

Headwater Headlines

CONSERVATION NEWS FROM THE FRASER HEADWATERS BIOREGION

WINTER 2001

Restoration Project Improves Habitat, Stabilizes Bank

By Taylor Bachrach

Riparian ecosystems—areas immediately adjacent to streams, rivers or lakes—play an important ecological role. Not only does the vegetation growing in these areas help prevent erosion, it also provides habitat for both aquatic and terrestrial wildlife species. Terrestrial species use riparian areas as linear migration corridors, while aquatic species benefit from debris that falls into the water from these areas.

Poor agricultural practices, such as overgrazing and the clearing of vegetation adjacent to streams or rivers, can have serious consequences for the health of riparian ecosystems. Overgrazing suppresses vegetation and accelerates erosion through compaction and soil disturbance. Since riparian ecosystems are such a vital part of the landscape, restoring areas that have been negatively impacted is an important step in maintaining healthy, functioning ecosystems.

In the spring of 2001, the Fraser Headwaters Alliance undertook a riparian restoration project along the upper Fraser River, on the land of Richard and Elizabeth Chambers adjacent to the Dunster Bridge. The Chambers' property, an active sheep ranch, includes approximately two kilometers of river frontage. Poor riparian management prior to their purchasing the property led to the near-total loss of vegetation along the riverbank, resulting in increased erosion and bank failure over the years.

Richard and Elizabeth were interested in doing something to remedy the problem, and the Fraser Headwaters Alliance stepped in to help with the project.

In early March, with funding from the Upper Fraser Nechako Fisheries Council, the Fraser Headwaters Alliance hired a three-person crew and began the restoration effort. The plan was to plant the riparian zone with a mixture of deciduous and coniferous tree species in hopes of re-establishing the pre-existing forest. Once planted,



Taylor Bachrach photo

the area adjacent to the riverbank would be fenced off the area to prevent further damage from the sheep herd (to whom the freshly planted willows and cottonwood presented a convenient and tasty source of nourishment).

Most of the planting was done using a live-staking technique commonly used in the forest industry to stabilize erosion-prone areas. This involves collecting live cuttings from young deciduous trees while the plants

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are still dormant—late winter or early spring—then planting the sharpened cuttings, or stakes, directly in the ground. Willow and cottonwood were planted using this technique, while birch and red-osier dogwood were purchased from a nursery as rooted plug stock. A number of spruce seedlings were also taken from another area of the Chambers' property and added to the mix. In all, over 20,000 seedlings and live-stakes were planted between April and May.

With planting completed, Richard and one of the crew installed fence along the length of the river frontage. Fence posts for the project were generously donated by the Habitat Enhancement Branch of the Department of Fisheries and Oceans. Since completion of the project, visits to the site have revealed that the plantings are growing vigourously, and we are hopeful that the next few years will see a marked change in the health of the Chambers' riverbank.

The Fraser Headwaters Alliance would like to thank Richard and Elizabeth Chambers for their cooperation and commitment to conservation. As well, we would like to thank the project funders: the Upper Fraser Nechako Fisheries Council (Fisheries Renewal BC) and the Department of Fisheries and Oceans for their generous support.

E-Team Youth Crew Upgrades Valley Hiking Trails

Five local youth took to the hills this past summer, armed with brush saws, pulaskis and a penchant for hacking, hauling and digging. Sound strange? The youth were part of the Fraser Headwaters Alliance-sponsored Environment Youth Team trail crew, a project aimed at upgrading recreation trails in the Robson Valley and surrounding area.

The Robson Valley has an excellent system of Forest Service recreation trails, many of which access spectacular alpine areas. In recent years, maintenance of these trails has fallen by the wayside due to insufficient budget allocations to the Ministry of Forests' recreation program. Many trails became overgrown with brush, while others became difficult to find due to insufficient marking.

Crewmembers Josh Hammerstedt, Ben Mullen, Karita Hunt, Jared Smith and Tom McLean, along with Supervisor Brian Janecke, were hired in late June under the BC Government's Environment Youth Team program. With a rented four-wheel-drive suburban as transport, the crew spent two months traveling to a number of trails to clear brush, mark routes and provide general maintenance.

Maintained trails include the Dunster Trail, Eagle Valley Trail, Groeneveld Trail, Mica Mountain Trail, Historic Goat River Trail and the Little Lost Lake Trail, among others.

The highlight of the crew's summer was a week-long shift in a remote part of the Goat River watershed between the Fraser River and Bowron Lake. Flying in by helicopter, the crew set up a backcountry camp and worked for five days before being transported to Bowron Lake by area outfitter Tim Cushman and his packhorses.

In the end, the E-Team crew significantly improved the area's trail system, a community resource that the Alliance believes can play a key role in diversifying the local economy and encouraging low-impact tourism. The project also provided much-needed summer employment for local youths. The Fraser Headwaters Alliance would like to thank the Ozalenka Alpine Club, Tim Cushman of Wolverine Mountain Outfitters, and Lothar Vollman of Bechers' Lodge for helping make the trail project a great success.

Unfortunately, the Liberal Government recently cancelled the E-Team program as part of their sweeping cuts to the civil service. The program's cancellation will be felt by conservation groups across the province, as the E-Team's employment subsidy programs employed hundreds of youth and were responsible for the completion of a huge variety of conservation-related projects. If you would like to express your support for the reinstatement of the E-Team program, call Premier Gordon Campbell at 1 (800) 663-7867 (ask for the Premier's Office).



Brian Janecke photo

Left: The Fraser Headwaters Alliance E-Team work crew take a break from trail work in the upper Goat River watershed. Shown are (left to right) Karita Hunt, Jared Smith, Tom McLean, Ben Mullen, Josh Hammerstedt and supervisor Brian Janecke.

Inland Rainforest of the Fraser Headwaters a Rare and Threatened Ecosystem

by Taylor Bachrach

Some of you with your ears close to the ground may have recently heard the term 'Inland Rainforest' thrown around in environmental circles. It does not appear to be widely understood, however, where and why these forests exist, and more importantly, that the Inland Rainforest is one of the most threatened ecosystems in British Columbia.

Moving northeast, air masses pick up moisture as they pass over interior valleys and release this moisture when they run into the mountains of east-central British Columbia—a process called “orographic precipitation” in climatologist-speak. This moisture released as rain and snow creates the conditions for one of the wettest terrestrial ecosystems in the province. It is this ecosystem that has come to be known as the Inland Rainforest, an area comprising the wettest sub-zones of the Interior Cedar-Hemlock (ICH) biogeoclimatic zone. Though there is some debate about the exact extent of the Inland Rainforest, it is generally restricted to the windward side of the Rocky and Columbia Mountains between 51N and 54N. The best example of this forest can be seen in the Rocky Mountain Trench between McBride and Purden Lake.

Why is this forest so significant? First, the biological and structural diversity that distinguishes parts of the Inland Rainforest, particularly the low-elevation western redcedar and western hemlock stands, is unparalleled in the interior of the province. This is because the wet nature of parts of the Inland Rainforest precludes the frequent stand-replacing disturbance events such as wildfire

that characterize many other forest ecosystems. In parts of the Inland Rainforest stands of trees can escape disturbance for hundreds—even thousands—of years, resulting in very old stands that have developed unique ecological characteristics. The oldest of these stands, where the age of the forest as a whole is significantly greater than



In parts of the Inland Rainforest stands of trees can escape disturbance for hundreds—even thousands—of years

Mike Nash photo

the oldest tree, have come to be called 'antique forests.' Antique forest stands occur in discrete pockets where slope position, aspect, and moisture regime protect the forest from disturbance.

Second, the biological diversity of the Inland Rainforest has only recently begun to be explored at the ground and canopy level. To date, much of this research has been focused on arboreal lichens (lichens that grow on tree branches) and their relationship to forest age and structure. The emerging theory is that certain lichens are age-specific and depend on very old forest stands to provide the ecological and climatic characteristics necessary for their survival. These lichens may thus hold the key for assessing forest age and locating antique forests. Research in the Inland Rainforest is ongoing and researchers from the University of Northern British Columbia say that there is great potential for the

discovery of species and ecological relationships not found elsewhere.

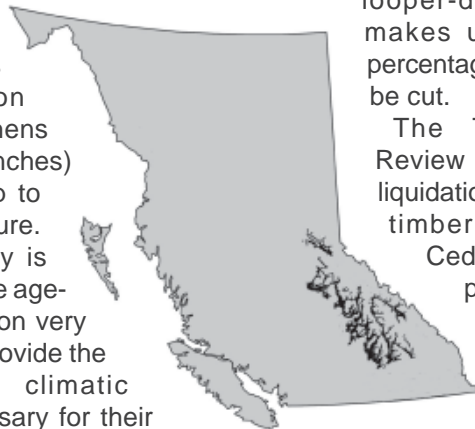
As is the case with many of the province's rarest ecosystems, however, not all is well in the woods. In addition to hosting incredible biological diversity, the Inland Rainforest is also one of the province's most productive forest ecosystems and is being liquidated by forest companies at an ever-increasing rate.

This is especially true in the Prince George Forest District, where salvage logging is rationalized by an outbreak of western hemlock looper. A much maligned caterpillar, the looper affected hundreds of hectares of hemlock in the Robson Valley between 1990 and 1995. Now with the release of the District's Timber Supply Review and the granting of a new tenure, the looper-damaged timber makes up only a small percentage of the volume to be cut.

The Timber Supply Review recommends the liquidation of 100,000m³ of timber in the Interior Cedar-Hemlock zone per year for the next 50 years. This is despite the fact that the Ministry of

Forest's calculated long-run sustained yield for the Inland Rainforest is 85,000m³ per year. In most of the areas cut, cedar and hemlock stands will be replanted with

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Keith Berg photo

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spruce and Douglas fir, eliminating the possibility of the forest ever regaining its original composition and associated biological diversity. In a worse case scenario, we could see the loss of over 70% of the Interior Rainforest by the year 2017.

See the box below for ways that you can help the Fraser Headwaters Alliance gain protection for our globally unique Inland Rainforest.

Get Involved!

If the Inland Rainforest is to survive to see another generation of humans walk beneath its canopy, we need to speak out now. Write to the BC Minister of Forests, Michael de Jong today and tell him how you feel about British Columbia's economic engine being fueled by globally significant stands of ancient Interior Rainforest.

Hon. Michael de Jong
Minister of Forests
Rm 128, Parliament Buildings
Victoria, B.C.
V8V 1X4

Strategic Planning Session a Great Success!

by Lelani Arris

Friday evening, November 2, sixteen FHA members met at the Motherland Inn for a strategic planning meeting that continued all day Saturday. Assisted by Cameron Lipp of the Rivershed Society, the group reviewed the long- and mid-term objectives set at our last strategic planning meeting (April 2000), revised and added to these objectives, and selected six of these as our highest priority activities for the next two years.

These include protection of the Goat and Raush River watersheds; an empowered and effective membership; implementation of the ecosystem based plan; identification and protection of antique forests; and continued efforts to reduce this area's Annual Allowable Cut to a sustainable level. The group then broke each of these priority goals down into specific action items to be

taken in the next two years, and, where possible, who would be responsible for leading efforts on each particular task.

The fact that other long- and mid-term objectives did not make this list does not mean FHA is abandoning them, but we cannot do everything at once. By focusing on these specific goals for the next two years we hope to achieve measurable progress towards achieving them. We will also hold a planning meeting annually, to assess results and update the strategic plan.

Along with brainstorming and discussion, we ate and laughed a lot, and generally had a good time! Members are encouraged to obtain a copy of the Strategic Plan by contacting Taylor or Roy at the Fraser Headwaters Alliance, (250) 968-4490 or roy@fraserheadwaters.org.

FHA Staff (both of 'em)

Roy Howard

Roy has been working as Coordinator of the Fraser Headwaters Alliance since 1999, but has been involved in conservation for much longer. Roy is an integral part of the organization and is responsible for converting the Alliance's mission statement into workable conservation initiatives. In his spare time he can be found clearing hiking trails in any of several headwaters locales, including the Goat and Raush River watersheds. Roy has a BSc in zoology from the University of California at Davis and in a previous life was a carpenter and silviculture contractor.



Taylor Bachrach

Born and raised in the Robson Valley, Taylor joined the Fraser Headwaters Alliance as Assistant Coordinator in December 2000. Since then, he has been busy helping coordinate the Goat River Trail brochure, the riparian restoration project and the E-Team trail crew (in between paddling and skiing trips). Taylor recently completed an Honours BSc in geography and environmental studies at the University of Victoria.



Conservation Plan Released for the Fraser Headwaters Region

(adapted from the Fall 2001 edition of *Silva Forest Foundation News*)

In early October, the Fraser Headwaters Alliance and the Silva Forest Foundation released their Proposed Conservation Plan for the Fraser Headwaters region at a series of presentations held around the Headwaters region. The plan is the culmination of two years of work and both groups hope that it will provide a foundation for sustainable land use in the future.

The Proposed Conservation Plan utilizes an ecosystem-based approach to land use planning pioneered by the Silva Forest Foundation. This approach seeks to protect ecosystem functioning as a first priority, then to sustain within ecological limits a diversity of human uses across the landscape. In other words, an ecosystem-based approach focuses first on what to leave and then on what can be taken without damage to the ecosystem.

Ecosystem-based planning is undertaken at multiple scales that begin with very large areas and are then nested within each other. At the

landscape level—the scale at which the Proposed Conservation Plan was conducted—coarse analysis is carried out over large areas in order to design a Protected Areas Network (PAN). This system of core reserves and corridors is designed to protect ecosystem functioning at the landscape level.

Those areas not included in the PAN are then studied at the watershed level to delineate smaller core reserves and corridors, and to determine where human uses such as logging, ecotourism, hunting and fishing may be carried out. Planning at this scale has already been completed for part of the Robson Valley and is available online (see below). Finally, for zones designated for logging, a final round of ecosystem-based planning is conducted at the stand level. These three levels of planning ensure that ecosystem composition, structure, and function

are protected at all spatial scales.

Herb Hammond from the Silva Forest Foundation and Fraser Headwaters Alliance Coordinator, Roy Howard, presented the new plan to local communities, First Nations and staff from various government agencies. The plan was also



Herb Hammond photo

presented at recent meetings in Nelson of the Yellowstone to Yukon Conservation Initiative. These presentations resulted in some constructive discussion and in general

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The Maps

Map 1. The Fraser Headwaters highlights the topography of the area and illustrates the very rugged mountainous landscape. One third of the area lies above tree line; a further third is composed of high elevation forests. Cold climate, heavy snowfalls, thin soils, and steep terrain are major ecological limits.

Map 2. Landscape Diversity shows the distribution of forest types in the Fraser Headwaters. The highest diversity is found at lower elevations within the Rocky Mountain Trench. Most of the sidevalleys are less diverse, although exceptions to this pattern occur in a few places, such as the Raush River Valley.

Map 3. Ecological Risk shows areas with high sensitivity to disturbance, such as wetlands, steep slopes, high quality caribou habitat,

and riparian ecosystems. Over 70% of the study area was identified as high ecological risk.

Map 4. Antique and Old Growth Forests highlights the location of the oldest forest stands within the Fraser Headwaters. Over 60% of the forests are old growth. The oldest of these forests, located in very humid locations at low elevations, are termed antique forests.

Map 5. Human Disturbance shows the extent of human activity on the landscape, including past and planned logging, roads, railroads, and cleared and private land.

Map 6. Protected Area Network synthesizes the information and analysis presented in maps 1-5. The Protected Area Network shows those areas that must be set aside in order to protect ecosystem functioning at the landscape

level. The Protected Area Network includes two main components: Proposed Full Protection and Proposed Conservation Emphasis. The Proposed Full Protection areas include a corridor along the Rocky Mountain Trench protecting the antique forests, and two major linkages connecting the Rocky and Columbia Mountains across the Trench. These linkages promote movement through the Fraser Headwaters area and between the large protected areas that border it on both sides. The Proposed Conservation Emphasis areas buffer the Full Protection areas and provide additional connectivity in the landscape. Although not recommended for full protection, more stringent ecosystem-based guidelines for human use will need to be developed for these areas.

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 the Plan was very well received. Hammond stressed that the success of the Plan depends largely on the commitment of local communities to adopt the approach and adapt it to local values and needs. The next step, he said, is to conduct a detailed economic analysis of the Fraser Headwaters Region and design a transition strategy in the context of the new plan.

More information on ecosystem-based planning, including the watershed-level plan for the Horsey Creek Landscape, can be found on the Silva Forest Foundation website: www.silvafor.org. Digital copies of the Proposed Conservation Plan can be obtained by contacting the Fraser Headwaters Alliance at (250) 968-4490. The Fraser Headwaters project was funded by the Lazar, W. Alton Jones, Tides Canada and Wilburforce Foundations.



Map courtesy of the Silva Forest Foundation



Keith Berg photo

It takes a lichenologist

Under ancient cedars, spattered with gold dust
 frost-hit devils club leaves
 drape like oily rags or giant bats
Oplopanax horridus reeking of unlooked for death.
 Two marvelling lichenologists have started
 unraveling how our forest works.

Stubble lichens named for a mans neglected chin
 a rough grain field after harvest,
 a silent clear-cut still smelling of cedar fronds and Christmas -
 fallers back in town drinking beer, readying saws.

Seventy Stubble lichen species so far identified
 Most need an old old cedar-hemlock forest
 and snows blue light unfound on the coast.
 That is just a start: if theres still time,
 lives must be dedicated to conks, liverworts, beetles
 and more.

At last science tells us these forests are unique even precious;
 not sickly, stunted, decadent coastal anomalies best replaced.
 This artists or poets instantly know
 or anyone with eyes.

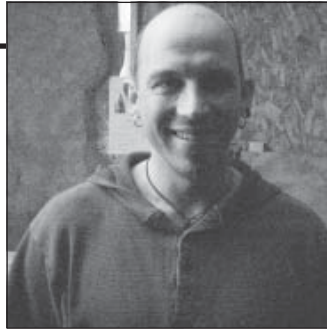
Virginia Karr

Meet the Board:

The Fraser Headwaters Alliance Board of Directors is a group of local individuals from a variety of backgrounds who share a commitment to the local environment and a desire to see the ecological health of the region protected for future generations.

Cary Glenn

Cary lives in Dunster and works seasonally as a whitewater raft guide on the upper Fraser River. Trained as a blacksmith, Cary is also actively involved in Search and Rescue in the Robson Valley.



Chantal Midgley

Chantal is currently serving as FHA's secretary and recently gave birth to twins. Chantal is trained as a forest technician and has worked extensively in silviculture in the Robson Valley.



Lelani Arris

Lelani is FHA's President. Editor of the internationally distributed magazine, *Global Change*, Lelani also serves as the Secretary of the Green Party of BC and ran for MLA in the last provincial election.



"Never doubt that a small group of committed citizens can change the world.

Indeed, it is the only thing that ever has." -Margaret Mead

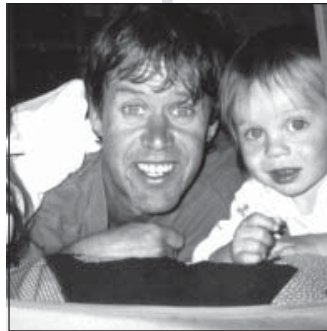
Cathy Greenough

Cathy lives in Dunster and is actively involved in the Dunster Fine Arts School and Dunster Community Association, in addition to being trained as a cabinetmaker.



Brian Janecke

Brian (shown with son Noah) has a bachelor of Education in outdoor pursuits from the University of Calgary. His involvement with FHA has included supervising the E-Team trail crew and working on the culvert inspection project.



Larry Stamm

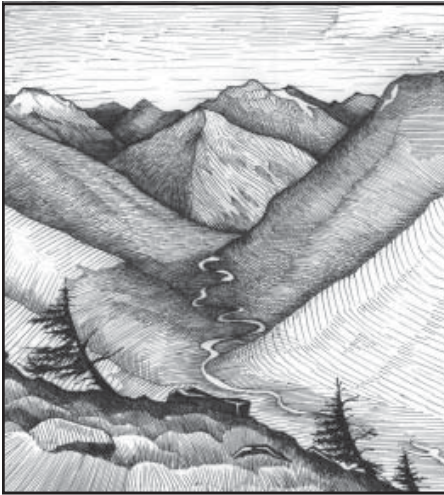
Larry (shown here with grandson Caidin) is a local luthier and makes guitars and other stringed instruments utilizing local old-growth tree species. Larry is also actively involved in the Ozalenska Alpine Club.



Jill Howard

Jill is a high school math and science teacher. She also coordinated the Dunster Environmental Student Committee and represented environmental interests at the LRMP planning process.





Drawing by Taylor Bachrach

Who is the Fraser Headwaters Alliance Anyway?

The Fraser Headwaters Alliance is a grassroots conservation organization based in the Robson Valley. Since 1988, we have been working to promote economic and ecological sustainability in the Fraser Headwaters Region. Our mission statement is to “*protect and restore the ecosystem health and natural beauty of the Robson and Canoe Valleys and all the watersheds associated with them.*” The Fraser Headwaters Alliance is a registered non-profit society under the BC Societies Act. We are a member of the Forest Stewardship Council, Federation of Mountain Clubs of BC, and Land Trust Alliance of BC and actively participate in the Yellowstone to Yukon Conservation Initiative.



Breaking News...

As we were going to press, the Fraser Headwaters Alliance learned that McBride Forest Industries has begun road construction in the upper Goat River watershed. Logging of the first cutblock is imminent. Road construction has already destroyed one kilometre of the Historic Goat River Trail, the re-establishment of which has been a major FHA effort over the past three years. If pushed further into the watershed, the road will be built directly on the bank of the river for 300 metres, seriously damaging Chinook salmon and bull trout spawning and rearing grounds. This is in flagrant violation of the BC Forest Practices code and is currently under investigation by the BC Forest Practices Board.

To get involved in the fight to save the upper Goat, contact Roy or Taylor at (250) 968-4490 or email roy@fraserheadwaters.org.

Coming Events:

January 24: Fraser Headwaters Alliance Annual General Meeting, 6:00pm at the Dunster Community Hall. Potluck dinner preceding meeting.

February 7: Fraser Headwaters Alliance Board of Directors Meeting, 7:00pm at the Howard residence.



YOU CAN HELP SUPPORT CONSERVATION WORK IN THE FRASER HEADWATERS:

Yes, I would like to become a member of the Fraser Headwaters Alliance. Enclosed is my individual/family membership fee of \$20* (low-income rate available, please inquire)

*Membership fee includes membership in the Federation of Mountain Clubs of BC

Name: _____

Address: _____

Phone: () _____ Email: _____

Please accept the following donation towards the activities of the Fraser Headwaters Alliance (check one):

\$50 \$100 \$150 \$250 \$500 Other _____

Unfortunately we are not able to issue tax receipts for donations at this time

We also have posters for sale featuring the threatened Goat and Roush River watersheds. Cost is \$5 each. Please specify:

Goat River watershed Roush River watershed

Cut this form out and mail to:
Fraser Headwaters Alliance, 6005 Brown Road, Dunster,
BC, V0J 1J0