

Water... our First Frontier.

Strategic Sustainable Planning
2010 BC Food Network @Ymir

SSP 32
Part B

Post Oil Settlement in BC
A 2010 Initiative



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

A close-up photograph of a waterfall cascading over a mossy rock. The water is white and frothy as it falls, creating a dynamic contrast with the dark, green moss on the rock face. The background is a dense, out-of-focus forest.



©2007 HowStuffWorks

A diagram of a human figure from the front, with various parts of the body shaded in a darker brown color to represent the distribution of blood. Lines connect these shaded areas to text labels describing the functions of blood. The labels are: 'Regulates body temperature' (pointing to the head), 'Moistens tissues for mouth, eyes, and nose' (pointing to the face), 'Lubricates joints' (pointing to the shoulder), 'Protects body organs and tissues' (pointing to the chest), 'Helps prevent constipation' (pointing to the lower abdomen), 'Reduces the burden on kidneys and liver by flushing out waste products' (pointing to the lower back), 'Helps dissolve minerals and other nutrients to make them accessible to the body' (pointing to the lower leg), and 'Carries nutrients and oxygen to cells' (pointing to the knee).

Regulates body temperature

Moistens tissues for mouth, eyes, and nose

Lubricates joints

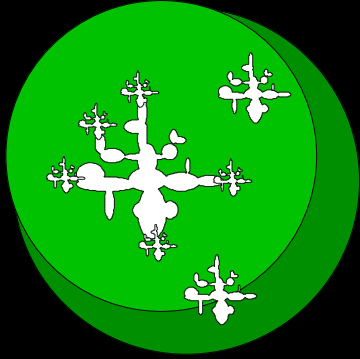
Protects body organs and tissues

Helps prevent constipation

Reduces the burden on kidneys and liver by flushing out waste products

Helps dissolve minerals and other nutrients to make them accessible to the body

Carries nutrients and oxygen to cells



Global Impacts Changes

- Peak Oil, end of cheap energy will cause economic shifts, loss of non-value-added jobs, loss of tax base, death of suburbs and loss of Alpha cities. Mass migration and rural out-migration will result.
- Loss of food supply from climate change, peak oil will accelerate need to access land by most of the population: the cities of the oil age will not function in post oil age. Our architectural bubble is about to burst
- Climate change will change temperatures but also hydrological cycles. Mass migration will impact 'new Edens' or best refuges.



futures? crash or soft landings

The Optimum Population Trust believes that Earth may not be able to support more than half its present numbers before the end of this century, and that the UK's long-term sustainable population level may be lower than 30 million."

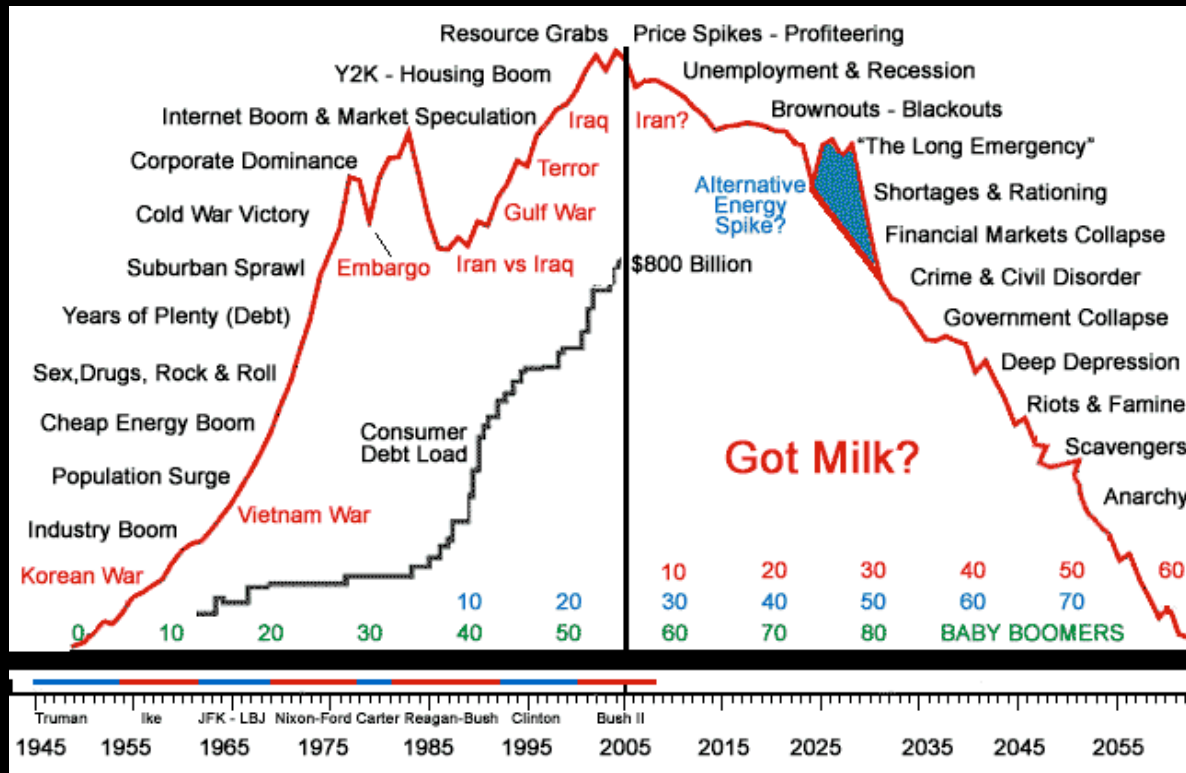
(<http://www.optimumpopulation.org/> 13 SEP 2010)

Dr. Jack Alpert, U of Kansas suggests we need to get human global population down to 50 million in a generation...

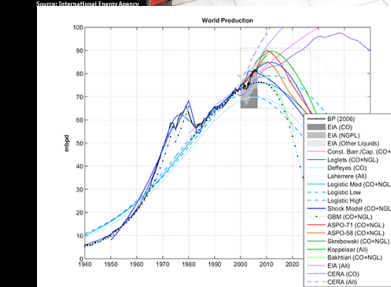
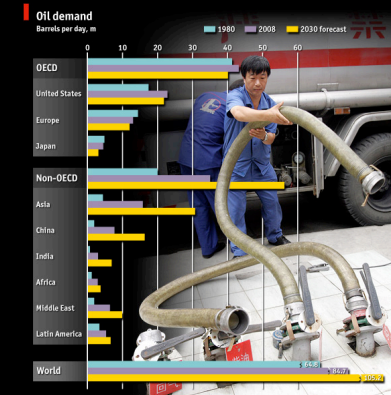
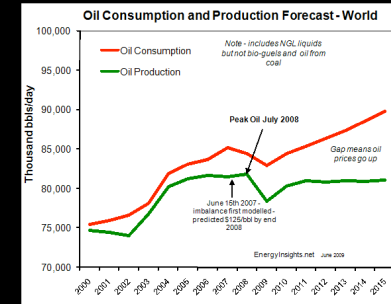
Yin is earth (water actually is the most yin) and refers to the realities on the ground. Yang refers to Sky - the expansive with the limitless possibilities of pure ideas, unconstrained by the minutiae of the mundane (etymology = "le monde" = the worldly).

It is where I think our civilization is since we left behind the experience of struggling for food, shelter and survival - related to needing each other for our very survival. It is also where relationships struggle since we are so used to being able to live our individual lives and it is what needs to be dealt with if one is to be realistic about re-learning how to live in a collective to any extent. Dr. Andre Piver

PEAK DENIAL ABOUT PEAK OIL from America 2.0



Helmut Lubbers, Ing. MSocSc DiplEcol, 14 bd Carl-Vogt, 1205 Genève, +41-22-3212320,
helmut@ecoglobe.ch - www.ecoglobe.ch



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helmut@ecoglobe.ch - www.ecoglobe.ch

The Empire of Earth Energy

Richard Duncan/Olduvai Theory
says we can have on of these to
last 100 years. It started in 1930.

- Population Growth
- Energy consumption growth
- Planet heating
- Globalized Trade

Oil Peak

Oil Peak
price shock

Climate change

rainfall pattern shift

Climate change
land/economy
shock

rising oceans

end of suburbia
end of Alpha cities
de-industrialization

mass migrations

Radical shift in pattern
of community, lifestyle
& mobility.

no long distance food
sources, local food production
is necessity.

Social consciousness/paradigm shifts

or collapse

Production
& trade of
STUFF

- GLOBAL INTEGRATION
- JOBS SHIPPED TO ASIA
- U.S. unemployment soars
- Purchase collapse/ poor of U.S.

U.S. economy
goes in tank

currency crash
banks crash
Public saves banks
housing crash

loss of oil/economic shifts

End of Globalization
Re-start of localized
economies

Global
economy
goes in tank

Sales fail
China has
job losses

Post Oil Community

Learning from the old world
Rhizome pattern of sustainable
community, or collapse.
Your choice.

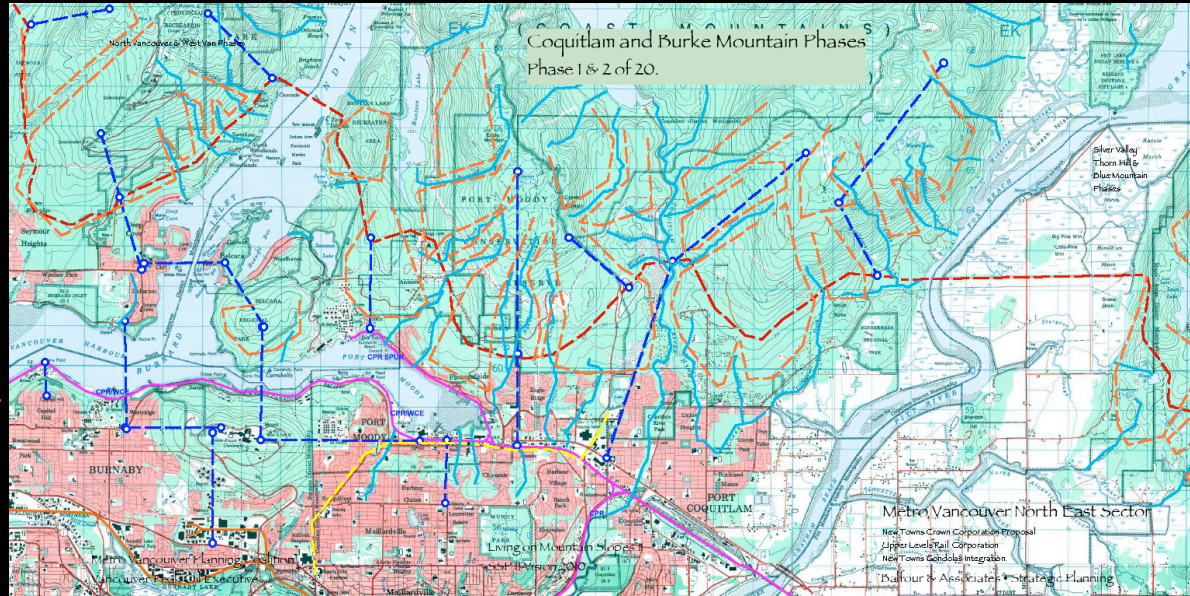
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BC Urban Impacts on Rural Is Vancouver an Alpha City?



The North
East
Sector:
post oil
towns &
rail.

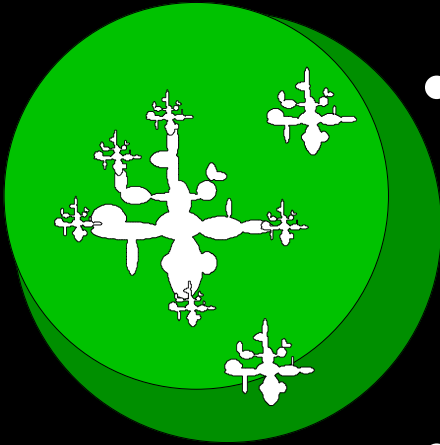
- IF so, it has no future.
- IF it can shift patterns, it might still work.
- Hilltowns, new rail, expand the farms and ALR.
- Prepare for oil shock, food loss, climate change, mass migration, rising oceans and social unrest if we do not get it right.



village fingers/green fingers lacework pattern of hilltown design with nature

What this exercise is NOT about.

- Growth scenarios and provisions of new settlements are not about development or growth for its own sake and certainly not about Business as Usual.
- The look at testing limits to growth in BC hills is about saving the lowland farming area, about housing mass migration in a sustainable way and in places of achieving sustenance with freedom rather than confining masses to unsustainable cities.
- At upper limits, people are housed by increasing hamlet and homestead people density on confined sites, NOT further building on yet more land. The protection of the commons is paramount.



Strategic Sustainable Planning: Global Impacts: Learning from the Old World

Planning for Goldilocks.



- Not too big, not too small, something just right....
- Not urban, not rural, not suburban, something old and maybe new.

Book & Lyrics by Stan Gill / Music by Jeffrey Payne

Is it possible for the formerly entitled to feel happy about the downslope?



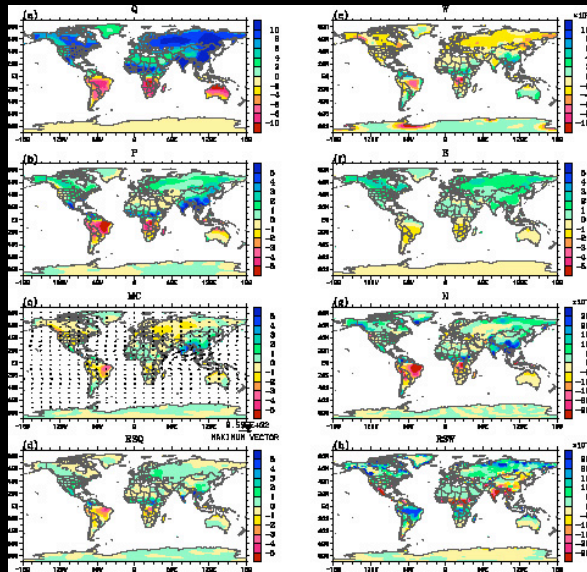
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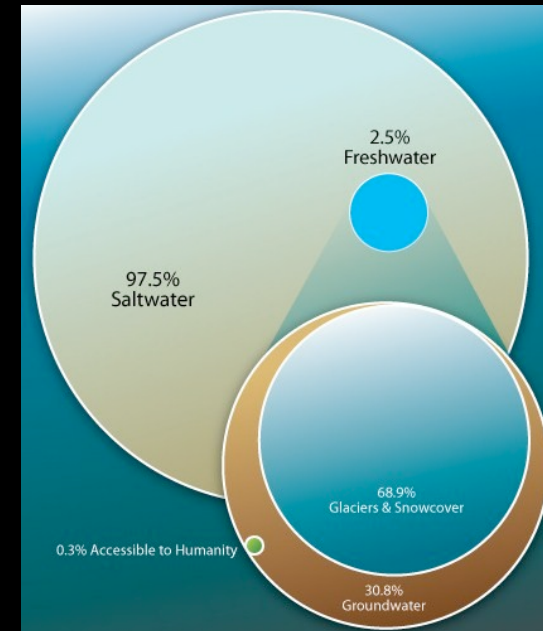
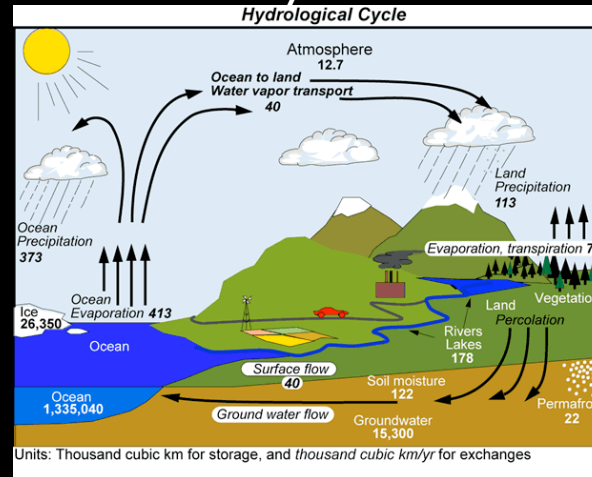
Strategic Sustainable Planning: Global Impacts: Learning from the Old World

BC Hydrological Cycle:

Global climate shift



Standard Cycle

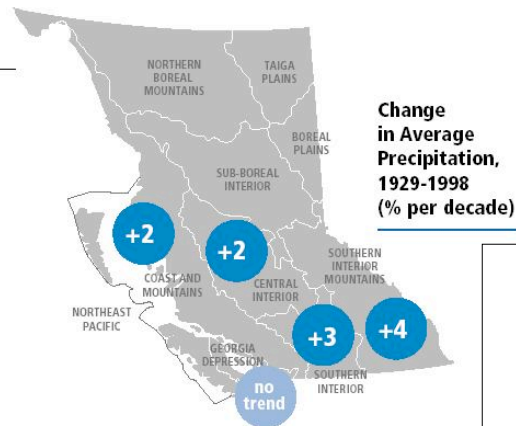


- Drier summers and wetter winters plus loss of water retention due to loss of deep snow pack will exacerbate crop cycles and ability to water livestock. Uphill small scale dams by new homesteaders will be necessary.

BC futures: a Cycle shift in rainfall.

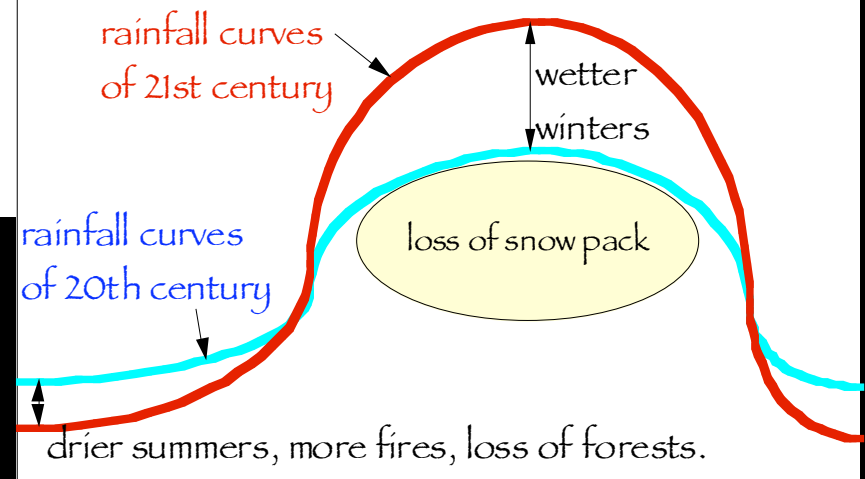
PRECIPITATION

Average precipitation increased over most of southern BC during the 20th century. More water may be available to recharge groundwater aquifers, maintain river flows, and replenish soil moisture. Hydroelectric power generation, irrigation, and domestic water use may benefit. In some seasons, increased runoff may increase the chance of landslides and debris torrents, or exceed the capacity of municipal drainage and sewage systems.



SOURCE: Data from Climate Research Branch, Meteorological Service of Canada. Analysis by the Canadian Institute for Climate Studies, 2001 for the Ministry of Water, Land and Air Protection.
NOTES: A positive sign indicates increasing precipitation.

BC: Hydrological Shifts

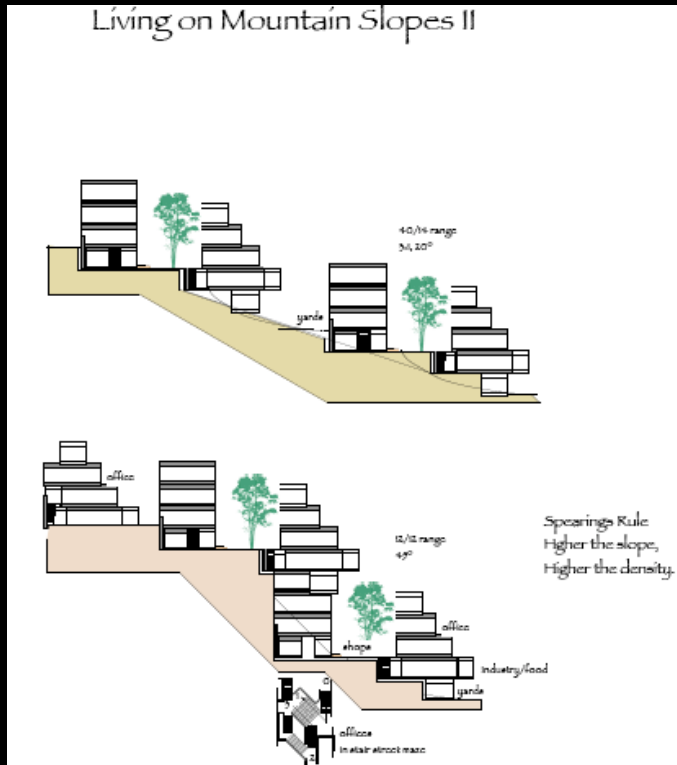


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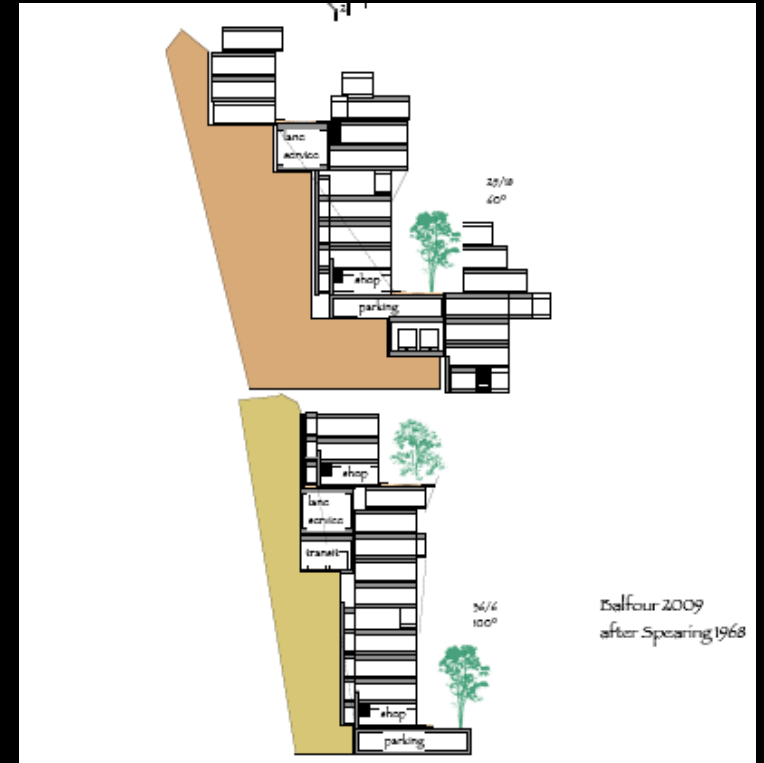
Breaking the oil age planning taboos.

- End of: segregated land uses, allow for extended family housing, access options to land, doubling up of people and uses.
- End of: high rises, homogenous land use, monocrops, road building, job creation when no value is added....
- Start reconfiguring all communities to a pattern that is not energy intensive. Key words: Marbleization, Green Fingers for Sustainability, Design with Nature, Limits to Growth, Rhizome community, non-hierarchical land use patterns, end of Entitlement

Strategic Sustainable Planning: Global Impacts: Learning from the Old World



People first
vehicles last
Services
compacted
Site analysis first
Housing on hills
Saves lowland for
production
& subsistence.

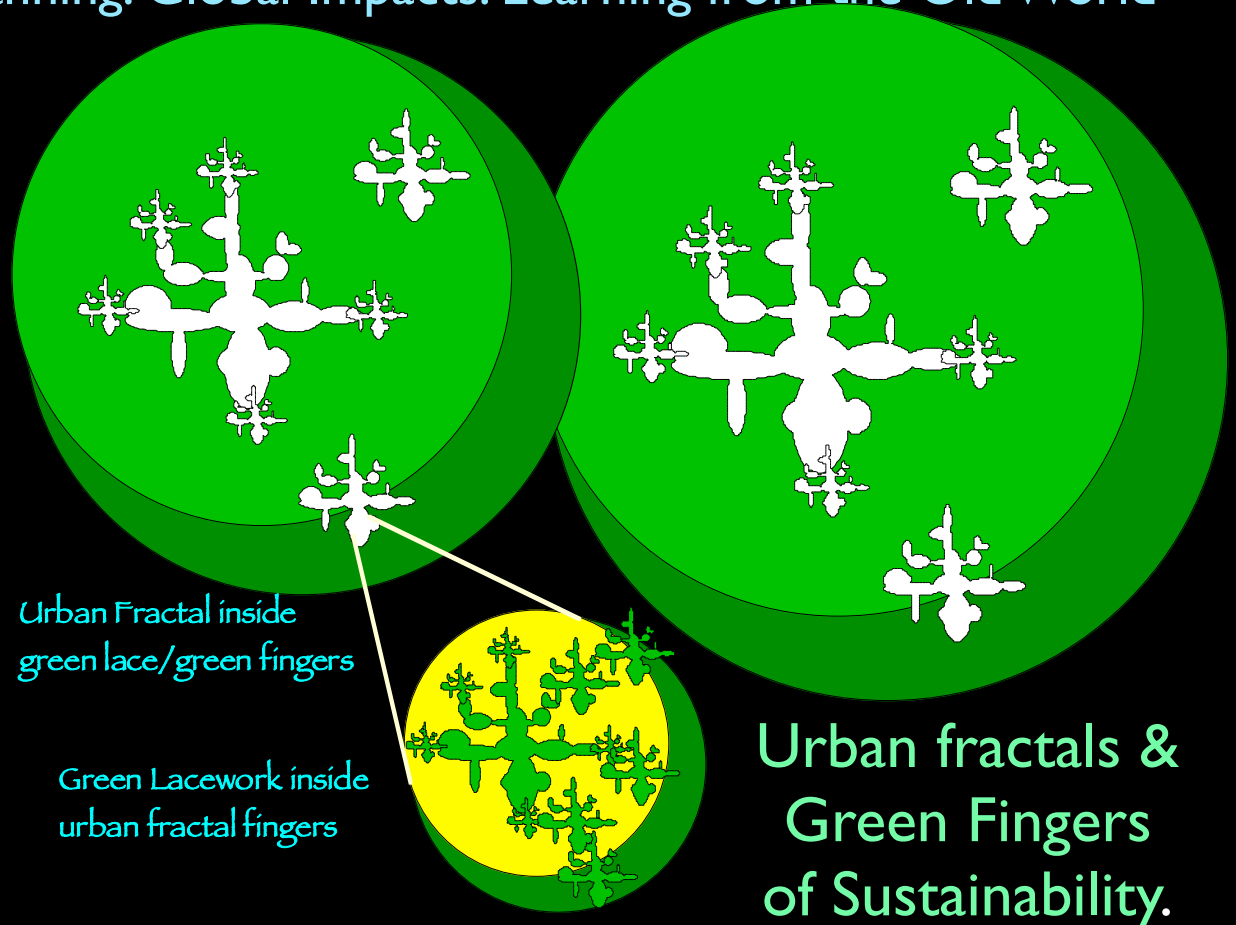


From Living on Mountain Slopes II Balfour & after Spearing.

Strategic Sustainable Planning: Global Impacts: Learning from the Old World

In planning: Marbleization

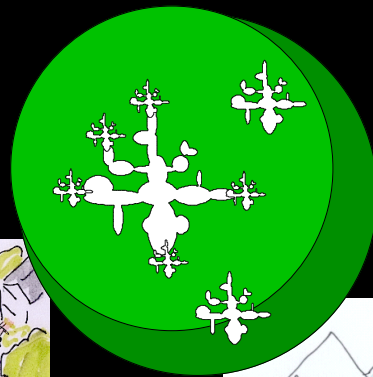
- Stop rounding out land uses, leave the green fingers; we need them.
- Dispersal allows for scientific Design with Nature proper use of land rather than homogenous “engineering overwhelming ecology”.



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Farmland Defence: BC must be about hilltowns.



Food Security Conference 2010

The Ymir Republic 2029: cultural adaptation to the mountains of BC: a typical site for illustration.



Re-assessing the cultural landscape in post oil economy, with climate change and massive population re-settlement.

B&A Strategic Planning 2010

An illustration.

Ymir, in Nelson Canton
A Farm Village
Local population to 10,000
Village of Ymir
7 local hamlets

50 homesteads/350 farm families.
Extended families are the norm.

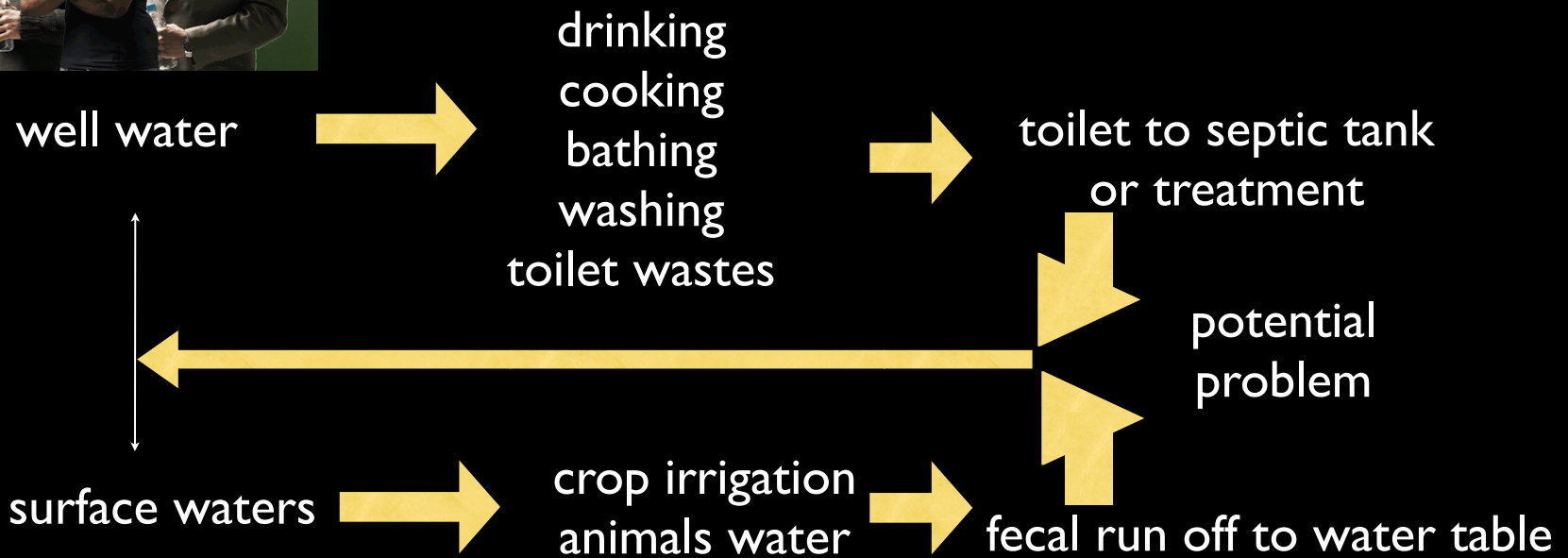
Dilemma for extinct developers
& engineers: there is no typical
site in the hills.

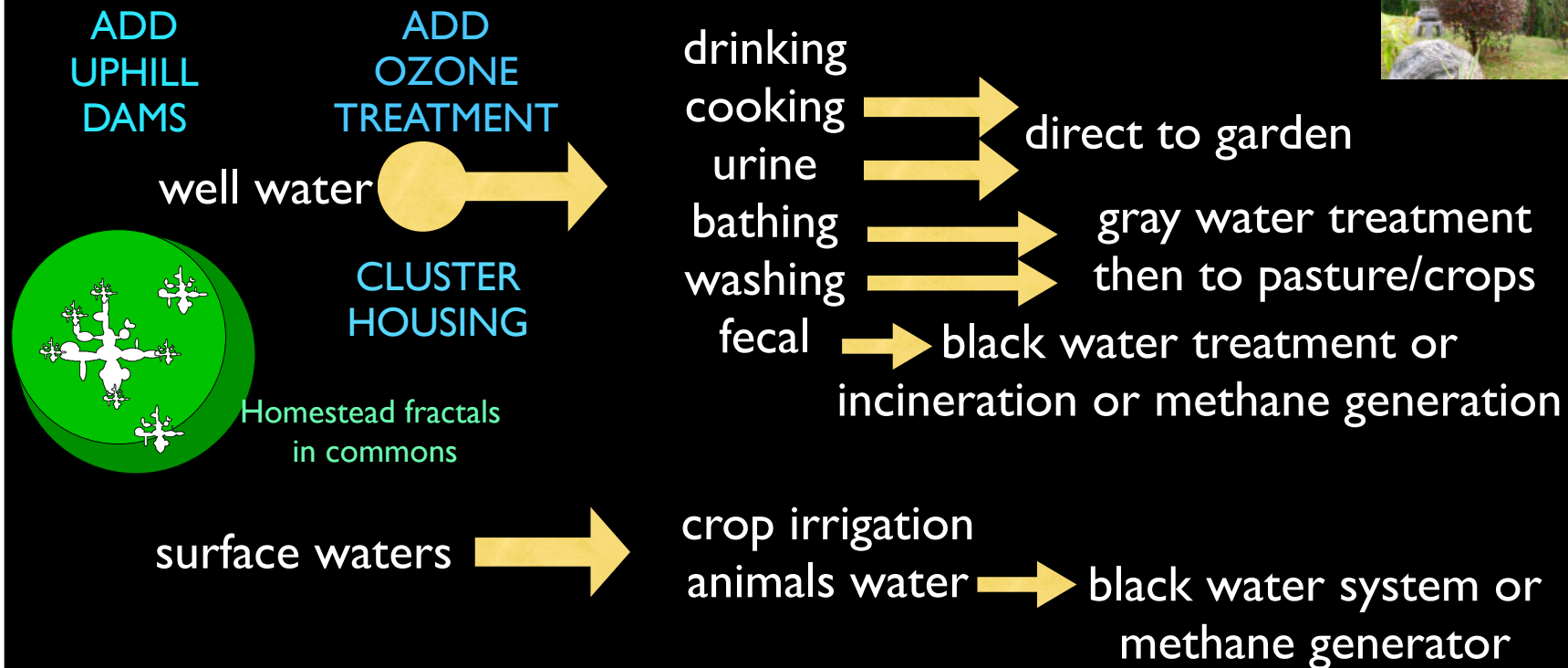


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most cultures are local - some are not. Planning Mountain Urban Design Transportation



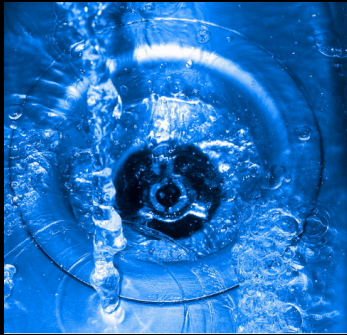
Rural **Water** Use today.





Urban H2O System

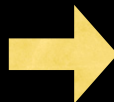
Today....



city water



drinking
cooking
bathing
washing
toilet wastes



- expensive & energy intensive treatment or separation of waste



potential
problems



surface waters



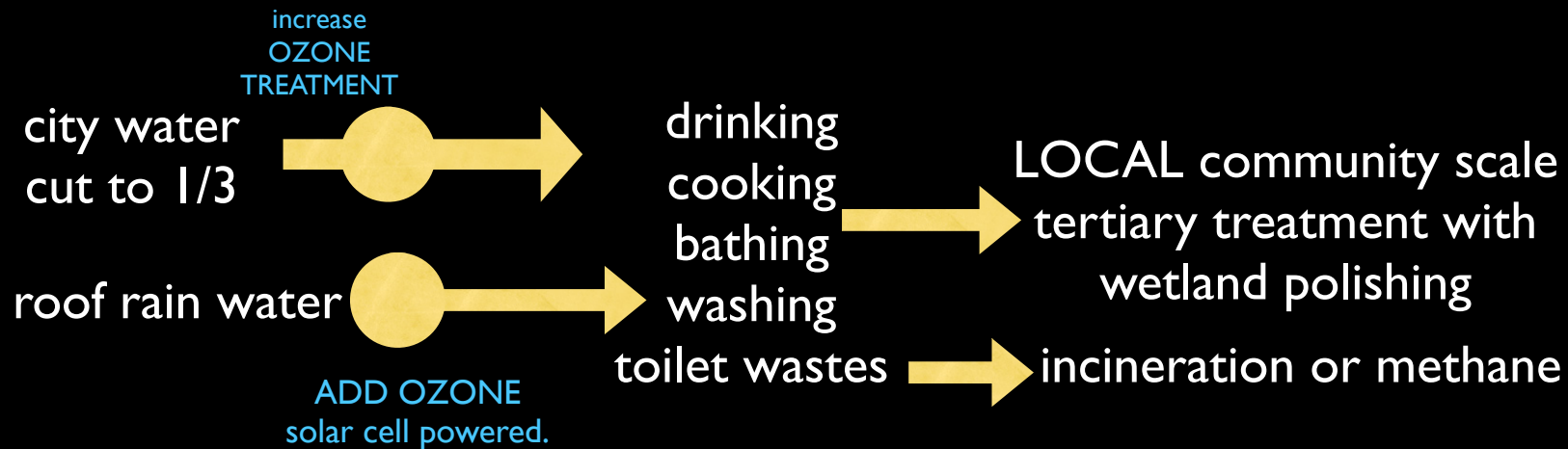
extensive storm systems



pollutants to water table

Canada: 329 litres per person per year water today.

Urban H₂O Revised



storm waters → parks irrigation
animals water

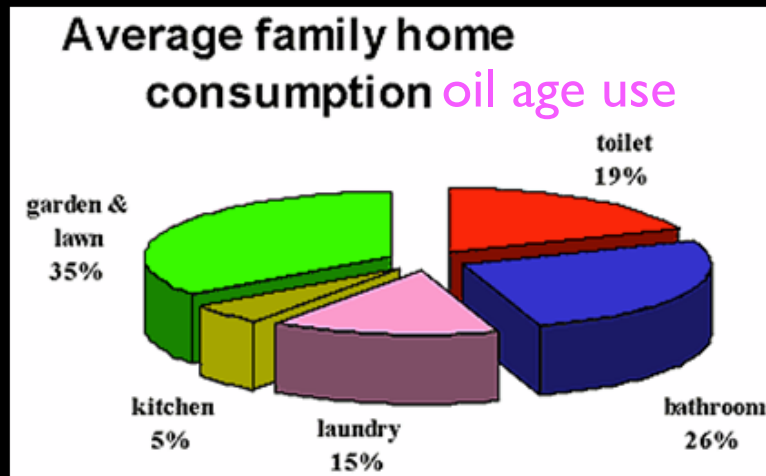
Target: pollutants stopped
before rivers and oceans.



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Σ Water Use & Waste: Oil Age



source: pjtgreenplumbing

Did you know? 1mm of rainfall over 1 square meter of roof area will produce 1 litre of water. Two downpipes will often service a roof area of about 100 square metres - this means that 600mm of rainfall can produce around 60,000 litres of water. That's enough water to fill a 5000 litre tank 12 times over!

Did you know? Toilets use up to 19% of household water consumption.

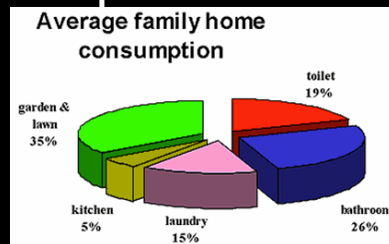
Did you know? Up to 35% of household water was used on gardens and lawns (prior to water restrictions).

Did you know? Install solar hot water and you could save up to 80% of your energy costs for water heating and reduce your family's CO₂ emissions by up to 3 tonnes per year.

1mm rainfall on 1 m² = 1 litre

Revising water use: Hamlet models

Old pattern of use



Roofs as
water
insurance

1mm rainfall on 1 m² = 1 litre

Average BC rainfall 60" or 1500mm/year
= 140mm mean month or 140 litres/month

vertical house form for 10-30 extended family = 200m²
monthly rain capture = 28000 litres/month or 900 litres/day
If 20 persons need 10+12+20 litres/day x 20 = 800 litres
this means the house roof by itself can service the prime needs
of the extended family. Other farm roofs will multiply this
number plus the uphill dams provide first source water.

At 329 litres per person/day:

kitchen: 16 litres per day

laundry: 48 litres per day

bathroom 80 litres

toilet 65 litres

garden 35 litres.

kitchen: conserve to 10 litres per day

laundry: cut to 12 litres per day from roof system

bathroom cut to 20 litres

toilet: move to compost, incineration

garden: comes from roof collection.

Potable water need cut from 329 to 10 litres, remainder from new collection systems.



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2010 to 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 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3670, 3671, 3672, 3673, 3674, 3675, 3676, 3677, 3678, 3679, 3680, 3681, 3682, 3683, 3684, 3685, 3686, 3687, 3688, 3689, 3690, 3691, 3692, 3693, 3694, 3695, 3696, 3697, 3698, 3699, 3700, 3701, 3702, 3703, 3704, 3705, 3706, 3707, 3708, 3709, 3710, 3711, 3712, 3713, 3714, 3715, 3716, 3717, 3718, 3719, 3720, 3721, 3722, 3723, 3724, 3725, 3726, 3727, 3728, 3729, 3730, 3731, 3732, 3733, 3734, 3735, 3736, 3737, 3738, 3739, 3740, 3741, 3742, 3743, 3744, 3745, 3746, 3747, 3748, 3749, 3750, 3751, 3752, 3753, 3754, 3755, 3756, 3757, 3758, 3759, 3760, 3761, 3762, 3763, 3764, 3765, 3766, 3767, 3768, 3769, 3770, 3771, 3772, 3773, 3774, 3775, 3776, 3777, 3778, 3779, 3780, 3781, 3782, 3783, 3784, 3785, 3786, 3787, 3788, 3789, 3790, 3791, 3792, 3793, 3794, 3795, 3796, 3797, 3798, 3799, 3800, 3801, 3802, 3803, 3804, 3805, 3806, 3807, 3808, 3809, 3810, 3811, 3812, 3813, 3814, 3815, 3816, 3817, 3818, 3819, 3820, 3821, 3822, 3823, 3824, 3825, 3826, 3827, 3828, 3829, 3830, 3831, 3832, 3833, 3834, 3835, 3836, 3837, 3838, 3839, 3840, 3841, 3842, 3843, 3844, 3845, 3846, 3847, 3848, 384

British Columbia New Homestead Act 2011

Application to Register Perpetual Settlement In the Name of a Family Trust.

Family Making Application:

Citizenship (time of application) _____ Other citizenship held _____

Name of Family Trustee and Spouse _____

Name of First Trustee on behalf of Family Trust _____

Names of Fellow Trusts in this application: (Minimum of 3, Maximum of 10, 2/3 of sites need user ID)

Lot 1) _____	Lot 2) _____
Lot 3) _____	Lot 4) _____
Lot 5) _____	Lot 6) _____
Lot 7) _____	Lot 8) _____
Lot 9) _____	Lot 10) _____

Legal Description: (sample description).

Lot 1 of Homestead Cooperative Farm Site (HCFS) 7 of Hamlet 4
Of Village District: Coyote Creek, Township: Barriere, City Region: Kamloops
Of Shuswap Canton, Province of British Columbia.

Acting on behalf of _____ Family Trust, our family agrees to the terms and conditions of title to a) family lot in fee simple, a site of one acre, b) joint ownership of the farm homestead lands collectively held and managed (nominal 100 acres) and joint stewardship and protection of the adjoining ecological reserves (minimum 100 acres- see reverse side for list of rights and responsibilities.) Tenure of ownership is in perpetuity by a Family Trust.

Conditions of Land Grant:

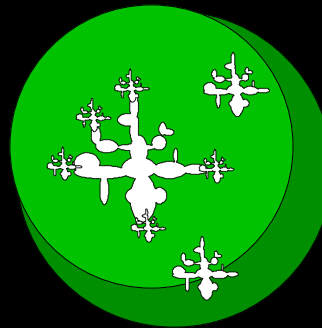
- This land is not to be sold, rented out for others to use for more than 3 years every decade.
- Occupancy of the land must be established within 3 years of this application and maintained by direct members of the family. (Stewardship Clause).
- If for any reason the site becomes unoccupied for a period longer than 3 years, it reverts to Crown ownership for granting to others. In such cases there is no compensation for improvements. (Anti-speculation clause)

Signed _____
Witness _____
Dated _____

Government Agent _____
Witness _____

Application (Processing) Fee: \$1000 per home-site within the Homestead. There is no other fee for cost of land. Only open to citizens of Canada, including via inheritance.
Unserviced Hamlets: Main public road to homestead site, water and other services are responsibility of the homestead family. Assistance in establishing Hamlet water and waste treatment will be by consultation only, with no capital assistance. Standards of Public Health still must be maintained. Collection of taxes for road upkeep, any local services and school funding will be through the Canton Government. Hamlet local services are encouraged but designed and controlled by the local users, to fit the context of each site, hamlet and ecological basin.

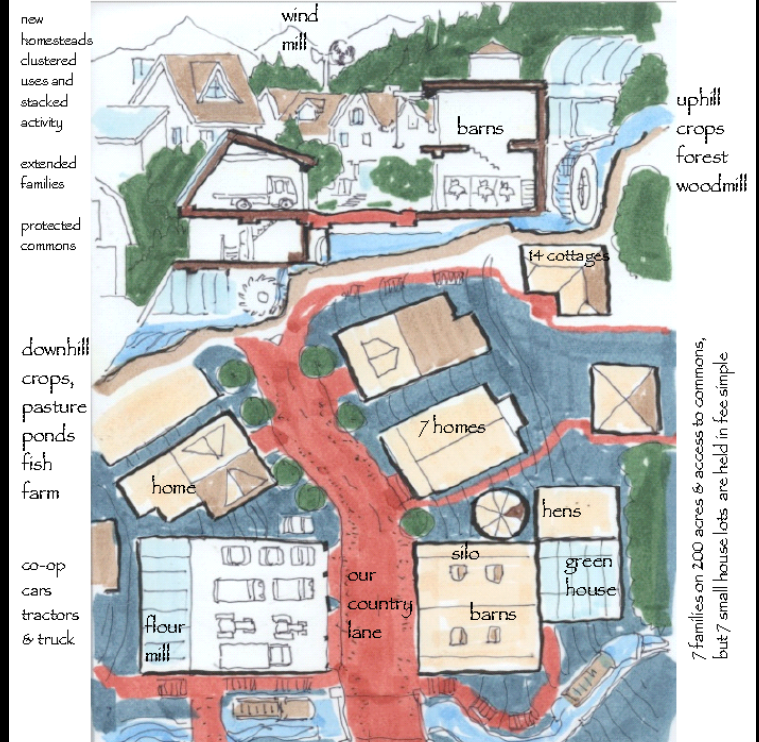
Hamlet model & homesteads



Homestead fractals
in commons

Taboo breaking:
what is family in
post oil planning
terms?- Not a real
estate concept.

The Homestead Cluster Patterns



Rick, I am not sure if you can use info like this in your designs, but it came up today. Space put aside for outbuilding, and lots of them. Repair a machine, dry wood, store feed and straw, dry bamboo, outdoor work or meeting space etc. The first thing I did here was put up outbuildings and mark out other areas for storing seaweed, woodchips and other mulch materials. These need to be somewhere easy to dump off and central enough to be useful without strain. In some designs, this stuff is stuck off in the fringes which is a waste of human power to get and use them.

By the way, besides one half of the roof on the big greenhouse, and some rolled roofing on the potato shed, the rest of the materials were scrounged. And that is another space that needs to be available - where to put scrounged materials while they are being incorporated into housing etc. Don't even know if this is where you were going but it really is missing in design of rustic living. Robin Wheeler, Sunshine Coast



Balfour + Associates • Strategic Planning
Balfour + Company • Architect

2003-2012, 2014-2015, 2016-2017, 2018-2019, 2020-2021, 2022-2023, 2024-2025, 2026-2027, 2028-2029, 2030-2031, 2032-2033, 2034-2035, 2036-2037, 2038-2039, 2040-2041, 2042-2043, 2044-2045, 2046-2047, 2048-2049, 2050-2051, 2052-2053, 2054-2055, 2056-2057, 2058-2059, 2060-2061, 2062-2063, 2064-2065, 2066-2067, 2068-2069, 2070-2071, 2072-2073, 2074-2075, 2076-2077, 2078-2079, 2080-2081, 2082-2083, 2084-2085, 2086-2087, 2088-2089, 2090-2091, 2092-2093, 2094-2095, 2096-2097, 2098-2099, 2100-2101, 2102-2103, 2104-2105, 2106-2107, 2108-2109, 2110-2111, 2112-2113, 2114-2115, 2116-2117, 2118-2119, 2120-2121, 2122-2123, 2124-2125, 2126-2127, 2128-2129, 2130-2131, 2132-2133, 2134-2135, 2136-2137, 2138-2139, 2140-2141, 2142-2143, 2144-2145, 2146-2147, 2148-2149, 2150-2151, 2152-2153, 2154-2155, 2156-2157, 2158-2159, 2160-2161, 2162-2163, 2164-2165, 2166-2167, 2168-2169, 2170-2171, 2172-2173, 2174-2175, 2176-2177, 2178-2179, 2180-2181, 2182-2183, 2184-2185, 2186-2187, 2188-2189, 2190-2191, 2192-2193, 2194-2195, 2196-2197, 2198-2199, 2200-2201, 2202-2203, 2204-2205, 2206-2207, 2208-2209, 2210-2211, 2212-2213, 2214-2215, 2216-2217, 2218-2219, 2220-2221, 2222-2223, 2224-2225, 2226-2227, 2228-2229, 2230-2231, 2232-2233, 2234-2235, 2236-2237, 2238-2239, 2240-2241, 2242-2243, 2244-2245, 2246-2247, 2248-2249, 2250-2251, 2252-2253, 2254-2255, 2256-2257, 2258-2259, 2260-2261, 2262-2263, 2264-2265, 2266-2267, 2268-2269, 2270-2271, 2272-2273, 2274-2275, 2276-2277, 2278-2279, 2280-2281, 2282-2283, 2284-2285, 2286-2287, 2288-2289, 2290-2291, 2292-2293, 2294-2295, 2296-2297, 2298-2299, 2300-2301, 2302-2303, 2304-2305, 2306-2307, 2308-2309, 2310-2311, 2312-2313, 2314-2315, 2316-2317, 2318-2319, 2320-2321, 2322-2323, 2324-2325, 2326-2327, 2328-2329, 2330-2331, 2332-2333, 2334-2335, 2336-2337, 2338-2339, 2340-2341, 2342-2343, 2344-2345, 2346-2347, 2348-2349, 2350-2351, 2352-2353, 2354-2355, 2356-2357, 2358-2359, 2360-2361, 2362-2363, 2364-2365, 2366-2367, 2368-2369, 2370-2371, 2372-2373, 2374-2375, 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3832-3833, 3834-3835, 3836-3837, 3838-3839, 3840-3841, 3842-3843, 3844-3845,

About 65% of indoor home water use occurs in our bathrooms. Toilets are the single greatest water user.

“UNESCO has predicted that by 2020 water shortage will be a serious worldwide problem.”

Did you know that in 2001, the average person uses more than 335 litres of fresh water a day?

In your house check for leaks from faucets and pipes; even the smallest drip can waste as much as 75 liters a day.

Almost 80% of the earth's surface is covered in water. Of this, 97% is salt water, 2% is glacial ice.

That leaves less than 1% as fresh water for us to use.

The human body is about 70% water; we cannot survive more than a week without water.

A mere 10% of our home water supply is used in the kitchen and as drinking water.

Indoor water use peaks twice a day year-round, in the mornings and evenings.

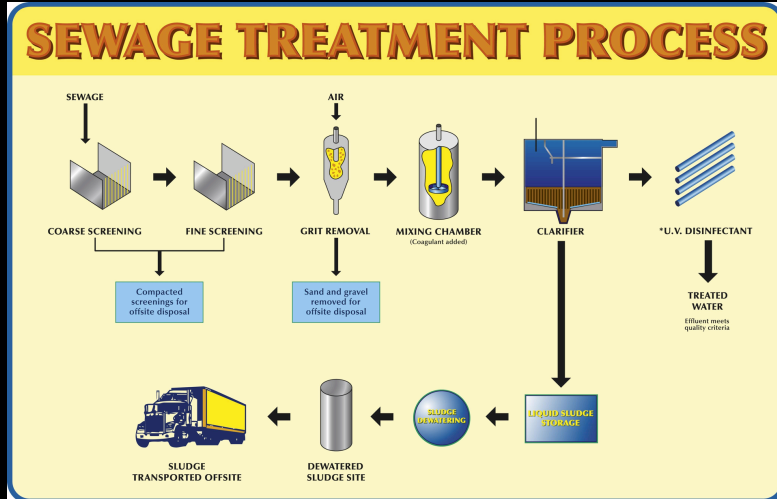
The biggest peaks during the year occur in the summer, when about half to three quarters of all municipally treated water is sprayed onto lawns.

As a community grows, the water use grows even more.

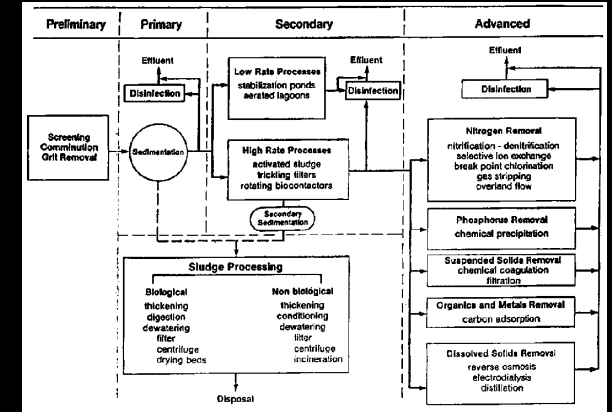


graywater

Old School/Oil Era Scale energy & monitoring intensive



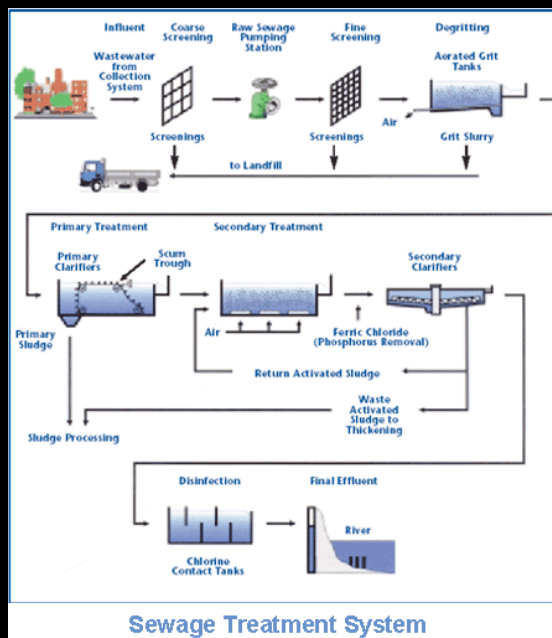
Sewage....



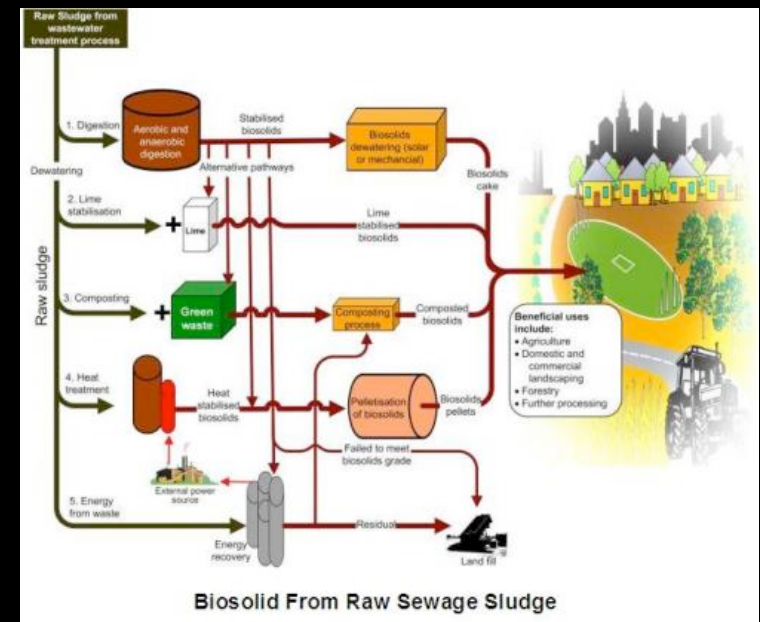
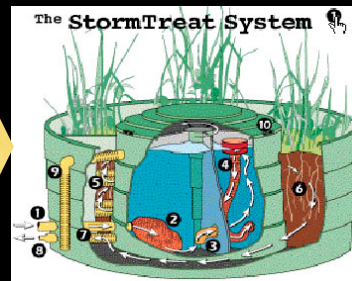
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New School/local engineering.



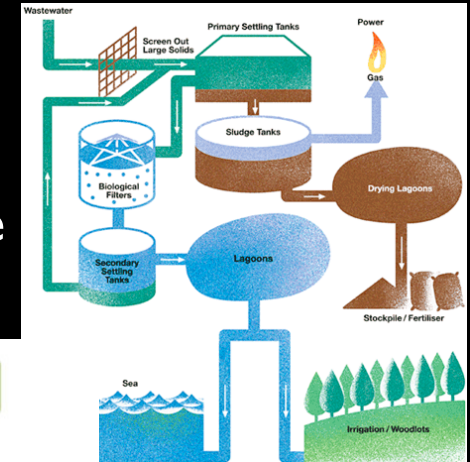
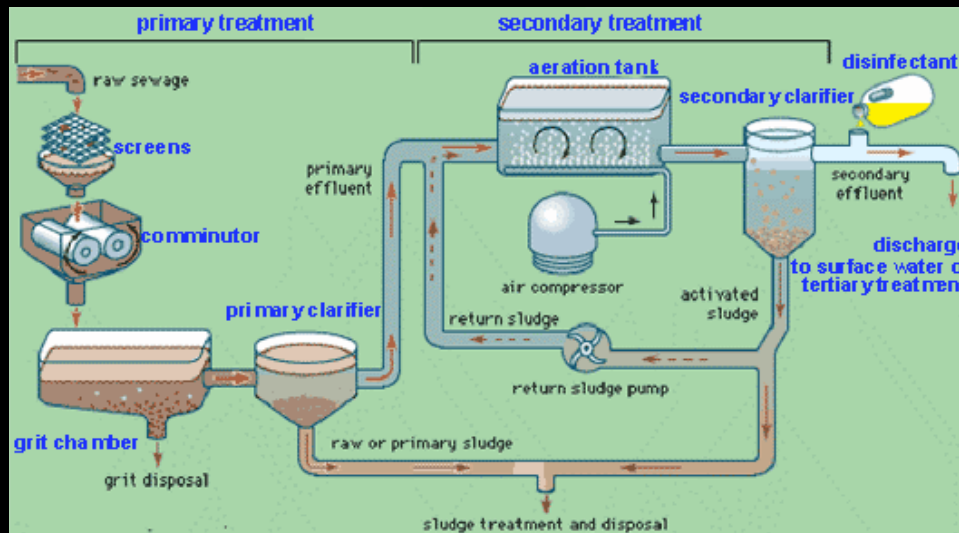
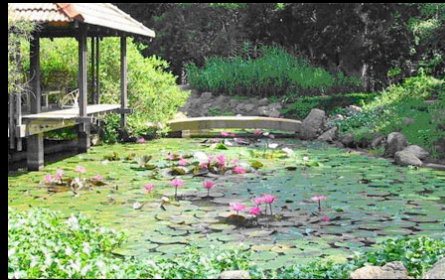
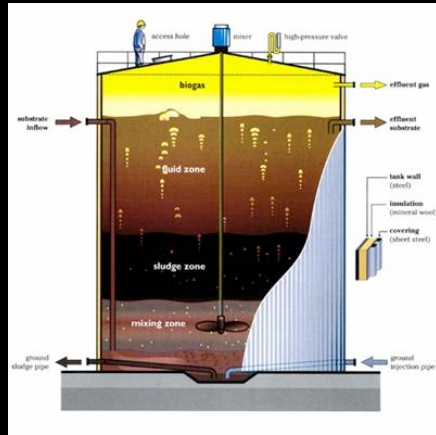
nutrient
capture



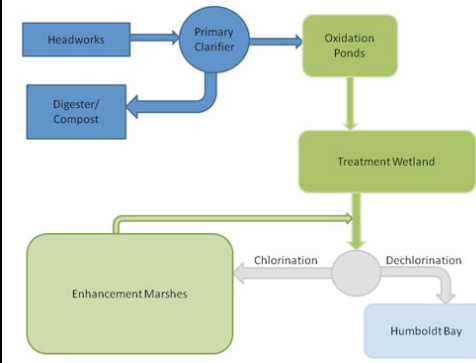
- less energy intensive- monitoring of course is needed but it is low key- a village system, cooperatively run. Sharing in waste treatment systems is the viable sustainable approach.

Simplicity Targets

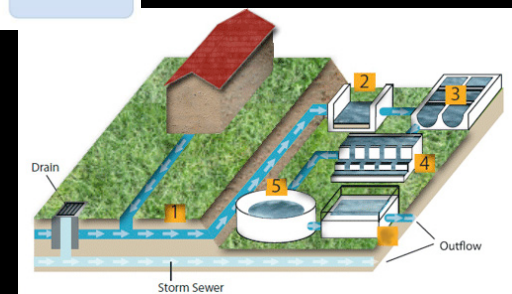
Efficiency of scale means clustering



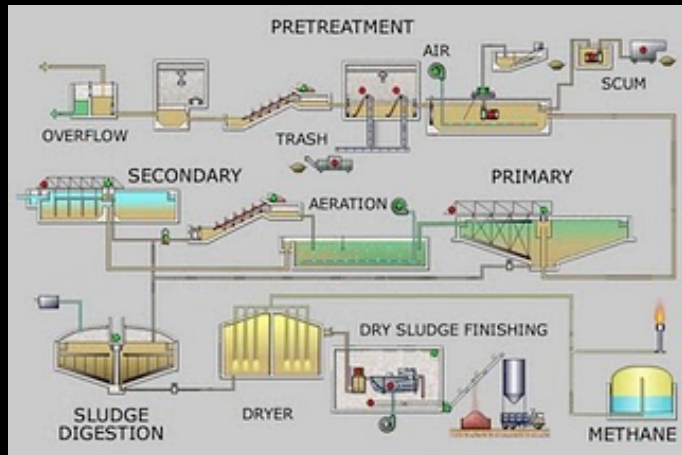
Design solutions are determined by context not by bylaws



Various clusters will create various scale of solutions....



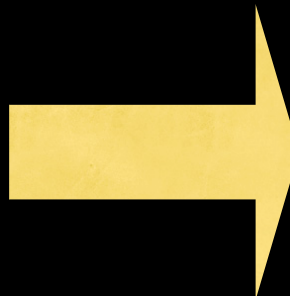
Scaling down yet again.



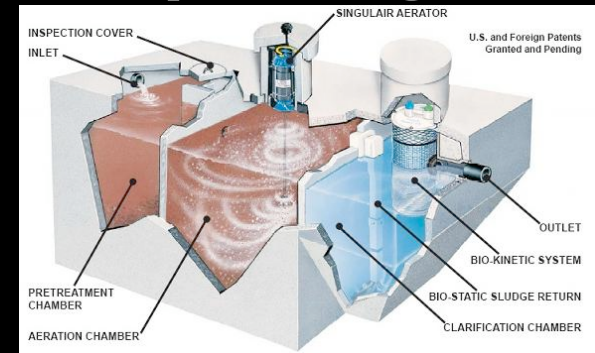
Town scale systems



Not
These



But
here...



wetland polishing

Not this scale..... - but this.



Honk Kong example: Alpha scale cities are just not sustainable post oil.



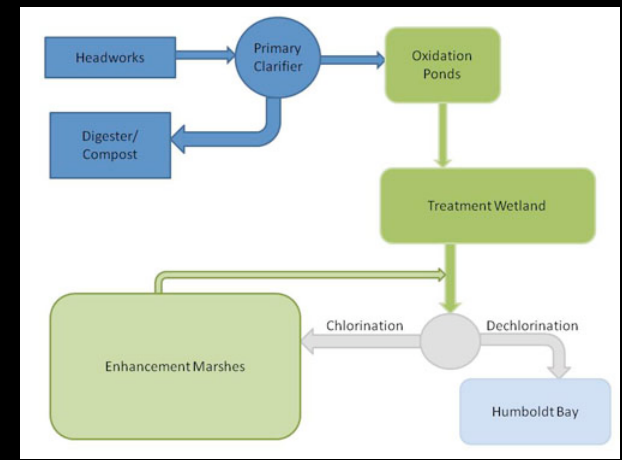
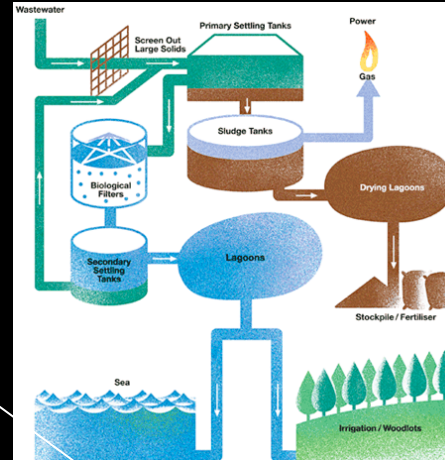
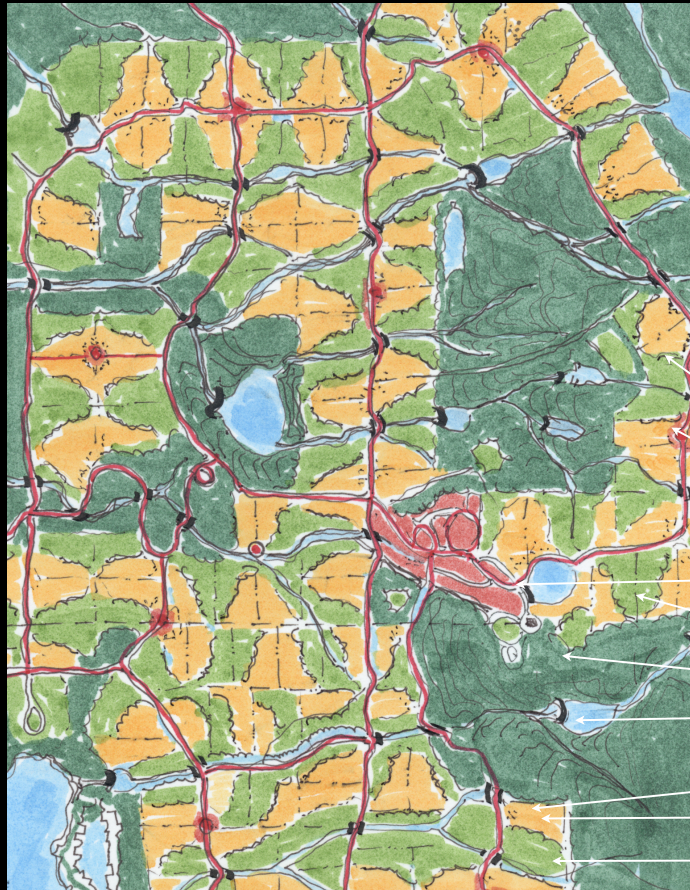
After tertiary treatment, and with conserved water usage, marsh areas polish the water for reintroduction to environment.

not industrial treatment, but wetlands as final polishing stage.



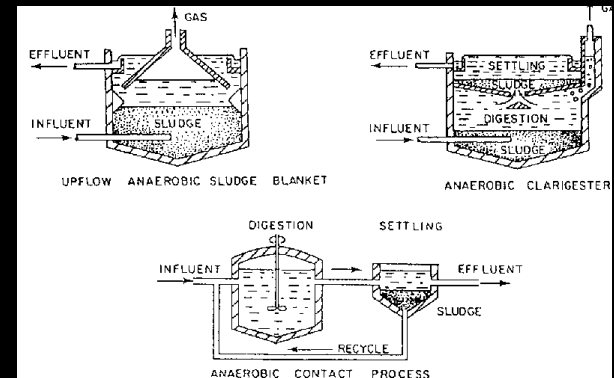
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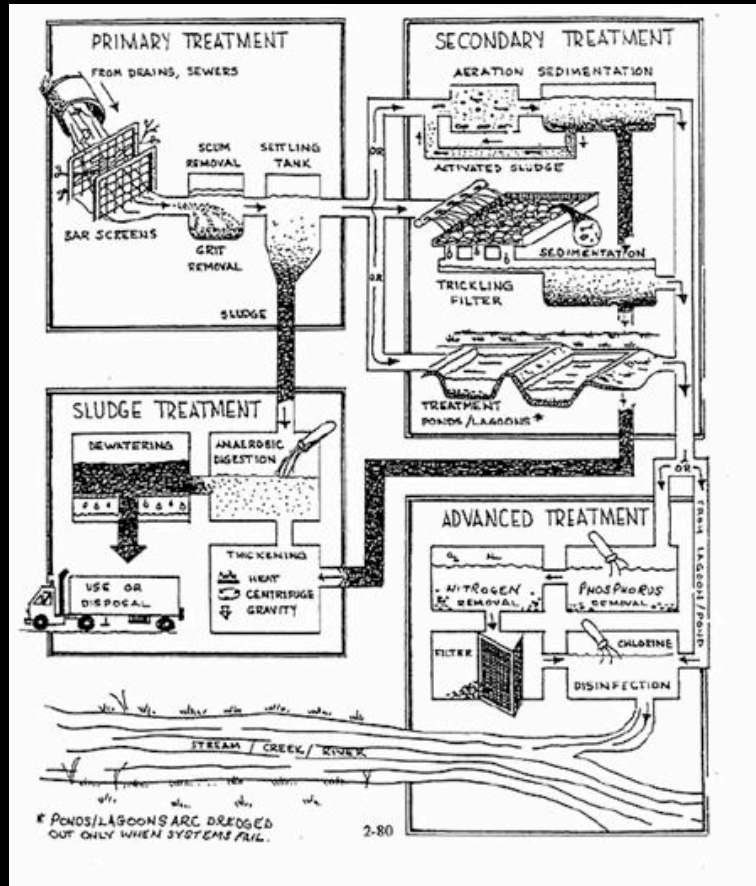


- Homestead
- Hamlet
- Village
- Commons/on farm
- Commons/community
- Commons/water belt
- farm
- field
- forest

Commons on farm is effluent end field and is away from water-belt uptake zone. Greenzones make the majority of land area.

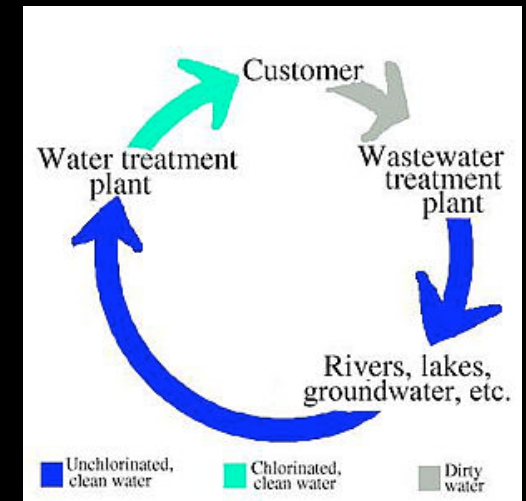
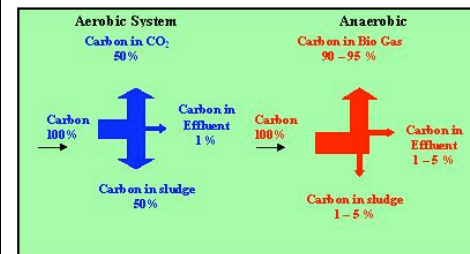


Homestead & Hamlet Clusters



<http://water.me.vccs.edu/courses/env110/lesson12.htm>

Family scale engineering



Ozone replaces chlorine
or remove sludge for composting cycle

...simple workable systems understood by the family as environmental engineers, sharing and caring for the land, also because there is not place for large civil works in most post oil economies.

Not just small is beautiful, the other options are vanishing.

Human scale villages integrated with the environment are possible in new ways.



Buddhist Economists
can still use taps....

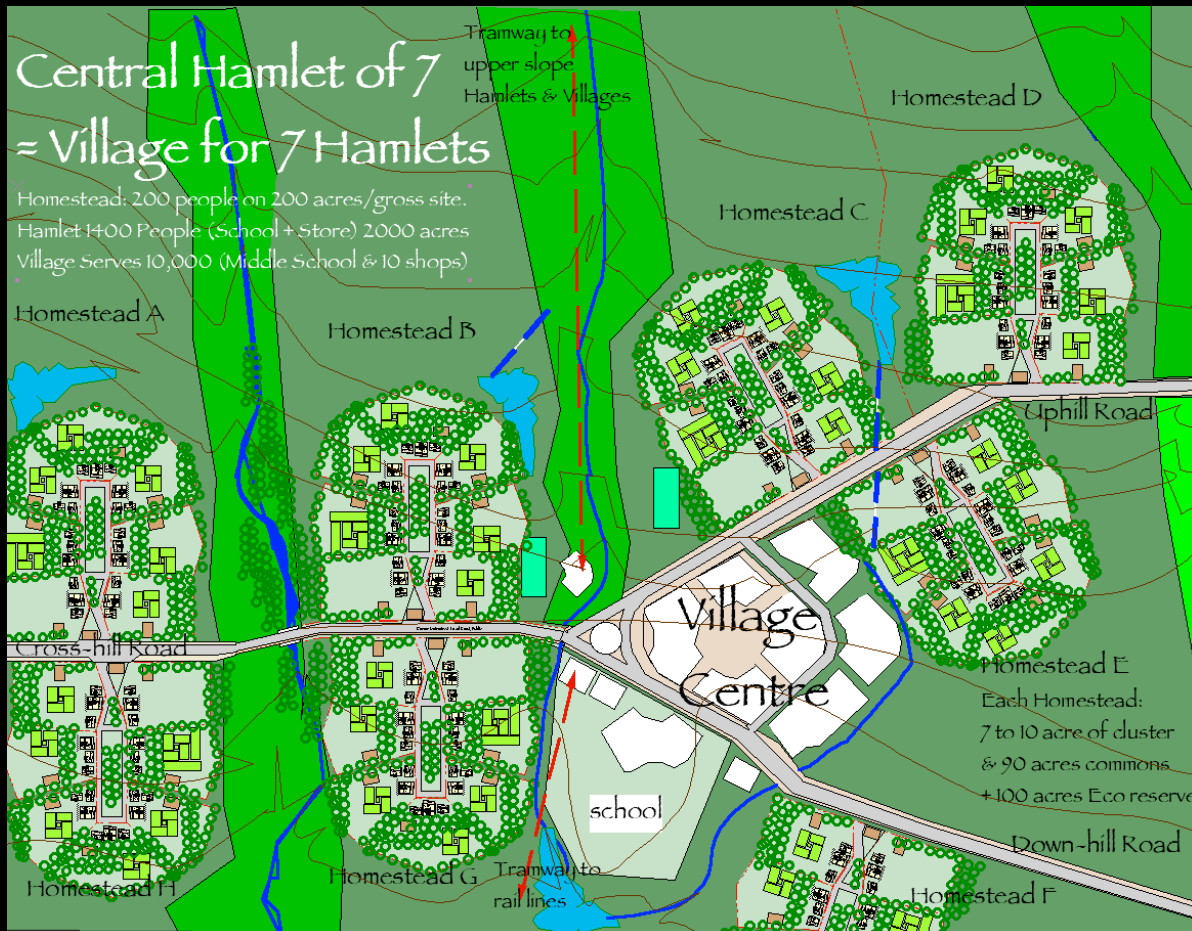


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Central Hamlet of 7 = Village for 7 Hamlets

Homestead: 200 people on 200 acres/gross site.
Hamlet 1400 People (School + Store) 2000 acres
Village Serves 10,000 (Middle School & 10 shops)



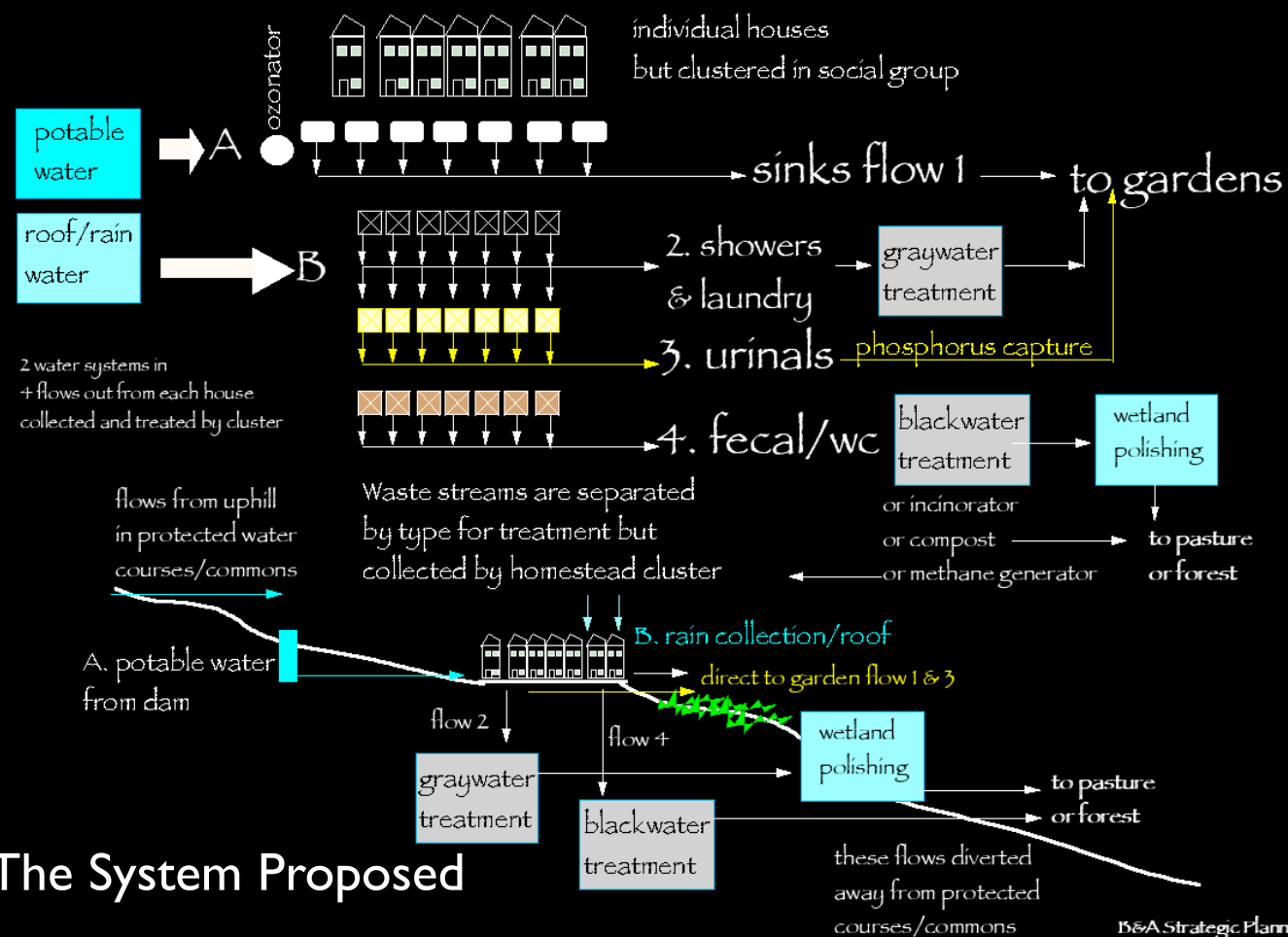
Sharing and self sufficiency models- (loners are at risk.)

Hamlets

Free Simple Homestead Housing Cluster Lots on Community Arterial



Water & Waste Management: Post Oil Hamlets and Homesteads



In the 1990s BC permitted new waste treatment options between the old septic tank and the massive city sewer solutions: new small scale units allow for new ways of working with the land. This is a further evolution of the concept adapted for post oil settlements of hamlets, homesteads, mountain villages and what towns remain supportable in a Rhizome pattern of settlement.

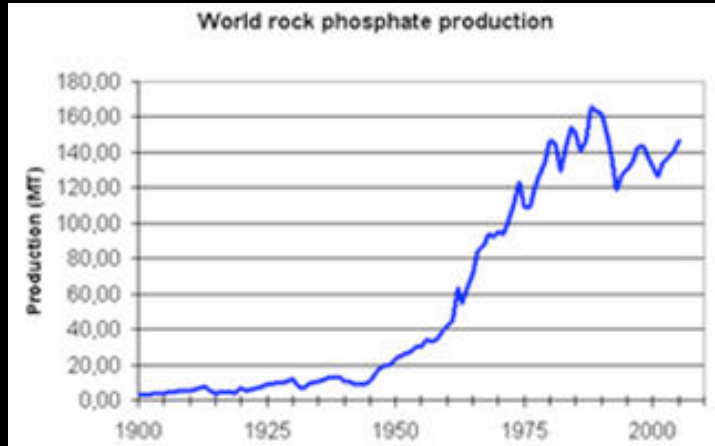


Figure 7: Actual production of rock phosphate

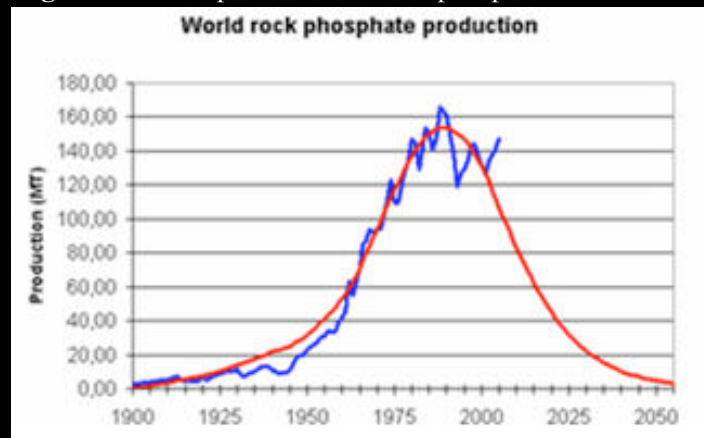


Figure 8: Fitting the Hubbert curve to the production of rock phosphate, showing likely dates of depletion

Why
?

Why you
have to learn
to pee in
your
gardens...

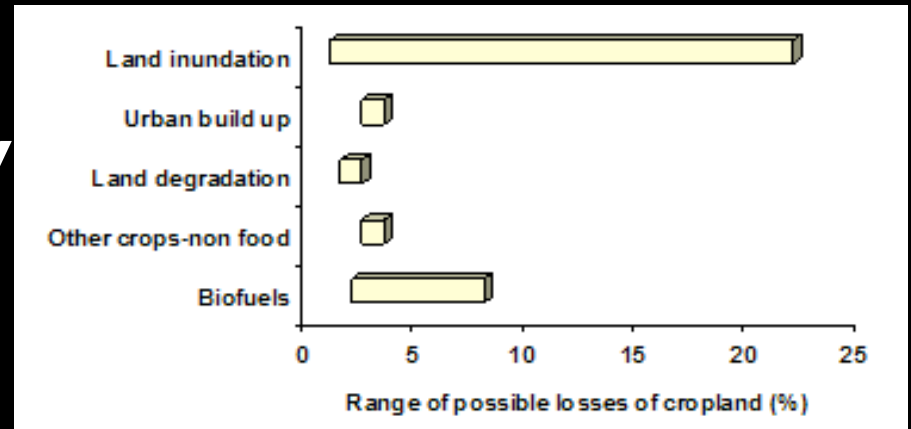
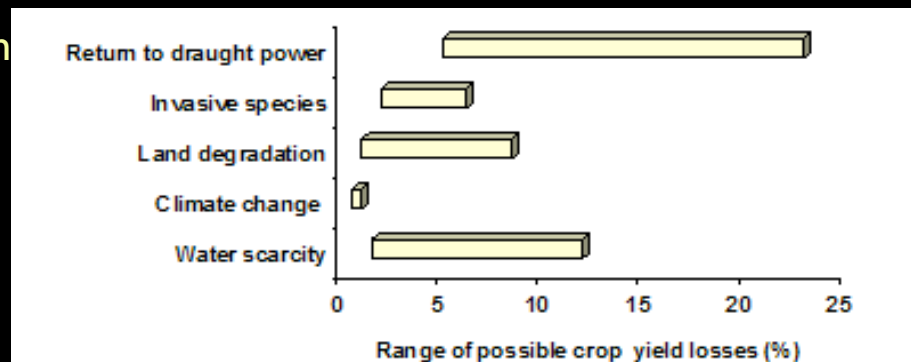


Figure 9. Possible ranges of cropping land losses and reduction in crop yield by 2050 (adapted by Leng 2009 from Nelleman et.al 2009). Note the values for effects of land inundation and return to draught power



Impacts **pushing** Homesteads

- Post Oil: Death of suburbs, end of Alpha Cities, rural out migration.
- Rural migration without knowledge of design with nature will only destroy the new rural settlement areas in the same way as suburbs.
- Design with Nature plus Limits on Growth plus Rhizome community cluster principles maintain the viability of the commons and provides social reinforcement, ecological and economic homestead and hamlet servicing properly integrated with the environment.
- Oil age inefficient and costly servicing is not affordable nor appropriate to safeguarding the commons.

Table 1. Comparisons of developed and developing country consumption of commercial energy [10^{12} kcal] and the percent of the population engaged in agriculture [Pimentel 2001].

Country	Solid fuel	Liquid fuel	Natural Gas	Hydro & nuclear energy	Total energy	Energy use per person [10^6 kcal]	Population in agriculture (%)
USA	4,300	7,775	4,475	1825	18,375	76.6	2.6
Brazil	57	383	19	132	591	4.1	37
India	439	295	18	104	856	1.1	62
Kenya	1	10	0	1.6	12	0.6	75



Reducing our Human Impact

- Post oil settlement will need to be non-hierarchical structures based on minimal servicing, transportation and social services. Non-value-added jobs will not be supportable and most of the now accepted means of service and production will be self provided or of a local community nature.
- As the scale of community increases on the landscape, the control mechanism proposed it for commons and natural areas to multiply twice as quickly as human community areas: that is, human activity is increasingly restricted by scale, not increased. For illustration purposed the power of 7 for humas versus the power of 10 for nature is used.



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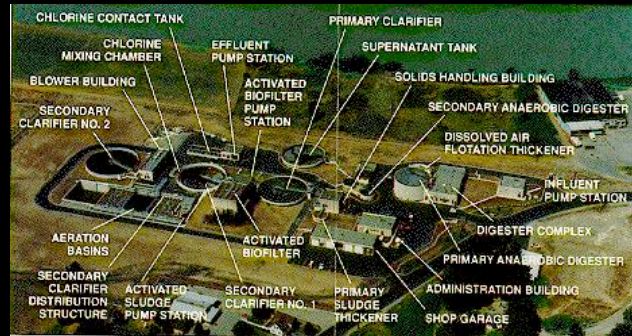
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Post Oil Losses

As we scale down we cannot afford many things you now take for granted....



End of cheap energy=
loss of economy
loss of jobs
loss of tax base
loss of services
do it yourself



Loss of engineering services
Loss of civil structure
Learn to do it yourself



We better learn quickly how to do many things for ourselves but most of all to learn to help each other too...

Is soft landing possible?



seen on www.englishrussia.com

A large, multi-story, dilapidated building with peeling paint and missing windows, surrounded by debris and overgrown vegetation. The building has a light blue and white facade, with significant structural damage and missing sections. In the foreground, there is a large pile of rubble and debris. The background shows a flat, open landscape under a cloudy sky.

Abandonment....

seen on www.englishrussia.com

A large, multi-story brick building, likely a former industrial or institutional structure, stands in a state of significant disrepair. The building features numerous windows, many of which are boarded up with dark material or missing entirely, revealing the interior. The facade is a light-colored brick, showing signs of weathering and decay. In the foreground, there is a field of tall, wild grass and weeds, suggesting the area is overgrown and neglected. The sky above is overcast with grey clouds. The overall scene conveys a sense of abandonment and the passage of time.

seen on www.englishrussia.com

A large, abandoned classical building with a portico of six columns. The building is multi-storied, with a light-colored facade and dark window openings. The portico features six tall, fluted columns supporting a decorative entablature. The roofline is flat with a series of small, square, reddish-brown decorative elements. The building is situated on a dark, muddy, and debris-strewn ground. A small figure of a person stands near the entrance of the portico, providing a sense of scale. The sky is overcast and grey.

2638 W 14 Ave., Vancouver, B.C. V6K 2W9 T (604) 731-0216 Fax (604) 734-2638
email: balfouracht@telus.net : www.glanccanada.com Planning Advocate Urban Design Transportation

Essential Sharing



INTBAU Hamlet Seminars

The Emerging Knowledge and Social Economies



From <http://blogs.zdnet.com/Hinchcliffe>

- Equity can only be measured when it is lost.
Klugman, New York Times 2010.09

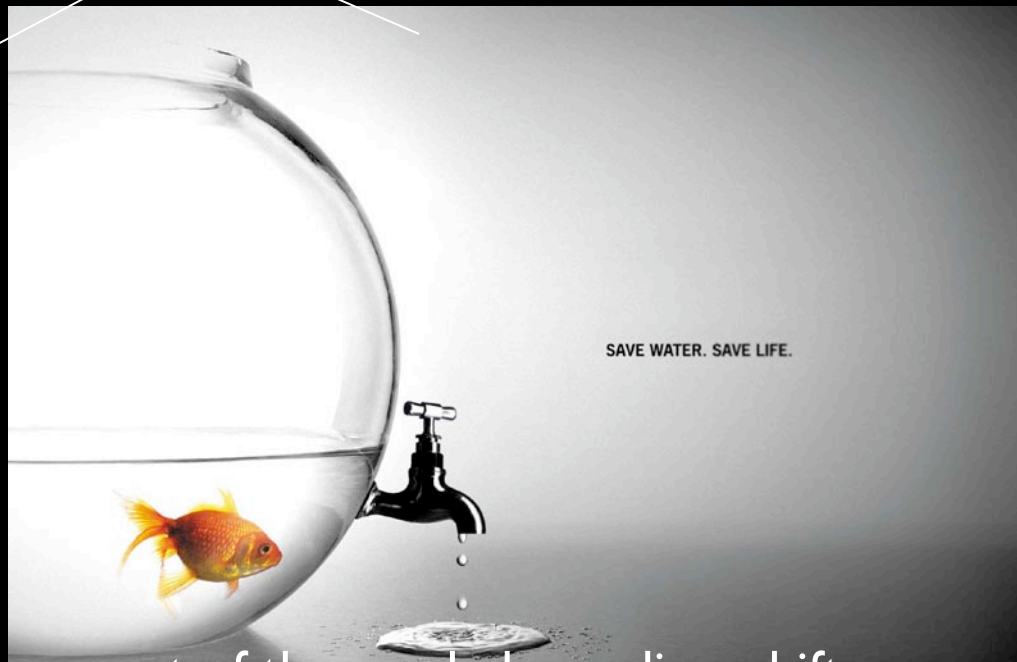


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~~Fishbowl~~ Spaceship Earth Approach

Look for the
Goldilocks
Solutions.



Our glass is
now not
half full....
can you help
to refill it?

You are part of the needed paradigm shift
or there is no shift to be had.....



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2010 N. 10th Ave., Suite 100, Denver, CO 80202 • Tel: 303.733.1000 • Fax: 303.733.1001
www.balfourassociates.com • www.balfourcompany.com • Planning, Architecture, Urban Design, Transportation