

the transition zone are no restrictions. For the entrepreneurs it is profitable to attract visitors by the nice nature near the villages, huts or hotels; it is some kind of a compromise between them and nature protection. For the staff of the national park and Biosphere Reserve these multiple designations are a good argument in many ways for showing the uniqueness and value of this place.

### **3. PARTICIPATION AND PUBLIC RELATIONS IN BIOSPHERE RESERVES**

#### **PLENARY PRESENTATION ON NORTH VIDZEME BIOSPHERE RESERVE, LATVIA, BY ANDRIS URTANS**

North Vidzeme Biosphere Reserve (NVBR) is located on the edge of the Republic of Latvia and represents a majority of features characteristic for the marginal areas throughout the rural areas of Europe – slow progress in rural social economics and supportive services, ageing and negative population statistics. According to official statistics (2003), 56% of the NVBR's population was of working age, 23% was retired, and 21% was of school age or younger. The average monthly salary in NVBR is approximately 120 LVL (170 euro). Approximately 15% of the NVBR workforce is unemployed. More than one half of the people work in the private sector, mostly in farming, forestry and retail. Only about 7% of NVBR residents have post-secondary education. Nearly 20% of households have more than five people.

North Vidzeme countryside now represents a phenomenon where features of different historical epochs exist side by side, which are best seen in land property and landscape structure, farming technologies, architecture and customs of the people. Social and economical conditions are changing and many local people need to find a practical justification for their staying there. At the same time farmers still are practically responsible for safeguarding landscape and nature diversity in more than 2/3 of the NVBR area with rather minor State assistance.

Thus to reach the goals set by the Biosphere Reserve concept, Administration of NVBR as a state institution must act as promoter, mediator and educator, at the same time representing State Environmental policy to the local people. It must be done practically. And in our conditions it is possible only by being among local people in their everyday life. To understand them and to be understood by them. And give them facts proving belief that the Biosphere Reserve is supportive and gives local people additional

advantages, and not contrary. It is a long way. We already have a long way behind and our experience gives us confidence in opportunities. Among those we count on a revival of community-based awareness, co-operation and knowledge. Some of those opportunities have been eroding during the last decades.

### **PARTICIPATION THROUGH SPREADING KNOWLEDGE AND RAISING AWARENESS**

BR Administration has developed the Environmental Library which is free of charge and is one of the biggest of its kind in the Region. It is the technical basis for the future development of a Nature/Environmental Centre. The NVBR Environmental Library contains materials related to environmental, science and natural history topics, elaborated by the NVBR experts. NVBR has become a local centre for nature guide training. Annually there are more than 100 excursions guided by NVBR nature guides and experts themselves. Internationally NVBR specialists as experts are involved in the UNESCO Associated School Project "The Baltic Sea Project".

NVBR specialists have developed the interactive exhibition "In Water & In Air" dealing with an explanation of river ecology through the eyes of Caddisflies (Ephemeroptera). The given exhibition was displayed in 11 towns in different regions of Latvia with more than 15,000 visitors and is seen as one of most successful interactive exhibitions in Latvia.

Children and students are considered the most encouraging and appreciative audience. Unless they are graduating from the schools and leaving forever for colleges and universities.

Somewhere inbetween is the NVBR mission to teach them values of the BR territory and raise interest to learn more, at the same time obtaining new technologies and skills during their school years. And to create conditions for them to come back in the years after they graduate from university to find here social and economical conditions worth to stay in.

### **PUBLIC RELATIONS**

The acceptance and understanding of the Biosphere Reserve has been a long and is still an ongoing

process in the North Vidzeme BR. In the last year the role of the BR through our policy of openness to each sustainable undertaking has led to a situation where the BR is constantly being asked to become a partner or take part into actions, develop new projects, etc. NVBR more and more serves as an umbrella for local inhabitants, providing them with basic information. More and more frequently we are asked for endorsement letters to promote different sustainable rural development and diversification activities through state and international funds. Unfortunately the BR capacity cannot embrace the whole BR territory. Promotion of community based involvement of local society in local planning and monitoring activities has an increasingly positive feedback and must be looked at as a novelty. Additionally the revival of the sense of community makes people more inclined to think of others, too.

Communication with the whole NVBR community is rather complicated due to the location of the BR within three different districts. Mass media plays a crucial role disseminating messages dealing with NVBR undertakings. Only one of three district newspapers (Limbazi District) regularly at least once a week informs the citizens about ongoing activities in the BR. Cooperation with the regional TV and radio broadcasting station takes place at least once per month, with TV and radio highlighting NVBR issues both in regional and nation wide broadcasts. There is constant media interest associated with the UNDP and Global Environmental Facility (GEF) funded project "Biodiversity Protection in North Vidzeme Biosphere Reserve" which gives additional development possibilities for the whole region.

As a specific target group in communications one must define aged/retired people constituting one fifth of the population. During transition time their experiences in many cases were neglected as "old-fashioned", not taking into account that in many cases their knowledge and competence are surprisingly valuable for finding best practices in small scale nature management. Nowadays local libraries are considered places through which active aged people can be successfully addressed.

## **CONCLUSIONS**

Participation and public relations in North Vidzeme Biosphere Reserve today become more and more accepted as a legally defined possibility for (sustainable) development. In spite of features characteristic for the marginal areas throughout the rural areas of Europe, the "Biosphere Reserve" becomes a real umbrella for cooperation across the formal municipality and district borders and can bring together partners and stakeholders which traditionally have not been used to communicate, cooperate and compromise. All this strongly depends on BR staff being personally and actively involved in activities.

## **PLENARY PRESENTATION ON THE GROSSES WALSERTAL BIOSPHERE RESERVE, AUSTRIA, BY BIRGIT REUTZ HORNSTEINER**

The Biosphere Reserve Grosses Walsertal, situated in the Western part of Austria and formed by six villages within a single Alpine valley was designated as a UNESCO Biosphere Reserve in November 2000. The valley is a prime example of a living cultural landscape where a system of adapted mountain farming, pasture and extensive forestry has been developed. Today the mosaic of open land, forests and traditional settlements is the origin of a high animal and plant diversity. Nevertheless, as it is the case for almost all mountain landscapes, the costs and the human effort of maintaining the traditional land use systems have now become exorbitantly high. This put into question the economic, social and ecological future of the Grosses Walsertal. The six communities and the 3500 people living in the Grosses Walsertal decided "to take their future in their own hands". A sort of help for their future development was the MAB concept. So the local communities used the MAB concept and the biosphere reserve as a means to empower themselves to work together in meeting the challenges of the future – challenges which are shared with many other biosphere reserves all over the world. Already two years before the designation as a biosphere reserve the preparations started – a Charter

which set out a common future vision for the next years was elaborated by the local population, the first projects started. Also after the inauguration the region has always tried to make the Biosphere concept visible for everyone by realizing "visible" projects, by establishing a professional regional management as a focus point and by constantly informing the local people about the backgrounds of a Biosphere Reserve. The intention is not just being proud of the UNESCO Label "Biosphere Reserve" but to do something for the people's future and to make the Biosphere Reserve visible in the everyday life of everybody. So the area tries to work together as well as possible – the remuneration for this effort was the award "European Prize for sustainable regional development in communities" in 2002 among 33 participants. The motto of this competition was "cross the limits".

A spotlight on some projects realized by the six communities and their local population during the last four years:

To find a logo together, a painting competition for schools was organized. A new kind of tourism development was started under the slogan "Adventure Biosphere Reserve Grosses Walsertal", fostering environmental awareness for school classes and families. People working in tourism started to make the "Biosphere Reserve" visible in everyday tourism: The idea of using the Biosphere Reserve designation to serve as a guarantee or label of quality of local products and services was realized in the selection of 37 restaurants and hotels as "partners of the Biosphere Reserve". They set out special criteria they have to fulfil. Using local products and informing the guests about the Biosphere Reserve concept are only two of the 20 criteria. The project group "enjoyers of local products" tries to strengthen the cooperation between the local producers and the restaurants and hotels in the valley. The use of renewable energies, especially timber, biomass and sun, is strongly promoted. A special service for all questions concerning renewable energy was established in the office of the regional management. A newspaper, the "Blickwinkel – point of view" serves for information and networking among the valley's

inhabitants every third month. The trade mark "Walserstolz" (Walser's pride) was defined for the local cheese. It helped the people to sell their cheese no longer as ordinary "mountain cheese" but as a special cheese with a guaranteed origin and quality for a better price. On the same principle the trade mark "Bergholz" (Mountain timber) is based. "The delectable box" was created to directly market local agricultural products. A project to involve the local farmers and make them sensitive for nature protection was realized. In the sector of scientific research the local population was involved in developing a research concept for the Biosphere Reserve.

In sum, the Grosses Walsertal Biosphere Reserve is not the result of regulation, but of a "(living) process" of awareness-building where the inhabitants define their own vision how to reconcile people with nature.

### 3.1 WORKSHOP SESSION RESULTS

**MODERATOR:** Toomas Kokovkin, West Estonian Archipelago BR, Estonia

14 participants from Israel, Serbia and Montenegro, Makedonia, Latvia, Slovakia, France, Italy, Turkey, Austria and Estonia

**BACK TO BASICS:**

BRs are areas where relations between human population and different types of ecosystems are studied, tested and demonstrated. This relation produces various examples of sustainable living (economies, culture, traditions etc.). Participation of people in the BR is there by definition.

**CASE STUDIES PRESENTED:**

Role games in BR management – Pierre Zimmermann, Vosges du Nord Biosphere Reserve, France.

Public participation in the Mont Ventoux Biosphere Reserve – Ken Reyna, Mont Ventoux Biosphere Reserve, France.

Declaration of Biosphere Reserves – the Israeli Experience – Eliezer Frankenberg, Mt Carmel Biosphere Reserve, Israel.

Each participant gave a short overview of PP in their BRs.

As a concept of governance, BRs are a very complicated organisation.

**TYPES OF PUBLIC PARTICIPATION IN BRs:**

"Stakeholder involvement" – up to individuals – via e.g advisory board, board of trustees

Participation via NGOs

Participation via elected people (local self-governments) Participation as local businesses, primarily tourism sector and "authentic" sector.

Models of PP are very different and country-specific. Some specific tools of PP: role games (France), voluntary monitoring (Latvia)

BRs have important role as a forum for local people to meet and agree.

### 3.2 WORKSHOP SESSION RESULTS

**MODERATOR:** Stan Boychuk, Clayoquot BR, Canada

**CASE STUDIES PRESENTED:**

Visioning process in the Krkonose/Karkonosze Biosphere Reserve – Hana Petrikova, Krkonose/Karkonosze Biosphere Reserve, Czech Republic.

Volzhsko-Kamsky BR Cooperation Activity at Regional Level – Yuriy Gorshkov, Volzhsko-Kamsky Biosphere Reserve, Russia.

Kristianstads Vatterrike – Per Olsson, National Coordinator for the Swedish MAB-Programme, Sweden.

Community Based Ecological Monitoring – Rebecca Pollock, Georgian Bay Littoral Biosphere Reserve, Canada.

A Model of Governance to Promote Ecological Integrity – Stan Boychuk, Clayoquot Sound Biosphere Reserve, Canada.

There were 15 to 20 participants in attendance at this workshop, a number of participants attended more than one workshop session. There was agreement at the outset of the workshop to proceed in a different fashion from the workshops attended so far during the session. Presenters of the case studies were asked to limit their presentations to 15 to 20 minutes, this allowed for a much greater time for discussion and development of common themes, which were emerging from the case studies.

The discussion that emerged from and was stimulated by the case studies presented ranged from issues of the role of the biosphere manager to how is representation legitimate within the governance structure of biosphere reserves. Issues of reporting as well as communicating to stakeholders were all discussed and participants expanded on the processes in place in specific biosphere reserves.

Six common themes emerged from the discussion around participation and public relations in biosphere reserves. The common themes were:

Local citizen involvement – it was felt that involvement

of the people who live in the regions of the biosphere reserve is critical for a healthy reserve. Some of the keys for citizen involvement and continuous involvement were the processes of engagement and reengagement. The task/job of involving the people who live in the biosphere reserves is an on-going process, which requires communication, reporting, and meaningful roles and responsibilities.

Multi-stakeholder engagement – all stakeholders or maybe more appropriately shareholders must be actively engaged in the dialogue and discourse that contributes to effective decision-making. This is difficult and requires careful monitoring and evaluation. At times certain stakeholders chose to disengage, the reasons are varied, but the result is always the same, when stakeholders disengage they begin to feel the need to manipulate circumstance in order to feel they have some control. The process of ensuring that all are heard and are acknowledged as being heard is critical for legitimate participation.

Morale engagement – there is a need for participation which is more than just for the sake of being there, but most be real and present. Morale engagement brings with it the right for stakeholders to be at the decision-making table and to be able to speak and represent with authority.

Conflict resolution processes – conflict, disagreement and disputes are a part of how many biosphere reserves came into being. The people who live in unique eco-regions have chosen or live there for very specific reasons and the approach to sustainability and to balance and harmony will be different for different people. Having the processes and the commitment to use those processes to resolve disputes will help to ensure meaningful participation.

Understanding the broader context – developing the capacity within the citizens of our biosphere reserves to see and to comprehend the big picture, truly helps us to “think globally, act locally”.

Developing and enhancing a sense of ownership – a sense of belonging and being a part of something greater than ourselves is what helps to create the sense of value and uniqueness, which is a part of all

biosphere reserves. A sense of ownership brings with it a sense of pride and wonder, both are necessary to create an enduring relationship between people and place.

The workshop concluded by identifying some challenges to help us work through these common themes. As biosphere managers or coordinators we are tasked with managing these common themes while appreciating the complexity and uniqueness of each of our biosphere reserves, of ensuring that representation is legitimate and meaningful, that we operate in an open and transparent manner, which allows for real and meaningful participation of the citizens of the biosphere reserves.

## CASE STUDIES

### **ROLE GAMES IN BIOSPHERE RESERVE MANAGEMENT, BY PIERRE ZIMMERMANN, VOSGES DU NORD BIOSPHERE RESERVE, FRANCE**

The Vosges du Nord Biosphere Reserve (VDN-BR) is facing a fallow land dynamic in the “bottom” of each valley of its territory. Formerly collectively used for grass mowing these lands were progressively abandoned since the 1950s because of the rural exodus. The ecological dynamic is now progressively turning the former open and agricultural areas to “spontaneous” nature, bringing a lot of change regarding biodiversity. These changes in the “traditional landscape” are sometimes difficult to accept by local inhabitants. The comeback of “wild nature” on former domesticated lands is felt like a loss of identity of the traditional landscape. These perceptions are important to take into consideration local expectations for finding a new vocation for these areas. The former strategy of collective management gave place to a management guided only by individual interest.

In this project, the VDN-BR is associated in a national project with three other biosphere reserves concerned with the same problem. With help of a companion modelling approach using agent-based modelling system, we aim to develop a model allowing to study simultaneously ecological and social dynamics. The project is financed by the French Institute of Biodiversity (IFB). Based on this approach, and helped by the Foundation of France, the VDN-BR aims to develop a part of the project dedicated to role game playing. This tool of dialogue and negotiation aims to involve the local stakeholders (mayor, farmers, inhabitants, BR,...) to help find a new way to manage collectively these areas.

Based on the mutual sharing of each stakeholder knowledge, perception and expectation towards landscape, natural dynamics and management, we really hope to build a better collective knowledge, a “first stone” to invent new solutions. Role game playing will thus constitute an original tool to involve the public.

**PUBLIC PARTICIPATION IN THE MONT VENTOUX BIOSPHERE RESERVE, FRANCE, BY KEN REYNA**

The Mont Ventoux Biosphere was created in 1990. It covers 90 km<sup>2</sup> and the number of inhabitants is near 38,000. Mont Ventoux (1909 meters altitude) is the highest point of Provence. It is located directly between the Alpine massif to the north and the Mediterranean massifs to the south. The contrasted relief of this mountain generates a mosaic of microclimates and ecosystems: all the European climates are represented, from the Mediterranean to Lapp-land. The only constant: the Mistral blows on average 130 days by year and can reach 250 km/h at its top speed!

The Biosphere Reserve coordination is under the responsibility of a public structure for communities cooperation. However, the Biosphere Reserve is not managed by a structure of nature conservancy as are national parks or regional parks. It's our great weakness because we cannot fulfill some objectives of the BR. It was decided to make use of this weakness and to reinforce and better organise our local power by working as a network of local partnership. First, a management committee was created in 1996. It gathers key local partners such as locally elected administrations, important land managers (foresters...), NGOs... In 1998, this Committee elaborated a management document, named "Plan of management for sustainable development". Now, each action carried out by the Biosphere Reserve coordinators refers to this plan. These actions are not always carried by the Biosphere Reserve but the partners generally work in this step.

Second, a scientific council which groups researchers of the human and natural sciences was established in 2004. Among its missions, the scientific council has to define priority for research concerning the interactions between man and nature. So, the scientific council is elaborating a research programme for the BR, which means defining research orientations in adequacy with the real needs of the territory. It adopts the dialogue strategy as the management committee and two groups

have been working (one group only composed of seven elected people, one group from the management committee which gathers four persons from the hunting office, forestry office, agricultural development group, and NGO).

In conclusion, we can say that the Mont Ventoux BR really needs to reach a great consensus and to be sure that everybody agree the BR projects. Today, we can say that the Mont Ventoux Biosphere Reserve recognition depends principally on local participation.

**DECLARATION OF BIOSPHERE RESERVES: THE ISRAELI EXPERIENCE, BY SHLOMO BRAND, ELIEZER FRANKENBERG AND SHALOM SHAKED**

Efforts are being made to establish and declare biosphere reserves. One BR was declared and two are in process. The dynamics for establishment of these BR are special for each in terms of public participation and involvement due to the different needs the BR is supposed to serve, and to the leading organization in the process.

The Israeli National Parks Authority is responsible by law for nature conservation and protection, for local and world heritage sites management, operating under the Minister of the Environment. It started in 1991 a project of planning Mt. Carmel as a biosphere reserve, as a result of a governmental committee established after a major forest fire to assess the suitability of the area to be a BR. In April 1996, with the help of the German Ministry of Environment and MAB Committee, Mt. Carmel was declared a Biosphere Reserve within the framework of the "Man and Biosphere Program" of UNESCO.

The Yehuda Tourism Organisation (YTO) includes 100 tourism sites in 10 regional councils, to encourage and advance tourist incentives and business, develop and conserve ecological plans, give professional education to workers in the field of tourism, marketing the tourism products via advertisement, public relations and commerce. The Shfelat Yehuda

plan was completed as a result of development pressures on the areas. Various organizations and government bodies assumed that this regional planning may solve the conflict between conservation and development in the area. The area was not yet declared but is in implementation by the Regional Council and the YTO.

The Jewish National Fund tasks are creating environmental quality, enhancing environment with forests, fighting fire, parks and recreation areas, fighting desertification, building reservoirs and dams, river rehabilitation, soil conservation, managing forests, environmental protection. The Ramot Menashe Biosphere plan was initiated through the awareness of local inhabitants of the area as to the quality of life, landscape and natural resources they can protect only by a regional plan suited to the BR concept. It is still not declared and under process by the JNF. The Israel MAB Committee is engaged in coordinating the planning and development of several biosphere reserves. The key for success is the participation of local stakeholders in the process. This is the main reason for the slow progress of the process.

#### **VISIONING PROCESS FOR THE KRKONOSE /KARKONOSZE BIOSPHERE RESERVE, BY HANA PETRIKOVA, CZECH REPUBLIC**

There is a growing pressure in the TBR to push through development activities pursuing short-term economic interests which do not correspond with sustainable development and which endanger preservation of the unique natural ecosystems. Communities, the state administration and businessmen dispute over what is most beneficial for the region, trying to find convincing arguments that often support personal interests. What is missing is a framework socio-economic-environmental document which would serve as a criterium for operational decision-making of the public and the state sectors, and which would be respected by locals, experts as well as developers.

Why a vision? The initial idea was simple – to achieve an agreement of all important stakeholders, Czech

and Polish, concerning diverse development intentions in the Krkonose region and its future image. Finding such consensus would allow for easier assessment of planned activities. A well formulated vision would help to indicate whether we are going towards the agreed image of our mountains.

The Visioning Process: The Council of the Czech national park, the Association of Krkonose Communities and local NGOs including the Polish partners have charged a multisectoral working group with a task to prepare a concept for the vision document that would be acceptable for the majority of inhabitants as well as visitors of the Krkonose, the local communities and the administrations of the Czech and Polish national parks. The elaboration of the vision document rests on the pillars of sustainable development and is based on feedback from a widely distributed questionnaire, meetings, comments of the draft texts, etc.

Vision Krkonose 2050: The text will consist of three parts: (1) a short introduction, (2) the vision “the Krkonose constitution”, and (3) a detailed description of the mechanisms employed. The final document will be submitted for ratification to communities and main stakeholder in the form of a “memorandum”. The Vision will not be a legally binding document, however its acceptance and long-term adherence to its principles will be considered a moral engagement.

#### **THE VOLZHSKO-KAMSKY BIOSPHERE RESERVE: BRIEF CHARACTERISATION OF AND ITS MAJOR ACTIVITIES, BY YURIY GORSHKOV, RUSSIAN FEDERATION**

##### **SIZE OF THE RESERVE**

Size of the core zone: Raifa part – 5,921 ha, Sarali part – 4,170 ha

Aquatorium of Kuibishev reservoir – 1,353 ha

Size of buffer zone – 13,000 ha

Size of transition zone – 36,400 ha

##### **HISTORICAL BACKGROUND**

- Before 17th century – Cheremis sanctuaries on



the bank of Raifa lake

- Around 1630 – Foundation of the monastery
- 1674 – Official ownership of the surrounding forest by the monastery
- 1865 – First taxation of Raifa forest
- 1883 – First botanical characterization of Raifa forest (Prof. Korzhinski, Krilov)
- 1917 – First proposal of the Reserve foundation (Prof. Gordyagin)
- 1920 – First zoological study of the territory (Prof. Livanov, Pershakov)
- 1921 – Arboretum foundation (Prof. Vekhov)
- 1942 – Foundation of the Forest Research Station of USSR Academy of Sciences
- 1943 – Second proposal of the Reserve foundation (Prof. Iljinski)
- 1960 – Foundation of the Volzhsko-Kamsky National Reserve
- 1964 – Publication of the first volume of “Nature Chronicles”
- 1971 – Organization of the Nature Museum
- 1971 – Foundation of the biological student station of Kazan University
- 1983 – Establishment of the buffer zone
- 1999 – The first Euro-American Beaver Congress
- 2001 – Increase of the Reserve area
- 2004 – Meeting of the MAB-UNESCO Biosphere Reserves representatives
- 2005 – Designation of Biosphere Reserve status

Landscape characterization: Major biotopes: broadleaved, spruce and pine forests; bogs, rivers, lakes, gulfs, water reservoir, shoreline.

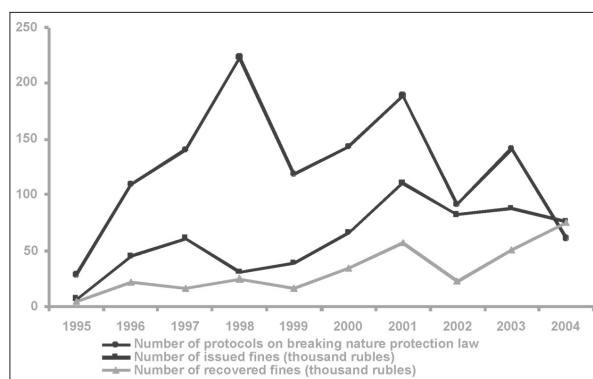
Biodiversity: Number of species: Algae – 665, Lichens – 242, Macromycetes – 754, Mosses – 170, Higher plants – 862, Mollusks – 92, Crawfishes – 76, Spiders – 240, Insects – 2200, Fishes – 41, Amphibious – 10, Reptiles – 6, Birds – 230, Mammals – 56.

Scientific research: The main topic of scientific research is “The study of the processes taking place in the Reserve ecosystems”, which involves meteorology, geomorphology, hydrology, hydrochemistry, hydrobiology, phenology, botany, zoology of the Reserve territory and investigation of the anthro-

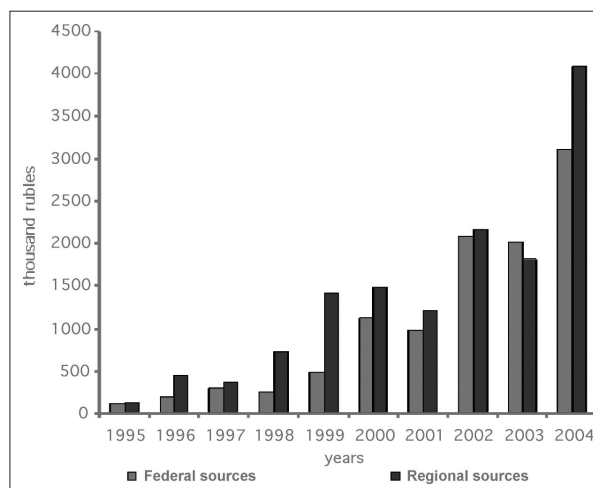
pogenic factors influence.

Ecological education: The major direction of the ecological education is excursions to arboretum and nature museum and ecological actions such as March for Parks.

Ranger activity



Financial sources of the Reserve



### PERSPECTIVE PLAN OF THE GREAT VOLZHSKO-KAMSKY BR DEVELOPMENT

- landscape evaluation of the territory
- biodiversity evaluation
- socio-economic situation study
- determination of ecological framework and ecological corridors
- zonation of the territory
- coordination board establishment
- management plan development

- realization of the developed demonstration projects
- attraction of new partners
- strengthening of cooperation within Biosphere Reserve net

VK BR closely cooperates with regional (Tatarstan) enterprises and institutions to improve the efficiency of its work. The VK BR's closest connections are with the Republic of Tatarstan Ministry of Ecology and Ecological Foundation. In view of the shortage of financing from the federal budget the regional Ministry provides the Reserve rangers' salary, and together with Ecological Foundation supports the developmental programs. Such measures as building the houses for the Reserve staff and the garage with maintenance service, setting up the new exposition in the arboretum, making major repairs of the Reserve office would be impossible without the help of the Ministry and Ecological Foundation. Largely due to them it was possible to renew the equipment and the nature museum exposition, the finance staff trips to foreign conferences and publishing activity of the Reserve. The samples of water and soil collected from the Reserve territory are analyzed by the well equipped laboratory of the Ministry. On the other hand, the Ministry is interested in the BR effective activity as it contributes to the biodiversity conservation in the region, provides scientific results, and develops demonstration projects, including ecological education.

The agreement with Kazan City Council on the realization of collaborative projects on nature conservation and natural resources' usage was signed during the submission of the BR nomination proposal to MAB UNESCO.

The Reserve scientific department, since its staff is small (11 persons), closely cooperates with Kazan State University (ecological, geographical and biological departments) and Tatarstan Academy of Sciences to study the protected ecosystems. Besides, the Reserve territory is the place for own research of these institutions and for students' field practice.

At the local level the Reserve has close relations with

the Raifa Monastery and Raifa Special College for difficult teenagers. They are the closest neighbors, so the current social and economic problems are solved in joint efforts. The joint educational program is carried out together with the Monastery.

The Department of Interior readily helps to protect the Reserve area, takes part in joint patrolling. On the other hand, the Reserve rangers captured robbers several times and control the criminal situation in nearby local settlements.

The men's VIP club, the members of which are well-known people living in the neighborhood and ready to participate in the BR activity, was established in 2005 due to support of the WWF Moscow office within the program "The involvement of adult local population in protected areas' support".

The Reserve interrelations with regional enterprises and institutions are presented in the diagram. The red background shows things provided by the Reserve; the blue background the organizations with which the Reserve collaborates; yellow background things provided by the collaborating organizations; arrows the directions of collaborations.

For a future perspective the establishment of the Coordinative Board, which would consist of interested representatives, is planned in order to increase the effectiveness of the Biosphere Reserve activity.

**PARTICIPATION AND PUBLIC RELATIONS IN ECOSYSTEM MANAGEMENT: THE EMERGENCE OF ADAPTIVE GOVERNANCE OF THE KRISTIANSTADS VATTENRIKE BIOSPHERE RESERVE, SWEDEN, BY PER OLSSON**

This presentation draws on the insights from research on the emergence of adaptive governance of the Kristianstads Vattenrike Biosphere Reserve (KV). Adaptive governance relies on networks that connect individuals, organizations, agencies, and institutions at multiple organizational levels. This form of governance also provides for collaborative, flexible and learning-based approaches for managing ecosystems.

The analysis highlights the social mechanisms behind participation and good public relations in ecosystem management. The adaptive governance of KV is characterized by 1) collaboration networks that support individual initiatives and draw on a variety of sources of knowledge, 2) the Ecomuseum Kristianstads Vattenrike (EKV) as a bridging organization providing leadership, social coordination, performing conflict management, sense-making, negotiations, and trust-building, and 3) highly flexible, multi-level arrangements apt to deal with uncertainty and change. EKV is a flexible organization that serves as a bridge between local actors and governmental bodies and is essential to the adaptive governance of KV. As problems arise in the area, ad hoc groups are formed to deal with the problem. Examples are given from the "Näsby fält" and the crane projects where stakeholders were mobilized from actor networks at critical times and EKV plays a key role in securing participation in these processes. Often new agreements and partnerships among actor groups are formed in these processes.

The social conditions for adaptive governance that has been created in the area are vulnerable to change. Such change could be in the form of loss of leadership, loss of trust, loss of funding, etc. Therefore EKV, in its role as a bridging organization, has developed strategies for securing the new direction. These strategies can be divided into three cat-

egories: 1) developing motivation and values for ecosystem management, 2) directing the local context through adaptive co-management, and 3) navigating the larger sociopolitical and economic environment. The insights from this study will hopefully increase our understanding of how to strengthen the capacity to manage ecosystems sustainably for human well-being.

**LESSONS FORM THE CANADIAN COM-MUNITY MONITORING NETWORK: A GUIDING FRAMEWORK FOR COMMUNITY BASED MONITORING, BY REBECCA POLLOCK AND GRAHAM WHITELOW**

The following lessons have been drawn from the experience of 31 communities across Canada involved with Community Based Monitoring (CBM), some of which are located in Biosphere Reserves. The research was undertaken in 2001-2002 in partnership with Environment Canada's Ecological Monitoring and Assessment Network (EMAN) and the Canadian Nature Federation, through support from the Voluntary Sector Initiative.

Community Based Monitoring is defined as a process where concerned citizens, government agencies, industry, academia, community groups and local institutions collaborate to monitor, track, and respond to issues of common community concern. Since communities are unique, any approach to Community Based Monitoring should be appropriate to local context, a continually evolving process, and flexible to change. In other words, CBM needs to be versatile, iterative and adaptive. It involves four key interrelated phases, as described below.



Gathering information about the community helps to design CBM that is unique to the community and its interests. It provides the opportunity for decision-makers to describe their information needs and the chance to maximize collaboration between partners.

Understanding the groups and people involved in CBM generates knowledge about how to engage them, use their skills and meet their needs. Participation Assessment helps find the best approaches for building capacity.

Enhancing the community's ability to carry out monitoring requires capacity in the form of resources and skills – both social and technical. Good coordination, training and information delivery mechanisms are essential.

Communication flows through all aspects of CBM. Educating people about monitoring, identifying local priorities, and reporting back the results rely on effective communication. When information needs are identified, monitoring becomes demand-driven, which informs the development of more effective tools and solutions for local environmental issues. The decision-makers then need to feed this knowledge and skill into appropriate local choices that are adaptive.

**FACTORS FOR SUCCESS:**

1. Approaches to engaging the community are context specific.  
Approaches are appropriate to local context and adaptable.  
The ongoing cycle of community mapping, participation assessment, capacity building and information delivery activities and outcomes is continued.
2. Information delivery mechanisms are established.  
Information needs are identified and communicated.  
Community based monitoring programs are demand driven.  
Data is communicated as meaningful information. New information is integrated into decisions and policies.  
Data management and standardization.
3. The experience must be meaningful for participants.  
Common concerns are acknowledged.  
Local and traditional knowledge is respected.  
Benefits of ecological monitoring are under-

stood.

Adequate training and equipment for CBM are provided.

Monitoring results are communicated to the public.

**4.** Coordination is critical.

Communication, facilitation, negotiation and mediation skills are developed.

Volunteer groups and CBM participants are coordinated at a local scale.

Broader partnerships and networks among communities are maintained.

**5.** Partnerships in pursuit of sustainability are necessary.

Partnerships to maximize capacity and resources are developed.

Partnerships to address ecological issues at regional or landscape scales are developed.

Existing contacts in the community are linked together.

Existing environmental initiatives are built upon.

**6.** Collaborative approaches are implemented.

Forums for multi-stakeholder discussion are encouraged.

Community visioning to define common challenges and goals is conducted.

Influence on government policies, public values, and industry practices is achieved.

Key Outcomes from the Canadian Community Monitoring Network Pilot Project:

The CCMN pilot project has been the most inclusive and complete look at local level community based monitoring in Canada to date, with input from over 12,000 volunteers, scientists, local decision makers, government partners, and industry representatives. The CCMN has developed a model and tool set to engage communities. The CCMN Model outlines the most comprehensive and cost effective directions for communities to monitor, track, and respond to local environmental issues, while building the capacity to participate in a Canada-wide environmental reporting system.

The CCMN Model for Community Based Monitoring

has been developed through the testing and evaluation of different approaches to CBM in a variety of contexts across Canada over the past year. This model can act as a reference for any community in Canada initiating or conducting a CBM program.

The establishment of a national network of communities monitoring ecological sustainability. Through this project, a viable and functioning Canadian Community Monitoring Network, which shares knowledge and learns together, has truly emerged.

An enhanced ability to gather information on ecosystem status and trends, through the collection of locally relevant and scientifically valid data that measure key ecosystem characteristics that are valued by the community.

An enhanced ability to deliver timely information for responsive management. In some participating communities, the CBM initiative has resulted in the development of trust, partnerships and lines of clear communication that will lead to the ability to provide timely information for responsive policy. Several other communities are working to put this process together.

Emergence of the importance of indicators that provide early identification of ecological change. The CCMN project has emphasized the value of indicators that can provide early warning to local decision-makers when their vision of sustainability is going off track so that they can respond effectively while the threat is still small and manageable

Increased development of an engaged, informed public. The CCMN "experiments" have contributed toward building the social capital in participating communities that is critical to the success of any CBM program. Many new networks were formed or enhanced through the projects and the capacity of many community members to generate, deliver and use environmental information has increased.

**THE LESSONS LEARNED:**

- Providing information is not enough to lead to better decisions. A two-way dialogue is necessary to collectively determine what type and form of information is needed to improve the knowledge of decision-makers.

- Environmental indicators have to be based on the delivery of the information needed, not the data that is easily collected.
- Local capacity has emerged as one of the strongest factors for communities to effectively generate, deliver and use ecological monitoring information.
- When participants in a CBM project know that their efforts are making a real difference, it creates a sense of ownership over the project, fosters a sense of place, and generates commitment within the community.
- CBM is self-reinforcing. Capacity building feeds into dialogue for effective information delivery and use. The effective use of locally collected information and the power to change decisions leads to stronger and wider community engagement, and so on. This positive feedback cycle builds social capital, which is one of the most valuable benefits of CBM.
- Social capital, as created through CBM, can fuel sustainable community development.

Enhancing the Effectiveness of Ecological Monitoring in Canadian Biosphere Reserves

The Ecological Monitoring and Assessment Network co-ordinating office has developed easily accessible protocols for identifying and tracking ecosystem changes aiming for an indicator within each major environmental compartment:

- worms and organic matter decomposition for soil health;
- benthic diversity for water quality
- lichens for air quality
- tree crown condition and seedling regeneration for vegetation
- frog and salamander species richness for forests and wetlands;
- lake and river ice formation / melting and plant flowering for climate change

For More Information on Ecological Monitoring Protocols, visit: [www.eman-rese.gc.ca](http://www.eman-rese.gc.ca) .

The full research report is available online or in PDF format in English and French at: <http://www.ccmn.ca/english/library/vsi/intro.html>

### **THE CLAYOQUOT CONSORTIUM: INITIATE, ENABLE, ENGAGE, BY STAN BOYCHUK, CANADA.**

The purpose of the Clayoquot Consortium is to address one of the core questions of our time: How do we live in a place: how can human communities thrive without compromising the natural systems upon which they depend? We believe that a permanent organization of academic institutions committed and focused on the many issues that surround this simple, but as yet unanswered question can become a significant engine of change locally and globally.

Clayoquot Sound is an excellent place to do this. The area lends itself to a broad range of research and educational interests. The Nuu-chah-Nulth First Nations have lived in Clayoquot Sound since time immemorial. In recent history, the patterns of conflict and consensus that have emerged are a reflection of how people of Clayoquot Sound have been working to live appropriately in place. In 2001, these unique and special qualities of the area were acknowledged with its' designation as a UNESCO Man and Biosphere Reserve, and the establishment of the Clayoquot Biosphere Trust. The area is now part of an international network of Biosphere Reserves with a mandate for research and education, and sharing information on issues of conservation and development in various places around the world.

These qualities make Clayoquot Sound an excellent place to study the myriad of issues around the question of how to live in a place. Clayoquot Sound acts as a dynamic 'living classroom' where researchers and students can engage with communities and key issues, such as the dynamic relationship between local activism and global policy, shared decision-making structures, conserving indigenous cultures, community economic transitions, managing tourism growth, youth, governance, and conserving biodiversity within coastal temperate rainforest and marine ecosystems.

Our vision is that the Clayoquot Consortium will be a broad-based network of academic institutions that

connects local people and outside academics and specialists in studies of mutual interest and global relevance. It will be a place for natural and social sciences, humanities, and arts, of both applied and pure research, to learn, contribute and converge. Research and the wisdom gained from all fields of knowledge will feed discussions, learning and action around the challenge of living appropriately in place, using the Clayoquot Sound Biosphere Reserve as a “living lab”.

**OUR GOALS ARE:**

- To focus academic disciplines on the study of living in place using the Clayoquot Sound Biosphere Reserve.
- To use the learning and knowledge of Clayoquot Sound to inform other places and act as a lens through which to view global issues.
- To bring ideas and lessons from other places to inform the people of Clayoquot Sound.
- To reflect on the ethical questions around living well in a place; and
- To assist the communities of Clayoquot Sound to fulfill the mandate of the international designation of the UNESCO Man and Biosphere Reserve regarding conservation and development.

Our mission is that the Clayoquot Consortium initiates, enables, and engages in the creation and sharing of knowledge of the Clayoquot Sound Biosphere and applies this understanding to foster introspection on how we as individuals, communities and societies live in a place.

The Clayoquot Consortium will provide a range of services to initiate, enable and engage in research and education.

**INITIATE:**

- facilitate opportunities to collaborate on research between communities and researchers;
- create and deliver quality educational programs for a range of needs and interests;
- establish an international network of researchers and educators interested in Clayoquot Sound as

a ‘living lab’; and as a UNESCO Biosphere Reserve, the Clayoquot Sound Biosphere Reserve and the Clayoquot Biosphere Trust is a link to the international Biosphere network.

**ENABLE:**

- access to a set of locally accepted standards for conducting research in the area;
- access to existing facilities for conducting long-term, year-round research in different habitats in Clayoquot Sound (see infrastructure for more details);
- professional logistical coordination of local accommodation, transportation, and services;
- networking with local resource people for research, educational programs, workshops and conferences;
- facilitation of opportunities to set up collaborative research projects with local community organizations;
- access to a developing digital library containing research and archival information for the area;
- access to various environmental and GIS data sets, such as climate monitoring and baseline watershed maps; and
- access to our office facilities of telephone, fax and high-speed internet.



*Cabin at Clayoquot Lake*

**ENGAGE**

- proactive communication and relationship building with government to foster inclusion of emerging knowledge into decision-making processes;
- dissemination of information to members and

the public through locally organized science symposia, conferences, workshops, internet, and public presentations; and

- web based communication to facilitate wider information dissemination and promote on-going discussions;

### THE EXISTING INFRASTRUCTURE IN CLAYOQUOT SOUND:

- Sydney Research Station: Operated by the Clayoquot Biosphere Trust, the Sydney research station is located in the pristine watershed of Pretty Girl, situated on the shore of the Sydney Inlet (<http://www.clayoquotbiosphere.org>).
- Clayoquot Lake Research Station: Operated by the Clayoquot Biosphere Trust, the Clayoquot Lake research stations is located at Clayoquot Lake in the Clayoquot River Valley (<http://www.clayoquotbiosphere.org>).
- Tofino Botanical Gardens: Located in Tofino on twelve acres of gardens, forest and shoreline. The Gardens were created as a place to explore the relationship between culture and nature in Clayoquot Sound ( <http://www.tofinobotanicalgardens.com>).
- Boat Basin Foundation: Located in Boat Basin in Hesquiaht Harbour on the site of a famous BC homestead, Cougar Annie's garden. The objectives of the Foundation are to encourage appreciation and education in temperate rainforest ecology. The Foundation currently has 6 cabins, including a central hall for meeting and eating, hosts University environmental programs (<http://www.cougarannie.com/open.htm>)
- Need to discuss with Hooksum Outdoor School and RES about their inclusion in this document.
- Pacific Rim National Park Reserve: Hosts a range of land and sea-scapes within its boundaries. The Park has researchers, staff and facilities, including a library, herbarium and campsites.
- Conference, Workshop and Classroom Facilities: Clayoquot Sound provides an excellent location for conferences, workshops, courses and symposia. A range of accommodation and facilities are available to host meetings and classes of var-

ious sizes.

- Educational Programs and Research: Clayoquot Sound provides the context and local people provide the content for a range of educational programs and conferences, including Leadership for Environment and Development, Canadian Policy Research Group, Wildlands Studies (critical Canadian environments), and community-based management, Environmental Studies, University of Victoria. A recent inventory of research has over 900 entries, including 80 graduate thesis that represent a range of research interest, and it is not yet complete.

### WHY CLAYOQUOT SOUND?

Located on the west coast of Vancouver Island, British Columbia, Canada, Clayoquot Sound is home to rich and terrestrial and marine ecosystems, and diverse cultures. The unique qualities of Clayoquot Sound were internationally acknowledged with its designation as a UNESCO Man and Biosphere Reserve in January, 2000. This designation distinguishes the area as having significant qualities for promoting and demonstrating a balanced relationship between people and nature.

*"You can try to understand the living world with your head, but sometimes the heart is a truer field guide. Here in Vancouver Island's Clayoquot Sound, a million-acre amphitheatre where mountainsides embrace a fjord-fingered, island-strewn reach of the sea, you don't have to choose, for everyway of knowing nature seems to come into play." (Douglas Chadwick, Pacific Suite, National Geographic, Vol. 203, No. 2, February, 2003 p110)*

Coastal temperate rainforests cover the 265,000 hectares of mountains, valleys, and islands in Clayoquot Sound. Among the most biologically productive places on earth, coastal temperate rainforests are considered rare ecosystems, originally covering only 0.2% of the earth's surface. This ecosystem is important habitat for many species, including black bears, roosevelt elk, marbled murrelets, cougars, wolves, bald eagles and red legged frogs.



The coastal temperate rainforest of Clayoquot Sound is part of the largest remaining tract of temperate rainforest in the world, which stretches from Oregon to Alaska along the Pacific Coast of North America. It is estimated that approximately 44 percent of this stretch of forest has already been lost due to logging and other activities (Ecotrust, 1995). On Vancouver Island, Clayoquot Sound contains the largest remnant of ancient temperate rainforest. Out of the ninety watersheds (larger than 5,000 ha) on the Island, it is estimated that five remain pristine. Three of these watersheds are located in Clayoquot Sound.

The marine ecosystem of Clayoquot Sound is as productive as the terrestrial. The six deep, fjord-like inlets of Clayoquot Sound are protected from the open ocean by an archipelago of forested islands with rocky coastlines and sandy beaches. The result is a vast and complex marine ecosystem with rich intertidal and subtidal zones, extensive mudflats, giant kelp and eelgrass beds, and strong tidal currents. These waters provide habitat for many species, including migrating orca, grey and humpback whales, basking sharks, Dungeness crabs, geoducks, various shellfish, wild salmon, herring, ground fish, otters and sea lions, and migrating shorebirds.

The natural abundance of the area provided for the Nuuchah-nulth people, who have occupied Clayoquot Sound and much of the west coast of Vancouver Island for the past several millennia. Of the Nuuchah-nulth Nation, the Ahousaht, Tla-o-qui-aht, and Hesquiaht tribes live in Clayoquot Sound. First Nations comprise approximately fifty per cent of the population, primarily residing in the communities of Hot Springs, Opitsaht, Esowista, and Marktosis. The town of Tofino was established in the late nineteenth century as people involved in mining, timber



and fur trading began to settle permanently in the area. The resulting economy was based on forest and marine resource extraction. Today, the history of this industrial economy is highly visible in Clayoquot Sound, but its future is questionable. The once vibrant fishing industry has declined. Timber extraction has been reduced, largely due to growing concern and subsequent mass protests in the early 1990's around the unsustainable logging practices in the area. New ecosystem-based approaches have emerged from the Clayoquot Sound Scientific Panel for Forestry, and the adoption of FSC certification by one of the major forest tenure licensees, Lisaak Forest Resources. The success of these new approaches remains unpredictable, related to factors such as fluctuations in the world mar-

ket and the slow growth of the value-added sector.

Over the past decade the economy of Clayoquot Sound has been changing. Tourism and aquaculture have emerged as new sectors. At least a half a million tourists visit Clayoquot Sound every year. Tofino currently sees the majority of this activity. Sports fishing, kayaking, surfing, Pacific Rim National Park Reserve, and whale watching are among the main recreational attractions.

Aquaculture in the area includes both shellfish and finfish farms. The shellfish sector currently produces oysters and scallops. Clayoquot Sound also has a high concentration of finfish farms. The main species grown is Atlantic salmon. As the number of fish farms grows, so does the controversy regarding the environmental impacts and the ethical appropriateness of fish farming.

The emerging economy of Clayoquot Sound is not

without its challenges. Each community is faced with issues and visions of their own future, bound together by the regional context and limitations. Along with these challenges are expressions of resolve to do things differently, to do things right. The Clayoquot Sound Central Region Board, Lisaak Forest Resources, the Clayoquot Biosphere Trust and the West Coast Vancouver Island Aquatic Management Board are examples of this commitment.

### WHO ARE WE?

The Clayoquot Consortium was established in 2003 as an initiative of the SSHRC funded Clayoquot Alliance for Research, Education and Training (CLARET). The Consortium is supported by the University of Victoria, the Clayoquot Biosphere Trust and the District of Tofino.

Based in Tofino, the Clayoquot Consortium can be accessed by highway, commercial airport (15 minute drive) and boat. A range of amenities are available, including restaurants, grocery and hardware stores, accommodations, bakeries, marinas, boat and plane charters, high-speed internet access, and repair shops. The town of Tofino is located at the heart of the Clayoquot Biosphere Reserve and acts as the gateway to Clayoquot Sound.

The Clayoquot Consortium office is located at 381 Main Street, Tofino, BC. The Clayoquot Consortium acting Board of Directors:

### CONSORTIUM GOVERNANCE

- Universities, colleges and affiliated research institutions are invited to apply for membership to the Clayoquot Consortium. Participating members support the Clayoquot Consortium through

### SELECTED RESEARCH AND REPORT TITLES FROM THE CLAYOQUOT RESEARCH ARCHIVES

1. Consensus based decision-making: The Clayoquot Sound Steering Committee process (British Columbia)
2. A Political Space: Reading the Global through Clayoquot Sound
3. Management for a Living Hesquiaht Harbour Project
4. Assessment of recreation potential of the Tofino - Ucluelet Area
5. Coordination of monitoring: network and partnership building for the purpose of monitoring for sustainable forest management
6. Identification and Monitoring of Clayoquot Sockeye
7. An Ethnobotanical Study at Clayoquot Lake
8. An Implementation Analysis of the Clayoquot Sound Scientific Panel Recommendations on First Nations Perspectives
9. Environmental groups and the international conflict over the forests of British Columbia, 1990 to 2000
10. Population structure migration patterns and social organization of gray whales in Clayoquot Sound
11. Sustainable management of ecotourism: Whale watching in Tofino, British Columbia: A case study
12. First Nations perspectives relating to forest practices standards in Clayoquot Sound
13. Protecting wetland habitat in the Cypre Watershed Planning Unit, Clayoquot Sound, Vancouver Island, British Columbia.
14. Communities of aquatic insects of oldgrowth and clearcut coastal headwater streams of varying flow persistence.
15. Epiphytic lichen abundance: effects of stand age and composition in coastal British Columbia.
16. A Rich Forest: Traditional knowledge, inventory and restoration of culturally important plants and habitats in the Atleo River Watershed.
17. Nutrient dynamics and exchange between coastal forest and marine ecosystems, Clayoquot Sound, British Columbia

an annual membership fee structure:

- Universities and University affiliated research institutions (\$10,000 per year)
- Community Colleges and other institutions (\$5,000 per year)

Membership grants access to the services of professional logistical coordination and networking to resources and facilities within the Biosphere Reserve, as well as participation in building of the Clayoquot Consortium.

Each founding member will be represented with a seat on the Board of Directors. A committee of local representatives will be established to provide support to the continued development of the Consortium and maintain Consortium connection with the local communities. This local committee will have a seat on the Board of Directors. The founding Board of Directors will select a governance model for the Clayoquot Consortium.

The Clayoquot Consortium is initiating contact and discussions with University and College faculty and research institutions from around the world. Our goal is to build the Consortium membership over time. We are available to discuss any comments or questions you may have about the Consortium, and opportunities for your Institution. Please contact one of the CLARET Senior Research Associates at your convenience.