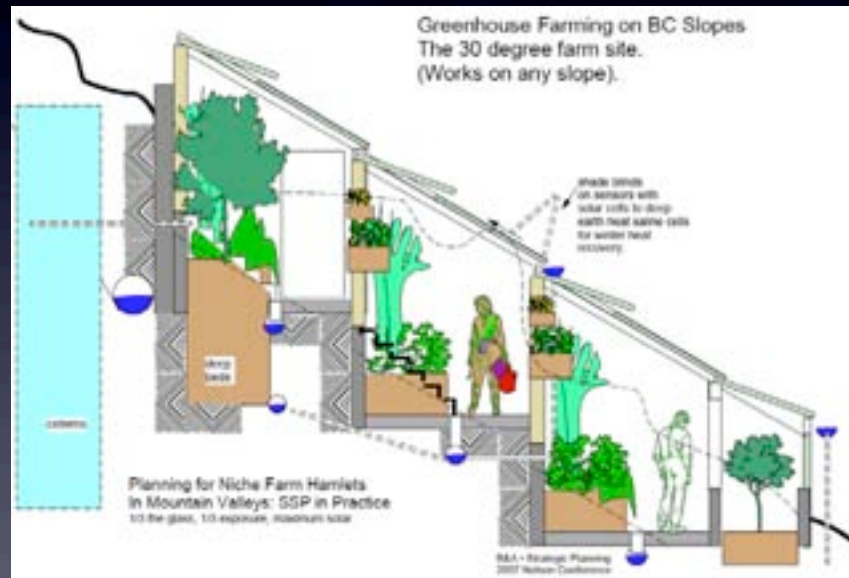
Cooperatives Roles

- Social dislocation from global impacts will tend to make people withdraw.
- Withdrawal can collapse economies.
- Local cooperatives can overcome the fear & provide joint economic defense, joint growth of sustainable economy - where individuals are fearful & corporations have chosen to abandon the scene.
- Small towns & major eco-basins likely will have little choice left in industry & commerce



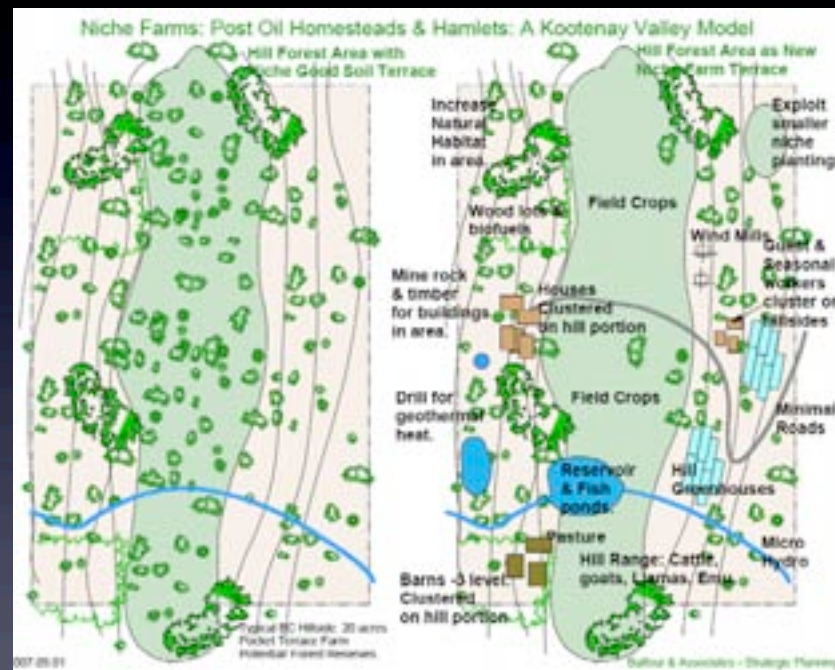
Niche Farms Program

- Identify Niche sites with Limits to Growth.
- Limit Niche pattern to service/match the ecobasin.
- Assure transport requirements are minimal
- Assure bio/geo/social impacts are balanced.
- Any excess in pressure is back to urban absorption.
- Recognize social unit sizing of hamlets in plans.
- Test all sustainable options- this is a new era.



Ecological Community

- Crown Land for Sustainable Community Planning:
- Requires a hard edge; a NO GO boundary
- Management of ecological basin: water, land, forest, farm, hamlets, the Green Net.
- Intensive reconfiguration of a smaller urban footprint for sustainability: links to the Green



The End of Rounding Out
But acknowledging “spot patterns” or Niches for hamlets.

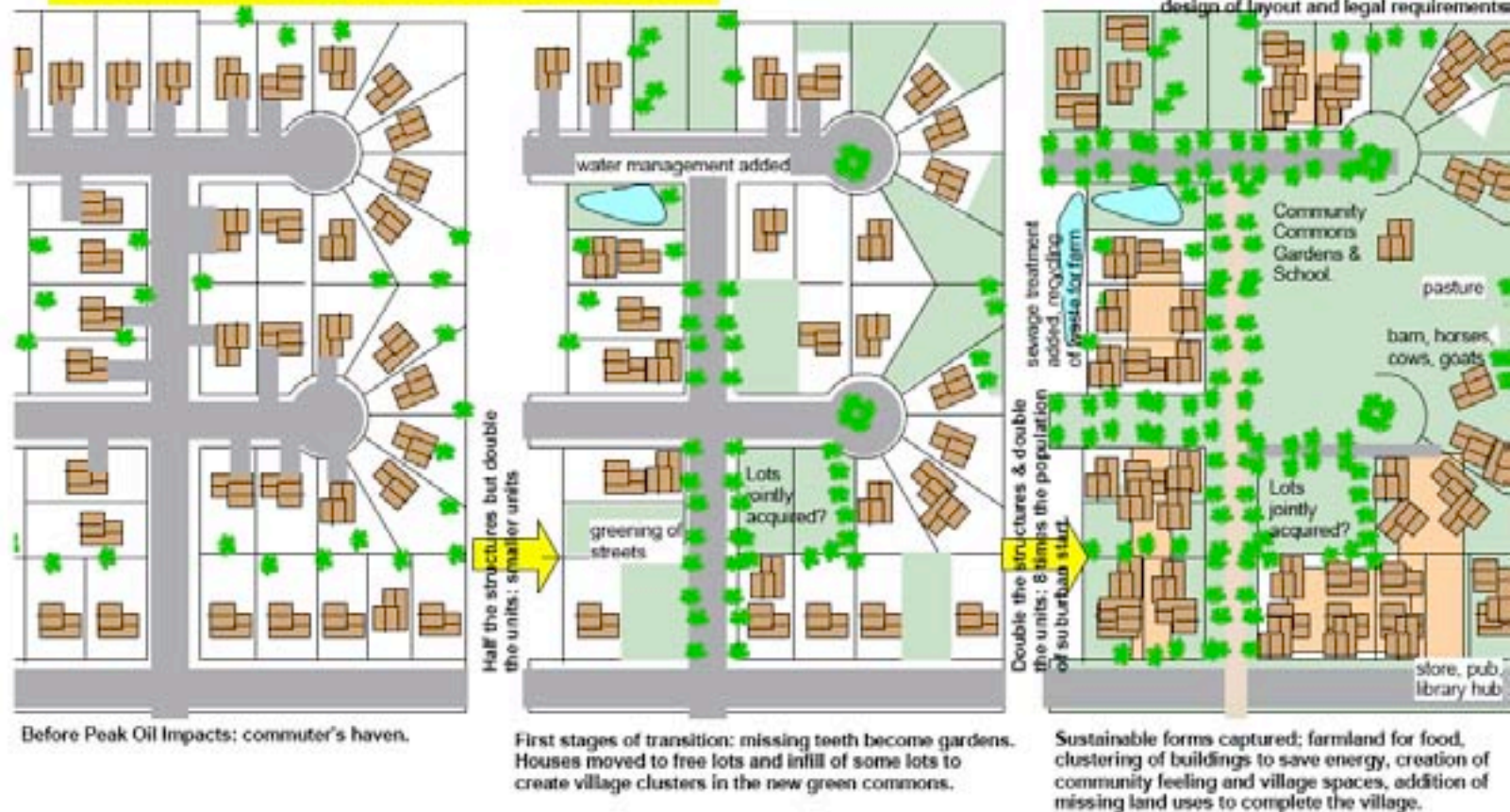
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Marbelization of the Suburbs: Green Fingers and Sustainable Home and Community Transitions

Deconstruction of Suburbia



Managing the Death of Suburbia: Reclaiming Green Fingers: Turning the remainder housing into the Village

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Cariboo County Towns

Hinterland New Settlement Issues:

No energy to repeat past mistakes:

- Mass migration from global impacts of peak oil and climate change will create a **need for new towns**, and infill of old towns. But not at suburban densities.
- **Green zone management of town and regional ecological basins** must be held at the local level: field, forest, water, hydro power, farming and local industry need to be accommodated, there is really no choice anymore in the **Post Oil economy**.



“Lilloet County” the Rail Hamlets

- Highway orientation in the oil age is understandable, but in the Post Oil Age, re-orientation to electric and wood/coal steam train systems is likely our only real hope of maintaining a comprehensive social economic structure.
- The BC Rail/CPR loop from Vancouver to Whistler/Lilloet, down to Hope and back to Vancouver is one of several loop systems which can provide a backbone for post oil settlement and sustainable community planning.





After the Oil Economy:
Back to Rail
& Expand It



Plan B
A post oil image



New County Government
Eco Basin Rule

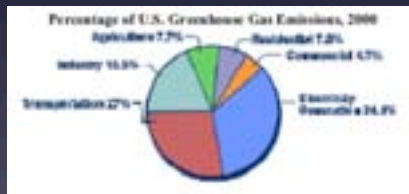
Strat

dge Protection.

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- Death of suburbia
- Triage in inner cities
- Need for local food
- Refugee in-migration
- new impact on lands
- no energy to rebuild



High Triage
Risk cities. ⊕

Toronto
Vancouver
Montreal
Calgary

Plan Mid-Canada Line

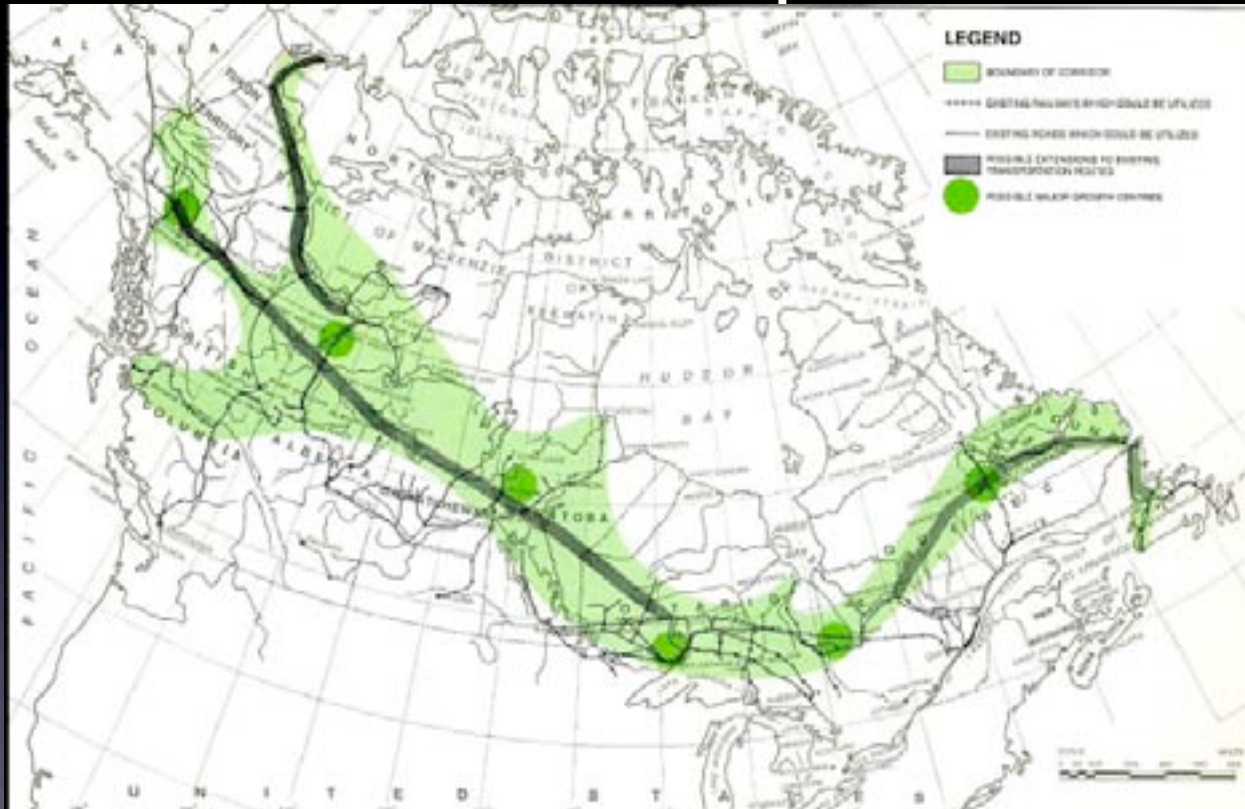
What policy for post oil, climate, migration?



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The Mid Canada Development Corridor



Do we take in post oil & climate change refugees, or not?



What is YOUR Plan B?

- We are already into the Post Oil Economy.
- The oil and all **energy price escalation** has only just started.
- Where and how are you going to live to be able to afford even a **fraction of the energy you now take for granted?**
- How are you going to realign **your whole community** to make it sustainable?
- From whence comes the food your **children will need?**



Some non-answers

- Technological wishful thinking might be fun, but there are no real solutions on the horizon yet.
- Please do not hold breath while waiting....



Your Plan B better include first of all **using less of everything**, quickly. If magic answers are found in time, well at least you will be that much better off. If not, you know the price.



What new patterns for sustainability

- Loss of large unsustainable city centres
- Marbelization in the suburbs- reclaiming from mistakes
- new villages rail oriented and eco-basin managed
- new northern tier of towns/new rail systems
- new energy harvesting
- multiple pathways for maximizing food production
- new industries recycling, reusing, co-operative models.



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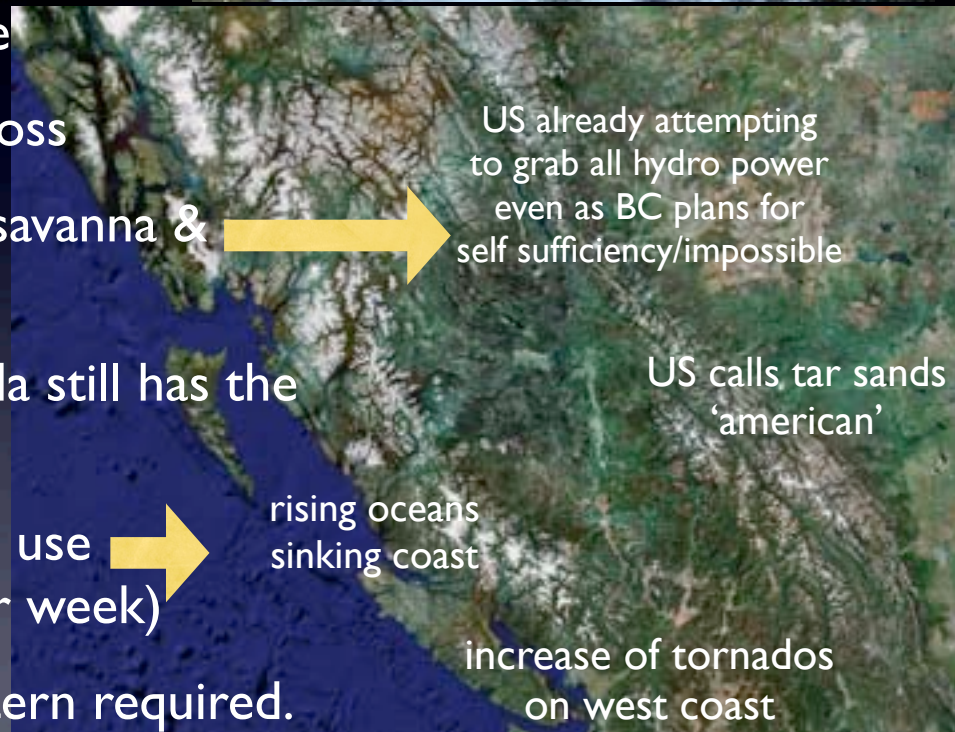
- Overall warming
- Erratic, violent weather
- Growth of deserts
- Loss of Forests
- Rising Oceans
- Dryer rivers & lakes
- loss of ancient aquifers
- Acid rain from China Coal plants growth in effluent.

Climate Change



Pacific Coast & Mountains

- More winter rains
- More summer drought/fire
- More spring flooding/soil loss
- More shift from forest to savanna & dessert
- Massin-migration as Canada still has the best options
- Acid rain from China Coal use escalation (a new plant per week)
- Shift from road to rail pattern required.



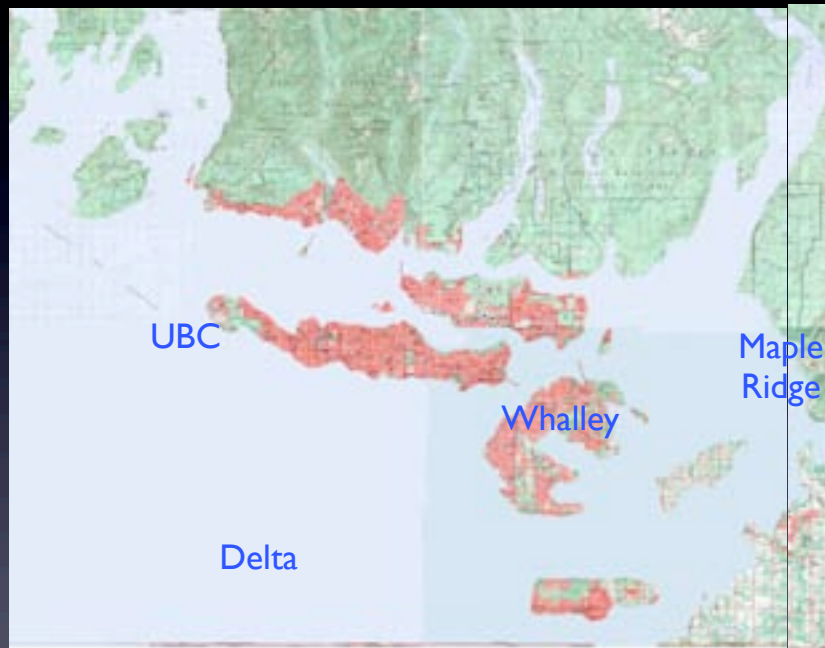


Scientific American Feb. 2008

Higher Tides: Ice Sheet Shifts

60 meters/
200 feet

Timing?
uncertain
but
imminent



The pay-back for
wasting a
century of
carbon fuels.

- New Antarctic on Site researchers, more blue lakes, more melt, more subsurface lubrication= accelerating ice sheets sooner

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Scale of Solutions



Big footprint options not possible
Dispersed villages- need autonomy but cooperation
Housing clustering: energy & community fixes
Cooperative local economy vital
Seasonal survival: a new reality
Geothermal/earth sheltered towns
New wood & coal energy base
Extending growing conditions
Over-wintering - in crops & greenhouses
New animal husbandry vital
Self reliance: good insurance.



Circle the
wagons
but let
people in?

Old & New: alternate histories give more future options.

Relocalization

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Stewardship

There are lots of options
for other land uses to go
in other places, but no
place for farmland to
retreat to.

&
SWAT
teams.



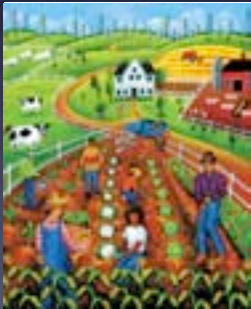
Our farmland, our source of food needs more
advocates, defenders and stewards. You First.





For ordering copies of
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 Balfour & Keenan 2007
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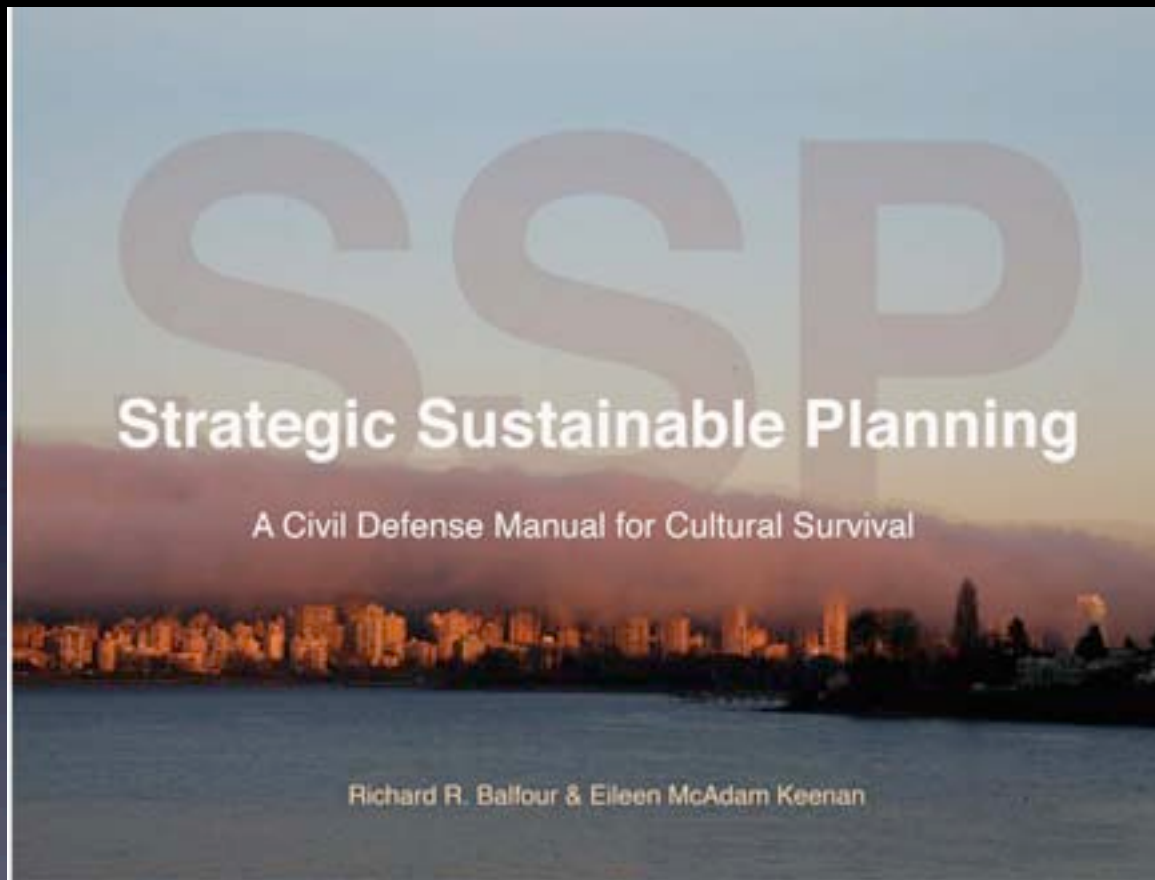
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