

SALMON WATCH

VOLUME 5



SUMMER/FALL 2001

SEWAGE UPGRADE NEEDED



Iona Sewage Plant on Sea Island provides only minimal sewage treatment.

GVRD's long term sewage plan violates Fisheries Act

At the end of March the Greater Vancouver Regional District adopted a long-term sewage plan that contains no strategy for upgrading the Iona and Lions Gate sewage plants to secondary treatment and proposes a 50-year

timeline for cleaning up raw sewage discharges.

Environmental groups, DFO, Environment Canada and the Port of Vancouver all agree that the GVRD plan is inadequate and needs to be seriously revamped.

Greater Vancouver's Iona sewage outfall continues to be the single largest source of sewage pollution in Georgia Strait. The fact that it only provides primary treatment ensures high oxygen demand, suspended solids and toxin levels.

There is clear proof of incidents of acute toxicity to fish. But the issue has far broader implications.

More troubling are known sub-lethal effects, causing premature death to a wide range of marine species and juvenile salmon. These range from behavioural effects, compromised immune systems, endocrine disruptors to indirect effects such as a decrease in food supply or an increased susceptibility to predation. In the end,

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**STREAMKEEPER
WORKSHOPS**

Working together
gets results.

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**URBAN STREAMS
PROTECTED**

New streamside
regulation in place

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**ECO-CERTIFIED
FORESTRY**

Forest Stewardship
Council sets standards

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Sponsored by the
T. Buck Suzuki
Environmental
Foundation,
SalmonWatch examines
issues concerning the
protection and
rehabilitation of salmon
habitat in B.C.

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COMPLY WITH ACT, WARNS HABITAT BRANCH

Continued from page 1
affected juvenile salmon
will never reach
maturity, may not reach
ocean feeding grounds or
may never make it back
to their spawning
grounds. Millions of
salmon are likely dying
prematurely with no
recording of the fact and
a terse reference to “poor
ocean survival” when
adult survival rates
plummet.

The type of marine
monitoring proposed by
the GVRD ensures that
long-term lethal effects
on marine life will never
be identified.

Although most of our
sewage goes to treatment
plants, three to six billion
litres of raw sewage
annually backs up into
the stormwater runoff
system and is dumped
from outfalls in
Vancouver, Burnaby and
New Westminster.

That’s enough
untreated sewage to fill
B.C. Place more than
three times each year.

The reason is that
older parts of the sewage
and stormwater system
use one pipe that carries
both sewage and
stormwater combined.

On dry days, all of it
goes to the sewage
treatment plant.

But during heavy
rainfalls, the stormwater
— including runoff from
streets, highways and
parking lots — overloads
the system, backing up
and discharging from 42
combined sewer outfalls.

The outfalls are
underwater, so the public
never sees the raw
sewage. But it is harmful
to marine life all around
the outfalls and regularly
contributes to swimming
closures at local beaches.
The worst outfall
empties into Burrard
Inlet close to the Ocean
and McMillan fish
plants.

There are also outfalls
at Brockton Point in
Stanley Park, Coal
Harbour, English
Bay, Kitsilano and
five in False Creek.
More than a dozen
outfalls go directly
into the Fraser
River, where two
billion juvenile
salmon spend
months

acclimatizing to the
saltwater environment.

Sewage contains
much more than human
waste. Sewage contains
everything from
dangerous diseases to
industrial toxins,
tampons, condoms,
medications and
household hazardous
waste. It can smother the
ocean floor and it
reduces the dissolved
oxygen fish need to
breathe.

In addition, toxic
substances biomagnify

through the foodchain
causing greater harm to
higher level predators
such as birds and
salmon.

DFO has told the
GVRD repeatedly that
their sewage plan
violates the federal
Fisheries Act. In a letter
to the GVRD in
February, DFO Regional
Habitat Director Guy
Beaupré says there must
be “compliance with
end-of-pipe requirements
pursuant to the Fisheries
Act” and that means a
“defined upgrading
schedule for Iona and
Lions Gate Sewage
Treatment Plants and a
reasonable and firm
timeframe whereby
combined sewage
overflows such as Clark

*The kind of marine
monitoring proposed
by the GVRD ensures
that long term lethal
effects on marine life
will never be identified*

Drive will be
eliminated.”

The T. Buck Suzuki
Environmental
Foundation has warned
the GVRD that it will
take legal action if the
sewage plan is not
changed to comply with
the *Fisheries Act*.
Lawyers from Sierra
Legal Defence Fund are
laying the groundwork
for a private prosecution
on behalf of the
Foundation and the
United Fishermen and
Allied Workers – CAW.

TOGETHER IS BETTER, SAY PARTICIPANTS AT STREAMKEEPERS' 'WORKSHOP 2001'

More than 250 people descended on the Comox Valley May 11-13 for a gathering of streamkeepers and salmon stewards from around the province.

The event was the sixth biennial community workshop, sponsored by DFO's Salmon Enhancement Program, to recognize volunteers and communities involved in stream restoration, stream stewardship and salmon enhancement.

There were more than 25 workshops, a trade show and several field trips.

Organizer Chris Bruels, who works for the host group Comox Valley Project Watershed, said it was inspiring to see displays from so many organizations from all around B.C. "It really built connections between people," she said.

Pacific Streamkeepers Federation organizer Zo-Ann Morten, who staffed the registration table all weekend, said it was amazing to see faces from the first gathering ten years ago. "The old players are still with us and there are lots of new faces — that says a lot about a volunteer organization," she said.

There were more than



50 project displays, Morton said, showing how strongly community awareness about salmon and streams has grown over the decade. "Sometime you think you are the only person out there trying to protect salmon, then you go to an event like this and realize you're not alone," she said.

Workshops topics included: watershed management, media relations, water quality monitoring, side channel construction, river bank restoration, riparian management, conflict resolution, mapping, volunteer development and landowner stewardship.

There were also stream ecology workshops on groundwater, stream hydrology, insects and wetlands. Field trips looked at the very



The Workshop 2001 trade show (top) attracted 52 stream project displays. More than 25 workshops taught everything from bugs (above) to stream hydrology.

PAT MORTEN PHOTOS

successful enhancement program at Oyster River, the monitoring program of 23 watersheds in the Baynes Sound area and a unique habitat enhancement project involving a dairy farm on the Little River.

Bruels said one of the most popular workshops was the Old Timer's Corner, where Ralph Shaw, Bill Otway and Father Charles Brant talked about stream restoration work going

back 70 years. She said that they described how long ago the debates didn't get as personal and you could sit down with your adversary at the end of the day and just be neighbours. "What they were saying fits well with the theme of our workshop, that working together is better, because we share the same planet and ultimately we all have to live together," Bruels said.

RIPARIAN SETBACKS ARE NOW LAW

Municipalities required to protect streamsides

In January the province put in place a new Streamside Protection Regulation that will force all municipalities to establish streamside protection areas.

In most cases, salmon streams will have 30 metre protection areas established, measured from the top of the stream bank. Some streams with little vegetation or that are non-fish bearing will have 15 metre protection areas.

North Vancouver District's bylaw already incorporates the intent of the new regulation and offers a model for other municipalities to follow

Municipalities will have 5 years to establish these zones and to adopt bylaws that will protect the healthy functioning of the stream.

These are not full retention buffer strips. Municipalities are given a lot of flexibility as to how a stream is protected using this zone or other mechanisms to ensure that a stream's ecological integrity is preserved.

The regulation does not apply to existing buildings on their existing footprint. It only kicks in if an owner

wants to build out towards a stream or redevelop the property.

Agricultural land is not included.

Richard Boase, an environmental protection officer for the District of North Vancouver, thinks the streamside regulation is a huge step forward. But he is quick to point out that the District was a leader in stream protection when it enacted its Environmental Protection and Preservation Bylaw in 1993.

That bylaw already incorporates the intent of the new regulation and is a model for other municipalities to follow. In fact, it

makes the District the best place to see how the new regulation will work on the ground.

The District bylaw ensures that any new development within a 30 metre streamside area is either set back 30 metres or has compensating features that will enhance the health of the stream. The bylaw also prevents tree cutting and soil removal unless the District environment office gives specific approval.

Stormdrains, many of which lead directly into

salmon streams, are considered part of the watercourse. Harmful substances cannot be put down stormdrains.

Construction sites and road works must have clear plans to prevent sediment from entering stormdrains and local streams.

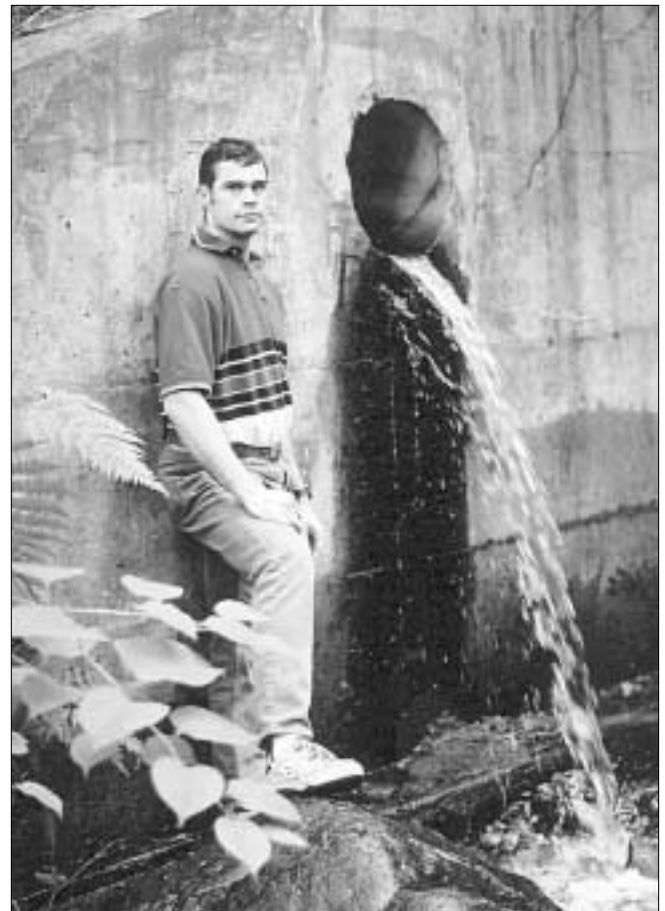
Boase says that much effort is put into ensuring that urban runoff does not negatively impact streams. Too much impervious area such as roads, driveways and roofs will make rainwater drain off too

fast causing unnatural "flashy" waterflows that can destroy salmon spawning and rearing areas.

Enforcing the bylaw is a process of negotiation, Boase says. It requires a bit of give and take and some creativity.

He cites a recent application for a community-supported seniors housing project on the edge of a tributary of MacKay Creek, a salmon-bearing system. The tributary is no longer usable salmon habitat

Continued on page 5



Richard Boase, environmental protection officer for the District of North Vancouver, shows a two metre high culvert that blocks fish passage into a tributary of MacKay Creek. The District is negotiating with two developers to construct a natural passable entrance to 1.8 kilometres of usable salmon habitat, with a constructed wetland to improve water quality, in exchange for some use of the streamside zone.

Stream activists urging councils to enact bylaws

Continued from page 4
because it flows into the creek from a culvert that is five feet above the stream bed making it impassable for fish. At the upper end of the tributary the flow comes from an urban stormdrain with obvious water quality problems.

The housing site is at the top of the ravine that holds the tributary. If a 30 metre setback were required at the top of the ravine, there would be zero opportunity to build.

So the District worked out a compromise. To compensate for being allowed to build within the 30 metre stream protection corridor, the developer has agreed to build a constructed wetland in the ravine that will filter and clean the streams' water supply.

Boase intends to convince the neighbouring property developer to decommission the offending culvert and create a natural, passable stream entrance into MacKay Creek.

The result will be close to two kilometres of reclaimed salmon spawning and rearing area that will enhance coho rebuilding efforts on the creek.

In another proposed project on the edge of Capilano River, the developer will be allowed minor encroachments into the 30 metre protection corridor, but will remove some existing buildings in the streamside zone and return the area to its natural state. The project will install rainwater storage tanks to ensure that driveways and road surfaces are not putting too much water too fast into Capilano River.

Rob Millar, an environmental planner for the Capital Regional District (the region surrounding Victoria), says that the CRD is close to adopting a model stream protection bylaw that it will encourage its 13 District municipalities to enact. It looks like a stormwater bylaw but it incorporates much broader powers by defining streams as part of the municipal drainage system.

The model bylaw regulates any work done within the streamside protection area and it prohibits activities that would negatively harm water quality or alter water flow patterns.

It also sets out limits for allowable impervious



Municipalities are being asked to establish bylaws with five years to protect streamside areas and vegetation around urban streams.

surfaces for new developments.

Millar says one of the best parts of the model bylaw is the power to issue immediate tickets with fines for infractions. Fines can be as high as \$2,000 per day.

Capital District representatives will vote on the model bylaw in July.

Zo-Ann Morten of the Pacific Streamkeepers Federation is extremely pleased with the new regulation, and hopes stream activists will work with their local municipalities to ensure that strong local bylaws

are put in place. She says that it is important to look beyond buffer strips to ensure that all stream impacts are being dealt with.

“You can’t just have protection corridors, you need to look at the whole watershed and make sure it’s not getting blacktopped over,” she said. She also points out that keeping developments back from streams makes good building sense – she has witnessed countless examples of severe property damage caused by stream erosion or flooding.

VICTORIA STILL DUMPING RAW SEWAGE DIRECTLY INTO STRAIT OF JUAN DE FUCA

Greater Victoria gets a failing grade for sewage pollution according to the Sierra Legal Defence Fund. Not only is most of the District's sewage dumped raw into the Strait of Juan de Fuca, there are no plans to bring in even primary treatment.

More than 45 million litres of raw sewage are discharged annually. Effluent tests show that the sewage is toxic to fish. The outfalls are located on a major salmon migration route. An extensive area is closed to shellfish harvesting.

Although the province brought in a new sewage regulation designed to move all sewage treatment to secondary level, Victoria seems determined to flout the intent of the new law and the federal *Fisheries Act*.

Primary treatment of sewage settles out solids through gravity in settling ponds. Secondary treatment uses biological processes to significantly reduce oxygen-depleting organic material, suspended solids and some bacteria.

The Capital Regional District was supposed to develop a special Liquid Waste Management Plan that would give a clear timeline for moving first to primary treatment, then to secondary treatment. In fact, they have submitted a plan that does neither.

The District has set no land aside for the construction of a new sewage treatment facility. Nor does it appear to have any intention of doing so, even though it is required to do so under the terms of its waste management permit.

Victoria continues to argue that

there is no need to move to secondary treatment, given that it discharges into a large body of water with strong currents and tidal action. But bacterial and heavy metal pollution extends from one to two kilometres away from the Macaulay Point outfall and there is a growing "dead zone" surrounding the end of the deepwater pipe.

In 1999, the Sierra Legal Defence Fund launched a private prosecution of the Capital Regional District on behalf of the United Fishermen and Allied Workers' Union, charging that Victoria's pollution violates the federal *Fisheries Act*. The case was stymied by the provincial Crown Prosecutor who took over the prosecution and subsequently dropped the charges. This has happened in all recent cases of private citizens laying charges under the *Fisheries Act*.

John Werring, staff biologist for the Sierra Legal Defence Fund, says that the province seems to be promoting a double standard where the two largest municipalities, the two largest polluters, are allowed to get away with a lower standard for sewage treatment than other B.C. municipalities.

Werring obtained a letter from an Ontario resident who wrote to the provincial Ministry of Environment, Lands and Parks (MELP) inquiring about Victoria's raw sewage discharge. She received a letter from MELP stating that "secondary treatment is the minimum level of treatment that best addresses most of the concerns with the discharge of sewage" and that "all existing



John Werring, Sierra Legal staff biologist,

discharges that do not receive secondary treatment or equivalent are to be brought to this goal through an approved Liquid Waste Management Plan."

In direct contradiction with this statement, the Greater Victoria sewage plan does not include upgrading the Clover and Macaulay Point raw sewage outfalls, says Werring. Because of this, the regional Pollution Prevention office for MELP has refused to approve the plan.

Despite the objections of the ministry's own staff, the Minister of the Environment has the power to allow the plan, even if it is in conflict with the intent of the new sewage regulation.

Environmental groups are urging the new minister to reject the plan and send it back to the Capital Regional District demanding that a scheduled timeline be in place for a move to full secondary treatment.

FRIENDS OF FALSE CREEK URGE CLEAN-UP ACTION TO PROTECT MARINE LIFE

Early Sunday morning once a month, a team of volunteers load water quality sampling kits into kayaks and canoes, paddling off to check toxin, nutrient and bacteria levels in Vancouver's False Creek.

As they set out on a sunny morning at the end of May, thousands of juvenile salmon flash silver as crew dip their paddles in the water.

The two billion juvenile salmon that migrate down the Fraser River every year are found schooling along the shorelines of False Creek, Sturgeon Bank, Roberts Bank and Burrard Inlet before they head out to sea.

But these areas are some of the most polluted in the province, particularly False Creek.

Tonnes of toxic sediments sit on the

Volunteer Susan Wilkins takes water quality samples in False Creek for lab analysis.

ocean floor of False Creek, a sad legacy of the heavy industries that once lined the shores. Seven combined sewer outfall continue to dump raw sewage into False Creek whenever there is a heavy rain.

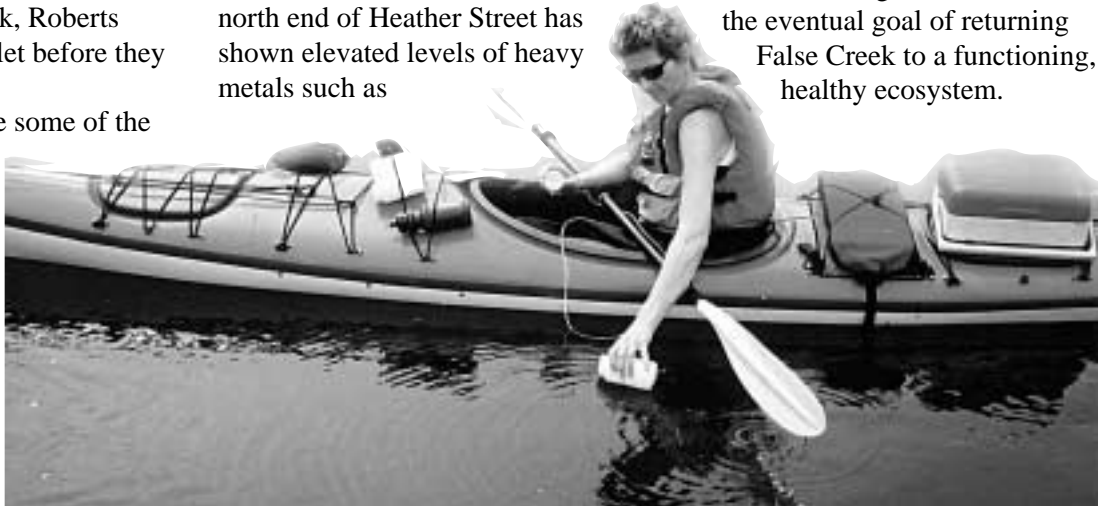
Juvenile salmon are particularly susceptible to low levels of toxins at this stage in their development as they acclimatize to salt water. Toxins can damage their immune systems and can change feeding and swimming behaviour causing early death.

Sampling at the outfall at the north end of Heather Street has shown elevated levels of heavy metals such as

copper, mercury and silver. Sediments are acutely toxic to amphipods causing 100% mortality. Fecal coliform counts are high.

But Friends of False Creek chair Fred Mah is optimistic that something positive can be done. "We are gathering data in the hope that we can convince all levels of government to get involved cleaning up False Creek," says Mah.

They point out that the water is getting cleaner now that most heavy industries have left. Herring have finally come back to spawn for three consecutive years now after decades of absence. The biggest remaining problem is the raw sewage discharging from the combined sewer outfalls. They hope that good data and public awareness will get action, with the eventual goal of returning False Creek to a functioning, healthy ecosystem.



KEEP OIL, GAS MORATORIUM, SAY GROUPS

The B.C. Alliance for the Preservation of the Offshore Oil and Gas Moratorium, made up of 60 conservation, labour, and First Nations groups, is sending a clear message that offshore oil and gas development will not be accepted on the Pacific coast of Canada. The coalition believes that science has not proven that this industry can move forward without putting our coast and our coastal communities at great risk. "The health of our coastal

communities and the health of our ocean will be in jeopardy if we start drilling for oil," says Jennifer Lash, spokesperson for B.C. Alliance for the Preservation of the Offshore Oil and Gas Moratorium and Executive Director of Living Oceans Society.

According to Lash, killing fish larvae with seismic testing, suffocating marine life in spilled oil, and perpetuating global warming by increasing the source of fossils fuels are just a few of the

ways that this industry will jeopardize our coast. Industry suggestions that advancements in technology will minimize the risk of drilling for oil ignore the B.C. reality, says Lash. The B.C. Alliance for the Preservation of the Offshore Oil and Gas Moratorium is urging the province to maintain the moratorium and look into sustainable development for the coast as well as alternative energy sources.

FSC SETS RIPARIAN STANDARDS

While the Forest Practices Code has been a dismal failure in protecting small salmon streams, eco-certification of forest products may turn out to be a powerful new tool for salmon protection.

The certification body with the most credibility in the environment movement, the Forest Stewardship Council (FSC), has just released its draft standards for B.C. including a strong section on riparian management.

What makes the FSC unique is that regional committees made up of a balance of interest groups, working with local forestry and ecology experts, construct detailed forestry standards that fit with local conditions.

T. Buck Suzuki Environmental Foundation executive director David Lane, who sits on the local FSC committee for the United Fishermen and Allied Workers' Union, says that all the FSC

options for riparian standards go far beyond the Forest Practices Code minimums, particularly for small streams.

He says the classifications for streams are the same as the Forest Practices Code, but the amount of riparian protection is dramatically increased giving riparian buffers to even the smallest salmon bearing streams. Non-salmon bearing streams are divided into two types: those draining into fish-bearing streams and those that don't.

The feeder streams leading into salmon streams would have strong riparian protection to ensure that sediment and debris do not move down the stream system, something that the Forest Practices Code ignores.

The options being considered by the FSC include a "cookbook" approach with specific buffer widths for streams and 50 percent tree retention in the management zone beyond the no-harvest buffer.

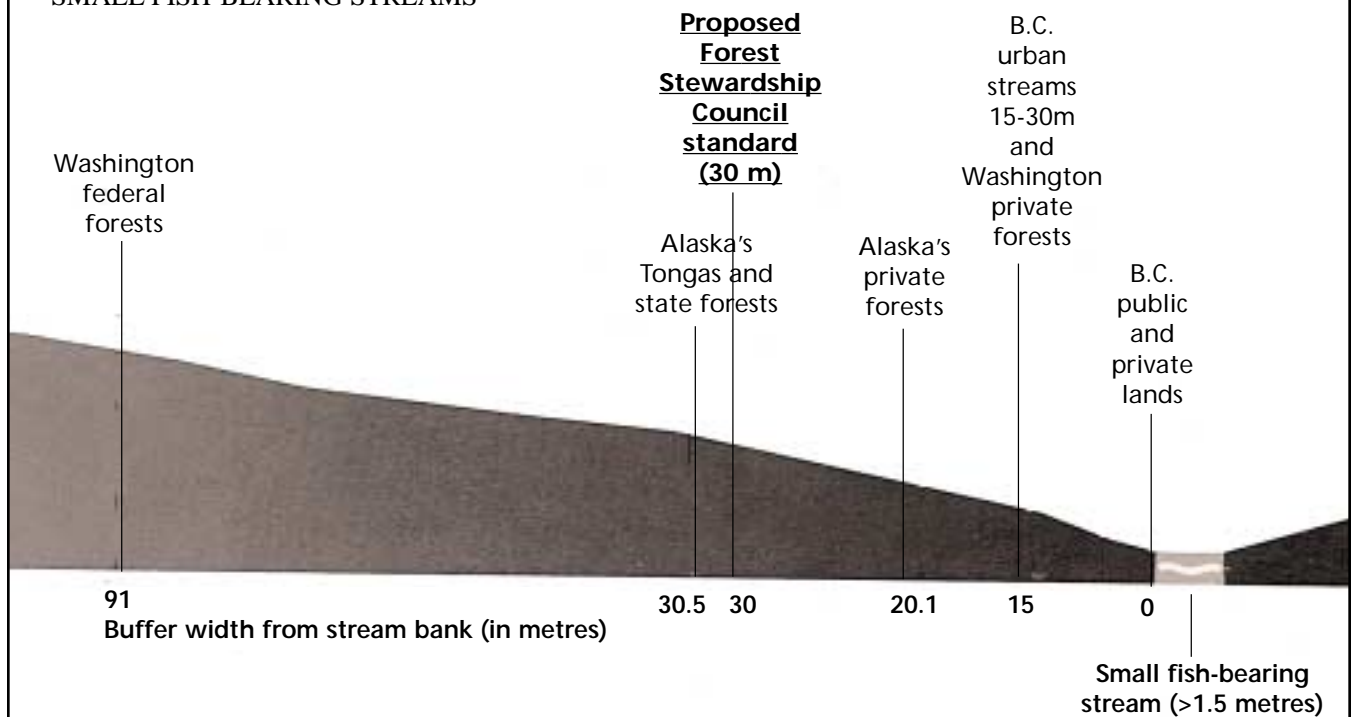
For streams smaller than 1.5 metres and non-fish bearing streams feeding into salmon stream the standard buffer would be 30 metres. The Forest Practices Code provides no riparian buffer zone for these streams.

But rigid buffers may not suit all streams. Some stream reaches may need hundreds of metres of reserve zone to properly protect a stream, particularly if slopes are unstable. But if the stream is bordered by rock surfaces on both sides, the riparian buffer is of little use.

A more flexible option ties buffers to stream function. A detailed assessment of the stream, all wetlands, stream bank stability, slope stability, terrestrial habitat needs and the degree of prior logging determines the ecological needs of the stream and the most suitable buffer design.

The FSC draft standards can be viewed at www.fsc-bc.org.

A JURISDICTIONAL COMPARISON OF RIPARIAN BUFFER ZONES FOR SMALL FISH-BEARING STREAMS



LOGGING PRACTICES ON PRIVATE LANDS HARMING SMALL SALMON STREAMS

British Columbia's Private Forest Practices Regulation was introduced one year ago to much skepticism by environmental groups claiming that the regulation did not provide reasonable protection of public values on private land, such as salmon and wildlife habitat, tourism and recreation values, and drinking water.

A new report by the Sierra Club of B.C. shows that skepticism was well-founded.

The report provides on-the-ground examples of this lack of protection, as well as comparisons to private land regulations in urban areas of B.C. and across the border in the Pacific Northwest that put far greater environmental restrictions on private landowners.

The report focuses on Vancouver Island as the majority of B.C.'s private land is concentrated there on southeast Vancouver Island and the Gulf Islands. Almost 20 percent of Vancouver Island's forest is privately owned, with two companies – TimberWest Forest Limited and

Weyerhaeuser – accounting for most of that.

On private land, logging companies in B.C. are held to much weaker stream protection standards than urban private landowners in B.C. and private landowners in the U.S. Pacific Northwest. While B.C. private forest owners are not required to leave an intact riparian buffer (no-log zone) of any size, Washington State requires intact riparian zones of at least 16 metres (50 feet) on either side of all streams, fish-bearing or not, on private and state lands. Oregon requires a Riparian Management Area of up to 100 feet on streams on private land. Some logging can occur within a Riparian Management Area but only under stringent conditions.

The B.C. Fish Protection Act recommends leaving intact riparian buffers of at least 15 metres on streams in urban areas of B.C. And the federal Department of Fisheries and Oceans recently interpreted the Fisheries Act to mean that intact riparian buffers should be left on all streams

except non-fish bearing streams that are not direct tributaries to fish bearing streams.

Public land forest companies must leave buffers on all but the smallest salmon streams.

Not only are the private forest regulations lax, but they apply to less than half of the private forest land in B.C. Where B.C.'s private forest regulations do apply, case studies on Vancouver Island show that the regulations fail to protect wildlife, salmon,

endangered ecosystems, communities or drinking water.

Sierra Club is calling on the B.C. government to bring private land logging regulations up to standards comparable to nearby jurisdictions and expand the regulation to all private forest lands. The Sierra Club is also calling for a review of provincial and federal tax structures to ensure that they reward good forest stewardship. The report, titled Private Rights and Public Wrongs: The Case for Broader Regulation of B.C.'s Private Forestlands can be viewed at the Sierra Club website at: <http://bc.sierraclub.ca>



A tributary to China Creek is devastated by clearcut logging.

JILL THOMPSON PHOTO

CENTRAL COAST PLAN IS 'SOLID PROTECTION' FOR SALMON STREAMS

A four-year planning process on the Central Coast wrapped up its final negotiation session at the end of March with a solid package of protection for salmon.

At stake was over 4.8 million hectares of marine and upland resources stretching from Bute Inlet to Princess Royal Island, home to about 4,500 people, most of whom are from First Nations.

The Central Coast Land and Coastal Resource Management Process was set up by the province in 1996 with more than 60 organizations participating, including First Nations, forest companies and workers, environmental groups, commercial fishing organizations, tourism and outdoor recreation interests.

If the interim plan is fully implemented, salmon streams will receive much stronger protection than under the Forest Practices Code and salmon aquaculture will face tough new regulations to ensure wild salmon are not harmed. Candidate protection areas are spelled out covering 13 percent of the region, including the Spirit Bear Protection Area on Princess Royal Island to preserve the habitat of the white Kermode bear.

Over the last few years, concurrent with the Central Coast planning process, Greenpeace, Sierra Club and the David Suzuki Foundation were heavily involved in driving the process forward through intensive work with First Nations, direct negotiations with forestry companies and through an international market and media campaign to save the Central Coast

“Great Bear Rainforest.”

Because the area has had relatively little logging to date, environmentalists flagged the Central Coast as the only area of the province with significant intact watersheds that could be protected. They want some watersheds fully protected, but in other watersheds they want logging to be conducted in a radically new way.

Rather than spelling out details on how industrial forestry should be conducted in future, a framework agreement sets up an implementation committee made up of key stakeholders and an independent team of experts to develop practical recommendations for eco-system based forestry.

The agreement sets out a whole new way of thinking about environmental protection and industrial forestry. It endorses the concept of eco-system based management for future forest planning by ensuring “the coexistence of healthy, fully functioning ecosystems and human communities.”

What this means in practice will be an end to annual timber cut levels that are divorced from an understanding of what amount of forest cover is needed to maintain a healthy watershed. It would

mean an end to the wholesale clearcutting around small salmon streams.

One of the key ecological principles spelled out in the deal is to conserve “hydroriparian areas” and to maintain “hydroriparian functions.” This concept acknowledges that the entire drainage system and all the surrounding area that comes under the influence of a stream’s waterflows must be fully

Simultaneous to the land use and forestry measures, stakeholders recommended a new direction for marine protection and planning.

First Nations are adamant that no new salmon farms be placed in their territories without their



LISA MATTHAUS PHOTO

consent. Central Coast communities and commercial fishing groups want full consultation on future salmon farm tenures and they want to see an integrated coastal zoning process that will map out exclusion zones where salmon farms are inappropriate.

The marine component of the plan has not yet been signed off by either the provincial or the federal governments. This is a good plan for the Central Coast and goes a long way towards environmental sustainability and wild salmon protection. It is now up to both levels of government to show they are willing to listen to stakeholders on the Central Coast.

PLAN SET FOR UPPER PITT WATERSHED

Having won a significant victory stopping a gravel mining operation in the Upper Pitt watershed, local groups are now working on a watershed plan that will spell out how the whole ecosystem should be protected.

Peter James, Katzie First Nation chief and co-chair of the Pitt River and Area Watershed Network (PRAWN), explains that “stopping one gravel mine will not solve the problems of the Upper Pitt. Now we need a plan to ensure that its unique natural heritage



The upper Pitt River is home to significant sockeye, pink, chum, chinook and coho salmon runs.

‘Stopping the gravel mine won’t solve the problems of the upper Pitt — we need a plan to ensure this natural heritage remains for future generations’

— Peter James

will remain for future generations.”

Fish, wildlife and recreational activities compete with forestry for use of the valley. PRAWN believes that proper watershed planning is needed to promote sustainable development while preserving important natural futures and ecosystems.

At a public meeting May 3 to talk about the future of the Upper Pitt many voiced concern

about the impacts of increased logging in the watershed and a new year-round logging camp housing 70-80 workers.

Most attending the meeting were very concerned about the long-term viability of salmon runs. The Upper Pitt watershed is home to the largest all-wild coho run remaining in the Lower Fraser system. There are also significant numbers of sockeye, pink chum and chinook salmon.

Despite halting plans for a gravel mine on the Upper Pitt, people are wary of new pressures to extract gravel or other minerals when commodities become scarce or prices rise. They want assurances that a community-based

plan will be acted on by government to ensure that citizens are not left to fight a multitude of development proposals with no overall vision for the sustainability of the watershed.

PRAWN will be gathering public input

over the coming months and compiling information on resources and resource use. Further public meetings and PRAWN meetings will construct a detailed plan for the area that can be presented to all levels of government.



Katzie chief Peter James opens public meeting on the future of Pitt.

DFO NOT PROTECTING WILD STOCKS FROM IMPACT OF SALMON FARMS, SAYS AUDITOR-GENERAL REPORT

The federal Auditor-General has slammed DFO for not adequately researching the impacts of salmon farming on wild salmon stocks. With inadequate information on the effects of disease transferred to wild stocks or the impacts of the colonization of wild streams by escaped farmed salmon, DFO is left in a policy vacuum with little ability to enforce the *Fisheries Act*. The recently announced DFO regulatory framework for aquaculture does little to address these concerns.

Here is what the report says:

- Fisheries and Oceans has legislative responsibility to protect wild salmon from the effects of salmon farming, and it is managing on the basis that salmon farming poses an overall low risk to wild salmon and habitat. The Department is still evaluating information on the effects of salmon farming. It is not certain when it will have enough information to assess and to mitigate against cumulative environmental effects.

- The Department lacks the scientific information it needs to ensure that its compliance monitoring and enforcement activities protect wild salmon and salmon habitat, in keeping with its legislative responsibilities. It is therefore unable to enforce the provisions of the *Fisheries Act* with respect to salmon farming. Furthermore, it is not ensuring that, where it has delegated responsibilities, the requirements

of the *Fisheries Act* are being met.

- The Department has not yet made adequate progress on identifying areas and priorities for research on the effects of Atlantic salmon interaction with wild salmon stocks. This work needs to be done to prepare for an environmental assessment of new

proposals if the industry is to be expanded or to relocate existing farms.

- Because the Department has not determined how to apply and enforce its legislation, it cannot play a leadership role in ensuring that the *Fisheries Act* is addressed in the development of provincial standards. The Department may, therefore, find itself in the position of enforcing federal legislation that conflicts with provincial regulations.

- In summary, the A-G department has concluded that Fisheries and Oceans is not fully meeting its legislative obligations under the *Fisheries Act* while participating in the regulation of salmon farming in B.C.



Gillnetter Terry Lubzinski with an escaped farmed Atlantic salmon, caught during the commercial gillnet fishery in Johnstone Strait.

LAND-BASED SALMON FARM TESTED

Land-based salmon farming is now a reality in B.C.

For many years, environmental groups have been calling for a move to closed contained salmon farms as an alternative to open net pens to eliminate the potential impacts from escaped farmed salmon and possible disease transfer to wild stocks.

The province has now set up a pilot program to test out alternative “green” salmon farming technologies that can reduce or eliminate the risks for wild salmon.

One of the proposals in the first round of applications was a land-based tank farm to be run by Agrimarine Industries, a farmed salmon processing company based in Campbell River. Agrimarine previously ran a net-pen chinook

farm in Kyuquot Sound.

Although the land-based salmon farming proposal didn't make it onto the first short list, the Georgia Strait Alliance and the T. Buck Suzuki Environmental Foundation insisted that it be reconsidered. It is now an approved project and has begun to stock its tank farm at Cedar, south of Nanaimo.

The farm will draw ocean water from the nearby bay to raise mono-sex chinook salmon in a system of concrete tanks. Solid waste will be recovered and composted.

Initially, the farm has been stocked with 5,000 chinook with another 5,000 chinook and 25,000 coho to come shortly.

Agrimarine Industries president Richard Buchanan says that there is a concern about mortalities of smolts



A new pilot land-based salmon farm is now in operation in Cedar.

while being trucked to the farm, but he is optimistic that problems will be overcome.

Also of concern are the higher densities of fish in the tanks required to make the operation economically viable. The fish will be monitored for stress at various production densities and critical grow-out stages.

The salmon farming industry has viewed the project with much scepticism citing high infrastructure costs to

build land-based concrete tanks. The Cedar tank farm was already in existence, built by another company that failed financially. Agrimarine maintains that future land-based systems could be constructed much cheaper using lined ponds rather than concrete tanks. The company also points out that new and more efficient technologies are bringing operating costs down.

CONTAINED SEA FARM PILOTS APPROVED

Two closed-contained ocean-based salmon farms have now set up operations and are about to begin production.

The two farms are part of a provincial pilot program to test alternative salmon farming technologies that have zero or low impact on wild salmon and the marine environment.

Totem Oysters has set up a FutureSea closed bag system in Jervis

Inlet. The circular pens are constructed from impermeable flexible plastic sheeting. Ocean water is pumped into the system using low energy consumption pumps that create a moderate current for the salmon to swim against, promoting a fitter, healthier fish.

Fish waste drifts to the bottom of the conical pen where it is collected and removed by boat.

Atlantic smolts will be

raised to one kilogram, then transferred to one of the seven net pen farms the company currently operates. The waste recovery system is being constructed and will be installed this summer.

Marine Harvest, a division of Nutreco, has another FutureSea system deployed at a site on the east side of Saltspring Island. Salmon are currently being held in net pens

pending full testing of all equipment. Waste will not be recovered.

Proponents of sea-based contained farms say that escaped farmed salmon are almost an impossibility. Predators are eliminated because they cannot see or smell the salmon.

Environmental groups are hoping that testing these systems will lead to economically viable grow-out technologies.

SIMPLE AND INEXPENSIVE STORMDRAIN INSERTS CAN CURB HARMFUL SEDIMENT

Grease, oil and toxins from car exhaust and from leaking car engines combine with fine sediments from construction sites and street repairs to create a hazardous brew that flows into city storm drains — and then straight into the local salmon stream.

Some estimate that 70 to 80 percent of all water pollution in an urban watershed comes from this type of polluted run-



off. Half of it is from parking lots.

Fine sediments can bury and smother salmon eggs. The same sediments can clog juvenile salmon gills, reducing their likelihood of survival, if not killing them outright.

One simple solution being promoted by some conservation groups in B.C. and in Washington State is a special cloth filter that fits under a storm drain grate. It has a deep pocket to catch sediment. The sediment is removed once a month or at whatever time

interval ensures it is doing the job properly. Some are made to absorb oil and grease or include a pouch of absorbent pellets.

Some municipalities such as the District of North Vancouver are using such mats on stormdrains where streets are being dug up for water main or sewage repairs. West Vancouver is encouraging homebuilders to use the mats downstream of their construction sites.

A community group in Washington State, where regulations demand some basic sediment control, has set up a project for young people to

raise money for environmental projects. Project CPR (an acronym for Conserve, Protect, Restore) gives teams of youth volunteers the training and the materials to go out into the community to promote the use of their mat system which they call Grate Mates. The youth volunteers get \$25 per installation. In some cases, the young people take on checking the site on an ongoing basis.

The B.C. Wildlife Federation and the T. Buck Suzuki



The District of North Vancouver uses stormwater grate inserts for its road works (above). Youth teams organized by Planet CPR in Washington (left) install inserts as a fundraising activity.

Environmental Foundation are looking at ways to promote their use in the Greater Vancouver area and the Fraser Valley. A local company, Fluid Inc., makes a similar product. Ironically, they sell more units in Washington State than in B.C. because the U.S. regulations are tougher.

New streamside protection measures in B.C. under the Fish

Protection Act may change this as municipalities move to bring in sediment bylaws as part of the legislative package for stream protection .

Coquitlam and the District of North Vancouver are leaders in sediment bylaw measures and the Capital Regional District is following suit with a model bylaw that may be adopted in July.

FISHERS SEEK ECO-CERTIFICATION

The B.C. Salmon Marketing Council has asked the Marine Stewardship Council to give a preliminary assessment of the sustainability of the B.C. salmon fishery and the potential for an eco-certified label for B.C. salmon.

The Marine Stewardship Council was set up in 1996 as a joint effort of the World Wildlife Fund and food marketing giant Unilever to promote sustainable fishing practices through consumer choice. Unilever markets 25 percent of the world's block fish.

The certification process could provide a useful forum for conservation groups and others to engage in a debate over the

sustainability of the management of the salmon fishery and to look at areas needing improvement. Public input is an important part of the process.

In the end, a fishery can be certified as environmentally well-managed or recommendations can point to the changes that would be required to improve fisheries management adequately to get the MSC label.

Only a handful of fisheries have been certified by MSC to date, the largest being the Alaskan salmon fishery. That certification has come under criticism recently by some conservation groups who

do not believe that a blanket endorsement of a fishery is appropriate when it varies so widely in its management for various fishing gear types and in various areas of the Alaskan coast.

The MSC does not evaluate fisheries itself. The MSC Standards Council in the U.K. has set out basic principles of sustainability that are applied to a local fishery by an independent certification team familiar with local conditions. They do not do stock assessment or fisheries monitoring. They assess the government management regime to determine if it

is capable of ensuring healthy stocks and sustaining a healthy ecosystem.

In the case of the Alaskan salmon fishery, a 14 page set of performance indicators and scoring guideposts became the backbone of the evaluation.

The assessment included questions such as: are catch and escapement data reliable? If weak stocks are depleted, are fisheries curtailed to allow recovery? Are the levels of bycatch and mortalities known? Is biological diversity being maintained? Is the consultative process transparent?

MSC certification is for five years, with an annual monitoring of the fisheries management regime.



BRITANNIA MINE GETS CLEAN-UP FUNDS

A \$60-million cleanup plan unveiled by the B.C. government in April marks a major turning point in ending the chronic pollution problems at the Britannia Mine north of Vancouver, the Sierra Legal Defence Fund says.

Environment Canada calls the site the largest single source of toxic metals contamination in North America. "Every day up to one tonne of toxic copper and zinc flows from the mine site

into Howe Sound without any treatment whatsoever," says Mitch Anderson, staff scientist with Sierra Legal Defence Fund.

"This is a known migratory route for salmon returning to the Squamish River system and a holding area for juvenile salmon heading out to sea," he said.

The cleanup plan calls for \$30 million in funds to come from the Aluminum Company of America (Alcoa) and three of its subsidiaries,

the Atlantic Richfield Company, Canzinc Ltd., and Ivaco Arrowhead Metals Ltd. The rest of the money will come from the current owner, Copper Beach Estates Ltd. and, it is hoped, a provincial-federal infrastructure program.

Noting that toxic copper pollution has occurred at the site for almost 100 years, Anderson says Sierra Legal is cautiously optimistic that the deal will result in a great

improvement to water quality in Howe Sound.

The plan would not have materialized without the B.C. government threatening to take the mining companies and current owner to court under liability provisions of the Waste Management Act. The Britannia mine is just one of an estimated 1,800 abandoned mines in the province. Some, like Vancouver Island's Mt. Washington mine, remain serious polluters decades after closure.

RESOURCES • PUBLICATIONS

LOGGING ON PRIVATE LAND

A report from the Sierra Club of B.C. documents the continued environmental and social impacts of private land logging in BC by TimberWest and other industrial logging operations including Texada, Raven, and Weyerhaeuser. Sierra Club is calling on the government to conduct a review of BC's Private Forest Practices Regulation, and to bring BC private forestry standards up to the same environmental levels as Washington State. The report is available at:

<http://bc.sierraclub.ca/>

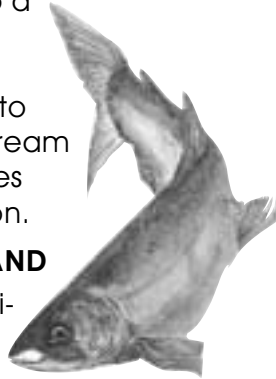
STREAMSIDE PROTECTION

Check out a slide show presentation about the problems of urban development at the Pacific Streamkeeper Federation

website at:
<http://www-heb.pac.dfo-mpo.gc.ca/PSkF/home.htm>. There is also a new set of pictures by Mike Wigle to help with stream invertebrates identification.

HEAL THE LAND

A new publication from the B.C. Environment Network, called Healing the Land, Healing Ourselves, puts together information and resources on identifying ecosystem restoration needs, building community support, planning restoration projects, getting funding and publicizing the results. For BCEN members, copies are \$5; for



non-members \$15. There is also 20-minute video with the same theme: \$10 for members, \$20 for non-members. To get copies send a request and a cheque to the BCEN at 610 — 207 W. Hastings Street, Vancouver, B.C. V6B 1H7.

CENTRAL COAST SALMON

Salmon Conservation on the Central Coast, a new report put out by the Pacific Fisheries Resource Conservation Council, looks at the status of coho and chinook stocks in Central Coast rivers. Poor returns have undermined the commercial and aboriginal fisheries and affected communities throughout the region. The report says monitoring is inadequate to ensure the state of stocks can be properly tracked. The report is at: <http://www.fish.bc.ca/>

