

Watershed *Sentinel*

May/June 2006
Newstand Price \$4.50

Environmental News from BC and the World

ENDANGERED



Paper Sludge — The Bad Side of Green
50 Ways to Save the Ocean
Youth Restoring Relationships



Vol 16 No 3 ISSN 1188-360X

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Watershed *Sentinel*



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Watershed: region draining into river or ocean; the land area that drains into a particular lake, river, or ocean

Sentinel: sentry, a guard or lookout

The Watershed Sentinel keeps watch and informs.



Don't
lock up
information:
Stop jailing
journalists

Cartoon: WAN/Michel
Cambon

In 2005, 58 journalists were murdered around the world. A further 788 journalists were arrested and 125 were in prison as of December 2005.

—www.worldpressfreedomday.org/
World Association of Newspapers

Good Question

“Why should taking from the rich be called appropriation and taking from the poor be called development?”

—Arundhati Roy in *Z Magazine*, April 2006
www.zmag.org

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Cover Photo by Patrice Halley:
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Watershed *Sentinel*

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Educational Society
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Advertising Terri Smith

Special Thanks to Horizon Publications, John Hummel, Hugh McNab, Chris Hilliar, Maggie Paquet, Jim Cooperman, Norberto Rodriguez dela Vega, Gloria Jorg, Susan Yates, Peter Ronald, Clara Broten, Kathy Smail, Tony Tweedale, the writers, advertisers, distributors, and all who send information, photos and ideas.

Published five times per year
Subscriptions \$20 one year,
\$30 two years Canada, \$26 US one year

Distribution by newsstand sale through Disticor (Toronto), by subscription, and to members of Friends of Cortes Island and *Reach for Unbleached!* Free at Vancouver Island and Vancouver area libraries, in BC colleges and universities, and to sponsoring organizations.

Member British Columbia Association
of Magazine Publishers, Magazines Canada
ISSN 1188-360X

For photocopy reproduction rights, contact
CANCOPY, 6 Adelaide St. E., Ste. 900,
Toronto, Ontario M5C 1H6



Publication Mail Canada Post Agreement
PM 40012720

Return Undeliverable Canadian Addresses to:

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BC, Canada V0P 1Z0

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GUEST EDITORIAL

Our Common Foe



At the Qualicum Institute (a local grass-roots think-and-act tank), we have been focusing on sustainability issues in the Parksville-Qualicum Beach region of Vancouver Island. Over the past four years, we have yet to meet one decision-maker who we believe truly understands what it means to be sustainable.

In sustainability workshops we've attended, led by people ranging from "smart growth" advocates to municipal councillors to former premiers, invariably the words "economic growth" or "healthy growing economy" form part of their plan for sustainability. Those are telling words, for exponential growth of material things on a finite planet is impossible.

We at the Qualicum Institute (QI) believe the time is ripe to carry a new conservation message forward. If ever we hope to become a sustainable society, we must move from an economy based on economic growth to a steady-state economy that is in balance with the carrying capacity of the planet. This, we are not doing, and by many measures we appear to have exceeded the earth's carrying capacity back in the mid-1980s. This means we are no longer simply living off the "interest" but rather we're eating into our "natural capital."

While all the actions that conservationists have taken over the years may have bought us some time, we believe we can no longer afford to continue as we have in the past, dealing with only the symptoms (e.g., cleaning degraded streams, protecting older forests, securing critical habitats and recovering species at risk). Rather, we need to start dealing with the root cause.

The QI recognizes three problems that will soon come together to confront humanity: peak oil, global climate change, and biodiversity loss. They will likely hit us in that order and while peak oil and climate change may arrive first—and their impacts will undoubtedly be severe—it is biodiversity loss that will ultimately seal our fate. Perhaps now is the time to work to address the prime cause of our environmental problems, not only for our children and their children but for ourselves. We encourage all conservationists to learn more about this faulty economic growth paradigm and its deadly interactions with the biosphere.

We at the QI also believe this is a rare opportunity for conservation organizations. Conservationists can choose to come together with one loud and unequivocal voice against economic growth, the limiting factor to biodiversity conservation, or we can continue to see our fragmented efforts continuously eroded by a faulty economic paradigm.

Neil K. Dawe for the Directors, The Qualicum Institute, April 2006

To read the full statement go to: www.pej.org. Search for Qualicum Institute.

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Have You Heard?

Ontario Energy Policy Breakthrough

In March the BC Sustainable Energy Association (BCSEA) enthusiastically endorsed the Ontario government's encouragement of renewable energy generation, and explained BC should follow suit.

Ontario's Standard Offer Program gives a fixed price and assured electrical grid access to wind, small hydro, solar and biomass energy producers. The policy has been extremely successful in Europe, and Ontario's program is a North American first.

—BCSEA, March 2006

You Are Not Alone!

More than eight in ten Canadians believe the government should enact stricter laws and regulations to support a more sustainable economy that protects and manages the country's resources for future generations. These findings were based on a cross-Canada, except Quebec, survey of 2,500 Canadians in February 2006, with a margin of error of plus or minus 2 per cent 19 times out of 20.

More than 90 per cent of Canadians fear that over-consumption of the world's resources threatens the health and welfare of their children — and lack of government leadership is the biggest cause of the problem.

The survey also found that 53 per cent of respondents were not familiar with the term "sustainability," and al-

though 70 per cent of respondents could not define the term, they ranked it a priority when the meaning was explained.

—James Hoggan and Associates, March 2006

Terminator Seed Ban Holds

In March, the global moratorium on genetic "terminator" seed technology, which renders seeds sterile so farmers cannot save patented seedstock, was upheld, although Mexico forced the UN Convention on Biodiversity to postpone for four years a decision which would have required labeling of all international shipments containing genetically modified organisms.

—Greenpeace International, FoodNews, March 2006.

Protesters Win at Cathedral Grove

In April, BC Parks announced that rather than cut old growth trees to build a parking lot, the government would follow public advice and institute "traffic calming" measures to protect tourists on the highway which winds between a few hundred hectares of Vancouver Island's remaining giant trees. The plan to cut trees to build a parking lot had been the focus of grassroots protests and tree sits for years.

—BC Parks, WCWC, April 2006

Vancouver Hosts World Forums in June

World Urban Forum III, June 19-23, 2006

The World Urban Forum was established by the United Nations to examine rapid urbanisation and its impact on communities, cities, economies and policies. It is projected that in the next fifty years, two-thirds of humanity will be living in towns and cities.

Gaining Ground – Sustainable Urban Leadership Summit occurs June 15-17, 2006 in Victoria, BC. The conference is an opportunity for sustainable urban development leaders to create solutions to the many barriers hindering sustainable development in North America. Showcase focus is on three major North American developments: Victoria's Docks Green, The Noisette Project in North Carolina and Loreto Bay Village in Baja Mexico. See www.gaininggroundsummit.com

World Peace Forum, June 23-28, 2006

Vancouver's World Peace Forum 2006 is an interna-

tional gathering of individuals, groups and civic governments from cities and communities to envision a living culture of peace and sustainability in our lifetimes. See www.worldpeaceforum.ca

Reflections on Water, at Pacific Cinémathèque in Vancouver Monday, June 26 at 7:30 pm is a screening of local and international films where art and activism flow together with creative expressions about water. The films, in a variety of disciplines, deal with political, social, and environmental issues surrounding water as well as people's personal stories and aesthetic explorations of water.

Presented by Cineworks Independent Filmmakers Society and ParaDocs Productions, the screening is being held in conjunction with the World Peace Forum, June 23-28. See www.cineworks.ca





Canada's Sham Wildlife Protection

The third largest logger of mountain caribou habitat is the BC government

by Candace Batyki

By the time you read this the BC government will have released its new spotted owl recovery plan. If the rumours hold true, the plan will likely protect a few of the nesting sites that owls have used in recent years, and open most of the rest of their old-growth forest habitat up for logging, even nest sites used as recently as 2004. The public will be mollified with a captive breeding program, and treated to photos (and web-cam feeds?) of baby owls. But owl experts agree: without protecting habitat, there is no point in raising baby owls, since they will be released to an inhospitable landscape, with few survival skills.

The largest logger of spotted owl habitat? The BC government's own Timber Sales program.

No, the spotted owl will not be our Olympic mascot. Indeed, there may not be any owls left in the wild by 2010 (there are only 24 now, an 84% decline over the last decade). The Olympic honour falls to the Kermode or "spirit" bear, a much safer bet for the government since after years of foot-dragging they have finally legislated protections for spirit bear habitat in the Great Bear Rainforest. One imagines many of BC's other species at risk patting their spirit bear friend on the back in congratulation, while secretly wondering, "What's wrong with me?"

Species Protection on 1% of BC Land

BC's species deserve better. We live in by far the most species-rich province in Canada, with 5,250 species of plants, 1,138 species of vertebrates¹, 60,000 invertebrates and 10,000 fungi.² We also have the highest number of species at risk: 1,357 species are considered red-listed (endangered/threatened) or blue-listed (special concern) by BC's Conservation Data Centre. Of the vertebrates 222 — more than 6% — are red or blue-listed.³ But BC has no stand-alone endangered species legislation, and the federal *Species at Risk Act (SARA)* is a gutless wonder that relies heavily on voluntary measures, and only protects terrestrial species on federal land: 1% of BC.

SARA also applies to migratory birds and to aquatic species. But the pending decision on whether or not to legally list the lower Fraser River population of white sturgeon as endangered shows another fatal flaw in *SARA*: scientists agree that the species is endangered, but the federal cabinet can still trump their recommendations using socio-economic arguments. In this case, the feds may well act to protect a \$6.4 million guided sturgeon fishery, as well as gravel mining operations that could be curtailed if the sturgeon population is legally listed as endangered, rather than the sturgeon itself.

A glimmer of hope exists in *SARA*'s "safety net provision." It states that the federal government may (but is not required to) act "where the Minister is of the opinion that the laws of the province do not effectively protect the species or the residences of its individuals." In February 2004 four conservation organizations, represented by Sierra Legal Defence Fund, petitioned then-minister David Anderson to invoke the safety net. The petition cited the sharp decline in spotted owl numbers and the BC government's failure to act.

Anderson responded that he would consider making the emergency order if "the collaborative approach does not soon result in the Province taking actions to protect the Northern Spotted Owl." The 2004 federal election came and went, Anderson was out, and the new minister, Stephane Dion, did nothing either.

On December 6, 2005 the organizations launched a landmark federal court case to compel the federal government to invoke the emergency provision. Lawyer Devon Page stated, "This is the first test of Canada's *Species at Risk Act*...If the spotted owl situation is not an emergency, then nothing is."

There Oughta Be a Law

With *SARA* proving toothless, conservation groups in BC began calling for a provincial endangered species act in the run-up to the spring 2005 provincial election. The political response? The Green Party and the NDP both pledged to enact such a law should they take power. The Liberals claimed to have already done it. And they said it again in their 2006 Strategic Plan.

Don't believe it. The legislation they are referring to is Bill 51, a set of weak amendments to the BC Wildlife Act designed to bring the province into minimal compliance with *SARA*. The amendments give the province the ability to, for example, designate critical habitat for species at risk. But there is nothing in Bill 51 that says they must, or defines critical habitat beyond the cripplingly restrictive notion of "residence." The definition of "residence" is hotly debated by scientists, activists and bureaucrats, but thus far appears woefully inadequate to protect wandering species like wolverine or mountain caribou.⁴

It must be noted that not only do we not have a law to protect species, we actually have laws that prevent us from protecting species. The *Forest and Range Practices Regu-*

lation restricts the government's ability to protect wildlife (and most other non-timber values) by requiring that any actions taken not "unduly reduce the supply of timber from British Columbia's forests." The BC Forest Practices Board has done an excellent job over the last few years of pointing out such regulatory barriers to species protection. For example they have called for a review of the policy that says actions to protect species, such as the creation of wildlife habitat areas, can't impact timber supply by more than 1%.

Looking Busy: Species at Risk Coordination Office

In September 2004 the province announced it had appointed BC's first-ever Species-At-Risk Coordinator, who would be tasked with accelerating recovery planning for mountain caribou, spotted owl, and marbled murrelet. In June 2005 the lone Coordinator became a full-fledged Species-At-Risk Coordination Office (SARCO), located in the new Ministry of Agriculture and Lands, under the also-new Integrated Land Management Bureau. The spotted owl recovery plan will be SARCO's first test. Mountain caribou are next.

Like the spotted owl and the marbled murrelet, mountain caribou rely on old-growth forests for survival: they need shelter from predators, thick forest canopy to intercept snow and keep shrubs available in early winter, and slow-growing tree lichens, their late-winter food source. This reliance on old-growth forests puts the mountain caribou, like the spotted owl, squarely in competition with the timber

Continued on Page 6 ⇨



⇐ *Wildlife continued*

industry. And the mountain caribou's preference for sub-alpine terrain puts the animals in increasing conflict with folks who like to snowmobile and heli-ski in those same places. Mountain caribou numbers are down by one-third since 1997. But protecting their habitat means putting land off-limits to the timber and recreation industries.

The third-largest logger of mountain caribou habitat is the BC government's Timber Sales program.

SARCO's mountain caribou recovery plan is due this fall. Will it be any better than the spotted owl recovery plan? In the absence of a law that compels the protection of critical habitat, only sustained public pressure has a hope of making it so.

It's not just about these two species. Hundreds of other species, including humans, also depend on these ecosystems. A study published in March in the journal *Biodiversity* reports that a quarter of the old-growth dependent wildlife species that share the same habitat of northern spotted owls are also at risk. Spotted owls and mountain caribou are the canaries in the ecosystem coalmine. It is the ecosystems themselves that are unraveling.

What prevents British Columbians, some of the most prosperous people in the world, from sharing our magnificent forests with wild creatures, in the face of staggering evidence that our refusal to do so puts these species at serious risk of extinction? Why do we refuse to voluntarily limit our activities, to take responsibility for our actions? Are we okay with leaving our kids and grandkids a landscape denuded, barren of the wild things that so enrich our lives?

Canadians care. British Columbians care. Poll after poll tells us so. The most recent, conducted by McAllister Opinion Research and publicly released in March, confirms that more than eight in ten Canadians believe "the government should enact stricter laws and regulations to support

a more sustainable economy that protects and manages the country's resources for future generations." In BC a spring 2005 poll found that 84% of respondents supported creation of a "single, effective endangered species law for BC."

People know that we are not separate from the other species, that we all rely on healthy ecosystems to sustain us. We know that our economic future, and all our industries – including logging, recreation and tourism – depend on a healthy, vibrant web of life. We know that healthy forests provide more than timber: clean water and air, berries, mushrooms, fish and game, physical and spiritual health, mystery, awe and wonder.

We also know, deep in our hearts, that there is a moral imperative here. As the situation grows more urgent, voices from the faith and religious communities are increasingly speaking out. In the US the National Council of

Churches is active in fighting congressional attacks on the US Endangered Species Act. Another coalition, The Noah Alliance, describes itself as "a new collaboration of Jewish, Evangelical, Protestant, and other religious community organizations, and individual people of faith, that are concerned about the protection of endangered species and biological diversity." Buddhists, pagans and many others are also taking action to defend the web of life. Surely the notion that all life is sacred transcends any particular faith.

We need to get smart. If we're thoughtful, if we take our children to spend time in nature, if we take seriously our responsibility as stewards of biodiversity, if we act decisively, we can maintain our quality of life and keep all the other species around too. But we don't have much time. We need one strong, clear law to protect BC's flora and fauna.

We are so fortunate. Let us act wisely, that we may pass on all that we have been given.

We know, deep in our hearts, that there is a moral imperative here.



Footnotes

¹ The vertebrates include fish, birds, amphibians, reptiles, marine and land mammals – anything with a spine

² Species Ranking in BC, MSRM 2002

³ 116 red, 106 blue

⁴ For a full discussion of the weaknesses of Bill 51, see <http://www.environmentalleadership.org/safeguardingbcwildlife/>

Caribou photos by Patrice Halley: www.patricehalley.com

Resources and links**Conservation Projects**

Mountain Caribou Project (international coalition)

— <http://www.mountaincaribou.org>

Species at Risk Working Group (provincial coalition – includes chart showing the elements of a strong endangered species law, and why Bill 51 doesn't cut it) — <http://www.environmentalleadership.org/safeguardingbcwildlife/>

Reports

Logging to Extinction: Last Stand of the Spotted Owl

— http://www.wildernesscommittee.org/campaigns/species/forest/spotted_owl/reports

Media release on federal court case, and link to report *In Defence of Canada's Spotted Owl* (contains an excellent overview of the legal and regulatory systems for species at risk, and their weaknesses) — http://www.sierralegal.org/m_archive/pr05_12_06.html

Key reports on mountain caribou, including *Starving at Extinction: Mountain Caribou in British Columbia* (Mountain Caribou Project) and *BC's Mountain Caribou: Last Chance for Conservation?* (Forest Practices Board) — <http://www.mountaincaribou.org/links.html>

BC Government Websites

Conservation Data Centre (provides information on species and ecosystems at risk) — <http://www.env.gov.bc.ca/cdc/>

Ministry of Environment page on Species and Ecosystems at Risk — <http://www.env.gov.bc.ca/wld/serisk.htm>

Species at Risk Coordination Office of the Integrated Land Management Bureau, Minister of Agriculture and Lands (responsible for provincial coordination of species at risk issues) — <http://ilmbwww.gov.bc.ca/ilmb/sarco/sarco.html>

Forest Practices Board (very good special reports on mountain caribou, marbled murrelet, and biodiversity protection under current management regimes) — http://www.fpb.gov.bc.ca/special_reports.htm

Federal Government Websites

Species at Risk Act Public Registry (gateway to information and documents relating to the Species at Risk Act (SARA); including documents open for public comment) — http://www.sararegistry.gc.ca/default_e.cfm

Federal Nature and Wildlife portal page — http://www.ec.gc.ca/wild_e.html

BC To Log More Owl Habitat

Environmental groups across Canada are condemning BC's temporary plan - that ends just after the 2010 Olympics - to address Canada's critically endangered spotted owl population. The controversial new plan allows logging of critical owl habitat and focuses on capturing and breeding owls instead of protecting the old forests the owls need to survive. The plan also ignores the recommendation of the government's own spotted owl recovery team to protect enough habitat to recover the diminishing owl population to 125 pairs of birds. Under the plan, the BC government, through its Timber Sales Program, will continue as the largest logger of owl habitat.

In 2005, BC government biologists found only 6 pairs of owls, an 84% decline in under a decade. Scientists believe that before industrial logging, 500 pairs of spotted owls lived in southwestern British Columbia, the only place in Canada they are found, although several thousand survive in the United States. The main threat to the declining spotted owl population is logging of its old-growth forest habitat, a circumstance that is jeopardizing BC's forest dwelling species. For example, a recent paper in the scientific journal, *Biodiversity*, found that 17 other species in the range of the spotted owl were at risk of extinction.

Environmental groups were prepared to support a recovery plan that included captive breeding only if it was complemented with adequate habitat protection and an endangered species law that protects the spotted owl and the other 1,364 species that are at risk in BC.

—*Western Canada Wilderness Committee, April 2006*

Two Species Make SARA list

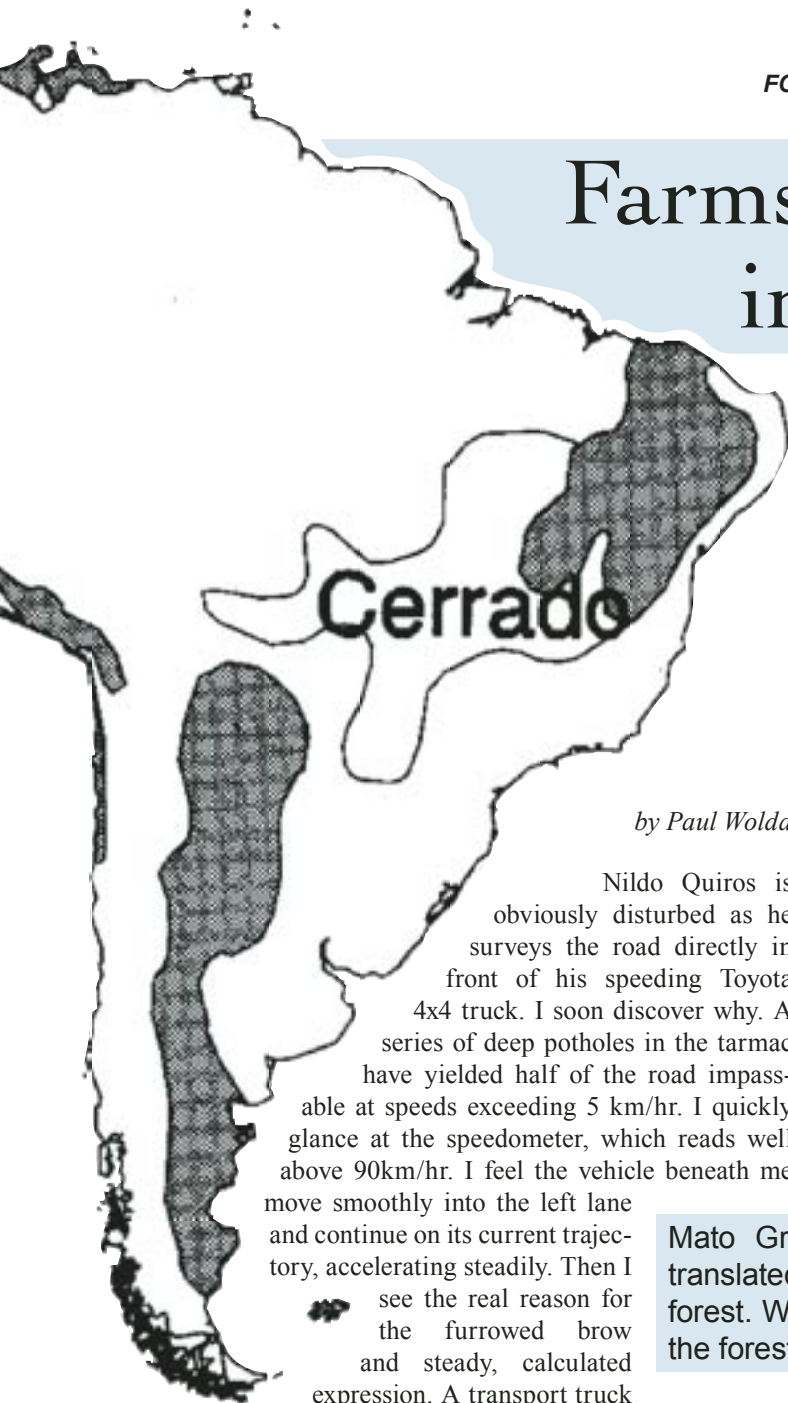
In April, the federal government added two aquatic species to the list of around 350 species protected under the *Species at Risk Act (SARA)*. The Northern bottlenose whale (Scotian Shelf) and the channel darter, which made the list, were part of a larger group of 12 aquatic species recommended for listing by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC).

Four species, three populations of Atlantic cod (Newfoundland & Labrador, Laurentian North and Maritimes) and Interior Fraser River coho salmon, will not be listed under *SARA*. Six species' assessments will be returned to COSEWIC for further consideration.

The government says comprehensive recovery plans for cod will be completed and Fisheries and Oceans Canada (DFO) will continue to pursue strong conservation measures "with the provinces, fishers and key stakeholders." The Interior Fraser coho will continue with the *Fisheries Act* protection they now have.

—*Fisheries and Oceans Press Release, April 2006*

Farms and the landless in Brazil's cerrado



by Paul Wolda

Nildo Quiros is obviously disturbed as he surveys the road directly in front of his speeding Toyota 4x4 truck. I soon discover why. A series of deep potholes in the tarmac have yielded half of the road impassable at speeds exceeding 5 km/hr. I quickly glance at the speedometer, which reads well above 90km/hr. I feel the vehicle beneath me move smoothly into the left lane and continue on its current trajectory, accelerating steadily. Then I see the real reason for the furrowed brow and steady, calculated expression. A transport truck

heavily laden with soybeans is bearing down upon us, occupying the same lane. Nildo applies the accelerator and the vehicle screams towards the oncoming truck. A quick glance to the right and I feel my stomach turn as Nildo guides the Toyota back to its' own lane. My muscles relax and I turn my head to see the two passengers in the back seat. They continue to converse in the same musical tones. The exotic sounds of a foreign language fail to register in a lexicon derived purely from English. I swivel forward as Nildo looks over at me. Having regained his composure he gestures now towards the open grasslands, spotted with the occasional tree, comprising the cerrado eco-system of the Brazilian highlands.

"Bonito nao e?"

My mind swims as I go back to my high school Spanish course, desperately wishing I had paid more attention.

"Bonito," I reply.

This is apparently the correct response because I am met with smiles and excited applause from everyone within the truck.

Surrounding me in that small vehicle was my newly acquired family, whom without ever seeing me or hearing my voice, now openly accepted me as part of their household. We soon arrived in Tangara da Serra, a small farming community in the northern Brazilian state of Mato Grosso. Here I was to live and study as a Rotary exchange student over the course of the next year of my life. Mato Grosso literally translated means thick forest. Where were all the forests? I had seen small stretches of forested lands between huge expanses of open pastures and areas of agricultural activity but I am quite certain that I never saw any vast impenetrable jungles or thick forests. Had this all been a misunderstanding? Had government officials in Brasilia made some colossal error in judgment when they named this state thirty years previously? There had to be some sort of explanation. Slowly I began to understand.

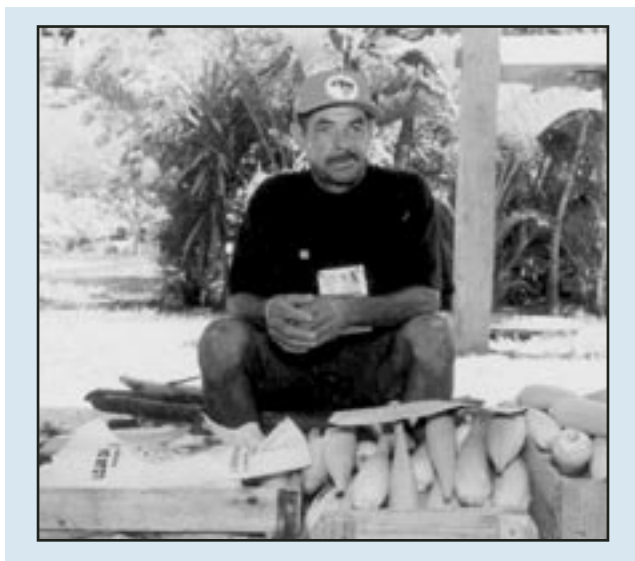
The second half of the 21st century was the beginning of the modern age of Brazilian agriculture, as a mechanized revolution of farming methods attempted to harness the rich store of resources within the interior plains and Amazon region.

The drastic increase of agricultural activity occurring in the Brazilian highlands significantly increased Brazilian exports and Gross Domestic Product. The consequences of such large-scale development have been devastating however, with large-scale environmental and social problems.

The end of the industrialization cycle in the late seventies was accompanied by the transformation of the Brazilian native cerrado into areas of serious agricultural development. The Brazilian cerrado ecosystem, located in the Brazilian Highlands, is comprised of small stunted trees with twisted branches, dwarfed vegetation and poor acidic soil. The long roots of native plant species allow them to obtain water even during the extended periods of drought. The appearance of local flora can be explained by the lack of rain and the poor fertility of soils. Ground fires, either man made or of natural causes, often ravage the few

Mato Grosso literally translated means thick forest. Where were all the forests?

FORESTS



remaining intact areas, burning the root systems, fruits, and seeds of native plant species. In many places the elimination of original vegetation has left the soil unprotected, resulting in immense amounts of surface soil erosion during annual periods of intense rain. Soil erosion contaminates local river systems, provoking further environmental catastrophes.

Mato Grosso, a state situated in the central west, was created close to 30 years ago from the semi arid high altitude planes of the Brazilian interior highlands. This new state has begun to form with Brazilians from almost all regions rushing into the area, seeking the fortune hidden in the red tropical soil of the cerrado. Mato Grosso offers a bright future in agriculture. The region is already the largest global producer of soy and also features a climate perfect for cotton, corn, teak hardwood, sugar cane (used to create ethanol fuel), mamona (the raw source of Bio Diesel), and cattle.

Mato Grosso is a state in its infancy but has already been thrust into deep social turmoil. The Brazilian social movement, *Movimento dos Trabalhadores Rurais Sem Terra*, or MST, has demanded that the Brazilian government address constitutionally mandated land reform. The Brazilian constitution states that where there is a large unproductive property the government is obligated to expropriate. Large expanses of agricultural land remain unused in many Brazilian states. Members of the MST believe they have the constitutional right to lay claim to any unused properties and often do so by creating large agricultural settlements on private unused land. The members of MST have taken the enforcement of the Brazilian constitution into their own hands, which can often result in conflict between landowners and members of the movement. MST is the largest farmers' movement in Latin America, including

some 350,000 families occupying inactive lands in 23 of the 27 states in the Brazilian federation. MST is a movement of Brazil's majority, the working poor. According to the last Institute of Brazilian Geography and Statistics census, around four million families of poor illiterate farmers are now without land. But how did this happen? According to the Gini index, Brazil has the highest concentration of land ownership in the world. One percent of the proprietors, around 40,000 of the biggest ranchers, own 46 percent of the land, some 360 million hectares of *fazendas* (large farms of 2,000 hectares or over 5,000 acres).

In conjunction with the agrarian revolution many small farm owners who produced mainly for subsistence, selling a small surplus at markets, were unable to compete with larger farm operations. The amalgamation of farmland by more successful farmers meant that far fewer people were living in rural areas, resulting in urban crowding. Many farmers migrated to the large city centres competing for jobs that were few and far between.

MST has attempted to bring the many unskilled labourers out of the cities and into the encampments of the Sem Terra where former farmers maintain small labor-intensive farm operations on land claimed by the movement. MST supporters claim that the landed Brazilian elite has persuaded the Governing Workers Party, or Partido dos Trabalhadores (PT), that agricultural modernization, in-

Continued on Page 10 ➡



"Soy is an export crop. How many Brazilians do you see eating soy? Not one! The diversification of crops would create more food from smaller farms."

— Fabio Cuellar, University of Mato Grosso

↳ *Mato Grosso continued*

cluding genetically modified crops and agro-exports, is the only solution for underdevelopment. Supporters of the MST strictly oppose this belief stating that the key to sustainable land development lies in land reform and the political and economic participation of the working poor. The MST has boasted an alternative model to the large-scale deforestation of the interior plains and Amazon region.

Many Brazilians feel that the MST is only hindering agricultural development, lacking the organization and will power to bring about real land reform. Mrs. Ledi Bridi has been a working lawyer in Tangara da Serra, Mato Grosso, for the past 20 years. She is skeptical of the legitimacy of the MST: "The Sem Terra movement is a very serious social problem in Brazil. About 20% of the people in the encampments are real families without money or food but the other 80% are just people that don't want to work." Bridi continued, addressing me directly with short precise hand motions, "There are people who enter the villages, receive land and then sell it and move on to the next encampment. We have friends that have bought entire pescaries (large parcels of land along the river) from members of the MST." Bridi pressed on, "They should have to keep the land, farm the land, sell the produce, and give money back to the governor."

According to Bridi the MST is a huge burden for the rest of the Brazilian population. "People go to the encampments to get workers but members don't want to work. There is work but they don't want it! They just want to stay in the villages and receive government money!"

Coordinators of the MST have stated that for the movement to be successful farmers must remain within the encampments to deliver a strong message to the government. Millions of farmers now exist on partial or complete government subsidies putting a serious strain on government resources and the cerrado is all but lost. What can be done to rectify this dire situation?

Fabio Cuellar, a coordinator at the University of Mato Grosso believes he possesses the answer. According to

Cuellar, diversification of agricultural activity must be addressed.

"Large farms need to stop producing only one crop. We are vulnerable to weather patterns and changes in demand. If we diversify, land can be used to produce various grains and create more jobs while producing economic sustainability. We need to optimize our chances of production. If one year the soy doesn't do well then crops like corn, wheat, sugar cane or millet will compensate."

Cuellar believes that Brazilian farms should produce food for Brazilians instead of securing huge gains in export crops like soy.

"Soy is an export crop. How many Brazilians do you see eating soy? Not one!" Cuellar continued, "The diversification of crops would create more food from smaller farms."

According to Cuellar, Mato Grosso constitutes 4% of the national economic activity, but with a proper railway or system of transportation using the rivers in the state, Mato Grosso could very easily contribute up to 10% of the gross domestic product. "These would be very clean, inexpensive ways to transport large quantities of goods," said Cuellar, referring to the utilization of rivers or a railway.

The system of highways in Mato Grosso is congested with heavy transport vehicles laden with soy, sugar cane and cattle. Accidents are very common because of over use and poor road maintenance.

The left wing workers party (PT) headed by Luis Inacio Lula da Silva, came into power in 2003 when the party marked a historic victory, rising to government and controlling roughly 60% of the Brazilian voting population, the largest victory ever recorded in Brazilian politics.

Lula's election in 2003 was accompanied by the aspirations of many Brazilians who looked at the PT party as the answer to the many problems plaguing this Latin American country. Among other statements Lula promised the Brazilian people that during his first term in power he would provide land and housing for 400,000 Brazilian families.



FORESTS

Unfortunately the PT party has been unable to actualize Lula's ambitious statement, settling fewer homeless Brazilians than the previous conservative Cardoso legislation.

The PT political party has done little to address Brazilian land reform and under the pretense of development and progress, human activity has seriously compromised the Brazilian cerrado ecosystem, running the risk of being practically irreversible.

Before human occupation the Brazilian cerrado covered nearly 25% of the Brazilian land base, or around 2 million square kilometres. Flora and fauna in this region have suffered drastically; close to 80% of the original biodiversity of the cerrado has now been compromised. According to data compiled by the World Wildlife Foundation, 60% of the Brazilian cerrado has already been substituted by pasturelands and 6% has been transformed into large areas of cereal and grain production, frequently soy. Another 14% has been transformed into cities and roads. Today only 20% of the Brazilian cerrado remains intact.

Brazilians cringe as the PT government nears the end of its first four-year term. With the looming federal elections in October of 2006 it is hard to say if the PT party will address the growing environmental and social problems festering in the backwaters of Brazil's newest state, Mato Grosso, and much of the Brazilian highlands. Further development within the cerrado ecosystem continues as native flora and fauna are submitted to further degradation, placing the very survival of this valuable eco-system in jeopardy. 350,000 families of poor illiterate farmers are without land as Lula's ability to settle the large number of homeless Brazilians is put under close scrutiny. MST supporters claim that land reform is the only way to achieve sustainable land development, as the landed Brazilian elite press for further large scale deforestation in the interior plains and Amazon region.

Where have the thick forests of Mato Grosso gone? Up in smoke it would seem, to provide food for people on the other side of the world. While the tributaries of the Amazon fill up with silt, 350,000 landless Brazilian workers try to remember why they can't grow crops on their own land.

■
Photos Courtesy MST Media Centre, www.mstorg.br

Paul Wolda lived as a Rotary exchange student in Tangara da Serra, Mato Grosso for a year. The political, social and environmental issues in Brazil intrigued Paul as he moved through the country documenting the views and opinions of the Brazilian people.



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From Our Readers

Grand River Mohawks - Family Allies

I have a very deep and personal interest in the early history of this continent. Even as a little child, I felt this history as though it had only happened yesterday! Especially on lands where my family had lived. Most people these days would think such feelings to be insane.

Perhaps Brant's People feel a little bit this way too now, as they try and keep that tiny patch of ground in Caledonia today. The Grand River Mohawks haven't much left now after these last 200 years.

As a small boy, it shook me a lot to visit Fort William Henry [built by the British in what is now New York State for the French and Indian wars of the 18th century – ed.]. They had an area there where tourists could look down on the bones and decayed remains of the people slaughtered there. English, Scots, Six Nations, American. My ancestors may be among those dead ones there. They should cover them over and do some kind of ceremony to let them be in peace. Maybe then, I can let this go.

Brant's People and the Mohawks of the Grand River fought and died in five wars. Three as allies to Britain and two as allies of Canada. My family has survived and prospered in North America because of our friends and allies, the Six Nations people. I will never forget that.

*For Land and Life,
John H.W. Hummel, Nelson BC*

Praise From a Master

Great work. Keep it up.

Merv Wilkinson, Ladysmith BC

Bottled Water and Antimony

The *Sentinel* had so much interesting stuff on bottled water. I just found another aspect to that story: Antimony used as a catalyst in making the bottles can leach.

Annette Muttray, Vancouver BC

The Watershed Sentinel welcomes letters but reserves the right to edit for brevity, clarity, legality, and taste. Anonymous letters will not be published. Send your musings and your mis-sives to: Watershed Sentinel, Box 39, Whaletown, BC V0P 1Z0

editor@watershedsentinel.ca

Ban Carcinogens Now

I hope that Health Canada, in association with the Canadian Medical Association, and the Canadian Cancer Society do the right thing and support legislation that would ban carcinogens in our consumer product supply. There are too many products that are killing us. Safe and healthy products should be a Canadian right! Manufacturers of consumer products will continue to make profits but not at the expense of our health.

Real changes must occur.

Consumers have the basic right-to-know, through explicit labeling, of known chemicals in consumer products.

Patients have the basic right-to-be-informed by their health care professionals of the carcinogenic risks of prescription drugs.

Provincial and local governments must utilize public databases to inform local citizens about carcinogenic hazards posed by chemical industries in their communities.

Do the right thing:

- Eliminate the use of toxic chemicals and carcinogens.
- Make industry accountable for chemicals it produces.
- Regulate chemicals in consumer products through the Canadian Environmental Protection Act.
- Focus on reducing pollution in the Great Lakes basin.

Cancer odds like 1 in 2 means either you or your wife!
It means one of your two children!

Paul Malouf, Montreal Quebec

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SHOP TALK



At the 'Shed: Did you know it costs \$4,500, and that's skinny, to produce, print and mail the *Watershed Sentinel*? Every issue's a struggle, so if you can help out with a subscription, donation, or skills, please do!

Resigned: Elizabeth May ended her amazing 17 year marathon as Executive Director of the Sierra Club of Canada in April, musing that she might run for leader of the federal Green Party, where leader Jim Harris subsequently announced his resignation.

Jaw Dropper: At the end of April, the right wing media celebrated the "rehabilitation" of ex-PM Brian Mulroney, renowned for dragging Canada into globalization, as Canada's Greenest PM. Mulroney received an award from a corporate magazine on the vote of 5 out of 12 panelists: Elizabeth May, Monty Hummel (WWF), Liz White (Environmental Voters), David Boyd (author and lawyer) and David Runnels (IISD). Jim Fulton of Suzuki and Maude Barlow of Council of Canadians, to their credit, sensibly voted "None of the Above."

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SOCIALLY RESPONSIBLE INVESTING IN A SHIFTING INVESTMENT LANDSCAPE



Join us as **Michael Jantzi**, founder and CEO of Jantzi Research Inc., discusses Socially Responsible Investing and its role in Canada.

Jantzi Research Inc. is Canada's leading social investment research firm. They maintain the Canadian

Social Investment Database and the Jantzi Social Index, a socially screened version of the TSX index.

Michael Jantzi has been active in the social investment field since 1990 and is a leading authority on social investment and corporate social responsibility. He appears regularly in the national media and contributes articles on social investment and related topics to publications throughout the country.



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VANCOUVER

Date: Thursday, May 25th
Time: 8:00 am (Breakfast)

SALT SPRING

Date: Thursday, May 25th
Time: 11:45 am (Lunch)

VICTORIA

Date: Thursday, May 25th
Time: 4:30pm

Cost: \$10 (all proceeds to local environmental charities)

Seating is limited - Please call 1-877-405-2400 or 405-2420 for location and to RSVP



Many of the youth had never seen salmon spawning in a stream or a black bear walking in the forest, and others didn't know the names of common trees.



Youth Restoring Relationships

by Wendy Kotilla

When I was young, nature was a big part of my life. My memories include fishing with my father on the northern end of Vancouver Island, family outings to remote beaches and spending a huge amount of time outside. Nature has taught me respect, patience and acceptance, and been a source of fascination, inspiration, spirituality and wisdom. What has resulted is a lifelong relationship with the natural world that is as important to me as any human relationship.

This lifelong relationship with nature inspired me to develop the Youth and Ecological Restoration project (YER). YER involves youth with community environmental groups to restore the health of local watersheds and ecosystems. Established in the Comox Valley on Vancouver Island, the program was funded by the Queen Alexandra Foundation for Children from July 2004 to March 2006. Stan Hagen, Comox Valley MLA and BC Minister of Children and Family Development, was instrumental in securing funds for YER to continue to March 2007.

To be referred to YER, youth need to fit an "at risk" criterion that is broadly defined as having social or learning difficulties. Completion of the 20-hour program requires an oral presentation to a community group, after which the youth are awarded a certificate, a letter of reference, and a YER crest. YER completion is an accomplishment and youth cannot fail the program, so they all leave feeling proud of themselves and their ability to finish something.

"It gives you a good sense of meaning, contributing..towards the well-being of the Earth."

Forty-four youth have been involved since it was initiated in July 2004, and forty have completed the program. This 91% completion rate is a high level of success for youth who often struggle to accomplish goals. All of them benefit significantly from the YER experiential style of learning. One youth said:

"It is a relaxed way of learning. It feels tingly sometimes when you learn something after and you find out what it means and is cool. It was actually good discussion learning, a good way of learning. You didn't nag, you asked me something and reviewed it a bit later – it is a more patient and gentler way."

YER has a vision of offering support for troubled youth by broadening their perspective of the Comox Valley community, and its natural and social resources. Working with the ecological and human communities gives them the ability to see beyond their daily struggles.

"It feels pretty good, knowing that you are doing things for the good of the Earth instead of just for yourself. It takes you outside yourself."

Initially, YER formed partnerships with four environmental organizations that have expanded to twenty. Three groups have been especially supportive and provided the most work experience opportunities: Millard/Piercy Watershed Stewards, Oyster River Enhancement Society and Tsolum River Restoration Society.

Youth participants were engaged in ecological restoration activities such as salmon enhancement, habitat restoration, watershed assessment and monitoring, and community environmental education. Many of the youth had never seen salmon spawning in a stream or a black bear walking in the forest, and others didn't know the names of common trees. The youth acquired knowledge of ecosystem and watershed functions; learned native plant, fish, animal and bird species; and the interconnections of the natural world.

"What I learned during this experience was the cycle which the trees help the fish providing shade and how the bears take the fish to the forest and provide the trees with nutrients that they need to grow. And that's the way the salmon connect the ocean to the land."

"I learned the different kinds of trees...I smelt them and felt the needles of hemlock, fir, cedar."

It is inspiring to witness the youths' transformation from rebellious teenager to excited participant as they contribute to the environmental well being of our community. Even if the program doesn't prompt immediate changes, it gives the youth a light at the end of the tunnel and plants seeds for future reference. Seeds of change were also planted to raise community awareness and positive perspectives of youth and their issues. By connecting youth and community members, both viewed each other as people working together in a good way for the greater purpose of making our community a better place. Common goals bring common people together for a common future.

YER goals include: building healthy community relationships, gaining valued work experience, improving knowledge of ecological restoration, increasing social skill development and enhancing communication skills. Gaining valued work experience is important, but is also a method for youth to learn better social, communication and community building skills. These skills will assist them in problem solving, conflict resolution, leadership, analytical, strategic thinking and working cooperatively with others. They will go a long way in supporting the youth to become decent, respectful and productive members of our society.

"The skills I learned were to use a shovel, use my brains, public speaking, honesty, and working cooperatively with others."

"People can have different opinions, but we need to listen to each other, go around our differences, find things to agree on and then work together."

"When you give your energy to help your community, it makes you feel good inside and warms your heart."

"Helping the environment is good...it makes our community a better place..."

I have come to realize that we have some amazing youth in our community, who struggle like the rest of us to be the best person that we can be. Sometimes I am sure that it is I, not them, that is doing the most learning. I have learned much as I endeavour to understand and help the youth on the early stages of their life path. As I am more at the middle of mine, I have much life experience to share with them, both from my mistakes and successes. For me to admit to them that I am not perfect either is one of the best ways to tell them it is part of being human.

YER is a program that goes to the heart of community and strives to restore ecological and social connections for youth who are struggling. Each of the youth participants is a special person who deserves to feel a sense of belonging in our community. They usually want to be good people, often only needing guidance and support from caring community members. Assisting them is a huge investment in our common future. By giving youth opportunities to succeed and honouring their contributions, they learn to value

their accomplishments and feel pride in themselves. Encouraging and trusting youth to take responsibility empowers them to be the next generation of leaders.

YER links Ecological Restoration and Restorative Justice, providing an approach for healing and restoring relationships with both the ecological and human communities. Ecological Restoration requires connecting with the Earth and taking responsibility for helping the land to heal. Restorative Justice involves transforming and strengthening relationships between individuals, families and communities. Combining them for YER involves taking responsibility for our relationships with each other, with our communities and as stewards of the Earth. The collective health of these relationships will determine what kind of a world we provide for this and future generations.



For more information on the Youth and Ecological Restoration project contact Wendy Kotilla at wkotilla@mars.ark.com or 250-336-8487.

Left Photo. Youth Project workers with Oyster River Enhancement Society volunteers and students from Campbell River Senior High School seining coho smolts out of the rearing channel for release into Oyster River.
Right Photo. Youth Project worker with Wendy Kotilla, her dog Sarita, and two North Island College students at Tsolum River Restoration Society, Headquarters Creek Hatchery.

50 SIMPLE

Ways to Save the Ocean



50 Ways to Save the Ocean, David Helvarg, Inner Ocean Publishing, Maui and San Francisco, April 2006. ISBN 1-930722-66-4, 206 pages, Paper \$14.95 US

50 Ways to Save the Ocean is a handbook which offers 50 actions which, directly or indirectly, have a great impact on the health of the oceans. This practical guide includes action steps and resources for any level of participation, from mindful home maintenance to global environmental activism, from reducing toxic runoff to keeping oil rigs off our shores.

Despite the handbook format, with cartoons by Jim Toomey, the book conveys the beauty, magic, and necessity of oceans. This personal and sometimes whimsical book addresses daily choices we can make to contribute to the health of the seas: what fish we should and shouldn't eat; how and where we vacation; maintaining storm drains and driveway run-off; protecting our local water tables; proper diving, surfing, and tide pool etiquette; supporting local marine education.

The actions and organizations listed are almost entirely American, but the structure of the handbook and the suggestions are still useful in Canada. Many of the environmental campaigns in fact already "play" on both sides of the border in the Pacific Northwest.

For this review, we've picked and adapted ten top actions that we think Watershed Sentinel readers should be, can, and are already doing. Check your record against this sample of the 50 actions, and then get the handbook for use in a wide variety of situations!

ENJOY

1. Find Joy and Solace in the Sea

The spiritual connection we feel with the ocean is a

sacred trust. "After all, our bodies, like the planet, are 71 percent saltwater and our blood is as salty as the sea... Along with moments of transcendence and joy, the ocean can also provide solace, giving you a sense of being part of a larger whole, even when great parts of your own soul have been torn away. In looking from the tide pools to the stars, you can't help but recognize patterns of creation that reflect a profound sense of connectedness. This is the stuff of religions and hope."



2. Be an Ocean Friendly Boater

The number of recreational boats is getting overwhelming, and it's time to make sure those boats lower their impact.

Get a direct-inject two stroke engine and some oil absorbent rags for inevitable spills; (better yet, get a kayak!); use marina pump outs for your sewage; keep that plastic aboard and return it to land; use only legal bottom paints, and collect the sandings and debris for disposal away from the tide.

CONSERVE

3. Eat Seafood That's Healthy and Sustainable

Eating the right fish protects your health; eating the wrong fish may leave the plate empty for the next generation. You can download the Sierra Club of BC's handy wallet-sized *Citizen's Guide to Seafood* at <http://www.sierraclub.ca/bc/programs/marine/index.shtml>

Complain to the managers of stores and restaurants that carry endangered species like Orange Roughy, or west coast rockfish or farmed (Atlantic) salmon which is a species unsustainable for West coast farming.

CLEAN

4. Maintain an Ocean Friendly Driveway or Green Roof

Create surfaces that help rainwater soak back into the earth and reduce pollution. Water quality begins to deteriorate when more than 10 percent of a coastal watershed is covered in impermeable surfaces like the pavement of driveways and asphalt roofs. One inch of rain on a typical driveway will create 900 gallons of runoff water, contaminated with oil and other waste, to enter local streams and the oceans. Best practise is to use gravel, crushed seashells or woodchips on the drive. Choose a living roof which has a waterproof layer and then soil and plants.

PROTECT

5. Live a Reasonable Distance from the Beach

In the US, the Federal Emergency Management Agency predicts that, within 50 years, erosion and rising sea levels from climate change will destroy one out of four homes built within 500 feet of the sea. Best practice is to live well above sea level, protected by islands or dunes, near the beach rather than on the beach, and in current housing stock rather than newly created sprawl.

6. Work to Create Marine Wilderness Parks

Marine scientists have suggested since the 1990s that as much as 20 per cent of the ocean needs to be set aside in no take zones (marine protected areas) to conserve biodiversity. That means no consumptive uses of the sea: no fishing, no harvesting of sand, shellfish or kelp, and no drilling for oil and gas.

To work with organizations on these issues in Canada, contact:

Georgia Strait Alliance,
Orca Pass International Stewardship Area
<http://www.georgiastrait.org/>
201 - 195 Commercial St., Nanaimo, BC V9R 5G5
Ph: 250-753-3459 Fax: 250-753-2567
Email: gsa@georgiastrait.org

Canadian Parks and Wilderness Society, BC Chapter,
Marine Spaces Campaign
<http://www.cpawsbc.org/marine/index.php>
410 - 698 Seymour St., Vancouver, BC V6B 3K6
Ph: 604-685-7445 Fax: 604-685-6449
Email: info@cpawsbc.org

7. Use Less Plastic

So much of the plastic in our everyday lives, from food wrappers to Styrofoam pellets, winds up in the ocean,

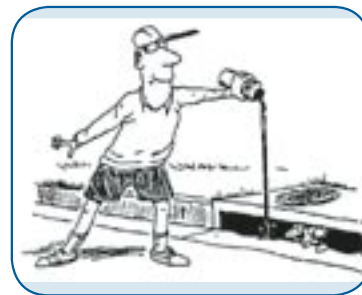
sometimes as lines that wrap or entangle or suffocate birds, sometimes as toxic remnants. The Algalita Research Foundation found that plastic dust in parts of the North Pacific weighs six times more than zooplankton, the tiny animals at the base of the marine food web. When consumed by fish, this toxic plastic dust becomes part of the food web, finally reaching humans as well. Researchers believe that plastic in the ocean may be one of the most alarming and least known environmental stories of our time. Recycle, use a cloth carry bag, leave the packaging at the store, and tell everyone why.

LEARN AND SHARE

8. Keep Oil Off the Shore

In BC, and Canada, that means working on your local politicians to get them to stand firm in support of BC's offshore Oil Moratorium. The Living Oceans Society is one of the prime organizations in this campaign, and they need your help. See www.livingoceans.org

Living Oceans Society, PO Box 320,
Sointula, BC, Canada
V0N 3E0
Phone: 250-973-6580 Fax: 250-973-6581 Email:
info@livingoceans.org

**9. Don't Exploit Sea Creatures for Vanity**

From coral jewelry to shark liver oil, a range of decorative and health products are creating profitable margins while depleting the ocean's natural bounty. More than 100 million slow-breeding sharks are killed each year for their fins, used in a tasteless but expensive high status soup popular in China. Dietary supplements such as Vitamin A, found in shark liver oil, can be acquired by eating dark green leafy vegetables. Corals are living animals, not decorative rocks. Become an eco-savvy shopper and beachcomber, knowing which marine products are at risk.

10. Be a Seaweed Rebel

A marine grassroots movement of concerned citizens – a seaweed upsurge – can help fight for healthy, bountiful oceans. Through organizations and citizen actions we can build a broad and effective voice for our living seas.





Mill Watch

MAY 2006

Students Tax Selves for Recycled Paper

In Victoria BC in April, Camosun College students voted 93 percent in favour of a college-wide change to 100 percent post-consumer recycled paper. The referendum asked whether students would pay a 30 cent per month levy to help cover the extra cost of the paper. The college administration has committed to pay the portion not covered by students, which includes all paper used by faculty and administration, and the switch will be made by September 1.

“The overwhelming support from both students and the administration, specifically the support of Vice-President Paul McGeachie, has made it clear that the outdated practice of destroying ecosystems for computer paper is simply unacceptable,” says Camosun student Kyle Artelle who led the initiative for recycled paper. “It also shows that when administrators are willing to work together with the students, great things can happen.”

Camosun used over 7 million sheets of paper last year.

—Camosun Students for Environmental Awareness, April 2006

More Clean Air for Powell River

Catalyst Paper’s Powell River mill plans another substantial reduction in odorous emissions from its huge primary clarifier for effluent treatment. Because the mill has downsized over the years, closing the kraft mill, the primary clarifier is too large for its load, so materials stay in the pond too long and rot. The mill will spend \$5.5 million to convert a small old secondary clarifier.

—Powell River Peak, April 2006

ING Pulls Financing on Botnia Mill

The ING banking Group of the Netherlands has pulled out of an extremely controversial Metsa Botnia pulp mill

planned for a river on the border between Argentina and Uruguay. ING was to have arranged \$480 million US in loans for the mill. Metsa Botnia, one of the largest pulp companies in the world, had requested a further \$200 million from the World Bank. The World Bank, via its private International Finance Corporation, submitted the Botnia mill and another mill also planned for the same river in Uruguay, to a cumulative environmental and social impact assessment. The Botnia mill had also requested “political risk insurance” from the World Bank.

Activists on both sides of the river had fought the mill for months, with bridge blockades halting trade for weeks. Both Argentina and Uruguay say they plan to take the dispute to the International Court of Justice in the Hague over river treaty issues. Botnia had already started construction when Friends of the Earth International, Center for Human Rights and Environment (CEDHA, from Argentina) and BankTrack told ING that they were going to inform the ING shareholders meeting on April 25, 2006 about the negative impacts of the project.

—Greenpeace International, April 2006

Port Alice Mill Reopens

The long-troubled Port Alice sulphite mill on northern Vancouver Island officially reopened in early May, with \$45 million in technology and energy saving upgrades. Neucel Specialty Cellulose negotiated a deal with the provincial government and arranged \$100 million into a long-term investment plan based on the strong market demand for dissolving sulphite pulp. The mill will produce high-end, high purity cellulose for companies that make pharmaceuticals, food thickeners, fabrics, film, LCD screens and eyeglass lenses.

—Neucel Specialty Cellulose, May 2006

North American Pulp and Paper Down

Almost 4.8 million tonnes of pulp and paper capacity was shut in 2005, affecting more than 40 mills or machines, according to an annual review published in March by Forestweb. Very little new capacity has been added. Of the almost 9.5 million tonnes of new pulp and paper capacity started up around the world during 2005, only about 8% was in North America.

—<http://www.forestweb.com>.



The Paper Sludge Story

Recycling in Ontario Shows the Dark Side of Green

by Mary Ann Pearson

Originally published in the Ontario Daylily Society Newsletter, October 2005

On a frosty morning in early December 2004, the trucks came. We heard them rumbling down our rural Cayuga road at 5:30 a.m. We heard the tailgates slamming after their contents were emptied onto a farm field a little to the west of us opposite our property. The white unnamed 18-wheelers kept coming and going up and down the road all day, the next day and the day after that.

What was this pile of rapidly accumulating dark grey material with a bluish tinge and an odour of vomit? After neighbours became alarmed, a nearby resident inquired and was told it was “Nitro-sorb,” a mixture of paper sludge, compost and lime touted as a “soil amendment.”

A quick survey of paper sludge on the internet indicated that most safe water advocates considered it an “environmental disaster.” Different colours soon appeared in the pile, white, brown, reddish-orange, and were mixed in by bulldozers.

The stockpile grew to the size of a hockey arena, 8,000 cubic metres as estimated by the Ministry of the Environment (MoE). It sat there for six months near the neighbouring farmhouse of a family with two small children and resulted in 28 complaints about dust and odour to the MoE from people in the immediate area. Finally, in July 2005 it was spread on the field.

My husband and I have discovered a lot of information about paper sludge, both Nitro-sorb and Sound-sorb, a similar material used in sound attenuation berms. We have made presentations to Haldimand County Council hoping that they will take a stand against it.

Paper sludge, also known as paper fibre biosolids, is the residue left over from the paper recycling process. It consists of unusable short fibres, inks and dyes, clay, glues and other residue, along with any chemicals used in the recovery process. The volume of this generated waste is considerable: the Atlantic Packaging operations in Toronto and Whitby generate about 700 tonnes of waste per day, and the Abitibi-Consolidated mill in Thorold produces another

In late 2005, the BC Ministry of Environment announced its intention to allow landspreading of pulp mill sludge with no requirement for permits and with minimal monitoring. The BC Code of Practice met great public concern and is now being reconsidered. Communities in Ontario have already been around that block over the sludge from paper recycling. Here is their story.

450 tonnes per day. Half or more of the raw paper used in this recycling process comes from outside the province and therefore is not a result of our own blue-box programmes. This imported waste paper may contain inks and dyes that are not subject to Ontario regulations and could be potentially harmful.

This waste material must be disposed of in some way. From 1990 to 2001, Atlantic Packaging was allowed to spread paper sludge on farmland by permit from the MoE. Due to community concerns about the possible harmful impact on air and groundwater quality, as well as no provable benefit to crops, no further permits were issued to Atlantic after 2001. At about this time, Courtice Auto Wreckers of Durham Region registered the Trademark names “Sound-sorb” and “Nitro-sorb” as a way around this. It should be noted that these trademark names are not patents, and the product descriptions as registered do not even mention paper fibre biosolids in either case. Both these “products” consist mainly of recycled paper sludge, and as “products” they are deemed by the MoE to be exempt from regulation as wastes.

“Sound-sorb” is paper sludge mixed with sand, and has been used as berm material around shooting ranges. There are now over thirty such berms in Ontario. In December 2004, Courtice Auto Wreckers was fined \$10,000 for violating the Hamilton Conservation Authority’s fill regulations by placing a berm of “Sound-sorb” beside Fletcher Creek. Effluent samples had been tested and found to be 100%

Continued on Page 20 ⇨

fatal to trout and water fleas. The toxic effluent contained lead, high levels of fecal streptococci, and exceeded the Provincial Water Quality Standards for e-coli and pH levels, iron, cobalt, molybdenum, aluminum, and copper.

“Nitro-sorb” is paper sludge mixed with other materials which are said to be “finished compost,” and some sort of lime. It is being spread on farmland in several regions of Ontario as a fertilizer or soil amendment. As a “product” it is not subject to MoE supervision or control. The MoE will only become involved in the event of a public complaint.

Public Concerns about Sound-Sorb and Nitro-Sorb

The Ontario Environment Ministry’s Regulation 347 allows for certain wastes to be exempt from control if they are to be transferred directly to a site, wholly used in a process for purposes other than waste management, and then offered as a product for retail sale. This exemption was granted to Sound-Sorb in 1999, and Nitro-Sorb was allowed to fall under this exemption as well. In his 2003 Annual Report, the Environmental Commissioner of Ontario Gord Miller stated: “MoE has mishandled the Sound-Sorb issue repeatedly since 1999, when questions first arose about the status of this material. The ministry’s first, and probably most significant, error was to decide that Sound-Sorb was exempt from Regulation 347 of the Environmental Protection Act because it is a product rather than a waste.”

The use of paper fibre biosolids in these “products” has raised public alarm all across Ontario. In Durham region, the widespread placement of paper fibre biosolids on the Oak Ridges Moraine led to the formation of the citizens’ group Protect the Ridges with over 400 members. Opposition elsewhere in Ontario has been less well organized, but just as vocal. On July 7, 2005 a public meeting in Whitby called by the Ministry of the Environment to discuss the Sound-Sorb issue, drew angry citizens from as far away as Orillia, Huntsville, Cayuga, and Kawartha Lakes.

Some of the concerns that have been raised about paper fibre biosolids mixtures include the potential adverse effects of pathogens, heavy metals, and chemicals on groundwater and surface run-off, as well as the possibility of airborne exposure to pathogens such as moulds and fungus spores from the decomposition of the materials. Initial testing of the Sound-Sorb berm at the Oshawa Skeet and Gun Club done for the Durham Region Health Department in 2001 found high levels of both fecal coliform bacteria and e-coli. Other testing of groundwater around the berm also indicated exceedences for Total Petroleum Hydrocarbons, and Benzo(a)Pyrene, a known carcinogen. Testing at the

Sound-Sorb berm at the East Elgin Sportsmens’ Association in Aylmer also revealed high levels of Total Petroleum Hydrocarbons.

People living in close proximity to Sound-Sorb berms or Nitro-Sorb stockpiles and treated land have reported headaches, fatigue, and respiratory problems including asthma and persistent coughs. Nitro-Sorb has the potential to contain unknown ingredients in addition to paper fibre biosolids, since it is said to contain “finished compost” As an unregulated product there is no requirement on the part of the operator to disclose what this material might consist of, or where it came from, and therefore no documentation that can be verified in the event of an environmental or health complaint. In December 2004, the Durham Region Medical Officer of Health Dr. Kyle made a recommenda-

tion that a moratorium be placed on construction of Sound-Sorb berms, and stockpiling of paper fibre biosolids on farmlands. This was supported by Durham Regional Council in a vote December 15, 2004. Prior to this, in 2001 the Association of Local Public Health Agencies (al-

PHa) passed a resolution urging the Government of Ontario to amend the Environmental Protection Act such that the spreading and storage of all biosolids, including paper fibre biosolids requires a certificate of approval be issued by a Director.

An important condition for allowing the use of Non-Agricultural Source Materials such as paper fibre bio-solids on farmland should be that a provable benefit be demonstrated. Testing was done in the 1990s for Atlantic Packaging by Fine Analysis Labs, a company later prosecuted for fraud and put out of business for forging water test results. Year after year little or no benefit to crops was found. Local residents and farmers in Clarington, Brock Township, and Victoria County were very alarmed. Citizen’s groups like the Brock Land Stewards, the Uxbridge Conservation Association, and Protect the Ridges sprang up to oppose these waste initiatives. By 2001 tests conducted by the MoE showed that crops that required nitrogen (wheat, tomatoes, etc) were damaged by the paper sludge even when supplemental nitrogen was added. Paper fibre biosolids are high in carbon and take nitrogen out of the soil as they decompose, so that the only crops that are not adversely affected are those that fix their own nitrogen, such as soybeans. In January 2005 the Haldimand Federation of Agriculture (HFA) called on the Ministry of the Environment and the Ministry of Agriculture and Food to conduct sampling of Nitro-Sorb to include physical composition, pathogens, and metals. They also requested long-term studies (8-10 years) be done

Tests showed that crops that required nitrogen (wheat, tomatoes, etc) were damaged by the paper sludge even when supplemental nitrogen was added.

to measure the effects on soils and to determine application rates depending on the crop. HFA also asked that Non-Agricultural Source Materials destined for further processing and/or blending remain under the regulatory umbrella of the MoE throughout the process.

The Experts Panel on Sound-Sorb

In response to the public concerns about Sound-Sorb, the Ontario Government formed a panel of experts and interested stakeholders in March, 2004 to study the Sound-Sorb issue and make recommendations. The panel released its report on January 31, 2005. Among its conclusions were the following:

“Paper fibre biosolids are a waste. Their bulk use in the environment even after composting requires regulatory control. Paper fibre biosolids should be controlled by Certificates of Approval or legal instruments that provide equal or better protection for human health and the environment at all stages from its generation, through transport, composting and final use in the construction of berms. The use of paper fibre biosolid material mixed with mineral soil should also be subject to MoE control with respect to its preparation and use in the environment by a Certificate of Approval or legal instrument that provides equal or better protection for human health and the environment.”

Public Supports the Experts Panel Conclusions

As of the public meeting on July 7, 2005, the MoE had received over 400 signed form letters, 17 responses from individuals, 8 from municipalities, 5 from Conservation Authorities (including Ontario), and 4 from other interested groups. All responses requested the MoE to take immedi-



Over one thousand tonnes of paper sludge waste are produced every single day from recycling operations in Ontario and it all has to go somewhere.

ate action, revoke the present exemption, set clear standards for future applications, and establish testing and placement protocols.

Included are the municipalities of Scugog, Clarington, Oshawa, Durham Region, Malahide Township, Brock Township, Catfish Creek Conservation Authority, Niagara Peninsula Conservation Authority, Central Lake Ontario Conservation Authority, and others. Several municipalities have gone even further than this. The Township of Madoc passed a resolution requesting a halt to Nitro-Sorb spreading and circulated this to all municipalities in Ontario for support. The City of Kawartha Lakes passed a resolution effectively regulating paper fibre biosolids in that municipality in the absence of MoE regulation. The Municipality of Centre Hastings also passed an interim by-law placing strict controls on the use of paper fibre biosolids for a period of one year.

Commercial composting operations that provide soil mixes and fertilizers for gardens, lawns, and commercial potting soils are regulated by the Ministry of the Environment to take waste products including paper sludge under Certificates of Approval. However, once these materials are prepared for sale they are no longer regulated by the MoE. Paper fibre biosolids (paper sludge) may or may not be present. If you buy bulk garden soil or fertilizer and are concerned about the presence of paper fibre biosolids or any other waste in it such as municipal biosolids (sewage sludge), ask questions. Products should have a Material Safety Data Sheet which would disclose potentially toxic ingredients and any possible health and safety risk.

Be on the lookout for bluish-grey piles of Nitro-Sorb appearing on your local farm fields, as well as the blue-grey colour of fields that have been treated with it. Also watch for large berms of Sound-Sorb appearing at your local gun club. After all, over one thousand tonnes of paper sludge waste are produced every single day from recycling operations in Ontario and it all has to go somewhere.

If you are concerned about Ontario farmlands being used as dumping grounds for paper fibre biosolids, please express your concerns to:

Minister of the Environment, Honourable Laurel C. Broten, 12th Floor, 135 St. Clair Avenue West, Toronto, Ontario M4V 1P5. Ph: 416-314-6790 ; Fax: 416-314-7337.

If you want BC pulp mills to require Pollution Permits for disposal of their sludge, with due public oversight, as is the current situation, contact BC Minister of Environment Barry Penner:

Email: barry.penner.mla@leg.bc.ca

Ph: 250-387-1187; Fax: 250-387-1356

PO Box 9047, STN PROV GOVT, Victoria BC V8W 9E2



Breathing in Mexico

The air in Mexico City, although still not exactly healthy, is now cleaner than it has been since the 1980s. The megalopolis is still one of the ten dirtiest cities in the world, but a concentrated campaign against car exhaust and dirty industry is paying off in perceptibly cleaner air.

—*Toronto Star*, April 2006

First Nanotech Recall

In Germany a nanotechnology consumer product has been recalled after reports of health problems. At least 77 people reported severe respiratory problems over a one-week period at the end of March -- including six who were hospitalized -- after using a "Magic Nano" bathroom cleansing product. Most problems cleared up within 24 hours. The spray, to make

surfaces dirt repellent, contained nanoparticles, smaller than one-tenthousandth the width of a human hair. Nanoparticles, with thousands of variables, are emerging as a major new component in consumer products and release to the environment, with almost no government supervision or health testing.

—*Washington Post*, April 2006

Quebec Pesticide Ban

In early April, the final stage of the Pesticide Code of Quebec came into effect. Twenty pesticide active ingredients, including 2,4-D, are banned for sale and use for lawns across the province. These ingredients are contained in 210 products that will be prohibited for sale and use for lawns. For the list of products and active ingredients : <http://www.mddep.gouv.qc.ca/pesticides/permis/>

—*Coalition for Alternatives to Pesticides (CAP)*

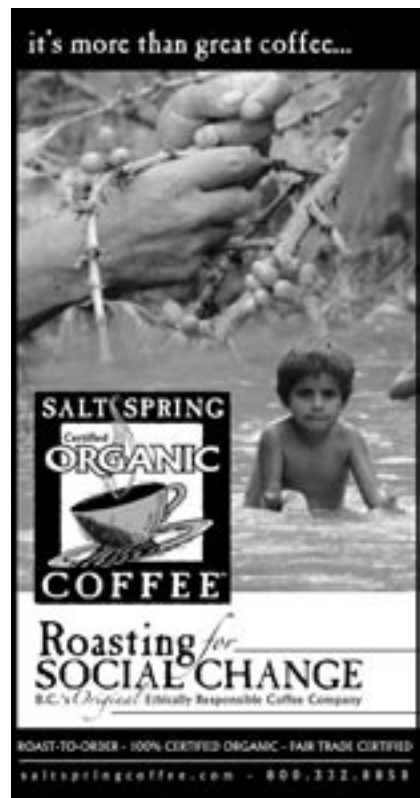
Black Cohosh Supplements With No Black Cohosh

Millions of women buy the herb black cohosh to treat hot flashes and other menopausal symptoms. Some report that black cohosh helps relieve menopausal symptoms such as hot flashes, while others do not.

A new study scheduled for May 17 publication in the *Journal of Agricultural & Food Chemistry* reports for the first time that a

significant number (3 out of 11) of black cohosh supplements sold in the United States did not contain black cohosh but rather a related Asian species of the plant that does not have the same chemical compounds or clinical uses as the native North American plant. Products containing only black cohosh varied significantly in the amounts of the compounds believed to relieve menopausal symptoms.

—*American Chemical Society*, May 2006



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Living Green on Cortes

Building Your Home

by Kathy Smail

Twelve years ago, FOCI published *The Guide to Sustainable Living For Georgia Strait and the Islands*. We had been thinking about updating it and coincidentally were approached by Laurel Brewster of Renewal Land Company, one of the organizers of a new Cortes subdivision, about producing a local handout on green building. Realizing the value in doing a series of individual pamphlets, we undertook the project, with the idea that the initial piece would focus on the construction aspect of “living green on Cortes” and could be followed by future pieces on sustainable transportation, energy production and use, consumerism, and so on.

There is a lot of information out there on all these topics, but much of it is written for the already converted, the technician, or the architect. Our concept was to produce a piece that would excite and inspire a mainstream audience that tends to think of green building as alternative, “way-out-there” rough shacks in the woods or as high-end architectural showpieces. The booklet would be small to allow affordable distribution and attractive so that folks would want to read it!

The end product, *Living Green on Cortes: Building Your Home* is a short, 16-page pamphlet on sustainable house construction. We crafted it to be Cortes-specific, but almost all of the ideas, information, and discussion, apply to any area: urban, semi-rural or rural. We also organized it to motivate you to look further. LGC: Building Your Home begins with a series of quick tips to peak your interest. It

then moves into a glossary of definitions and details that is by no means definitive but has lots of useful information and ends with a small selection of further references for you to explore.

Home is so important to all of us and when we have the opportunity to begin something new, we often have ideas or visions that may not translate nicely into an actual, livable space. Recent fashion has been toward bigger and loftier. My partner recently returned from a timber framing conference where a speaker noted that though many of his customers want the high vaulted, cathedral style entranceways, once built, no-one spends any time in those areas, they all moved to the cosier, low ceiling areas that feel much more homey. Smaller, cosier homes are way more affordable to build, maintain, heat and clean!

Then there are the materials you build with, where you place your house, water use and so on. The great thing about green building is that it is not an all or nothing form of construction. The more you do, the better, but even integrating one of the green building tips into your project will make a difference.

On page 24 of this *Watershed Sentinel* issue you'll find a simplified, more universal version of the pamphlet. Hard copies of the Cortes edition are available through the Friends of Cortes Island Resource Centre, Marnie's Books and the Cortes Ecoforestry Society office on Cortes Island. You can also download a free, full-colour pdf at www.watershedsentinel.ca or through Tidelines www.cortesisland.com

Did You Know? The FOCI Resource Centre is located in Manson's Landing, beside the North Island College Cortes Centre. Regular hours of operation through spring and summer are

Fridays, 1 pm to 4 pm and
 Saturdays, 11 am to 2 pm. Come and visit!
 Mail: Friends of Cortes Island,
 Box 278,
 Manson's Landing BC, V0P 1K0,
 Ph: 250-935-0087,
 Email: foci@island.net

Please remember to renew your FOCI membership. Your support is very important to us. We couldn't do it without you!

If you haven't renewed in the past year, this may be your **last Watershed Sentinel** issue until you do! Call Kathy Smail at FOCI.





- 15 Environmental Tips
- Healthy Living Spaces
- Cost-Effective Construction



Living Green: *Your Home*

Whether you are building or renovating, the green homes approach to housing reduces environmental impacts, reduces long-term building operations and maintenance costs, increases marketability and building value, and results in healthier indoor environments. Perhaps the most important aspect of building a green home is that it is not an “all or nothing” process. When carefully selected and implemented, even modest measures can result in significant conservation of resources. Green homes are also uniquely local as climates, customs, availability of materials and preferences vary so much throughout Canada.

1. Living closer to amenities means greener transportation options. When choosing your property, consider access to work and amenities. Bicycle paths and walking distances to basic services can make a big difference to your gas bill.

2. Choose building sites that make eco-logical sense. Why build on the most beautiful spot? The most attractive place, a bluff area, ocean or creek bank, is often the most ecologically sensitive. And most of your time at home is spent inside your house.

3. Cluster buildings and share services. Clustering buildings closer to each other reduces the amount of land used and encourages sharing of driveways, parking areas, water, waste and power lines.

4. Minimize driveways and paved, compacted areas. Minimizing the driveway reduces compacted surfaces and storm water erosion, helps preserve open space, and reduces resource consumption.

5. Protect the natural landscape. Indigenous landscaping supports wildlife and biodiversity far better than conventional turf and does not require irrigation and chemical treatments. Traditional grass lawns are an expensive fashion hangover from Louis the 16th.

6. Respect and create community. Development patterns can either inhibit or contribute to strong community and neighbourhoods.

Construction

7. Integrated building design equals construction and operating cost savings. Integrated design includes the general contractor in early discussions with the architect, engineer, and other agencies.

8. Design for a smaller, more compact house. Sufficient is efficient! The size of your home has a greater impact on energy and resource use than any other factor. Building small makes so much sense; less cost, less materials, plus less housework! The trick is to achieve the house that you truly need, that is comfortable and feels good.

9. Use green building materials.

10. Optimize building material use by using standard dimensions. Design your home to work with standard sized materials: for example, 4x8 sheets of plywood, OSB, and drywall. Also consider “advanced framing,” a design technique that reduces or eliminates structurally unnecessary framing elements in wood framed buildings.

11. Reduce, reuse, recycle and resell waste materials.

Operation and maintenance

12. Design to reduce energy consumption. Green buildings use less than half, and sometimes as little as a quarter, of the energy as their conventional counterparts.

Much of this is the result of an improved building envelope with better windows, draft sealing, more insulation, and energy-efficient appliances, but doing nothing more than simply creating smaller houses can save tremendous amounts of energy. Do design for solar gain through siting and window placement and consider solar water heaters, even off-grid solar and wind electricity systems.

13. Design your house to consume less water.

14. Build to last a long time.

A healthy indoors

15. Reduce indoor air pollution. The average Canadian spends approximately 90% of their time indoors. Many products such as vinyl flooring or particleboard contain chemicals that “off-gas” for weeks, months, even years after installation. Other products such as carpeting readily trap dust and odours and release them over time. House dust is now recognized as a major source of toxics ingestion for children. Building materials such as particleboard or drywall can also support growth of molds and bacteria, particularly if they become damp, potentially causing allergic reactions, respiratory problems and persistent odours - symptoms of “sick building syndrome.” Carefully examine the options for less harmful materials such as stone, tile, concrete, wood, or natural linoleum flooring, and water-based, zero or low VOC paints and finishes, and design for a continual source of fresh air.

Clean indoor air strategies:

- Install hard surface flooring (wood, cork, concrete, tile, linoleum) as much as possible. They are durable, easy to clean and won't harbour mold, dust, dust mites, and other allergens.
- Minimize carpeting (holds allergens and off-gases) and vinyl products (off-gasses).
- Pay particular attention to adhesives and sealants, paints and coatings, and composite wood. Use low or no-VOC interior paints and finishes (under 150 grams/liter).
- Exhaust odours and humidity with fans in the bathrooms and kitchen. Keep fresh air coming into your home with opening windows that provide good cross ventilation, a whole house fan, or a mechanical ventilation system.
- Wood burning is the traditional way to heat homes. The resulting smoke compromises indoor and outdoor air quality and can be mitigated by using well seasoned, dry wood and newer, efficient wood stoves. Always make sure that you have a fresh air source into your home when your stove is operating.

Green building materials

(Greater Vancouver Regional District Best Practices Guide suggestions)

1. Select materials that will not adversely affect human health. Examples include zero or low VOC interior paints and flooring. Carpets generally have a high VOC and harbour dust and other allergens

2. Select materials that contribute to operating energy efficiency. Building envelope materials such as insulation, air barriers, and glazing (window) assemblies that contribute to efficient home heating and lighting etc.

3. Select durable lifelong materials requiring little or no additional finishes and minimal maintenance. Examples include exterior siding that doesn't require paint, flooring materials such as wood and ceramics instead of sheet plastics, or structural materials such as concrete floor slabs that omit the need for conventional flooring. Roofing examples include clad sheet metal and 35-year asphalt shingles instead of wood shingles and low quality asphalt roofing.

4. Consider omitting unnecessary materials. Reduce quantities of all materials. Focus on compact, smaller houses designed to fit standard-dimension materials.

5. Select salvaged and reusable building materials. Examples include lumber, flooring, cabinets, certain plumbing fixtures and hardware. Make sure these materials are safe (test for lead paint and asbestos), and don't sacrifice energy efficiency or water efficiency by reusing old windows or toilets.

6. Select materials manufactured from renewable resources and harvested in a sustainable manner. Use lumber from independently certified well-managed forests. Avoid lumber products produced from old growth timber unless they are certified.

7. Select materials that have recycled content and are recyclable. Building products bought new but made from recycled materials reduce solid waste problems, cut energy consumption in manufacturing, and slow down natural resource extraction and consumption.

8. Select materials that require minimal manufacturing and processing, and have low embodied energy. Heavily processed or manufactured products and materials require more energy to produce. As long as durability and performance will not be sacrificed, choose low-embodied-energy materials. Although off-gassing occurs in both

Continued on Page 26 ⇨

⇐ *Green Homes continued*

materials, traditional linoleum has a service life of 30 to 40 years and embodied energy of 17 MJ/kg as compared to vinyl flooring with a lifespan of 8 to 15 years and embodied energy of 98 MJ/kg.

9. Select locally manufactured materials. Our pine, alder, maple, and other local species produce beautiful cabinets, floors, trim and furniture. Locally harvested and milled fir, cedar, and hemlock also provide structural components.

10. Select materials that can be disposed of safely. For example, metal roofing has manufacturing impacts but can be recycled into newly manufactured steel products; cedar siding can be composted and/or used for kindling. On the other hand, sheathing, decking and foundation materials made from CCA (chromated copper arsenate) pressure treated wood, leach toxic metals into the ground and water (and the air if incinerated).



Excerpted from *Living Green on Cortes: Building Your Home*, a Friends of Cortes Island production available for download as a pdf file at www.watershedsentinel.ca/library.htm (go to Special Features).

Photos by Ester Strijbos

Space efficiency strategies:

- Share the use of each space. A home office and guest bedroom is a common combination. The hall or stairway can be a library or art gallery; a landing can be a reading nook.
- Build furniture into rooms. Cabinets, bookcases, benches and eating nooks can be recessed into inner walls. Large storage drawers can be installed under the stairs.
- Avoid showcase rooms and heat wasting vaulted entranceways and front rooms. Why have a formal living and dining room when most people gather in kitchens and family rooms?
- Provide ample storage. When people say they want a “bigger house” they may only need more storage.
- Plan for flexibility. House designs should allow for changes in lifestyle. A young couple may have children. Grown children will leave the nest. A business could be born in the kitchen and grow in the guest bedroom. Canada Mortgage and Housing Corp. has some great ideas on planning for change such as easily renovated plumbing, wiring and wall designs.



Energy conservation in appliances and fixtures:

- Washing machine: Front loaders use way less energy, water and soap than top loaders.
- Air-conditioner: On the coast, air conditioners are generally unnecessary. Opening windows for natural, cross ventilation and ceiling (paddle) fans to increase airflow is enough. Roofs and other surfaces such as playgrounds, courtyards and paths can be designed to stay cool in summer through the use of light-coloured surfaces or vegetation.
- Dryer: Try an old fashioned solar-power clothes line or an indoor clothes rack.
- Lighting: Replace lights that are left on for long periods with compact fluorescent bulbs and explore the new LED technology. Check the Energy Star ratings and colour tone for either type of bulb. Minimize outdoor lighting and consider using ground level lighting and motion sensors. Address safety concerns by designing outdoor spaces and landscaping with night safety in mind.
- Hot water heater: Demand heaters may work much better than conventional tanks.
- Fridge and dishwasher: For any new appliance, look for Energy Star or Energuide labels, and let dishes air dry.
- Stereo systems and electronics, including computers: Attach these to a power bar so that when you turn them off, they really are off.

Windows:

Locate more of the windows on the south side than other orientations and consider using window blankets on winter nights. Generally, low solar-heat-gain-coefficient (SHGC) glazings are designed to reflect heat, but admit light, and are used on east and west orientations. High SHGC glazings make sense on south orientations where windows can capture the lower angle of the winter sun for passive solar heating and day lighting. This keeps buildings warmer in winter and cooler in summer, saving energy.

Further Resources

Best Practices Guide: Material Choices for Sustainable Design. GVRD (Greater Vancouver Regional District), 2001

The New Ecological Home: Complete guide to Green Building Options. Chiras, CGP

The Home Energy Diet. Scheckel, NSP, 2005

Homes that heal and those that don't. Thompson, NSP, 2004

Green Development: Integrating Ecology and Real Estate. Rocky Mountain Institute. John Wiley & Sons, Inc., 1998

The Natural Step for Communities How Cities and Towns can Change to Sustainable Practices. James/Torbjorn, NSP, 2004

Canada Mortgage and Housing Corporation. This site offers a very large library with many downloadable documents on design, construction, sustainability, affordable housing, and so on. You can also order free booklets, technical studies, and much more. www.cmhc-schl.gc.ca/en/inpr/

Green Buildings BC, *Guide to Green Building Resources*, www.greenbuildingsbc.com/new_buildings/resources_guide/

Water conservation strategies:

- Purchase water-conserving appliances such as dishwashers, front-loading clothes washers, and on-demand water heaters.
- Install low flow showerheads, faucet aerators and low flush toilets. Consider dry fixtures such as composting toilets and waterless urinals.
- Use efficient irrigation systems (drip irrigation, soaker hoses and rain/moisture sensors) and use native plants that require very little watering.



Embodied Energy:

Embodied energy is the total amount of energy used to produce a finished product and includes energy used at each stage of extraction, refinement, fabrication, and delivery. The units of measurement in metric are typically megajoules per kilogram MJ/kg. For example, approximately 50 megajoules of energy is required to produce one kilogram of copper (50 MJ/kg). This is the same amount of energy required to drive a typical car 25 kilometres. It is interesting to note that a Canada Mortgage and Housing study determined that over the lifespan of a typical family home, carpets represented one of the largest embodied energy components.



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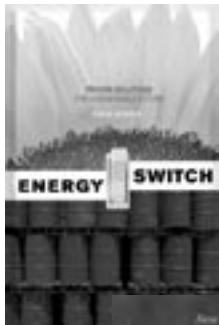
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“Hey Dad, How Big is a Tennis Ball?”



by Don Malcolm

Human exposure to the horror of the atomic age began August 6, 1945 when the American armed forces dropped the first atomic bomb on Hiroshima, a city of more than a million people on Japan's main island of Honshu. To add emphasis to America's stunning message, three days later the city of Nagasaki and another half million people suffered the same fate. Radios throughout the world carried the news of the wonderful, horrible weapon introduced to humanity's arsenal.

In the Ontario backwoods community where I was born and raised we listened in “shock and awe” as the news poured out of our battery-powered radios. Radio evangelists assured us we had proof that God was on our side. In the wave of enthusiasm for the monster “our side” had created, one broadcaster stated that, with the new technology, a bomb the size of a tennis ball could destroy a medium-sized city.

In our community there were no tennis courts. None of us had seen a tennis ball. I asked my Dad, “How big is a tennis ball?” He reckoned it to be about half the size of a baseball. In our innocence we thought that surely the world had witnessed the end of all wars.

Throughout childhood I held constantly to a dream of joining the Canadian Navy. To many young men in communities such as mine, the armed forces offered a means of escape to a new experience. In 1950 war broke out in Korea when communist pressure from the north met resistance from the population of the southern part of that ancient country. Anti-communist governments throughout the world quickly sent troops to aid the southern cause. Six weeks before my eighteenth birthday in 1952, the navy accepted my application for enlistment.

My personal borders expanded rapidly, first to Nova Scotia for new entry training and sea-training on a frigate out of Halifax, then a transfer to the west coast division put me aboard the cruiser Ontario at Esquimalt bound for San Francisco, Panama Canal, Halifax, and England to “show

the flag” in the many ceremonies connected with the coronation of Elizabeth II.

On July 27, 1953, a truce was signed between the opposing factions in Korea. A demarcation line divided the country into separate jurisdictions, North and South Korea. On returning to Esquimalt after the coronation, I served on two Canadian destroyers, the Cayuga and the Crusader, policing the demarcation line to guard against truce violations.

While in the far east our home port of operations was Sasebo, Japan where, between patrol periods, we returned for fuel, provisions, and shore leave. The elegant beauty and charm of that small country of many cities and large populations, and quaint customs foreign to our experience, made it easy to forget about the threat of war.

About thirty miles to the south of Sasebo, the city of Nagasaki had stood. In the quiet of a silver-misted dawn I stood on a hill-top looking out over the remains of that unfortunate city. From the point where I stood it was difficult to tell whether I was looking into a natural depression or a massive bomb crater. Far away on the fringes of the depression, standing like wounded sentinels, were the remains of buildings that had not yet fallen into the rubble. Half-drunk from having imbibed too much Sun Tori whisky, and uncomfortable from what I was seeing, I wondered if the atomic bomb had pulled humanity down past the margins of sanity.

More than sixty years have passed since the hostile deployment of those first atomic bombs. In that time there has been almost continuous war throughout the world. Many countries have reached or are approaching nuclear capability, yet we have been spared the horror of a world-wide nuclear war.

Perhaps we are on the edge of a new dawn where mankind will realize the futility of war.

Photo: Hiroshima Institute for Peace Education

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Thank You!

The Weather Makers

How we are changing the climate and what it means for life on earth

The Weather Makers, (Tim Flannery, HarperCollins, 2006), with excellent scientific and historical references, illustrates the critical issues surrounding climate change and our very survival on Earth. If you are serious about “Climate Change” or just want to know more about how humans are changing the atmosphere, then this book is a ‘must read’.

Even Tony Blair concedes: “The emission of greenhouse gases is causing global warming and is simply unsustainable in the long term. And by long term I do not mean centuries ahead. I mean within the lifetime of my children certainly; and possibly within my own. And by unsustainable, I do not mean a phenomenon causing problems of adjustment. I mean a challenge so far-reaching in its impact and irreversible in its destructive power, that it alters radically human existence...There is no doubt that the time to act is now...There are immense business opportunities in sustainable growth and moving to a low carbon economy.” [p. 247]

The problem is that the US and specifically the Bush administration and its industry supporters are the most

virulent opposition to reducing emissions of greenhouse gases. At great expense to all society, industry “has already bought themselves two decades of fat profits, but the cost to the rest of us has been astronomical. Another decade of such profits may cost us the Earth.” [p. 245]

Flannery states that “If we are to stabilize our climate, Kyoto’s target needs to be strengthened twelve times over: cuts of 70 per cent by 2050 are required to keep atmospheric CO² at double the pre-industrial level.”

Humans have become the dominant force in altering our climate for the worse. “We are now the weather makers, and the future of biodiversity and civilisation hangs on our actions.” [p. 306]

This is vital reading for everyone and especially those inclined to make a difference. In addition to major changes in industrial emissions and government regulations the author includes a useful Climate Change Checklist at the end of the book for individual action. On a positive note, it is not too late to act, but we must act now.

“Now it’s over to you.”

—Jim Wight & Sue Hiscocks



Field Notes From a Catastrophe

Elizabeth Kolbert. Bloomsbury Pub., 2006. 210 pp.

Kolbert travels to Alaska, Greenland, Yorkshire, Netherlands and Vermont, where she meets people who are studying and experiencing many facets of global warming. She does not present only theoretical data, but facts, by being there and by talking with scientists, politicians and simple people living in these places.

She talks about a future in which current emission trends continue unchecked, and she reviews Robert Socolow’s conclusions and solutions that he calls “Stabilization Wedges.” Socolow is codirector of Princeton’s Carbon Mitigation Initiative.

She has a full chapter on the US government’s position and commitments to address climate change, or not! In her interview with Senator John McCain, he says: “This is clearly an issue that we will win on over time because of the evidence...The problem is: will it be too late? How much damage will have been done before we act?”

Field Notes is a simple, readable introduction for those who want to understand the realities of climate change, with enough information to wake us up and, hopefully, inspire us to take action, not only for the sake of the planet, but for our own sake.

—Norberto Rodriguez

rabble rousing in the northern rainforest

by Joe Foy

On Earth Day my family and I went for a delightful hike in the woods near Horseshoe Bay at a little place you may have heard of called Eagleridge Bluffs. It was just the perfect



Wild Times

Hope Shines in Canada's Olympic Forest

thing to do in the sweet springtime sunshine with a trio of young boys who had been cooped up due to the incessant rains of the winter of 2006.

While my wife and I strolled along the Baden Powell Trail through groves of sun dappled Douglas fir and arbutus trees the boys aged 5, 7 and 10 ran up ahead intent on spying a rare red legged frog.

We'd been told to keep an eye out for frogs by a group of campers back at the trailhead. Even though the critters were not ever seen by anyone in our family it was the imagining and listening and looking and breathing the fresh forest air that was the fun part.

The thing is these weren't ordinary frogs. They are on the Species at Risk list as being Vulnerable because so much of their habitat has been destroyed through urban development, agriculture and logging. Just as well to let the little hoppers rest in peace, I thought.

When the boys finally tired of running up and down the trail we headed back. We sat down to talk a while with the campers. Like the frogs, these weren't ordinary campers. They were endangered campers.

They had pitched their tents and taken a stand to save the forest of Eagleridge Bluffs and the wild creatures like the frogs, that live there too.

They were there because Kevin Falcon, BC's Minister of Transportation has a plan to blast the forest and the very rock on which it grows to smithereens to make way for a new section of road to Whistler in time for the 2010 Winter Olympics. There were a lot of banners and signs and things strung up between the trees urging the government to build their new road under the bluffs in a tunnel, or to fix up the existing road which goes around the bluffs.

Sitting on a lawn chair surrounded by a group of campers was Grandma Betty, famous defender of BC forests from Clayoquot Sound to the Elaho Valley to the Walbran Rainforest. Issuing forth a merry chuckle she made sure our three boys all got a taste of the special Earth Day cake.

Betty told us that the only way she was going to leave her little tent on the bluffs was when the Premier comes to talk about changing the road building plans so the forest and its inhabitants can be saved – or when she is arrested and carried away to jail. Many of the campers nodded in agreement. Their faces, flush with a combination of sunburn and pride, shone like the spring time sun.

I couldn't help but think that this had to be the most hopeful spot in Canada's Olympic Forest, that great green world that surrounds the future site of the 2010 Vancouver Whistler Winter Olympic Games.

In this forest that stretches from Whistler to Manning Park and from Vancouver up to Lillooet there are many species like the red legged frog being snuffed out because of the BC government's chainsaw and bulldozer policies. But currently there are too few campers willing to hold the line the way the fine folks at Eagleridge Bluffs are. And that's a shame because some species are literally at death's door.

If that saddens you then may I suggest a hike at Eagleridge Bluffs where hope still shines. May it one day light all of Canada's Olympic Forest.



Joy Foy is Campaign Director for the Western Canada Wilderness Committee, Canada's largest citizen-funded membership based wilderness preservation organization. WCWC currently has 28,000 members from coast to coast.

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Danish-Inspired Community Under Development

Creekside Commons cohousing community in Courtenay is now being developed by the families who will live there.

Based on a successful sustainable housing model from Denmark, this unique multi-generational neighbourhood will soon be home to 36 families. Our 9 acre strata-titled community will include private 2-5 bedroom duplex homes as well as a 3500 sq. ft central common house, workshop, children's play areas, garden, an orchard, and ponds.

If you are interested in joining please check our website at www.creeksidecommons.ca for more detailed project information. Schedules of public meetings held monthly in Courtenay and contact



information are also available on the site.

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