

**ANALYSIS OF THE
CLAYOQUOT BIOSPHERE TRUST
CORE PRIORITIES**

Prepared for the Clayoquot Biosphere Trust (CBT)
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EXECUTIVE SUMMARY

This report was commissioned by the Clayoquot Biosphere Trust (CBT) to provide an analysis of three core priorities the CBT Board of Directors has proposed: *connecting people and place, establishing a biosphere centre, and practicing sustainability*. These core priorities are to guide the direction of investments and activities in the coming years and demonstrate tangible results toward achieving the long-term visions of the local communities.

The CBT Board and staff are to be commended for their hard work, strategic thinking and leadership in identifying core priorities that address commonalities among the various visioning and planning processes undertaken in this region. The core priorities and associated ideas do resonate with residents, especially ones relating to archiving information so that all the work that has been done in the area may inform decision-making, and helping to develop sustainable, local economies.

Recommendations are geared to capitalize on the special niche the CBT can fill. The CBT is unique because it is: a place-based, non-partisan, collaborative, regional body with a broad mandate; able to access resources at all scales (local to international); and, concerned with the big-picture, a long-term perspective and tackling the difficult questions of how to work toward a sustainable future.

As such, the CBT is in a position to take a ‘bird’s-eye view’ of what is happening in the region and where gaps need to be filled to meet the requirements of sustainability (e.g., intra- and inter-generational equity, resource maintenance and efficiency, immediate and long-term integration, livelihood opportunity).

The intention of the recommendations is to help the CBT reach a new level of influence by more effectively operationalizing the UNESCO biosphere reserve concept in the region. The CBT is well-positioned to tap into local creativity and energy to define and achieve sustainability at the regional level, and to help people see how their actions and efforts add up to what a biosphere reserve is all about. In doing so, Clayoquot Sound can continue to establish itself as a leader in the World Network of Biosphere Reserves.

The following recommendations are based on CBT documents (such as the 2008-2010 Business Plan that reminds us of the CBT’s Strategic Goals and Objectives), CBT Committee feedback, and the UNESCO Madrid Action Plan (2008), as well as the author’s knowledge of the region (based on past and ongoing research), community-based approaches to sustainability, and biosphere reserves elsewhere.

For each, the rationale, steps already taken, and ideas for moving forward are given in the full report.

RECOMMENDATION 1: CONTINUE YOUR PROCESS OF PUBLIC ENGAGEMENT TO PROVIDE DIRECTION FOR THE CORE PRIORITIES

- 1A: Hold another All-Committee Meeting for more feedback and cross-committee interactions
- 1B: Adopt an iterative, participatory process to zero in on how each core priority may be advanced
- 1C: To the Ahousaht, Hesquiaht, Tla-o-qui-aht, Toquaht, and Ucluelet First Nations: reassess what the biosphere reserve designation and the CBT means to your communities

RECOMMENDATION 2: CONSIDER REFRAMING CORE PRIORITY 1 AS

CONNECTING PEOPLE TO PEOPLE AND PLACE

- THROUGH:
- A. GETTING TO KNOW ONE ANOTHER
 - B. EXPERIENTIAL LEARNING
 - C. APPRECIATION OF NUU-CHAH-NULTH CULTURE, HISTORY AND ARTS

- 2A: Provide opportunities for more informal and formal interactions amongst communities to help residents know each other better
- 2B: Provide more opportunities for experiential learning focused on youth education and ecological monitoring
 - 2B.1: Deliver a ‘biosphere reserve curriculum’ in every school
 - 2B.2: Facilitate comprehensive monitoring programs aimed at biodiversity and ecosystem goods and services, and train youth and adult residents to collect the data
- 2C: Provide more opportunities for learning about Nuu-chah-nulth culture, arts and history
- 3: CONSIDER REFRAMING CORE PRIORITY 2 AS

ESTABLISHING THE BIOSPHERE RESERVE AS A CENTRE OF:

- A. HIGH QUALITY INFORMATION ABOUT THIS REGION AND BIOSPHERE RESERVES
- B. DISCUSSION ABOUT COMMUNITY AND REGIONAL ISSUES
- C. SUPPORT FOR LOCAL DECISION-MAKERS AND ORGANIZATIONS

- 3A: Create a hub of high quality information about this region and biosphere reserves
 - 3A.1: Hire people to help compile, review, archive, and coordinate work done
 - 3A.2: Keep track of what happens in the biosphere reserve
 - 3A.3: Coordinate monitoring to gain a comprehensive picture of ecosystem and community health
- 3B: Provide forums for informed discussions on current issues
- 3C: Provide support and coordination for local decision-makers and non-governmental organizations

RECOMMENDATION 4: CONSIDER REFRAMING CORE PRIORITY 3 AS

PRACTICING SUSTAINABILITY

- THROUGH
- A. PROMOTING SUSTAINABLE PRACTICES
 - B. DEVELOPING LOCAL ECONOMIES WITH CIVIC SCIENCE
 - C. REGIONAL COORDINATION

- 4A: Promote sustainable practices that fit the larger picture of what biosphere reserves are all about
- 4B: Help develop local economies by transforming talk into local solutions: create an organization that fosters ‘civic science’
 - 4B.1: Review and build on the work of your former research alliance and expand your horizons
 - 4B.2: Hire/identify research coordinators
 - 4B.3: Hire/identify local communications people
 - 4B.4: Build on past work and attempt to fill the gaps
 - 4B.5: Build links to local decision-making bodies
 - 4B.6: Identify and fund training and education needs
- 4C: Facilitate regional coordination for sustainable, place-based planning
 - 4C.1: Hold workshops on what sustainability means for the region
 - 4C.2: Consider leading a ‘Resilience Assessment’ for strategic planning

These are a lot of ideas but ones that can be realized in the region; the key is Recommendation 1, to help decide what projects and programs to pursue, with whom, and how.

INTRODUCTION

In the 2008-2010 Three Year Business Plan, the CBT Board identified specific outcomes, or core priorities, to demonstrate tangible results of investments and other activities toward achieving the long-term visions of the local communities. These priorities are to be carried out at the program level by creating partnerships (to be identified) and carrying out longer-term and signature projects (CBT, 2008):

1. Connecting People and Place

Goal: To strengthen local knowledge, capacity and skills for sound stewardship, with an emphasis on youth outdoors.

How? Potential ideas: linking outdoor education programs with Ecotrust's forestry activities, contributing to Tribal Park initiatives, delivering a 'biosphere curriculum' in all schools in the region.

2. Biosphere Centre

Goal: To build a permanent home for the CBT.

How? Potential ideas: Measuring Community Health initiative, establishing a multi-media library, facilitation and decision support for the region's communities, and collaborative fundraising.

3. Practicing Sustainability

Goal: To support creative local initiatives that use natural resources to generate socio-economic benefits while advancing conservation and sound stewardship.

How? Potential ideas: supporting innovative approaches to sustainable forestry, fisheries, energy, value-added industry; support for a trades training facility; contributing to a regional economic or resource development project that simultaneously creates net economic, social, and environmental gains.

This report was commissioned by the Clayoquot Biosphere Trust (CBT) to provide an analysis of these three core priorities the CBT Board has proposed to guide the direction of their investments and activities in the coming years.

HOW DO YOUR CORE PRIORITIES FIT YOUR FUNCTIONS?

The CBT Board are to be commended for their hard work, strategic thinking and leadership in identifying valuable core priorities to pursue, and for taking a consultative approach in soliciting input from Committee members and others on how to pursue their proposed core priorities.

Biosphere reserves are mandated to demonstrate locally-relevant ways of integrating conservation and sustainable livelihood opportunities through research, education and training. The core priorities developed by the CBT align with biosphere reserve functions as follows:

- Connecting people and place.....Research
Monitoring
- Biosphere Centre.....Education
- Practicing sustainability.....Sustainable development, economies, and practices
Training

OBSERVATIONS:

- How the CBT plans to promote the conservation of biodiversity and monitoring of ecosystem goods and services critical for human well-being – part of a biosphere reserve's mandate as defined by

UNESCO (United Nations Educational, Scientific and Cultural Organisation) and two priorities identified in the Madrid Action Plan (UNESCO, 2008) – is not readily evident.

- ‘Establishing a biosphere centre’ is a project, not a concept like the other two priorities. Further, the goal of the centre to ‘create a home for the CBT’ does not match the potential ideas that were given in the 2008-2010 Business Plan, which seem to suggest other goals such as ‘information management’.

RECOMMENDATIONS

The following recommendations are based on CBT documents (such as the 2008-2010 Business Plan that reminds us of the CBT’s Strategic Goals and Objectives), CBT Committee feedback, the UNESCO Madrid Action Plan (2008), and the author’s knowledge of the region (based on past and ongoing research), community-based approaches to sustainability, and biosphere reserves elsewhere.

Recommendations are intended to help the CBT implement the ideas proposed by the Board and reach a new level of influence to more effectively promote and utilize the UNESCO concept in the region.

The CBT can play a more relevant role by creating the enabling conditions for integrated decision-making at the regional level and in helping communities engage in local issues in the face of global changes. In doing so, Clayoquot Sound can continue to establish itself as a leader in the World Network of Biosphere Reserves.

<p>RECOMMENDATION 1: CONTINUE YOUR PROCESS OF PUBLIC ENGAGEMENT TO PROVIDE DIRECTION FOR THE CORE PRIORITIES</p>

Continue to engage citizens in your process to identify who is working on your proposed core priorities currently and to identify initiatives that would provide significant regional benefits.

WHY BOTHER?

- There is no shortage of ideas for programs, partnerships and projects that may advance each core priority. The ideas proposed by the Board are excellent. The challenge is decide how to tackle each priority in ways that are supported by all communities and that fill regional gaps.
- Mobilize the talents, creativity, knowledges, and energy in the region for working toward the core priorities that otherwise may be left untapped. At present, there is widespread support for the CBT’s Advisory Committee structure and project funding process. However, there are residents and organizations who are not necessarily working against the CBT, but who could be brought on board to work *with* the CBT. If harnessed, these regional resources could be coordinated and directed toward achieving the well-thought-out goals the CBT has set out.
- In February, 2008, the All Committee Meeting was intended to provide an opportunity for residents to offer feedback on and help further define the core priorities. **See Appendix A for a summary of the input received.** However, the feedback was limited in several ways:
 1. There was not enough time or opportunity for all attendees to provide thorough feedback. The format only allowed for the vocal few who were comfortable speaking in front of a large crowd to communicate their views. What was everyone else thinking? Having people work in small groups

before sharing ideas with the larger group would have been more effective in gauging how much support you have for the core priorities.

2. It was unclear how this input would be considered by the CBT Board.
 3. It was unclear how the core priorities would change the activities of the CBT.
- Engender a sense of ownership amongst non-Board members over the direction the CBT is proposing. Many in the region equate the biosphere reserve to the CBT or to funding without feeling that they are part of the biosphere reserve.
 - Instill a sense of pride and accomplishment toward the bigger picture goals that the CBT has identified through recognizing and building on what is already being done in the region.
 - Projects/programs will be more strongly supported and successfully carried through to completion, and you will have more hands, minds and hearts willing to help achieve your regional vision.
 - Outreach will continue to improve broader understandings of the work the CBT does and may lead to more support for future initiatives through partnerships or participation.

STEPS ALREADY TAKEN

The CBT has already demonstrated leadership by identifying core priorities that address commonalities among various visioning and planning processes undertaken in this region. These commonalities have been identified as: “community and economic health; increasing opportunities for youth; cultural revitalization; and greater regional harmony” (CBT, 2008).

The CBT has already taken the first steps in steering biosphere reserve activities to a new level of relevance for local communities as follows:

- ✓ Core priorities and potential project ideas identified
- ✓ Feedback elicited from Advisory Committees at the February, 2008 All Committee Meeting
- ✓ Analysis requested

IDEAS FOR MOVING FORWARD

Leading a clear, open, transparent process that elicits input from residents through various means (e.g., in person, online, using the media), and that builds on steps already taken, will help determine how to best tackle each priority and lead to shared understandings of what each core priority means.

The following are ideas for your consideration. Please modify the following steps to suit your needs or to incorporate online tools.

RECOMMENDATION 1A: Hold another All-Committee Meeting to obtain more feedback and encourage cross-committee interactions

Elicit feedback on the core priorities from a wider membership, not just the vocal few, through community mapping and discussion in small groups. **See Appendix B for suggestions for effective engagement.**

RECOMMENDATION 1B: Adopt an iterative, participatory process to zero in on how each core priority may be advanced.

SUGGESTIONS

- **Analyze and synthesize input** from the above meeting to reveal gaps and potential connections where the CBT may target resources. The goal is to enhance or facilitate what is already being done.
- **Advertise results** through various media (i.e., radio, online and print newspapers, and the CBT website) and invite input. As Board members, talk with at least one person not involved in the process to hear their ideas and ask if they might be interested in working on any action items, once identified.
- **Identify specific projects/programs to pursue.** After reviewing what was heard and learned from previous steps, invite committee members and residents to rate ideas generated previously and offer new ideas to address any gaps/weaknesses. This can be done online, in person and/or by a mail survey. This works best if the majority of people are engaged throughout the whole process. Suggested steps:

1. Provide a list of ideas (narrowed down by the CBT Board) under each core priority. Ask people to rate each idea from most to least important.
2. Summarize results.
3. Return results to people again with the top 5 (or whatever number you choose) projects/ programs identified as most important under each core priority. Ask people to rank the ideas from 1 to 5 to narrow down the projects further and to confirm that those should be the projects/programs to pursue.
4. Include room for comments on each survey for feedback that may not be captured in the rating scheme.

RECOMMENDATION 1C: To the Ahousaht, Hesquiaht, Tla-o-qui-aht, Toquaht, and Ucluelet First Nations: reassess what the biosphere reserve designation and the CBT means to your communities.

This is a recommendation based on interviews with Nuu-chah-nulth people and is especially important for those who have more/new representatives attending CBT meetings. Central Region First Nations might want to consider how your community priorities are reflected in the CBT core priorities, and how CBT activities can better reflect your teachings.

RECOMMENDATION 2: CONSIDER REFRAMING CORE PRIORITY 1 AS

CONNECTING PEOPLE TO PEOPLE AND PLACE THROUGH:

A. GETTING TO KNOW ONE ANOTHER

B. EXPERIENTIAL LEARNING

C. APPRECIATION OF NUU-CHAH-NULTH CULTURE, HISTORY AND THE ARTS

Each idea will be explained below.

WHY BOTHER?

- Reframing communicates the different ways the CBT already has worked toward this goal and can continue to make a contribution.
- ‘Getting to know one another’ is included because of the need to overcome misunderstandings, prejudice, judgment, and misconceptions among and within the communities of the region.

The CBT Board has come a long way in overcoming differences to show that people with divergent interests may work together. The CBT Board may extend this learning at the organizational scale by helping to foster regional harmony and enable more effective collaborations.

STEPS ALREADY TAKEN

How do past projects fit this proposed core priority? The purpose of this exercise was to highlight areas of strength and identify areas to target efforts (not to critique the successful call for proposal process). See **Appendix C** for where the following numbers come from.

Table 1: Not starting from scratch: how past projects can fall under ‘connecting people and place’

Past CBT-funded projects	2007	2006
Getting to know one another	1	1
Education	9	10
Research and monitoring	9	9
Education and celebration of art, history and Nuu-chah-nulth culture	10	5
Connecting people and place	29	25

OBSERVATIONS:

- The exercise demonstrates that the CBT is not starting from scratch – you have already supported work that provides the foundation for the Board’s stated future directions¹.
- The CBT has already been very strong in promoting a connection between people and place.
- The research projects were primarily focused on the natural sciences. How was the research followed up on, or how will it be? There is a clear link to decision-making and management when the research is conducted by Pacific Rim National Park Reserve employees, but what about work by others?
- There seems to be a lack of or minimal monitoring of ecological goods and services, land-use/resource practices and biodiversity (carried out with CBT funding; monitoring programs are being undertaken by others in the region).

IDEAS FOR MOVING FORWARD

RECOMMENDATION 2A: Provide opportunities for more informal and formal interactions amongst communities to help residents know each other better

RECOMMENDATION 2B: Provide more opportunities for experiential learning focused on youth education and ecological monitoring

***Recommendation 2B.1:* Deliver a ‘biosphere reserve curriculum’ in every school**

Partner with the Raincoast Educational Society, the Tofino Botanical Gardens Foundation and other relevant organizations to deliver a ‘Biosphere Reserve curriculum’ in every school that includes fieldtrips around the region.

***Recommendation 2B.2:* Facilitate comprehensive monitoring programs aimed at biodiversity and ecosystem goods and services¹, and train youth and adult residents to collect the data**

¹ The work and benefits of the CBT extends beyond far the project funding. For instance, the many meetings and activities of the CBT staff and events such as the 2007 Celebration week in Ahousaht would demonstrate progress made toward several elements of these core priorities. That information is not included in this report.

WHY BOTHER?

- In the Mount Arrowsmith Biosphere Reserve, the Streamkeepers found that, more than anything else, monitoring activities helped people to take the time to be in and examine their environment, and helped them stay engaged in regional activities over the long-term.
- The endowment fund the CBT manages is intended to support local research, education and training with the strategic outcome of restoring, conserving and enhancing the region's natural capital (Environment Canada, 2008). Ecological monitoring is necessary for this outcome.
- Monitoring ecological goods and services is a stated need in the UNESCO (2008) Madrid Action Plan.

LOCAL EXAMPLE: Tofino takes advantage of the ability of the natural environment to decompose waste – an ecosystem service. Having recently been awarded the Resort Municipality status and with a push to increase tourism, it will be important to monitor at what point the environment is too heavily burdened and when a sewage system (or an alternative, such as the 'Living Machine' that Vermont and other places have installed as their 'green' wastewater treatment system) would be required.

- This monitoring would provide the necessary, long-term data to facilitate adaptive management (learning by doing in the face of uncertainty and with the recognition that we do not fully understand the complexities of our environment).

RECOMMENDATION 2C: **Provide more opportunities for learning about Nuu-chah-nulth culture, arts and history**

- Support more celebration and education of Nuu-chah-nulth history and way of life – of language and spirituality/connection to the region.

EXAMPLES

- The First Nations Youth Photography Club is an excellent local example of promoting the arts for developing notions of place and identity (contact Celina Tuttle at: celina.t@telus.net). This model may be effectively extended throughout the region, and could possibly connect with a 'Mapworks' initiative out of the University of Victoria. 'Mapworks' helps people connect with place by making maps and postcards out of photographs. Contact Wanda Hurren at whurren@uvic.ca for more details.
- Interested in developing online, user-friendly tools based on mapping landscapes to inform decision-making? The *Centre for Community Mapping* (<http://www.comap.ca/>) provides online tools for communities to document collective progress toward landscape (or your own identified) priorities. It is intended to be easy to use to allow different people to add their information and knowledge to the database. You can work with the developers to mold the tool to suit your needs. One sample use: to track stewardship (or other) projects and their contributions toward conservation of biodiversity. Contact Fred McGarry at mcgarry@comap.ca for more details.
- The *Nature Valuation Network* provides practical tools and best practices for valuing ecosystem goods and services, so that decisions concerning economic development are made with full awareness and understanding of all the costs and benefits involved. Visit: <http://topshare.wur.nl/naturevaluation>.

RECOMMENDATION 3: CONSIDER REFRAMING CORE PRIORITY 2 AS

ESTABLISHING THE BIOSPHERE RESERVE AS A CENTRE OF:

- A. HIGH QUALITY INFORMATION ABOUT THIS REGION AND BIOSPHERE RESERVES
- B. DISCUSSION ABOUT COMMUNITY AND REGIONAL ISSUES
- C. SUPPORT FOR LOCAL DECISION-MAKERS AND ORGANIZATIONS

WHY BOTHER?

- To thoroughly consider functions and options with regional stakeholders (e.g., rely on existing or planned buildings in the region? Build a new structure?) before talking about bricks and mortar.
- Positioning the CBT as a ‘Centre of Learning’ would develop the ‘learning platform’ function. Due to your scope of influence and mandate, the CBT is in a position to leverage not only financial capital but intellectual capital within and outside of your region to provide quality information and find examples of viable alternatives from other regions to better inform opinions and decisions.
- The CBT would be filling a special niche in the region. Canadian biosphere reserve organizations are well-positioned to play two major roles (adapted from Francis, 2004: 25, emphasis added):
 - *Facilitator and partner*, providing both a *forum and a helping hand* for groups to join together to discuss and understand conservation and sustainability issues of mutual concern, and then deal with them as best they can.
 - *Keep abreast of all that is happening in a biosphere reserve* and report on this from time to time to all who live there and to anyone else that may be interested.... **No one else does this. It is a special niche** for a biosphere reserve group, and a demanding one.

Periodic reviews have shown that Canadian biosphere reserves are quite involved in the first role but not the second to the extent communities would generally welcome.

- The need for these roles is confirmed by Committee feedback (Appendix A) and resident input. Residents hoped the biosphere reserve could benefit the region by (Mendis-Millard, 2008):
 - creating a forum to encompass all issues of concern for residents and allow non-threatening discussion;
 - providing opportunities for cooperation, to bring people together in a locally-controlled forum in a step towards healing and reconciliation;
 - providing communities with needed ideas for how to change; and
 - providing opportunities to share lessons from successes and failures.

STEPS ALREADY TAKEN

The CBT website and Directory of non-governmental organizations provide an excellent start to compiling information about biosphere reserves and region in an accessible format. Past Science Symposiums have been excellent examples of discussion forums that could be followed up. Hard-copy materials (e.g., documents that previously belonged to the Long Beach Model Forest, the Clayoquot Documents) have already been collected, and other materials (e.g., from UNESCO, project reports) have been made available at meetings.

IDEAS FOR MOVING FORWARD

RECOMMENDATION 3A: Create a hub of high quality information about this region and biosphere reserves

Recommendation 3A.1: Hire people to help compile, review, archive, and coordinate work done in the past and present.

A multi-media library of information would be valuable. How can existing libraries be used/enhanced? Once completed, offer seminars into introduce these new resources to locals.

Recommendation 3A.2: Keep track of what happens in the biosphere reserve

List *who* is doing *what*, how (funding, staff) and with whom in your core priority areas, including:

- conservation of biodiversity (in terrestrial and marine environments)
- sustainable practices (e.g., in forestry, fisheries, tourism)
- sustainable livelihoods (e.g., in forestry, fisheries, tourism)
- community and regional issues

Recommendation 3A.3: Coordinate monitoring to gain a comprehensive picture of ecosystem and community health

Build on your Indicators Project by coordinating current monitoring initiatives to gain a comprehensive picture of environmental, economic and social conditions at the regional scale. Leverage resources to extend monitoring to fill any knowledge gaps and update information from discontinued projects.

RECOMMENDATION 3B: Provide forums for informed discussions on current issues

There are many issues people of this region are concerned about. Poverty in First Nations communities, proposed or current resource-based activities, the effects of tourism development on residents, the state of health care and why is it so difficult to attract a doctor to Tofino, affordable housing for residents and seasonal workers, transportation needs in light of rising fuel costs – you know the list – are all issues discussed over kitchen tables and in meetings.

Residents care about the direction the region is going and want to make a difference. Forums are needed to bring different interests and knowledges together, to provide safe spaces for discussion and to help people work together to develop solutions instead of working separately. The CBT could facilitate information sharing and informed discussions that are based on quality information.

RECOMMENDATION 3C: Provide support and coordination for local decision-makers and non-governmental organizations

The ‘Truth About Fundraising’ seminars sponsored by the Community Development Committee is one example of this. In what other ways could the CBT provide resources, other than funding?

SUGGESTIONS AND EXAMPLES

- When considering a home or homes for the CBT, consider how the place(s) can have a distinctive identity (e.g., by reflecting Nuu-chah-nulth arts and culture and be accessible by all communities.

- Mont Saint-Hilaire has developed an impressive Virtual Museum to convey the biosphere reserve concept, feature its region and provide examples of other sites from around the world. Visit: <http://www.museevirtuel.ca/Exhibitions/Hilaire/>.
- Georgian Bay is considering establishing a research and education centre and has identified dozens of potential partners within and external to the region. They are looking to examples of place-based institutes around the world to develop their own vision and could be a potential partner.
- A potential contact is Architect Michael Hill (mhill@chrysalidarts.ca), who has been working with the Vancouver Island Biosphere Centre initiative being supported by the Mount Arrowsmith Biosphere Foundation. He has toured North America to collect ideas from ‘green’, progressive, multi-functional centres. Contact Glen Jamieson (Glen.Jamieson@dfo-mpo.gc) to talk about their experience.

RECOMMENDATION 4: CONSIDER REFRAMING CORE PRIORITY 3 AS

PRACTICING SUSTAINABILITY THROUGH

- A. PROMOTING SUSTAINABLE PRACTICES**
- B. DEVELOPING LOCAL ECONOMIES WITH CIVIC SCIENCE**
- C. REGIONAL COORDINATION**

WHY BOTHER?

- Practicing sustainability is what biosphere reserves are meant to demonstrate. The goals and ideas put forward by the CBT Board are commendable and extremely challenging. Reframing is an attempt to identify different ways the CBT board can capitalize on its niche and play a role in helping communities ‘practice sustainability’.
- Residents expressed their hopes for the biosphere reserve potential to (Mendis-Millard, 2008):
 - showcase the region for innovative approaches to conservation, sustainable forestry, incorporation of First Nations perspectives into management and daily living, and regional fisheries management;
 - demonstrate the relevance of biosphere reserve activities everyday lives;
 - provide communities with needed ideas for how to change; and
 - provide opportunities for locals to benefit from and be involved in research

STEPS ALREADY TAKEN

How did past projects relate to ‘practicing sustainability’? **See Appendix C** that shows how specific projects were grouped into categories.

Table 2: Not starting from scratch: how projects can be fall under ‘practicing sustainability’

Past CBT funded projects (includes those funded with discretionary funding)	2007	2006
Promoting conservation and stewardship practices (through research)	1	
Land-use and resource practices (research; includes alternative energies)	1	1
Developing sustainable livelihoods and economies (through research)	2	
Building human capital (skills, knowledge, training) for sustainable livelihoods	5	3
Practicing sustainability	9	4

OBSERVATIONS

- The CBT is not starting from scratch – you have already supported work that provides the foundation for this priority (e.g., providing scholarship, training youth to be kayak guides).
- Much more can be done in to identify and promote sustainable practices and develop local economies.
- The research projects were primarily focused on the natural sciences and it is unclear whether the research was followed through to completion or if ideas were implemented.

IDEAS FOR MOVING FORWARD

How can the CBT play a crucial role in helping your communities ‘practice sustainability’ and develop sustainable, local economies?

RECOMMENDATION 4A: Promote sustainable practices that fit larger picture of what biosphere reserves are all about

As Larry Frith from the Waterton biosphere reserve once said, “Do not support the idea; support the person with the idea”. So, who already demonstrates sustainability in the household, and in the public, private and civil society sectors? How can the CBT recognize their efforts and educate others?

WHY BOTHER?

- To help people feel part of and take ownership of the biosphere reserve (most people in the region see the biosphere reserve as the CBT Board or just funding).
- To encourage the spread of innovative, sustainable ideas by showcasing local efforts.

EXAMPLES

- Organize *workshops* on growing your own food constructing rain barrels and reducing energy costs.
- Consider *branding* of local products that meet criteria consistent with biosphere reserve ideals.
 - For ideas: The Rhön Biosphere Reserve in Germany developed a label to market products based on a regional identity and Local Food Plus (<http://www.localfoodplus.ca/>), in the Long Point region, certifies farmers and producers according social and environmental criteria.
- Organize ‘clean up the community’ *events* and involve youth.

RECOMMENDATION 4B: Help develop local economies by transforming talk into local solutions: create an organization that fosters ‘civic’ science

Develop a locally-driven organization that fosters research for, with and by local residents² using a civic science approach. ‘Civic science’ is an alternative form of science that incorporates public or local knowledge *directly* into decision making and research. This approach recognizes that all knowledges (e.g., traditional, local, and scientific) are important and are able to contribute different forms of expertise. When combined, these knowledges can be used to develop creative, innovative solutions to the challenge of defining and practicing sustainability.

² Of course as there is no one ‘community’ even within a District or a Band, a diversity of approaches and ideas should be encouraged.

The purpose of creating an institution to implement a civic science approach would be two-fold:

- To access and generate quality information from different knowledge sources (from this region and beyond) to find answers to locally-relevant questions, and
- To connect these knowledges (local, traditional, scientific) to decision-making (thereby making this a type of ‘boundary organization’ – one that links knowledge and policy).

WHY BOTHER?

- There is so much potential clearly evident in the level of discussions and work that goes on in the region, the level and variety of skills residents possess, and because of past processes. The CBT is well-positioned to harness this potential at a regional scale.
- There is a need to incorporate different forms of knowledges and expertise so that decisions are based on the best knowledge and information available.
- Even with all of the research and processes the region has experienced, there are gaps in knowledge needed for well-informed decisions to be made and for locally-sustainable economies to be developed. Creative solutions and ideas might exist; how can they be acted upon?
- Locally-driven and externally-generated research and projects have been and are being done in the region. However, these are piecemeal and uncoordinated. The result is that these may overlap (duplicating efforts) or leave huge gaps in knowledge about the region. Further, findings may or may not be translated in terms that may be useful for decision-making, and some projects are being carried out with only a few regional actors aware of the work being done.
- The following suggestions will help create the conditions for economies to develop so that your resources (environmental, social, human, economic) to be enhanced in the long-term — not drawn down for short-term economic benefit. These are the resources that you will need to fall back on to adapt to climate change and other unknown threats in the future.

IDEAS FOR MOVING FORWARD

Recommendation 4B.1: **Review and build on the work of your former research alliance and expand your horizons**

What ideas were tried in the past? If they failed, why, and what was the good that could be carried on? Identify potential partners who have related objectives (e.g., Clayoquot Field Station, Alberni Clayoquot Environmental Research and Education Society). Consider linking to government agencies, universities, research centres, ‘think tanks’, research arms of government agencies, other non-governmental organizations with common interests, and fellow biosphere reserves in Canada and around the world.

This includes a **review of the 2003 Research Protocols – not all communities have given official approval**. Some researchers work here without following the Protocols or contacting the CBT, and others decide not to come to this area at all because of the Protocols. Should these be followed? Updated?

Recommendation 4B.2: **Hire/identify research coordinators** in the region so that work done by residents and outsiders may contribute to the CBT’s overall vision.

Recommendation 4B.3: **Hire/identify local communications people**

One role: to help locals, consultants and researchers translate findings for different audiences (e.g., Central Region Board, Band Councils, Districts) so that knowledge gained may inform decision-making and benefit communities³. This can be cost-shared with the people doing the research.

Recommendation 4B.4: Build on past work and attempt to fill the gaps

Do not throw the baby out with the bathwater: A review of projects proposed to the CBT (not just the ones funded) revealed several promising studies that deal with developing economic opportunities that either need follow-through (e.g., next phases need funding) or that could be funded now.

Recommendation 4B.5: Build links to local decision-making bodies (e.g., Band Councils, Districts) so that work done (in and outside of the region) may inform decision-making.

Recommendation 4B.6 Identify and fund training and education needs.

Continue to identify and help fund training and educational opportunities so that local people may be employed the region.

EXAMPLE

In Riding Mountain, bovine tuberculosis (TB) threatened local livelihoods when the disease was found in elk in the National Park and cattle in surrounding farms. The Biosphere Reserve initiated and continues to Chair the TB Stakeholders Advisory Committee (TBSAC) – a type of boundary organization – that brought diverse interests (e.g., producers, hunters, tourist operators) and governments (First Nations, federal, provincial) together to review government plans and discuss how best to tackle the problem. The result? TB was eradicated in livestock. TBSAC continues to play an important role in bringing local credibility to government processes, in providing a voice for local stakeholders, and in providing a space for different knowledges to inform policy. The Riding Mountain Biosphere Reserve also just published a booklet of scientific studies written for local people in everyday language.

RECOMMENDATION 4C: Facilitate regional coordination for sustainable, place-based planning

WHY BOTHER?

- All Committee Meeting attendees saw potential in the core priorities for:
 - filling the great need for regional coordination and cooperation to create synergy among groups,
 - focusing on what sustainability means at the regional scale, and
 - encouraging long-term planning (7 generations, or 350 years).
- As a place-based, regional body, you are well-positioned to facilitate strategic planning that encompasses environmental, societal, economic, and cultural concerns with the big picture and long-term view in mind.
- In 2003, research participants hoped that the biosphere reserve could be used to facilitate regional cohesion and a regional vision (Mendis-Millard, 2008). Visioning, planning and decision-making do not have to keep starting at square one. Who is undertaking these processes now, and how could they be integrated? Collaborative decision-making based on a shared sense of place already occurs in this region (e.g., Central Region Board, Westcoast Vancouver Island Aquatic Management Board, Joint

³ Another role could be to help with community outreach (perhaps by partnering with the Raincoast Education Society who developed interpretive materials with CBT funding).

Sustainability Planning between the District of Tofino and Tla-o-qui-aht First Nation) but could be better coordinated toward a regional vision.

EXAMPLE

Transition Town Totnes: <http://totnes.transitionnetwork.org/>. This site demonstrates how an organization is coordinating local groups to work toward a vision by providing support and eliciting help for projects that fit a two-fold mission:

- To explore and then follow pathways of practical actions that will reduce the town's carbon emissions and dependence on fossil fuels.
- To build the town's resilience, that is, its ability to withstand shocks from the outside, through being more self-reliant in areas such as food, energy, health care, jobs and economics.

IDEAS FOR MOVING FORWARD

The CBT can help the region continue to be a model of collaborative, regional governance for sustainability by facilitating big-picture, comprehensive, strategic planning. How?

Recommendation 4C.1: Hold workshops on what sustainability means for the region

WHY BOTHER?

- To help address overarching issues and build on the successes of previous Science Symposia.
- At the 2008 All Committee meeting, Committee members pointed to a need for deciding what sustainability means at a regional level, as there are different ways of interpreting the term and each community has their own vision. As Larry Baird said, "we need to collectively decide: what do we want, and what can we achieve together."
- Committee members also called for a discussion on how Nuu-chah-nulth values, the environment and people can be put before profits so that equitable, long-term economic opportunities result (see Figure 1). How can this be done? What economic opportunities would provide meaningful, honourable work and social benefits for the diversity of people who live in this region while following this principle?

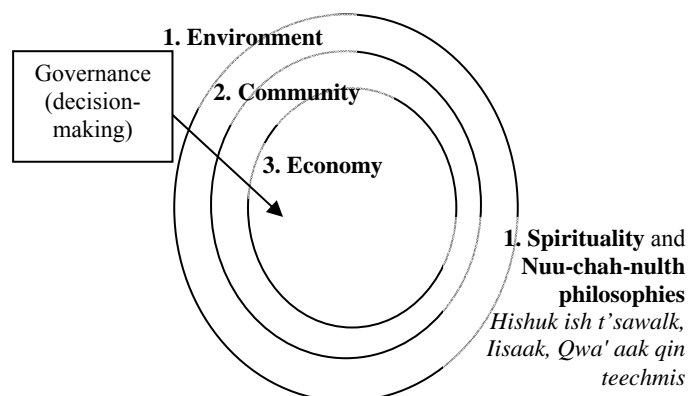


Figure 1: What could 'practicing sustainability' mean here?

- Other challenging issues: climate change, local food systems, and alternative energies.

EXAMPLES

- In Ontario, the once-lucrative tobacco-growing industry has been in decline for two decades and food processing plants have closed. To help locals face this changing socio-economic context, the Long Point World Biosphere Reserve Foundation (LPWBRF) invited stakeholders (e.g., locals, industry representatives, academics, politicians) to participate in four community workshops on 1. Business and Industry, 2. Service Sector, 3. Conservation, and 4. Agriculture. Participants identified the issues, trends, barriers, existing resources, and new ideas to advance integrated sustainable development in their region. A conference was then held to provide another forum for discussion and education about these contentious and complex issues. Sessions focused on sustainable agriculture, ecotourism and agri-tourism, green business, reforestation programs, trails, and fieldtrips (Pollock, 2007).
- A useful resource is *Sustainability Assessment: Criteria and Processes* by Bob Gibson and others (2005, Earthscan). In it, different ways of viewing sustainability are described (three pillars, which tend to focus on conflict and competing objectives – p. 94), the essentials of the concept are listed (e.g., about intertwined means and ends – culture and governance as well as ecology, society and economy – p. 62), best practice design principles for sustainability assessment processes are given (p. 146), and *requirements for sustainability are presented as generic decision-making criteria* that has been adapted elsewhere for specific, local circumstances. These criteria are as follows (p. 116-118, Appendix 3):
 - Socio-ecological system integrity
 - Livelihood sufficiency and opportunity
 - Intragenerational equity
 - Intergenerational equity
 - Resource maintenance and efficiency
 - Socio-ecological civility and democratic governance
 - Precaution and adaptation
 - Immediate and long-term integration (not the same as balancing; aim is multiple gains)

Recommendation 4C.2: Consider leading a ‘Resilience Assessment’ for strategic planning

The CBT could provide leadership by identifying and coordinating bodies within (and possibly outside of) the region to carry out a comprehensive regional assessment. As representatives from different communities/interests, the CBT Board knows who has the needed expertise to fill in all of the blanks.

If useful, the CBT can identify relevant exercises in The Resilience Alliance Practitioner’s Workbook (<http://www.resalliance.org/3871.php>).

Resilience can be defined in many different ways, but is generally viewed as a set of desirable characteristics that allow a social-ecological system (e.g., a biosphere reserve region) to be sustainable.

Resilience refers to (Walker et al., 2002; Folke et al., 2003):

1. the ability of a system to absorb or buffer disturbances and still maintain its core functions and structure (or identity),
2. the ability of the system to self-organize, and
3. the capacity for learning and adaptation in the context of change.

WHY BOTHER?

- The resilience of social-ecological systems is generally viewed as a key to sustainability.

- The Workbook provides a way of thinking through regional issues to anticipate and plan for the future. It can help assess whether the region is on a sustainable path and for considering management options.
- The process would assist place-based, strategic, regional planning that takes many different types of expertise and considerations into account. This planning would consider the region as a whole – a system – rather than aiming to optimize different parts within the region as separate from one another.
- The Workbook is still being developed but is being tested out in various regions around the world. If you decide to lead or facilitate such an assessment, the CBT may provide useful feedback to The Resilience Alliance to guide how such assessments may be carried out elsewhere in the world.
- If you are interested in considering this, visit <http://www.resalliance.org/>. Also see the introductory, easy to read 2006 book, *Resilience Thinking: Sustaining Ecosystems and People in a Changing World* by Brian Walker and David Salt and published by Island Press. There is a useful glossary and the last chapter provides a summary of what resilient places would ‘look like’ⁱⁱ

CONCLUDING COMMENTS:

Recommendations were geared to capitalize on your niche - what can the CBT do that others do not? The CBT is unique as a place-based, non-partisan, collaborative, regional body able to access resources at all scales (local to international) that is concerned with:

- the **big picture**,
- a **long-term** view (aiming for 350 year plans, or 7 generations),
- **tackling the hard questions** of how to work toward a sustainable future through your **broad mandate**, and
- **demonstrating options** for creating healthy, sustainable communities that are adaptable to change.

As such, the CBT is well-positioned to take a more active role in the region by:

- **Keeping track of what is happening** in the biosphere reserve and helping locals see themselves as part of a bigger picture.
- **Providing forums** for informed discussions on current issues affecting sustainability and community health (e.g., changes to land and resource use).
- **Facilitating collaboration by building networks and relationships** to bridge different interests and provide services and regional coordination not sufficiently met by the public or private sector.
- **Leveraging financial and intellectual capital** to bring in resources from around the world (e.g., from the World Network of Biosphere Reserves) to develop locally-relevant ways of working toward sustainability and regional self-sufficiency.

The CBT has already taken important, worthwhile steps toward helping local communities achieve their long-term visions. Not all accomplishments are tangible, but that does not make them any less important. The recommendations in this report provide ideas of how to move forward by capitalizing on this niche to create the enabling conditions for working toward regional sustainability.

ACKNOWLEDGEMENTS

Thank you to the CBT for the honour of contributing to your ongoing work and for the funding that has enabled me to conduct research in the region. Thank you to David Fraser, Rebecca Hurwitz and Jean Wylie for facilitating the research, and to all of the people who took time out of their day to share their thoughts with me for the purposes of this report and my broader research. Finally, I am grateful to Maureen Reed, Gypsy Fisher, and Erin Nelson for their helpful comments.

APPENDIX A: ALL COMMITTEE MEETING FEEDBACK

The core priorities (see Introduction) were presented by David Fraser, Acting Executive Director, to the CBT Advisory Committees on February 20th at an All Committee Meeting. Approximately 80 people attended and people were given the opportunity to provide feedback during a discussion period. The discussion was transcribed and the following is a synthesis of the input received.

CONNECTING PEOPLE AND PLACE

Initial response:

- Needs to be about protecting people, land and sea
- So important – if lose that connection within the region, what future do we have as we go forward?

Who is already doing this in the region?

- Raincoast Educational Society
- Nisma Project
- Pacific Rim: interpretive programs, Aboriginal day
- Parents/others: Teaching children through stories
- Nuu-chah-nulth Tribal Council (NTC), Uu-ath-luk: Connecting people to land and sea is fundamental for developing a stewardship ethic. They partner with others to channel funding, and act as a resource to connect organizations to community members
- Nuu-chah-nulth people: used to connect to the land and sea through fishing; today the connection is through tourism, and through cultural, traditional ways
- Ecotourism operators: engage with and inform visitors who come to learn about the region
- Friends of Clayoquot Sound (FOCS): keep abreast of local resource issues and serve as a source of information

Suggestions for the CBT

- **Be an example to the world: help bridge gaps where resources are not available and make our governments more powerful and effective in what they need to do by attracting or linking resources.**
Example: create a conscious awareness of the quality and quantity of our inputs and outputs, and use and disseminate the information for better action plans
- **Foster a sense of place through discussion:** connecting people to land and sea is deeper than programs. Millions of visitors come here but do they think about whose territories they are standing in and deeper philosophical questions about why connection is important?
- **Support youth fieldtrips in the biosphere reserve with naturalists/local instructors** (people who work on the land and in different occupations, who have practical knowledge to pass on)
- **Learn from Jasper's example of promoting experiential learning** by connecting youth to the outdoors, incorporating values into school curricula and using video and online technologies to attract more funding
- **Help institute a biosphere reserve curriculum in local schools** using materials already developed

BIOSPHERE CENTRE

Initial response

- Would fill a great need in the region for collecting, coordinating and archiving information
- Some would not support the Trust money being tied up in bricks and mortar, especially when renting office space supports local people
- Support expressed for online clearinghouse of information

CBT Board interpretations:

1. **Information archiving and management:** being able to find what we need, when we need it. Could house online or in a physical space. Documents have disappeared or are too dispersed
2. **Virtual centre:** could aim to create one of the top five websites in the world
3. **Multi-use, support centre to the region:** for all interests to collect and to provide an office space for CBT staff. Could provide facilitation support to non profits in the region

4. **Indicators project:** monitoring the health of the region

Who else is doing this in the region?

- Aquatic management board has a knowledge base set up
- Central Region Board (CRB) is considering something similar
- Past initiatives include the Clayoquot Documents and archiving of the Long Beach Model Forest (LBMF) documents (a Clayoquot Alliance for Research, Education and Training (CLARET) initiative)

Suggestions for the CBT:

- **Create public space(s) organized around a theme** for sharing ideas, not for housing tenants. Look to Nova Scotia's Centre on Marine Issues in Digby
- Think of ways to **make these spaces accessible to all** (even remote communities like Hesquiaht)
- **Create places** for elders of all communities **to tell stories, pass on knowledge**
- Take advantage of the huge opportunity to **archive and manage** the vast amounts of **information** about the region
- **Fill the great need for regional coordination and cooperation.** Many groups – have similar sounding goals, so there is a large potential to work together so the efforts are more effective.
- **Name the centre (virtual or physical) with a Nuuchah-nulth name** by consulting with First Nations communities and perhaps holding a naming contest.

PRACTICING SUSTAINABILITY

Initial response:

- Difficult but important questions: how to create and sustain employment for residents with various levels of skills and education? How to generate local economies and become more self-sufficient?
- Our economies and lives are dependent on our region's ecology.
- Healthy communities are comprised of a broad spectrum of people.
- At the United Nations Forestry Conference, the need to put spiritual and environmental concerns before economic was unanimously agreed upon. Spirituality refers to what touches us deeply and connects us with the land and the universe.

Suggestions for the CBT

- Put a **regional focus** on practicing sustainability.
- **Encourage long-term planning** (7 generations, or 350 years).
- There are different ways of framing sustainability – consider environmental, socio-economic, community, and governance as key elements, and **look to other international frameworks.**
- **Showcase or facilitate the development of concrete examples to show how conservation is part of daily practice** – that, because we live in a biosphere reserve, we do things differently. How is this being done in schools, and by governments, non-governmental organizations and the private sector?
- **Encourage a shift in decision-making so that ecology and communities – not profits - come first.** This shift will ensure that local communities benefit for generations to come.

Topics identified by members for discussion

- What is your connection to this place?
- What does it mean that I live in CS and I live in a BR?
- How to integrate knowledges?
- How to integrate different governance systems (e.g., Canadian political system – 4 year cycles, with Nuuchah-nulth governance systems, with environmental cycles – salmon runs, halibut, trees, etc.)?
- How to put conservation and stewardship into daily practice (in schools, governments, business)

APPENDIX B: SUGGESTIONS FOR THE NEXT ALL COMMITTEE MEETING

These relate to RECOMMENDATION 1A: Hold another All-Committee Meeting to obtain more feedback and encourage cross-committee interactions

- Take advantage of All Committee meetings to allow each Committee to meet for 15-20 minutes to answer the following questions before sharing their answers with the whole group: What have you been up to as a committee? What are the issues you have raised? What would you like to do next?
- Would Ahousaht/Hesquiaht/Tla-o-qui-aht/Toquaht/Ucluelet like to host the meeting?
- Undertake a **community mapping** exercise, which can be a powerful tool for identifying what is already being done (*who* is doing *what*), identifying weaknesses or gaps, and for generating ideas of how to best tackle each priority given the strengths and gaps.

This can be done in a number of ways. For example, ask people to work in small groups fill out a chart as follows using index cards so everyone has a chance to write down their own suggestions, which can then be posted on a board under the following categories:

CORE PRIORITY:

Who	Is doing what	With whom?	How? (People, funding)
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- Be clear as to **what is expected of participants** (e.g., what input is desired from Committee members and the larger population) and what the input will be used for. Are the priorities already set and you want direction on how to pursue each? Is there room for different interpretations?
- Be clear on **how the core priorities will affect the community call for funding program**. Will community groups have to fit their projects to more narrow criteria?
- **Hire facilitators** to guide the process – this has been found to be a crucial factor in successful, ongoing collaborative ventures the Riding Mountain biosphere reserve.
- **Invite youth** to be note takers at each table and to present results to larger group.
- **Small group work first**. Ask each group to take 15 minutes to write down their thoughts, individually, about what projects or programs to prioritize under each core priority and then allow for discussion. Then invite each group to report their main ideas to the larger group.
- **Encourage Committee interactions**: have at least one person from each committee in each group.

APPENDIX C HOW PAST PROJECTS ALIGN WITH PROPOSED PRIORITIES

How was this exercise done? Projects were assigned to the core priority that seemed to fit the main emphasis of the project. These projects were then grouped into like categories, and given labels. These categories show the different ways each core priority has already been approached (e.g., education).

2007 Projects (includes those funded with discretionary funds)

CONNECTING PEOPLE AND PLACE - 29 projects

Education

1. Young Naturalists Program
2. Sustainability Camp
3. Wild Pacific Trail Interpretive Signs Initiative
4. Integrating fisheries culture into the local elementary school curriculum, Hesquiaht
5. Outdoor Leadership Program, Ucluelet Secondary School
6. CALL Program 2006, Wickaninnish Community School
7. Nuu-chah-nulth Language Center, Central Region Nuu-chah-nulth Language Group
8. Nism'a Project - Outdoor Education for Youth
9. Community Participation in Whale Studies

Research and monitoring

1. Canopy Study Biology Department, University of Victoria
2. Stellar Sea Lions Pacific Rim National Park Reserve of Canada
3. Community Participation in Whale Studies
4. Wetland Surveys for Breeding Amphibians
5. Carnivore Diet Component of the WildCoast Project - Predators, Prey and People
6. Impacts of Recreation on the Tofino Mudflats
7. UVic Geography 490 Directed Studies Sustainability Indicators
8. Orthographic Photos
9. UVic Geography 490 Directed Studies Ecological Integrity

Education and celebration of art, history and Nuu-chah-nulth culture

1. First Nations Component of 2007 Arts Festival
2. Tla-o-qui-aht Language and Traditional Knowledge Multi-media Project
3. Living our Ahousaht Language Ahousaht Cultural Youth Centre
4. Youth Activity Worker: Cultural, Education and Recreation, Ahousaht
5. Historical Interests Dinner & Morpheus Island trip
6. Living our Ahousaht Language
7. 1st Annual Yu-cluth-aht Holistic Celebration of Health
8. Whales on the Walls
9. Ahousaht Aboriginal Days
10. HERA Project Tonquin Foundation Culture

Getting to know one another / networking / support

1. WCRS Engaging Community

PRACTICING SUSTAINABILITY - 9 projects

Building human capital (skills, knowledge, training) for sustainable livelihoods

1. West Coast Trades and Apprenticeship Program
2. West Coast Recreation Center Business Plan
3. Integrating fisheries culture into the local elementary school curriculum, Hesquiaht First Nation Fisheries
4. The Truth about Fundraising
5. Hospice Educators in Training, Pacific Rim Hospice Society

Developing sustainable livelihoods and economies (research)

1. UVic Geography 490 Directed Studies Sustainable Fisheries and Aquaculture
2. Scope of Change: New Forest Managers, New Management Ideas in Clayoquot Sound

Conservation and Stewardship Practices

1. Ahousaht Clean Harbour Project

Land-use and resource practices

1. UVic Geography 490 Directed Studies Land Use Practices

2006 Projects (includes those funded with discretionary funds)

CONNECTING PEOPLE AND PLACE – 25 projects

Education

1. Youth and the Biosphere Program
2. Outdoor Leadership Program Final Report
3. Young Naturalist Program
4. Nism'a Project Outdoor Education for Youth
5. Bear Smart Community Development Planning
6. Explore the Seashore
7. Tofino Mudflats
8. Bear Smart Community Development Planning
9. Bear Aware Signage for the Wild Pacific Trail
10. Streamkeeper Education Brochure

Research and monitoring

1. Community Participation in Whale Studies
2. Canopy Study - Arboreal Biodiversity across Spatial Scales
3. Stellar Sea Lion Project
4. Baseline Economic Data & Indicators
5. Coastal Health Care Committee
6. Geography 453 Class
7. Clayoquot Sound Salmon Review
8. Refute - PBS Results
9. Fish Mort & Offal to Biofuel Feasibility Study

Education and celebration of art, history and Nuu-chah-nulth culture

1. Life History Manual
2. FN Cultural Digitizing Project
3. Nuu-chah-nulth Language Centre Website
4. "Portrait of Ahousaht" Film Project
5. Root Garden Project

Getting to know one another / networking / support

1. Grief Support in Itatsoo

PRACTICING SUSTAINABILITY - 4 projects

Building human capital (skills, knowledge, training) for sustainable livelihoods

1. Disaster Relief Training
2. Volunteers and Service Provider Training
3. Community Action Life Skills & Leadership Program

Alternative energies

1. Fish Mort & Offal to Biofuel Feasibility Study

REFERENCES

- CBT. [Clayoquot Biosphere Trust.] 2008. Clayoquot Biosphere Trust Three Year Business Plan, 2008-2010. CBT: Tofino and Ucluelet, B.C.
- DFID [Department For International Development.] 1999. *Sustainable Livelihoods Guidance Sheets*. London, UK. [Online: http://www.livelihoods.org/info/info_guidancesheets.html.]
- Ehrlich, P.R. and A.H. Ehrlich. 1991. *Healing the Planet*. Addison-Wesley Publishing Company, New York.
- Environment Canada. 2008. *Report on Plans and Priorities, Table 8: Details on Project Spending*. Reported to the Treasury Board of Canada Secretariat. [Online: http://www.tbs-sct.gc.ca/rpp/0708/EC-EC/ec-ec04_e.asp.]
- Folke, C., Colding, J. & F. Berkes. 2003. Synthesis: building resilience and adaptive capacity in social-ecological systems. In *Navigating social-ecological systems: building resilience for complexity and change*, F. Berkes, J. Colding & F. Folke, eds. Cambridge, UK, Cambridge Press.
- Gibson, R..B. 2005. *Sustainability Assessment Criteria and Processes*. With Selma Hassan, Susan Holtz, James Tansey and Graham Whitelaw. London: Earthscan, 254pp.
- Landeta, J. 2006. Current validity of the Delphi method in social sciences. *Technological Forecasting and Social Change*, 73 (5): 467-482.

- Lubchenco, J., P.G. Risser, A.C. Janetos, J.R. Gosz, B.D. Gold, and M.M. Holland. 1991. Priorities for an Environmental Science Agenda in the Clinton-Gore Administration: Recommendations for Transition Planning. *Ecological Society of America Bulletin*, 74(1):3-8.
- Mendis-Millard, 2008. *Community Report: Community capacity and socio-economic well-being of the Clayoquot Sound (BC) and Redberry Lake (SK) Biosphere Reserves*. Revised January 28. Unpublished report.
- Pollock, R. 2007. *Case Study: Collaboration and Integration Experiences from Canada*. For EuroMAB, Thematic issue 1: Biosphere Reserves as Learning Sites for Sustainable Development. [Online: http://www.fes.uwaterloo.ca/research/biosphere/Documents/Long%20Point%20Case%20Study_EuroMAB%202007.pdf.]
- Richardson, C.J. 1994. Ecological functions and human values in wetlands: A framework for assessing impact. *Wetlands*, 14:1-9.
- The Resilience Alliance. 2007. *Assessing and managing resilience in social-ecological systems: A practitioners workbook*. Volume 1, version 1.0. [Online: <http://www.resalliance.org/3871.php>.]
- UNESCO. [United Nations Educational, Scientific, and Cultural Organisation.] 2008. Madrid Action Plan (2008-2013). April 3. Paris: World Network of Biosphere Reserves, Division of Ecological Sciences.
- Walker, B., Carpenter, S. Anderies, J. Abel, N. G.S. Cumming. 2002. Resilience management in social-ecological systems: a working hypothesis for a participatory approach. *Conservation Ecology* 16(1).

ⁱ **ECOSYSTEM GOODS AND SERVICES** (Adapted from http://ohioline.osu.edu/paradigm/table_1.html, which referenced Ehrlich and Ehrlich, 1991, Lubchenco et al. 1993, and Richardson 1994)

Healthy ecosystems carry out a diverse array of processes that provide both goods and services that contribute to economic prosperity and human well-being. Healthy ecosystems provide ecological goods such as clean air and abundant, fresh water, and services such as greenhouse gas mitigation, aesthetic beauty, purification of air and water, and biodiversity. *Ecosystem Goods* refer to items given monetary value in the marketplace (e.g., resources taken directly from an ecosystem such as timber, fish and food, tourism and recreation, construction materials). *Ecosystem processes* and services are valued, but are rarely bought, sold, or accounted for in assessments. Ecosystem processes include: climate modulation, decomposition, soil quality, plant pollination, the hydrologic cycle, and absorbing pollutants. *Ecosystem services* include: maintaining hydrological cycles; regulating climate; cleansing water and air; maintaining the gaseous composition of the atmosphere; pollinating crops and other important plants; generating and maintaining soils; storing and cycling essential nutrients; absorbing and detoxifying pollutants; providing beauty, inspiration, and recreation.

ⁱⁱ **RESILIENT COMMUNITIES WOULD VALUE** (adapted from Walker and Salt, 2006, 145-148):

- **Diversity:** Keep your options open by promoting and sustaining diversity in all forms (biological, landscape, cultural, social and economic) to build the capacity to response to change and disturbance. Example: multiple land and resource use.
- **Ecological variability:** Embrace and work with ecological variability rather attempting to control it.
- **Modularity:** Avoid over connectedness (lots of links between components) that makes shocks rapidly transmit through systems.
- **Acknowledge slow variables:** Focus on key slow controlling variables (e.g. that configure social/ecological systems and are associated with thresholds) to be able to stay in or shift out of a desirable state.
- **Tight feedbacks:** Maintain or strengthen feedbacks that are tight and strong so that change in one part of a system is felt and responded to quickly. This allows thresholds to be detected before they are crossed (e.g., past the point where fish stocks may replenish).
- **Social capital:** Promote trust, well-developed social networks, and responsive leadership to increase adaptability.
- **Innovation:** Emphasize learning, experimentation, locally-developed rules, and embracing change.
- **Overlap in governance:** Foster redundancy of institutions and a mix of governance structure and rights (e.g., common and private properties with overlapping access rights) to increase response diversity and flexibility.
- **Ecosystem services:** Recognize important, yet unpriced and often unrecognized services ecosystems offer in development proposals and assessments (e.g. pollination, water regime maintenance, climate reliability, nutrient cycling, and others identified in the *Millennium Ecosystem Assessment*; see www.millenniumassessment.org).