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Back from the edge

The salmon come home

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Watershed
Sentinel

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FROM THE EDITOR

Imagine

No doubt many are familiar with the time honoured admonition, "Don't let your imagination run away with you." The mild rebuke was delivered in a manner that indicated a fertile imagination was not a desirable trait. Over countless centuries, perhaps many bright sparks of imagination were extinguished before they achieved any significant illumination.

But imagination persisted and, over the broad collective of humankind, grew exponentially. From imagination came language, gods, tribal systems, religions, tools, rudimentary governments, monetary systems, armies and enemies, and yet more imagination.

As far as we can determine, humans are the only species on earth gifted with imagination. That gift, with all of its invention and promise, its contribution to education, music, arts, science, medicine and charity, has carried mankind to the threshold of Utopia, while at the same time, the brink of destruction.

Back through the dark reaches of history mankind's imagination has been focused on the invention and production of weapons to aid in the hunting of wild animals for food and for killing fellow humans in battle. From stones and clubs, spears and arrows, to guns and cannon and nuclear and chemical warheads, imagination has led humanity down a dangerous path. A number of countries around the world have the capability of eliminating all life on our planet at the press of a button. Imagine that.

It appears we are at a crossroad with no attractive choices, where whatever way we turn is wrong. Perhaps we need a Utopian dreamer to imagine the way ahead.

Utopian writers have appeared throughout history. In 1516, English politician, Sir Thomas More, described in a political essay, an imaginary island, ideally perfect in its social, political and moral aspects. In 1888, Edward Bellamy's "Looking Backward" proposed an Eden-like community in which war, hunger and malice were engineered out of society. In Bellamy's model the monetary system was replaced by a governmental identity card, much like today's credit card, allowing citizens fulfilment of their needs.

There is a growing uneasiness in today's society. The reckless depletion of earth's natural resources and the degradation of the planet's life-sustaining environment is spreading increasing concern throughout the population. The writing is on the wall. We cannot continue to grow our money supply at the expense of our finite environment.

But with mankind's great gift of imagination we have hope. The future of humanity rests on the shoulder of imagination. We must all put that shoulder to the wheel.

Don Malcolm,
Whaletown, November 2003

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www.watershedsentinel.ca

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Subscription Forms are on the back cover. Stay up to date—Subscribe. Thank you!

From Our Dear Readers

"I realized I had been lied to"

This fall I was invited to fly over Vancouver Island by Markets Initiative, an organization that works to provide sound paper choices to book and magazine publishers. I agreed with great enthusiasm and expectation. Since, during my undergrad years at the University of Victoria, I had often spent time at the Ucluelet and Tofino areas, I was eager to return. Once the plane started its flight over Nanaimo and westward to Tofino, my enthusiasm and expectation turned to dread and disappointment.

I realized I had been lied to. At some point in the last ten years, I had stopped questioning the news reports and had come to believe that the provincial government was interested in saving BC's old growth forests. I believed that small gains were made through each Forestry Practices Code. An aerial view makes evident that retention logging, whereby a miniscule group of trees is left as "habitat," is clearcutting.

I would like to thank Markets Initiative for re-opening my eyes.

Name Withheld by Request,
Vancouver, BC

Read the Book, Check out the Video

I enjoyed your book reviews in the Aug-Oct issue of the *Watershed Sentinel.* You note that Ruth Ozeki's *All Over Creation* has an episode of activists traveling America in their bio-fuelled bus, Spudnik, recycling fast food grease.

This is not as unusual as it sounds - not only is there the example you mention, of Hal Hewett's cross-Canada trip *(WS Aug-Sep 2002)*; a delightful video was made in 1996, about a group of women who crossed the United States in a Chevy van fuelled by left-over grease from french fries.

I mention this because the video is currently in the Vancouver Island library system, including the Cortes Island library; it's called *Fat of the Land.* Along with Zeke the Shiek and the Ladder of Matter (a very funky video about composting also in the Cortes library), it's one of my perennial favourites.

PS: If your readers enjoy Ruth Ozeki's *All Over Creation,* her first novel *My Year of Meats* is mandatory reading!

Susan Yates, Books By Mail/Coast Extension
Vancouver Island Regional Library,
Nanaimo, BC

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We appreciate the copies you have been sending (free) over the past year. Our members find your articles interesting and informative. Here's our subscription.

Thank you.

D. Pearson, Hecate Strait Streamkeepers,
Queen Charlotte City, BC

Really Running Out of Gas

I found the article "Running Out of Gas," by David Hughes (*Watershed Sentinel*, June/July 2003), using "google" while researching oilsands. This is important here over the pond, because the "optimists" expect "unconventionals" to fill the gap in oil supplies, fending off the ultimate depletion into a far distant future!

To extract oil from the Alberta oilsands, my calculations show that 26% of the energy content of the synthetic crude is required as natural gas. Assuming that 20% of Canada's natural gas could be earmarked for oilsands extraction, only 8.6 Gb of oil could be extracted from the oilsands reserves. This is of little use to the USA, as it consumed 7.2 Gb in 2002. . . I think that the growing environmental devastation in Alberta, in parallel with everdecreasing supplies of natural gas, will lead to the abandonment of the projects.

The conclusion I came to in the Busby Report (see www.after-oil.co.uk) was that in the UK we have to reduce our energy consumption to around 25% of that current. This is in direct opposition to the policies of the UK government, which is to increase runaway capacity, widen roads, etc in a boost to economic growth. . . .

Similarly, in the UK the growth in road and air traffic contemplated is impossible to fuel with hydrogen (or anything else!) Only countries with large hydro electricity surpluses, like New Zealand, or geothermal energy, like Iceland, can contemplate a universal hydrogen economy.

John Busby,
Bury St. Edmunds, UK

Working Forest Means Change

—Forever, Not For Better

Under the BC Liberals' *Forest Revitalization Act,* local milling requirements were eliminated in May 2003

by Art Joyce

photos D. Broten

In the wake of the worst forest fire season in more than 50 years, BC families are understandably preoccupied with more immediate concerns than governm ent policy. Yet massive changes by the BC Liberals to forest legislation could devastate BC's forests far worse than any wildfires.

In the fall sitting of the BC Legislature, the Liberal government plans to fast-track the 'Working Forest' legislation. All 45 million hectares of public lands and forests outside provincial parks will be legally designated the 'Working Forest land base,' with resource extraction the mandated priority. The concept of Crown Land - lands held and managed in the public trust - will effectively cease to exist. The goal? According to the government's Working Forest discussion paper, to "increase certainty on the land base for the forest sector and other users."

But greater certainty against what? Shifting world lumber markets? Softwood lumber disputes? Not likely. For years now the BC timber industry has claimed its number one problem has been supply, despite a system of guaranteed annual allowable cuts (AACs). Under the Working Forest, permanent logging zones will have the legislative teeth to "minimize their shift to other uses." Minister of Sustainable Resource Management Stan Hagen insists existing provincial parks won't be affected by the Working Forest. But the real struggle will be in the creation of any new provincial parks, fish and wildlife habitats, protected drinking watersheds, or legislated scenic viewscapes.

The government claims they have no intention of selling off our public lands. Yet proposed changes by the BC Liberals to the Land Act under the Working Forest Initiative are designed to eliminate several of the steps currently involved in the process of selling Crown Land. The BC Government plans to null the effectiveness of one of two pieces of legislation that currently obstruct the sale of Crown forests for forestry purposes. As the legislation stands, Crown Land can be sold for logging and then real estate developments, but not for logging alone. However, the current Provincial Forest designation will be eliminated, to be replaced by the new Working Forest designation. This means the Forest Act, which only applies to the Provincial forest, will no longer obstruct the sale of Crown for-

Continued on Page 4

Working forest continued

est lands. The Land Act will remain the sole obstruction to selling public lands—for now.

"Why eliminate the legal barriers to selling off Crown forests for logging if you have no intention of actually selling them off?" says Western Canada Wilderness Committee executive director Ken Wu. "This is clearly leading to an outright privatization scheme of our public lands and forests."

When the government called for public input on the Working Forest on its website, it got quite a shock. Literally 97% of a total 2700 submissions from the public oppose the policy. An independent report by Daryl Brown Associates commissioned by Hagen's office only drove the point home.

"The general public, First Nations, environmental organizations, recreation interests, and some community interests strongly opposed the Working Forest Initiative," states the report. "Only a handful of general public respondents voiced their support."

Yet this has failed to dissuade the Liberals from going ahead with the legislation. Hagen has been on a whistle-stop tour of small towns in BC, hosting meetings on the Working Forest. Criticism from tourism, ecotourism, agricultural, mining, and other sectors who feel the policy ignores their interests prompted a name change to the 'Working Landscape.' But the change seems purely cosmetic.

"When the government called for public input on the Working Forest on its website, it got quite a shock. Literally 97% of a total 2700 submissions from the public oppose the policy."

The 'open for business' BC Liberals have fallen for the old Fraser Institute chestnut that businesses should be left to operate with minimum interference from government. The Working Forest discussion paper repeatedly stresses that monitoring of timber harvesting "will be done in partnership with the private sector." At the same time, the Ministry of Forests has been stripped of its human and legislative resources to oversee logging activities, leaving logging corporations with a virtually free hand in the forest.

Bill 46, the Working Forest enabling legislation, will give Cabinet ministers unprecedented powers to allocate land use by orders-in-council, with no real public scrutiny or input. The Brown report reflects widespread concern this will lead to "loss of government control to manage Crown forest land in the broader and longer-term public interest on a sustainable basis."

First Nations interests fare no better on the Working Landscape. The government says the policy "will not limit negotiations with First Nations in the treaty process… addressing aboriginal interests (as) a clear priority." Yet the legislation reveals a clear bias toward corporate interests. Treaty negotiations will thus be even more convoluted and expensive to resolve. All of this ignores the fact that, in the absence of treaties, First Nations lands in BC have never legally been ceded to the Crown in the first place. A press release dated January 24, 2003 from the Union of BC Indian Chiefs makes their position crystal clear:

"Not so fast, Stan! Be advised that every stick, stump and tree within your so-called Working Forest legislative proposal is fully subject to First Nations unextinguished aboriginal title interests," stated UBCIC President Chief Stewart Phillip. "Court decision after court decision has clearly affirmed and supported First Nations' aboriginal right to fair and equitable

access to natural resources within our traditional territories."

The Liberals can't blame environmental groups for crying wolf while offering no alternatives. The Coalition for Sustainable Forest Solutions, spearheaded by West Coast Environmental Law and the Dogwood Initiative, has drafted the Forest Solutions for Sustainable Communities Act. The proposed Act is nothing less than a sweeping, inclusive new vision of how we use the forest. It drafts a blueprint for a "new social contract," based on, among other things:

1) Redistribution of the majority of tenure to First Nations and local communities;
2) A ban on raw log exports to ensure all logs cut in BC are processed here; and,
3) Regional log markets through which at least 50% of regionally cut logs must flow. Revisions to log market rules would require logs to be sorted and offered in lot sizes suited to the needs of local value-added processors.

The government of BC, the proposed Act notes, "must develop new mechanisms to share resource decision-making with First Nations, including… determination of annual allowable cut, tenure allocation and land use planning." Most importantly, it promotes a management system with the long-term health of BC's forest ecosystems as the ultimate goal.

The Working Forest is being sold to "working families" across the province as providing greater job stability in the forest industry by ensuring access to timber supply. But it's a hollow claim. Under the BC Liberals' *Forest Revitalization Act*, local milling requirements were eliminated on May 30. Critics of the policy see this as nothing more than a prelude to continued easing of restrictions on raw log exports. This is devastating news for communities already reeling from the effects of the US softwood lumber dispute.

"MLA's… can give in to corporate control and elimination of thousands of rural jobs," said Smithers Town Councillor Marilyn Stewart, "or they can set a new progressive social contract that creates rural jobs and improves sustainability. Voters will remember this moment."

"While there can be no doubt the Liberals control the House," writes Mark Hume in the Globe & Mail Tuesday, October 7, "the big question is, do they have any respect for the people who really own it? In this case, the message couldn't be clearer: 97 percent say no to the Working Forest Initiative. The Liberals should listen up and shelve the bill."

"What we need right now is an all-out fight, MLA by MLA, if we're going to stop the Working Forest Initiative," adds Wu.

■

It's About the (Colonial) Economy Exponential Growth in RAW Log Exports

One in every four trees cut for timber on the BC coast — 3.7 million cubic metres or 100,000 truckloads – were exported with no processing in 2002. The BC government charged an extra $ 1 a cubic metre stumpage for these exports. The coastal BC lumber industry has not retooled to handle small second growth logs. One third of all trees were cut for pulp or cedar shakes.

—Vancouver Sun, Oct. 10, 2003

Art Joyce is a freelance journalist with more than a decade of experience writing for regional newspapers and magazines in the Kootenays and Victoria, BC. He is the author of two books on the local history of Nelson, BC, *A Perfect Childhood,* and *Hanging Fire & Heavy Horses.*

ACTIVIST RESOURCES:

www.workingforest.org
www.wcel.org
www.wildernesscommittee.org
www.dogwoodinitiative.org

What a summer! For those of us who live in the southern interior of the province, this year's fire season turned our normal lakeside summer holiday landscape into a war zone. *by Jim Cooperman*

BC's Global Warming War Zone

There were army camps in the schoolyards, evacuees in community centres and churches and water bombers and helicopters in the skies. We watched the news daily to see how far the enemy fire had advanced hoping we would be safe from invasion for another day. And we made an unimaginable sacrifice by enduring a total ban on venturing into the countryside that was punishable by fines and jail.

The drought affected nearly the entire province, as the cities nearly ran out of water and where there was smoke or smog, the air was not safe to breathe. And the problem will not go away when the rains come as the next low-snowpack winter and hot, dry summer is likely to be just around the corner. British Columbia's dangerous drought certainly seems to be part of an intensifying global warming, which has also produced unprecedented heat waves and fires in Europe, the US, Australia, Africa, Russia and Asia this year.

Predictions are coming true. This year's devastating fire season appears to be part of an escalating deterioration of the planet's life-support system. Of great concern is the apparent snowballing effect as climate change impacts feed further impacts. For example, warmer winters result in more pine beetles, which kill more forests, which contribute more fuel for bigger fires. The hot summer shut down logging operations, which means the beetles could end up spreading to more forests this fall. And the fires add even more carbon dioxide to the atmosphere, leaving fewer forests to absorb the carbon dioxide and deliver oxygen, critical for us. The fires in BC this year produced an estimated 15 million tonnes of greenhouse gases, which represents about one-quarter of the province's yearly total greenhouse gas output.

When Premier Campbell made his obligatory visit to Kelowna, he was quick to blame "Mother Nature" for the devastation. Likely he was hoping to deflect criticism from his government for neglecting the advice of experts on how to help prevent interface forest fires from incinerating communities. As well, he no doubt wanted to avoid any blame that has resulted from his government's massive budget cuts and contracting out services that has likely curtailed the forest service's ability to cope with this year's destructive fire season. The premier was also avoiding any suggestion that climate change is part of the problem. No mystery here, as his government opposes the Kyoto Accord, while it promotes oil, coal and gas exploration and use which will increase carbon emissions.

The Campbell government needs to vigorously support measures to reduce carbon emissions and promote alternative energy and transportation. It needs to work with communities and spend what is needed to reduce the risk of fires in interface forests near communities. Well-spaced, un-

Continued on Page 7

even-aged, diverse forests could help prevent fires. Since 50 years of fire suppression has helped contribute to the fire problem by allowing dead wood to accumulate, more prescribed burning is also needed.

Early in October, Campbell announced that the ex-Tory Premier of Manitoba, Gary Filmon, would conduct a review of this year's devastating fires. In addition to investigating how well the fires were fought, Filmon will look at what needs to be done to reduce the potential for interface forest fires. He should not have to look very far for suggestions, as there is already a wealth of knowledge and experience on the topic. For example, in the Rocky Mountain Trench, community fish and wildlife and environmental groups, ranching and agricultural associations and provincial and local government agencies have worked for years to establish "Fire Maintained Ecosystem" guidelines and identify priority fuel reduction projects. And the community of Rossland has worked with the Canadian Forest Service in a pilot project to establish a fuel-reduced "fire-break," that also provides for environmental and recreation values, around settled areas of the town. Even though the cost for fire prevention strategies is far less than the cost of fighting fires and paying for the damage, the Campbell government has been unwilling to spend the money and even cancelled some existing programs while it continued to provide forest companies with many millions of dollars for ineffectual intensive silviculture treatments.

Many conservationists are concerned that because so many of this year's fires occurred in parks, that the government will attempt to argue that logging is needed in parks, which is just what Campbell suggested this fall. Also, there is a concern that BC could imitate the US Bush administration's $12-billion decade long, bogus effort to reduce fire threats that is resulting in the unnecessary logging of old growth forests. The Valhalla Society bravely pointed out in a press release how the BC government failed to follow the fire management plan for Okanagan Mtn. Park that called for prescribed burns to minimize the fire risk from accumulated forest fuels. As well, they criticized the government for failing to adequately fund fire management strategies for all parks.

It seems the future that scientists have been predicting is already here. BC's summer of ferocious fires should be a wake-up call to everyone, including government and industry. Urgent action is needed on climate change and new land-use policies are needed that could help this province address and survive the destructive impacts of global warming. As well, Filmon needs to hear from the environmental community that climate change and five decades of fire suppression is increasing the potential for more destructive forest fires and all levels of government must take immediate action to reduce these risks.

■

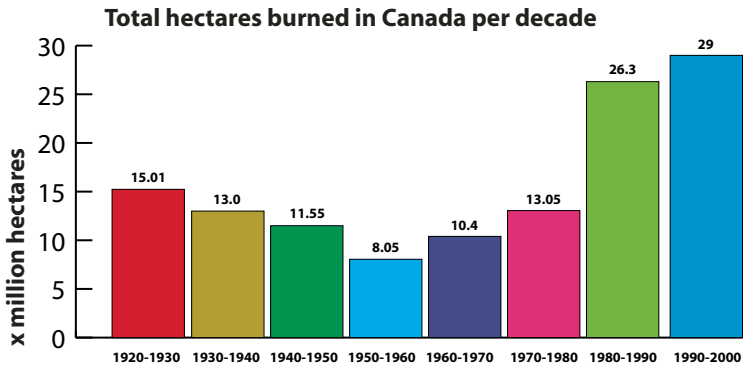
From 1990 to 2000, Jim Cooperman was editor of the B.C. Environmental Report and coordinated the BCEN forest caucus. He continues to monitor forestry issues as well as serve as president of the Shuswap Environmental Action Society (SEAS). Jim and his wife Kathi live above Shuswap Lake where they faced the threat of the Niskonlith Lake fire for over two weeks this summer. The SEAS website at www.seas.ca contains maps of this year's fires as well as other useful forestry information. Jim can be reached at jcoop@direct.ca

Three Key Reports on Interface Fires

Auditor General Report on Managing Interface Fire Risks: This 2001-2 audit was commissioned as a result of the 1994 Garnet Fire near Penticton and the 1998 Silver Creek fire near Salmon Arm. The report concluded that the province needs to be better prepared for major interface fires, that there was a lack of complete, reliable information about these fires and more effort must be made to reduce the risk of interface fires. Available at *www.bcauditor.com*

Developing a Coarse Scale Approach to the Assessment of Forest Fuel Conditions in Southern BC: Publicly released in March 2003,this report mapped those areas of the southern interior that are most at risk to fire based on ecosystem conditions, fire suppression management, and past fire history. Available at: *http://www.bablackwell.com/fii-report.pdf*

Fire in the Dry Interior Forest of BC: This 1996 BC Ministry of Forests Research Extension Note by Patrick Daigle outlines the historic role of fire and the consequences of fire suppression. Solutions presented include prescribed burning, thinning and pruning. Daigle points out "It's not IF these dry forests will burn; it's WHEN they will burn." Available at: *www.for.gov.bc.ca/hre*



Statistics

Average number of hectares burned each year in BC – 32,998 (30 year average)

Number of hectares burned in 2003 – 263,000

Number of parks burned or partially burned in 2003 – 13

Estimated cost for treatment to reduce fire risk on 400,000 hectares of interface forest: $200 to $1000 per hectare

Cost to fight this year's fires: over $500 million (not including loss of homes, businesses, timber and plantations)

BC Waste Act Opens Pollution Door

by Wayne Cullins

This fall, the BC government is expected to pass new legislation (Bill 57 – The *Environmental Management Act*) that will replace the current pollution legislation, the *Waste Management Act* and the old *Environmental Management Act.* It contains several significant changes that would have major impacts on the way polluting industries are regulated in BC.

Currently it is against the law for **any** industry, trade or business to introduce waste into the environment unless they have a permit from the Ministry of Water, Land and Air Protection. The new legislation would exempt numerous industries from having to apply for a permit.

The government will be categorizing industries according to their risk factor; different regulations will apply to each category. For "high risk" industries (such as pulp, smelting, refining) there will be no significant change: they will still have to request permits.

"Medium risk" industries (e.g. fish-products processing, plastic products, concrete) would not need to acquire permits, but instead would be subject to "Codes of Practice." These Codes of Practice would serve as general guidelines for an entire industry as opposed to precise guidelines tailored to a particular business in a specific location, as a permit would do. According to a WLAP spokesperson, medium-risk businesses would still have to be registered as such with the Ministry, although details regarding this process are cloudy.

"Low risk" industries (e.g. the soft drink industry, gas stations, paint shops) would neither need permits nor be subject to Codes of Practice. They would, however, be subject to regular prohibitions that apply to all individuals, whereby "a person must not introduce waste into the environment in such a manner or quantity as to cause pollution."

Mark Haddock of West Coast Environmental Law estimates that 80 percent of the permits now in effect will be considered as low or medium risk industries, and therefore no longer need permits.

The legislation passed third reading October 21. The bill will probably be passed into law early next year. In the meantime, WLAP minister, Joyce Murray, says consultations with stakeholders and environmental watchdogs are to take place starting around the beginning of November. They will be asked for feedback on the regulations regarding the designation of industries into risk categories, and the Codes of Practice for medium risk industries. Because these regulations and codes are not part of the actual legislation, they are not debated in the legislature. The full cabinet will have final approval of the risk designations; the Ministry will finalize the Codes of Practice. Both can be amended at cabinet meetings without notice.

Leaving the regulations out of the legislative process led opposition leader, Joy MacPhail, to argue in the legislature that "so much of this legislation will be done through regulation

Pollution in BC

Compounds released to air, land, water or landfill, reported in kilograms			
Note: Only emitters over 10 tonnes report	1995	2001	2001 as a percentage of 1995
BC: All compounds	23.8 million	99 million	416%
Carcinogens	2.9 million	0.9 million	30%
Endocrine disruptors	171,000	1.96 million	1146%
Reproductive toxicants	407,000	1.9 million	467%
Respiratory toxicants	23.7 million	99 million	417%
As self-reported to National Pollution Release Inventory Health status categorized by www.pollutionwatch.org			
Canada: All compounds	209.6 million	449.3	214%

Pollution Door continued

and there's no ability to discuss it in this chamber. Therefore, the public is not only required to rely on the goodwill of the Lieutenant-Governor-in-Council – i.e., the cabinet – but now must also, I gather, rely on the goodwill of openness and transparency from the minister of the day in this portfolio…once again we have a government where we're debating legislation, and the substance of what the government is touting as change hasn't yet been determined, or will be done in regulation. That's interesting." Haddock is saying the same thing: "The entire risk-based regime is not set out in legislation where it can be debated, but left to regulations which are not debated."

Although no one is in favour of wasteful procedures and red tape per se, there are some advantages to the current permit system. It provides more control and efficient ways of tracking violations. Businesses introducing any waste or pollution into the environment without or in contravention of a permit can be shut down immediately. Also, individuals or businesses in the vicinity of a polluting industry are able to contest the issuing of a permit if they feel the risks have been inadequately assessed, by applying to the environmental appeal board. As Haddock points out, "unless that is addressed – and it is not addressed in the current act – this new regime takes away public rights of appeal, and therefore reduces checks and balances and accountability."

"there appears to be no stopping the compromise that this government is willing to make regarding the integrity and safety of our environment."

A higher degree of monitoring the high risk industries is being put forward as an advantage of the new bill. On the other hand, so-called low risk and medium risk industries – because they will be operating below the radar of the Ministry – would only be scrutinized when complaints against them are brought forward by the community. This is characteristic of the reactive rather than preventive nature of the new process. For example, requiring businesses to request permits increases awareness and serves as an educational tool for industry. Furthermore, the difficulty of enforcement will be compounded by cuts to the enforcement staff that have already taken place.

So why would the government want to reduce vigilance with regard to environmental problems? Well, for one thing they have a mandate to reduce regulations by one-third, in order to slenderize bureaucratic functions and staffing. There is also likely a component of the "BC is open for business" philosophy in evidence here.

The government is touting the new regime as being "innovative," "scientifically-based," featuring "leading edge techniques" and "environmental practices to encourage environmentally responsibility behaviour, and strengthen environmental protection." I guess we'll have to wait and see how closely the reality will reflect the hyperbolic press release. Details of penalties and incentives remain unannounced. The phrase "discharge trading systems" mentioned in passing by the WLAP spokesperson is worrisome.

The changes generally reflect a greater acceptance of risk as transgressions will be more difficult to locate. More inspection in the field will likely be required to locate offenders – more difficult considering the ministry cuts – and so the public will be relied upon to a greater degree to report possible hazards. As they reduce standards and the ability to enforce those reduced standards, there appears to be no stopping the compromise that this government is willing to make regarding the integrity and safety of our environment.

■

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Brominated Fire Retardant Hazard

A chemical relative of PCBs has spread everywhere, and now faces eventual ban

Senior US Environmental Protection Agency (EPA) sources have confirmed that the agency is negotiating a voluntary phase out of two forms of polybrominated diphenyl ethers, or PBDEs.

The chemicals, penta and octa PBDE, are used as fire retardants in hundreds of everyday items, including computers, TVs, cars and furniture. A third class of the chemicals, deca PBDE, are the most heavily used, Both penta and octa will be banned in the European Union starting next year, and under a recently passed law, in California in 2008.

Like PCBs, their long-banned chemical relatives, PBDEs and other brominated fire retardants are persistent in the environment and bioaccumulative, building up in people's bodies over a lifetime. They impair attention, learning, memory, and behavior in laboratory animals at surprisingly low levels. Babies are most at risk, because the most toxic effects occur during periods of rapid brain development.

Scientists worldwide have found the fire retardants building up rapidly in people, animals and the environment. In September, in the first US -wide tests on breast milk, Environmental Working Group found high levels of the chemicals in every participant tested. The average level of bromine-based fire retardants in the milk of 20 first-time mothers in the EWG study was 75 times the average found in recent European studies.

The study is available at *www.ewg.org/reports/mothersmilk/*

Sewage Sludge Safety

The US EPA appears to be changing its stance that domestic sewage sludge is safe to spread on agricultural land. In late October EPA spokesman Paul Gilman gave an ambivalent answer to CBS news saying that, "I can't answer it's perfectly safe. I can't answer it's not safe."Two weeks previously the agency announced that it would not regulate the amount of dioxin in sewage sludge.

Last month 73 environmental, farm and health organizations petitioned the EPA last month to halt the land application of sewage sludge.

Independent research shows that sewage sludge contains numerous hazardous materials, including but not limited to toxic heavy metals such as lead and arsenic, as well as PCBs, dioxins, and other hazardous organic materials. In June 2003, a court in Augusta, Georgia, ruled that sewage sludge caused the deaths of 300 dairy cows which died after eating hay grown on sludge that was in compliance with EPA's rules.

The sewage sludge petition is available at *http://www.centerforfoodsafety.org/*

What is 20/20 Vision?

Bill 57, the new Environmental Management Act, is the topic of 20/20 Vision's latest action alert. (See "BC Waste Act Opens Pollution Door," p. 8). They are encouraging their members to contact the Honourable Joyce Murray, Minister of Water, Land and Air Protection (PO Box 9047, STN PROV GOVT, Victoria, BC, V8W 9E2) to express their concerns, using the information provided by 20/20. Members are being asked to tell her that Bill 57 needs clarification, detail and directions to ensure that the government maintains strong regulatory controls to protect our environment.

20/20 Vision makes grassroots activism simple for busy people. It is a 13-year-old BC organization — consisting only of volunteers -- that provides its members with the information to take a progressive stand on a wide range of issues. Their once-a-month alerts explain how to quickly and easily contact politicians and corporate officials to comment on a pressing environmental or peace issue. They collaborate with dozens of environmental and peace groups like The David Suzuki Foundation, West Coast Environmental Law, The Sierra Club, The Society Promoting Environmental Conservation (SPEC) and The Canadian Parks and Wilderness Society to collect and verify the information they provide.

If you would like more information about 20/20 Vision, including how to become a member, you can look at their website (www.2020vision.bc.ca); or call or fax (604) 983-2525 to speak with someone, or to request an information package in the mail.

Margaret Mead said long ago: "Never underestimate the power of a small group of committed individuals to make a difference. Indeed, that's the only thing that ever has."

High Cost of Carnivorous Fish

In July, SeaWeb, an American ocean conservation organization, released *What Price Farmed Fish: A Review of the Environmental and Social Costs of Farming Carnivorous Fish,* authored by Michael Weber, a marine conservation consultant. The report examines the impacts of farming salmon and warns that farming additional carnivorous fish species, including tuna, cod, and halibut, will likely generate many of the same problems.

Aquaculture is the fastest growing sector of the world food economy, increasing by more than 10% per year and currently accounts for more than 30% of all fish consumed. While most farmed fish are vegetarian species, such as carp and catfish, farming of carnivorous species, such as salmon, is a booming industry.

However, industrialized farming of carnivorous fish such as salmon requires the intensive use of resources and exports problems to the surrounding environment. The increasing amount of the global commercial catch of small fish, such as anchovies and sardines, going to produce fish feed for farming of carnivorous fish species is becoming a serious sustainability issue.

"Many people expect that aquaculture will relieve pressure on ocean fish populations," stated Michael Weber, the report's author. "But it takes approximately three pounds of wild caught fish to produce just one pound of carnivorous fish. Clearly, this is not the way for aquaculture to feed the world."

A recent article in *Nature* reports that the oceans have been depleted of almost 90% of the world's populations of prized carnivorous fish species such as tuna, cod, and halibut.

Meanwhile, many are looking to aquaculture to compensate for the depletion of these valuable fish species. "Aquaculture is necessary for the future, as long as it's conducted in an environmentally and socially responsible way," stated Bill Mott. "We urge governments to look more holistically at aquaculture and its effects on marine ecosystems before allowing the industry to expand."

The full report is available at: *www.AquacultureClearinghouse.org*

On Seismic Testing

A recent gathering of world experts in seismic testing reached clear consensus that the effects of seismic testing on fish are a serious issue (Kenchington, 2001). In a Norwegian study, sponsored by the petroleum industry, fish were displaced tens of kilometres away by seismic air gun sounds and did not return within the time frame of the experiment. Catch rates of cod and haddock were reduced by at least 50% during and after seismic testing (Engas et al, 1996).

Conflicts between fishermen and the offshore oil industry in California motivated an experiment that revealed hook and line catch rates for various Redfish species were reduced by 50% during the use of a single air gun (Skalski, et al, 1992). Seismic surveys, however, involve the use of many air guns.

Popper, McCauley and Fewtrell of Cutrin University in Perth Australia found severe ear damage to fish when exposed to an operating air gun. There was no evidence of repair or replacement of damaged sensory cells up to 58 days after exposure.

The limited amount of research conducted on this issue to date reveals that seismic testing harms a range of marine life including some species of fish. Further research is required to understand the impacts on fish behaviour, health and populations.

—Oonagh O'Connor, Living Oceans Society

Rockfish Protection — Safe Zones are Not

Sierra Club of Canada's BC Chapter says the proposed Rockfish Conservation Areas (RCAs) for BC's coastal waters are not based on scientific criteria and may end up doing more harm than good. A round of consultations between the federal government and BC's fishing industry proposed 144 RCAs.

"There is no scientific basis for these reserves. Our analysis shows some of the proposed RCAs are located in areas where there aren't even known rockfish populations," said Vicky Husband, the BC Chapter's Conservation Chair.

The BC Chapter wants the RCA selection process put on hold until a thorough scientific analysis has been undertaken to identify all suitable RCAs. "We can't support any RCAs until it has been shown they are based on credible science and actually protect areas where rockfish live," stated Husband.

—Press Release, October 2003

Lice Threaten Fish Farms

Pink returns crash in the Broughtons despite fish farms put into short-term fallow

by Wayne Cullen

Pink salmon returns were big everywhere this year except, once again, the Broughton Archipelago, where fish farms are suspected of causing smolt death due to sea lice infections. The Coastal Alliance for Aquaculture Reform issued a news release in late September stating the rivers of the Broughton remain virtually empty for the second year in a row. Early reports from Department of Fisheries and Oceans (DFO) confirm these disappointing results, which had been predicted by research biologist, Alexandra Morton. Morton, a long-time resident in the area, has been studying the salmon situation for several years.

DFO was similarly pessimistic in their 2003 preseason forecast: "The possibility that sea-lice infestations observed around the Broughton Archipelago during the fry migration in 2002 will adversely affect survival cannot be discounted."

A spokesman from the Salmon Farmers Association, Odd Grydeland, points out that salmon farms have existed in the Broughton for 17 years without significant problems. Since DFO will be releasing research findings from a $1 million study of pink salmon later this year, Mr. Grydeland was quoted as saying that it's premature "to blame fish farms for an outbreak of lice in wild stocks."

In reply, Morton says that her tests in other areas where there were no fish farms, showed considerably less incidence of sea lice than the Broughton. Morton also says the number of farms has increased over the years, and more importantly, the density of the fish has increased from about 250,000 per farm to, in some cases, over one million. The fish farms these days are like "sea-lice condominiums," says Morton.

Not One Louse

Morton says some species of baby fish can handle a certain, normal degree of lice, but the young pinks heading out to sea are too small (.3 grams) to survive even one louse.

Meanwhile, without waiting for the results of a new DFO study, which should be released this November, the province has allowed farmers to restock some of the fallowed sites in the Broughton.

Next year's numbers will probably show an improvement because some of farms were fallowed while the smolts were heading out to sea. (Most fallowing was done because of IHN infections that killed off whole crops – 6 farms in 18 months.) But unless the results of the DFO research include a strong cautionary warning, it looks as though there will be no fallowing for next spring's run.

Slice

Instead fish farms will simply use "Slice," a chemical/pharmaceutical that kills sea lice. There are problems with Slice, according to Morton. The chemicals involved kill not only sea lice, which are crustaceans, but other crustaceans such as shrimp and prawns as well, and even organisms on which the pink smolts feed on their way to sea.

Why not move the farms elsewhere? First, the very water conditions — good temperatures and protected areas — which make the region perfectly suited to wild fish, make it ideal for farmed fish. Also the Island highway is nearby, making transport to market convenient.

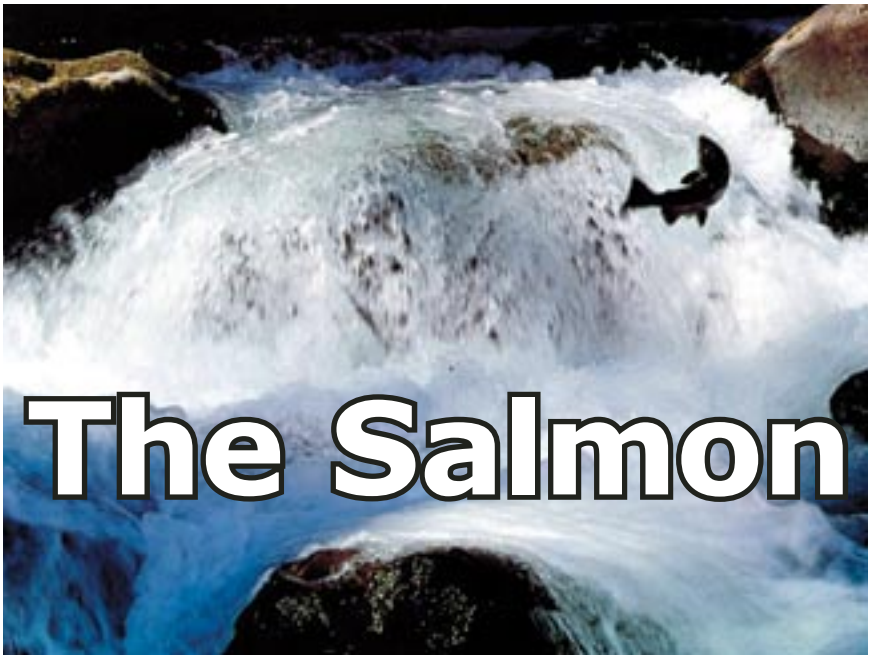
In a bizarre twist, while the DFO studies were on-going, a separate DFO study has confused the issue. The David Suzuki Foundation suggests that the research methods of the parallel study were poor. Morton agrees, saying that they were using trawling to catch the fish, a method which tends to scrape the lice off the fish before they can be inspected.

■

Broughton Salmon Rivers	Brood Year 2001	Returns to Date 2003	Percentage of decline
Ahta	22,000	950	-95.7
Kakwekan	96,000	11,778	-87.7
Glendale	1350,000	135,056	-90.0
Kingcome	1,000	300	-70.0
Embly	150	40	-73.3
Kwalate	1200	50	-95.8
Klinaklini	16,500	4,837	-70.7
Ahunhati	2,800	3,100	10.7

Statistics From Farmed & Dangerous web site:
When available, published DFO numbers have been used. The unpublished Ahta and Kingcome returns are unofficial DFO numbers that have not yet been released. Embly returns from local knowledge in that region.

Credits: *p. 12. & p. 14*
Rockfish photo from National Oceanic and Atmospheric Administration (NOAA) Photo library
Leaping salmon photo from National Oceanic and Atmospheric Administration (NOAA) Photo library



The Salmon Come Home

by Delores Broten and Wayne Cullen

Buried in all the angst and despair of these troubled times, a good news story has been quietly slipping itself into the creeks and rivers of the BC coast. The salmon, which many on the coast still view as doomed, have made a strong comeback to their native spawning grounds. The sacrifices of fishermen, who had their livelihood curtailed, of native people, for whom salmon are a traditional life-line, of all the western peoples who have watched and guarded streamside habitat, have paid off.

Unlike slow growing cod, salmon can repair their cycles in 8 years, a couple of generations, and now, although some subsets are still on the verge of extinction, most of the silver salmon have completed their homeward cycle. That's great news for all the ecosystems, and all the creatures in the ecosystems, inland and coastal, which depend on the nutrients brought to streams by these marvelous fish. It's great news too for the hundreds of thousands of British Columbians who want and need wild salmon to mark the seasons.

Endangered Status:

Cultus sockeye: Probably over 2000 by the end of January
Sakinaw sockeye: Very poor – about 5 fish
Interior Fraser coho including North Thompson: around 50,000, compared with 20,000 three years ago (the brood year for this year)
Upper Skeena coho: assessments are underway.

Reports indicate mostly positive salmon returns have occurred this year, although many late run spawning numbers don't get finalized until the end of November. Of course there are still some areas for concern.

Good news

Federal Department of Fisheries and Oceans (DFO) salmon coordinator Bert Ionson says favourable ocean conditions have resulted in a very good year in most areas. David Lane at the T.Buck Suzuki Foundation credits lower harvest rates and restrictions. "Fisheries are also restricted to allow sensitive weaker stocks to get by. End result: bad news for fishermen, good news for spawning grounds and stock rebuilding."

Sockeye:

- Skeena and Nass returns were very positive; 2 million, up from the 1.2 M forecast. 900,000 were harvested.
- Smith, Rivers Inlet: Ionson said things are looking positive, much better than recent years. Smith Inlet reached about 180,000 sock-

eye this year. Ionson is similarly optimistic about the Rivers Inlet numbers, which are not in yet.

- Barkley Sound: 10 % over expectation; commercial catch around 330,000.
- Fraser: 5.5 million returns; catch – 800,000.

Overall, early sockeye runs were less than anticipated, with warm, low water conditions suspected as the cause. The Stuart River run was predicted to be poor at 50,000, but did not even reach 40% of that number. Late summer runs were also a little low, on the Adams River, for example. A 25% catch limit ceiling was in place in order to protect the endangered Cultus run. Some reports were that the commercial fishing fleet caught more than their allotment, and as a result the Cultus returns will be less than hoped for when all the numbers are completed in January.

Pink salmon:

- Pink returns were huge everywhere but the Broughton Archipelago.
- 25% over forecasts in the North, for example, off Douglas Channel south of Kitimat, the seine fleet caught an estimated five million pinks, about twice the level federal officials had anticipated.
- Fraser River: 25 million – possibly the biggest run since 1913.

The fishing industry could have caught more, if they had the boats. In any case, the price went so low, it was not worth getting more anyway. Alaskan pinks and farmed Atlantics had already forced the market price down.

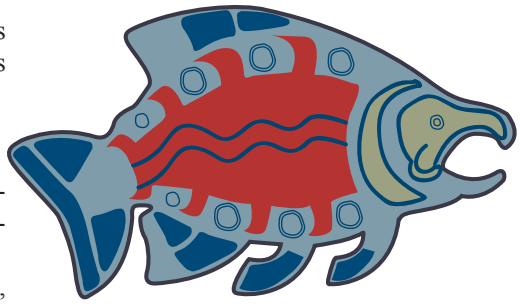
Salmon Farms:

Since the moratorium on new farms was lifted in April 2002, there's been very little activity regarding new start-ups. Why? The DFO is bogged down with complicated environmental assessment reviews on new applications and tenure renewals. Also, companies are struggling to make profits on the ones they've got.

Bad news

Sockeye: Poor returns for Early Stuart and Cultus as mentioned.

Habitat stewardship programs: Streamside protection regulations have become implicated with new forest practice code regulations which haven't been finalized. David Lane at T. Buck Suzuki had this to say. "It is our understanding that there will still be some riparian protection zones



around salmon streams but there will be many ways for forest companies to circumvent them or get exemptions under new regulations being drafted. This will hurt salmon runs more than any other provincial environmental rollback."

On September 4th, the Pacific Fisheries Resource Conservation Council released a report that indicated the demand for water in BC by industry, agriculture and communities "has led to historically low water flows and, as a result, intense stress on salmon and their ability to reproduce."

Fish farms:

By extending the provincial *Right to Farm Act* to marine areas in October, the provincial government could now overrule local governments when they pass by-laws restricting industrial activities, including fish farm and shellfish aquaculture operations, in their communities.

Otto Langer, director of marine conservation for the David Suzuki Foundation (DSF) recently attended a meeting with provincial reps from the Ministry of Agriculture, Food & Fisheries, and came away quite disillusioned. He feels the ministry is not taking an active, leading role and is demonstrating ostrich-like responsibility. He believes there is a communication gap between the province and the feds that makes it frustrating to be able to deal with fisheries in general.

For example, in September, the DSF issued a press release declaring that the province had okayed 47 licenses for halibut and sablefish farms – which would be the first of their kind in BC. Meanwhile the DFO is saying they hadn't approved any, nor had any environmental studies on their effects been conducted. Eric Wickham of the Canadian Sablefish Association is quoted in the DSF press release as saying "It is insane to start farming new species the same way we did with salmon over 15 years ago – with virtually no scientific information. Have we learned nothing?" Langer added that it "is even more outrageous that no one was consulted about this expansion. Not First Nations, not coastal communities that share the water with these farms, and not fishing or environmental groups."

Salmon farms may be having a significant impact on the commercial fishery. Grant Snell, general manager of the BC Salmon Marketing Council partially attributes the low demand for pink salmon to the abundance of farmed Atlantic salmon, both here and in Europe.

■

OUR Ecovillage

Showcase for the Earth

O.U.R. Ecovillage is a demonstration eco-community located in Shawnigan Lake on Southern Vancouver Island. O.U.R. stands for One United Resource, which reflects their mandate to consult with a wide range of people and professions to develop a sustainable community.

by Julia Watson

Planning began in 1990 with a group of friends intent on living lightly on the land. Many years of visioning, planning and consulting passed before the 25 acre farm was purchased in 1999. However, the land was zoned for Agricultural use, which didn't meet all the goals of the group.

They needed to create a new zone to fit their multi-purpose plan, an arduous process that involved the plans passing through 11 levels of bureaucracy! This is when they realized that a 'No' was just an uneducated 'Yes.' They realized that if they were going to get anywhere they would have to educate people and government about what they were attempting to do.

Along the way they were continually asked to compromise, but they held their vision, articulated it clearly, and in the end everyone won. The Cowichan Valley Regional District learned an immense amount by taking on this project. One high level planner was so inspired that he commented, "This is what we were talking about 30 years ago, and here it is finally coming to pass." Their tenacity paid off and, in 2002, the Rural Residential Comprehensive Development Zone was created.

They spent an entire year watching the land, as advocated by Bill Mollison's Permaculture techniques, which proved invaluable.

The entire property has now become an environmental "classroom," with four sectors:

Woodlands/Wetlands Conservation - sensitive ecosystems, woodlot management areas, and nature trails.

Agricultural - organic agriculture and animal husbandry.

Ecological Education and Infrastructure - community educational activities.

Residential - clustered housing.

This budding ecovillage uses cob as its primary building material. Cob is a mixture of sand, clay and straw. It is wet enough to mould, yet dry enough to build up without forms. This means that walls can be curved enabling you to create exactly the living space you desire. A beautiful slide show revealed many inspiring examples of structures built using this natural building material. See *www.cobworks.com* for more information and some great pictures.

O.U.R. Ecovillage has devised an ingenious way to simultaneously build homes, build community and educate others, while on a budget. They offer a natural building workshop each summer, which focuses on building a carefully chosen structure. Students come from far and wide to gain experience in cob building and to learn about creating an ecovillage.

Demonstration villages do just that, demonstrate to us all how to think outside of the box.

O.U.R. Ecovillage hires experienced instructors to teach the courses. The students' tuitions cover the fees; O.U.R. Ecovillage pays for the building materials, provides meals and campsites, and the students provide the labour.

At the end of each summer another building has been created and ten students go home inspired and able to teach their own workshops on cob building. A simple and brilliant solution to budgetary shortfalls.

O.U.R. Ecovillage is in its infancy and yet already it is an inspiration to those of us who have begun to realize that living in community, and in harmony with nature, is one of the most viable ways each of us can make a real difference to the health of our planet. As more and more ecovillages pop up around the world, we see that it is not just some hippy dippy idea but a viable way to live a rich and rewarding life within the natural flow of nature. Demonstration villages do just that, demonstrate to us all how to think outside of the box. I hope we can all agree that the Earth deeply needs to knock down the walls of our current box. Thank you to O.U.R. Ecovillage, and all others like it, for leading the way.

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For more information go to *www.ourecovillage.org*

Feature sponsored by Friends of Cortes Island Sustainable Living Project

Incineration Repackaged

by Stephen Lester

The BC Utilities Commission has instructed BC Hydro to search for low cost proposals to provide power for Vancouver Island. Entrepreneurs have floated a dozen proposals, from burning garbage in Nanaimo to burning coal near Campbell River. The Norske Canada pulp mills are all applying to expand their current practises of burning coal, treated railway ties, and tires.

This burning attitude has emerged across the western world. In eastern Canada, Bennett Incineration, after unsuccessful tries in BC, has persisted with their attempts to burn toxic waste in northern Ontario and in New Brunswick.

In this article, the Center for Health, Environment and Justice reminds us that incineration by any other name is still incineration and it still produces toxic waste.

Grassroots groups have been very successful in defeating incinerator proposals. Since 1997, only two trash incinerators have been built in the US. Groups have been successful because they organized and got the word out about what incineration really means for communities: toxic emissions and residual ash, high construction costs, and the destruction of valuable resources. And they have successfully promoted the alternatives to burning waste: recycling, composting, and recovering waste components.

The incinerator industry has, in fact, learned something from the successes of grassroots community groups: If they want to build incinerators, they're going to have to come up with a new way to spin them. So what we're seeing are all sorts of "new" ideas and proposals.

The hottest area of activity is in plants designed to produce energy. Strong sentiments to reduce US dependence on foreign oil have resulted in a rash of proposals to build energy-generating plants that don't rely on oil. Many of these plants are referred to as "green energy" or "eco-energy" projects. Some are called "renewable energy" projects. To a lesser extent, we are seeing an old favourite—waste-to-energy plants.

Waste-to-energy projects are especially devious because there are legislative efforts to define garbage incinerators as a source of "renewable" energy. If these efforts are successful, the most common incinerator used to burn household garbage—the mass burn incinerator—will be included with solar and wind projects as renewable energy sources!

The old rule still applies: If it looks like a duck, walks like a duck, and sounds like a duck, there's a good chance it's a duck.

These new proposals have several common characteristics: they are being put forward to solve the solid waste "crisis"; they are being sold as an alternative to incineration; and many recover energy. While these plants are not technically incinerators, they cause many of the same pollution problems. The old rule still applies: If it looks like a duck, walks like a duck, and sounds like a duck, there's a good chance it's a duck.

Biomass Conversion

One of the most popular renewable energy projects is the "energy from biomass" proposal. Biomass traditionally refers to fuels derived from wood, agriculture and food-processing waste or from crops grown specifically to produce electricity. However, in this new wave of non-incineration proposals, we're seeing a variation that involves converting household trash into a biomass–like fuel. After sorting, the remaining waste, consisting largely of mixed paper, food, wood and yard waste, is run through a "biomass" conversion process that generates a fuel product.

Some proposals are designed to

Continued on Page 18 ➤

Air Pollution and Waste continued

generate ethanol and to sell it. The concern here is purity of the ethanol product. Historically, bioconversion processes have been used mostly with agricultural waste streams that are more uniform in composition, have higher cellulose content and fewer material handling problems than municipal solid waste streams.

The more common fuel product proposed with most biomass plants is called "refuse derived fuel" or RDF. In this instance, the biomass waste is converted into pellets that are sold as fuel to be burned in incinerators or boilers to recover energy. In these cases, you still have toxic emissions and residual ash contaminated with heavy metals and dioxins, though at slightly less levels than in a mass burn incinerator.

This process has not been used with municipal solid waste on other than a small pilot scale and it is likely that the costs have been underestimated, perhaps substantially. But the major problem with this process is that it would destroy vast quantities of materials that could be either recycled or composted.

Pyrolysis and Gasification

Two other technologies being promoted as clean alternatives to typical trash incinerators are pyrolysis and gasification. Pyrolysis is a thermal destruction process that burns waste in the absence of oxygen. A plasma arc is often used to generate the heat at high temperatures. This process produces a mixture of gases, liquids and solids, some of which will include toxic chemicals depending on the make-up of the original waste mixtures. With household trash, the emissions and solid residuals can be expected to include heavy metals, dioxins, and other contaminants typically found when household trash is burned.

Gasification is a similar thermal destruction process, only in this case small amounts of oxygen are present during the heating process, which also occurs at high temperatures. In this process, often called starved-air gasification, a gaseous mixture is produced that will again include toxic chemicals.

Both of these technologies are considered to be in the developmental stage with regard to their application to household trash. As a practical matter, the health and environmental concerns that these processes raise seem no different than if the waste were burned in a traditional incinerator. With both of these systems, toxic gases are formed during the treatment process that are similar to those found during the combustion of household trash in a traditional incinerator and are released out a stack. Some—but not all—of these emissions may be captured by pollution control equipment.

Co-generation Plants

Co-generation is the production of heat and electricity by the same energy plant. In a conventional power plant, coal, oil, or natural gas are burned at high temperatures to generate steam. The pressure from the steam turns a turbine that produces electricity. Only about 30 percent of the energy of the original fuel is converted to steam pressure in this process. The rest is wasted. In a co-gener-

Questions to Ask about New Technology Plans

1. **How does the process work?**
2. **What waste products, air emissions, or residues are produced during the process? Have these emissions/residues been tested? If so, can you provide a copy of the results? How are these waste products/emissions managed?**
3. **What new waste products, if any, are produced during the process? If new products are formed, has their toxicity been tested? Can you provide a copy of any testing that has been done?**
4. **What wastes can or cannot be treated by this process? On what type of waste does this system work best?**
5. **How much waste can be processed at any one time by the system?**
6. **What is the back-up plan for managing the buildup of garbage when the system is not working either because of mechanical breakdowns or routine maintenance?**
7. **Has the process been used in communities before? Where? If so, what was the result? Has a plant ever been built and operated at the proposed size? If so, where?**
8. **What will be done with the end-product materials? What's the nature of the market for the end-product(s)? What is the plan to address the build up of end-product if the market should collapse or slump?**
9. **Will this process interfere with recycling efforts?**

ation plant, the excess heat is captured as low temperature steam is given off by the turbines. This steam can be used to generate heat but cannot be transmitted very far. It is used mostly for nearby factories such as pulp and paper mills that require low temperature heat for their production lines or for space heating in buildings.

The new wave of proposals include cogeneration plants that burn fuels other than coal, oil, or natural gas. Some proposals are for burning "biomass" such as wood waste, agricultural waste, peat moss and a variety of other wastes, including household garbage that has been converted into "biomass" as described above. While these plants may generate less sulfur oxides or greenhouse gases such as carbon dioxide, depending on the fuel burned, they are still incinerators that generate emissions, some of which will include toxic chemicals, depending on the make-up of fuel that is burned. With household trash, the emissions and solid residuals can be expected to include heavy metals, dioxins, and other contaminants.

Limitations of Air Pollution Controls

Most, but not all, incinerators and waste burners have air pollution control equipment that is designed to remove different pollutants generated during the combustion process. Electrostatic precipitators remove large particulates, scrubbers remove acid gases, baghouse or fabric filters remove small particles, and activated charcoal beds remove volatile gases.

None of these or any other air pollution control equipment is capable of removing 100 percent of the pollutants present in the emissions of an incinerator or waste burner. In fact, no matter what air pollution controls are used, some toxic chemicals will be released into the community. This is very important since many pollutants generated by incinerators and waste burners are carcinogenic and produce health effects even at very low levels.

Recycling vs Incineration

One of the most serious problems with these new technologies is that they compete with waste reduction, recycling, and composting programs for materials. As much as 80 percent of solid waste can either be recycled and composted, or incinerated—but not both.

Recycling not only reduces waste; it conserves energy, preserves natural resources, and reduces pollution. Raw materials processing, such as wood pulping, is extremely energy-intensive, and both the generation of energy and the production process itself produce toxic pollution. Reprocessing materials uses only a fraction of the energy needed in primary production and creates much less pollution.

No matter what air pollution controls are used, some toxic chemicals will be released into the community

Conclusion

Biomass conversion, pyrolysis, and gasification—like all incineration—are doomed technologies. These processes generate hazardous emissions and toxic ash or residue, are very expensive, compete with recycling programs, and destroy valuable resources. They will not succeed as long as an organized citizenry refuses to accept these impacts on their communities.

Trust your instincts. Take a close look at any proposed technology and ask hard questions, such as the ones provided in the box. If the vendors can't—or won't—provide you with written answers to these and other questions, then step back and ask yourself why. It's usually either because they don't have the information or because they know you won't like the answers.

■

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Waste Gasification, Impacts on the Environment and Public Health, Blue Ridge Environmental Defense League, April, 2002. Available from BREDL, PO Box 88, Glendale Springs, NC 28629, (336) 982-26921 or on the web at *www.bredlr.org*

Learning Not to Burn, A Primer for Citizens on Alternatives to Burning Hazardous Waste, Chemical Weapons Working Group and Citizens' Environmental Coalition, June, 2002. Available from CEC at 425 Elmwood Avenue, Suite 200, Buffalo, NY 14222, (716) 885-6848 or on the web at *www.cectoxic.org*

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"Municipal Waste Incineration, A Poor Solution for the Twenty First Century," presentation by Dr. Paul Connett, Professor of Chemistry at St. Lawrence University, Canton, NY at the 4th Annual International Waste-to-Energy Management Conference, November 24-25, 1998, Amsterdam. Available on the web at *http://members.netscapeonline.co.uk/colemanjac1/connett1.html*

Global Alliance for Incinerator Alternatives/ Global Anti-Incinerator Alliance (GAIA), 782 5th Street, Berkeley, CA. 94710, *gaia@noburn.org* , FAX: (510) 883-0928.

Sustainable Fishing

A Lecture and Interview with Russell Barsh

by Martin Fournier
Based on a presentation at the Georgia Strait Puget Sound Research Conference, April 2003

According to palaeontologists and native oral traditions, humans have been fishing in the Puget Sound and Georgia Basin waters for at least 8,200 years. When Europeans showed up in the bays and estuaries of the West Coast 200 somewhat years ago, fish were teeming so much that they probably slowed the ships. What the Europeans didn't know is that this seemingly naturally abundant state of affairs had a human hand behind it. For thousands of years Coast Salish people fished approximately on the same industrial scale as we do now, but they knew how to keep the salmon returning for more.

Modern fish wheel on the Chilkoot River, Alaska
photo — D. Broten

Using a technology called *sq^{w}élax* or reef netting, the Coast Salish caught between 5,000 and 10,000 salmon at a time. Tens of thousands of people were involved in the salmon trade. Salmon was the central commodity, the lifeline of the Coast Salish. It was used in feasting, it was smoked and preserved, and it was traded with tribes in the interior for goods like hides and herbs.

One presenter at the Georgia Strait/Puget Sound Research Conference in Vancouver last April was Russel Barsh, Director of the Center for the Study of Coast Salish Environments. Barsh has studied the Coast Salish fishing methods to see why their yield was sustainable year after year.

His research has revealed that the Coast Salish burned entire shorelines of estuaries on a regular basis, "loading" the estuary and bay with carbon, ionic nitrogen, and phosphorus. Normally this 'loading" would have resulted in harmful algal blooms (HABs) that turn the surface water red from the overabundance, hence often referred to as red tides. During a red tide a small number of algae species produce potent neurotoxins that can be transferred through the food web where they affect and even kill the higher forms of life such as zooplankton, shellfish, fish, birds, marine mammals, and humans that feed either directly or indirectly on them. The Coast Salish seemed to know how to anticipate HABs and kept them under control.

Russel has three hypotheses regarding red tides and the Coast Salish fishing "management" methods. Either the Coast Salish maintained nutrient loading of bays below the trigger point for HABs, continued to fish and nutrify bays until HABs forced them to relocate, or they made an effort to prevent triggering HABs but seldom failed.

When effective, the loading of the bays likely promoted the growth of crustaceans and "forage fish" such as sand lance, which are preferred prey for Pacific salmon, in turn increasing the number of salmon. The disposal of dead salmon carcasses was another method to keep salmon populations high as the young fed on the remains and the bones added nutrients to the ecosystem.

The Coast Salish also left baffles (old decaying wooden quays) to rot, behind which vegetations grew, serving as the ideal spawning ground for returning salmon. Another benefit of human meddling in salmon population dynamics is that this "loading" served as a driver for genetic changes which increased the adaptation rate and the number of genotypes (genetic variety in the genetic pool of the entire salmon population).

Barsh is uncovering more research, which may show that herring

First Nations Style

stocks, one of the favourite salmon prey, and seals also benefited from this form of management. The Coast Salish had a simpler more intuitive knowledge than our current "scientific-industrial" methods. This stemmed from the direct connectivity they felt and nurtured with the water that nourished them. They understood that they had to give something back to keep everything in balance.

■

Russel Barsh first studied "human ecology" at Harvard. In 1982 the Mi'kmaq elders asked him to help organize an advocacy program for indigenous peoples at the UN. After 1993, he taught and did research on ecosystems and traditional knowledge in Blackfoot territory (Alberta and Montana), and finally, with a great sigh of relief, found his way back home to the Pacific Northwest doing what he loves the most: fieldwork in human ecology.

Contact Russel L. Barsh
Center for the Study of Coast Salish Environments,
Samish Indian Nation,
PO Box 217, Anacortes,
WA 98221
rbarsh@samishtribe.nsn.us

Email Interview

WS: In a few sentences what do you hope your research and projects do for the health of our ecosystems?

Barsh: My research program aims to understand and make use of traditional land management practices, such as prescribed burning of forests and wetlands, to restore more biodiverse ecosystems. I'm convinced that nearly all terrestrial and nearshore ecosystems already were profoundly anthropogenic when Europeans first observed them—and erroneously, in most cases, described them as "natural." Landscapes we still regard as "natural" such as parkland forests and prairies in the Northwest quickly disappear if they are not cared for. Aboriginal Australians call the endless work needed to maintain these anthropogenic ecotomes [a transition zone between two diverse communities] "cleaning up country." My program is about learning how best to "clean up country" in north Puget Sound.

WS: Do you believe that the fishing methods employed by the Salish were more efficient than our current science-based methods? If so, do you think it would be possible to use the Coast Salish "sustainable" fishing model today? If not, why not?

Barsh: In a 1982 study of the last traditional fixed-gear river salmon fishery in Washington State, I argued that Coast Salish fishing methods used financial capital and fish more efficiently than mobile gears such as gill nets and purse seines — and were also largely self-regulating and biologically sustainable. I still believe that. A small number of traditional traps and weirs could do all the commercial fishing we would ever need in Puget Sound (assuming we first restore our salmon runs to their former glory!) at a fraction of the cost of what's left of the commercial fleet. Why do fishery regulators ban more efficient gears? To make fishing harder and slow down the rate of harvest, as a way of preventing over-fishing.

Coast Salish had a better way of deterring over-fishing. Every fishing site had a traditional owner (within a clan or lineage), whose wealth and good name depended on caring for the site so that it always remained productive. The traditional owners didn't necessarily fish themselves. They generously shared the use of their sites, and grew very famous if there were always plenty of fish to share.

WS: If we did use the Coast Salish methods, do you believe that because of our population numbers, there would be far too many HABs or red tides?

Barsh: Following the traditional Coast Salish approach of returning all fish processing waste (heads, tails, bones) directly to the waters from which they came should not by itself result in eutrophication. The old-time fishing sites were in rocky bays or rivers where there's a lot of flux, and fish remains have less phosphorus, iron, and other nutrients implicated in "forcing" HABs than do most people's septic tanks; the worst problems come from household cleaners, lawn fertilizers, and industrial effluents, not fish heads! Sure, we could restore Coast Salish nutrient recycling methods as a way of improving the fish production of our bays and estuaries—but first, we should get all that OTHER stuff out of our waters!

Sustainability Home Show A Hit

Friends of Cortes Island Society's Sustainability Home Show was, once again, a marvellous success. Local and visiting presenters filled Manson's Hall with products, displays and ideas about shrinking our ecological footprints. O.U.R Ecovillage, a special slide show feature this year, packed the adjoining "Pioneer Room' with a rapt audience, and was the kick-off event for a FOCI series on sustainable, affordable housing and community development. Thank you to everyone who participated, volunteered and attended, and a special thank you to co-ordinator Lovena Harvey. See you all next year!

1) "Sustainable Home Doctor," David Rousseau, consults with resident Derek Mack-Mumford.

2) Finding the Treasure of Trash: Dova Wiltshire, co-ordinator of the Cortes Recycling Centre

3) Andrea Block displays local organic produce, available through the Cortes Natural Food Co-op.

4) Marnie's Books; an impressive selection of sustainability resources.

5) Victoria Composting volunteer, Joel Skrepnek, demonstrates the virtues of vermiculture.

photos: richardtrueman.com

Join us for the Friends of Cortes Island Society Annual General Meeting.

- **Reports, and business,**
- **The Jo Ann Green Environmental Award presentation,**
- **Pot luck dinner and film.**

It all starts with membership renewals at 1:30 pm, Sunday November 16th, at the Gorge Hall in Whaletown. For more information, please call Kathy Smail at the FOCI Office 935-0087, email: *foci@island.net*

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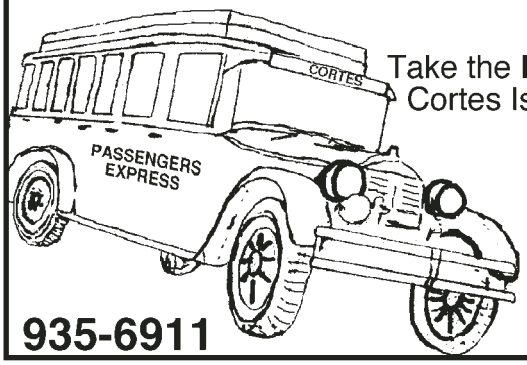

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The Symptom – Not the Disease

Predation and the extinction of the Vancouver Island marmot

by Ingmar Lee

Recently I attended a lecture about the state of the Vancouver Island marmot given by the leading expert on the subject, "Mr. Marmot," aka Dr. Andrew Bryant. He had been invited to speak to University of Victoria environmental restoration students. About half of Dr. Bryant's power-point presentation outlined the history of the marmots, which was pretty sketchy until scientists first began seriously studying the animals around 1974.

Prior to that there is an enormous crater in the timeline between the 15,000-year-old bones found in a north-island cave, and a 1920s hunter's account of 'catching a brace of marmot' at the top of the Beaufort Range behind Qualicum Beach. Bryant has been piecing together a picture of Vancouver Island's pre-logging natural history, which once featured the large, fuzzy rodent colonies at the top of nearly all of the island's central mountain ranges. Perhaps that old hunter bagged the last marmots in the Beauforts though, as the shrill squeak of the marmot no longer reverberates through those parts. Nor through just about any of their historic alpine colonies. It has been replaced by the ubiquitous snarl of the chainsaw.

Green Mountain, 2003 TimberWest old and new growth logging

Photo — Ingmar Lee

Today more than 97% of the island's primaeval Douglas fir forest has been exterminated.

Dr. Bryant explained that before the 1950s, very little of the Douglas fir forest which adorned the mountain ranges behind Nanaimo had been logged. One might wonder why, given the proximity of the magnificent stands of fir forests to the city, forests which once covered more than 20% of Vancouver Island. Perhaps Nanaimo's booming century of coal, beginning in the 1850s had relegated logging to a sideshow. Perhaps the timber barons who had acquired pretty much the entire fir ecosystem in the notorious E & N Railway transaction were too busy mowing down the stupendous trees of the Cowichan valley. Those famous fir groves were once taller than the California redwoods, but alas, the American logging giant, Weyerhaeuser, clearcut the final tract of primaeval forest in the valley just last year, when it mowed down the headwaters of the Summit-Dales coho salmon-spawning stream. Today more than 97% of the island's primaeval Douglas fir forest has been exterminated. There are no more marmots left in the mountains above the Cowichan Valley now either, with the last few 'winking out' just last year.

Drinking Watersheds

Perhaps it was the Nanaimo community drinking-watershed, which covers nearly 300 square kilometres of forestlands behind the city, which held the loggers back. Community drinking-watersheds were off limits to logging prior to 1952. After that, the management and responsibility of BC drinking-watersheds was wrestled away from the Ministry of Health, and into the aegis of the Ministry of Forests (MOF). This accomplished, clearcutting immediately began and today after 50 years, virtually the entire community watershed has been roaded and gutted of its trees.

Bryant describes the area as having amongst the highest density of road per hectare of forestland anywhere in the province. Even the MOF has no sway over what happens on these 'private lands,' where even the gutless public land logging standards don't apply. Weyerhaeuser, the private

Continued on Page 26 ➳

← *Symptom continued*

owner, continues spewing semi-truckloads of US-imported chemical fertilizers annually onto their clear-cut tree-plantations in there. Green Mountain, the summit of Nanaimo's watershed, had the largest population of wild marmots with more than 25 animals as recently as 2001. It's over for the Green Mountain marmot colonies now. They've all gone extinct, this year.

Predator Problems

Dr. Bryant then moved on to the predator problem. Through radio-telemetry, he has been tracking the remaining 25 or so wild marmots by surgically implanting a sending unit under the skin of their chests. By this method he has now been convinced that predation is the major cause of the demise of the marmots. Wolves, cougars and Golden eagles are the 'culprits' responsible, and they do the bulk of their damage every August, "when the marmots are fat and lie around lazily on the rocks, sunning themselves." Recently, a cougar was observed licking its chops one morning in the same alpine meadow where only the previous day several reintroduced marmots had frolicked.

Bryant insists that the wolf and cougar cull, now being conducted by Vancouver Island sport-hunters at the request of the Ministry of Water, Land and Air Protection, isn't about the marmots anyway, but rather, it's about the Columbian black-tail deer, whose populations are down 70% from a decade ago.

These deer declines have been clearly and scientifically linked to the loss of forested habitat. For example, back in 1998, the Integrated Wildlife and Intensive Forestry Research (IWIFR) program, was supported by then MacMillan Bloedel, then Ministry of Environment, Lands and Parks, and the Ministry of Forests who all worked together to set aside deer habitat in the area. Four separate 100 hectare patches of south-facing old-growth forest were preserved for critical winter range habitat for the local deer, right inside the Nanaimo community drinking-watershed. In 1999 Weyerhaeuser USA swallowed up the Canadian logging giant, MacBlo, which had just that very year shocked the province by proclaiming that the company would voluntarily refrain from clearcutting, the past and present provincial forestry status-quo. The ink was barely dry on the Mac/Blo acquisition papers when Weyerhaeuser moved into the Nanaimo watershed and clearcut all four of the proposed deer habitat refuges right to the last tree.

Then "the tree-growing company" constructed a road directly into the Haley Lake bowl and started clearcutting. The bowl had earlier been set aside as a refuge for the protection of the marmot colonies in the area. Those colonies are now all toast. Not even the marmots Dr. Bryant reintroduced there have survived.

Raw log Exports

This is how Weyerhaeuser manages for wildlife. Their sidekick, TimberWest, BC's largest private land-owner which exports more than a million cubic metres of raw logs annually out of marmot habitat, is busily chewing away at the forests on the other side of Green Mountain. The two corporations are apparently guided by an identical management plan. As they clear off the old-growth forests near the top of the mountain, simultaneously, they are mowing down the 50-year old second growth at the bottom, thereby perpetuating their greedy vision, and its consequences for wildlife, into the future. They've each made a basic investment in Greenwash to stave off their direct responsibility for the extinctions, throwing a few bucks at the Marmot Recovery Foundation's captive breeding program, while stripping millions in timber off the mountain.

With giant logging corporations as the project's major financiers, it's clear why there is absolutely no marmot habitat preservation or restoration project whatsoever on the books. Dr. Bryant is very adamant that stopping the logging today will have no effect on the present day emergency facing the marmots. "What can I do when the companies ask me to show them how not logging will help the marmots today?" he asks.

That may be the case for the short term, but what of the future? Can Bryant's laboratory reintroductions be protected from predators in a perpetually denuded landscape? It's obvious to anyone who looks that predation is the symptom, while industrial clearcutting is the disease. Let there be an immediate moratorium on any more logging in marmot habitat, which includes the forested valleys between their mountaintop colonies. If the marmot populations ever stabilize, perhaps we can examine kinder, gentler, roadless logging methods.

Let Weyerhaeuser and TimberWest pay **now** to debuild all those miles of predator-access roads and get them rehabilitated back to forest! Let them fund a comprehensive study **now** to determine the state of the island's magnificent predators! Make them pay **now** to restore those devastated forests so that the balance of nature can be reestablished! Let them do it **now** before it's too late, because every Vancouver Islander knows what giant logging corporations do once they cut themselves out of wood.

■

MillWatch

NOVEMBER 2003

Crofton Gets Innovative with Coal, Tires and Waste Railway Ties

by Delores Broten

Crofton pulp mill has devised an impressive follow up to the spectacular success of its sister mill in Campbell River with burning coal. Readers of the *Watershed Sentinel* may recall that that mill declared coal a win-win situation (they win and they win again) after it revealed to the pulp and mining town that burning coal actually decreased most pollutants (See "Mill Praises Coal as Clean Fuel," WS, October/November 2002). The "purity tests" relied on by the mill were declared incomplete at best and misleading at worst by both environmental critics and the consultant hired to review them for the Campbell River City council.

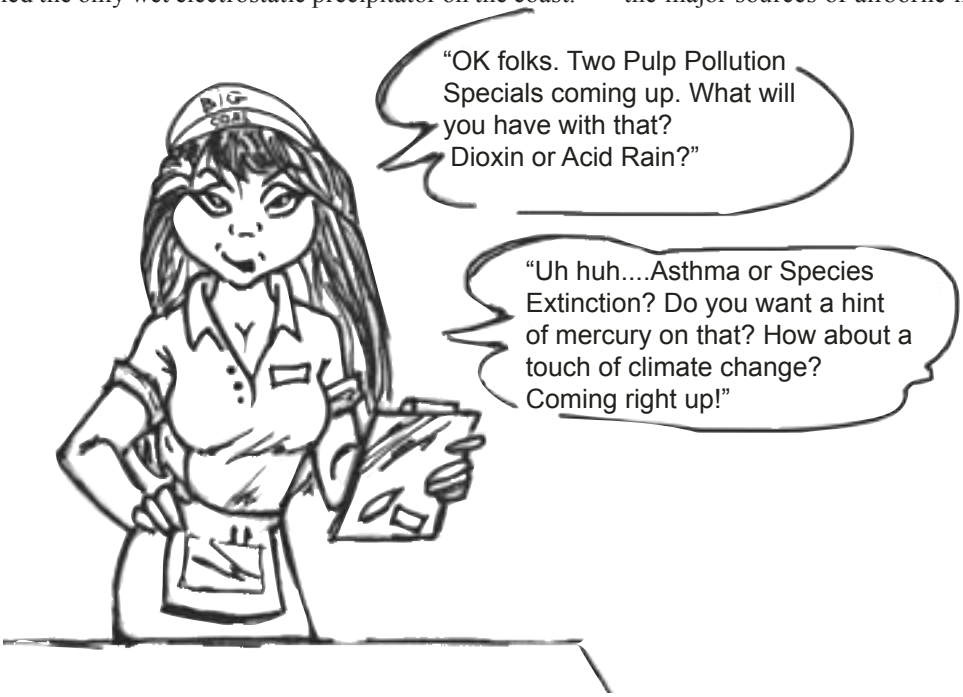
That didn't stop the Norske Canada giant from declaring victory nor stop BC's pollution bureaucrats from okaying some but not all of the mill's demands for expanded coal burning.

Now the Crofton mill is relying on those same tests to justify its request to burn coal, tires, and treated railway ties. As well as the discredited Elk Falls tests, the Crofton mill cites "tests" on burning tires in Port Alberni and Powell River. One thing is clear: the mills feel these fuels require a lot of testing.

Each of these issues has its specific circumstances. Elk Falls No. 5 Power boiler, which is mandated for coal, has installed the only wet electrostatic precipitator on the coast. Coincidentally, a wet electrostatic precipitator is the pollution control device of choice for coal. Port Alberni started burning tires after careful examination of its boiler showed it could dispose of a hazardous stockpile of industrial tires. Tire burning did not escape the comment of Powell River residents (See "Anne's Rant on Burning Tires," WS August/September 2002). Both Alberni and Powell River have new highly efficient fluidized bed boiler grates that greatly improve combustion.

Crofton, like all the other mills, claims that they just want to do a thirty month "test" of the new combustibles, to see if they can solve some of the pollution problems the mill is having with its Number 4 power boiler. "I hope," said mill environmental manager Graham Kissack piously to the *Ladysmith Chronicle,* "that the public is open to new and innovative ideas. …"

However a member of Sierra Quadra, Joan Sell, comments that "There doesn't seem to be a lot of actual tests considering the amount of time and burning requested for the testing. Single samples for some, one triplicate test for others." Sell also says, "In my opinion, the Crofton mill just doesn't have adequate pollution controls for the rather risky fuels they want to burn. We know that coal is one of the major sources of airborne mercury, and it is very hard



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Community Meeting:

Crofton mill will be holding an open house to present their scientific protocol to the community at the Crofton Community Centre on Thursday Nov 27th between 4 and 7 pm.

to control or measure. Goodness knows what strange pollution will come from the other so-called fuels."

Elk Falls pulp mill recently outlined its victory on the coal issue in a brochure subtitled "How to Earn Environmental Respectability while being Politically Incorrect." As well as presenting once again the discredited emissions tests, the brochure is a step-by-step guide to winning community acceptance of bizarre industrial practices.

The brochure notes the mill's fear of an appeal of the coal permit: "The biggest concern we had through all this effort was that any decision would be immediately appealed. Appeals are expensive, cause delays, and are unproductive. Appeals have been a common practice in some BC communities. The approval was granted on the 27 of December 2002. Aggrieved persons had 30 days to register their objections. In this case, no appeal was launched."

Sell responds that "The only reason the permit was not appealed was because of the monitoring and testing they were told to do and because there was a time limit to the permit."

The Ministry of Water. Air and Land Pollution in Nanaimo is considering the permit application. The period for public comment is closed, but the ministry may take unofficial note of expressions of concern.

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Pollution Prevention = Burning Coal

Coastal pulp mills, designed to burn waste wood for energy, have problems with smouldering fires which emit dioxins along with other nasty ingredients, because they burn the wet sludge from their treatment ponds, as well as wet "hog fuel" – wood waste made from logs which have been soaked in salt water. The salt forms extra particulate – which causes heart disease and hurts the lungs; the chlorine in the salt forms the extraordinarily persistent and toxic dioxin, along with other organochlorines.

A "pollution prevention" solution would be to take the logs out of the ocean, but the coastal forest industry, which has logged out the most profitable old growth valleys, predictably says that it cannot afford such a commonsense solution.

The coastal pulp mills are now positioning to argue that the burning of cheap coal is a pollution prevention strategy. The definition of pollution prevention should block acceptance of the new emissions of mercury, sulphur dioxide and greenhouse gases from these new schemes to burn coal. However, there have been so many twists and turns on the endless road to toxics control by the hapless Canadian Council of Ministers of Environment that nothing would be surprising.

The coal, mixed in with the wet wood and sludge, appears to burn the whole mess more evenly than expensive natural gas. Also, the sulphur in the coal interferes with the pathways of the chlorine in the salt, which would otherwise form dioxin in the mill's smokestacks. Thus, if you want less dioxin, you need to burn sulphur rich fuels like coal. Simple logic. The mercury is simply "disappeared" by ignoring it, and presto, Pollution Prevention!

Reach for Unbleached! is calling for the mills and the provincial government to abandon these plans that would trade a cheap fuel source for human and environmental health.

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at the Watershed Sentinel, It's No Joke!

Yendor, who has a thriving shea butter import/export business which supports women's co-ops in Ghana, (see *www.yendordrums.org*), has been an invaluable volunteer for the *Watershed Sentinel* since our beginnings in 1991. He first provided support with advertising, production and computer graphics, including major projects such as the maps of the various Vancouver Island CORE scenarios, and later developed our first web site. It is Yendor who posts the text from every issue on the web site so that students, activists and researchers can access our material long after the paper copies have hit the recycling bin. That's a lot of work, and it is used by thousands of people every month.

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