DOCUMENTATION

9th Living Lakes Conference

Land and Water Use in Recreational Development - Business and Corporate Social Responsibility for Water Ecosystems

September 26 – October 2

2004

Columbia River Wetlands, British Columbia, Canada

Global Nature Fund

INVERMERE

Living Lakes

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International Foundation for Environment and Nature

Imprint

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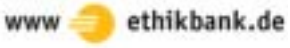

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Content

Prefaces

Marion Hammerl-Resch

Marion Hammerl-Resch, President of GNF

Dear Conference Participants, Partners and Friends of Living Lakes, dear Reader!

Members of the continually extending Living Lakes network - currently counting 25 lakes represented by more than 35 organizations from all over the world - convened for its 9th conference in British Columbia. Special focus was on the Columbia Wetlands in the Canadian Rocky Mountains. The event was hosted and organized by the Global Nature Fund in cooperation with the East Kootenay Environmental Society/ Wildsight and the District of Invermere. Over 40 events, field trips, presentations, panels and discussion groups were offered by a staff of more than 45 people, including volunteers.

This year's conference facilitated a dialogue on Land and Water Use in Recreational Development as well as Business and Corporate Social Responsibility for Water Ecosystems. Attention was drawn to the severe threats to sensitive areas in the Columbia Wetlands, occurring in comparable areas around the world. The conference program was shaped by more than 90 speakers and trip leaders, who shared their experiences, successes and challenges in the field of sustainable recreation and business practices. The conference delegates had the opportunity to experience the ecological as well as cultural values of the area and learn about conservation initiatives, undertaken by local organizations to protect the Columbia River system.

Lake regions are essential aesthetic and recreational treasures that attract millions of people worldwide. The popularity of recreational lakeside communities has increased substantially over the time and, concomitantly, the challenges to sustain water quality. Issues such as the diversion of water, wastewater from resorts and recreational developments, impairment of natural shorelines and dramatic increases in motorized watercraft, all negatively effect the lake ecosystems and disturb wildlife. It is mandatory to take action to protect fragile lake and wetland ecosystems. As lakeside communities develop into tourism and recreational destinations, it is essential to plan recreational land-use and water-use development that protects the ecological integrity of wetland and lake ecosystems. This fundamental insight represents the very core of sustainable development.

During the conference, discussions centered around ideas to promote water care by businesses; aquatic ecosystem protection was highlighted as well as community participation in the upcoming case of the Columbia River Treaty Transboundary. Special focus was put on the situation of Canada's First Nations and their need to connect traditional values with community integration and political decision-making. In sum, all events pointed to issues of the greatest global concern: protecting a vital resource - water - while balancing the needs of people and wildlife. Also, the subject of accountability for environmentally responsible economic activity by business, communities and government was underlined.

I would cordially like to invite you to the next Living Lakes Conference that will be held at Laguna de Bay, Philippines, in May 2005.

Marion Hammerl-Resch
President of Global Nature Fund

Marion Hammerl-Resch

Sehr geehrte Konferenzteilnehmer, Living Lakes Partner und Freunde, liebe Leserin, lieber Leser!

Die Mitglieder des kontinuierlich wachsenden Living Lakes-Netzwerks, derzeit 25 Seen repräsentiert durch insgesamt mehr als 35 Organisationen weltweit, kamen zur 9. Living Lakes-Konferenz in British Columbia zusammen. Spezielle Beachtung kam hierbei den Columbia Feuchtgebieten in den Rocky Mountains zu. Veranstalter und Organisator der Konferenz war der Global Nature Fund (GNF) in Zusammenarbeit mit der East Kootenay Environmental Society (EKES)/Wildsight und dem Distrikt von Invermere. Auf dem Programm standen über 40 verschiedene Veranstaltungen, Exkursionen, Präsentationen, Diskussionsforen, die von mehr als 45 Mitarbeitern und Ehrenamtlichen zusammengestellt wurden.

Die diesjährige Konferenz ermöglichte den fruchtbaren Dialog über nachhaltige Land- und Wassernutzung im Tourismus sowie die gesellschaftliche und soziale Verantwortung von Unternehmen für Wasserressourcen. Besonderes Augenmerk galt den Gefahren, denen empfindliche Ökosysteme in den Columbia Feuchtgebieten wie auch in anderen Regionen weltweit ausgesetzt sind. Das Programm wurde von mehr als 90 Sprechern und fachkundigen Führern gestaltet, die ihre Erfahrungen, Erfolge und Herausforderungen bei den Methoden der Erholungs- und Unternehmensbranche einbrachten. Die Konferenzteilnehmer hatten die Gelegenheit, die ökologischen und kulturellen Werte der Region sowie lokale Initiativen kennen zu lernen, die sich für den Schutz des Columbia Flusssystems einsetzen.

Seen sind durch ihre Ästhetik und ihren Erholungswert kostbare Regionen, die Millionen von Menschen weltweit anziehen. Die Popularität von Erholungs- und Ferienorten haben zugenommen und mit ihnen die Herausforderung, eine gute Wasserqualität zu erhalten. Negative Folgen auf das Ökosystem und die Tier- und Pflanzenwelt haben beispielsweise die Abflüsse aus den Ferienanlagen, die dramatisch gestiegene Anzahl von Motorbooten sowie die Beeinträchtigung der Uferbereiche. Es ist deshalb notwendig, einen Entwicklungsplan für die Nutzung von Land und Wasser in sensiblen Seeökosystemen einzusetzen. Diese fundamentale Einsicht ist das Kernelement von nachhaltiger Entwicklung.

Während der Konferenz konzentrierten sich die Diskussionen auch auf den Schutz von Wasser in Unternehmensbereichen. Im grenzüberschreitenden Columbia-Flussabkommen standen sowohl der Schutz von Gewässersystemen als auch die Mitwirkung der breiten Gesellschaft im Vordergrund. Ein besonderer Akzent wurde auf die Lage der First Nations in Kanada gelegt und auf die Bedeutung der Verknüpfung traditioneller Werte mit der gesellschaftlichen Integration und politischen Entscheidungsfindung. Insgesamt kristallisierten sich auf der Tagung Themen von größtem globalen Interesse heraus: Den Schutz der lebenswichtigen Ressource Wasser mit den Bedürfnissen des Menschen und der Natur in Einklang zu bringen. Hierbei spielt die ökologische Verantwortlichkeit von Unternehmen, Gemeinden und Regierungen eine wichtige Rolle.

Ich möchte die Gelegenheit nutzen und Sie ganz herzlich zu unserer 10. internationalen Living Lakes Konferenz einladen, die im Mai 2005 auf den Philippinen stattfinden wird.

Marion Hammerl-Resch
Präsidentin des Global Nature Fund

Marion Hammerl-Resch has been President of the GNF since 2002 and Director of the Lake Constance Foundation since 1997. Additionally she is co-founder of the ECOCAMPING Association (environmental management for camping sites) and member of the Board of Directors. She is co-founder and actual president of the Spanish Foundation Fundación Global Nature in Madrid, co-founder of ECOTRANS-España. This organization is a Spanish member of the European network ECOTRANS, which connects organizations and experts in 12 European countries dealing with tourism and sustainability.

Mark Shmigelsky

Mark Shmigelsky,
Mayor of Invermere,
British Columbia,
Canada

Dear Colleagues and Friends, dear Reader,

I would like to acknowledge that the conference took place in the traditional territory of our First Nations.

I would also like to recognize the member of our federal parliament and our provincial member of the legislature both will be attending the conference throughout the week.

Further, I would like to draw your attention to our visiting members of government from Canada and around the world, as well as, my local government colleagues from, across British Columbia. To all of you, our international delegates, who have come so far and to those of you from across this great country of Canada, welcome to the Columbia Valley and the 9th Annual Living Lakes Conference!

Last year, I had the honor of attending the 8th Living Lakes Conference in Norwich, England, hosted by the Broads Authority. I would like take this opportunity to congratulate them once again for an excellent conference and compliment the city of Norwich on being just an incredible place to visit.

It's not everyday that a small community of 3,000 people send their mayor half way around the world to attend an environmental conference, unless they were trying to get rid of me? I can tell you that I had an incredibly eye-opening experience. I learned many things from Living Lakes Conference. I learned about the incredible commitment, that you people have to your Living Lake and how you try so hard to educate government, how you try so hard to educate industry, how you try so hard to educate people about the importance of the environment and the role it plays in their daily lives.

I learned about real corporate leadership and the commitment of companies like Unilever, DaimlerChrysler, Lufthansa, T-Mobile, Karcher and many others. I even remember the T-mobile delegate telling us to unplug our cell phone chargers at home, when they are done, so that we don't waste electricity. That's common sense right, but how many of us do it? I didn't know that it wasted electricity. We have our own local examples, at this conference of companies like Canfor, Tembec and Kicking Horse Coffee, each of them trying to show leadership by doing things better. I learned that politicians should show leadership and not just speak about the environment at conferences like this but everywhere they speak, because it is essential, to our quality of life to ensure that the environment and the economy are both sustainable.

However, most importantly for me, I learned that as a father of a three year old boy, who is now four years old, I had the greatest responsibility to provide a healthy environment for him!

It is my responsibility to ensure that we have an economy and an environment that will be sustainable now and into the future. That I leave him, a quality of life worth leaving behind, for his generation and for those to come after.

As you debate this year's theme of business and corporate responsibility and recreational development. I hope that you are able to learn from each other's successes and setbacks and that, at the end of this conference, you will be even more determined to save your Living Lake!

Ladies and Gentlemen, our council and our community are extremely proud to be involved with the Global Nature Fund and the East Kootenay Environmental Society/Wildsight in this Living Lakes Conference and on behalf of my community and our council, I thank you and welcome you to our home. Thank you and have a great conference!

Mark Shmigelsky
Mayor of Invermere, BC, Canada

Mark Shmigelsky

Sehr geehrte Damen und Herren, liebe Leserinnen und Leser!

Ich möchte Sie zunächst darauf aufmerksam machen, dass die Konferenz auf traditionellem Gebiet der First Nations stattfindet. Ich möchte besonders die Vertreter der Bundes- und Landesregierungen, die der Konferenz beiwohnen die Regierungsmitglieder aus Kanada und der ganzen Welt sowie meine Kollegen aus British Columbia begrüßen.

Letztes Jahr wurde mir die Ehre zuteil, an der 8. Living Lakes Konferenz im englischen Norwich teilzunehmen. Ich habe seitdem viel über das unglaubliche Engagement des Living Lakes-Netzwerkes erfahren und über Ihre großen Bemühungen, Regierung, Industrie und Öffentlichkeit über die Bedeutung der Umwelt und ihrer Rolle im täglichen Leben aufzuklären. Auch habe ich viel über Unternehmensführung gelernt und das Engagement, das Unternehmen wie Unilever, DaimlerChrysler, T-Mobile, Kärcher und viele mehr, zeigen. Wir haben auch hier Beispiele von Vertretern lokaler Organisationen und Unternehmen wie Canfor, Tembec und Kicking Horse Coffee, die verantwortungsbewusst handeln. Politiker sollten nicht nur über die Umwelt reden, sondern auch Verantwortung zeigen, um die Nachhaltigkeit der Umwelt zu sichern.

Ladies and Gentlemen, der Stadtrat und die Gemeinde sind sehr stolz darauf, zusammen mit dem Global Nature Fund und der East Kootenay Environmental Society/Wildsight Gastgeber dieser Living Lakes-Konferenz zu sein. Vielen Dank und gutes Gelingen!

Mark Shmigelsky
Bürgermeister von Invermere, British Columbia, Canada

Mark Shmigelsky was first elected to Council in 1993, at the age of 23 and then re-elected in 1996 for his second term, as a Councilor. He was elected Mayor of Invermere on November 16, 2000. Mark Shmigelsky has served on all the committees of council and has been Invermere's representative at the Regional District of East Kootenay since 1997. Mark Shmigelsky is the Director for the Kootenay East Regional Hospital District. He strongly believes in a Community that balances growth with the need to improve the quality of life. He is also a strong advocate of an open Local Government and an informed active public.

Paul Bell

Paul Bell,
Chairman of EKES, Canada

Dear Conference Participants, dear Friends,

As guests of Chief Sophie Pierre and the Ktunaxa Nation, it is a sobering and possibly hopeful thought that these people and their ancestors have been custodians of the Columbia Valley and its associated wetlands for the last 10,000 years. They worshipped and respected the whole environment and little had changed up until 150 years ago. I am sure it is with these custodial concerns that they have kindly invited us.

But why are we here? Why do we, and so many thousands of others give time, effort and energy to causes such as ours? Is it for our ego, interest, something to do; I doubt it? There are far easier ways to satisfy all of these needs. It is, I suspect, something deeper. It is feeling, as well as logically knowing, that what we are trying to protect and conserve is worth every last effort and care. Six years ago my family and I hiked across the Rocky Mountains and canoed through the Columbia Wetlands from Invermere to Golden. The silence, beauty and wildlife worked their magic spell. We were in hallowed territory, not a playground of any description and with that, our spirits soared like the eagles around us. We were also acutely aware that the opportunities to experience a communion with natural beauty were rapidly dwindling in much of the world. We knew. Within two years we had been lucky to emigrate here and I can almost hear you think: „And now he's a conservationist trying to keep everybody else out".

This is certainly not the case. In fact, I firmly believe that as many people as possible should experience these wonders, their humanity deserves it. However, we also want our children to be able to experience the same uplifting environments. In the words of Vatican II „The future of humanity lies in the hands of those able to pass on to future generations reasons for living and hoping". That is why I believe in conservation and why we are gathered here attempting to preserve these remaining sanctuaries.

To this end consider the frog. A sensitive amphibian (at home in lakes and wetlands), but with apparently doomed reactions. If you place a frog in cool water and then slowly heat the water, even though the frog can jump out and would if you threw it in hot water, it does not move. In fact, you can eventually boil and kill the frog. Now apart from a few areas in Europe, environmentalists do not normally boil frogs but the experiment teaches us much when considering human behavior. Humans are sensitized to drastic changes such as attack, flood or fire and by and large we are good at dealing with them. However, evolution has not prepared us well to deal with slow, gradual change. Our senses are not alarmed when things slowly deteriorate and bells only start ringing when things are too late.

Very few people want to damage the environment, and almost everybody agrees they wish to protect and conserve it. However, innocence, overriding short-term requirements to survive and prosper and the pressures created by persuasive corporations can all slowly lead to irreversible destruction. The frog boils, the lakes and wetlands become unrecognizable and humanity is much the poorer.

So what can we do, how best can we direct our energies? Well, our major effort should be to deal with the causes of environmental decline not the symptoms. Yes, curing or improving a symptom can be spectacularly rewarding. For example here in the Columbia Wetlands we may be able to limit the size of engines used to fly across the water, but we will have to continually police this and will eventually find ourselves fighting another fashionable symptom. Our most effective strategy is to convince others that this is a beautiful sanctuary that none of us have the right or need to damage and then educate all about what does the damage. Yes, laws and rules help prevent symptoms but understanding and consensus removes the pressures that create the symptoms. People do not resist change, they resist being changed. So our quest should be to force as few changes and restrictions as possible upon others and help them see for themselves, their families, their communities and their corporations the real benefits of changing their behavior. The tools of research, education and partnerships will help us model and communicate convincing attractive arguments. Ultimately once enough people are convinced, that it is the shares we all hold in this planet, that should take precedence over monetary shares. We may begin to hope for the future.

As to the conference theme of sustainable development - well, at the moment I am not sure if this is possible, and that is exactly the kind of open mind I think it is best to approach the conference with. If we

are closed and certain now, we have little hope of opening other closed and certain minds. Let us use the knowledge, experience and care of all those present to raise the level of the dialogue, to create visions that can actually achieve something rather than just say it, to blend cool sense with hot emotion and allow the spirits of our grandchildren to be sustained by the Living Lakes of this beautiful planet.

Paul Bell,
Chairman of EKES, Canada

Paul Bell

Liebe Konferenzteilnehmer, liebe Freunde!

Als Gäste von Chief Sophie Pierre und der Ktunaxa Nation ist es für uns ein ernüchternder, aber möglicherweise auch hoffnungsvoller Gedanke, dass diese Menschen in den letzten 10.000 Jahren Hüter des Columbia Tals und der zugehörigen Feuchtgebiete waren. Sie verehrten und respektierten ihre Umwelt, und bis vor 150 Jahren hatte sich nur sehr wenig verändert. Sicher haben sie uns aufgrund ihrer Verbundenheit mit dieser Landschaft gegenüber eingeladen.

Der Beweggrund unseres Zusammentreffens ist also das gemeinsamme Erleben von Momenten der Ruhe, Schönheit und ungestörter Natur. Wir möchten, dass auch unsere Kinder solche Momente genießen können oder mit den Worten des Vatikans: „Die menschliche Zukunft liegt in den Händen derjenigen, die der zukünftigen Generation Gründe für Hoffnung und Leben geben“.

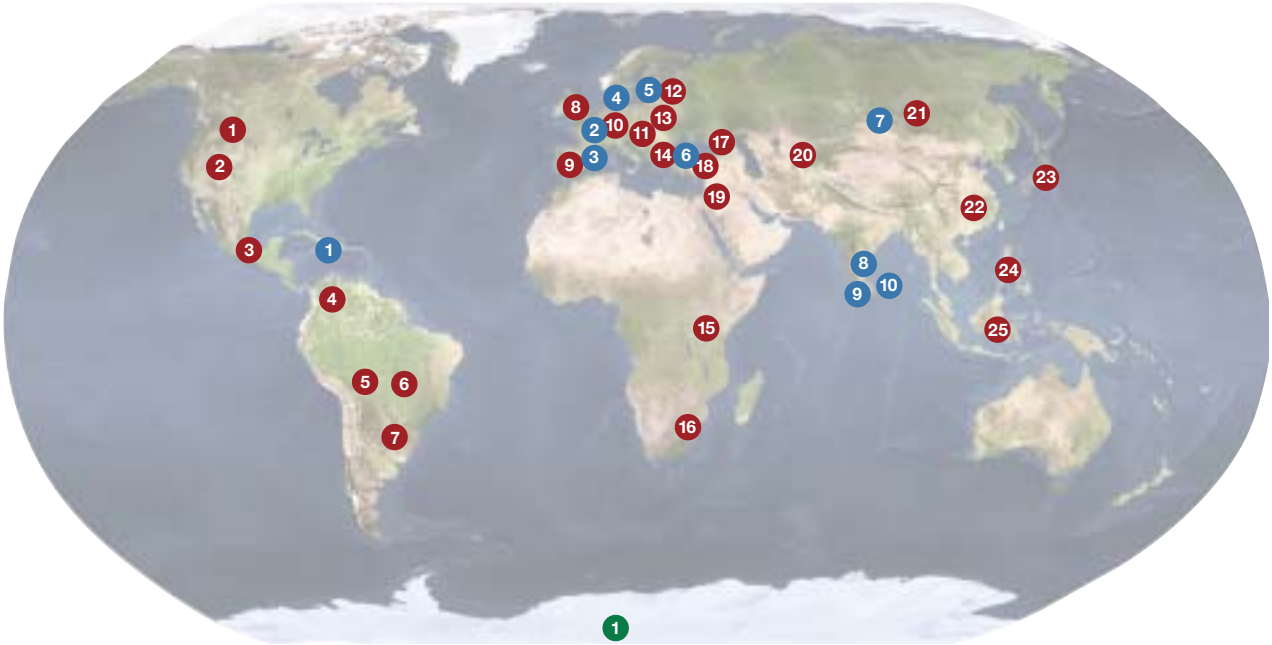
Wir Menschen reagieren auf drastische Veränderungen wie Angriffe, Überflutungen oder Feuer, jedoch nicht auf langsam stattfindende Prozesse, auf die wir erst aufmerksam werden, wenn es schon zu spät ist. Viele Menschen wollen die Umwelt erhalten und schützen, was die Frage aufwirft: Was können wir tun? Wir sollten die Gründe für Veränderungen der Umwelt, nicht die Symptome betrachten. Menschen verweigern sich nicht den Veränderungen, sie weigern sich verändert zu werden. Es sollte daher unsere Aufgabe sein, ihnen das Werkzeug in die Hand zu geben, damit sie sich selbst verändern können.

Lassen Sie uns das Wissen, die Erfahrung und die gemainsamme Sorge nutzen, um den Dialog zu eröffnen, Visionen zu entwerfen und um etwas zu erreichen, anstatt nur zu reden. Lassen Sie uns kühlen Verstand mit heißer Emotion vermischen, damit unsere Nachfahren sich auch weiterhin an den „Lebendigen Seen“ unseres Planeten erfreuen werden.

Paul Bell,
Vorsitzender von EKES, Kanada

Paul Bell grew up in London, England, where he played on the banks of the River Thames; which he notes is a far cleaner river than it was 40 odd years ago. He officially gained an honors degree in geography and anthropology and a post graduate certificate in education. Six years were then spent traveling the world visiting the cultures and the locations he had studied, teaching and climbing beautiful mountains. He then spent 7 years teaching young adults how to adventure within and care for the mountain, cave and river environments. He evolved into a freelance writer, consultant and facilitator in the world of corporate training and development, and 12 years ago created his own company. As the chairperson of EKES/Wildsight he can lead to some constructive changes in the local environmental movement. Paul Bell has B.A. Geography and Anthropology, Post Graduate Certificate in Education, is a certified Ocean Master, mountain leader, kayak instructor and cave leader.

Living Lakes
Members & Associates



Living Lakes Member & Candidate Lakes

1. Columbia River Wetlands; **Canada**
2. Mono Lake; **USA**
3. Lake Chapala; **Mexico**
4. Laguna Fuquene; **Colombia**
5. Lake Titicaca; **Bolivia and Peru**
6. The Pantanal; **Brazil, Bolivia and Paraguay**
7. Mar Chiquita; **Argentina**
8. The British Norfolk and Suffolk Broads; **Great Britain**
9. La Nava Wetland; **Spain**
10. Lake Constance; **Germany, Switzerland and Austria**
11. Lake Balaton; **Hungary**
12. Lakes Võrtsjärv and Peipsi; **Estonia and Russia**
13. Milicz Ponds; **Poland**
14. Nestos Lakes; **Greece**
15. Lake Victoria; **Kenya, Tanzania and Uganda**
16. St. Lucia Wetland; **South Africa**
17. Lake Paliastomi; **Georgia (Candidate)**
18. Lake Uluabat; **Turkey**
19. The Dead Sea; **Israel, Palestine and Jordan**
20. Lake Tengiz; **Kazakhstan**
21. Lake Baikal; **Russia**
22. Lake Poyang; **China**
23. Lake Biwa; **Japan**
24. Laguna de Bay; **Philippines**
25. Mahakam Lakes; **Indonesia**

Living Lakes Honorary Member

1. Lake Vostok; **Antarctica**

Living Lakes Associate Members

1. Lago Enriquillo and Lac Azuéi; **Dominican Republic and Haiti**
2. Mindelsee; **Germany**
3. Salobrar de Campos; **Spain**
4. Kolindsund Wetlands; **Denmark**
5. Labanoras Park; **Lithuania**
6. Lake Sapanca; **Turkey**
7. Lake Uvs; **Mongolia**
8. Pulicat Lake; **India**
9. Lake Maduganga and Madampe Lake; **Sri Lanka**
10. Bolgoda Lake; **Sri Lanka**

History of Living Lakes

Communication and cooperate action are two main features of the Living Lakes Network. It has placed itself in the middle of an alarming appeal discussed worldwide, to sustainably conserve the vital resource water. Concentrating on lakes, wetlands and water bodies worldwide, the strengths of this globally oriented alliance are apparent: the interlinking and mutual support of interested parties who comply with the Living Lakes concept. Living Lakes is coordinated by the Global Nature Fund (GNF), an international, non-governmental, non-profit organization.

The initial effort undertaken by four project partners from Lake Constance (Germany, Austria, Switzerland), Mono Lake (USA), Lake St Lucia (South Africa) and Lake Biwa (Japan) in 1998 has already shown verifiable success. The number of full Members, Associated Memberships and Honorary Members, who are situated on five continents, visibly increased.

In the past years, the Living Lakes Network has shown that the conservation of water encompasses social, economic and environmental interests with the intent to

- Permanently protect natural resources and lake watersheds;
- Provide environmentally friendly economic activities and structures;
- Support cooperation among citizens, non-governmental organizations, government authorities, and businesses.

Living Lakes partners actively participate in a diverse program of mutual support such as:

- Exchanging environmentally friendly technology for use in the lake areas;
- Sharing information and experience in raising awareness of the need for lake protection;
- Helping to secure financial and other support for lake programs;
- International political support for lake protection.

Main features and advantages of the Living Lakes Network are the provision of infrastructure with respect to communication and cooperation. Thus, GNF and its partners have followed a complementary approach, which is essential for an adequate and continuous dialogue between the different parties. Additionally, the involvement of local community members, experts and like-minded organizations provides a reliable base to understand local conditions and needs. Guidelines and continuously updated information material ensure a common ground for cooperation.

Unilever, the Living Lakes global partner, pursues the mission „to add vitality to life“ which can be transferred to its effort on the environmental sector as well. As long-term partner, Unilever has supported the Living Lakes Network from the beginning.

The Living Lakes Project would not have the range of opportunities and would not be able to be active on a global scale without the support of DaimlerChrysler and the German Airline Lufthansa. Living Lakes is also supported by the telecommunication company T-Mobile, Kärcher, EthikBank, GLS Gemeinschaftsbank, Ziemann and middle-size companies like Kopf AG, a pioneer in the field of solar energy devices. In order to reach not only our partners but also the public, we enjoy working with the magazine natur & kosmos and the publishing house Gruner+Jahr (National Geographic and Geo Magazine).

Die Geschichte von Living Lakes

Kommunikation und Kooperation sind zwei wesentliche Bestandteile des Living Lakes-Netzwerkes, bei dem es in erster Linie um den Schutz der lebensnotwenigen Ressource Wasser geht. Das Netzwerk wird vom Global Nature Fund (GNF), einer internationalen Nicht-Regierungsorganisation koordiniert.

Die Initiative startete 1998 mit vier Seenpartnern, Bodensee (Deutschland, Österreich, Schweiz), Mono See (Amerika), St. Lucia See (Südafrika) sowie Biwa See (Japan). Das Netzwerk hat bis heute zahlreiche Erfolge vorzuweisen. Die Zahl der Mitglieder, Assoziierten Mitgliedschaften und eines Ehrenmitgliedes, die sich auf insgesamt fünf Kontinenten befinden, hat sich sichtbar vergrößert.

Erfahrungen aus den vergangenen Jahren haben gezeigt, dass der Schutz von Wasser soziale, wirtschaftliche und ökologische Überlegungen erfordert. Die Ziele sind:

- Der dauerhafte Schutz von natürlichen Ressourcen;
- Umweltfreundliche, wirtschaftliche Aktivitäten und Strukturen;
- Unterstützung von Kooperationen zwischen der Bevölkerung, Nicht-Regierungsorganisationen, Regierungen und Wirtschaftspartnern.

Ein wichtiger Aspekt des Living Lakes-Netzwerkes ist die aktive Zusammenarbeit der Partner und deren gegenseitige Unterstützung, z.B. in Hinblick auf:

- Einsatz von umweltfreundlichen Technologien in Seengebieten;
- Austausch von Informationen und Erfahrungen zur Steigerung des Umweltbewusstseins;
- Praktische und finanzielle Unterstützung für Seenprojekte;
- Internationale, politische Unterstützung für den Schutz von Seen.

Das Netzwerk wird vom weltweit agierenden Unternehmen Unilever unterstützt, dessen Mission „Dem Leben Vitalität schenken“ auch auf den Umweltsektor übertragen werden kann. Unilever fördert das Living Lakes-Netzwerk bereits seit Beginn an. Das Living Lakes-Projekt hätte ohne diese wertvolle Unterstützung nicht die gegebenen Möglichkeiten. Weitere Sponsoren sind neben DaimlerChrysler und der Deutschen Lufthansa auch T-Mobile, Kärcher, EthikBank, GLS-Gemeinschaftsbank, Ziemann und mittelständische Unternehmen wie die Kopf AG, ein Pionier im Bereich von Solartechnologien. Damit das Projekt einem größeren Publikum zugänglich ist, arbeiten wir mit dem Magazin natur & kosmos und dem Verlag Gruner + Jahr (National Geographic und Geo) zusammen.




Impressions from the 9th Living Lakes Conference in the Columbia River Wetlands in Canada.

Conference Summary

Anne Levésque

Living Lakes Conference 2004 Manager

The 9th Living Lakes Conference hosted by the Global Nature Fund, the District of Invermere and the East Kootenay Environmental Society, included presentations from over 90 speakers who shared their experiences, successes and challenges in the field of sustainable recreation and business practices.

Field trips presented the opportunity to learn and experience the ecological/cultural values and the conservation initiatives of the Columbia Wetlands.

Delegates were welcomed by the Ktunaxa-Kinbasket Nation. The Ktunaxa people have lived in the Columbia Valley for thousands of years and have shared this land with people from all Nations for the past 150 years. The Columbia Wetlands are of critical importance to the Ktunaxa who have a sacred covenant with the Creator to be stewards of the land. The story of their history is deeply rooted in the continuing intimate relationship of people and the land.

Other welcoming events included presentations from the District of Invermere, the Village of Radium Hot Springs, the Town of Golden, and the Canadian Forest Products Ltd (Canfor).

With the help of the Canadian Wildlife Service, the Wings Over the Rockies and the Columbia Basin Fish and Wildlife Compensation Program, the Nature Conservancy of Canada, the Nature Trust of British Columbia, and the Kicking Horse Grizzly Bear Refuge, conference participants enjoyed a voyageur canoe trip, and wetlands walks into the Columbia Wetlands. One of the longest intact wetlands in North America, this 26,000 ha (65,500 acre) area is the headwaters of the Columbia River system, and the fourth largest body of water in North America by volume. These wetlands, used by over 250 species of birds during migration and for breeding, are home to the second largest concentration of Great Blue Herons in western Canada. 15,000 waterfowl in the autumn and more than 1000 Tundra Swans in the spring have been counted in single day bird counts. Because of the rich habitat, over 50 species of mammals live in the region.

The field trips ended with two presentations. The Ministry of Water, Land and Air Protection of British Columbia provided information about the ecology, cultural values and challenges involved with balancing human use in the provincial Wildlife Management Area (WMA) of the Columbia Wetlands. The WMA covers 15,000 hectares of wetlands, extending a distance of 180 kilometers is part of a protected system that includes three National Parks, two Wildlife Management Areas, two Ecological Reserves and 11 Provincial Parks.

The Canadian Intermountain Joint Venture presented their collaborative work for the birds of British Columbia and Alberta. The Joint Venture vision is a landscape that supports healthy populations of birds, maintains biodiversity and fosters sustainable resource use for communities within the region. This kind of stewardship is a keystone of the newly proclaimed Species at Risk Act, and was recently endorsed by the North American Bird Conservation Initiative.

Bird species in British Columbia and Alberta are getting a helping hand from a diverse group of people. Landowners, conservation organizations, governments, First Nations, universities and industry groups from forestry, mining, hydro and the cattle ranching sectors are working together for the birds through the Canadian Intermountain Joint Venture. Aimed at bird species in the south and central interior of BC and the Rocky Mountains of Alberta, the Joint Venture is taking a landscape approach to its efforts - addressing the stresses on the habitats that support birds and other wildlife. Their vision

What a successful conference! What a rare opportunity to show Canada's beautiful wilderness to delegates from around the world and, at the same time, engage them in the issues that threaten the Columbia River Wetlands. I think all participants went away feeling very strongly about this Canadian treasure and the need to protect it."
Catherine McVitty, Unilever Canada Foundation, Toronto, Ontario, Canada.

Dancer of the Ktunaxa Nation Theatre Dance Group.

is of a landscape that supports healthy populations of birds, maintains biodiversity and fosters sustainable resource use for communities within the region. This kind of stewardship is a keystone of the newly proclaimed Species at Risk Act, and was recently endorsed by the North American Bird Conservation Initiative.

The conference offered delegates the ability to participate in a dialogue on sustainable land and water use in recreational and tourism developments, and in business and corporate practices. Discussion groups offered an opportunity for conference delegates to explore the fine details of sustainable recreation and business practices.

The various presentations highlighted the chances and synergy created when nature conservation and economic development are linked. Others focused on the urgent need for landscape based planning that incorporates natural and settlement assets in local and regional planning policies.

Water is fundamental to social, economic and ecological welfare. Effective governance of water, planning that incorporates First Nations rights, protection of water ecosystems and international cooperation was introduced as a key element to sustainability.

Speakers outlined strategies required for incorporating sustainability measures in business practices, the importance of partnerships and the need for business to take a leadership role in sustainability issues and ethical sourcing.

Over about 230 people from 27 countries participated in field trips, presentations, panels and discussion groups offered during this six day event.

The Living Lakes Conference 2004 was possible through the kind support of the German Federal Agency for Nature Conservation (Bundesamt für Naturschutz) and due to the generous contribution of 19 Canadian sponsors. Unilever Canada, the Columbia Basin Trust, the Vancouver Foundation, the Province of British Columbia, the Real Estate Foundation, BCHydro, the Western Economic Diversification Canada, Environment Canada, the District of Invermere, Tembec, Kicking Horse Coffee, Van City, Canfor, the Canadian Intermountain Joint Venture, the Nature Conservancy of Canada, Ducks Unlimited Canada, the Nature Trust of British Columbia, the Village of Radium, and Kicking Horse Mountain Resort have made the event a reality in the Upper Columbia Valley.

Zusammenfassung der 9. Living Lakes Konferenz

Die 9. Living Lakes-Konferenz wurde vom Global Nature Fund, der East Kootenay Environmental Society und dem Distrikt Invermere veranstaltet. Über 90 Vortragende teilten ihre Erfahrungen, Erfolge und Herausforderungen im Hinblick auf nachhaltige Freizeitaktivitäten und wirtschaftliche Praxis. Exkursionen boten zusätzlich die Möglichkeit, etwas über die ökologischen und kulturellen Besonderheiten sowie die Umweltschutzinitiativen der Columbia Feuchtgebiete zu erfahren.

„The Living Lakes Conference was one of the most valuable experiences that we have had the opportunity to participate in. The Ktunaxa Nation was very proud to welcome people from the four directions to our corner of the province. .....“
Chief Sophie Pierre, St Mary's Indian Band, Ktnuaxa-Kinbasket Nation, British Columbia.

Die Delegierten wurden von der Ktunaxa Kinbasket Nation willkommen geheißen. Das Ktunaxa Volk lebt seit über tausend Jahren im Columbia Tal und teilt seit 150 Jahren sein Land mit Menschen aus vielen Nationen. Die Columbia Feuchtgebiete sind für die Ktunaxas von besonderer Bedeutung, da sie sich als dem Schöpfer verpflichtete Hüter des Landes verstehen. Ihre Geschichte ist durch die vertraute Beziehung zwischen den Menschen und dem Land tief verwurzelt.

Außerdem gab es Präsentationen von Vertretern des Distrikts von Invermere, dem Ort Radium Hot Springs, der Stadt Golden und dem Unternehmen Canadian Forest Products (Canfor).

Dank der freundlichen Unterstützung des kanadischen Wildlife Service, der Wings over the Rockies und des Columbia Basin Fish and Wildlife Compensation Program, der kanadischen Naturschutzorganisation Nature Conservancy, des Nature Trust of British Columbia und des Kicking Horse Grizzly Bär Schutzgebiets, konnten die Konferenzteilnehmer an einer Kanufahrt sowie an Wanderungen durch die Columbia Feuchtgebiete teilnehmen.

Das 26.000 Hektar große Gebiet am Oberlauf des Columbiaflusses, ist eines der längsten, intakten Feuchtgebiete Nordamerikas. Die Feuchtgebiete beheimaten über 250 Vogelarten sowie die zweitgrößte Kanarareiherpopulation in Westkanada. Rund 15.000 Watvögel und mehr als 1.000 Tundra-Schwäne konnten im Herbst bzw. Frühjahr gezählt werden. Außerdem leben über 50 Säugetierarten in der Region.

Das Ministerium für den Schutz von Wasser, Land und Luft von British Columbia informierte über Ökologie, kulturelle Werte und Herausforderungen, die mit einer ausgewogenen Nutzung des Wildlife Management Gebiets (WMA, Wildlife Management Area) in den Columbia Feuchtgebieten verbunden sind. Das WMA umfasst 15.000 Hektar und erstreckt sich über 180 Kilometer. Im Schutzgebiet liegen drei National Parks, zwei Wildlife Management Gebiete, zwei ökologische Reservate und 11 Provinzparks.

Das kanadische Intermountain Joint Venture präsentierte seine Vogelschutzaktivitäten in British Columbia und Alberta. Die Vision des Joint Venture ist eine Landschaft, die gesunde Vogelpopulationen und eine hohe Artenvielfalt besitzt sowie eine nachhaltige Nutzung von Ressourcen für die Gemeinden der Region unterstützt. Diese Verantwortung ist ein wichtiger Bestandteil des angekündigten Gesetzes für bedrohte Arten (Species at Risk Act) und wurde erst kürzlich von der Nordamerikanischen Vogelschutzinitiative bestätigt.

Die Konferenz bot den Teilnehmern die Gelegenheit, sich über nachhaltige Nutzung von Land und Wasser im Bereich des Tourismus, von Erholungsaktivitäten sowie über unternehmerisches Handeln auszutauschen. Die verschiedenen Präsentationen unterstrichen die Möglichkeit und die Synergie, die durch die Verknüpfung von Umweltschutz und wirtschaftlicher Entwicklung erreicht werden kann. Natur- und Umweltaspekte müssen in Siedlungs- und Landschaftsplanung einbezogen werden.

Wasser ist unverzichtbar für das soziale, wirtschaftliche und ökologische Gemeinwohl. Effektive Wasserpolitik, die das Recht der First Nations, den Schutz des Wassers und internationale Kooperationen berücksichtigt, wurde als ein Schlüsselelement von Nachhaltigkeit proklamiert. Die Sprecher erläuterten Strategien, die für die Durchführung von Nachhaltigkeitsmaßnahmen in Unternehmen erforderlich sind, die Notwendigkeit von Partnerschaften und unternehmerischer Führung in Bezug auf Nachhaltigkeit und Moral. Insgesamt nahmen mehr als 230 Personen aus über 27 Ländern an den Exkursionen, Präsentationen und Diskussionsrunden teil.

Die Living Lakes-Konferenz 2004 war nur möglich durch die großzügige Unterstützung durch das Bundesamt für Naturschutz (BfN) sowie 19 kanadische Sponsoren: Unilever Canada, Columbia Basin Trust, Vancouver Foundation, die Provinz von British Columbia, Real Estate Foundation, BCHydro, Western Economic Diversification Canada, Environment Canada, der Distrikt von Invermere, Tembec, Kicking Horse Coffee, Van City, Canfor, Canadian Intermountain Joint Venture, Nature Conservancy Canada, Ducks Unlimited Canada, Nature Trust von British Columbia, die Stadt Radium und Kicking Horse Mountain Resort.

Introduction of the 9th Living Lakes Conference

Marion Hammerl-Resch

President of Global Nature Fund (GNF), Germany

Regions with intact wild areas, should aim for a careful planning of land resources and keep the "ecological footprint" of recreational activities as small as possible.

Sustainable Land and Water use

Sustainable land and water use - that is the topic of this 9th International Living Lakes Conference in the Columbia River Wetlands.

The Global Nature Fund team lives and works at Lake Constance. With up to 500 inhabitants per square kilometer, it is one of Europe's most densely populated regions. Land-use is one of the biggest environmental problems in Europe. Every ten years the developed area expands by 2%. In its strategy for sustainability, the German Government aims at reducing the land use expansion from 100 to only 30 hectares a day until 2020. Many other countries in the European Union (EU) put this issue on their agenda as well.

This is a necessary and appropriate strategy to handle the resource land in densely populated areas, but what about less densely populated regions like the Columbia River Wetlands in British Columbia? In these regions, space seems to be widely available. Europeans can only dream of nearly intact nature. Apart from a few districts, only some small natural „islands" are to be found in Western Europe, mostly national parks, wedged between populated and intensively used agricultural areas. Connecting or even expanding the existing nature reserves around Lake Constance? Local land users would find that prospect impossible to implement.

The dense population is certainly a reason for Europeans to spend their holidays and leisure time in a more natural environment, inhabited by fewer people, like the Columbia Wetlands. Regions with intact, wild areas, should aim for a careful planning of land resources and keep the „ecological footprint" of recreational activities as small as possible. For tourists who book and pay for untouched nature, urban sprawl is a thorn in their side (German Travel Survey, 2002). They appreciate a compact community or city with short distances that provides all services with untouched wilderness close by.

The East Kootenay Region is home to several rare and threatened species, such as mountain caribou and grizzly bear. There are less than 1,800 mountain caribous remaining in the world (down from 2,300 in 2003). They are more rare than Africa's black rhinoceros and the most endangered large mammal in North America.

Sustainable land use and protection of species and their habitat are very much interlinked. In order to ensure that mountain caribou do not go extinct and that grizzly bear populations remain healthy, the province of British Colombia has the opportunity to take effective actions, which currently are not taking place. During our excursions, we saw the variety of recreation opportunities in the region. It is important to make sure that activities do not negatively impact the values that make this region so unique. Restriction of heli-skiing and heli-hiking in critical caribou habitat, motorized boating restrictions in key areas such as the Columbia wetlands, zoning of motorized and non-motorized use to protect wildlife and wilderness values are all part of government's responsibility to the region's social, economic and environmental sustainability.

It is sad, but in Europe we can offer a wide range of negative examples regarding land use and development in general. Have you visited the Spanish Mediterranean coast or the island of Majorca or the Canary islands? My recommendation to the Government of British Colombia is to carefully study the tourism development of the Spanish Islands - from the ecological aspect but also from the economic point of view - before making decisions about the expansion of commercial recreation, such as the proposed Jumbo Alpine Resort of 7,000 beds in critical grizzly bear habitat. The Spanish example, and a lot of other examples in Europe and all over the world, can prove that more tourism beds do not always lead to more economic benefit. It is just the other way around: with the first signs of expansion of tourism, the destination will loose the „quality clients"... these experienced tourists who are looking for unique places, culture and nature and are willing to pay a good price for it.

Unfortunately, tourists and tourism providers cannot be considered allies in the quest for responsible use of water. The tourism sector consumes, apart from the

Sustainable land and water use is everybody's concern and all stakeholders bear responsibility.

agricultural industry, the highest water quantity. It is not only in the arid countries of Africa or the Middle East where careful use of water is a vital issue. Europe and the countries of the European Union have to take action. In Europe, groundwater supplies account for 65% of drinking water. 60% of European cities overexploit their groundwater resources. Industry and agriculture are still the largest river and groundwater contaminators, although all environmental technologies are well established and financial resources for environmental improvement are increasing. However, the demand for water increases continously.

Sustainable water and land use is everybody's concern and all stakeholders bear responsibility. In this spirit, the EU Water Framework Directive was adopted. The Directive for the first time expands the scope of water protection to all waters and sets clear objectives that a „good status" must be achieved for all European waters by the year 2015 and that water use be sustainable throughout Europe. A keyword used in the directive is „integrated water management", which requires that all partners in a given river basin manage their waters together in close co-operation. It stipulates that countries set up a common River Basin Management Plan with measures to ensure that the objectives will be met within the given deadlines.

Integrated water and land management: Are these goals too difficult to achieve or even feasible, if all stakeholders agree on that objective? At this Living Lakes Conference, in this beautiful part of the world, problems and solutions as well as best practice examples will be presented and discussed. Your active and enthusiastic registration for this conference proves the importance of water and land management. This year's conference counts more than 230 participants from over 27 countries - sharing their data and experiences from different fields of work and responsibility.

I am sure the conference will involve an interesting and fruitful exchange of knowledge - creating new alliances and further projects as well as activities aiming at the protection of land and water. Special thanks goes to our Living Lakes Partner, EKES/Wildsight and the District of Invermere for their excellent preparation of this Conference, to the German Federal Agency for Nature Conservation (BfN) and to the Canadian enterprises and organizations for their important support.

ABSTRACT

Sustainable Use of Land and Water

Land use is one of the most serious problems in Europe. It is necessary to develop adequate strategies for the use of resources in densely populated regions. Sustainable land use and wildlife protection are closely connected. The East Kooteneys are home to rare species such as grizzly bears and mountain caribous. Thus, it is of vital importance, that the government of British Columbia recognizes its responsibility with respect to the recreational development and considers economical and social aspects. The government could profit by experiences made in European countries such as the Spanish islands, where the increase of accommodation possibilities not necessarily correlates with increasing profit.

The sustainable use with the essential resources has been incorporated in the EU Water Framework Directive, demanding a „good" status for water quality in European countries until 2015.

Nachhaltige Land- und Wassernutzung

Landnutzung ist eines der ernsthaftesten Probleme in Europa. Es ist notwendig, angepasste Strategien zur Ressourcennutzung für dicht besiedelte Regionen zu entwickeln. Nachhaltige Landnutzung und Artenschutz sind eng miteinander verknüpft. In der East Kooteney Region leben noch Populationen seltener und gefährdeter Arten, wie Grizzlybären und Bergkaribus. Daher ist es besonders wichtig, dass die Regierung British Columbias die Verantwortung bei der Entwicklung der Freizeitindustrie übernimmt und ökonomische, aber auch soziale und ökologische Aspekte berücksichtigt. Die Regierung British Columbias kann von Beispielen aus Europa lernen, wie z. B. den spanischen Inseln; denn eine Erhöhung der Übernachtungsangebote bedeutet nicht immer einen steigenden Profit.

Der nachhaltige Umgang mit unseren essentiellen Ressourcen wurde in der EU-Wasserrahmenrichtlinie aufgenommen, die u.a. fordert, dass bis zum Jahr 2015 alle europäischen Länder Gewässer mit dem Status „gut" vorweisen.

Keynote Speech

Prof Dr Hartmut Vogtmann

President of the German Federal Agency for Nature Conservation, Germany

Prof Dr Hartmut Vogtmann

Nature Conservation and Economic Development - a Realistic Option or Wishful Thinking?

Hartmut Vogtmann referred to the opportunities and synergies, that can be created through the linkage of nature conservation and economic development. The values of natural landscapes and wilderness open new financial chances as well as environmental sensitization potentials - especially in the tourism sector. The preservation of nature as the central basis and prerequisite for such long-term prosperous developments is crucial.

The Federal Agency for Nature Conservation is a higher Federal authority reporting to the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU). They advise the Ministry on all issues relating to national and international nature conservation and landscape management, promote nature conservation activities, support research projects and act as the authority permitting the import and export of protected species of animals and plants.

Umweltschutz und ökonomische Entwicklung - eine realistische Option oder Wunschdenken?

Prof. Dr. Hartmut Vogtmann sprach über Möglichkeiten und Synergien, die durch die Verknüpfung von Umweltschutz und ökonomischer Entwicklung entstehen. Der Nutzen natürlicher Landschaften und unberührter Gebiete eröffnet neue finanzielle Möglichkeiten sowie umweltrelevante Sensibilisierungspotenziale, insbesondere im Tourismussektor. Der Erhalt der Natur ist ausschlaggebend als zentrale Basis und Grundvorrausetzung für langfristige, vielversprechende Entwicklungen.

Das Bundesamt für Naturschutz (BfN) ist eine Bundesoberbehörde im Geschäftsbereich des Bundesministeriums für Umwelt, Naturschutz und Reaktorsicherheit (BMU). Das BfN berät das BMU in allen Fragen des nationalen und internationalen Naturschutzes und der Landschaftspflege, fördert Naturschutzprojekte, betreut Forschungsvorhaben und ist Genehmigungsbehörde für die Ein- und Ausfuhr geschützter Tier- und Pflanzenarten.

Prof Dr Hartmut Vogtmann has been President of the Bundesamt für Naturschutz (German Federal Agency for Nature Conservation, BfN) since 2000. The BfN is the Highest Federal Environmental Authority in Germany (one of three German Federal Ministries for the Environment). The BfN advises the Ministry on all issues relating to national and international nature conservation and landscape management, promotes nature conservation activities, supports research projects and acts as the authority permitting the import and export of protected species of animals and plants. At the Swiss Federal Institute of Technology Zurich, he studied Agricultural and Food Sciences and earned his doctorate in the field of Livestock Feeding. After three years of Senior Lecturer and Research Fellow at the University of Alberta, Edmonton, Canada, he taught - as the first professorship in Germany - in the field of organic farming at the University of Kassel, Germany.

Panel 1 The Global Water Crisis and its Impact on Recreational Communities

Bob Sandford

Chair of the United Nations International Year of Fresh Water & Wonder of Water Initiative, Canmore, Canada

Economists and policy makers are concerned that our excessive demands are consuming the Earth's assets and thus, we are, in effect, creating a bubble economy. And fresh water is a big part of this bubble.

To meet the food demands that are projected to exist in the world in 2025, we will need to put an additional 2,000 cubic kilometers of water into irrigation. This amount is roughly equivalent to 24 times the average flow of the Nile. Given current water use patterns, the population that is projected to exist on the planet in 2050 will require 3,800 cubic kilometers of water a year, which is close to all the fresh water that can presently be withdrawn on Earth. It is clear that human economic and population growth is coming up hard against the limits of water availability.

One of the great fears being put forward by the United Nations is that environmental degradation will burst the bubble economy and that job and opportunity losses will rise sharply in many places in the world simultaneously causing spill-over impacts even in those places where environmental decline is not presently an economic issue.

The implications for this region of Canada will be manifold. They will include impacts that you might want to consider in at least the following areas:

- Agriculture;
- Industry;
- Human settlement patterns;
- Real estate;
- Community Development;
- Tourism;
- Recreation and Local Identity and Sense of Place.

It is to the last of these areas that I have been invited to speak today. If you want to know what is happening in the world, it is wise to follow what is happening to water. Canada is facing two major threats to water availability and quality. The first is posed by human population growth and related impacts. The second threat is posed by climate change.

Canada is one of the places in the world where climate change impacts are expected to be most pronounced. The single best indicator of what climate change impacts will be on our culture are related to what water is and what water does. If you want to know what's really happening, watch what water is telling us about the West.

The first thing a general increase in atmospheric temperature does is increase the energy of the atmosphere. Extreme weather events that used to occur once in thirty years are predicted to happen once in three years. Extreme weather events that happened once a decade are predicted to happen twice a year. We now know that a 10% increase in the intensity of rainfall will create a 25% increase in runoff. The same 10% increase in the intensity of rainfall will a 24% increase in the erosion that rainfall will cause. Heavier rainfalls cause more flash flooding. Storm water infrastructure in Canada is not designed for these intense extremes.

The hotter it is, the drier it is. In the absence of water you get more fire. Mike Flannigan of Natural Resources Canada is an expert on climate change impacts on our country's forests. Employing two contemporary climate change modeling suites, Flannigan and his colleagues have been able to predict the impacts increased carbon dioxide concentrations will have on the length of the fire season in Canada's boreal forests. This important work suggests that the fire season will increase from 10 to 50 days over much of the Canadian boreal. With a hotter, higher energy atmosphere, it is logical to expect a greater area of the boreal forest to burn each year. Based on carbon dioxide increases alone, Flannigan and his colleagues predict a whopping 75% - 120% increase in the amount of area burned each year by the end of the century.

The combined effects of fire and other impacts on our water regimes in the West will very much affect recreational communities. Though we have always known that water is unevenly distributed in Canada, we are only now coming to realize that, as a result of climate change, the very patterns of rain and snowfall and glacial melt that have provided us with our water are changing. Many of our most important rivers are now experiencing measurable decreases in volume of flow.

If the climate continues to warm, expect some areas to become semi-arid and other areas to become deserts. Places with a relative abundance of water will be more desirable places in which to live and will experience further population pressures. Though it may be high end at first and be called „amenities migration". Regions such as ours should expect more environmental refugees. Real estate developments will compete with

nature, with industry and with tourism for water. Growing populations will create the kinds of problems outsiders came to escape. Even if you have lots of water, water availability issues are coming to a theatre near you.

There are some industries out there that don't know how much they rely on water to sustain them. The tourism industry, for example, doesn't appear to have any idea of the kinds of impacts that changing water regimes could have on how attractive Canada might be to foreign visitors. People arrive from all over the world to experience our lakes, rivers, snow and glaciers. Their health is directly tied to our identity as a nation.

Dramatic changes are occurring to our water regimes. The most obvious change is the size and nature of remaining glaciers which are not only shrinking in length but in depth, opening crevasse systems in what were once summer snowfields. There are some 1,300 glaciers on the east slopes, most are 25% to 75% smaller than they were in 1850. Most Canadian tourism resort planning processes do feasibility assessments based on current conditions and water availability. We are approving expensive resort developments in places where glacial recession, changing rain and snowfall patterns and other environmental factors related to water availability and quality are not considered or even understood. Changes in water availability and quality are going to impact golfing and skiing. Further increases in temperature will also change lake and river ecologies and alter important tourism and local activities such as fishing.

The cumulative effect of rising temperatures and changing water regimes on tourism could be substantial. People will not likely cross a continent or an ocean to visit a place that is just as compromised as the landscapes they have at home. We are already passing through invisible environmental and economic thresholds we didn't know existed. Can we learn to manage these trends? Will we be able to afford to manage them? Nature provides so many services for us that we would never think to provide ourselves. We may end up having to spending fortunes on what nature used to do for us for free. The fear is that we may not be able ultimately to afford to do what nature has always so generously done on our behalf.

The act of protecting and restoring our water resources in a time of climate change and diminishing water availability must be seen as an opportunity to bring people together rather than to divide them. Our future success in managing water and land issues in the Canadian West will reside in our ability to work together to craft watershed and other forms of compacts that leave rights in place while respecting our larger ecosystem and societal goals. Our culture may be fueled by petroleum and lubricated by oil, but it runs on water. It is time Canadians realize that.

Dramatic changes are occurring to our water regimes. The most obvious change is the size and nature of remaining glaciers which are not only shrinking in length but in depth, opening crevasse systems in what were once summer snowfields.

ABSTRACT

The Global Water Crisis and its Impact on Recreational Communities

Human population growth, economic development and climate change are putting huge pressure on the world's fresh water resources. These pressures will retreat from areas of scarcity to affect regions of abundance in ways that are not presently being anticipated. One of the areas of the Canadian economy that will be most impacted is tourism which will have to deal with a broad range of environmental changes and threats as well as increased competition from other sectors of society for access to lakes, rivers and glaciers that we once took for granted as central to our international tourism reputation. To address these concerns, we will have to manage water more efficiently and redesign our political and economic jurisdictions around watershed realities.

Die globale Wasserkrise und deren Folgen für Urlaubsorte

Der Zuwachs der menschlichen Bevölkerung, die wirtschaftliche Entwicklung und der Klimawandel setzen die Süßwasserressourcen der Welt unter enormen Druck. Dieser Zustand wird sich, bezogen auf die Verfügbarkeit von Wasser, von den Mangelgebieten auch auf die Überflussgebiete auswirken und Folgen haben, die derzeit noch nicht absehbar sind. Hierzu zählen Überflutungen, Brandgefahr, Wüstenbildung und Bevölkerungszunahme in wasserreichen Gebieten. Ein Bereich der kanadischen Wirtschaft, der von diesen Veränderungen am meisten betroffen sein wird, ist der

Tourismus. So wurde z.B. der Zugang zu Seen, Flüssen und Gletschern bisher als zentrales Element unseres internationalen Tourismus vorausgesetzt, wohingegen Faktoren, die mit Wasserverfügbarkeit und -qualität etc. zu tun haben, noch nicht einmal berücksichtigt oder verstanden werden. Deutlich wird, dass wir mit Wasser effizienter umgehen und unsere politischen und ökonomischen Zuständigkeiten neu definieren müssen.

Bob Sandford has been exploring the nature, history and culture of the Canadian West for more than thirty years. As the author of some twenty books on the nature of life in the West, he was also central to the development of sense of place-related regional planning strategies for the mountain national parks. Bob Sandford has also organized a number of very large heritage and natural history initiatives including the Year of the Great Bear and the United Nations International Year of Mountains. As chair of the United Nations International Year of Fresh Water and Wonder of Water Initiative in Canada, his work focuses on the growing importance of water to the ecological and cultural heritage in Canada.

Violet Qumsieh

Friends of the Earth Middle East, Bethlehem, Palestine

Economic Analysis of Water Users Affecting the Future of the Dead Sea Basin Background

The Dead Sea, located in the Syrian-African Rift Valley, is recognized as a major tourist location with unique geographical and biological features. It is the lowest place and saltiest water body on earth. The surrounding region is home to unique flora and fauna, including threatened species. Together with its ecological value, the Dead Sea attracts people due to the therapeutic qualities of its minerals.

The area is also of great historical and religious meaning for the three monotheistic religions: Judaism, Christianity and Islam. The oldest known writings of the Holy Bible were found at Qumran, on the shores of the Dead Sea. King Herod built his winter palace at the solitude of Masada, along the shores of the Dead Sea. The site of John the Baptist's baptism of Jesus is believed to be near the junction where the Jordan River enters the Dead Sea. The Moslem Karak fortress, Mt. Nebo, and Mount Temptation are all in the Dead Sea's vicinity.

Challenges

Despite its natural and cultural significance, the Dead Sea is disappearing year after year. One third of its area has already dried up due to human unsustainable activities over the last years. From an initial lake size of 80 kilometers in length the Dead Sea has lost its southern basin to industrial uses and extends now only some 50 kilometers. Over the past 30 years, the water level of the Dead Sea has dropped by 25 meters in depth. Its depth is continuing to drop by one meter each year. The hydrological balance of the whole area is being altered with freshwater springs around the sea drying up. Land deteriorated with time and sinkholes have suddenly appeared around the basin where the ground has collapsed due to the hydrological changes.

Water Quality

Water diversion upstream is the leading cause of the reduction in size of the Dead Sea. The Israel National Water Carrier diverts water from the Sea of Galilee that would otherwise flow into the Dead Sea through the Jordan River. The Jordanian King Abdalluh Canal diverts the waters of the Yarmuk River that would otherwise flow into the Jordan River and make its way to the Dead Sea. The majority of the diverted water is sold to farmers in Israel and Jordan at heavily discounted rates. The water rights of Palestine to utilize water from the Jordan River Basin and the eastern basin of the Mountain Aquifer, though still to be negotiated, will need to be considered. Dams and storage reservoirs on the Wadis divert water from the Jordan River and further reduce the amount of water flow to the Dead Sea.

The mineral extraction activities of the Dead Sea Works and the Arab Potash Company are also extremely water-intensive. It is estimated that their solar evaporation ponds are responsible for up to 30% of the total evaporation of the Dead Sea waters. Such water consumption continues to reduce water levels and will

further damage the landscape. Moreover, significant expansion of capacity is currently underway on both sides of the sea. Palestine, too, might seek to develop a potash industry on the northwestern shores of the Dead Sea. The minerals extracted from the Dead Sea are largely used for agricultural purposes with the potash used as a fertilizer and bromides as a pesticide. These two industries, agriculture and mineral extraction, cause the decline of the Dead Sea at a rate of 70% and 30%, respectively.

The tourism industry is the most significant economic sector in the region that needs a Dead Sea alive with a clean environment. The constant decline in the water level makes tourism development extremely difficult as the infrastructure required to be put in place, such as hotels and spas, would constantly be moving further and further away from the water's edge. Currently, official proposals exist to increase the number of hotel rooms from the existing level of fewer than 4,000, to more than 55,000. While more and more water is diverted from the Dead Sea and its level continues to drop, hotels continue to be built on its shores knowing that the shore will run away by several meters every year. The development that has taken place around the Dead Sea and the new endeavors currently proposed demonstrate not only insufficient consideration of ecological principles, but also a lack of basic coordination between sectors and between the three relevant governmental authorities. Domestic and industrial sewage continues to flow into the Dead Sea, polluting wadis, the desert areas and the unique quality of the Dead Sea water.

Economical Considerations

From a sector-based consideration - agriculture, mineral extraction and tourism development as well as on a national basis - Palestinian, Israeli and Jordanian - there is competition at play. The resources of the Dead Sea Basin are limited and the development of one sector in a competitive scenario is naturally at the expense of the other sectors. Due to the political turmoil of the region, however, no management body is in place to balance the interests of the public at large and the environment in particular - the ecological sector. In order to find the economic benefits of the different sectors of the Dead Sea, Friends of the Earth Middle East (FoEME) commissioned studies to assess the economic benefits of conservation, including the possible restoration of natural flows into the Dead Sea. By doing so, FoEME hopes to enable more informed policy that best promotes the overall long-term welfare of the region and its residents.

Economic Analysis of Conservation

Because economic benefits such as satisfaction from hiking, from preservation of natural areas and ecosystem services, and from avoided damages to infrastructure, are not traded in a market, and are therefore difficult to quantify, they have largely been left out of policy analyses. These benefits are no less real than the more obvious economic benefits of agriculture and mineral extraction, and they should be included into policy decision-making if overall social welfare is at interest. Economic benefits to conservation include use values (e.g. provision of habitat that attracts tourism or welfare gained from visiting an area), non-use values (e.g. the sense of satisfaction one gets from knowing that something exists and will be available for future generations), and option or quasi-option values (e.g. the value of preserving the option of future utilization of a resource or region).

The tourism industry is the most significant economic sector in the region that needs a Dead Sea alive with a clean environment.

Around 1.5 million tourists visit the Dead Sea each year. Nearly 2 million tourists are expected to visit the Dead Sea in 2010 and 4 million in 2020. The annual revenue is expected to be US$ 501 million and US$ 960 million in 2010 and 2020, respectively. In addition to the use and non-use benefits of the general population, there are direct costs to local businesses, infrastructure, and development opportunities associated with environmental deterioration, especially as a result of sinkhole formation. While too little is known to accurately predict the future scale and location of sinkholes, damage to roads, agricultural lands, tourism development and evaporation ponds already causes hundreds of thousands of dollars in recurrent costs and has prevented development projects worth millions of dollars. The rate of sinkhole formation is predicted to increase rapidly. If a restoration plan could prevent further sinkhole formation, avoidance of these costs would represent additional benefits of conservation.

In sum, the economic benefits to conservation are clearly substantial: at least in the tens of millions, and possibly the hundreds of millions of dollars per year. The value of the current uses of water diverted from the Dead Sea, i.e. the producers' surplus from current resource exploitation in agriculture and mineral extraction, were examined to provide context. The annual return on water in agriculture was estimated to be close to US$ 377 for the region as a whole, but there are reasons to believe this may be a high-end estimate. The profitability of the Dead Sea mineral extraction was estimated at US$ 142 million per year.

Despite its natural and cultural significance, the Dead Sea is disappearing year after year.

ABSTRACT

Economic Analysis of Water Users Affecting the Future of the Dead Sea Basin

Despite its natural and cultural significance, the Dead Sea is disappearing year after year. One third of its area has already dried up due to human unsustainable activities over the last years. Water diversion upstream is the leading cause of the reduction in size of the Dead Sea. The mineral extraction activities of the Dead Sea Works and the Arab Potash Company are also extremely water-intensive. The tourism industry is the most significant economic sector in the region that needs a Dead Sea alive with a clean environment. In order to find the economic benefits of the different sectors of the Dead Sea, Friends of the Earth Middle East (FoEME) commissioned studies to assess the economic benefits of conservation, including the possible restoration of natural flows into the Dead Sea. Two non-market valuation methods were used to assess consumer welfare from conservation: The contingent valuation method (CVM) was developed as a way of measuring both use and non-use values and the travel cost method to measure expenditures people make to arrive to the Dead Sea. The study showed that the economic benefits to conservation are clearly substantial compared to the benefits gained from the mineral extraction and agriculture.

Die Zukunft des Toten Meeres: Wirtschaftsanalyse zum Wasserverbrauch

Trotz seiner natürlichen und kulturellen Bedeutung verschwindet das Tote Meer nach und nach. Ein Drittel des Gewässers ist in Folge menschlichen Eingriffs während der letzten Jahre ausgetrocknet. Wasserableitungen flussaufwärts sind der Hauptgrund für die Volumenreduktion. Außerdem ist die Gewinnung mineralischer Rohstoffe durch die Dead Sea Works und die Arab Potash Company mit einem sehr hohen Wasserverbrauch verbunden. Der Tourismus allerdings, als der wichtigste ökonomische Sektor der Region, braucht ein lebendiges Totes Meer mit einer sauberen Umgebung. Um die wirtschaftlichen Vorteile der verschiedenen Bereiche des Toten Meeres aufzuzeigen, haben die Friends of the Earth Middle East (FoEME) den wirtschaftlichen Nutzen des Umweltschutzes sowie die mögliche Wiederherstellung natürlicher Flüsse bewertet. Es wurden zwei verschiedene Bewertungsansätze angewendet, um das Wohlbefinden von Konsumenten durch Naturschutzmaßnahmen zu ermitteln: Die kontingente Bewertungsmethode wurde zur Messung von Nutzungs- und Nicht-Nutzungswerten herangezogen, mit der Reisekostenanalyse wurde ermittelt, wie viel die Menschen für einen Ausflug an das Tote Meer investieren. Die Studie zeigt, dass die wirtschaftlichen Vorteile durch Schutzmaßnahmen wesentlicher größer sind als diejenigen, die durch die Gewinnung mineralischer Rohstoffe und Landwirtschaft erzielt werden können.

Violet Qumsieh has a master degree in environmental engineering. She has been working at Friends of the Earth Middle East (FoEME) in the Bethlehem Office for over 3 years. Before joining Friends of the Earth, she worked at the Applied Research Institute Jerusalem, which specializes in environmental management issues. She joined FoEME as she believes in peace as one of FoEME's objectives is to promote peace in the Middle East in addition to protecting the environment.

Panel 2 Sustainable Use of Land and Water in the Design of Recreational Communities

Tim Pringle

Executive Director, Real Estate Foundation, Vancouver, British Columbia, Canada

Tides of Settlement and British Columbia's Lake Ecosystems

Settlement patterns define communities and regions. The East Kootenay area of British Columbia is facing a tide of settlement driven by demand for recreation and resort properties and services. Long-time residents of the region wonder, in the face of increasing demand for local properties, urban-style services and access to natural amenities, how their communities and landscapes will remain authentic and sustainable. Communities can solve their dilemma by executing planning strategies for use and conservation of land that go beyond five or ten years; they must plan for fifty years. Such a sustainable planning process must achieve a balance of social, economic, and environmental values.

A tension underlies this premise. Current planning processes do not respond efficiently to rapid change. Communities must deal with both the public trust (benefits in common) aspects of land use as well as the private ownership values. More effective planning might occur if:

- Communities review and understand the historical tides of settlement in their region;
- Communities analyze the current wave of demand for recreational and resort property;
- Communities plan for land use and conservation employing a more values - oriented approach.

Let's consider each of these points.

The History of Regional Settlement

The Columbia River rises from Columbia Lake just south of Fairmont Hot Springs. It flows 280 kilometers north and then turns south to eventually reach the US border. The Mica, Revelstoke and Lower Arrow dams lie in the river's path before it reaches the border. Modern settlement and industrial needs have harnessed the river to produce electrical energy. Still, the river offers, in its first 150 kilometers, an intact and rich wetland and extended lake eco-system. Because lakes modify the climate, they also nurture microclimates favorable to certain plants and animals and supportive of migratory species, especially birds and waterfowl. These lake systems provided transportation, attractive settlement sites, and an abundance of food for aboriginal peoples long before the first major influx of non-native settlers in the 1850's.

While the lake-ecosystems were attractive to the newcomers from Europe, their motivations in using the land were primarily economic. In the late 1850's the Royal Engineers, supporting England's policy of populating western Canada with loyal subjects, produced maps of the interior of BC identifying gold fields and showing water routes to reach these areas. By the mid-1880's, the rush to access lands the Kootenay region was furious. The Great Northern Railroad had reached across the border states of Montana, Idaho and Washington in the US bringing venturers into the Kootenays seeking fortunes in silver and gold. More came with the completion of the Canadian Pacific Railroad in 1886. Several present-day communities were founded in the gold rush era. Later, the timber industry and Homestead Act drew in-migrants. 35-40 years ago,back-to-the-landers' and Vietnam War dissenters flowed in.

There are several points we can infer from this history:

- The in-migrants and their descendents are a homogenous group - primarily from European ancestry and focused on obtaining wealth or, at least, security from land rights and ownership;
- They shared and passed on a „tradition" of assuming abundance of land resources and opportunities for development on the land;
- They experienced government that consistently promoted occupation of the landscape for settlement and development.

The Current Wave of Demand for Recreational and Resort Property and Services

The most recent tide of settlement in the region is comprised of consumers affiliated with recreational and resort properties and services. These newcomers have a demand for land where golf courses, ski resorts, sites for vacation homes, access to adventure tourism pursuits, etc. can be developed.

Who are the newcomers of today? Demographic research tells us that someone who is now 41 years old

(born in 1963) represents the most typical resident of metropolitan Vancouver (source: Baxter, D. and Ramlo, A, „The Next Century of Population Growth and Change“: Urban Futures Institute; Vancouver, 2000). These people are the so-called „baby boom generation“. People now 38 to 57 years of age comprise one-third of the population. They comprise a relatively homogenous profile - largely European heritage, about 80% Canadian born (source: Baxter, D. „Just Numbers: Demographic change and Immigration in Canada's Future“; Urban Futures Institute, Vancouver, 1998) - suggesting similar conceptions about nature and the Canadian wilderness. The demographic profile of Calgary is likely similar. It is people from this pool of urban dwellers who are buying recreational property at Invermere, Panorama, Fernie, Kimberly and other BC mountain resort areas.

When choosing the Kootenay region, people place value on the open space, the views of mountains, lakes, rivers, the wildlife, the phenomenon of nature - thunderstorms, winter iciness, migration of wildlife, the sense of wilderness and pristine places. Visitors and property buyers also seek resort facilities and services.

Canadian Mountain Holidays (CMH), one of the Intrawest Corporation group of companies, operates adventure tourism services in the region. CMH's „Vision for sustainability“ states: „At CMH we are privileged to operate our heli-skiing and heli-hiking business in some of the most beautiful mountain eco-systems in the world. The vision offers CMH's strategy to balance economic, social and environmental goals.“ CMH reported for 2003 that it attracted about 7,000 heli-skiing guests (70% annual return). About 50% are from the United States, 40% from Europe, and 10% from Canada and other countries. During summer, 2,500 guests visited the wilderness lodges for heli-hiking and mountaineering adventures. About 90% of the summer guests are from North America. In contrast, most purchasers of regional resort and recreational properties come from Calgary and Vancouver metropolitan areas. Demand has translated into price increases. BC Assessment Authority provided the price history of a waterfront property on Windermere Lake. Sixteen District Lots originally were surveyed along the eastern shore of Windermere Lake (the west side shore is occupied by a railway). The original parcels have been subdivided into 2,300 lots, of which 1957 are now improved. There 214 lots that are situated on the lakeshore. The typical property was analyzed. In 2004, the assessed value of the land was $720,000 - 18.8 times greater that its 1980 value of $38,300. The annual inflation averaged 78% over 24 years. Other destination resort communities in the region have experienced similar inflation.

Communities can solve their dilemma by executing planning strategies for use and conservation of land that go beyond five or ten years; they must plan for fifty years.

The least expensive way for the owner of a recreational unit at Snowmass, Colorado or Whistler, BC to reduce waiting times for ski lifts and avoid crowded bike trails and golf courses might be to purchase a property at Panorama or Ferine or Invermere. The transaction offers opportunity for capital gains as well as obtaining a stake in the beauty and amenities of the Kootenay region. Such buyers want to leave the disadvantages of a mature resort marketplace. In a sense, this is imported inflation.

We can summarize the impacts that recreational property demand places on the region and communities such as Invermere in particular:

- Imported inflation, the transfer of scarcity from other markets, which do not have the amenities or are more costly - „mature“;
- Demographic projections describe persistent demand trends from wealthy „baby-boom“ generation buyers for the next 20 years;
- Infrastructure development for resorts and private home sites has an impact on the social, economic, and environmental issues of the region.

Planning for land use and conservation should become more value-oriented. This is a complicated balancing process. It is a form of risk assessment and management. Communities in the East Kootenay region are familiar with the boom and bust cycles of previous eras, where economic values tended to have priority. While the resort and recreation industry helps to diversify the economy, inflation occurs. Impacts arise related to social values such as affordable housing and absentee property ownership. Communities sense risk and seek solutions including stronger planning processes. In this respect, local planning agencies have an excellent opportunity to improve their methods.

Communities realize that the historical idea of abundance of land and resources for wholesale

development is fallacy. There are two recent examples in the region of rationalizing economic and environmental values. In late 2003 the Nature conservancy of Canada and Tembec, a Quebec-based timber company, „struck“ a $ 4.7 million deal encompassing almost 40,000 hectares of private forest land on the east side of the Elk River Valley near Fernie.“ (source: Simpson, Scott; „Land-conservation deal protects wildlife, jobs“, Vancouver Sun; December 18, 2003). In the summer of 2003, the Nature Trust of British Columbia reported that it had raised $2 million, including a major gift from the Province of BC to buy the 10,000-acre property known as the Hofert / Hodoos between Fairmont Hot Springs and Invermere (source: Nature Trust, „High Priority Private BC Land Acquired for Critical Wildlife Habitat“, reported in „Natural legacy“, Fall 2003.

It is the nature of a strong resort and recreation industry to cause regional impacts, beginning with real estate and moving to linked social and environmental concerns. Because municipal and regional governments have planning authority over adjoining jurisdictions, there is every reason to cooperate and reduce the incremental impacts (unplanned) in each other's territory. Planning authorities need to obtain the resources (research and education) to improve their capacity. A strong property market offers the best time to do so.

This brief analysis of land use pressures in the region leads to the conclusion that communities must take steps to be more in control of their economic, social and environmental destinies. The challenges:

- Communities must assess and understand the market for resort and recreational property and services. It is a national and international market. It will be a 20-year trend, driven by the baby-boom generation. However, it will recede into a future market that is not homogenous, populated by many immigrants who may have little interest in the mountain and resort communities that exist today.
- Communities must plan for the type and quantity of development that meets their goals for the short and medium term, but does not lead to abandoned development and spoiled environments in 30 to 50 years.
- Communities need to understand the luxury nature of resort and recreational markets and mitigate the problems associated with becoming „exclusive“ and very expensive.
- Communities should find ways to diversify their economies while retaining their long-time social values and authenticity.

The challenge communities envision is to extract revenue from the strong resort and recreation market and invest it in a more inclusive process of planning long-term for use and conservation of lands.

ABSTRACT

Tides of Settlement and British Columbia's Lake Ecosystems

The East Kootenay region of British Columbia has experienced eras of economic growth and settlement since the mid-1800s when migrants of European descent began displacing the aboriginal peoples. In recent years, demand for recreation and resort properties and services has opened a new economic era. This presentation reviewed the history of settlement, analyzes the current property market and describes its impact on social, environmental and economic values for regional communities. In conclusion, no longer can communities rely on the abundance of land and resources to absorb new economic booms. The current demand for recreational and resort properties will persist for years, fueled by the demands of the baby-boom generation. Regional communities must plan adequately for the 5 to 20-year term as well as for the 50 years in the future.

Siedlungsbewegungen und British Columbias Seenökosysteme

Die Region East Kootenay in British Columbia erlebt Phasen wirtschaftlichen Wachstums sowie Siedlungsbewegungen bereits seit Mitte des 18. Jahrhunderts, seit sich Einwanderer europäischer Abstammung ansiedelten. In den letzten Jahren hat die Nachfrage nach Erholungs- und Urlaubsmöglichkeiten eine neue ökonomische Ära eingeläutet. Die Präsentation beleuchtet die Geschichte der Siedlungsbewegungen, analysiert den derzeitigen Grundstücksmarkt und beschreibt seine Auswirkungen auf soziale, umweltrelevante und wirtschaftliche Werte für die Gemeinden in der Region. Aus der Veröffentlichung geht hervor, dass Gemeinden nicht länger auf einen Überfluss an Land und Ressourcen zurückgreifen können, um neue wirtschaftliche Aufstiege anzustreben. Die derzeitige Nachfrage nach Erholungs- und Urlaubsmöglichkeiten wird, angetrieben durch die Nachfragen der „Baby-Boom Generation“, die nächsten Jahre anhalten. Regional gesehen müssen Gemeinden somit angemessen sowohl kurzfristig, d.h. für die nächsten 5 bis 20 Jahre, als auch langfristig 50 Jahre im Voraus planen.

Tim Pringle has been Executive Director of the Real Estate Foundation of BC since 1988. His work focuses on land use concerns and takes him throughout the province to confer with local agencies about projects that they hope the Foundation will help support. The Foundation also works with professional organizations and government agencies.

Tim Pringle is a graduate of the University of BC, Bachelor of Arts, has further education in real estate law and finance, as well urban design and community economic development. He is a member of LAMBA ALPHA International, an honorary society of land economists and other practitioners.

Dr Gábor Molnár

Lake Balaton Development Coordination Agency, Hungary

Characterization of Lake Balaton and the Lake Balaton Recreational Area

With a surface area of 594 square kilometers, Lake Balaton is the largest lake in Central Europe. However, because of its extreme shallowness, its volume is only 4% of Lake Constance or a mere 2% of Lake Geneva. The long-term water budget of Lake Balaton is positive: tributary inflow is roughly equal to evaporation (900 mm per year), and outflow is almost equal to direct precipitation (600 mm per year), since water use is only 30 to 50 mm per year. The water budget figures are less favorable in the last 20 years and particularly unfavorable in the last 5 years (no outflow).

The Lake Balaton catchment area (5,776 square kilometers) lies entirely in Hungary. Therefore, the water quality of the lake is a domestic issue. Because of the Lake's significance, the catchment is designated as an individual subcatchment in accordance with the Water Framework Directive of the EU. Lake Balaton Recreational Area (called the Lake Balaton Region including the lake and 164 municipalities in its vicinity) is a special territorial development area specified by the Hungarian Law (Lake Balaton Act of 2000). Situated almost entirely in the catchment area, Lake Balaton Region (LBR) has a surface area of 3,780 square kilometers and 250,000 permanent residents. There are 110,000 permanent and 70,000 recreational (seasonally used) residences. The Lake Balaton Region produces 34% of Hungary's annual tourism revenues i.e. some 3 to 4% of GDP. There are more than 10 million registered guest nights annually. Non-registered guest nights may exceed this figure by a factor of two to four.

Development and Sustainability

The principle of sustainability has frequently (if not always) been neglected during the history of development of Lake Balaton and its Recreational Area. In this region „development" is synonymous with „careless human impact".

The first, and probably most severe human impact on the lake, was the considerable water level (and therefore volume) reduction during the 1860s. The purpose of the volume reduction was to protect the newly constructed railways from level fluctuations and more importantly ice pressure in winter. The lake lost almost half of its volume and large areas of neighboring marshlands became disconnected and eventually dried up.

The lake level was controlled with increasing „precision" meaning that natural water level fluctuations required by reed and other macrophytons were reduced.

Increasing use of fertilizers and development of water supply infrastructure without developing proper sewer and sewage treatment systems resulted in a huge increase in nutrient load and subsequent algal blooms.

Permitting building directly on the lakeshore resulted in loss of wildlife habitat and increased pollution. It also increased the need to construct walls to protect against wave erosion - further amplifying the loss of habitat.

Most development in the past has resulted in non-sustainable processes and negative changes. Degradation of water quality, loss of biodiversity, and degradation of the state of the environment has resulted in long lasting, historic problems. These changes are compounded by the negative water balance recently caused by low precipitation.

Present Planning and Trends

It can be seen now, that many of the problems caused by poorly planned or well planned but poorly implemented development could have been avoided. Regional planning considering the complex issues has made considerable progress in the last 15 years.

Land Use Category	Lake Balaton Region, ha *	Lake Balaton Region, %	Country, %
Cultivated land	**227,041**	**77,2**	**85,6**
Agricultural	144,338	49,1	66,5
Arable land	95,256	32,4	51,8
Vineyard & orchard	19,973	6,8	2,4
Meadow	13,827	4,7	12,3
Other (reed, fishpond)	15,364	5,2	0,7
Forest	82,703	28.1	19,1
Non-cultivated	67,094	22,8	14,4

Table 1 Land use in the Lake Balaton Region (Source: 2000, LB Strategic Development Plan). * without Lake Balaton surface

In case of Lake Balaton, a mid-term development plan and a strategic development program have been formulated and endorsed by government agencies and regional players. The Strategic Development Program of Lake Balaton has five major components:

- Environmental protection and nature conservation;
- Infrastructure development;
- Activation of the regional economy-tourism industry;
- Human resources development;
- Development of the institutional framework and cooperation.

It has been widely recognized that a clean and inspiring environment is a precondition not only for biodiversity but also for sustainable tourism industry. Human resource development and education can contribute to increasing environmental awareness and improved services at the same time. A carefully developed infrastructure reduces the environmental impacts of transportation and other environmental uses.

The first, and probably most severe human impact on the lake, was the considerable water level reduction during 1860s.

Although the „think globally act locally“ principle is very important in achieving sustainable land and water use, some issues such as the impacts of climate change or demographic trends can not be dealt with at local or regional level. International cooperation and, if necessary, pressure on governments and business organizations may constitute important means to free ourselves from the non-sustainable pathways of development.

ABSTRACT

Sustainable Use of Land and Water in the Design of Recreational Communities

Lake Balaton is the largest lake in Central Europe. With 600 square kilometers and 3.3 m average depth, it is one of the shallowest lakes in the world. The lake, often referred to as the „Hungarian Sea“ is the greatest natural asset of Hungary. Lake Balaton is a relatively young lake, formed some 5 - 10,000 years ago. Lake Balaton is a heavily used lake. The lake is used as a recreational and sports area, a water resource, means of transportation, fisheries, wildlife habitat as well as for scenic beauty and inspiration.

Economically, the most significant use is recreation. Recreational use started approximately 120 years ago, accelerating after World War I. Intensive development and mass tourism started in the early 1960s. Development of Lake Balaton and its surroundings as a major European recreational area has failed to address sustainability issues.

Problems such as eutrophication, loss of wildlife habitat, loss of biodiversity and introduction of invasive species

Category of issue	Historic	Newly emerging
Environmental	▪ Vulnerable water quality (WQ), eutrophication ▪ Landscape degradation ▪ Overbuilding ▪ Intensive use of agrochemicals ▪ Slow pace of WQ control measures	▪ Negative water balance ▪ Declining fish catch ▪ Reed degradation ▪ Appearance of invasive species ▪ Aging vineyards
Socio-economic	▪ Sub-standard waste management ▪ Conflicts of conservation vs. development ▪ Aging and other demographic issues ▪ Complex governance framework, weak policy coordination ▪ Excessive reliance on tourism for livelihoods ▪ Grey economy and tax evasion	▪ Deficiencies in WQ monitoring system ▪ Water conveyance conflicts ▪ Declining number of tourists and tourism income ▪ Fragmented land ownership

Table 2 Historic and emerging issues.

became serious during the 1970s and 1980s. Water quality protection measures were initiated in 1983. Decades later there are marginal improvements in water quality, but a multitude of problems still exist. A new and potentially dangerous problem is water shortage due to decreased precipitation. A formerly unprecedented, negative water budget of Lake Balaton was experienced from 2001 to 2003 causing major concern among permanent residents and tourists as well. The lake water level dropped to such critically low figures last year prompting studies on inter-basin water transfer projects. Since such projects also represent ecological risks, they should be considered as last resort solutions.

Nachhaltige Land- und Wassernutzung bei der Gestaltung von Erholungsgebieten

Der Plattensee ist der größte See Mitteleuropas. Mit einer Fläche von 600 Quadratkilometern und einer durchschnittlichen Tiefe von 3,3 Metern ist er zudem ein extrem flacher See. Oftmals als „Ungarisches Meer“ bezeichnet, gilt er als das größte Naturgut Ungarns. Der Plattensee ist mit 5.000 bis 10.000 Jahren ein relativ junger und gleichzeitig vielgenutzter See. Er dient für Freizeit- und Sportaktivitäten, Wasserversorgung, Transport, Fischerei, als Lebensraum für Tiere sowie dem Genuss der landschaftlichen Schönheit und Inspiration.

Ökonomisch gesehen ist die touristische Nutzung die bedeutendeste. Diese begann bereits vor ungefähr 120 Jahren und hat nach dem 1. Weltkrieg stark zugenommen. Die intensive Entwicklung und der Massentourismus setzten in den frühen 60er Jahren ein. Hieraus ergaben sich insbesondere in den 70er und 80er Jahren vermehrt Probleme durch Eutrophierung und einen Verlust an Biodiversität. Wasserqualitätsmessungen fanden das erste Mal 1983 statt. Jahrzehnte später ließen sich geringe Verbesserungen feststellen, jedoch gibt es weiterhin eine Vielzahl von Problemen wie der Rückgang der Wasserreserven durch verringerte Niederschläge.

Dr Gábor Molnár is the Managing Director of the Lake Balaton Development Coordination Agency in Siófok, Hungary. He is a member of the Hungarian Chamber of Engineers and has extensive academic and professional experience in Europe and Asia. He obtained his PhD in Civil Engineering from the University of Tokyo in 1997 where he investigated the sustainable use of land and water resources. Since then, he has worked on several international projects specializing in water and environmental management, hydrology, and GIS and remote sensing applications in environmental problem solving.

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Lake Chapala: Its Impact in the Development of the River Dweller Communities

Lake Chapala is the biggest lake in the Mexican Republic; it has an extension of 80 kilometers in length and 25 kilometers in width. Due to the „hydro-environmental" values of the lake, it is of great social economic and environmental importance. It is the most important hydrologic ecosystem in our country, refuge for migratory birds (such as the white fish endemic species), it is also one of the climatic regulators in the metropolitan zone of Guadalajara and the base of the water supply for human use in this city. In addition to its landscape beauty the Lake Chapala Rivera has a huge population import, primarily from near towns as Chapala, Jocotepec and Ajijic.

The „Cuenca Lerma Chapala" foundation and the „Amigos del Lago" society have been working during 4 years in different fields; in the field of public politics to give the Lake a legal and permanent protection and to guarantee the environmental use of it; in the social and economic fields to fortify the power of the communities in the use of the lake, (such as the landscape, as a main source of economic incomes;) and in the field of community participation to create a culture of ownership of the lake. In the future, we hope to obtain a declaration of the lake as a primary zone of alternative tourism.

Also, efforts were undertaken to include the vision of a deep valley in the public politics. Lake Chapala is not an isolated ecosystem, it is part of a hydrologic deep valley, and in consequence, the management of it also affects - positively or negatively the lake. Lake Chapala is part of the Lerma-Santiago-Pacífico deep valley, and it is administratively divided into two micro deep valleys to have a better management of it. All the partners of Living Lakes in Mexico are working in a coordinated way with the congress (legislative power) to prepare a law regulating article 27 of the Mexican Constitution, in order to provide the lake legal protection so it can recover.

Today, due to the generous rain fall the lake is in 4,300 cubic millimeters and we still have two rain months to go, so we hope to attain volume of 4,500 cubic millimeters. This lake generation is reflected in the number of tourists and visitors from the metropolitan zone of Guadalajara that visit the lake. This has helped to reactivate the local economy at such a level that some Sundays the offer of services in Chapala is not enough to satisfy the visitors demand. The current situation opens new paths. Some Mexican partners started to reinforce the environmental tourism promotion, mainly in Mezcala, and to exert influence on different governmental programs to contribute to the recovery of the lake.

The future work is in contradiction with the projects of the deep valley. According to the new agreement concerning the distribution of water, in future Lake Chapala will only be fed by the natural drains of the dams, which means that if they do not exist, Chapala simply will not have storage water. On the other hand, the state government has suffered a political detrition due to the building of the Arcediano dam that does not solve the water supply for Guadalajara but meanwhile can contribute to a severe water extraction from Lake Chapala because of the growth of population. So, one of the aspects that Mexican partners and I should quote is the legal political work with some productive projects that may help us to have a tension-free federal and state government relationship. Therefore the presence of Living Lakes will be fundamental for Chapala next year.

ABSTRACT

Lake Chapala: Its impact in the Development of the River Dweller Communities

Lake Chapala is the biggest lake in Mexico. It is part of a deep valley and it is one of the most important hydrologic ecosystems in the center of the country. It hosts several migratory birds and endemic species, such as white fish, and finally, it is the base of the water supply for human use in the city of Guadalajara.

The „Cuenca Lerma Chapala" foundation and the „Amigos del Lago Sociedad", have been working with the government and the communities to give a legal protection to the lake and to fortify the feeling of ownership of the lake in the communities.

All these efforts intend to introduce the vision of the deep valley in the public politics, so that the Lake will be seen as part of a whole hydrologic ecosystem or hydrologic deep valley. Another purpose is to introduce and broadcast the idea of an environmental friendly tourism in the zone so that the economic situation will improve and the real „hydro-environmental" values of the deep valley can be understood by every single person.

Chapala See: Auswirkungen auf die Entwicklung von Flusssiedlungen

Der Chapala See ist der größte See Mexikos. Er befindet sich, morphologisch betrachtet, in einem tiefen Tal und

Lake Chapala is the most important hydrologic ecosystem in Mexico and refuge for migratory birds. It is also one of the climatic regulators in the metropolitan zone of Guadalajara and the base of the water supply for human use in this city.

ist eines der wichtigsten hydrologischen Systeme im Landesinneren. Er beheimatet zahlreiche Zugvogelarten und andere endemische Tierarten, wie den Weißfisch. Der See ist die Grundlage der Trinkwasserversorgung von Guadalajara, Hauptstadt des Bundesstaates Jalisco.

Die Living Lakes-Partnerorganisationen „Fundación Cuenca Lerma Chapala“ und die „Sociedad Amigos del Lago“ arbeiten mit der Regierung und den Gemeinden zum Schutz des Sees zusammen. Die Bemühungen dienen dazu, die Vision des Tals in der öffentlichen Politik einzuführen, so dass nicht nur der See als solches gesehen wird, sondern auch als Teil des gesamten Ökosystems. Andere Ziele sind die Einführung und Übertragung der Idee des „Ökotourismus“, um zu wirtschaftlichem Aufschwung beizutragen und die „ökologischen“ Werte des Tals für jedermann verständlich zu machen.

Dr Raquel Gutiérrez Nájera is a lawyer of the University of Guadalajara; obtained the doctor degree in the National Institute of Criminal Science in Mexico City. She is a teacher of Environmental Law at the Panamericana University and at the University of Guadalajara where she is also an Investigator. She is the President of the Environmental Law Institute (IDEA, A.C., Instituto de Derecho Ambiental) and a member of the Environmental Law Alliance.

Guest speakers

Recreational Communities Take Action Towards Sustainability

Hugh O’Reilly

Mayor of Whistler, British Columbia, Canada

Whistler’s Journey Toward Sustainability

Since its beginning in the 1960s, Whistler’s development has been guided by the community’s passion for outdoor recreation and the natural environment. In 1997, Whistler articulated its vision to be the destination mountain resort community, and committed to moving toward social and environmental sustainability, and economic viability. Following this commitment, the Whistler Environmental Strategy was developed, which sets guiding principles and detailed actions for moving Whistler toward ecological sustainability. Shortly thereafter, the Resort Municipality of Whistler, Whistler-Blackcomb, Tourism Whistler, the Fairmont Chateau Whistler, Whistler’s environmental non-profit organization, and a small business adopted the „Natural Step Framework“ as their sustainability compass and planning framework. From this partner ship, the „Whistler - It’s Our Nature“ community-wide sustainability program was introduced to promote and support the move toward sustainability throughout the entire community. Currently, Whistler is developing its community-wide „Comprehensive Sustainability Plan“ (CSP), which integrates The Natural Step Framework and has involved extensive community consultation.

The CSP will establish Whistler's long-term, shared vision and priorities for the future, and will define success and sustainability for Whistler in 2020. The CSP will amend Whistler's Official Community Plan and replace the Comprehensive Development Plan.

Whistler's Reise in Richtung Nachhaltigkeit

Mit Beginn der 60er Jahre war die Entwicklung von Whistler durch die allgemeine Begeisterung geprägt, Erholung in der freien Natur zu finden. Im Jahr 1997 wurde die Vision von Whistler als Bergerholungsort geboren, der sich einer sozialen und umweltrelevanten Nachhaltigkeit und wirtschaftlichen Entwicklungsfähigkeit verpflichtet fühlt. Gemäß dieses Vorsatzes wurde die Whistler-Umwelt-Strategie entwickelt, die führende Richtlinien und detaillierte Aktionen in Richtung ökologischer Nachhaltigkeit festsetzt.

Kurz danach übernahmen verschiedene Organisationen (darunter die verwaltung, Whistler-Blackcomb, Whistler Tourismus, das Fairmont Chateau Whistler, Whistlers NGOs), die „Natural Step"-Rahmenbedingungen als Nachhaltigkeitsmaßstab und Planungsrichtwerk. Ausgehend von dieser Kooperation entstand das „Whistler - Unsere Natur"-Programm, das die Nachhaltigkeitsbewegung in der gesamten Gemeinde unterstützt und vorantreibt.

Derzeit entwickelt Whistler den „Umfassenden Nachhaltigkeitsplan", der die „Natural Step"-Richtlinien berücksichtigt und die Gemeinden mit einbezieht. Der „Umfassende Nachhaltigkeitsplan" wird Whistlers langfristige, gemeinsame Vision und Prioritäten für die Zukunft zusammenführen sowie den Erfolg und die Nachhaltigkeit für Whistler im Jahr 2020 definieren.

Hugh O'Reilly was born in the United States of Canadian parents and grew up in the university community of Davis, California. His father was a founding member of the Rossland Ski Club and skiing became Hugh's vehicle to travel and work in a number of resorts over a five-year period before settling in Whistler in 1977. He completed a degree in Business Administration from Simon Fraser University in 1982. Hugh O'Reilly was first elected to council for the Resort Municipality of Whistler in 1988, serving three terms (eight years) as counselor before successfully running for the mayoralty in 1996. He was re-elected in 1999 and again for a third term in November 2002, making him the longest-serving Mayor in Whistler, as well as the longest-serving public servant. During Hugh's time on Council, Whistler has become a world-renowned, year-round destination, winning numerous awards for resort community design and planning, and visitor amenities. Hugh's current challenge is the development and implementation of a comprehensive, long-term sustainability plan for the resort community and guiding Whistler's involvement in the bid for the 2010 Winter Olympic Games.

Dr Tillmann Stottele

Department of Environment of Friedrichshafen, Lake Constance, Germany

Land and Water Use in Recreational Development at Lake Constance, Germany

After Lake Geneva in Switzerland and Lake Balaton in Hungary, Lake Constance is the third biggest lake in Central Europe. The three abutter countries Germany (63%), Austria (11%) and Switzerland (26%) share sovereign rights without fixed borders on the lake (in brackets: percentage of the shore line comprising 273 km in length). Therefore, they always had to agree amicably on the use of the lake and together they are in charge of the future development. Lake Constance is located on the northern edge of the Alps and is a former glacial lake, which assumed its present shape after the end of the last ice age approximately 10,000 years ago. First marks of human settlement can be traced down to 5,000 B.C. Already the Romans extended farming and settlement and they cleared the forests near the lake on a big scale. However, the lake with its shore line and affluents was in a largely near-natural state until the middle of the 19th century.

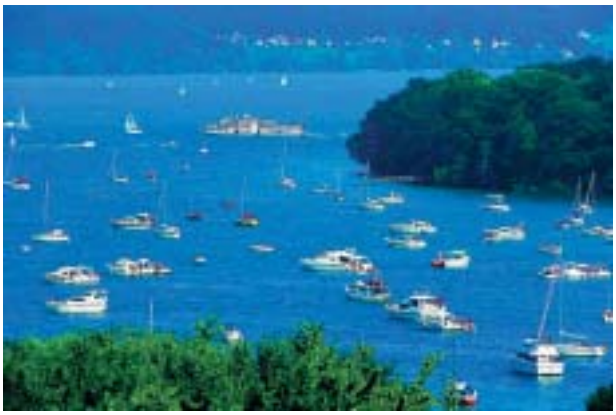
Today, 1,6 million inhabitants live in the catchment area of the Lake Constance (10,900 km^2). One million motor

vehicles are licensed. Four million people get their drinking water from the lake. At the same time the tourist communities at the lake count six million over night stays and over 25 million day-visitors per year. 10% of the overnight stays are in Friedrichshafen, which is, with its 57,000 inhabitants, the second biggest town at the lake after Constance (78,000 inhabitants). Founded in 1811, Friedrichshafen is a comparatively young and still dynamically growing town. Famous throughout the world for the Zeppelin, it hosts several big global players in the sectors automotive supply industry, engineering and aerospace such as ZF, MTU, Dornier / EADS and GF Fischer. The exhibition and the airport are the second biggest facilities in this vein in South West Germany. But anyway the city is an important tourist location, thanks to its long promenade along the lake, its cultural facilities and its agricultural coined hinterland.

Many basic problems result from this coexistence of partly competing use in an ecological sensitive region:

- Persistent population growth (+1% per year);
- Continuing settlement growth;
- Big traffic increase, especially of freight traffic;
- Intensive use and change of the affluents;
- Increasing use and change of the shore line and shallow waters;
- Growing use of the lake for leisure activities and shipping;
- Continuing intensification of farming and forestry;
- High immissions of fertilizers and of pollutants into the lake;
- Demonstrable climate warming since 1880: + 1,5 to + 2,0°C and another expected + 2,0 to + 2,5°C until 2100.

At Lake Constance, only international cooperations can define and implement problem solving, which is inevitable for sustainable development. The frameworks are predefined at European and national level. International Commissions of the abutter countries of the lake recommend and agree upon guidelines and obligations that are based on the frameworks. These guidelines and obligations affect the fields of fishery, water protection, shipping, planning and development and organize monitoring-programs as well as public relations. Execution of the guidelines and obligations is given to the administrations of the federal states in Germany and Austria and the cantons in Switzerland (mandatory responsibilities, regional planning, development planning and financing) and it is also given to the cities and communities (local planning autonomy, building law, public participation, financing).



Sustainable tourism development calls for a widespread cooperation between the different experts and decision making levels as well as an active public participation and the shaping of opinions to moderate a fair balance of interests.

Therefore, sustainable tourism development calls for a widespread cooperation between the different experts and decision making levels as well as an active public participation and the shaping of opinions to moderate a fair balance of interests.

How such problem solving can appear is shown in the following examples:

The catchment area of Lake Constance, which expands far into the Alps, is to 75% coined by pastures, meadows, forest and agricultural crop land. Altogether Settlement areas and traffic zones only cover 6%, yet in the urban densely populated areas near the lake they cover up to 30% of the community areas, with increasing tendency. Since 1950 the population increased by 60% to 1,6 million. The population density in the administrative districts or rather the Swiss cantons lies between 100 and 800 inhabitants per km^2. The main reason for the ongoing settlement growth of 1% per year is immigration into these attractive living spaces and marketing and cultural areas. This is a big challenge for city planning and landscaping, as this settlement pressure makes it difficult to preserve the valuable cultivated landscape and the remained 4% nature reserves, which are very important for tourism and local recreation.

The European and the German planning law provide important instruments in terms of a multi-level settlement planning, which is supported by environmental impact assessments on each level. The aim of those environmental impact assessments is avoidance, reduction or at least adjustment of the caused environmental burdens and landscape transformations. The guideline of the settlement development of Friedrichshafen for the next 15 years finalized an extension of the settlement area only in the communities five to eight kilometers away from the lake.

In the town center at the lake and the small villages in the hinterland it will be allowed to fill the gaps only. The administrations try to direct the immense traffic at Lake Constance through bundling it on highways aside the shore line or through extension of the public transport (bus, train, ferry) and the bicycle infrastructure. However, we have to expect further increase of truck transport and passenger traffic, which is, at this stage, the main source of air and noise pollution at Lake Constance.

Drinking water consumption at Lake Constance is no problem although there are four million people drinking water from the lake. Removal of drinking water and evaporation correspond approximately with the condensation onto the lake, which is about 4% of the annual water quantity that flows to the lake. Heavy effects on Lake Constance have the pollutants and nutrients from settlement wastewater and surface run-off. In the seventies they nearly let the ecosystem of the lake collapse due to threatening over-fertilization. This initiated the biggest international environmental protection campaign of the last fifty years. Based on shared guidelines for pollution prevention in 1967 and 1987 over four billion EUR (> five billion US$) were spent on the extension of canalization and waste water plants around the lake in the past 35 years. The result is a great success. Today phosphate discharge of the waste water plants is only a quarter of the released amounts in 1987 and the released phosphorus content in the lake water corresponds approximately with the quasi natural figures in the beginning of the 1960s. Nitrogen, pesticide and drug content are still high, but they do not put a strain on the biological processes in the lake.

The biggest challenge for the future is the close-to-nature development of the lake affluents. For example, in the urban area of Friedrichshafen 75% of the brooks and rivers are in an unnatural state and it will require decades until they can flow in natural riverbeds with typical riverine vegetation. The approximately 57,000 licensed boats and ships on the lake, of which circa 35,000 are motorized, affect adversely the lake. Apart from fishing boats, passenger ships and ferries, 98% of the ships are used for recreational purpose only. If one bears in mind the operating duration, the shipping traffic in leisure time still occupies 75%. In addition to pollutants, wash of the waves and noise, harbors and anchorage on shore and in shallow waters are the most disturbing impacts on the ecosystem and bird populations. The international community at the lake tries to keep the number of boats and their berths at the present level through restrictive permissions. Besides it limits the impacts on the environment through the strictest exhaust regulations in Europe.

In the last few years all forms of sustainable tourism gained popularity. Second to none is cycling and hiking. The region provides locals and guests with a broad offer full of quality, through standardized signs of the cycling and hiking paths around the lake, completed by cycling and hiking maps, excursion guides and tour arrangements. Sensitive nature reserves are at the most opened up at the edge and upgraded for the visitor through educational boards. All starting and arrival points are also accessible by public transport.

At large Lake Constance and its catchment area have achieved great progress in water purification and protection of the waters. A big effort is needed to renaturate affluents and the shore line. For this, the state of the lake and its affluents in the middle of the 19th century is a reference. Based on broad survey and a clear aim all abutters of the lake work for this aim. Common monitoring-programs serve the purpose of success controlling and regular updating of the package of measures. Additionally to the international guideline for Lake Constance of 1994 there are five principles authoritative for this process:

- Principle aim sustainability;
- Principle of prevention (defense of negative impacts, risk management);
- Minimization of unavoidable pressures;
- Polluter pays principle;
- Cooperation.

ABSTRACT

Recreational Communities Take Action Towards Sustainability – Land and Water Use in Recreational Development at Lake Constance, Germany

Lake Constance in the North of the Alps in-between Austria, Germany and Switzerland is one of the most attractive areas for tourists in Central Europe.

First settlements date from 5,000 B.C. Today there are 1.6 million people living in the catchment area (11,000 km^2) of the lake. It supplies four million people with drinking water. At the same time the shore line communities count six million overnight stays and 25 million day-trippers a year. On the lake 56,000 boats and ships are licensed. 98% of them are only used in leisure time.

The intensive use of the lake and its catchment areas is a big challenge for conservation and environmental protection. The only possible way to turn away the threatening over-fertilization of the lake was through strict rules for pollution prevention and several billions

of investment into waste water treatment. Today several international commissions are monitoring the state of the lake and support cities and communities in their efforts towards sustainable development. As Friedrichshafen is the second biggest town at the lake, it has a particular responsibility.

Erholungsorte auf dem Weg zur Nachhaltigkeit - Land- und Wassernutzung bei der Entwicklung des Tourismus und der Freizeitgestaltung am Bodensee

Die ökologischen Auswirkungen des Tourismus auf die Bodenseeregion, die sich auf die drei Länder Deutschland, Schweiz und Österreich verteilt, sind mannigfaltig. Sie resultieren aus dem Zusammenwirken von Bevölkerung, Industrie und Tourismus und deren unterschiedlichen Nutzungsansprüchen an den See. Betrachtet man beispielsweise die Bevölkerungsentwicklung der letzten Jahrzehnte, so wird deutlich, warum Instrumente wie Siedlungs- und Verkehrsplanung zunehmend an Bedeutung gewinnen. Weiterhin spielen qualitative und quantitative Überlegungen, wie der Bevölkerungszuwachs in der Region und die damit einhergehenden Konsequenzen eine wesentliche Rolle. Dies gilt z.B. im Hinblick auf Infrastruktur, aber auch zunehmende Nutzung der Wasserressource, um den Bodensee als Erholungs- und Wirtschaftsregion zu erhalten und auch weiterhin für ca. vier Millionen Menschen die Versorgung mit Trinkwasser aus dem See zu gewährleisten.

Dr Tillmann Stottele has been Director of the Department for Environment and Nature Conservation at the town council in Friedrichshafen, Lake Constance, Germany, since 1995. He is the representative for environmental management and coordinator of the „Lokale Agenda 21 Friedrichshafen“ and member of the Working Group for Tourism and Environment at the International Lake Constance Conference. Born in Braunschweig, Germany, he completed his studies of Biology at the Universities of Stuttgart-Hohenheim and Göttingen, main focus on Geobotany. He furthered associate PhD studies at the faculties of Biology and Educational Sciences at Göttingen University.

Discussion Groups

Group 1 Streamside Protection Models

Andy Witt

Project Manager, Riparian Areas Regulation, Ministry of Water, Air and Land Protection, Victoria, British Columbia, Canada

Riparian Areas Regulation

The province has established the Riparian Areas Regulation to encourage environmentally responsible development. The Riparian Areas Regulation model was developed by the Ministry of Water, Land and Air Protection, in collaboration with DFO (Department of Fisheries and Oceans) and UBCM (Union of British Columbia Municipalities) to design an approach to urban fish habitat protection that provides certainty and flexibility to development, is not dependent on limited local, provincial and federal government resources and ensures protection of the province's valuable fisheries resource. It directs local governments to allow development within a 30 meter riparian assessment area only if a „Qualified Environmental Professional“ (QEP) provides a professional opinion that the development will not result in any damage to riparian fish habitat. The model uses QEPs, hired by land developers, to assess impacts, develop mitigation measures and avoid impacts to riparian fish habitat. This shifts the cost of assessing developments to the land developer, allowing governments to focus on monitoring and enforcement within their respective jurisdictions. To guide the QEP decisions an assessment methodology was designed as a key component of the model to provide clear direction to QEPs on how to assess impacts based on site conditions. To increase the accountability of the QEP and to permit compliance monitoring, the assessment methods were designed to yield outcomes that are measurable, repeatable, and independent of the observer. The assessment methods also establish the skill set and qualifications of the QEPs. The assessment methods enable effectiveness monitoring that will be undertaken

to determine whether impacts from urban development on riparian habitats are being fully avoided when they are used correctly. The assessment will form the content of notifications by QEPs to regulatory agencies.

Verordnung für Uferflächen

Die Provinz hat zur Förderung umweltverträglicher Entwicklungen eine Verordnung für Uferflächen verabschiedet. Die Uferflächenverordnung wurde vom Ministerium für Wasser-, Land- und Luftschutz in Zusammenarbeit mit dem Amt für Fischerei und Meere und der Union der Gemeinden British Columbias zum Schutz des Lebensraums für Fische entwickelt. Es handelt sich hierbei um einen flexiblen und entwicklungsfähigen Ansatz, der zum einen nicht von den Gesetzen auf lokaler, Landes- bzw. Bundesregierungsebene abhängig ist und zum anderen den Schutz der wertvollen Fischressourcen gewährleistet.

Die Verordnung erlaubt den lokalen Regierungen nur dann Veränderungen innerhalb einer Uferfläche von 30 Metern, wenn ein qualifizierter Umweltfachmann festgestellt hat, dass den Uferfischbeständen kein Schaden zufügt wird. Dieses Modell nutzt qualifizierte Umweltleute, um mögliche Folgen abzuschätzen, Maßnahmen zur Minderung negativer Einflüsse zu entwickeln und die Auswirkungen auf Uferfischhabitat zu vermeiden.

Group 2 Maintaining Wilderness Values in a World of Increasing Tourism

Darcy Monchak

Resource Planner, Ministry of Sustainable Resource Management, Golden, British Columbia, Canada

Recreational Planning in the East Kootenays of British Columbia, Canada - Balance is Everything

The East Kootenay area of B.C. is experiencing steady growth in public and commercial, motorized and non-motorized, recreational activities. Visitors from around the world are mixing with local residents in the backcountry of one of the most spectacular areas on the planet. There are opportunities to manage this growth so that it best maintains a diversified, quality recreational experience, a viable economic, social and environmental future, and so that the growing number of user conflicts are minimized. The vast majority of land in B.C. and the Kootenays is crown land owned collectively by its people. As such, responsibility for management of this land ultimately rests with its government. In conjunction with the extensive road access infrastructure which evolved through natural resource development (forestry, mining and construction of inter-provincial energy and transportation corridors), the opportunity to access relatively all areas of crown land in pursuit of recreational activities has increased dramatically over the last two decades. This increased, often unplanned recreational access to crown land has resulted in numerous social and economic benefits to the public and commercial recreational operators. It has also resulted in some negative impacts to the quality of various commercial and public recreational experiences and to environmental issues.

Commercial recreation is recognized as an important economic resource for the Province and local area. The sector is currently growing, and commercial operators are concerned that unplanned backcountry recreation can result in conflicts between recreationalists that will affect their ability to provide a quality experience to clients. This conflict can occur between commercial operators or between the public and commercial operators, and be related to use levels or between non-compatible activities. The public's use of its crown land base is also increasing. Conflicts between public users often relate to motorized versus non-motorized use. More recently, there is concern by some of the recreational public, that the opportunity to access crown land is becoming affected by commercial ventures. Strategic access planning in the East Kootenays has occurred for decades, but only recently has government in conjunction with a broad spectrum of public and commercial stakeholders attempted to resolve existing and pending recreational issues together over such vast areas.

The Golden Backcountry Recreation Access Plan (GBRAP), initiated in 1999, and the Cranbrook Recreational Access Strategy (RMS), initiated in 2003, are examples of such planning which establish recreational patterns of use and opportunities throughout thousands of square kilometers. These are volunteer-driven community consensus-based initiatives. They consider public recreational and access requirements, the need to promote and provide certainty for tourism, and the need to conserve important wildlife habitat for the future. By indicating zones where certain recreational activities can occur, the plans provide a measure of certainty for both tourism development (businesses that rely on commercial recreation directly or indirectly), public recreation, and biodiversity/wilderness values. The plans address recreational use only, as other planning processes deal with forestry and mining issues.

ABSTRACT

Recreational Planning in the East Kootenays of BC, Canada - Balance is Everything

Recreation access management is one of the most significant issues affecting land and resource stewardship in the Kootenay region. As competing recreation access demands and recreational activities on crown land increase in intensity, the need to balance those uses and interests becomes more imperative. There is a need to manage opportunities so that they best contribute to provincial social, economic and environmental values. Without recreational strategic planning, conflicts among resource users will increase and access, recreation and conservation management issues will continue to remain controversial and unresolved. These conflicts impede the ability to make timely recreational tenuring decisions on crown land, and they reduce certainty for all recreational users of the landbase. The recreational planning that is occurring in the Kootenays is aimed towards providing a balance of recreational uses over the landbase that is supported by the public and commercial interests. This planning should serve to maintain both wilderness and tourism values in a world of increasing demand for recreational opportunities.

Freizeitplanung in den Ost Kootenays von BC, Kanada - Balance ist Alles

Das Management von Freizeit- und Erholungsangeboten hat in der Verantwortung für Land und Ressourcen der Kooteney Region eine große Bedeutung. Die konkurrierende Nachfrage nach Naherholung und der Anstieg an Freizeitaktivitäten auf staatlichem Grundbesitz erfordern einen Ausgleich zwischen den Freizeitnutzern und anderen Interessen. Bestehende Möglichkeiten müssen sozialen, wirtschaftlichen und ökologischen Überlegungen gerecht werden. Ohne strategische Planung möglicher Freizeitgestaltung wird der Konflikt unter den Nutzern zunehmen und das Thema Management von Freizeit und Naturschutz eine strittige Angelegenheit bleiben. Diese Konflikte verzögern die Umsetzung von Entscheidungen und reduzieren die Sicherheit der Nutzer in dem Gebiet. Die Planung von Freizeit- und Erholungsaktivitäten in der Kootenays Region soll ein Gleichgewicht der verschiedenen Interessen gewährleisten, dem sowohl von der Öffentlichkeit als auch seitens der Tourismusbranche zugestimmt werden kann. In einer Welt, in der die Nachfrage nach Erholungsmöglichkeiten eine immer größere Rolle spielt, sollen so Natur und Tourismus gleichermaßen berücksichtigt werden.

Discussion Gruppe 3, sharing opinions about how wilderness values can be maintained in a world of increasing tourism.

In British Columbia, if you are interested in working in natural resource management regarding wildlife habitat and human use, it's hard to ignore the forests that cover most of the landbase here. Accordingly, Darcy Monchak has undergraduate degrees in both Forestry and Zoology, and has worked as a Registered Professional Forester for the past 20 years. He currently works as a resource planner here in the East Kootenays for the Ministry of Sustainable Resource Management. Based in Golden, B.C., he is currently working on issues related to Old Growth forest designation and strategic recreational planning.

Dr Diana Scott

Greater St. Lucia Wetland Park Authority, South Africa

The Greater St. Lucia Wetland Park: A Model of Best Practice for the Management of World Heritage Sites in the Developing World

In many ways, the natural system of the St. Lucia wetlands surrounded by the majestic wildlands of Maputaland and its unspoilt beaches and marine reserves - forms a contemporary crucible in which the future of conservation in South Africa is being shaped. Habitats range from mountains, grasslands, forests, wetlands, estuaries, mangroves, vegetated dunes, beaches and coral reefs, giving rise to a variety of fauna and flora unrivalled by any other South African Park. The St. Lucia Park was declared a game reserve 3 years after the Yellowstone National Park and is one of Africa's oldest protected areas.

The Wetlands Park is seen as a forerunner of the development sector in the region. If it fails to deliver, or delivery is slow, conservation and nature-based tourism land use models may lose their legitimacy, a risk not just for the Wetlands but nationally and in Southern Africa. However, despite the urgency, little happened until late 1998. In fact, the mid-nineties saw a negative growth rate in regional tourism and at least 22 major tourism projects remained stalled by a maze of red tape, bureaucracy and local dynamics. The 220 kilometers Park, which is one third the length of KwaZulu Natal, in fact continued to create less than 350 direct jobs in tourism. Then, through the Lubombo Spatial Development Initiative (Lubombo SDI), all levels of government in effect committed themselves to the implementation of the Leon recommendations. After considering the Wetlands became a prime focus of government's new emphasis on nature tourism as a strategic, and environmentally friendly, industry to lead economic growth and revitalization in South Africa. The purpose of the Lubombo SDI, backed by the governments of South Africa, Mozambique and Swaziland, was simple but ambitious: to begin putting an end to the paradox of poverty amidst the bounty of nature. After its launch, progress towards the implementation of the Lubombo SDI vision was rapid.

In 1999, the beauty and biological wealth of the greater St. Lucia area led to it being the first place in South Africa to be recognized as a World Heritage Site. This status was accorded by the United Nations Environment Scientific and Cultural Organisation (UNESCO) shortly before Robben Island and the hominid sites around Sterkfontein were accorded similar standing by the world body. In the same year, South Africa became the second country in the world to pass legislation incorporating the World Heritage Convention into national law. This legislation gave the Convention force in South African domestic law in a manner that balances the need to conserve the country's world heritage with an obligation to optimize poverty-alleviating development.

In November 2000, regulations under the World Heritage Act were gazetted proclaiming the Greater St. Lucia Wetland Park (GSLWP). This effectively consolidated existing marine reserves, 16 parcels of land and a patchwork of earlier proclamations - the earliest stretching back to 1895 - to create, for the first time, an integrated park of over 300,000 hectares stretching 230 kilometers along the Indian Ocean coast. The Regulations also established a dedicated management authority - the GSLWP Authority (Wetlands Authority) - to manage the site according to World Heritage Convention Act and Unesco World Heritage Convention. The Wetlands Authority is now fully functional. Its board is chaired by Mavuso Msimang - who chaired the National World Parks Committee and is the former CEO of South African National Parks - and includes representatives from all major stakeholders including local communities. This latter fact is truly innovative: it is the first time in the history of South African conservation that local people and traditional leadership living in or adjacent to a Park of national and universal significant who suffered the disadvantages of apartheid are fully represented in the highest decision making body of that Park. The Wetlands Authority Board acts through an executive, which is organized essentially along business rather than bureaucratic lines. This represents a new ‚model' for protected area development and management in South Africa. It is characterized by a small, specialized management team and by a shallow organizational structure. The Wetlands Authority deals with three broad areas: the management of the wildlife and ecological systems of the area; commercial activities that include the development of nature-based tourism businesses and associated infrastructure in the park; and improvements in the social and economic condition of people living in the area.

A management agreement between the Wetlands Authority and Ezemvelo KZN Wildlife ensures that the day-to-day management of wildlife and natural systems in the park will continue to be undertaken by the Ezemvelo KZN Wildlife. Conservation in KZN has a markable record of accomplishment. The agreement with Ezemvelo KZN Wildlife ensures this expertise is

carried into the management of the park. The Wetlands Authority has also already launched a major program to support and build the existing tourism market, to attract new investment with a capex value of R 430 million, into a range of lodges and hotels in the area, and to create opportunities for new nature tourism activities such as boat concessions, game drives and other appropriate tourism services. The new tourism projects are designed to create jobs, stimulate economic growth and generate revenues that will reduce conservation's reliance on the government's fiscus - while conforming to strict environmental guidelines through an Integrated Management Plan and Park Regulations which will prevent over-exploitation of the area and ensure the universal values of the Wetlands are enhanced. The Wetlands Authority focused on numerous tasks such as the improvement of infrastructure, land uses and the preparation of a cutting-edge Integrated Management Plan for the GSLWP. As an achievement of theses tasks, „16 different parcels of land „- a patchwork of state owned land, commercial forests and former military sites - have been consolidated to create the World Heritage Park. Now access roads, tourism routes, game fences, improved beach facilities, new jetties for boat rides on the lake and upgrade and new camp sites for tourists are being created. A major objective of the Wetlands Authority is to ensure that the World Heritage Site is developed in a way that ensures local residents benefit from the park. New tourism facilities are being created for people who, under the apartheid regime, never considered visiting a game park because these were seen as places where animals were more important than people. The Wetlands Authority includes a specialized division called SEED (social, environmental and economic development) to carry out what is probably its most important task: the alleviation of poverty within the communities surrounding the park. A core function is to ensure that empowerment activities flow from developments in the park which include equity ownership, job creation, procurement and training. There are still many challenges facing the Wetlands Park, the most important of which is the settling of land claims and ensuring sufficient revenue to support conservation and development. Progress must continue to be made towards putting an end to the paradox of poverty amidst the bounty of nature. The Authority is tackling these challenges with vision, innovation and high levels of creativity.

St. Lucia is the only place on earth where the world's largest terrestrial mammals (elephants) live adjacent to the world's largest marine mammals (whales) swim.

ABSTRACT

Maintaining Wilderness Values in a World of Increasing Tourism

The Greater St Lucia Wetland Park has one of the most significant wilderness areas in South Africa as it contains territorial wilderness lying adjacent to marine wilderness together constituting 40% of the Park area. Furthermore it contains four sites of international significance, one of which is Lake St Lucia. The paper examines the challenges faced by the Greater St Lucia Wetland Park management authority and its achievements in meeting its international obligations to conserve the natural values of the Park, as well as stimulating tourism and providing jobs and economic compensation for the land claimants and local communities. The Wetlands Authority deals with three broad areas: the management of the wildlife and ecological systems of the area; commercial activities that include the development of nature-based tourism businesses and associated infrastructure in the park; and improvements in the social and economic condition of people living in the area. A new model for conservation is being implemented,

which balances biodiversity protection and ecosystems rehabilitation on the one hand with a genuine commitment to social equity and regional economic development on the other. This integrated approach, which recognizes the value of our natural assets and our people, is uniquely appropriate to South African conditions. It relies on active partnership between all those with an interest in the region to promote both conservation and development.

Der „Greater St. Lucia Wetland Park“: Ein positives Beispiel für das Management von Weltkulturerbestätten in Entwicklungsländern

Das Management des Greater St. Lucia Wetland Parks (GSLWP) ist bemüht, ökologischen, wirtschaftlichen und sozialen Ansprüchen gerecht zu werden. Der Park befindet sich an der Ostküste Südafrikas und wurde 1999 von der UNESCO als Weltkulturerbegebiet ausgewiesen. Seit 2000 wird der Park von einer Nationalparkverwaltung geleitet, die sich insbesondere mit drei Hauptthemen beschäftigt: dem Management der Tier- und Pflanzenwelt, den Verbesserungen der sozialen und ökonomischen Bedingungen unter den Menschen, die dort leben, und kommerziellen Aktivitäten, basierend auf naturnahem Tourismus und der damit verbundenen Infrastruktur. Dabei gilt es, eine Balance zwischen dem Schutz der Biodiversität und der Rehabilitation des Ökosystems auf der einen Seite und dem ernsthaften Einsatz für soziale Gerechtigkeit und regionaler, ökonomischer Weiterentwicklung auf der anderen Seite zu schaffen. Zu den größten Herausforderungen, denen sich die Nationalparkverwaltung stellt, zählt der Kampf gegen die Armut der lokalen Bevölkerung.

Dr Dianne Scott is the Research and Policy Co-ordinator for the Greater St. Lucia Wetland Park. She has been seconded from the University of KwaZulu-Natal (KZN) on a contract basis. She is a social scientist with a PhD in Human Geography. She is responsible for creating a research policy and research registration process for the new park in collaboration with KZN Wildlife, reviewing and registering all new research projects, liaising with researchers and hosting conference field trips and student visits. She has also been involved with environmental management issues in the Buffer Zone of the Park as well as co-ordinating the park's newsletter ‚The Wetland Wire'.

Group 3 Evaluating Recreational Activities in Lakes and Wetlands

Louise Reynolds

Broads Authority, Norwich, United Kingdom

Broads Authority Balances Biodiversity Protection and Tourism and Recreational Activities on the Norfolk and Suffolk Broads

The Norfolk and Suffolk Broads cover an area of 303 square km in the East of England. The area is a wetland with 63 shallow lakes or Broads which are mostly less than four meters deep, and which are connected by six rivers. The Broads were created in the mediaeval period by peat diggings which flooded as water levels rose. If left without management, these Broads would naturally silt-up and return to dry land. This is very different from the Canadian case study we are hearing about, which is essentially wilderness. The Broads Authority is part of the UK National Park family, but the

Eric, one of the few remaining „reed and sedge harvesters“ helps to conserve the reed bed and keep the waterways open while contributing to the local economy. Balancing biodiversity protection and tourism and recreational activities is one of the functions of the Broads Authority.

area is not a ‚National Park' under the IUCN definition; it falls into Category 5 instead: a protected landscape or seascape. The landscape exists because of man and now requires constant management. Balancing biodiversity protection and tourism and recreational activities is one of the functions of the Broads Authority. Set up in 1989 it is tasked to: 1) conserve and enhance the natural beauty of the Broads; 2) to promote the enjoyment of the Broads by the public; and 3) to protect the interests of navigation. Unlike all other National Parks in the UK, conservation interests in the Broads do not dominate. This means that the Broads Authority must at every step balance conservation, recreation and navigation interests equally.

Tourism and Recreation in the Broads

Recreational activities on and around the Broads focus on boating. There are cruise and day boats, sailing boats, power boats, water-skiing, canoeing and rowing. On land there is also hiking, angling and cycling.

Development of Boating Tourism

At the turn of the Century the Broads was a popular place for water recreation. The old cargo boats of the Broads - called ‚Wherries' - were designed with shallow-draughts especially to negotiate the shallow waterways of the Broads. After the railways developed they were needed less and less and were adapted for use as holiday boats. This was so successful that boats were specially built as holiday craft and were hired out with a skipper and steward as early as 1878. By 1890 there were 40 hire boat yards. During the 1930s, railway companies heavily promoted the Broads to encourage people to use railways during holidays and at weekends. It was these adverts that really brought tourism to the Broads. Boating holidays were at their peak in 1968 with nearly 4,500 hire boats available.

The Broads is now recognized as the birthplace of the self-drive boating holiday. The industry is well established ranging from self-drive cruisers and yachts to electric day boats.

Since the 1970s there has been a steady decline and hire boat numbers are set to be at just 800 next year (around 90,000 people on boating holidays). The number of privately owned boats has conversely increased over that period and this year there are nearly 13,000 boats licensed to use the 200 kilometers of navigable waterway through the wetland. This is about 65 boats per kilometer. Studies have found that 80% of activity on the Broads is from hire boats, so a reduction in hire fleet and an increase in private boats means less overall boating activity on the waterways.

Biodiversity and Conservation

The area is biologically rich and provides habitat for over 250 plant species, many of which are rare or unique. In Britain, the swallowtail butterfly and the Norfolk hawker dragonfly are only found in the Broads, and birds such as the bittern and the marsh harrier are particularly associated with the area. About one quarter of the UK population of booming male Bitterns is found in the Broads. Several other species are only found in the Broads, as the slide shows. For example, the Broads is home to the entire UK population of „intermediate stonewort" and virtually the entire world population of the „small dotted footman" moth. The Broads has many sites designated for nature conservation including 28 Sites of Special Scientific Interest or SSSIs, which cover about one quarter of the area. These are also six National Nature Reserves and are internationally important for nature conservation under the European Habitats and Birds directives, and the Ramsar Convention on Wetlands of International Importance especially as Waterfowl Habitat. Positive management is implemented through Biodiversity Action Plans.

Impacts of Recreation on Biodiversity Conservation

The principal recreational activity in the Broads is boat use and related impacts can be summarized as follows:

Noise: Mostly from old diesel powered boats with short exhaust systems

Wash: Excessive boat wash can disturb the reed rond which protects the banks. Wash can also flood the nests of some water birds

Direct Pollution: There is usually a slight film to the water from exhaust fumes or very minor spillages of oil and diesel around the busier boatyards. This can disperse quite quickly. Large diesel spillages or oil slicks are rare, but do still occur. Direct pollution is also caused by sink and shower water discharging straight into the waterway, although the nutrient and phosphate loading caused by this is minimal. All hire boats have contained sewage facilities now, although private boats that are also sea-going can be fitted with flush-through toilets where all waste empties straight into the water.

Keeping waterways open: This means dredging to create adequate water depth and means clearing fallen trees or waterborne vegetation to allow clear passage. Maintaining water depth can benefit some species while clearing fallen trees means a lost habitat for other species. Clearing waterborne vegetation can cause conflicts where the species concerned is internationally protected. This happened in Hickling Broad when

intermediate stonewort began to flourish, and so sailing on the Broad was severely restricted on account of the plant. There is constant pressure from boating interests to open up more areas for boating, to clear more „weed“ to allow better boating, and to fell trees aligning rivers and Broads for better wind for sailing.

Managing the Balance

The Authority doesn't apply the ‚Carrying Capacity‘ approach but instead adopts a complex method of working including strategy and management plans, zoning, partnership working, control mechanisms and positive initiatives.

Strategy and Management Plans: The over-arching document which sets out the priorities of work for the Authority is its five-yearly Broads Plan which sets out the 20 year vision. This is then used to develop a five-year Action Plan and an Annual Business Plan. It is through these three documents that activities of the Authority are developed to manage conservation and recreation simultaneously.

The Broads Plan this year was quite different to all others in that it was a major stakeholder event, 4 years in the planning. It was felt important to get all interests together in one room to show that management of the Broads needs to take account of all interests. There were meetings, Committees, Stakeholder Events and Community Forums as well as an ‚issues leaflet‘ to allow everyone an opportunity to voice their opinions. The resulting document was published in February this year.

Zoning

The Broads are also quite naturally ‚zoned‘ in that only 18 out of the 63 Broads are navigable; the rest are either too shallow, closed off by reeds, or privately owned. There is also the Rivers and Broads Strategy which is being developed based on GIS data. The aim is to map conservation sensitive areas and recreation hot spots to help inform a more structured approach to zoned management.

Control Mechanisms

The Authority can set Byelaws to, for example, introduce speed restrictions to minimize bank erosion and disturbance to wildlife. There are also laws to restrict Boat size and sewage discharge from boats.

The Broads Authority can determine its own tolls, which are fees paid for using the waterway (like a road tax for the water). Through this, financial incentives are offered to encourage more sustainable boating - electric motors are currently given a 25% discount. This system is being reviewed at the moment.

Positive Initiatives

The Authority uses education and interpretation to communicate about conservation so that visitors and locals recognize that the area should be treated with respect. Puppet shows and wildlife trips, for example, teach about the ecology of the Broads. Using the area sensitively does not threaten its biodiversity.

The Authority has set up and is promoting other activities such as cycling, canoeing and electric boat trips to take the pressure off the dominance of the hire cruiser.

Working with the British Trust for Conservation Volunteers, the Authority also uses working holiday-makers to do key conservation tasks.

More than one million visitors come to the Broads each year, spending about five and a half million visitor days in the area and contributing around £146 million to the local economy. The Broads Authority uses a variety of methods to balance the impact of these visitors with the need to conserve and manage in favor of biodiversity. Despite these high visitor numbers, the Broads National Park is still known for its peace and open skies, for the gentle lapping of water and whisper of reeds: a „breathing space for the cure of souls“ (Ted Ellis).

ABSTRACT

Balancing Biodiversity Protection and Tourism and Recreational Activities on the Norfolk and Suffolk Broads

The Norfolk and Suffolk Broads in the East of England comprise shallow lakes (the Broads) interlinked by six rivers. The Broads were man-made in the mediaeval period by peat diggings which flooded as water levels rose. Popular since the late 1800s for boating recreation, the Broads are the birthplace of the self-drive boating holiday. In 1968 there were 4,500 hire boats available for the 200 km waterway but numbers have been declining ever since. The area is biologically rich, protected at national and international level, and provides habitat for over 250 plant species, many of which are rare or unique. The Authority does not apply the ‚Carrying Capacity‘ approach but instead adopts a complex method of working which aims to balance biodiversity protection and recreational activities throughout all its activities.

Balance zwischen Biodiversität, Tourismus und Freizeitaktivitäten in den Norfolk und Suffolk Broads

Die Norfolk und Suffolk Broads im Osten Englands umfassen mehrere flache Seen (die sogenannten „Broads"), die durch sechs Flüsse miteinander verbunden sind. Die Broads wurden im Mittelalter künstlich durch Torfausgrabungen geschaffen, die bei ansteigendem Wasserstand geflutet wurden. In der populären Urlaubsregion, den Broads, gibt es seit dem 18. Jahrhundert Bootstourismus. Es ist die Geburtstätte der Bootsvermietung für „Freizeitkapitäne" und Ruderer. Waren es im Jahr 1968 noch 4.500 Boote, die die 200 km langen Wasserwege befuhren, so sind die Zahlen seitdem stark zurückgegangen. Die Gegend ist ökologisch wertvoll, auf nationaler und internationaler Ebene geschützt und bildet die Lebensgrundlage für über 250 Pflanzenarten, von denen viele einzigartig und selten sind. Die Authority verwendet einen umfassenden Arbeitsansatz, der ein Gleichgewicht zwischen dem Erhalt der Biodiversität und Freizeitaktivitäten schaffen soll.

Louise Reynolds is currently the Project Manager for the Broads Boating Holidays Project, based with the Broads Authority in Norwich. She received her degree at Oxford in Tourism and Publishing and, with an interest in the impacts of international tourism, went on to her Masters Degree in the Sociology and Anthropology of Travel and Tourism at Roehampton Institute. Her research took her to Namibia and Zimbabwe where she compared the successes of different methods of introducing ecotourism. After 3 years work back in England for an Environmental Consultancy undertaking Risk-Benefit and Cost-Benefit Analyses, Louise worked independently undertaking community consultations centered on use of open space in and around Norwich. She then took up post at the Overseas Development Group at the University of East Anglia where she helped coordinate a large East African research project in Tanzania, Kenya, Uganda and Malawi. Louise Reynolds joined the research teams in Tanzania, studying the impact at household level of a community-based tourism project, and Malawi, and has been engaged with the Broads Authority since June 2002.

Ellen Zimmerman

East Kootenay Environmental Society, British Columbia, Canada

How Recreation Effects Wildlife in the Columbia Wetlands

This topic is of the utmost interest to residents of the Columbia Wetlands area and has relevance to a far greater audience. My organization, the East Kootenay Environmental Society (EKES), is the applicant for a federal boating restriction regulation under the Canada Shipping Act (CSA), legislation typically employed to enhance boating safety. In this unique case, the application is directed towards environmental protection and will regulate motorized vessels on the 180 kilometers Columbia Wetlands, a special environment of critical importance to wildlife and migratory and resident birds.

Some Background

The Columbia Wetlands and Lakes are the headwaters of the Columbia River system, the only remaining free-flowing portion of the fourth largest watershed in North America by volume. The Columbia Wetlands are one of the longest intact wetlands in North America. This 26,000 hectares (65,500 acres) wetland represents one of the few remaining intact portions of the Pacific Flyway. The ecological significance and importance of the Columbia Wetlands are beyond argument.

The Columbia River system has sustained centuries of human impacts. Most other wetlands that once provided fresh water and habitat for migrating birds are now lost behind the dams.

The Columbia Wetlands have become almost all that is left intact of the Pacific flyway, the age-old route traversed by countless migrating birds. Here, after many thousands of miles of flight, waterfowl, raptors, shorebirds and songbirds rest and replenish and survive.

The Columbia Wetlands were designated as a Wildlife Management Area (WMA), a form of protected area, in 1996 after consensus agreement at the regional land use table. The major principle of the official management plan for the Columbia Wetlands:

All activity that occurs in the WMA must have a neutral or positive effect on wildlife, fish and plant communities.

In 1997, British Columbia enacted a regulation under sec. seven of the BC Wildlife Act restricting all vehicle use (snowmobiles, jet boats and ATVs) to ten

horsepower or less. This regulation was an important component of the provincial management strategy designed to protect the ecological integrity of the critical habitat for wildlife and migratory birds and the water quality of the headwaters of this transboundary river. However, the province's jurisdiction to regulate vessels, even for environmental reasons, was challenged in the courts. The Canadian Coast Guard became involved and argued that the provincial government could not apply restrictions on waterways such as the Columbia Wetlands as this was solely the jurisdiction of the federal government. In January 2002, the BC Court of Appeal struck down the provincial ten horspower regulation as it pertained to vessels, but left the restriction in place on snowmobiles and ATVs. Currently, for the third straight boating season, there is no boating restriction.

Evaluation of Recreational Activities

Since the Wetlands have been without a boating regulation, a major question arises as to how to evaluate the impacts of recreational activities. Because the Columbia Wetlands are a universally acknowledged special place and because they are under the authority of the Province's Wildlife Act making it an offence to damage wildlife or their habitat in a WMA, the number of vessels using the Columbia Wetlands through the Wildlife Management Area is irrelevant because we cannot accurately estimate how many vessels will result in damage to the environment. If we accept that it is difficult if not impossible to project exactly what number of motorized vessels are the „magic" number that will result in damage, we can still accept that a single motorized vessel that causes any damage to wildlife habitat or in some way damages fish spawning habitat or inadvertently interferes with wildlife is one vessel too many in this particular place that has been set aside for wildlife and is special and unique on the continent and arguably in the world. Here, in the Columbia Wetlands, as in few other places, the interests and well being of wildlife take precedence over our own.

In the informed opinion of many scientists, government agencies, municipalities, stakeholders and the public, there is both an existing and strong probability of increasingly serious environmental negative impacts from unregulated motorized boating in the Columbia Wetlands. There is significant evidence that even low levels of motorized vessel use, especially when there is documentation of insensitive and destructive kinds of usage, can and do cause environmental damage. If we accept the premise that resident and visitor populations are rapidly growing, and that the levels of use are lower now than are predicted for the future, we should regulate now when we are affecting the lowest possible number of users. The Columbia River Wetlands are not your „average" navigable waterway. Negative ecological impacts here degrade unique and internationally recognized wildlife and habitats. Where the risk of damage to such a valuable asset is present, a course of prudent risk management must be adopted. Where even a low level of activity that could damage the asset exists, it is the magnitude of that damage given the value of the asset that must be considered in managing that risk.

It is only recently that we, as a society, have come to question the impacts of recreational activities on the environment. We do so in response to escalating population pressures and technological change that allows motorized conveyances, whether those are vessels, snowmobiles, ATVs, or helicopters, to access areas previously considered deep wilderness.

The following quote from a paper, Wilderness- Concept, Function & Management, given by Ian McTaggart Cowan, Berkeley. California April 17, 1968 gives some historical perspective on human recreational impacts.

„Very possibly wilderness may be in as much danger from its friends as it has been from its enemies, of its being trampled in the stampede of users".

ABSTRACT

How Recreation Effects Wildlife in the Columbia Wetlands

The Columbia Wetlands region has been focused, for the last few years, on the topic of the effects of human recreation on wildlife because of the precedent setting application for a regulation limiting motorized boating. Evaluation of scientific studies has led to the conclusion that motorized boating has the potential to damage wildlife and wildlife habitat. This hypothesis directly contradicts the management focus for the Columbia Wetlands: All activity must have a neutral or positive effect on wildlife, fish and plant communities.

In this place, that has been set aside for wildlife and is special and unique on the continent and arguably in the world, a single motorized vessel that causes any damage to wildlife or their habitat is one vessel too many. Here, in the Columbia Wetlands, as in few other places, the interests and well-being of wildlife take precedence over our own.

Wie Freizeitgestaltung die Tier- und Pflanzenwelt der Columbia Feuchtgebiete beeinflusst

In den Columbia Feuchtgebieten stand in den letzten Jahren die Frage im Vordergrund, wie sich die Freizeitgestaltung auf die Tier- und Pflanzenwelt auswirkt. Grund hierfür waren vorausgegangene Beschränkungen des Einsatzes von motorisierten Booten. Die Auswertung von wissenschaftlichen Untersuchungen ergab, dass durch den motorisierten Bootsverkehr der Tier- und Pflanzenwelt sowie den betroffenen Lebensräumen erheblicher Schaden zugeführt werden kann. Dies widerspricht dem für die Columbia Feuchtgebiete festgelegten Ziel, dass alle Aktivitäten neutralen oder positiven Effekt auf die Tier- und Pflanzenwelt haben sollen. Dies trifft für dieses einzigartige Gebiet nicht zu, da ein einziges motorisiertes Fahrzeug, das auch nur den geringsten Schaden anrichtet, ein Fahrzeug zu viel ist. Hier in den Columbia Feuchtgebieten ist das Interesse für das Feuchtgebiet und der gute Zustand der Flora und Fauna vorrangig vor unserem eigenen Wohlbefinden.

Since 1970, **Ellen Zimmermann** has lived near Golden in the Columbia Valley, B.C. Canada, where she and her husband Don raised two sons. She has been an environmental, political, and social activist for over 30 years. Ellen Zimmermann has been employed as a newspaper reporter, legal advocate, and environmental campaigner. At present she is contracted to the East Kootenay Environmental Society. The protection of the Cummins River Valley, a 20,000-hectare low-elevation Rocky Mountain rainforest and wilderness in 1997 is among Ellen's career highlights. She currently is part of on the CPAWS BC board and Y2Y Coordinating committee. She works on upper Columbia Valley issues, including the Columbia Wetlands, The David Thompson Heritage Lands, pesticide, and backcountry wilderness recreation issues. Ellen Zimmermann is an organic farmer and an enthusiastic birder.

Group 4 The Urbanization of Rural Recreational Communities

Greg Deck

Mayor of Village of Radium Hot Springs, Radium Hot Springs, British Columbia, Canada

Urban Density as a Rural Solution

Human settlement can have large impacts on nearby bodies of water. But land use planning can be a dry subject, so I am going to try to enliven it by being both personal and extreme. We will start with the personal. Do the people who live in a charming house in the woods or in a unit in a large condominium complex have more interest in environmental issues? It's not a fair question, of course. But we have expectations about people based on appearances.

In this valley we might expect the family living in the condo to have another, larger, home in Calgary, and to use this residence in Radium Hot Springs as a vacation cottage when they come here to golf or ski. We might expect them to drive at least one large vehicle that uses a lot of fuel, and there is a good chance that one or both of the people might work in the oil business. In the most general terms, we might consider them large consumers of the earth's resources with less concern about the resulting cost to natural systems of their style of life.

As for the people living in the cabin in the woods, we might expect that this couple is much more aware of the environment in which they live. In this valley, we might expect the residents to be local professionals or artisans, who don't need a vacation cottage because they have found a way to live every day in their preferred terrain. We might expect to see a modest fuel efficient vehicle parked nearby and other examples of a thoughtful approach to the environment. We might well expect to meet stewards of the natural world, more than consumers of it in such a neighborhood.

Our preconceptions are based on experience, and there are many cases where the descriptions I have given will be a good fit. But small acreages and „ranchettes" have a lot of appeal for the market in general, including many people who are far less sensitive to how they fit into the landscape. And increasingly, dense, urban living is coming to be seen as another way to be protective of the wild land surrounding communities such as ours when it is part of

an overall land use strategy that encourages tight, dense development as an alternative to suburban sprawl.

One way to examine the issues around land use planning is to take the situation to its most extreme. In this province, the highest residential density occurs in the West End of Vancouver, where the most recent census found over 25,000 people per square kilometer of land. If we were to match that density with even the modest area of the Village of Radium Hot Springs, which occupies twelve square kilometers of land, we would have 300,000 people here. Let's remove some of the area on which it would be difficult to build and which is environmentally sensitive. Conservatively, we should easily be able to house 225,000 people at West End Vancouver densities.

Obviously we don't have the urban pressures on land that would force the concentration of high-rise structures needed to accommodate that many people, but let's ignore that fact briefly to imagine the consequences of this density. The number of people happens conveniently to correspond closely to the entire permanent population of the Columbia Basin in Canada. So let's imagine the effects of housing all the people from that region in one small, village sized, area.

I'm a Mayor and those of us in local government spend a lot of our time trying to find ways to provide affordable basic infrastructure. One of the things we learn early is that municipal infrastructure - drinking water pipe, sewage collection pipe, roads, sidewalks, optical fiber - is a linear expense. The more users you can reach with each meter of pipe or concrete, the more efficient is the system. When more people on each street share in the cost of that street, each one has less to pay, or they can get a greater quantity and quality of service for the same amount that residents of less dense communities pay for less service.

We could go into the details of how this greater efficiency would solve many of the chronic problems that face communities in the Columbia Basin: water shortages and difficulties with water quality; struggles to build sewage treatment capacity to the highest standards; difficulties in maintaining extensive municipal roads through Canadian winters and spring thaws. I don't want to overdo the challenges - I understand that many parts of the world would dearly love to have our challenges in comparison to their own. But they are nevertheless the pressures which drive political decisions in local government in this region.

Issues of population density also lie at the heart of many provincial challenges. In Canada, provincial governments are principally responsible for the provision of health, education and highways, and as with many parts of the world, these services are also caught between the competing pressures of increased expectation and reduced funding. Those factors, combined with consolidations and overall reductions in traditional resource industries such as forestry and mining have made it very difficult to continue to maintain the existing schools and hospitals in many communities. The shifting demographic to an older population at one end and smaller families at the other end has further aggravated the situation.

A single large community in this region wouldn't solve everything. No one claims that hospitals and schools in Canada's large cities are unqualified successes. But it would allow a shift in the use of resources. Money, which is now going into literally hundreds of school buses in this region, could be redirected to teachers, and the children riding those buses could redirect many hours a week of their time into more productive or pleasant pursuits. The resources necessary to transport patients in ambulances from their homes to small local hospitals and then on to larger regional hospitals could go directly into patient care in a single facility large enough to support the specialists and tertiary care necessary to permit patients to remain close to their families. Similar improvements could also be realized by the police, the courts, and family services.

Those are some of the social benefits. It becomes really interesting when we begin to consider the environmental possibilities. Huge tracts of valley bottom land could be recovered for habitat, and the existing wild land would not be fractured into disconnected chunks. Mortality from highway traffic would drop dramatically, and conflicts between human settlement and wildlife would shrink to the easily manageable perimeter of the single city. The reduced need to travel between many communities would create large reductions in vehicle emissions, and much of what travel was still required to other parts of the Canada could be served with high quality mass transportation. We would be visitors to our wild land instead of occupants.

Before I am overwhelmed with arguments from the floor about this utopian daydream, let me acknowledge that such density does not take into account the traditional industrial use of the region, nor the growing tourism development that we are attracting. Those critical economic engines are very site specific, though it is worth noting that the traditional resource industries are becoming less so. The small community sawmills are vanishing in favor of larger centralized mills which employ ever fewer people. And some of the mill towns are vanishing with them. The once thriving community of Donald no longer exists at the northern end of the Columbia River wetlands, and there are other examples in the West Kootenay.

Tourism is even more problematic. People do not travel to be within driving distance of a beach or a ski hill. Increasingly, people travel long distances to be able to quit traveling once they arrive, in resorts where they are able to walk or bicycle to wherever they need to go. Such resorts can be required to maintain a high density within a small footprint also, but there is still likely to be demand for numerous such facilities throughout the region, and the local economies are coming increasingly to depend on that activity.

This hypothetical single community, obviously, is the extreme case which we will never see. But we can try to head closer to the model rather than further away. The local municipalities and the Regional District of East Kootenay have adopted a land use policy that favors infill of existing communities over the creation of new, green field, housing developments. The intention is to create well defined urban settlements surrounded not by suburban sprawl but by readily accessible wild land. The higher the density we can create within these communities, the smaller the footprint which they will place on the land.

So let's return to the original comparison between the condo and the rural property. My question is not whether either type of housing is right or wrong. I would simply like to challenge the old notion that clusters of condominiums are blights upon the land that symbolize the rush by developers to spoil the most beautiful places on the planet. I hope that we soon come to see the choice to live in high density housing as one of the many ways that we as residents in this region can step more lightly upon the land along the shores of the Columbia River wetlands.

ABSTRACT

Urban Density as Rural Solution

Issues of population density lies at the heart of many challenges faced in the Columbia Valley. In Canada, provincial governments are principally responsible for the provision of health, education and highways, and as with many parts of the world, these services are also caught between the competing pressures of increased expectation and reduced funding. This presentation focuses on dense, urban living seen as another way to be protective of the wild land surrounding communities and as a design of sustainable community land use strategy that encourages tight, dense development as an alternative to suburban sprawl.

Stadtverdichtung zum Schutz ländlicher Gebiete

Bevölkerungsdichte ist eine von vielen Herausforderungen in den Columbia Tälern. In Kanada sind die Landesregierungen für Gesundheitsversorgung, Erziehung und Highways verantwortlich. Außerdem unterliegen, wie in vielen Teilen der Welt, diese Dienstleistungen den konkurrierenden Belastungen durch zunehmende Erwartung und abnehmende finanzielle Unterstützung. Dieser Beitrag fokussiert den Blick auf dichte städtische Siedlungen zum Schutz der natürlichen, das Schutzgebiet umgebenden Flächen, und als Strategieansatz für nachhaltige Flächennutzung als Alternative zu Ausdehnungen in Stadtrandbezirken.

Greg Deck grew up in the Columbia valley. He left for ten years for education and work in the U.S. and Europe, and then returned to raise a family in Radium Hot Springs with his wife Meaghan. They operate a campground together. Greg Deck has been involved in local government and is currently in his fifth term as Mayor and is also the Chair of the Regional District of East Kootenay. The Village of Radium Hot Springs has been one of the fastest growing municipalities in the province over the last five years, and it is a point of pride with the local council that they have been able to manage this growth without a boundary expansion as yet.

Daniela Paas

Lake Constance Foundation, Germany

ECOLUP - Ecological Land Use Planning

Together with the cities of Constance, Überlingen, Dornbirn and the municipality of Wolfurt, the Lake Constance Foundation has put together the model project ECOLUP in 2001. The aim of the LIFE project was to apply the European Environmental Management System EMAS II to the processes in communal urban land use planning. In the four involved cities the concept was put together as a model, and the city of Überlingen is now the first European city whose communal urban land use planning will be certificated by EMAS II directives shortly.

At the beginning of the project, a SWOT analysis (test of environmental efficiency) was carried out in order to take stock of strengths and weaknesses in the communities. On the basis of the results of the SWOT analysis, the communities set local priorities and established how topics could be consolidated to form a reasonable basis for their environmental programs. In each community, an environmental team was put together consisting of interest groups and all relevant bodies with power of decision. Within the framework of communal workshops, this working group drew up concrete environmental goals and measures for all relevant environmental aspects that can be directly or indirectly influenced by urban land use planning:

- Excessive urban expansion;
- Sealing-off of soil use of green areas;
- Transportation/mobility;
- Energy/climate;
- Landscape development;
- Flowing waters.

Additional workshops were conducted on implementing an EMS within planning processes and on participation and public involvement under inclusion of experts. Each community's compiled program was presented to the responsible political bodies for discussion and approval. The entire process was documented in accordance with the EMAS stipulations and at the end of the project, a test validation (internal organizational environmental assessment) was conducted.

At the example of the city of Überlingen specific results can be illustrated: The city is located in the south of the federal state Baden-Württemberg, on the north-western shore of Lake Constance. Approximately 21,500 inhabitants live spread throughout the city proper and in seven incorporated communities. Among the 5,867 ha within the municipal boundaries about 43% of this land have been designated nature conservancy areas or protected landscape. An important pillar of the commercial economy is tourism with 550,000 overnight stays per annum. The attractive scope of the surrounding landscape, the city's location on the shore of Lake Constance and its proximity to the Alps are of great importance for its inhabitants and for the tourism industry. In order to maintain this natural and landscape capital, it is necessary to exercise great restraint in zoning new construction areas. The municipality of Überlingen did not hesitate when the Lake Constance Foundation asked if Überlingen would participate in the new program: „Through our participation in the ECOLUP project, we hope to build a basis for the introduction of an environmental management system that will optimize urban development and land use planning in Überlingen. Along with providing educational opportunities for the city administration's employees, sharing our experience with others at a national and international level is an equally important argument for participating in this pilot project." The results of ECOLUP show that the method of approach and the results are transferable to other countries and municipalities with similar fundamental design. The fundamental purpose of the entire procedure is, to a great extent, to promote environmental education. It makes the environmental impact of planning processes more transparent and includes in the environmental team important representatives of the community's structure and its citizens who can disseminate the knowledge they gain through their participation. The fact that the specialized departments and offices, representatives of economic interest groups and of private nature conservation all participate in it „spice up" the process and contribute to the formulation of more ambitious goals and measures.

ECOLUP makes the environmental benefits involved in the field of communal land use planning the central topic of interest. Thus, they can be given a more important position in the process of interest-weighing. Methods of monitoring allow communities to recognize harmful developments in the environment early and manage them through targeted measures.

The management system helps to ensure that all specialized offices included in the project and the regional authorities are better informed about it. Administrative procedures can also be made more efficient. The EMAS structure and its predetermined elements such as the environmental assessment, the environmental goals and program and the yearly internal audit provide the community with support for the application and observation of new EU directives such as the EU Water Framework Directive or the Fauna-Flora Habitat Directive (NATURA 2000). The EMAS framework is able to integrate other instruments such as the Local Agenda 21 and to take advantage of synergies that come about as a result.

However, the quality of environmental management and its benefit for the environment depends, as always, on the good will of those currently in political office. EMAS does not specify any environmental goals of its own, but rather accepts the goals the organization sets and assesses their implementation. The continual improvement to the condition of the environment is felt only in the long term in most of the relevant environmental aspects.

Regarding the question about the benefit a counter question can be stated: How can improvements to the quality of the environment be monetarized into cents and euros? A municipality using environmental management in its urban land use planning will most likely not achieve higher prices for its building sites. Deregulation of how local governments can adjust and alter structures at higher levels of administration, bonus points for applications to funding program, etc. would serve to make the benefits EMAS brings to communities, and therefore to their motivation to become active, even greater. In this respect, it is up to the national and European authorities responsible for the EMAS program to provide incentives that would give a municipality with EMAS validation further advantages over other communities.

From the beginning of the project, an important aim was the claim of transferability to other countries and communes. The specific results are held in a guidance with accompanying CD-ROM now to support all interested municipalities to reach a continuous improvement of the environment performance of their urban land use planning. The guidance is also available as download under www.ecolup.info in German and English.

ABSTRACT

ECOLUP - Ecological Land Use Planning

In 2001 the EU-LIFE project ECOLUP was initiated by the Lake Constance Foundation. ECOLUP stands for „Environmental Management For Communal Urban Land Use Planning“. This model project which was started together with four German and Austrian cities and municipalities around Lake Constance aims to apply the European environment management system EMAS to the urban land use planning processes. In the meantime the city of Überlingen at the north shore of Lake Constance faces the concluding certification by directives of EMAS II this summer. The aims and business suggestions of the project are transferable to other countries and municipalities and were documented in a detailed guidance (download under www.ecolup.info).

ECOLUP makes the environmental benefits involved in the field of communal land use planning the central topic of interest.

ECOLUP - Ökologische Flächennutzungs-planung

Im Jahr 2001 wurde das EU-LIFE Projekt ECOLUP (ECOlogical Land Use Planning) von der Bodensee-Stiftung initiiert. ECOLUP ist ein Umweltmanagement-system für die kommunale Bauleitplanung und zielt auf die Anwendung des Europäischen Umweltmanagement Systems (EMAS) auf Planungsprozesse in der Bauleitplanung ab. Das Modell wurde gemeinsam mit vier deutschen und österreichischen Städten und Gemeinden rund um den Bodensee gestartet. Die Stadt Überlingen am Nordrand des Bodensees durchläuft derzeit die EMAS- II-Zertifizierung. Die Ziele und Ergebnisse des Projekts sind auf andere Städte und Gemeinden übertragbar und wurden in einer detailierten Dokumentation beschrieben (Download Version unter: www.ecolup.info).

Daniela Paas was born in 1963 in Cuxhaven at the North Sea of Germany. Daniela worked as a travel agent trainee between 1983-1986 in Hamburg. From 1986 to1992 she studied geography, geology and cultural sciences in Tübingen with a special view on tourism, environment and rural regions residential areas development in Germany, culminating in a degree in Geography. Between 1992-2002, she worked as a Project Assistant at local publishers in Tübingen and Constance. She has been assisting the coordination of EU-LIFE-ECOLUP project since 2002 by the Lake Constance Foundation (Bodensee-Stiftung). She is involved in Ecological land use planning in the lake Constance region and in the implementation of the EU-Ecoaudit-EMAS interlocal land use planning.

Round Table Discussion
How to Empower Communities to Become Partners and Stakeholders in Water Treaties?

Kindy K. Gosal

Manager of Water Initiatives for the Columbia Basin Trust (CBT), Canada

Garry Merkel

Vice Chair, Columbia Basin Trust, Canada

The Columbia River: a Critical Source of Water and Energy for North America

The entire Columbia Basin (in Canada and the United States) is 671,000 square kilometers, approximately twice the size of Finland. It crosses one international boundary, and seven state boundaries. It contains an incredible range of ecosystems from interior rain forests to grasslands to deserts. These include a huge diversity of wildlife with over 700 hundred species of reptiles, birds, fish and mammals. Archaeology tells us that humans have inhabited the Columbia River Basin for more than 10,000 years. First Nations used the river system for hunting, gathering, transportation, and cultural purposes. These uses are still an important way of life for First Nations in the Columbia River Basin. With increased human habitation in the Basin, use of water has increased to include hydropower, industry, agriculture, domestic water supplies, and recreation. This has placed greater demand on the finite water resources of the Basin. There is also an increasing level of regulation on the Columbia River and its tributaries. The great variety of national, provincial, First Nations, and state jurisdictions increase the complexity of managing the system.

The water resources of the Columbia Basin have been harnessed over the past few decades to meet the hydroelectric and water needs of the growing population and resultant economy of the Pacific Northwest. Over 450 dams have been constructed on the main stem and tributaries of the Columbia River. One major agreement dictates the management of the Columbia Water resources in Canada: the Columbia River Treaty. In 1964, Canada and the United States ratified the Columbia River Treaty. The purpose of the Columbia River Treaty is to coordinate flood control and optimize electrical energy production in the Columbia River Basin in the United States and Canada. Under the treaty, Canada agreed to build three storage dams - Duncan (1968), Keenleyside (1969), and Mica (1973) in the Canadian Columbia Basin.

The Pacific Northwest United States and British Columbia are dependent on the power and revenue generated from the hydroelectric system in the Columbia Basin. The Canadian Columbia Basin region provides 50% of the total hydroelectric power produced in B.C. Power produced, as a result of the Canadian Columbia Basin hydroelectric infrastructure, provides low-cost electricity to all British Columbians and is a keystone to the provincial economy. In addition, the water stored in the Canadian system provides significant power generation to a number of U.S. hydroelectric facilities downstream on the Columbia River.

However these benefits came at a cost that was born solely by the Canadian portion of the Columbia Basin. A large area of highly productive and fertile low elevation land was flooded. Communities were displaced and valuable fish and wildlife habitat and species lost. The communities that currently surround the reservoirs are continually impacted by rapidly fluctuating reservoir levels, and the local economy is hampered due to increased transportation costs and the lost opportunities for use of the areas that were flooded.

The Columbia Basin is now a very different place, with different social values, from the time that the Columbia River Treaty was created. There are increased values and issues around the use of water and the management of the water resources of the region. The future of water management in the region will always be linked to hydropower production and the challenge is to recognize and manage for a variety of other interests. The Columbia River Treaty allows for a re-negotiation or termination of treaty provisions. The earliest this can be done is in 2024 if notice is given ten years in advance (2014).

The Columbia Basin Trust and other organizations are now working on trying to understand what may be in store for the Basin should the Columbia River Treaty be terminated or re-negotiated. What would a new treaty look like? What happens if we simply terminate the treaty? What implications does this have to the economy of the Pacific North West and British Columbia? How do we ensure that the process to re-negotiate or renew is inclusive of a wide variety of stakeholders, and inclusive of the current and future values that the people of this region have with respect to water? How do we ensure that the people most directly affected by these decisions have meaningful input and that the decisions are not made solely by lawyers, politicians and engineers in Ottawa and Washington?

The Columbia Basin Trust

Water issues are at the core of the Columbia Basin Trust's existence. The Columbia Basin Trust was created in recognition of the impacts associated with the management of water in this region.

In the early 1990s, people of the Columbia Basin became aware that an opportunity for public involvement might present itself. The sale of the first 30 years of B.C.'s share of the downstream benefits, through the Columbia River Treaty, was about to expire. Residents of the region felt local people should be given more say in matters concerning environmental, economic, and social health. The Columbia Basin Trust was created in that spirit.

Leaders from First Nations, local communities, and the Province of B.C. worked together on an agreement that recognized the impacts to this region as a result of the creation of the Columbia River Treaty Dams. In 1995, the Columbia Basin Trust was formed with a unique mandate to support the efforts of the people to create a legacy of social, economic, and environmental well being and to achieve greater self-sufficiency for present and future generations in the region most affected by the Columbia River Treaty.

The Columbia Basin Trust was endowed with $295 million from the Province of B.C. (approximately 5% of the downstream benefits owned by the Province of B.C.).

During the creation of the Columbia Basin Trust, there was extensive public consultation with Basin residents that resulted in the creation of the Columbia Basin Trust Management Plan. This plan is the guiding document for the principles of investing the initial endowment and creation of programs to support the social, economic and environmental well being for the residents of the Canadian Columbia Basin.

Using this plan as a guiding document, the Columbia Basin Trust, along with our power partner, Columbia Power Corporation, made investments into upgrading existing hydroelectric facilities on the Columbia River system, as well as building new generating stations on existing dams.

Basin residents have identified a broad range of concerns regarding water quality and quantity, from both human use and natural ecosystem perspectives. Basin residents want to ensure their values and views are incorporated into any water initiatives or the region. Currently there is neither a comprehensive vision nor a strategic plan that incorporates a wide range of values regarding water issues in the area. The Columbia Basin Trust wants to involve basin residents in building a network of organizations to address water issues in the basin. In order to carry out this mandate, the Columbia Basin Trust has allocated staff and financial resources to its Water Initiatives Program, and is currently involved in a number of water education and planning initiatives across the Columbia Basin.

The Columbia Basin Trust recognizes that one of the most significant water issues in the Columbia Basin is the opportunity to renew, terminate, or re-negotiate the Columbia River Treaty. This process will commence in 2014. Part of the public consultation that was carried out with basin residents in the creation of the Columbia Basin Trust clearly pointed out that one of the priorities of the organization should be to „prepare" the residents of the Columbia Basin for the potential renewal, or renegotiation of the Columbia River Treaty, when that opportunity arose. The Columbia Basin Trust is committed to ensuring that the values and views of basin residents are a key part of the process from start to finish.

As part of this commitment, the Columbia Basin Trust is working in partnership with a variety of community groups, local governments, first nations, provincial organizations and federal organizations to increase the understanding of water and water issues in the Columbia Basin and cooperatively work towards a common agreement for the future management of our shared water resources.

Building a Columbia Basin Wide Water Network

This facilitated session has been an interactive session with Forum participants that allowed these participants to provide input to the CBT in how the people of the Columbia Basin can move forward in a collaborative manner in building a basin-wide water network. Forum participants were asked to provide their views, knowledge and experience on this issue.

Der Columbia River: eine kritische Wasser- und Energiequelle für Nord Amerika

Das gesamte Gebiet des Columbia Beckens ist mit 671.000 km^2 etwa doppelt so groß wie Finnland und durchquert eine internationale sowie sieben Staatsgrenzen. Es besteht aus einer Vielzahl von Ökosystemen mit hoher Diversität - etwa 700 Reptilien, Vogel- Fisch- und Säugetierarten kommen hier vor. Der menschliche Eingriff in diese Gebiete begann bereits vor 10.000 Jahren. Seit dieser Zeit ist die Wassernutzung durch Wasserkraft, Industrie, Landwirtschaft, Wasserversorgung in Haushalten und auch die Nachfrage nach Freizeitaktivitäten kontinuierlich angestiegen. Die Wasserressourcen des Columbia Beckens wurden nutzbar gemacht und an die Bedürfnisse der

steigenden Bevölkerungszahl weitestgehend angepasst. So wurden z.B. über 450 Dämme in den Haupt- und Nebenflüssen gebaut. Das Management des Columbia Rivers unterliegt dem kanadischen und amerikanischen Columbia Fluss Abkommens von 1964. Im Vordergrund dieses Abkommens stehen die Koordination der Überflutungskontrolle und die Optimierung der Stromerzeugung. Das Columbia Flussbecken produziert ca. 50% der gesamten Stromversorgung durch Wasserkraft. Die damit einhergehenden Folgen betreffen vor allem die Überflutung von nutzbarem Land, die Umsiedlung von Gemeinden und den Verlust von Lebensräumen.

Kindy Gosals duties with the Columbia Basin Trust include transboundary water initiatives in the Columbia River Basin. As part of these duties Kindy Gosal has worked extensively on issues around the Columbia River Treaty, Boundary Waters Treaty and related international agreements that together provide the legal framework for managing the Columbia River System in Canada. He is also investigated in developing partnerships with a broad cross section of organizations/agencies to deal with Columbia Basin water issues and to help build the capacity of communities in the Canadian Columbia Basin to participate in these types of processes.

Over thirty years **Garry Merkel** has gained experiences in land management and community development including numerous tasks and positions such as surveyor; fire boss on campaign fires; duty officer; parks design and maintenance; inventory forester; silviculture contractor; development planner; teacher; timber supply analyst; forest economist; forest policy analyst; natural resource developer; community planner; business developer; entrepreneur. His first Nations experience include the Tahltan Nation in the Stikine River area of northwest British Columbia. Garry Merkel lives with the Ktunaxa Nation in Kimberley, British Columbia.

Welcoming by Wendy McMahon

Wendy McMahon welcomes the conference participants in replacement of Bill Barrisoff, Minister of Water, Land and Air Protection, British Columbia, Canada.

Wendy McMahon was elected as MLA for Columbia River - Revelstoke in the 2001 provincial general election. She currently serves as Chair of the Kootenay Caucus. Additionally, she holds the position of Caucus Liaison for Women's Equality. Before becoming an MLA, Wendy was the executive assistant to the Rocky Mountain Superintendent of Schools. Her professional experiences span from the public to the private sectors over the past thirty years.

Corporate Social Responsibility

Jeffrey W. Allgrove

President and CEO of Unilever Canada

The Business Case for Water Care

The long-term success of our business is intimately connected with the vitality of the environment and the communities in which we operate. The environment provides us with our raw materials and the ingredients we need to make our products. Be it healthy fish stocks for our fish business, tomatoes, spinach, tea and peas for our foods business and clean water for the manufacture and consumer use of our personal care products. A healthy environment and prosperous communities are essential for Unilever to build a sustainable business.

When choosing for example our soap, detergent, shampoo, soup or tea brands, those consumers are dependent upon access to clean water in order to use those products. The link between water and our products is very clear. Without reliable access to clean water we cannot manufacture our products and consumers cannot use them. Without water there is no tea. Without water there is no soup. Without water there is no bath, no clean laundry.

Due to this reliance on water to manufacture and use our products we believe that we have a responsibility to play an important role in relation to water stewardship.

But we are faced with a world affected by growing water stress. If Unilever's purpose is to add vitality to life and meet the every day needs for nutrition, hygiene and personal care, we believe we have a corporate responsibility in relation to the environment generally and water specifically. For these reasons, the sustainable use of water is one of our three chosen sustainability initiatives alongside agriculture and fisheries.

Unilever has been active on water stewardship projects around the world for over ten years now. Specifically in Canada we have been working with several organizations to protect threatened water resources across Canada. In Toronto we have been active in efforts to restore the health of the Don River. In collaboration with Evergreen we provide grants to organizations undertaking aquatic restoration projects in urban communities across the country. And here in British we have been working with Wildsight (formerly East Kootenay Environmental Society) since 1999 to support of their efforts to protect the Columbia River Wetlands. We are working with Wildsight on two fronts: We are supporting Wildsight's conservation work - namely supporting their efforts to reinstate the 10hp restriction on motorized vehicles in the region in order to protect wildlife and their habitat. Secondly, we have been working with Wildsight on their marketing and branding initiative for the past 18 months. The result of this work has come to fruition here at this conference with the official launch of EKES's new name and logo: Wildsight.

In countries around the world, local Unilever companies are working in different ways with community groups to address the local needs around water conservation.

Unilever wants to do business forever, not just today and tomorrow but forever. In exactly the same way as we can never really own land, we are only ever tenants, stewards if you like of our business and the roles we occupy. Preserving and increasing the potential of people by adding vitality to their lives through nutrition, hygiene and personal care is no small task. We all know there is still enormous work to do.

It brings with it also responsibilities to our communities in which we live. The environment is, simply put where we live and we all as individuals have responsibilities for it and for its diversity. Since water is the stuff of life, we have responsibilities there, too - to increase and protect the potential available supply for the future. That is the business case for water care.

ABSTRACT

The Business Case for Water Care

Unilever is one of the world's leading consumer goods companies. Our food, home and personal care products are chosen by 150 million consumers around the world every day. The availability of clean water is essential for our business. Water is used directly in our operations, by our suppliers, by consumer who need water to use our products, and by communities in which we operate.

Water is a shared resource. Without action by all users, demand for water will continue to outstrip supply. That is why sustainable water management is one of Unilever's three sustainability initiatives alongside fish and agriculture. Taking care of water creates business benefits because it demonstrates that Unilever can be part of the solution to meet consumer expectations sustainably.

Die unternehmerische Sicht zum Umgang mit Wasser

Unilever ist eines der weltweit führenden Unternehmen im Konsumgüterbereich. Unsere Nahrungsmittel, Haus- und Körperpflegeprodukte werden weltweit von 150 Millionen Konsumenten genutzt. Ein wesentlicher Bestandteil für unsere Firma ist die Verfügbarkeit von Wasser. Wasser wird nicht nur in unserer Produktion, sondern auch von unseren Zulieferern und den Verbrauchern genutzt. Wasser ist eine gemeinschaftlich genutzte Ressource. Ohne den Beitrag aller Nutzer wird der Wasserverbrauch bald die Versorgung mit Wasser übersteigen. Darum ist das nachhaltige Management von Wasser, neben den Bereichen Fischerei und Landwirtschaft, eine von drei Nachhaltigkeitsinitiativen von Unilever. Vorteile für unser Unternehmen erhalten wir, indem wir auf Wasser achten, denn dadurch kann Unilever Teil einer konsumentenfreundlichen und gleichzeitig nachhaltigen Lösung sein.

Jeffrey Allgrove joined Unilever U.K. as a graduate trainee in 1977 following two years practicing law in London. His original training was in International Audit-London when he studied accountancy. During his time with Unilever his international postings have included time in Kenya, India, Mexico, Malawi and U.S.A. In January 1999, he was appointed controller of Unilever with responsibility for financial planning of Unilever globally, and, since November 2003, he is President and CEO of Unilever Canada. He now lives in Toronto.

Panel Water Governance in the Columbia Basin

Kathryn Teneese

Chief Negotiator, Ktunaxa-Kinbasket Treaty Council, Cranbrook, British Columbia, Canada

Ktunaxa Values and Perspectives in Columbia Basin Water Governance

We view water as a sacred gift from the creator. Water figures prominently in our religious ceremonies and in our creation story. In this story, in the time of the animal world, the animals banded together to destroy Yawu ni, who had killed many of the animals. Yawu ni? was chased from Columbia Lake (which was then connected to the Kootenay River), down the Kootenay River, through Kootenay Lake, past Aqyam up? (Nelson) and Ki Si uk? (Castlegar), through the Arrow Lakes, around the big bend of the Columbia River, past this area Akisk nuk? and back to Yaqa Nukiy (Canal Flats). The chase continued around and around this basin until Ki u? advised the chief animal, Ma muq in? to block the connection between Columbia Lake and the Kootenay River, thereby trapping the monster Yawu ni, where he was killed and his pieces distributed among the animals. The ribs were scattered throughout the region, now forming the hoodoos seen in many locations.

We frankly find it interesting, and of concern, that water, which is essential for all life, is not viewed with the same sacred perspective by our non-aboriginal neighbors. It is fundamental to the Ktunaxa that we cannot ‚own' sacred things like water and land; rather our understanding is that we can only receive and accept the responsibility to live with, and use water, wisely. We have a stewardship, as opposed to ownership or management relationship with water.

There are many water governance implications of these values:

1 Water in all cases should be used wisely, and never wasted. We will emphasize conservation of water above all in the exercise of our water stewardship responsibilities.

2 It contradicts water's sacred value to use it to carry away and dilute our wastes, whether industrial, agricultural or residential. We need to learn to manage our wastes other than by pouring them down the drain', and to develop alternate waste treatment technologies. Certainly, waste waters can be returned to rivers and lakes provided that the quality of the waste water is unimpaired relative to the original source water quality.

3 Water is, first and foremost, an integral part of the „home" which you call the Columbia Basin. And this home is one we share with many living things, from

microscopic algae to two meter long sturgeon. Other uses for water in this basin (for example, production of hydro-electricity) should be considered, but always as secondary to its value as a ‚home'.

4 Environmental water ‚requirements' should take precedence, in all instances, over other uses. We are interested in the approach being taken to water governance under the new constitution of South Africa, wherein basic subsistence human water requirements (drinking and sanitation) are considered part of basic environmental water requirements. Environmental water requirements are the complex water quantity and quality needs to sustain diverse, natural, productive and evolving water ecosystems. We hope to develop comprehensive sets of indicators that will guide the determination of environmental water requirements, and thereby indicate where water surplus to environmental requirements may be available for human use.

Holistic Connectedness

We are taught by our elders that the world is a complex, inter-connected system. This leads us to conclude that:

1 Protecting lakes and wetlands is not enough - the rivers and streams that connect lakes and wetlands must be considered as integral parts of water ecosystems.

2 Managing surface waters is also not enough - surface and ground waters are part of the same holistic water system. Groundwater discharges support stream flows in the summer, fall and winter; in turn, groundwater is often recharged from streams during the freshet period. Wetlands and groundwater are obviously inextricably linked. We have to work to develop better information on our aquifers and their relationship to streams, rivers, lakes and wetlands.

3 We can't manage the Canadian/BC part of the Columbia Basin (or even the Ktunaxa part!) separately from the US part of the basin. The existing Columbia River Treaty provides for transboundary cooperation only with respect to flood control and hydro power production. We need a binational, transboundary watershed board to coordinate management to achieve a wide range of values sustained by the Columbia River and its' tributaries.

4 Bulk water export is happening, inevitably, every minute of every day already - water does flow downstream! It is happening In the Kootenay, the Columbia, the Flathead, Moyie, and smaller streams within the basin. We see no need to, or circumstances in which we would consider circumventing, short-circuiting or preventing what occurs naturally. Our responsibility is to ensure that the water that flows naturally across our borders is unimpaired by our use. We need cooperative arrangements with US governments to ensure that we receive the same treatment.

Long-term Perspective

People often refer to the ‚seven generations' perspective of First Nations. While the specific ‚seven generations' idea is not a Ktunaxa concept, the idea that we need to think carefully and wisely about future generations is definitely a central Ktunaxa value.

1 This means, in particular, that we collectively need to develop tools and learn how to manage the cumulative impacts of development in general and individual projects and activities specifically. We don't have adequate tools to do this now. We don't seem to be able to say ‚No - this project is likely going to lead to these additional projects and activities, and the combined impacts of these projects would be significant harmful to the functioning of the ecosystems we depend on. Many, tiny impacts on our streams, rivers, lakes and wetlands often add up to large and unacceptable impacts. From this perspective, ‚small, insignificant' (and often unmeasurable) impacts ultimately become large and unacceptable.

2 In the Columbia Basin, climate change is going to present huge water governance challenges to us in the future. The glaciers which sustain many of our streams, lakes and wetlands (and in particular the Columbia wetlands) are rapidly disappearing. What we see now is indeed a ‚highly subsidized' system, with stream flows and lake levels supported by the melting of glaciers that accumulated over centuries. When the glaciers are gone (or at best greatly reduced), we will have much less water to work with.

3 We have to ensure that we have the ability to adapt to changing environmental (and other) circumstances in the future. Current water licensing regimes seem to provide long-term certainty for water users, but little or none for aquatic ecosystems and other water interests. This regime needs to be changed so that licensees retain a reasonable degree of certainty while governments increase their ability to change water allocations and use provisions in response to changing circumstances.

There are other important Ktunaxa values that we are working to better understand and incorporate within our treaty negotiations. We are looking forward to the challenge of building these values and perspectives into water governance in this basin - we hope that many will join us in this important challenge.

ABSTRACT

Ktunaxa Values and Perspectives in Columbia Basin Water Governance

The Ktunaxa Nation has receded and therefore continuing aboriginal title, rights and responsibilities within the Columbia basin. This includes a bundle of rights relating to water, including the right to participate effectively in the governance and stewardship of water. The Nation is engaged with the governments of BC and Canada in treaty negotiations, through which we aspire to incorporate Ktunaxa values and wisdom within the way we manage human uses of water. We hope that three Ktunaxa values, in particular, will inform water governance in the post-treaty environment: (i) the sacred, life-sustaining value of water; (ii) an holistic, ecosystematic view; and (iii) a long-term perspective.

Ktunaxa Werte und Perspektiven der Wassersteuerung im Columbia Becken

Die Ktunaxa Nation setzt die Traditionen, Rechte und Verantwortungen innerhalb des Columbia Basins fort. Dies beinhaltet auch die Rechte, die mit dem Medium Wasser zu tun haben, wie zum Beispiel aktiv an Politik und Verantwortung teilzunehmen. Die Nation verhandelt dabei mit der Regierung British Columbias über die Berücksichtigung von Werten und Wissen der Ktunaxa hinsichtlich des Umgangs mit Wasser. Insbesondere drei dieser Wertvorstellungen sind dabei von Bedeutung: (i) der „heilige“, lebenserhaltende Wert des Wassers, (ii) die holistische, ökosystematische Betrachtung und (iii) die langfristige Perspektive.

Kathryn Teneese is a member of the Ktunaxa First Nation of the Ktunaxa Nation. Her active participation in public service began in the late 1960's first as a Band Councilor and subsequently as Area Coordinator for the Kootenay Indian Area Council (now the Ktunaxa / Kinbasket Tribal Council). Between 1981 and 1998, Kathryn Teneese lived in Vancouver and during that time was employed at a senior level with a number of provincial Aboriginal organizations, including as the Executive Director for the First Nations Summit. The First Nations Summit is responsible for representing the collective interests of BC First Nations who are involved in the tripartite treaty negotiation process. Since her appointment in 1996, Kathryn Teneese has served as the Chief Negotiator for the Ktunaxa Nation in their ongoing treaty negotiations with Canada and British Columbia. In 2004, Kathryn Teneese was appointed the acting Administrator for the Ktunaxa Kinbasket Tribal Council.

Jim Mattison

Director, Drought Task Force, Land and Water B. C. Inc., Victoria, British Columbia, Canada

Water Governance in the Columbia River Basin

Crossing two countries including one province and seven states, with 13 dams on its main stem and over 400 dams on its tributaries, the Columbia River Basin is an extensively developed and extremely important resource. As a result, the management of the Columbia River system is highly complex, involving international agreements, Canadian and American federal policies, state and provincial level regulations, and numerous communities and First Nations and Tribal governments. The fact that the management structure continues to be a successful and cooperative arrangement demonstrates the opportunity that working together for the mutual benefit of two countries can provide. This paper discusses how the use of water in the Columbia River Basin is managed, focusing on the complexity and mutual benefits, the governance, the current resource issues, and the organizations that have evolved from the basin's developments.

The Columbia River Treaty

Although only 18% of the Columbia River Basin is in Canada, 25% of the runoff originates from the Canadian portion of the Basin. Historically, high volumes of runoff caused severe flooding in the U.S. Working together to form a solution, the Columbia River Treaty (CRT) was ratified in 1964 by Canada and the United States. The Treaty provided a political and technical framework to manage and regulate the Columbia River in a manner that would maximize the mutual benefits of the resource for the two countries, through flood control and power production. The treaty required Canada to provide 15.5

Over looking the breathtaking and precious Columbia Valley.

million acre feet of storage for this water, which was accomplished through the construction of 3 dams in British Columbia, Canada, including: Duncan (1968), Keenleyside (1969), and Mica (1973). A fourth dam, Libby, was built in the U.S. with a reservoir that extends 67.6 kilometers into Canada. Together, these dams more than doubled the storage capacity of the Columbia River Basin. In return for providing storage and flood control, the U.S. made a one time payment of US$ 64.4 million. The additional power, which is generated in the U.S. and results from Canadian storage, is equally shared between the two countries. With the effective and cooperative relationship of the two countries, the management efforts are able to focus on the delicate balance between ecosystem needs, flood control and protection for communities in the basin, and the power demands of the northwest electricity grid.

Governance of the Columbia River

At the international and federal operational level, the CRT is implemented by the Treaty Entities. The Canadian Entity is BC Hydro, and the U.S. Entity is comprised of both the U.S. Army Corps of Engineers and Bonneville Power Administration. The activities of these Entities are regulated by the Permanent Engineering Board. The responsibilities of the Permanent Engineering Board include the approval of operating plans of the entities, and the reporting of activities to both Canadian and U.S. Federal governments.

Within each province and state however, additional regulatory bodies govern the use of the Columbia River water resource. Within British Columbia, the use of all water must be authorized by a water license. The authorization is provided under the Water Act through the office of the Comptroller of Water Rights and regional managers. The construction, operation, maintenance and safety of all dams in BC are also regulated by the province under this authority.

In Canada, fisheries are a federal jurisdiction. Fisheries and Oceans Canada has a mandate to protect and conserve fish and fish habitat. In addition, there is a Species At Risk Act that gives the Canadian federal government authority to protect endangered species and their habitats if the provincial authorities do not take action. In the U.S., the United States Fish and Wildlife Service uses the U.S. Endangered Species Act to ensure state water regulations are adequately protecting endangered and threatened species.

Resource Concerns

A critical issue facing managers of the Columbia River today concerns the populations of White Sturgeon - one of the largest freshwater fish in North America. The Columbia River is an important habitat for White Sturgeon. Although several factors influence the quality of these habitats, the extensive number of dams on the river system has affected the hydrograph, which in turn has affected spawning success and contributed to declining populations (see for example, United States Fish and Wildlife Service's Biological Opinion, 2000). In fact, the remaining Kootenai River population of White Sturgeon is isolated between the Cora Linn Dam in British Columbia at Kootenay Lake and the Libby Dam in Montana.

The Kootenai River White Sturgeon population was listed as endangered in 1994 by the U.S. Fish and Wildlife Service under the Endangered Species Act. The National Marine Fisheries Service Biological Opinion and the United States Fish and Wildlife Services developed recommendations for the recovery of the White Sturgeon. The recommendations included modifying spring flows to follow the natural hydrograph of the area more closely, implementing a conservation aquaculture program, and re-establishing suitable habitat conditions. In British Columbia, the Provincial Fisheries Program is responsible for the management and conservation of freshwater species. The Fisheries Program has designed a number of studies under the Columbia River White Sturgeon Program to increase our knowledge about white sturgeon biology and habitat requirements in efforts to further protect this species. The Canadian Entity, BC Hydro, is also working towards

further understanding how to fully protect White Sturgeon populations through the Upper Columbia White Sturgeon Recovery Initiative. This initiative is a collaborative effort between BC Hydro, the provincial government, First Nations, industrial and environmental stakeholders, and the public. In response to the increase in knowledge and awareness about the environmental effects of hydroelectric dams, the government of BC has initiated Water Use Plans. The Water Use Planning process involves the development of detailed plans for day-to-day operations of each hydroelectric facility, which consider the needs of all stakeholders in the area. Through this process water management options will be evaluated and will consider any resource concerns, such as White Sturgeon populations.

Organizational Developments

Stemming from the fact that alterations of the natural flow of the Columbia River had effects beyond mere flood protection and hydroelectric production, public stakeholders chose to become involved. One organization, the Columbia Basin Trust, was created by the Columbia Basin Trust Act in 1995 to benefit the areas most adversely affected by the construction of the dams. At its inception, the Columbia Basin Trust received a $295 million endowment by the Province. Basin residents decided to reinvest $45 million directly into the basin for economic and business development, and the remaining $250 million was committed to finance the construction of power projects through the Columbia Power Corporation - the Trust's partner in power projects. From 1996 to 2012, the trust will also receive $2 million per year. Through the activities of the trust, the trust ensures that residents of the region are empowered during any decision-making process in the Basin to ensure economic, environmental, and social health of the region remains a priority. Also, as a result of the Columbia River Basin developments, the Canadian Columbia River Inter-tribal Fisheries Commission (CCRIFC) was created by Columbia Basin First Nations. CCRIFC's mandate included the coordination and provision of technical support for the efforts of the First Nations to conserve and restore fish and fish habitat within the basin, including their long-term efforts to restore anadromous salmon. CCRIFC has provided technical advice to Columbia Basin First Nations with respect to water governance.

Conclusion

The management of the Columbia River is highly complex due to the number of development structures and competing demands on the river. However, the collaborative efforts between Canada the U.S., and organizations such as the Columbia Basin Trust and CCRFIC, in managing the river has lead to extremely positive results, with both countries benefiting equally from the arrangement. As with any developed ecosystem, resource management concerns do exist, but finding effective solutions is much less complicated when both countries involved are working towards the optimization of mutual benefits. As the fourth largest river by volume in North America, the management and governance of the Columbia River Basin is an exemplary international cooperation.

ABSTRACT

Water Governance in the Columbia River Basin

The management of the Columbia River is highly complex, and illustrates an effective management agreement that is based on international cooperation, and optimization of the mutual benefits of two countries. The successful management framework enables the countries to focus their efforts on balancing the need to protect the aquatic ecosystem, protect communities from flooding, and meet the power demands of the Pacific northwest in both countries.

Gewässerplanung im Columbia Flussgebiet

Das Management des Columbia Flusses ist sehr komplex und verdeutlicht ein effektives, abgestimmtes Management, welches auf internationalen Kooperationen und der Verbesserung des gegenseitigen Nutzens zweier Länder basiert. Die erfolgreichen Rahmenbedingungen ermöglichen den Ländern, ihre Bemühungen auf ein Gleichgewicht der Erhaltung aquatischer Ökosysteme und dem Schutz vor Überschwemmungen zu richten und gleichzeitig den Strombedarf im pazifischen Nordwesten gerecht zu werden.

James Mattison is a professional engineer with more than 20 years experience in water resources management. He is a senior government manager and is experienced in working with elected officials and solving complex natural resource problems. James Mattison is the Comptroller of Water Rights for British Columbia. He currently chairs the government Task Force on drought response, and is a member of the Permanent Engineering Board of the Columbia River Treaty.

Jennifer E. Moore

Director General, Water Policy and Coordination Directorate, Environment Canada, Ottawa, Ontario, Canada

Water Governance in Canada: Concepts, Approaches and Opportunities

Canada has been largely shaped by its geography - particularly its rivers and lakes, which have provided a focal point for settlement, economic development, and transportation. Aboriginal peoples have always derived physical and spiritual sustenance from water. Waterways carried furs, trade goods, and explorers, stimulating the exploration of Canada's vast interior.

Canada's constitution does not contain direct references to water resources, but provides the basis for how water management responsibilities are assumed by the federal and provincial governments today. The provinces have jurisdiction over property rights and public lands and therefore, the responsibility for managing natural resources including water. Provincial governments are responsible for most day-to-day and long term management of water including infrastructure, water quality, licensing water uses. Municipalities derive their roles from provincial governments and they have key roles in providing drinking water and wastewater services and setting land use decisions, which impact surface and groundwater quality and quantity. The federal government has exclusive constitutional authority with respect to coastal and inland fisheries, navigation and shipping, Indians and lands reserved for Indians, and federal property and transboundary waters, as well as exclusive power to implement agreements with other countries, e.g., the Boundary Waters Treaty. Additionally, the federal government shares constitutional jurisdiction with the provinces with respect to agriculture, health and the environment. Although not expressly stated in the Constitution, the federal government plays a leadership role in the areas of science and research to support water management by all jurisdictions.

Canada is a nation with apparent abundant water resources. Annually, Canadian rivers discharge approximately 7% of the world's renewable water supply to the sea. Lakes cover 7.6% of the country's land mass, wetlands 14% and perennial snow and ice 2%. The distribution of water resources is not even across the country. The south west area of Alberta and the interior of British Columbia in the Okanagan Valley region are classified as semi-arid.

Most of Canada's population lives in a narrow band within 300 kilometers of the southern border with the U.S. while many of our major rivers flow north to Hudson Bay and the Arctic Ocean. The concentration of population and industry places high demands on water supplies and increases conflicts between upstream and downstream users. Water is essential for all life, and a competitive and sustainable economy. It is required for irrigating crops, for supporting fish and wildlife resources, commercial fisheries, recreation, tourism, transportation, manufacturing, and other industrial production, and for municipal and household use. It is used extensively for the large-scale generation of electricity. Freshwaters perform essential ecological functions, including the provision of habitats for many species.

Although Canada can be considered to have an abundance of water, we face many challenges in managing our freshwater resources. The semi-arid regions of the country face problems of water supply and allocation, along with pollution control. Our per capita withdrawal for domestic uses is 326 liters per day, almost double the European average. The price that some Canadians pay for water does not reflect the full cost of providing the service.

While surface water is generally plentiful and clean, there are areas of local or regional pollution. Pollution enters water bodies in a number of ways, including industrial and municipal discharge, runoff, spills, and deposition of airborne pollutants. In the last half-century, increased amounts of industrial, agricultural, and municipal wastes entering Canadian rivers, lakes, and marine areas have had a serious impact on water quality. Acid rain continues to be a problem in eastern Canada. Wetlands, which act as natural storm buffers, sinks for pollutants and heavy metals, and regulators of flood water, are being lost across southern Canada. Canada has made significant progress in reducing some major water pollution problems. Increasingly, Canadians are focusing on preventing rather than remediating pollution. Changing agricultural practices, including the development and use of more environmentally friendly pesticides and fertilizers, and increasing conservation tillage have contributed to improvements in water quality. Sewage treatment has improved. There is a significant decrease in the amount of toxic pollutants coming from industries such as petroleum refining, mining and smelting, and pulp and paper.

There are emerging issues, and ones that have reappeared, such as, bulk water removal or export, alien invasive species, new toxic compounds, endocrine disruptors, etc. To address the existing and emerging issues, the senior levels of government need

to review our collective approaches to water governance and water management. Globally, governance can be defined as the process whereby societies or organizations make important decisions, determine whom they involve and how accountability mechanisms are used they render account. All levels of government, and individuals, share responsibility for effective water management.

In many national and international flora, Integrated Water Resources Management (IWRM) has been proposed as the basis for effective water governance and management. The following are the key IWRM principles that should be implemented on a watershed or drainage basin basis: supportive policy, legislation and resources; shared vision, with clear focused goals and targets; drainage basin as the basis for a holistic approach; effective partnerships and community-based actions; and, engagement of those responsible for implementation when developing strategies and action plans. Over the previous decades, Canada has implemented a variety of governance mechanisms for water, both domestically and internationally. In the international sphere, the basis for water management is the Boundary Waters Treaty and the bi-national International Joint Commission (IJC) that was subsequently created to deal with Canada-U.S. boundary waters issues. Nationally, the Canadian Council of Ministers of the Environment (CCME) has initiated various task groups including water quality and water conservation and efficiency.

The entire implementation of IWRM will challenge governments and stakeholders. This will require transparent and effective mechanisms to resolve water issues and conflicts, the constructive engagement of all stakeholders and the adequate resourcing of strategies and actions.

How can we improve water governance and management in Canada, and what opportunities exist to advance this agenda? An important development has been the recent announcements of the provincial water policies that I previously referred to. The new policies promote IWRM implementation, and in a few cases call for new basin advisory organizations. From the federal point of view, we manage the major ecosystem initiative agreements in conjunction with provinces and, as they come up for renewal we will ensure that IWRM principles are embedded in the programs. There will be opportunities in the near future as we begin preparations for re-negotiating international agreements and treaties such as the Great Lakes Water Quality Agreement and the Columbia River Treaty. Also, we will ensure IWRM principles are paramount in the CCME-related initiatives and work of the Water Quality and Water Conservation and Economic instruments Task Groups. CCME Ministers have agreed to consider development of an Environmental Sustainability Framework to guide cooperative actions. In federal jurisdiction, the government has underway a major program to provide water and wastewater services to First Nations communities. Program design and delivery is based on the IWRM approach, including source water and source to tap protection goals. We also have the opportunity to guide the national research agenda to improve science and information tools, e.g., the development of new environmental indicators.

As I have described, we have made significant achievements towards IWRM implementation and good governance mechanisms for water management, and there are a number of opportunities in the near future for further advancements. As we move along this path, we will challenge and engage the water resources community to assist us to answer some key questions: how might governments collaborate to define and advance a common water management agenda for Canada; is a common approach to IWRM watershed management desirable; and, what specific tools need to be developed to address water management issues?

ABSTRACT

Water Governance in Canada: Concepts, Approaches and Opportunities

In Canada, water is not only a multi-use substance, but also a sacred matter. Canadian waters consists to about 7,6% of lakes, 14% wetlands and 2% permanent snow areas. The resource water is used both by the population in single households and industry, which can result in local and regional pollution problems. The per capita use of private households is approximately 360 liter per day, about double of the European standards. Measures against the over usage of water refer to e.g. improvements of agricultural techniques and the reduction of toxic immissions. Basics of an effective water governance is provided by the Integrated Water Resources Management (IWRM). Additional international guidelines such as the „Water Quality Agreement“ and the „Columbia River Treaty“ are renegotiated. One important factor of water governance is the question about who shall be involved in the decision finding process and who shall be carrying respective responsibilities. The governments, both on provincial and country level, are challenged to verify collaborative approaches of water management.

Gewässerplanung in Kanada: Konzepte, Ansätze und Möglichkeiten

In Kanada ist Wasser nicht nur eine vielseitig einsetzbare Substanz, es ist auch heilig. Insgesamt besteht Kanada zu 7,6% aus Seen, 14% Feuchtgebieten und 2% dauerhaften Schneeflächen. Die Ressource Wasser wird sowohl von der Bevölkerung als auch von der Industrie genutzt, was zu lokalen und regionalen Verschmutzungen führt. Der Pro-Kopf-Verbrauch im privaten Haushalt liegt bei 360 Litern pro Tag. Das entspricht fast dem Doppelten des europäischen Verbrauchs. Maßnahmen gegen die Übernutzung von Wasser beinhalten z.B. Verbesserungen landwirtschaftlicher Techniken und die Minderung toxischer Emissionen. Als Basis einer effektiven Wassersteuerung wurde ein integriertes Wasserressourcenmanagement vorgeschlagen. Weiterhin werden derzeit internationale Regelwerke wie die Wasserqualitätsvereinbarung und das Columbia River Abkommen neu verhandelt. Gewässerplanung beinhaltet dabei auch die Vereinbarung, wer bei Entscheidungsfindungen involviert ist und wer jeweils Verantwortung übernimmt. Die Regierungen, sowohl auf Bundes- als auch auf Landesebene, sind aufgefordert, die gemeinschaftlichen Ansätze zum Wassermanagement zu überprüfen.

Jennifer Moore is the Director General of the Water Policy & Coordination Directorate. For the past twenty-five years, she has worked for the federal government in a number of positions varying from resource management activities in Canada's northern regions to providing economic and environmental policy advice in central agencies. Jennifer has been involved in the implementation of the NAFTA environmental side agreement and bilateral cooperation work with Mexico and Chile. She is additionally responsible for managing the regulatory process and providing socio-economic advice on the range of regulatory and non-regulatory tools including voluntary approaches and economic instruments. Investigating in federal water policy and working with provinces and territories on a variety of water issues, Jennifer has represented Canada at global water meetings. She has a Bachelor degree in Environmental Studies from the University of Waterloo and a Masters of Business Administration from the University of Toronto.

Taking Responsibility for our Corporate Actions Around Water Ecosystems

Edward Hill

Senior Environmental Coordinator, BC Hydro, Canada

Balancing Water Use: Water Use Planning at BC Hydro

British Columbia, located on the West Coast of Canada, depends heavily on water for its electricity needs. As environmental and social pressures, and community power needs compete for this resource, the allocation of water poses on ongoing sustainability challenge. BC Hydro directly faces this challenge in its day-to-day business: how does a hydroelectric utility serve the needs of its customers while also meeting social and environmental objectives?

Because the dams and reservoirs used to store and regulate water alter the natural cycle of annual flow patterns in order to meet the demand for electricity, BC Hydro's hydroelectric facilities can affect fish and wildlife habitat, cultural resources, industrial operations, and recreational activities. At the same time, these facilities may also create benefits by acting as a source for domestic drinking water supply, providing flood control and fueling economic development.

BC Hydro's business is to generate electricity, and in so doing must be accountable to British Columbians to take care of the environment, meet social and community needs and deliver excellent financial results. In order to ensure the sustainability of each component, BC Hydro has initiated several participatory programs that provide external input into management decisions. Four recent key programs are:

- Water Use Plans for the operation of our dams and reservoirs;
- Fish and wildlife restoration programs such as the Columbia Basin Fish and Wildlife Compensation Program as mitigation and compensation for construction impacts of our dams and reservoirs;
- Historic grievance negotiations with aboriginal communities;

- Public recreation sites and visitor centers at our facilities.

For BC Hydro, sustainability is the responsible and integrated management of the environmental, social and economic aspects of our business over the long term for the benefit of our shareholder, customers and stakeholders.

Water Use Planning

The overall goal of the Program is to find a sustainable balance between competing water uses that is socially, environmentally and economically acceptable. Here are some of the key features of the program:

Inclusive Committees: The process involves an open, inclusive multi-stakeholder committee reviewing operations at a hydroelectric facility. Participants on each committee include federal, provincial and municipal government agencies, First Nations, environmental interest groups, local citizens and other public interests. Unlike most traditional consultation, this process has BC Hydro management represented at the table on an equal basis to all other participants.

Decisions are made based on a mix of best science and values: Participants follow a structured decision-making process using „value-based thinking". They start by identifying issues, setting objectives and developing performance measures (indicators to measure progress on each objective). Any supporting scientific research that is conducted is very focused on the decisions being discussed, and is used to help participants explore and develop a wide range of alternatives for consideration. Participants then apply their values and interests to evaluate these alternatives, seek consensus on a preferred alternative, and make specific recommendations about water management at the facility.

Consensus is a Goal, Not a Requirement: The consultative process concludes with a Consultative Committee Report, signed off by participants, that outlines a set of recommendations and/or discussion of options. Consultative Committees do not have decision making authority, but they do have a lot of decision making power in that, if they reach consensus, there is a high probability that their recommendations will be implemented. Consensus among participants is desirable but not required, and all areas of agreement and disagreement are recorded. The report forms the basis of BC Hydro's draft Water Use Plan, submitted to all relevant provincial and national regulatory authorities for review, revision (if necessary), and acceptance.

Outcome of the Process: The outcome of each planning process is a final Water Use Plan (WUP), which is a detailed set of operational instructions for a specific facility, focusing on the reservoir storage, timing and amount of water releases through various dam or power generation structures. These plans clarify how BC Hydro can use water at its hydroelectric facilities, taking into account the multiple uses of that water. Once approved, the details of this plan are then embedded in BC Hydro's public water licenses to ensure transparency and accountability.

Water is an incredibly precious resource worldwide, and water management is a critical global sustainability challenge. Operators of hydroelectric facilities face this challenge every day as they try to manage water resources across a multitude of interests.

Water use planning is a highly replicable solution because the process is based on a set of principles that can be used to help others meet the challenge of sustainable water management. These principles can be adapted to suit the needs of the region, the company, the stakeholders and the legislative environment. BC Hydro successfully applied these principles to address issues across its diverse facilities, from small single-reservoir plants to large, multi-reservoir systems. In addition, the process does not require changes to existing legal and constitutional rights. Water Use Planning clarifies and articulates legal and constitutional requirements in detailed operating plans, while safeguarding the regulatory powers of provincial and federal legislation, thereby enhancing its replication potential.

The program has developed transferable tools to facilitate replication:

- Effective decision-making tools to help participants make difficult trade-offs between competing water uses;
- Methodologies for computer modeling of instream water flow and power production to simulate operational effects on fish, wildlife, recreation and First Nations' interests (to allow the consultative committees to „test-drive" their decisions);
- Practical applications of the principles of adaptive management.

ABSTRACT

Water Use Planning at BC Hydro

BC Hydro is committed to producing, acquiring and delivering electricity in an environmentally, socially and financially responsible manner. This commitment is demonstrated through a variety of practices and programs. For example, water use planning for BC

Hydro's hydroelectric facilities is a significant environmental and business initiative involving regulatory agencies, First Nations, the public and community interests, working together to design facility operations and water use strategies that support diverse interests and values. BC Hydro, in partnership with the provincial and federal governments, has established two compensation and one restoration program in the Columbia Basin, Peace-Williston and Bridge River Coastal areas to conserve and enhance fish and wildlife populations affected by the creation of BC Hydro dams.

Wassernutzungsplanung von BC Hydro

BC Hydro (das drittgrößte Stromversorungsunternehmen Kanadas) produziert, akquiriert und liefert Elektrizität unter Beachtung ihrer ökologischen, sozialen und ökonomischen Verantwortung. Diese Verpflichtung findet sich in zahlreichen Vorgängen und Programmen wieder. So ist zum Beispiel die Planung der Wassernutzung für BC Hydros hydroelektrischer Einrichtungen eine wesentliche umweltrelevante und unternehmerische Initiative. Diese involviert neben Aufsichtsbehörden auch First Nations und die Öffentlichkeit, die gemeinsam Vorgehensweisen und Wassernutzungsstrategien entwerfen. Dabei werden die verschiedenen Interessen der Beteiligten berücksichtigt.

Edward Hill is a Senior Environmental Coordinator with BC Hydro Generation with responsibilities for wildlife and terrestrial issues. He is a member of the Wildlife Technical Committees of the Peace and Columbia Basin Fish and Wildlife Compensation Programs and the Bridge Coastal Fish and Wildlife Restoration Program. Prior to joining BC Hydro in 1994, he worked with Newfoundland and Labrador Hydro on environmental impact assessment of generation and transmission projects and environmental research associated with hydroelectric developments. Edward Hill has a M. Sc. in Zoology from the University of Manitoba and is a Registered Professional Biologist in BC.

Elana Rosenfeld

CEO Kicking Horse Coffee Invermere, British Columbia, Canada

The „Kicking Horse“ Coffee

Welcome to my home here in the East Kootenays. I am very honored to be a representative of our business community at this year's Living Lakes Conference. I will begin by giving you a brief profile of Kicking Horse Coffee. I am co-founder along with my husband and partner Leo Johnson. Kicking Horse Coffee imports green coffee beans from all around the world. Exotic places like the islands of Sumatra and Java, countries like Ethiopia and Nicaragua and the regions of Chiapas, Mexico and Torquino, Cuba. We take these green beans roast, blend, and package and distribute. Our market is all across Canada, parts of the United States, Holland and soon to be Germany. Our customers range from individual mail order, independent cafes, independent grocers and national and international grocery chains. Our focus is on organic and organic Fair Trade coffee. We buy only the best quality organic green beans available. By selling solely whole bean coffee we ensure that the quality from our roaster to the consumer is maintained. Once coffee is ground it stales almost instantaneously. Coffee is our primary business however we have developed other products that include organic chocolate with coffee and a full line of organic and Fair Trade teas. Some of our teas include Rooibos an African red bush tea, Jasmine Green Tea and Mate Lemon Green Tea. This summarizes and gives you a brief overview of what we actually do.

So, why am I here? Why am I speaking to delegates of the Living Lakes Conference? What does Kicking Horse Coffee have to do with water? We do not use water in the roasting, blending and packaging of coffee? On the surface, our company does not look as if it would have any environmental implications. We recycle, we compost, there are no chemicals used in the roasting process, our energy demands are low and we have very little waste. This all looks very good. However, we have to look beyond our 4 walls, beyond Invermere and beyond Canada. Kicking Horse Coffee has to look at its supply chain.

Coffee is the second most traded commodity in the world next to oil. Cars need oil and people need coffee! The coffee industry has huge global implications. In order to understand the issues surrounding coffee and the environment you need to know where coffee comes from. Our coffee is grown on trees in remote regions located between the Tropic of Cancer and the Tropic of

Capricorn between 1,000 and 5,000 feet above sea level. Once the crop is harvested it requires vast amounts of water to process the coffee before we receive it in 70-kilo burlap bags. This water is the same water that the producers and their families use for basic living needs. This is one of the primary reasons we have chosen to buy and sell only organic coffee. Many people think that the sole reason to consume organic coffee is for their own health benefit. Thinking that conventional coffee may contain traces of herbicides, pesticides, fungicides and insecticides. More importantly, the reason you should drink organic coffee is to protect the water table of these growing regions and the women and children that hand pick the coffee cherries.

Furthermore, in the processing of coffee there is the procedure of de-pulping. This is where the actual beans are removed from the outer cherry. This process creates large amounts of waste that are then discharged into the local streams and rivers and of course pollute the communities' water supply. Farms that grow organic coffee are required to compost this waste pulp in order to receive their certification. This compost material is then used as fertilizer on the coffee trees and the necessity for expensive chemical fertilizers is eliminated.

Another benefit of buying organic coffee is that the crop is grown under the indigenous forest canopy. The term in the industry is called „shade-grown." No forests are cleared in the production of organic coffee trees. The crop is simply grown amongst the flora and fauna of the region thus supporting a variety of bird life and maintaining the water quality. Buying organic coffee not only has environmental advantages it has social and economic rewards. In most of the coffee growing regions the coffee crop is the only cash crop these farmers have. Organic producers and co-operatives can demand a higher price for their product bringing more money into their communities and for their families.

This brings me to my next point: Fair Trade. The story of coffee would not be complete without discussing the Fair Trade movement. Many of you from Europe will be familiar with Fair Trade. This social and economic movement was started in Holland in 1972. However, it did not come to North America until 1997. For your information that is 25 years!

What is Fair Trade? Fair Trade basically guarantees the farmer a fair and fixed price regardless of the C market - the coffee market. With Fair Trade in place, a farmer can fetch US$ 1.26 per pound for conventional coffee and US$ 1.41 per pound for organic coffee. On the C market farmers are receiving an average of US$ 0.55 per pound and we have seen it go as low as US$ 40 per pound. These prices are not sustainable. Many producers have walked away from their farms. Fair Trade enables farming communities to survive. Fair Trade is all about equal distribution of money between developed and developing countries. My partner Leo argues that the real price of coffee should be based on the cost of Kona coffee - Hawaiian coffee. This is the only coffee grown and produced in the United States with American costs and American wages. Green Kona coffee fetches US$ 10.50 per pound wholesale - US$ 55 per pound for a Nicaraguan coffee versus US$ 10.50 for an American coffee is a huge difference. Not to mention that the Nicaraguan coffee is a much better coffee than Kona. At Kicking Horse Coffee we believe that corporate social responsibility begins with your supply chain and ends with your consumer. In the process of growing our company and educating ourselves we have influenced beyond our 4 walls. First to our suppliers and then to our customers.

Who are our customers? They range from a variety of consumers but the most significant part of our sales is derived from the large grocers. Such as; Safeway; Thrifty Foods; Overwaightea; Loblaws; Dominion A&P and so on. An interesting statistic is that 70% of coffee in North America is purchased in the grocery store. Most shoppers at one time or another end up in the grocery store. In 1996 when we started Kicking Horse Coffee the option to buy organic, whole bean, specialty coffee did not exist in the chain grocery stores. We created that market. We created the product and we got the national and international grocers to list it and sell it. Now consumers have the choice to buy organic coffee. Organic Kicking Horse Coffee is the No. 2 product in the natural food section next to toilet paper. The overall result is that there is a higher demand for organic coffee and in turn more farmers are turning their crops over to organic practices.

In 1997, Fair Trade was brought to our attention by Marilynn Kreyvanger, a local Invermere legend. Kreyvenger and her church group were promoting the idea of Fair Trade in what they called „10 Days of Global Justice." Marilynn had brought us a gift for our first child along with the gift of Fair Trade. We knew nothing about Fair Trade; we had only been in business 1 year. We approached our broker. They knew nothing of Fair Trade. From there we pushed our broker to get certified and to list Fair Trade coffee. Today, they are the major importer and supporter of Fair Trade and they are the largest importer of specialty coffee in North America. As with organic there was no Fair Trade coffee existing in the chain stores. It has been a slow education process for both the retailers and the consumers. Seven years later, we have been able to list all organic Fair Trade with Canada's largest grocer,

Loblaws. Loblaws is the first Canadian grocer to list solely Kicking Horse organic Fair Trade. Overwaightea has listed eight Fair Trade coffees in addition to their six Kicking Horse Organics.

Do you let the consumer drive the demand? Or do you educate the consumer and present them with an alternative and let the manufacturer drive the demand. As a manufacturer we believe that we have a responsibility to produce first of all what we believe in but to be responsible environmentally, socially and economically. It is Kicking Horse's dream to roast and sell 100% organic Fair Trade. And that is what we are working towards. The specialty coffee industry accounts for 10% of the world's coffee. Starbucks is 1% of that 10%. Even though we roast roughly one million pounds of coffee per year, we are but a mere spec in the universe of coffee. We are only a very small part of the solution. It is the huge multi nationals that can really make a difference. I would also argue that it is you the consumer who ultimately makes the change. Buying organic matters. It matters to water quality, it matters to the farmer and their family and it matters to the consumer. Demand organic Fair Trade coffee. Buy Kicking Horse!

Der „Kicking Horse" Kaffee

Herzlichen Willkommen in meiner Heimat, den East Kootenays. Ich fühle mich sehr geehrt, als Vertreterin für Unternehmen an der diesjährigen Living Lakes-Konferenz teilzunehmen. Mein Ehemann, Leo Johnson, und ich importieren grüne Kaffeebohnen aus der ganzen Welt, die wir dann rösten, mischen, abpacken und vertreiben. Unsere Produkte erreichen nicht nur ganz Kanada, sondern auch die USA, Holland und bald auch Deutschland. Der Fokus liegt hierbei auf biologischem Anbau und „fair gehandeltem" Kaffee, wobei das Angebot noch ausgeweitet werden soll. Was haben wir jedoch mit dem Thema der Konferenz zu tun? Wir arbeiten umweltbewusst und sind darauf bedacht, über unseren Tellerrand hinauszuschauen. Kaffee ist neben Öl das weltweit meist gehandelte Gut. Neben der Tatsache, dass biologisch angebaute Kaffeebohnen frei von Pestiziden, Insektiziden etc. sind, wird bei der Kaffeeproduktion viel Wasser verbraucht. Der Anbau dieses Kaffees findet als sogenannter „Schattenwuchs" statt, unter einheimischen Pflanzen, die diesem Anbau nicht weichen müssen. Außerdem entstehen soziale und ökonomische Vorteile unter anderem dadurch, das Anteile des Gewinns an die lokalen Bauern und ihre Familien gehen und diese damit unabhängig von den Preisen des Kaffeemarktes sind (sogenannter „Fair Trade"). Auch wenn wir ungefähr eine Million Pfund Kaffee im Jahr rösten, sind wir nur ein kleiner Punkt im großen Kaffee-Universum. Letztendlich entscheidet der Verbraucher, was er verändert und für welchen Weg er sich entscheidet.

Elana Rosenfeld is co-founder and CEO of Kicking Horse Coffee Company. After graduating from McGill University her love of the mountains brought her to the East Kootenays. With the desire to make Invermere her home, she and her partner established their coffee-roasting venture. Kicking Horse is a manufacturing company with distribution throughout the Kootenays, Canada, the USA and Holland. With a focus on only Organic and Organic Fair Trade beans, Kicking Horse has grown to be the No. 1 organic coffee in Canada. In 2003, Elana Rosenfeld and her partner were chosen for the Young Entrepreneur Award from the Business Development Bank of Canada. Elana also served three years as a municipal councilor for the District of Invermere and on the East Kootenay Advisory Board. Presently, her most difficult and rewarding challenge is raising her two small children.

„The conference was very informative and provided great networking opportunities. As a company striving to do better we were inspired to do just that. Thank you."

Corporate Social Responsibility - Role Models

Dr Priscilla Boucher

Director, Community Leadership Strategy, Vancouver, British Columbia, Canada

Vancity Credit Union - A Community Based Approach to Financing Sustainability

Before I share Vancity's approach to financing sustainability, I would like to talk about financing „un"sustainability. There are two key issues for banks. The first is social exclusion - those practices that make it difficult, if not impossible, for low income individuals and communities to have access to the financial services they need at an affordable price. The second is the social and environmental impacts of credit and investment decisions. It is important to understand that banks „enable" consumer choices, business activities, and urban/rural development to happen by making financial resources available. Without adequate screens in place, the result can be over-consumption, excessive debt, and social and environmental damage.

Vancity is a member owned financial co-operative providing financial services to residents of British Columbia, Canada. We aim to be a strong business while contributing to the social and environmental sustainability of the communities we serve. Our Statement of Values and Commitments and our Baseline Ethical Policy help to guide business decisions and plans. Through our social audit process we measure our social, economic, and environmental performance and report the results - as well as our plans for improvement - in our externally verified Accountability Report. In our last Report we made a commitment to be Carbon Neutral by 2010 and developed a strategy for how we will achieve that target.

Our commitment is to lead by example and use our resources and expertise to effect positive change in our communities. This includes a commitment to social inclusion and to responsible lending and investing. We measure member (customer) satisfaction by diversity to ensure we provide outstanding service to all our members, regardless of gender, age, income, race, or ability. We take steps to provide access to financial services for low income individuals and micro-entrepreneurs. This includes a number of community partnerships to provide financial services to some of the more marginalized and ‚hard to serve' members of our community. And we apply our Baseline Ethical Policy to all business relationships with organizations (for profit, nonprofit, and cooperative) - and that includes all lending, investment, and purchasing decisions. We also offer our members a number of socially responsible investment choices, including the option to direct their dollars to community investments locally and around the world.

In fact, community partnerships are a cornerstone of our approach to financing sustainability. Our approach is to use our financial skills and resources to strengthen and ‚enable' community leaders to achieve their social and environmental missions. We can do this by supporting them to build strong organizations, by providing access to the capital they need (especially in the early stages), and by using our influence to open doors and encourage others to provide funding and support. We look for ways to creatively use the financial tools we have available to us.

We are particularly interested in supporting the success of social and environmental enterprises - businesses with social and/or environmental missions.

One example is our partnership with Ecotrust Canada. Together, we aim to strengthen the conservation economy in British Columbia by financing the enterprises that help to bring it to life. Between our two organizations we can offer a full range of financing solutions for business in rural and urban communities.

Another example is the work we have done to support the success of the Canadian Eco-Lumber co-operative. This co-operative promotes and develops markets for eco-certified forest products. Vancity and Ecotrust Canada provided grants to research the market and develop a business plan. Along with other partners, we provided early stage financing to support the business start up and purchase of an urban warehouse. And Vancity purchased some of their eco-certified product for a new branch.

Our approach to financing sustainability is three-fold:

1 Use our skills and expertise as a financial institution (what we do best);

2 Partner with community leaders who have the skills and expertise to achieve social, economic, environmental outcomes in the community;

3 Return benefits to the community, our members, and our business.

In addition to community partnerships, we believe that there is much we can do to demonstrate leadership. An

example is our commitment to Climate Change Solutions. Vancity recognizes that there is a serious problem with climate change. We want to be part of the solution - and we want to support members, employees, and communities to be part of the solution. As an organization we have committed to be Carbon Neutral by 2010. To achieve this goal we will aggressively reduce our greenhouse emissions from our own operations and engage employees in workplace practices to help us achieve this target. We will also offer financing solutions for members, emerging green enterprises, and community leaders to adopt practices that help to reduce climate change.

What does all of this have to do with Living Lakes? The point is that financial institutions - banks and credit unions - have an important role to play in helping to protect, restore, and enhance the integrity of living lakes and the quality of water necessary to life itself. We must take responsibility for the impact of our own operations and support the efforts of community leaders working to achieve positive social and environmental change. Together, we can make a difference!

Vancity Credit Union - Ein Gemeinde basierter Ansatz zur Finanzierung von Nachhaltigkeit

Bevor ich Ihnen über Vancity's Finanzierungsansatz für Nachhaltigkeit berichte, möchte ich über die Finanzierung von „Nicht"-Nachhaltigkeit reden: Es gibt für eine Bank zwei Schlüsselfaktoren: Der erste ist sozialer Ausschluss, d.h. finanzielle Dienstleistungen an Menschen mit geringem Einkommen werden erschwert oder sogar unmöglich gemacht. Der zweite bezieht sich auf soziale und ökologische Auswirkungen von Kredit- und Investitionsentscheidungen. Banken ermöglichen es einem Kunden, Geschäfte zu tätigen, urbane bzw. ländliche Entwicklungen durch Finanzierung zu verwirklichen. Ohne diese Unterstützung entstehen übermäßige Schulden, Mehrverbrauch sowie soziale bzw. ökologische Schäden.

Vancity ist eine Kooperative für Finanzdienstleistungen für die Bewohner von British Columbia. Die Umsetzung unseres Engagements im Hinblick auf Verbesserungsmaßnahmen für eine soziale und ökologische Nachhaltigkeit überprüfen wir anhand unserer Leistungen und dokumentieren dies in unseren öffentlich zugänglichen Rechenschaftsberichten.

Wir sind besonders an der Unterstützung des Erfolges von sozialen und ökologischen Einrichtungen und Unternehmen interessiert. Ein Beispiel hierfür ist unsere Partnerschaft mit Ecotrust Canada. Diese zielt darauf ab, die Bemühungen im Bereich Umweltschutz zu stärken. Unsere beiden Organisationen können ein breites Angebot am Finanzierungsmöglichkeiten für Städte und Gemeinden anbieten.

Finanzinstitutionen spielen eine wichtige Rolle bei dem Schutz, der Wiederherstellung und der Stärkung der Integrität von Living Lakes und der lebensnotwendigen Ressource Wasser. Wir müssen Verantwortung für die Folgen unseres Handelns übernehmen und die Arbeit in den Gemeinden unterstützen.

Dr Priscilla Boucher is Director, Community Leadership Strategy at Vancity Credit Union. In her role, Priscilla directs Vancity's Community Leadership strategy to achieve outcomes that contribute to social and environmental sustainability; and leads the development of key policies, programs and products to achieve ‚triple bottom line' (social, environmental, economic) results. She also directs Vancity's community programs, including grants, the $ 1 Million Vancity Award, and staff community involvement. Priscilla pioneered Vancity's social audit and externally verified Accountability Report, as well as Vancity's Statement of Values and Commitments and Baseline Ethical Policy.

Lutz Laemmerhold

Corporate Communications Manager, Deutsche Lufthansa, Germany

Corporate Social Responsibility - How do we understand this term?

In recent years, social, economic and environmental pressures have pushed more and more companies to accept their social responsibility. Closely tied to this acceptance is a corporate policy that aims at raising social and environmental standards on a voluntary basis - and that means beyond legal and contractual requirements. This is a long-term perspective, which must be viewed against the background of sustainable development. Such a move also implies the comprehensive integration of economic, social and environmental aspects into corporate policy. And it means that Corporate Social Responsibility is not just an optional „add-on" to core business activities. Rather, it is the very way in which businesses are managed. This requires an open corporate policy, whose key features are that it seeks to create harmony between opposing interests, to make corporate actions transparent and to attain credibility.

What is our position with regard to Corporate Social Responsibility?

We are fully aware that we bear special responsibilities in our role as a global corporation and large-scale employer. This awareness has been firmly anchored in our Corporate Guidelines.

Now, let's take a look at the environmental context. Credibility is the key condition for Lufthansa's commitment to environmental protection. Here, we focus on two areas in particular: environmental care on the one hand and nature conservation on the other.

In the area of operations-related environmental care, Lufthansa has noticeably reduced its emissions of noise and pollutants. Our comprehensive environmental management system searches continuously for opportunities to reduce environmental harm from aviation further by means of technical changes, improved flight procedures or other measures.

Regarding nature conservation, Lufthansa cooperates with national and international NGOs and helps to intensify the dialogue between economy and ecology. But the prerequisite for being an active player in nature conservation is that we do our homework first.

What are our key goals in this area?

- To optimize distances with regard to flight performance, fuel consumption and noise emissions;
- To reduce specific fuel consumption;
- To reduce aircraft noise emissions by introducing new take-off and landing procedures;
- To optimize the adherence to noise-reduction procedures near airports;
- To cooperate with railways to shift short-haul flights to rail service.

Our policies for fleet development and selecting new types of aircraft illustrate clearly just how closely gaining advantages for economic performance are linked to making progress in environmental protection. Because new types of aircraft with latest-technology engines consume less and less fuel, our investments in new aircraft are also investments in environmental care. Since the inception of „Living Lakes" in June 1998, Lufthansa has been the Global Nature Fund's partner for this initiative.

The following were - and still are - the reasons underlying our cooperation with the GNF:

- The fundamental importance of water for the Earth's future;
- The lakes and marshes that are often important areas for migratory birds;
- Opportunities for the development of sustainable tourism;
- The aspect of networks (we think that networks are optimum organizational structures; they are ideal for conducting dialogue and transferring knowledge);
- The aspect of internationality.

For us as a company, another important consideration are the possibilities that Living Lakes offers to bring home the message and experience first hand the issues of environmental sponsoring and nature conservation in communications with our employees and with external audiences.

In the past, we - GNF and Lufthansa - have taken advantage of this aspect especially in the context of conferences and press trips. Our commitment has been accompanied by widespread coverage in internal media for passengers, customer and employees, and by inserting advertisements in the relevant special-interest magazines.

This year, we broadened our commitment by joining forces to carry out the „Nature Summer Camps." After the GNF and DaimlerChrysler launched these

workshops for employees last year, their offerings became even broader this year due to our participation. Just like at DaimlerChrysler, Lufthansa employees and their children between 18 and 35 years of age can participate in the summer camps. They have the opportunity to do some volunteer work for the environment during their vacation time and thus make an active contribution to preserving the world's freshwater reserves.

Financial support from the two companies has meant that the GNF could develop an attractive program and set up summer camps at six Living Lakes partners. 86 volunteer helpers (including 20 from Lufthansa) worked between two and four weeks, depending on the location.

What exactly does the project entail?

- The Nature Summer Camp participants were trained during a two-day introductory seminar and prepared for the activities at the respective locations;
- On location, the participants received support from a Living Lakes partner organization;
- The activities of the Nature Summer Camps were diverse. They varied from conservation of the countryside and environmental education to water pollution control and construction projects;
- In addition to varied work tasks on location, the participants were offered an interesting program of leisure activities.

A survey has shown that almost all participants would again take part in a Nature Summer Camp.

For us, it is an important consideration that this project helps to anchor and strengthen ecological awareness in our employees behavior, both on the job and in their private lives. Before, many employees had told us about their need and desire to make an active contribution in the area of environmental care. The employee echo after the conclusion of this year's summer camps was overwhelmingly positive. As a result, we're planning to continue the program in 2005.

In an ideal way, these Nature Summer Camps embody the integrative approach to environmental, social and economic aspects. They also confirm to us that we are on the right path.

In conclusion, we at Lufthansa see ourselves as being committed in equal measure to the demands of shareholder value, environmental care and social responsibility in our efforts to secure sustainable development.

Gemeinschaftliche Soziale Verantwortung

In den vergangenen Jahren hat der soziale, ökonomische und ökologische Druck Unternehmen verstärkt dazu gebracht, sich ihrer sozialen Verantwortung bewusst zu werden. Dies umfasst auch die Unternehmenspolitik.

Lufthansa ist eine der führenden Fluggesellschaften und ist nicht zuletzt durch seinen Marktstellenwert ein sogenannter „Global Player". Lufthansa, gegründet im Jahr 1926, ist auf allen Kontinenten (außer Australien) vertreten und beschäftigt ungefähr 90.000 Angestellte.

Im Jahr 1999 wurde die Wohltätigkeitsallianz „HelpAllianz" gegründet, die weltweit Projekte unterstützt. So konnten bisher beispielsweise Waisenhäuser in Nigeria und Brasilien sowie Urwald-Krankenhäuser in Kenia unterstützt werden.

Zudem hat die Lufthansa Lärm und gasförmige Emissionen reduziert, was mit Hilfe des Managements und in Zusammenarbeit mit nationalen und internationalen NGOs wie den Global Nature Fund und das Living Lakes Netzwerk weiter verfolgt und ausgebaut werden soll. Ein Beispiel sind die vom GNF koordinierten Nature Summer Camps, an denen Angestellte von Lufthansa und DaimlerChrysler sowie deren Kinder (im Alter von 18-25) teilnahmen und eine Vielzahl von Aufgaben durchführten. Dies soll im Jahr 2005 fortgeführt werden. Wir vertreten die Meinung, dass eine kontinuierliche Verbesserung von nachhaltiger Entwicklung eine Fülle von Ideen, Kommunikation und gegenseitiges Verstehen voraussetzt.

Lutz Laemmerhold was born in 1949. After his vocational training as Air Transport Service Business Man he had different positions with the German Airline „Deutsche Lufthansa" in the field of Public Relations: From 1981-86 he was head of the Public Relation-Department for Europe. He worked as Project Manager for Corporate Identity from 1986-89, and afterwards as head of the Lufthansa Cultural Promotion. Since August 2001, he is Head of the PR-Department for Corporate Communications. His responsibility is Corporate Publishing, Event Management and Environmental Sponsoring.

Discussion Groups

Group 1 Companies and Water: Accountability through Shareholder Action and Other Models of Corporate Social Responsibility

Robert Walker

Vice President, SRI Policy & Research, The Ethical Funds Company, Vancouver, British Columbia, Canada

What is shareholder action? Ownership of common stock in publicly-traded companies provides stockholders with an opportunity to influence and improve corporate policies, performance, and accountability. Unlike other corporate stakeholders, shareholders have access to the highest levels of the company and the right to engage directors and senior executives in direct dialogue through the shareholder resolution process.

What does shareholder action look like? Shareholder activism consists of both dialogue and formal shareholder resolutions. A shareholder dialogue is a structured negotiation initiated by a shareholder (or a group of shareholders) with company management to effect change on a particular issue of concern. Examples of such issues include: environmental performance, unsafe products, sweatshops in the supply chain, or investment in Burma. Dialogues often occur over the course of months or even years. If shareholder dialogues prove unfruitful, shareholders often turn to a formal resolution or proposal process.

A shareholder resolution (or proposal) is a shareholder's (or group of shareholders') recommendation or request that a company and / or its Board of Directors take a particular action relevant to company policy. The shareholder proposal is circulated by the company in its ‚management proxy circular', a document that is mailed to every shareholder in advance of the annual general meeting.

Examples

- A group of shareholders concerned about labor conditions in overseas factories from which a retail company is sourcing its goods might offer a resolution stating:

  „Be it resolved that shareholders request that the company commit itself to the implementation of a code of corporate conduct based on the International Labor Organization's core labor rights standards and commit to a program of independent third party monitoring of compliance with these standards.";

- Shareholders seeking to improve the environmental performance of a steel company might sponsor a resolution stating:

  „Be it resolved that shareholders request the Board of Directors establish a policy of disclosing facility-specific toxic emissions data and greenhouse gas emissions data.";

- Shareholders concerned about the HIV/AIDS pandemic and its devastating impacts might sponsor a resolution with a pharmaceutical company stating:

  „Be it resolved that shareholders request the Board of Directors to establish and implement standards of response to the health pandemic of HIV/AIDS, tuberculosis, and malaria in developing countries, particularly Africa. A report of such standards and their implementation would be made available to shareholders.".

How successful is shareholder action? The process of dialogue and filing shareholder resolutions generates investor pressure on corporate executives, garners media attention (which adds even more pressure on corporations to improve their behavior), and educates the public on often-ignored social, environmental, and labor issues. The process has served as a powerful tool to encourage corporate turnaround in social and environmental policies and performance.

Shareholder action has aided in:

- Ending apartheid in South Africa through corporate divestment;
- Restricting harmful infant formula marketing by pharmaceutical companies in developing countries;
- Getting companies like Alcan, General Motors, Ford Motor Company, and Sun Company to sign the CERES (Coalition for Environmentally Responsible Economies); Principles, which require efforts to reduce pollution and increase environmental disclosure;
- Convincing at least 100 companies to diversify the makeup of their corporate boards and employees;
- Forcing multinational companies like Hudson's Bay Company, Nike, and The Gap, using contract workers, to clean up sweatshop-like conditions and take more responsibility for the welfare of these workers in the new global economy;
- Encouraging Home Depot-the world's largest distributor of home building materials-to phase out old-growth wood from its supplies;

- Convincing drug store chains to phase out mercury-filled oral thermometers;
- Convincing pharmaceutical firms to phase out PVC from medical product packaging and delivery vehicles (IV bags, tubing, enteral feeding ports, etc.).

Are all investors active shareholders? No. Most institutions are passive investors. Those that are active will pursue more orthodox corporate governance issues and are not interested in most social and environmental concerns. Happily enough, there is a growing number of socially responsible investment institutions using the tools of shareholder activism to improve corporate social and environmental performance.

What is socially responsible investment? Sometimes called ethical investing, values-based investing or sustainable investing, socially responsible investment (SRI) is defined as the integration of social, ethical, and environmental values into the investment decision-making process.

How large is the SRI industry? The Social Investment Forum in the US reports C$3.4 trillion in SRI assets or about 11% of the total investment market. The Social Investment Organization in Canada reports C$50 billion in SRI assets or about 3% of the total investment market. The Social Investment Forum in the UK reports C$521 billion in assets or about 22% of the total investment market.

Have socially responsible investment institutions addressed the issue of water? We're starting. Last year a shareholder proposal was filed with Intel asking the company to evaluate how the adoption of new advanced technologies and approaches could result in significantly reduced water consumption. Shareholders also filed water-related proposals and conduced water-related dialogues with Coca-Cola, PepsiCo, Hormel Foods, and Smithfield Foods.

Two initiatives are likely to raise water issues for active shareholders in 2005.

1 The Interfaith Center on Corporate Responsibility (ICCR), the most significant network of active shareholders in North America, has established a Water and Food Committee to work on water issues.

2 The Global Reporting Initiative (GRI) has promulgated a ‚Water Protocol' for companies to use for their Sustainability Reports. The GRI is UN sponsored initiative designed to develop consensus on common sustainability reporting metrics and protocols.

How can governments encourage investors to bring water issues to the attention of companies? Governments can play a role by requiring pension funds and mutual funds to disclose the extent to which they are incorporating environmental and social criteria into their investment decision-making. This simple disclosure requirement has spawned the tremendous growth of SRI in the UK, Europe, and Australia. Governments can also integrate environmental and social criteria into the statement of investment principles that guide state-controlled pension funds, such as the Canada Pension Plan. This can mean directing portfolio managers to incorporate these criteria into buy / sell decisions and/or having regard for environmental and social issues in their proxy voting activity.

About the Ethical Funds Company

Launched in 1992, The Ethical Funds Company is Canada's leading manager of socially responsible mutual funds with approximately $1.8 billion in assets under management. In addition to screening and monitoring all securities in the funds, The Ethical Funds Company works with companies held in its funds as well as industry, regulatory and like-minded organizations to encourage corporate accountability, sustainability, and market integrity.

ABSTRACT

Companies and Water: Accountability through Shareholder Action

In the wake of accounting and corporate governance scandals at Enron, Worldcom, Parmalat, and Hollinger Inc., shareholder action is emerging as a powerful tool for holding corporations to account and prompting directors to adopt appropriate risk management controls. In North America, socially responsible shareholders are engaging a growing list of companies to encourage improvements not only in accounting and governance practices, but also in environmental policy and performance. Issues related to water are now coming onto the agenda for the SRI industry, with shareholder proposals recently filed with Coca-Cola and PepsiCo. This session will provide an overview of socially responsible shareholder action in North America, and offer recommendations to governments and non-governmental organizations for putting in place market incentives that can bring corporate performance into alignment with environmental values. The Ethical Fund Company was launched in 1992 and is Canada's leading manager of socially responsible mutual funds with approximately $1.8 billion in assets under management. In addition to screening and monitoring all securities in the funds, The Ethical Funds Company works with companies held in its funds as

well as industry, regulatory and like-minded organizations to encourage corporate accountability, sustainability, and market integrity.

Unternehmen und Wasser: Haftung durch Maßnahmen von Aktionären

Als Folge der Bilanzskandale bei Enron, Worldcom, Parmalat und Hollinger Inc., werden Konzerne zunehmend zur Rechenschaft gezogen und aufgefordert, angemessene Kontrollen und ein Risikomanagement einzuführen. In Nordamerika verpflichten Aktionäre mit sozialem Verantwortungsbewusstsein Firmen zusätzlich dazu, ihre Umweltpolitik und ihr Umweltverhalten zu verbessern. Verstärkt finden auch Aspekte zum Thema Wasser im Rahmen von ethischem Investment (Socially Responsible Investment - SRI) eine Rolle. In der hier vorliegenden Präsentation gibt Bob Walker, Vize-Präsident der SRI, einen Überblick über die Gesellschafteraktionen in Nordamerika und Empfehlungen für Regierungs- und Nicht-Regierungsorganisationen. Letztere haben entscheidenden Einfluss auf die Einbeziehung von umweltrelevanten Werten in unternehmerisches Handeln.

Die Ethical Fund Company wurde 1992 gegründet und ist innerhalb Kanadas führender Manager für sozialverantwortliches, gemeinschaftliches Kapital, das sich mittlerweile auf ungefähr 1,8 Milliarden Dollar beläuft. Zusätzlich zu der Selektion und Kontrolle von Anlagesicherheiten, arbeitet die Ethical Funds Company mit Firmen, die an Geldanlagen beteiligt sind, sowie mit Industriepartnern, Aufsichtsbehörden und gleichgesinnten Organisationen, um eine kooperative Verantwortlichkeit, Nachhaltigkeit und Marktintegrität zu fördern.

Robert Walker is the Vice President of SRI (Socially Responsible Investment) Policy and Research for The Ethical Funds Company, Canada's first and largest family of socially responsible mutual funds. Since arriving at Ethical Funds in 1999, Robert Walker has developed and implemented a comprehensive proprietary methodology for measuring the social and environmental performance of publicly-traded companies and implemented Canada's leading Shareholder Action Program. He has also spearheaded the establishment of proxy voting guidelines at Ethical Funds and placed the company at the forefront of proxy voting disclosure in Canada.

Group 2 Approaches to Sustainable Water Use by Companies

Anne Weir

Senior Manager, Unilever, United Kingdom

As a producer and supplier of branded consumer foods, home and personal care products, Unilever's activities are intimately linked with water availability and water quality.

Direct use of water by our business is relatively low, around 3% of our water footprint is accounted for by our manufacturing operations. On the other hand, water use in our agricultural supply chain and by consumers using our products is comparatively high and under certain conditions can have an impact on water quality.

Global projections for increasing water stress in key regions of the world mean that Unilever has to engage with water-related issues. Our sustainable agriculture and water and vitality programs are helping the business integrate such projections into their activities and develop capabilities to respond as needed to differing ecological, social and economic challenges.

Ansätze zur nachhaltigen Nutzung von Wasser in Unternehmen

Als Hersteller und Anbieter von Nahrungs- und Pflegemarkenprodukten sind die Aktivitäten von Unilever eng mit Wasserversorgung und -qualität verbunden. Der direkte Verbrauch von Wasser bei der Herstellung ist relativ gering und liegt bei etwa 3%. Entscheidender ist der relativ hohe Wasserverbrauch im Bereich unserer landwirtschaftlichen Zulieferer und der Konsumenten unserer Produkte und dessen möglichen Auswirkungen auf die Wasserqualität.

Die weltweiten Prognosen zur zunehmenden Wasserverknappung in Schlüsselregionen bedeuten, dass sich Unilever mit entsprechenden Fragen auseinander setzen muss. Unsere nachhaltigen Landwirtschafts-, Wasser- und Gesundheitsprogramme unterstützen

Unternehmen dabei, diese Einschätzungen in ihren betriebsinternen Prozessen zu berücksichtigen. Außerdem sollen Fähigkeiten entwickelt werden, um auf unterschiedliche ökologische, soziale und ökonomische Herausforderungen angemessen reagieren zu können.

Anne Weir took up her current role as program leader of the sustainable water initiative in January 2000. The program is a vital element in Unilever's corporate commitment to be an admired and trusted leader in terms of the economic, social and environmental benefits it delivers to its consumers and customers, its communities and society at large. Prior to this appointment, Anne Weir was a policy adviser on sustainable development and on building cross sector partnerships. She has been a member of the Unilever corporate environment group, which develops policy and strategy on the environment and sustainable development, since 1996.

Lennie Santos-Borja

Laguna Lake Development Authority, Devision Chef,
Laguna de Bay, Philippines

Approaches to Sustainable Water Management and Utilization by Industries in the Laguna de Bay Basin

Industrial establishments in the watershed of Laguna de Bay are concentrated in the northwest and western side of the lake (Figure 1). Expectedly, this is the area where the most progressive towns and cities are located. As of August 2004, there are 4,613 firms in the records of the Laguna Lake Development Authority (LLDA). Of these, 2,897 firms discharge wastewater and are classified as wet industries and the rest are dry industries.

Industrial pollution contributes about 30-35% of the total organic pollution load coming into the lake. Regulation comes in the form of compliance to the prescribed effluent standard for Class C waters, that is, suited for fishery. Non-compliance is subject to legal procedures such as the issuance of fines and penalties and the possible stoppage of operation through a Cease and Desist Order after due process. Most of the water being utilized by these industries, especially those in the Metropolitan Manila area comes from groundwater and government-operated dams. Only two firms derive water directly from the Laguna de Bay, a hydroelectric power plant located in the eastern part of the lake and a private company which manages a residential area in the western part of the basin that abstracts water from the lake and treats it for domestic supply. The utilization of the lake by the industries provide environmental services by being the final sink and the natural treatment plant of their wastewater.

Drivers for Sustainable Water Management and Utilization

Several factors serve as catalyst for the government to promote wise use of water resources and for industries to

Industrial pollution contributes about 30-35% of the total organic pollution load coming into Laguna de Bay, the largest lake in the Philippines.

adopt efficient water utilization. These are water scarcity, high cost of water, government regulation and the incentives and savings that go with the conservation of water. The last two drivers are the main focus of this paper.

Environmental User Fee System

In January 1997, the Environmental User Fee System (EUFS) was piloted in the Laguna de Bay Basin as the initial phase of the National Program. It was designed in a manner that integrates and harmonizes command and control (CAC) and economic instruments with the objective of generating mechanism to improve environmental enforcement and compliance status of industrial firms. The system now forms an integral part of LLDA's Environmental Management Program.

The EUFS is primarily aimed at reducing the pollution loading into the Laguna de Bay. It makes all dischargers of liquid waste directly accountable for environmental damages brought about by their day-to-day operations by internalizing the cost of environmental degradation and enhancement into their business decisions and actions. Eventually, the foremost goal of the EUFS is to limit wastewater discharges from point sources to a level that would ensure that water bodies within the Laguna de Bay system would be protected and made suitable for their intended uses. For a start, the EUF was applied to 222 pollutive firms, ranging from food manufacturing, slaughterhouses/piggeries, beverage plant, textile manufacturing, paper and pulp. For piloting purposes, only the BOD5 (Biochemical Oxygen Demand) concentration in the effluent was considered in the computation of the fee. Other water quality parameters are considered for inclusion in the near future.

The fee system is composed of a fixed fee and a variable fee. The fixed fee covers the administrative costs of implementing the system based on volumetric rate of discharge, while the variable fee depends on whether the BOD5 concentration is above or below the concentration threshold, which corresponds to the existing effluent standard for BOD5 of 50 mg/L, regardless of total BOD5 load. Thus, the higher the BOD5 concentration and the volume of water used are, the higher is the EUF the firm has to pay. At the same time, a pollution case is filed against firms discharging wastewater exceeding the standards for BOD5 and other regulated parameters. The fee computation is as follows:

Fixed Fee		
$Q < 30\ m^3$ / day	=	P 6,800
$Q > 30\ m^3$ day $< 150\ m^3$ / day	=	P12,000
$Q > 150\ m^3$ / day	=	P18,000
Variable fee: Loading* x Rate*		
*Loading: $Q \times BOD_5 \times$ days/yr x 0.001		
** Rate:		
$BOD_5 \leq 50$ mg/L	=	P5.00/kg
$BOD_5 \geq 50$ mg/L	=	P30.00/kg

One Philippine peso (P) is about US$ 0.0178.

This scheme has induced firms to be more cost effective in trying to comply with standards and in effect made the EUFS a model of mixed regulatory and economic instrument. An enterprise is required to obtain a Discharge Permit (DP), renewable annually, from the LLDA. The DP is a legal authorization for the enterprise to discharge their wastewater of acceptable concentration.

Effectiveness of the EUF

An evaluation of the market response to EUFS was based on the performance of the initial 222 industrial establishments. Figure 2 shows a significant reduction in the BOD loading from 5,402 MT/yr in 1997 to 195 MT/yr in 2003.

The reduction in the BOD loading was due to several factors: (a) increased efforts among the regulated sources to treat their wastewater by putting up or improving their existing treatment facilities and setting up new cleaner technologies (b) wastewater recycling activities, (c) waste minimization, and (d) voluntary closure or plant relocation.

The actual impact of EUFS in terms of the BOD reduction from point sources to the ambient lake water quality is still undetermined. The LLDA intends to apply its newly developed Decision Support Systems and modeling tools to determine the effects of EUF implementation on the lake's water quality.

EUFS Incentives

The EUFS brings incentives to both the LLDA and the industrial establishments. The system motivated the industries to lower their volume of discharge and to reduce their effluent BOD concentration, thus they pay a lower EUF. Likewise, continuous improvement in pollution prevention strategies promotes waste minimization, reduction, recycling and cleaner production. On the part of the LLDA, compliance of industries to the effluent standard means lesser monitoring work and water quality analysis, thus saving manpower time and operational expenses. A concrete

example is the case of Container Corporation of the Philippines (CCP), which produces corrugating medium, testlinerboard, clipboard and boxboard. It has successfully implemented a zero waste discharge and is practicing rainwater harvesting. Through its involvement in pilot studies and participation in internationally and locally funded waste minimization and cleaner technologies program, the company gained recognition as a model plant for water resource utilization and clean technology application. From an EUF of PhP 200,000 (US$ 3,570.00) in 2000, it paid only PhP 6,800.00 (US$ 120.00) in 2003 which is just a payment for the fixed fee since there is zero discharge.

Unilever Philippines has modified its production process in order to reuse feed water. It also promoted water conservation among its employees through simple measures such as the use of dipper and pail in the bathroom instead of using the shower. Through its compliance to the effluent standard, aggressive campaign in resource conservation and active involvement in numerous environmental activities it was given a Hall of Fame Award by a respected environmental NGO in the Philippines. It has also won the Asia Water Management Award.

Conclusion

The objectives of the EUFS have been met since it was implemented in 1997. It is not a license to pollute but a measure to compel industries with wastewater discharges to treat their wastes; otherwise it would be more expensive on their part by not doing so. The parallel implementation of a regulatory control makes the EUFS more effective. Because of the success of the EUFS in the Laguna de Bay region, it is now on the process of being implemented nationally by the Department of Environment and Natural Resources.

ABSTRACT

Industrial establishments in the watershed of Laguna de Bay are concentrated in the northwest and western side of the lake. Expectedly, this is the area where the most progressive towns and cities are located. As of August 2004, there are 4,613 firms in the records of the Laguna Lake Development Authority (LLDA). Of these, 2,897 firms discharge wastewater and are classified as wet industries and the rest are dry industries.

Industrial pollution contributes about 30% of the total organic pollution load coming into the lake. Regulation comes in the form of compliance to the prescribed effluent standard for Class C waters, that is, suited for fishery. Non-compliance is subject to legal procedures such as the issuance of fines and penalties and the possible stoppage of operation through a Cease and Desist Order after due process.

Most of the water being utilized by these industries, especially those in the Metropolitan Manila area comes from groundwater and government-operated dams. Only two firms derive water directly from the Laguna de Bay, a hydroelectric power plant located in the eastern part of the lake and a private company which manages a residential area in the western part of the basin.

The objectives of the EUFS have been met since it was implemented in 1997. It is not a license to pollute but a measure to compel industries with wastewater discharges to treat their wastes; otherwise it would be more expensive on their part by not doing so. The parallel implementation of a regulatory control makes the EUFS more effective. Because of the success of the EUFS in the Laguna de Bay region, it is now on the process of being implemented nationally by the Department of Environment and Natural Resources.

Ansatz zum nachhaltigen Management von Wasser und industrielle Nutzung in der Laguna de Bay

Die Industrieansiedlungen an der Laguna de Bay liegen an der nordwestlichen und westlichen Seite des Sees, erwartungsgemäß dort, wo sich die progressivsten Städte befinden. Insgesamt registrierte die Laguna See Entwicklungsbehörde (Laguna Lake Development Authority, LLDA) im August 2004 4,613 Betriebe, von denen 2,897 Abwasser abführen und als Nassindustrien klassifiziert wurden.

Die Verschmutzung durch industrielle Nutzung beträgt insgesamt 30% der gesamten organischen Fracht, die in den See transportiert wird. Die geltende Vorgabe ergibt sich aus den Standards für Gewässer der Klasse C, die für die Fischerei geeignet ist. Missachtung dieser Standardvorschrift resultiert in Strafzahlungen oder in Einstellung des Betriebs.

Das meiste Wasser, das von der Industrie genutzt wird, stammt aus Grundwasser oder aus von der Regierung betriebenen Dämmen. Nur zwei Industrien erhalten ihr Wasser direkt aus der Laguna de Bay: ein hydroelektrisches Kraftwerk im Osten des Sees und eine westlich gelegene private Firma. Zur Verbesserung der Kontrolle über die Einhaltung von Standards für die Industrie wurde im Januar 1997 das ökologische Nutzer Gebührensystem (EUFS) eingeführt. Dieses System dient in erster Linie dazu, die Verschmutzung des Sees zu mindern. Die Pilotstudie ergab, dass der Grad an

Verschmutzung auf ca. 4% der ursprünglichen Fracht vermindert werden konnte. Demzufolge werden die EUFS nun auf nationaler Ebene von der Abteilung für Umwelt und natürliche Ressourcen eingeführt.

Adelina „Lennie“ C. Santos-Borja got her undergraduate and graduate degree in Biology at the University of the Philippines. Lennie has more than 25 years of experience in the field of lake conservation and management. She is currently the Chief of the Research and Development Division of the Laguna Lake Development Authority. Her most recent assignment is as Coordinator of Laguna de Bay Carbon Finance Project. Prior to these, she was the Chief of the Lake Management Division, and was instrumental in the implementation of the Revised Zoning and Management Plan (ZOMAP) of Laguna de Bay.

Group 3 Recognition and Inclusion of Indigenous Values in Use of the Land and Water

Ray Warden

Ktunaxa Kinbasket Tribal Council, Canada

Welcome to the ancient homeland of the Ktunaxa people. The Ktunaxa have occupied the lands adjacent to the Kootenay-Columbia Rivers and Arrow Lakes for the past 12,000 years. In addition to lands within British Columbia, the traditional territory of the Ktunaxa Nation also historically included parts of present day Alberta, Montana, Washington and Idaho. The Nation consists of seven bands; five in British Columbia and two sister bands in the United States. The majority of Nation members originate from the Ktunaxa culture, however the Shuswap Band, located in the Invermere area, contains descendants of the Kinbasket family (Secwempc).

The Ktunaxa people have lived here for thousands of years, and have shared this land with people from all nations for the past 150 years. The Columbia wetlands are of critical importance to all of us, and the Ktunaxa have a sacred covenant with the Creator to be stewards of the land. The story of our history is deeply rooted in the continuing intimate relationship of people and the land. The Ktunaxa language is a linguistic isolate, related to none other in the world, and Ktunaxa names for landmarks and heritage sites throughout this area confirm this region as traditional Ktunaxa territory.

Presently, the Ktunaxa Kinbasket Treaty Council is in stage four (Agreement in Principle) of a six-stage treaty negotiation process with the Government of Canada and the Province of British Columbia. The territory in the negotiation process includes approximately 70,000 square kilometers in British Columbia.

Ray Warden and nine other members of the Ktunaxa Kinbasket Lands and Resource Agency are responsible for protection of archaeological sites and traditional use areas, and for mitigating impacts on natural resources within the traditional territory. The Lands Agency team works with Ktunaxa citizens with respect to water, land, fish, wildlife and other resource issues and advises treaty negotiators, other governments, industry and the public on the protection and mitigation of impacts on the Nation's cultural and environmental values in the traditional territory.

In April 2004, the Ktunaxa Kinbasket Lands and Resource Agency began developing a Ktunaxa Nation Land Use Plan for the traditional territory. The Land Use Plan strives to protect the Nation's cultural heritage, water, land, fish, wildlife and other resources while providing direction on where and how sustainable resource use and development can take place. The Plan will allow the Ktunaxa people to have a meaningful say in what parts of the territory will be protected and what parts will be used for economic development.

Ktunaxa Kinbasket Stammesrat

Willkommen in der ursprünglichen Heimat des Ktunaxa Volkes. Die Ktunaxa besiedeln seit 12.000 Jahren das Land an den Kooteney Columbia Flüssen und Arrow Seen. Neben dem Land in British Columbia umfasste das traditionelle Gebiet der Ktunaxa Nation auch Teile des heutigen Alberta, Montana, Washington und Idaho.

Die Ktunaxa leben hier seit mehreren tausend Jahren und teilen seit 150 Jahren dieses Land mit Menschen aus der ganzen Welt. Die Columbia Feuchtgebiete sind sehr wichtig für jeden von uns und die Ktunaxa haben eine traditionelle Verpflichtung, dieses Land zu verwalten. In unserer Geschichte sind Mensch und Land tief miteinander verwurzelt. Die Sprache der Ktunaxa ist linguistisch isoliert und mit keiner anderen Sprache weltweit verwandt. Ktunaxa Namen für Sehenswürdig-

keiten und Kulturerbestätten zeugen davon, dass diese Region ein traditionelles Ktunaxa-Territorium ist.

Zur Zeit befindet sich der Ktunaxa Kinbasket Stammesrat in Verhandlungen mit der kanadischen Regierung und der Provinz Britisch Columbia, bei denen es um 70.000 Quadratkilometer Land geht.

Mitglieder der Ktunaxa Kinbasket Land-und Ressourcen-Vertretung sind für den Schutz von archäologischen und traditionellen Stätten sowie für die Minderung von Auswirkungen auf natürliche Ressourcen innerhalb des traditionellen Territoriums verantwortlich. Die Vertretung arbeitet mit der Ktunaxa Bevölkerung insbesondere in den Bereichen Wasser, Land, Fisch, Tierwelt und anderen ressourcenbezogenen Aspekten zusammen und berät Verhandlungspartner, Regierungen, Industriepartner und die Öffentlichkeit.

Im April 2004 hat die Vertretung der Ktunaxa Kinbasket Land und Ressourcen begonnen, einen Flächenutzungsplan für das Gebiet zu erarbeiten, der den Schutz und die nachhaltige Nutzung der Ressourcen beinhaltet.

Ray Warden is Resource Protection Technologist for the Ktunaxa Kinbasket Treaty Council and also an executive board member of the Canadian Columbia River Inter-Tribal Fisheries Commission. Ray Warden is Ktunaxa and resides with his family in the territory of the Ktunaxa Nation. He is a graduate of the Nicola Valley Institute of Technology with dual diplomas in Integrated Resource Management and Fish and Wildlife Management.

Dr Nina Dagbaeva

GRAN, Lake Baikal, Russia

Recognition and Inclusion of Indigenous Values in Use of the Land and Water

Nowadays, as Russia is moving toward market economy and democratic civil society, the main goal of development in the Baikal region is the surmount of social-economic, ecological and structural crises. The main pre-conditions for sustainable development in the region of Baikal are: large territory with preserved natural ecosystems, human potential and economic resources. Natural riches of Siberia are the basis for the solution of its ecological and social problems. Among them a special place is occupied by the ecosystem of Baikal, the deepest lake of the world.

Baikal region is truly called „the gate to Asia“ as the territory where spiritual cultures of East and West are interwoven. Here for many centuries a special culture of friendship of different tribes, peoples, beliefs and traditions has been formed. Still on the shore of Baikal pagan, shaman, Orthodox, Buddhism, and Islam cultures have peacefully coexisted. Russians and Buryats, Evenks and Tofalars worship the spirit of living nature, trying to preserve ancient ecological traditions of indigenous people of the Baikal region.

Ecological traditions and peoples' ethnic culture are that very path which allows a modern person not to be away from nature. The traditions of ecological culture, are realized in its three forms: folk, religious, and secular. The example given in the presentation shows how Buryat people worship the sacred, where belong the earth, the sky, mountains, waters, trees, animals and many more.

The Buryats used to believe that all more or less meaningful elements of the environment - rivers, mountains, water bodies („the places of strength“) - are the consequence of the Earth energy movement. It gives the landscape special qualities. All hills on the surface of the Earth are surrounded by such energy. In connection with this, any building - whether a house or a temple should be oriented correctly in order to be in harmony with the Earth energy of the particular region. That's why in the past, before building a house or a temple, people invited a lama for him to define the right place for a building.

Another belief is, in the opinion of the Buryats, that all landscape sites were inhabited by the gods of the land - „the masters of the land“ - connected with the territorial-kinship cult „obo“ that is still practiced now. The people nowadays still do not perform anti-ecological actions, having a belief that spirits of the Earth will be angry with people who cut the trees, plough the land, pollute the waters and will make them suffer from illnesses and catastrophes. The relations of Man and Environment has been viewed in the interdependent cause and consequence perspective. On the other hand, a very complicated economic situation constantly makes people cut the wood.

Ezhins, as the keepers of the land, keep the people safe and care about their happiness; they are invisible and deprived of individual qualities. They reflect only the abstract meaning of a „master“ and they are considered the gods living in a particular land. Through worshipping

spirits of the land or particular natural objects - rivers, mountains, valleys, a modern man is beginning to have a feeling for the Earth, respect for private property. When a person is on the road, he constantly stops in the places of Ezhins' worship to greet them and to ask them for help and care. Before having a meal one should give a part of it as a sign of respect for local „masters" and spirits of the ancestors. Therefore, the cult of Ezhins, „masters" of the land and the water reflects the Nature's spirit and provides the feeling of constant presence of the spirits. It helps to form the ecological consciousness and behavior of the individual, serves as a basis for ethics - moral self-control of a person's actions from the evil-and-good point of view.

Many traditional values are transmitted from generation to generation. A special place is occupied by unwritten rules - „seerte" (word by word from Buryat - „sinful"), the rules of a person's behavior in the nature. For example, in any Buryat family a child is taught simple rules from the elder - you must not spit or throw the garbage into the fire, you must not throw dirt and garbage into water, or wash the dirty linen in the river, it is forbidden to kill a little bug, etc. First a child follows these rules because of his respect toward the elder (what is considered one of the basic moral values in Buryat society), then - because of some inward fear that this can return to him in the form of a bigger evil.

Culture may change, as well as the social conditions, but moral values that the person should follow are eternal. They are absolute. They do not depend on what is considered the norm in a certain society. It follows that the problem of upbringing is first of all the problem a person's value orientation. Also following these rules, nobody passes by sacred „oboo" places without showing his respect toward „the masters" of the land (tying a colored band on the branch of a tree, leaving a coin or candies).

For preserving nature and man in it with his originality, it is necessary to understand your roots and be proud of what you have reached before. It is very hard to speak about continuous spiritual development of the person if social development is a series of betraying historically formed spirit of the people. Unfortunately, we are now on such a level of development with few traditions observed by the young people with all their heart. It seems that the tendency of nihilism is kept concerning the understanding of different generations and social groups. The continuity of ecological education must be very closely connected with the continuity of the Buryat people in history: if a break in the cultural development happens, ecocultural traditions cannot become the important factor for the formation of a nature-oriented person.

Erkennen und Einbeziehen einheimischer Werte in die Nutzung von Land und Wasser

In der heutigen Zeit, in der sich Russland auf die Marktwirtschaft und die demokratische Zivilgesellschaft zu bewegt, ist das Hauptziel der Baikal Region, die sozial-ökonomische, ökologische und strukturelle Krise zu überwinden. Für eine nachhaltige Entwicklung sind ein großes Gebiet mit einem intakten, natürlichen Ökosystem, menschliches Potenzial und ökonomische Ressourcen unabdingbar.

In der Baikal Region, die oft als das „Tor Asiens" bezeichnet wird, leben Menschen unterschiedlicher Traditionen und Kulturen zusammen. Ökologische Traditionen und ethnische Kulturen helfen, dass sich der moderne Mensch nicht zu weit von der Natur entfernt. Die Buryats glaubten daran, dass alle natürlichen Elemente wie Flüsse, Berge und Wasser, eine Folge der Erdenergie sind und dass das Land von Göttern bewohnt wird, was mit dem noch heute ausgeübten, territorialen Verwandtschaftskult „Obo" in Verbindung steht. Ezhins, die unsichtbaren, nicht-menschlichen Hüter des Landes, beschützen die Menschen und kümmern sich um ihr Glück. Durch Götterverehrungen erlangen die Menschen ein Gefühl für die Erde und für das Respektieren von privatem Besitz. Viele traditionelle Werte werden von Generation zu Generation weitergegeben. Moralische Werte sind im Gegensatz zu sozialen oder kulturellen ewig gültig und absolut.

Menschen müssen ihre Wurzeln verstehen und stolz auf ihre bisherigen Errungenschaften sein, um die Natur und den Mensch in seiner Originalität zu erhalten. Leider befinden wir uns derzeit auf einer Entwicklungsstufe, in der die junge Generation nur wenige Traditionen mit ganzem Herzen übernimmt. Kontinuierliche Umweltbildung muss eng mit der Kontinuität der Buryaten verbunden sein: wenn es einen Bruch in der kulturellen Entwicklung gibt, dann sind ökologisch-kulturelle Traditionen kein wichtiger Faktor mehr bei der Entwicklung eines naturorientierten Menschen.

Dr Nina Dagbaeva is the director of Baikal Information Center „GRAN". This ecological public organization is doing a great job with the organizations and funds at regional and international level. Together, they are working on the realization of ecological projects aimed at the sustainable development in Baikal region. Nina Dagbaeva is lecturer of the Chair of Pedagogy and the Dean of the Department of the Foreign Languages. She works on the theoretical problems of environmental education, closely co-operates with schools, mass media, local authorities and public organizations.

Group 4 Implementation of Corporate Social Responsibility

Dr Andrew Venter

CEO, Wildlands Conservation Trust, South Africa

The presentation gave a brief overview of the current Corporate Responsibility thinking amongst Corporate South Africa, the strategies developed by the Wildlands Conservation Trust to raise corporate funds, the relative success and failure of these strategies and the value added to the Trust's efforts through its membership in the Living Lakes network. Specific case study reference was presented using experience gained working with Unilever, DaimlerChrysler, Lufthansa and SAPPI.

Die Umsetzung korporativer, sozialer Verantwortung

Die Präsentation gab eine kurze Übersicht über das derzeitige unternehmerische Verantwortungsdenken in Südafrika. Außerdem wurden Finanzierungsstrategien des Wildlands Conservation Trust und der relative Erfolg und Mißerfolg dieser Möglichkeiten erörtert. Ein weiterer Punkt war der Bedeutungszuwachs für den Wildlands Trust durch die Mitgliedschaft im Living Lakes-Netzwerk. Spezielle Fallstudien wurden aufgezeigt, die sich auf Erfahrungen mit Unilever, DaimlerChrylser, Lufthansa und SAPPI stützen.

Dr Andrew Karl Venter is the Chief Executive Officer of the Wildlands Coservation Trust. He manages a wide range of conservation initiatives including focal species research, conservation land consolidation, responsible tourism, sustainable livelihood and environmental education projects. Within the context of these projects, he is responsible for developing and implementing a corporate fund raising strategy which directly tracks corporate social responsibility strategy. He has successfully secured funds from Unilever, DaimlerChrysler, Lufthansa, AVIS, South African Breweries, INVESTEC Bank, SAPPI forests and various other corporates.

Ramsar Announcement – Columbia Wetlands to Become a Ramsar Site

The Columbia Wetlands, located in southeastern BC, are of international significance due to their importance as stopover habitat for migratory waterfowl and other birds. As one of the largest intact wetland ecosystems in western North America, they provide vital waterfowl staging habitat along the Pacific Flyway. These wetlands also provide excellent habitat for a variety of obligate riparian species and may be important for several federally listed species at risk. The Convention on Wetlands of International Importance, signed in Ramsar, Iran, in 1971, is an intergovernmental treaty that provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources. It is the only global environmental treaty that deals with a particular ecosystem. There are presently 141 Contracting Parties to the Convention, with 1,387 wetland sites, totaling 122.7 million hectares.

The Convention on Wetlands has adopted the following vision for the List of Wetlands of International Importance: To develop and maintain an international network of wetlands which are important for the conservation of global biological diversity and for sustaining human life through the ecological and hydrological functions they perform.

„The opportunity to meet with global wetlands experts and practitioners, in the Columbia watershed was a privilege. The engagement of East Kootenay communities and First Nations provided a good example of governance and cooperation within the Columbia watershed."

Jennifer Moore, Water Policy and Director General, Water Policy and Coordination Directorate, Environmental Conservation Service, Environment Canada, Ottowa, Ontario, Canada.

The Convention on Wetlands came into force for Canada on 15th May 1981. Canada presently has 36 sites designated as Wetlands of International Importance, with a surface area of 13,051.501 hectares.


Titicaca, Bolivia and Peru


Uluabat, Turkey


Võrtsjärv, Estonia


St Lucia, South Africa

One of the hosts of this conference, the East Kootenay Environmental Society submitted the formal application to Environment Canada's Canadian Wildlife Service (CWS) to designate the Columbia Valley Wetlands as a Wetland of International Importance under the Ramsar Convention. This international forum provides both local stakeholders and Canada with an ideal opportunity to demonstrate to the world that Canada is committed to the protection of one of our country's most important natural legacies.

The federal government is proud to be part of this initiative. By working together with our partners in the environmental community we are ensuring that the unique biodiversity of Canada is conserved for future generations to enjoy.

The Columbia Wetlands have now been recognized for their international significance. The 180-kilometer Columbia Wetlands represent a remnant ecosystem of once vast interior wetlands. The interwoven river channels and wetlands are a primary source of fresh water for the Pacific Northwest and provide critical nesting and breeding habitat for migratory birds whose travels span two continents.

We will continue to work and collaborate with partners, from local governments and First Nations to conservation groups, to ensure that important ecosystems such as this are conserved.

Columbia Feuchtgebiete sollen RAMSAR Gebiet werden

Als ein Vertreter des Umweltministeriums freue ich mich Ihnen ankündigen zu dürfen, dass Kanada schon bald einen neuen Ramsar Standort haben wird - die Columbia Feuchtgebiete.

Die Columbia Feuchtgebiete, die sich im Südosten von British Columbia befinden, sind das größte intakte Ökosystem in Nordamerika entlang der pazifischen Vogelflugroute. Sie sind aufgrund ihres Angebots von Winterhabitaten für Wasserzugvögel und andere Vogelarten von internationaler Bedeutung. Dies gilt auch für bedrohte Arten. Das Abkommen zum Schutz von Feuchtgebieten von internationaler Bedeutung wurde im Jahr 1971 in Ramsar im Iran unterzeichnet. Es ist ein Regierungsabkommen, welches den Rahmen für nationale Handlungen und internationale Kooperationen im Bezug auf den Schutz und weisen Umgang mit Feuchtgebieten festlegt. Es ist das einzige globale Umweltabkommen, das auf bestimmten Ökosysteme abzielt. Zur Zeit gibt es 141 Vertragspartner, 1.387 Feuchtgebiete mit einer Gesamtfläche von insgesamt 122,7 Millionen Hektar.

Erreicht werden sollen Entwicklung und Erhaltung eines internationalen Netzwerks von Feuchtgebieten, die für den Schutz der globalen biologischen Diversität und den Erhalt des menschlichen Lebens durch ihre ökologischen und hydrologischen Funktionen, die sie ausfüllen, von wesentlicher Bedeutung sind. Das Abkommen trat In Kanada am 15. Mai 1981 in Kraft und bezieht sich mittlerweile auf 36 Standorte mit einer Fläche von 13,051.501 Hektar.

Den Antrag zur Einbindung der Columbia Feuchtgebiete in die Ramsar Convention übergab East Kootenay Environmental Society dem Environment Canadian Wildlife Service. Dieses internationale Forum bietet sowohl lokalen Interessengemeinschaften als auch dem Land die Möglichkeit, der Welt zu zeigen, dass sich Kanada für den Schutz seiner ökologischen Hinterlassenschaft einsetzt. Die Bundesregierung erfüllt diese Intitiative mit Stolz. Durch die Zusammenarbeit mit unseren Partnern können wir erreichen, dass die einzigartige Natur für zukünftige Generationen erhalten bleibt.

Die Columbia Feuchtgebiete wurden nun für ihre internationale Bedeutung ausgezeichnet. Das sich 180 km erstreckende Feuchtgebiet ist das Überbleibsel eines einstmalig riesigen Gebietes. Die verwobenen Flusskanäle und Feuchtgebiete sind eine Süßwasserquelle für den pazifischen Norden und sind somit eine wertvolle Grundlage für zahlreiche Vogelarten.

Wir werden auch weiterhin mit unseren Partnern, von lokalen Regierungen bis hin zu den First Nations, erfolgreich zusammenarbeiten, um dieses wichtige Ökosystem zu erhalten.

Keynote Speaker of the Closing Ceremonies

Peter Robinson

Mountain Equipment Coop, Vancouver, Canada

Can Conservation and the Recreational Industry coexist?

When I asked Anne Levesque why I was invited to speak at the conference- she told me the goal of this session was to pull the two central themes of the conference together; recreation and corporate social responsibility (CSR). Given that Mountain Equipment Coop (MEC) exists in both these domains, Anne suggested I might be able to address the topic „Can Conservation and the Recreational Industry Coexist? You'll note, however, that there is an inherent contradiction in MEC being asked to speak to this topic. The coop sells products for people to get outdoors. The success of the business depends on people getting „out there?", yet the very act of getting „out there" has an impact on the wilderness we're trying to protect. Nevertheless, MEC has a reputation for being a leader in CSR, and I hope that MEC's business model can serve as an illustration for how the recreation industry can bridge the themes of recreation and conservation.

Conservation

Conservation is traditionally defined as „the care, protection and management of the natural environment", but the problem with this definition is that it doesn't answer the question „to what end?" As a result, I prefer to define conservation the same way we define sustainability - „the next generation is left with a natural environment that is at least as healthy, diverse and productive as the one we enjoy." This allows us to be stewards, but also contains a vision for why we conserve.

Outdoor Recreation

Outdoor Recreation as for outdoor recreation, I'm going to make the important distinction between „self-propelled" and „mechanized". But let's start by trying to understand what's happening with outdoor recreation in North America. I'll begin with recent reports from the Outdoor Industry Association (a U.S. based, non-profit organization). According to recent statistics, roughly 60% of the general population in the US and Canada participates in at least one outdoor activity - such as hiking, biking, paddling and skiing. Hiking, cycling on paved roads and camping are the most popular and the most accessible outdoor activities by numbers; but camping and backpacking are among the only activities that have shown an absolute decline over the past 4 years (camping is down 14%; backpacking down 6.4%). Activities with the highest growth rates are all related to those that can be practiced in a single day (snowshoeing + 79%, rafting +26%, mountain biking +22%, Nordic skiing +38%, trail running +26%, climbing +17%). When asked for intent to practice an activity over the next 2 years - the indications were: further increases in off-road cycling, paddling (canoeing, rafting and kayaking), downhill skiing, snowboarding, climbing - all day-use oriented activities - and continued decreases in paved road cycling, hiking, and camping. Park attendance, both overnight and day use, peaked in 1998. There has been a quite noticeable fall off since then, while camping has fallen off in every Park district around the province. At the same time, day use has remained relatively stable in the Lower Mainland District (the urban areas around Vancouver).

What's happening at MEC? At MEC we measure activities through our sales. We have witnessed similar trends - declines in hiking and camping sales, with concurrent increases in specialty sports (climbing, paddling, cycling, and Nordic skiing). As an example, sales of 20 to 40 liter day packs have increased while 60 to 90 liter expedition packs have dropped precipitously.

"I was particularly impressed with the way the conference brought together international, regional, and local perspectives. The ability to both learn and apply lessons is invaluable." Peter Robinson, CEO, Mountain Equipment Coop, Vancouver, British Columbia, Canada.

What Happens with Lodges & Ski Hills?

Destination resorts are growing, primarily because of real estate sales around the resort complex and the trend to year-round use (i.e., golf at ski resorts, or „winter storm“ packages for ocean-side resorts).

What Does This Mean? The population demographic in Canada is diamond shaped - there is a large bulge in the middle at the 40 to 44 year age cohort. What we're seeing is increased day-use for the older demographics (i.e., those above the middle) based largely on changes in life-style and getting older (light activities, not too strenuous - day hiking, bird watching, canoeing). At the same time, we're also witnessing a different form of day-use participation for those in the younger demographics (extreme or „ultra“ sports - i.e., climbing, bouldering, white water kayaking, trail running, mountain biking, and snowboarding). The most significant trend in the industry, for all ages, is therefore the move to shorter trips - day-use, front country, lightly-equipped, back in your own bed for the evening and breakfast at home with good coffee. The design of MEC products reflects this trend - light & fast apparel and equipment, fewer layers, trail runners and light hiking boots, lower volume sea kayaks, and cycling products.

What is the Consequence of this Trend to Day-Use?

For North Americans this is a radical shift. Urban front country (interface) areas will receive increased use, while car camping will continue to decline as an activity. Lodges and hotels near recreation areas will see more business (they become the equivalent of small urban areas with a home at the center - particularly high-end lodges on the coast, on lakes, or in the mountains) where you get outdoors during the day, but sleep in your own bed at night. Day-use activities also correlate with driving time to the trail-head, ski-hill, or beach.

The problem with the shift to day-use is that it is happening concurrent with the other significant trend that has occurred over the last 30 years - namely the trend towards increased accessibility. My point is that increased accessibility and the change towards day-use are essentially in a closed, positive feedback loop that is pushing the entire industry forward. No place is now inaccessible. Wild places are open for development.

We didn't see seadoos, heli-hiking, zodiac whale watching, four-wheel ATV off-road buggies, golf courses in ski areas, or adventure racing 30 years ago. Entire communities are „re-tooling“ their economies from a resource base to tourism. There should therefore be no surprise that the period also sees the rise of the „Adventure Business“ or „Eco-Tourism.“ For B.C. alone, the wilderness tourism industry's annual value to the provincial economy is $1.5 billion - and growing at a rate of 11% per year (source - BC Wilderness Tourism Association). Examples include whale watching, which has annual sales of $35 to $40 million in British Columbia; or the „heli-recreation“ industry, where one company operating in Western Canada makes over $50 million of business a year flying people into mountains in both summer and winter.

But while these businesses continue to grow and prosper, there are consequences. At the same time that whale watching has exploded as an activity, the killer whale population in southern BC coastal waters has dropped 20% in seven years. At the same time that helicopter access to mountains has increased, biodiversity in woodlands surrounding ski areas has dropped significantly as a consequence of year-round disturbances. Snowmaking alone creates or acerbates drought conditions in mountain streams, as does irrigating adjacent golf courses. Clearly the industry is not capable of achieving the conservation definition we spoke of earlier.

Could It Have Turned Out Differently?

I think we've gone down the wrong path, and it will be very difficult to change direction. Past investment dictates future use.

A different path would have looked like this:

- we would have started at the urban level; more bike paths, walking trails, community centers, and physical education programs in schools;
- we would have emphasized recreation in the interface zone; more intensive day-use area parks for paddling, hiking, mountain biking, swimming, skiing, snowshoeing;
- if we had made this possible; we would have mitigated against the accessibility to increasingly rarer tracts of wild lands in the process, the interface areas would receive most of the development; for example, BC Parks would have placed more resources in lower mainland parks (facilities, education programs) instead of creating access and facilities in remote areas.

The Question Arises: Can Conservation and the Recreational Industry Coexist?

I'm not going to be hypocritical - my answer is „yes“. However the real question should be „under what conditions?“

Recreational Industry

If the industry can't move away from the trend to greater mechanization and greater accessibility (which I would suggest is virtually impossible now - remember that past investment is a sunk cost), then it should at least find a way to compensate for the impact it's having on the recreational areas. This would mean putting resources into conservation activities, land acquisitions, education programs and practices that reduce the impact on the environment.

Recreational User

We should focus on „self-propelled" or „human powered" recreation ... this essentially self-regulates how many people get to the „end of the trail." There is also a need for people to be more active from a health perspective - North American obesity rates are dangerously high - hence the need for facilities and activities in urban areas and interface zones. And with all respect to cars, ATV's, gondolas and helicopters - mechanized access is tourism, not recreation!

Governments

Governments should resist the urge to treat recreational lands like they were commodities (i.e.: properties that can be sold or leased), and instead adopt the concept of minimizing the impact of human activity on back-country and sensitive marine areas. They should instead concentrate on front country and urban interface zones.

Schools will be a key component to developing a new ethos; while we should treat recreation as a component of the health system (the impact of obesity on human populations is becoming quite serious).

Conclusion

I'm not naïve, this is not a new argument - changing our view about seadoo's, atv's, helicopters has been a constant refrain over the last few decades. But remember that there have been fundamental changes to patterns of recreation and access.

Können Naturschutz und Erholungsindustrie nebeneinander existieren?

Naturschutz wird traditionell als Pflege, Schutz und Management der Natur definiert, wobei jedoch nicht auf das zu erwartende Ziel eingegangen wird. Aus diesem Grund wird eine an den Begriff Nachhaltigkeit angelehnte Definition verwendet, nach der „der nächsten Generation eine Umwelt hinterlassen werden soll, die mindestens genauso gesund, vielfältig und produktiv ist wie die, die wir genießen". Im Bereich Freizeitaktivitäten in den Nationalparks in Britisch Columbia konnten die höchsten Besucherzahlen im Jahr 1998 verzeichnet werden. Seitdem ist die Tendenz rückläufig. Damit verbunden ist das Problem von Kurzzeiturlauben und Nachfragen nach Zugänglichkeit. Kein Ort in der heutigen Welt ist mehr unzugänglich. Aktivitäten wie Heli-Skiing, Walbeobachtungen oder Golfen in Ski-Gebieten gab es vor 30 Jahren noch nicht. Es stellt sich deshalb die Frage, ob wir einen anderen Weg hätten einschlagen können, und ob Umweltschutz und Freizeitaktivitäten nebeneinander existieren können. Wenn jetzt nicht gehandelt wird, dann kann auch der nächsten Generation keine Umwelt hinterlassen werden, die mindestens genauso gesund, vielfältig und produktiv ist wie die, in der wir leben.

Peter Robinson is the Chief Executive Officer of Mountain Equipment Coop, bringing over 30 years of professional experience to Canada's largest outdoor equipment retailer. Peter Robinson began his career working as a park ranger in wilderness areas throughout British Columbia. He became CEO of Mountain Equipment Coop in May 2000, prior to which he was CEO of BC Housing, a provincial crown corporation. He also does ongoing humanitarian work, including monitoring prison conditions with the International Red Cross in Rwanda 1998 and leading a volunteer team that currently monitors detained asylum seekers in Canada. Peter Robinson holds a Master of Arts in Conflict Analysis and Management, a Bachelor of Arts in Geography, as well as diplomas in Community Economic Development and Fish & Wildlife Management. An outdoors enthusiast, Peter spends as much time as he can in the Coast Mountains, or kayaking among the Gulf Islands.

Presentation of the „Best Conservation Practice Award“

„The conference was certainly very international in flavour (both participants and presentations). This is a wonderfull opportunity to highlight the beauty of the wilderness in the East Kootenays and also to hear about how other countries have dealt with similar environmental issues. As usual, the field trips were the most enjoyable part of the week.“
Eva Cheung Robinson, Program Director, Vancouver Foundation, British Columbia, Canada.

Since 1998 GNF is awarding the „Living Lakes Best Conservation Practice Award“ to persons who have remarkably contributed to nature conservation and environmental protection. This year two outstanding persons from the Columbia River Wetlands region have been awarded by Gila Altmann, the former German State Secretary for the Environment, during a ceremony at the 9th Living Lakes Conference in Canada.

Bob Campsall has served as a councilor on Invermere council for the past nine years. He has dedicated himself over 10 years to fighting against the proposed mega resort in Jumbo Creek that will displace wildlife and public traditional recreation. He has been an active advocate for non-motorized recreation on the Columbia River and wetlands.

Barry Whiting was awarded for raising awareness and educating the public about the ecological treasure, the Columbia wetlands. He is a naturalist, photographer, canoer and kayaker and has dedicated himself to the protection of the Columbia Wetlands and is the founder of the group „Friends of the Columbia Wetland“.

Verleihung des „Best Conservation Practice Award“

Seit 1998 zeichnet der Global Nature Fund mit dem „Living Lakes Best Conservation Practice Award“ Persönlichkeiten aus, die sich im Besonderen in den Bereichen Natur- und Umweltschutz verdient gemacht haben. In diesem Jahr wurde der GNF-Preis an zwei herausragende Naturschützer von der ehemaligen Staatssekretärin im Bundesumweltministerium Gila Altmann während einer Zeremonie im Rahmen der 9. Living Lakes Konferenz in Kanada überreicht.

Der Preisträger Bob Campsell ist seit neun Jahren Ratsmitglied von Invermere und kämpft seit mehr als 10 Jahren gegen den geplanten Bau des Jumbo Creek Ski Resorts und ist ein Verfechter des nicht-motorisierten Freizeitsportes auf dem Columbia Fluss.

Barry Whiting erhielt den GNF-Preis für seine zahlreichen Umweltbildungsaktivitäten für Kinder und Erwachsene. Der Naturforscher, Fotograf, Kanu- und Kajakfahrer, hat sich seit vielen Jahren dem Schutz der Columbia River Feuchtgebiete verschrieben und gründete die „Freunde der Columbia Feuchtgebiete“.

Field trips showcased the ecological and cultural values of the Columbia Wetlands Region.

Excursions

The last day of the conference, October 1, 2004 delegates could choose to participate in one of the three tours offered. These tours offered a greater appreciation of the conservation initiatives of the region.

Field Trip: Opportunity to enhale the Canadian Intermountain Region during guided fieldtrips.

Why is a Forestry Giant Hanging out with Tree-huggers?

Tembec, in collaboration with the World Wildlife Fund, has made a public commitment to seek Forest Stewardship Council certification on all forest lands managed by the company. The company is working with the East Kootenay Environmental Society to design innovative forestry practices to ensure water and biodiversity protection in the Upper Columbia Valley. During the field trip delegates visited sites that demonstrate critical riparian/forest interface and, ungulate winter range. The tour explored the challenges and benefits of industry working in collaboration NGO's to determine best management practices.

Industrial Tourism and Wilderness: How can they Coexist in the Columbia Valley?

When does tourism destroy tourism? This is a question that was discussed en route while field trip participants enjoyed the Columbia Valley, and the Purcell Mountains. The filed trip presented an example of an area that has multiple backcountry tourism operations such as a ski resort, an off road vehicle operator, a rafting company, a guide and outfitter, a heli-ski operator, as well as past mining operations and proposed mega resort development. The tour provided the occasion for a panel of backcountry operators to initiate thought-provoking discussions concerning the role and responsibilities of the wilderness recreation and tourism industries and how they might provide better stewardship to ensure a future for wildlife, wilderness and sustainable tourism.

Fires and Ecosystems in the Columbia Valley and the Canadian Rocky Mountains

Hosted by the Lake Louise, Yoho, Kootenay National Parks, the East Kootenay Conservation Program and the Bighorn in our Backyard Project, this field trip enabled participants to discover the ecological importance of fire on the landscape and how communities are preparing fire interface strategies with nature and human safety in mind. Participants learned about endangered grasslands, the plight of the local bighorn sheep and acquainted themselves with the work of the community, provincial government and Parks Canada in protecting grasslands and bighorn sheep habitat and montane ecosystems.

Exkursionen

Konferenzteilnehmer hatten die Möglichkeit, ökologische und kulturelle Werte sowie Umweltschutzinitiativen kennen zu lernen. Am letzten Konferenztag, dem 01. Oktober 2004, konnten die Teilnehmer zwischen den folgenden drei Exkursionen in die Umgebung wählen. Jede der Touren ermöglichte weitere tiefe Einblicke/Erfahrungen der aktiven Naturschutzinitiativen.

Warum setzt sich ein Forstwirtschaftsriese mit Baumschützern zusammen?

Gefördert von den Tembec Industries Inc., erfuhren die Teilnehmer Einzelheiten über die Herausforderungen und Vorteile der Zusammenarbeit zwischen Vertretern der Holzindustrie und einer Umweltorganisation zur gemeinsamen Erarbeitung von Managementmethoden. Tembec Industries Inc., eine holzverarbeitende Firma. mit großem Einfluss im Südosten von British Columbia, hat sich in Zusammenarbeit mit dem WWF dazu verpflichtet, auf allen von Tembec bewirtschafteten Flächen eine Zertifizierung nach den Richtlinien des Forest Stewardship Council (FSC) anzustreben. Gemeinsam mit der East Kootenay Environmental Society werden nun Waldschutzgebiete und innovative Bewirtschaftungsmethoden erarbeitet, die sich an den strengen Auflagen des FSC für die British Columbia Region orientieren.

Wildnis, Tier- und Pflanzenwelt und Tourismus: Wie können diese Faktoren nebeneinander bestehen?

Der Fluss Toby, einer der wichtigsten Nebenflüsse der Columbia Feuchtgebiete, war das Ziel der Exkursion

der East Kootenay Environmental Society. Das Gebiet ist ein Beispiel für Destinationen mit einem äußerst umfangreichen Tourismusangebot, wie beispielsweise Skifahren, Geländefahrzeugverleih, Rafting-Angebote und Heli-Ski-Anbieter gibt. Geplant ist die Entwicklung zu einem „Mega-Resort". Während des Mittagsessens wurden Erfahrungen und Meinungen bezüglich der Rolle und Verantwortung der Erholungs- und Tourismusindustrie für eine Erhaltung der natürlichen Ressourcen und einen nachhaltigen Tourismus erörtert.

Brände und Ökosysteme im Columbia Valley und den kanadischen Rocky Mountains

Bei dieser Exkursion stand die Aufklärung über die Bedeutung von Bränden in der Natur und die Methoden, die von Gemeinden zum koordinierten Einsatz von Bränden genutzt werden, im Vordergrund.

Veranstalter waren „Lake Louise", der Yoho National Park, Kootenay National Parks, das „East Kootenay Conservation Program" und das „Bighorn in our Backyard Project" (BIOB, ein gemeinschaftliches, umweltbasiertes Bildungs-, Forschungs- und Managementprogramm).

Die Teilnehmer bekamen Informationen zu den bedrohten Graslandschaften, der Situation des Großhorn Schafes und dem BIOB Programm. Darüber hinaus wurden gemeinsam mit Experten und Feuerwehrkräften ehemalige Brandflächen im Kootenay Nationalpark besucht.

Larry Halverson, Canadian Intermountain Joint Venture.

Larry Halverson

CIJV Board Member, Lake Louise, Yoho and Kootenay National Parks, Radium Hot Springs, British Columbia, Canada

Bird species in British Columbia and Alberta are getting a helping hand from a diverse group of people. Landowners, conservation organizations, governments, First Nations, universities and industry groups from forestry, mining, hydro and the cattle ranching sectors are working together for the birds through the Canadian Intermountain Joint Venture. Aimed at bird species in the south and central interior of BC and the Rocky Mountains of Alberta, the Joint Venture is taking a landscape approach to its efforts - addressing the stresses on the habitats that support birds and other wildlife. Their vision is of a landscape that supports healthy populations of birds, maintains biodiversity and fosters sustainable resource use for communities within the region. This kind of stewardship is a keystone of the newly proclaimed Species at Risk Act, and was recently endorsed by the North American Bird Conservation Initiative.

Outlook

World Lake Conference 2005 in Nairobi: „Management of Lake Basins in View of Their Sustainable Use – Global Experiences and African Issues"

Africa is one of the countries worldwide encountering a range of severe socio-environmental impacts such as the loss of biodiversity, over-fishing, eutrophication and over-abstraction of water. They result from the ubiquitously occurring changes such as rapid population growth, urbanization, industrialization, mining development, growth of irrigated agriculture, and impacts of climate change. Improvement of the prevailing conditions is based on a comprehensive, adequate management of lake basins for their sustainable use both at a global as well as regional level. This vital topic will be the focus of the 11th International Conference on the Conservation and Management of Lakes in Nairobi (Kenya) from 31st October until the 4th November 2005. The conference will be organized by the International Lake Environment Committee (ILEC, http://www.ilec.or.jp) and the Ministry of Water Resources Management and Development.

Ausblick

Weltseenkonferenz 2005 in Nairobi: Das Management von Seen für eine nachhaltige Nutzung – Globale Erfahrungen und afrikanische Probleme

Afrika ist eines der Länder, die mit einer Reihe von ernsthaften ökologischen Problemen, wie dem Verlust von Biodiversität, Überfischung, Eutrophierung und Wasserübernutzung konfrontiert sind, welche soziale und wirtschaftliche Konsequenzen haben. Die Probleme resultieren aus allgegenwärtigen Veränderungen, darunter Bevölkerungszuwachs, Verstädterung, Industrialisierung, Bergbauentwicklung, Zunahme von Bewässerungsmaßnahmen und Klimawandel. Die Möglichkeiten, die vorherrschenden Bedingungen zu verbessern, basieren auf einem umfassenden und angepassten Management von Seen zur nachhaltigen Nutzung sowohl auf globaler als auch regionaler Ebene. Dies ist Ausgangspunkt der 11. Konferenz zum Schutz und Management von Seen in Nairobi, Kenia, vom 31. Oktober bis zum 4. November 2005. Die Veranstaltung wird von dem International Lake Environment Committee (ILEC, http://www.ilec.or.jp) und dem Ministerium für Wassermanagement und -entwicklung organisiert.

„Sustainable Development of Densely Populated Lake Regions“ - 10th Living Lakes Conference, 15 to 19 May 2005 in the Philippines

The venue of the conference is located close to the most fascinating crate lakes of Taal volcano. The Taal Lake is situated on the main island of the Philippines, Luzon, not far from the largest lake of the Philippines, Laguna de Bay. Accounting for about 949 km^2, Laguna de Bay is connected with Manila Bay by the Pasig river. Both lakes represent vital habitats for a diverse wildlife, among which some rare ad endangered species such as the Philippines eagle owl and the cockatoo as well as the worldwide smallest monkey, the Philippines tarsier. Conference participants will be introduced to this exotic and unique natural and cultural treasures during two guided fieldtrips.

Lakes are, due to the possibilities for transportation and source of water and food provision, favorite settlement areas. Simultaneously they are, for the same reason, fragile and endangered ecosystems. Are humans responsible for the destruction of such habitats? Such questions and the results of effective environmental conservation in densely populated areas are the main focus of the conference. The invited experts and members of the Living Lakes Network will elucidate and discuss the topics of concern using example studies. Nutrient enrichment, pollution and settlement planning - the complex uses of land and water resources requires adequate solutions.

The conference addresses institutions and organizations, which are engaged in the conservation of lakes and development of lake regions. Stakeholders are communal and businesses representatives as much as the public audience.

The 10th Living Lakes Conference will be organized by the GNF and three Philippines partner organizations. Amy Morado Lecciones, Director of the Society of Conservation of Philippines Wetlands, emphasized in the Philippines newspaper „Philippines Daily Inquirer“, the significance such a visit of numerous international guests from over 30 countries has for the conservation and environmental protection within the insular state. The conference program can be downloaded: www.globalnature.org/LLK. Participants wishing to join will receive an early registration discount for registration before March 1st 2005.

Schutz dicht besiedelter Seenregion ist zentrales Thema der 10. internationalen Living Lakes-Konferenz auf den Philippinen

Die 10. Jahreskonferenz von Living Lakes - des weltweiten Netzwerks von Seen und Feuchtgebieten - wird vom 15. bis 19. Mai 2005 auf den Philippinen stattfinden. Der Veranstaltungsort der fünftägigen Konferenz liegt direkt am faszinierenden Kratersee Taal, berühmt durch den kleinsten aktiven Vulkan der Welt. Der Taal-See liegt auf der Hauptinsel Luzon, nicht weit entfernt vom größten See der Philippinen, der Laguna de Bay. Der 949 km^2 große Inlandsee Laguna de Ba'i ist durch den Pasig Fluss mit der Meeresbucht der Stadt Manila verbunden. Beide Seen sind Lebensraum für eine Vielzahl von Tieren und Pflanzen, darunter viele seltene und bedrohte tropische Arten wie der philippinische Uhu und der Kakadu. Hier lebt auch die vom Aussterben bedrohte kleinste Affenart der Welt, der philippinische Koboldmaki. Teilnehmer können die exotischen Natur- und Kulturschätze an beiden Seen auf der im Rahmen der Konferenz angebotenen zweitägigen Fachexkursion kennen lernen.

Seen sind für Menschen attraktive Siedlungsräume, da sie Transportmöglichkeiten, Wasser und Nahrungsgrundlagen bieten. Das macht sie aber gleichzeitig auch zu den am stärksten bedrohten Lebensräumen

der Erde. Zerstört der Mensch, was er liebt? Die Beantwortung dieser Frage und das Aufzeigen der Tatsache, dass effektiver Natur- und Umweltschutz auch in dicht besiedelten Regionen möglich und dringend erforderlich ist, stehen im Mittelpunkt der Konferenz. Experten und Living Lakes Mitglieder stellen konkrete Fallbeispiele vor und tauschen Erfahrungen in Diskussionsforen aus. Nährstoffanreicherung, Abfallproblematik und Siedlungsverbauung - die komplexen Nutzungen vorhandener Land- und Wasserressourcen erfordern adäquate Lösungen.

Die Konferenz richtet sich an Institutionen und Organisationen, die im Bereich Schutz und Entwicklung in Seenregionen tätig sind, an Sachverständige aus Gemeinden und von Unternehmen und natürlich an die interessierte Öffentlichkeit.

Die 10. Living Lakes-Konferenz wird vom GNF in Zusammenarbeit mit drei philippinischen Partnerorganisationen organisiert. Amy Morado Lecciones, Direktorin Gesellschaft für den Schutz der philippinischen Feuchtgebiete (Society for Conservation of Philippine Wetlands), unterstrich in der philippinischen Zeitung „Philippines Daily Inquirer“ die Bedeutung, die der Besuch so vieler internationaler Gäste aus über 30 verschiedenen Ländern für den Natur- und Umweltschutz im Inselstaat haben wird. Das Programm der diesjährigen Konferenz können Sie von der Internetseite des GNF herunterladen: www.globalnature.org/LLK. Teilnehmer, die sich bis zum 1. März 2005 anmelden, erhalten einen Frühbucherrabatt.

The 10th Living Lakes Conference will take place at the Laguna de Bay, Philippines.

Living Lakes Partners

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