



Spring/Summer 2018

FRIENDS OF ECOLOGICAL RESERVES NEWSLETTER

Friends of Ecological Reserves President's Report

This will be my last President's report for the Friends of Ecological Reserves (FER). I have served in that capacity for over a decade and have decided to make way for other leadership. The time I have shared with like-minded volunteers on the Board and with Ecological Reserves (ERs) wardens and Parks staff has been enjoyable. I will remain a board member – together we will seek a new president – and I hope some of my experience will help those who follow. The role of a president is important but no more important than that of board members when it comes to setting direction and taking decisions for a group such as FER.

I look back at a number of highlights showing that FER has remained relevant and has contributed to the public good. There are long-term systemic challenges for a partnership such as FER, whose aims are to inform and influence government management of an ER system. The *Ecological Reserves Act* (1971) was an incredibly forward-looking

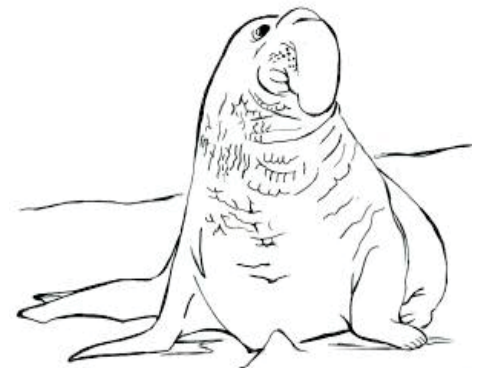
legislative tool available for the BC public to help shepherd complex ecosystems. In the last 46 years, ERs have been used for many well-managed research projects, publications and monitoring. Thanks to a grant from Parks during BC Park's 100 year anniversary celebration in 2011, FER was able to gather much additional information on specific ER research findings from government files and journals and these are consolidated on the FER website. Grant money was also made available to up-date the FER website to make public the ER research, field notes, management issues and interviews with the elders who built the ER system.

Although the ER system is under-utilized and increasingly more neglected, it is still a much needed tool for an uncertain ecological future. On May 4, 1971, Cleland Island, a seabird colony, became BC's first ER. The year 2021 will mark 50 years since the ER system began to take shape. At

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Visit our website at:
www.ecoreserves.bc.ca

The Log

Spring/Summer 2018

The LOG is published two times a year by the Friends of Ecological Reserves to promote the establishment, management and maintenance of Ecological Reserves in British Columbia. *The LOG* is distributed to members, volunteer wardens, affiliates, supporters, government, friends and the enquiring public. The views expressed in this newsletter are not necessarily those of the Friends. Articles for publication are invited. The deadline for submissions for the Autumn/Winter 2018/19 issue of *The LOG* is September 15, 2018.

Editor

Louise Beinhauer

Design and Production

L.B. Word Works

Directors

Mike Fenger, President,

Marilyn Lambert

Mary Rannie

Stephen Ruttan

Garry Fletcher

Jenny Feick

Rick Page

Liz Williams

Neil Munro

Don Eastman, Past President

Honorary Directors

Bristol Foster

Robert Bateman

Trudy Chatwin

Vicky Husband

Josette Wier

Contributors to this issue: Mike Fenger,

Garry Fletcher and

Louise Beinhauer,

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Sustaining Member \$60

Charitable BIN # 118914597RR

FRIENDS OF ECOLOGICAL RESERVES

PO BOX 8477 STN CENTRAL

VICTORIA, BC V8W 3S1

Email: ecoreserves@hotmail.com

Website: <http://www.ecoreserves.bc.ca>

Canada Post Agreement No: 40020740

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the height of the ER system there were 154, protecting 112,543 ha of land and 51,731 ha of ocean floor. Today there are 147 – six were transferred to Parks Canada and one to Metro Vancouver Parks to manage, but not as ERs. There are more reductions in the number of ERs anticipated once the South Okanagan National Park is managed by Parks Canada.

With unprecedented global warming and accelerating cumulative stresses on all of BC's diverse ecosystems, the multitude of species and their complex ecological webs will necessitate a need to accelerate knowledge acquisition of natural ecosystems. Species are shifting ranges; some are being isolated, some extirpated, all in a sea of cumulative, human-induced impacts added on by oil and gas activities, fisheries, forestry and range use. ERs can help understand ongoing range shifts, limits of species, and shifts in ecological webs that are creating new assemblages. We can learn from these ongoing shifts but only if data is collected and we are curious enough, wise enough and observant, to document what is happening, to ponder appropriate responses to human activities under our control, and if necessary amend resource development in landscapes, watersheds and marine ecosystems.

My past president's reports have been recaps of preceding years followed by some crystal ball thoughts on issues and direction for the up-coming years. This time I will take a longer, and hopefully not imperfect view of past achievements and disappointments. Four short years from now, the opportunity is real for a celebration of ER's 50 year legacy. Planning for this should begin this year for some

milestones that can guarantee a world class ER system in BC, not because BC should seek bragging rights on creating such a system, but because anything short of that is unlikely to help us gather and assess ecosystem data for management and limits in a world of rapidly changing climates.

The FER Strategic Plan (<http://ecoreserves.bc.ca/about-friends/strategic-plan/>) is still an excellent and relevant guiding document. The plan was crafted at a time I was a new board member. Colin Rankin, a professional consensus builder, volunteered and led a fine workshop/retreat on Hornby Island. For me one of the perks of volunteering is friendships built and maintained with past FER leaders, as well as current and past board members and people who have volunteered to help FER in other ways.

The Strategic Plan Goals 1 through 5 are shown in the boxes below followed by a second box outlining initiatives on the way to 2021 and the 50th anniversary of ERs. I hope these vision statements will initiate a serious dialogue within Parks Branch, and lead to planning with FER, to encourage potential donors to provide additional funding support for completing and maintain a world class ER system.

Goals and Objectives Friends of Ecological Reserves as stated in the strategic plan:

GOAL 1. To support the *protection and management* of the ER system through:

- a strong, vital Warden Program, and
- strong Ministry presence and effective management/enforcement activities regarding ecological

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reserves, particularly in ecological reserves most at risk.

Realizing Goal 1 on or before 2021.

A strong and vital ER warden program:

1. An ER warden for each ER: a single warden or group such as a First Nations eco-guardian group, naturalist or outdoor club, research institution, outdoor guiding businesses, school, college etc.
2. A recruitment strategy to help new ER wardens mentor with existing ER wardens.
3. Review and make any necessary updates to the ER Warden Handbook.
4. An annual compilation of all ER warden and area supervisor annual reports, and mitigation of risks to ER values based on these reports.
5. Acknowledgement of ER wardens and regional Parks staff who make up the ER warden system, to add value through sharing of knowledge and the management needs of ERs.
6. Regional ER warden meetings with some field and team building time.
7. A provincial-wide ER warden meeting.
8. A designated provincial ER warden coordinator. The last review of the State of the ER system by Friends of Ecological Reserves was in 2005 at the time I wrote my incoming President's report. Peggy Frank was outgoing President. Morgan McCarl, a co-



The blue-listed Tufted puffin (*Fratercula cirrhata*) historically was found on Cleland Island ER # 1.

op student, was hired to phone and interview ER wardens and Area Supervisors (see a summary of findings in the FER Autumn 2005 LOG or read the whole report, also on the FER website at: <http://ecoreserves.bc.ca/wp-content/uploads/2011/12/LOG0509.pdf>.

Today the number of ER wardens remains the same – about 50% of the 147 ERs have wardens and it is unclear why neither FER nor BC Parks have been able to change this ratio. FER aims for greater than 75%, but ideally we would like to see all 147 ERs with watchmen, eco guardians, or ER wardens. We would also like to see planned field visits annually to all ERs. This level of participation would be a bonus for BC Parks Area Supervisors and would boost the ER system as new information is obtained. Parks Regions have differing ratios of ERs with wardens and the reasons for this are also unclear.

There is a good ER warden web page on the BC Parks website:

(<http://www.env.gov.bc.ca/bcparks/volunteers/about/programs/er-wardens.html>) and links between the FER and Parks websites. Advice for ER wardenship is found on FER's web site under the "get involved" menu. We are proud of our work with Parks staff on the ER Wardens Handbook http://www.env.gov.bc.ca/bcparks/conservation/er_warden_handbook.pdf.

The record-keeping portion of this handbook requests that wardens submit an annual ER report to Area Supervisors and a link by which to submit such reports to FER through our e-mail address. FER posts all reports we receive to maintain transparency and to build a legacy of information about each ER. At present, however, few ER warden reports submitted to Area Supervisors actually get to FER directly from either ER wardens or Area Supervisors. We suspect that annual reports are not being done and perhaps Area Supervisors may not wish to put demand on the volunteers for reporting. Documentation of changes or challenges in ERs therefore remains a problem to be addressed. In

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addition, only Parks staff can update any information on those ERs that lack wardens. FER receives no updates from Area Supervisors, or sees posts on their activities on the Parks website.

The number of regional ER warden-area supervisor meetings is declining in recent years. During the last decade FER knows of ER warden meetings on Vancouver Island, in the Lower mainland and in Thompson-Okanagan and when invited we attend. Some regions, to our knowledge, do not hold regional warden meetings and the ER wardens and Area Supervisors never get to share their experiences. A provincial ER warden meeting in 2003 generated enthusiasm: ER wardens were acknowledged by government spokespeople and recognized as the soul of the ER system. See our Winter 2003 LOG for an action plan and summary at:

<http://ecoreserves.bc.ca/wp-content/uploads/2011/12/LOG0312.pdf>

In 2005 FER's State of Ecological Reserves report supported the need *"to strengthen the partnership between the government, FER and ER wardens by establishing an ER Warden program within central government"* and a *"full time position for ERs for communications, direction support archives, wardens and support regional ministry staff"*. Such a position does not exist for ERs at the provincial level. All six recommendations from the 2005 State of ERs remain relevant, from the need for systematic baseline monitoring, a full complement of ER wardens, a strategic research strategy plan and a clearer commitment on how volunteer ER wardens and FER can support the ER system. Non of the recommen-

dations have been acted on by government. The full report is at <http://ecoreserves.bc.ca/wp-content/uploads/2011/12/State-of-Ecological-Reserves-2005-final1.pdf>. Based on my 13 years of involvement with BC Parks, I feel a great need for a provincial ER position to implement the baseline monitoring and attract research based on a stated research strategy.

BC Parks staff's excellent website does the heavy lifting on management plans for ERs; it was not meant to handle the ER warden reports and the Parks site is less frequently updated, whereas the FER website is dynamic, informative, and rich on details about each ER. It remains unclear why BC Parks does not direct its regional staff and ER wardens under Area Supervisors' direction to share ER-specific information with FER. BC Parks and FER are lucky to have some stellar wardens who report what they saw on field visits and take some photos and share their field visit information. It is their legacy and a real boost to the public good. FER is not in competition with BC Parks but we have a more active presence and a philosophy for transparent reporting with regard to managing web-based information.

GOAL 2. Support the *study* of ecological reserves that builds understanding of ecosystem resiliency, ecological processes and natural elements by:

- timely and appropriate assessment of the state of the ecological reserves system,
- ongoing systematic inventory and monitoring of the ecological reserves,
- focused, funded priority research projects, and

- credible, respected scientific advice and peer review for FER supported research.

Vision to achieve longer term goals for study, inventory and monitoring of ERs

1. Make available the Conservation Risk Assessment Data used by BC Parks to assess Ecological Integrity of ERs for use by researchers and other organizations such as FER.
2. Complete a State of ER report based on most recent data and finalize before the 2021 50th anniversary.
3. Plan a systematic re-inventory and data collection program with data base protocols for ERs.
4. Implement a re-inventory of ERs with improved new data to compare to existing baselines, and implement field work so that ERs with the most out-of-date information are revised first. Include in this re-inventory former ERs transferred to Parks Canada and to Metro Vancouver.
5. Review and report threats and stressors on ERs, priorities for research and management; complete a report on Ecological Integrity of ERs.
6. Enhance the protection of the recently established Long Term Ecological Monitoring sites to ER status, so these research sites get protection under the *Ecological Reserves Act*.

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7. Disclose all research and restoration either under permit to Parks or carried out by Parks (or other government staff) and share with FER so that government data contributes to be public knowledge.
8. Create more formal arrangements between regional colleges and universities and the natural science programs, to benefit ERs; also student/professor field studies to increase knowledge of natural ecosystems.
9. Establish a Research and Monitoring Endowment Fund at arm's length from government similar to the Habitat Conservation Trust Fund. Fund this as a permit condition, for industry organizations that bring environment risk to terrestrial and marine ecosystems. Have an oversight committee for research direction and include First Nations, provincial and federal governments and environmental NGOs.
10. Write a new State of ERs report for 2021 when the ER system reaches its 50-year mark.
11. Establish ER advisory reporting to government as enabled in the ER legislation.¹

In 2010 an audit of BC Parks was done by the Auditor General (AG) to test whether BC Parks was meeting “*its declared intentions of and clear vision to the ecological integrity of BC Parks and Protected Areas*”. This report concluded “*the*



Hans Roemer, well-known biologist and ER Elder standing beside his namesake meadow at San Juan Ridge Ecological Reserve in 2010.

ministry in not successfully meeting its goal” and made seven recommendations; Parks conducted a self-assessment to this and responded that Parks staff believed it had implemented the AG recommendations. FER participated in this AG’s review but the findings were Parks-wide; the state of ERs remained unclear and subsequent reporting by BC to the legislature on the State of ERs was also unclear. The full report by the AG and Parks’ responses are at:

<http://www.bcauditor.com/pubs/2010/report3/conservation-ecological-integrity-bc-parks-protected>

An on-going systematic inventory is lacking and is needed for assessment and reporting of the Ecological Integrity for ERs. Available data for ERs is uneven. Although ERs are established as long term monitoring sites, there is no monitoring program applied system wide. There are management plans for each ER on the web but the data used for the Conservation Risk Assessment and the strength of the data for assess-

ment is not entirely clear.

Most of the baseline flora and fauna work for ERs dates to the inventories and species lists done at the time the ERs were established in the 1970s and 1980s, when the government supported an Ecological Reserves Program. In 2005, McCarl found that “*Poor to very poor ecological information is available for 69% of the ecological reserves*”. There were certainly notable exceptions such as Drizzle Lake (primarily loons and stickleback), Robson Bight (primarily Killer Whale research), Checleset Bay (primarily sea otter research), Triangle Islands (sea bird colony research), Mahoney Lake (unique liminal ecosystem research) and Race Rocks (marine ecosystem monitoring), all of which have a significant number of published research papers available and on the FER website. Since 2005 there has been no systematic or periodic program to fill many of the known ecological information gaps in the ER system.

BC Parks has recently initiated a program to conduct Long Term Ecological Monitoring

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(<http://www.env.gov.bc.ca/bcparks/partnerships/item/>). It states “*The data that results from 10, 20, 50 years of monitoring will be invaluable for describing trends and rates of change in our very diverse and topographically complex province*”.

Parks supports long term monitoring but has less commitment to monitoring ERs, some of which have close to 50 years of data. There should be no need to wait another 10, 20 or 50 years to gather data before we can make informed decisions. FER suggests there is an urgent need to review the data already in ERs and learn from and strengthen this ER monitoring network/extract information in the short term. What can ER data already do when assessed to provide insights on climate change and species shifts? New Long Term Ecological Monitoring sites are compatible with the goals of the *Ecological Reserves Act* and should receive greater protection and be included in the ER system.

FER as a non-profit organization, has been able to receive and disperse research funds, and provide tax receipts from private, NGO or corporate donors. To those who channel funds through FER (we charge minimal handling fees), we express our thanks. FER will continue to channel private donations to worthy projects of funding agencies when asked to do so.

BC Parks has an oversight role for research done in ERs by non-government researchers. The permit system has weak obligations to share their information with the government: “*the permittee may be required to submit results including project data of interest to BC that increases the under-*

standing of protected areas values”. The degree to which researchers share data and findings varies; FER is aware of significant ER research that is being conducted where there are no findings or data.

From time to time the Parks Branch has organized a Parks Research Forum such as those held at UBC and Kamloops. FER has participated and raised awareness of ERs for the participants and Parks staff at these forums.^{2,3,4}

It is unclear whether the sustained messages by FER about the purpose of ERs and the benefits of natural areas research has, in the last decade, yielded any new research into ERs. ERs were set up for baseline monitoring and research and should be magnets for funds from research organizations or other governmental agencies interested in changes and trends in the natural environment. ERs really are the only areas in BC which are set aside as long term, protected area monitoring sites solely dedicated for research. More aggressive marketing by the BC government may attract new researchers to use ERs.

BC Parks staff conduct some restoration projects in ERs and work directly with ER wardens on these, but because BC Parks exempts itself from reporting research and restoration projects, FER has not been able to obtain up-dates and reports on these projects.

FER participated in the National Energy Board (NEB) hearings on the Kinder Morgan Trans Mountain pipeline expansion review. Our focus was on the 19 marine ERs along the tanker route. We advocated to the NEB that they set permit conditions for Kinder Morgan for marine research funding to ensure that the costs of research would be

borne by the risk bringer and not passed to the Canadian taxpayer. We did raise awareness of ERs and their role but did not achieve the desired outcome for an arm's length multi-agency Marine Research Endowment.

This approach to research remains pragmatic even with the change in ownership of the pipeline project to the Federal government. There is no monitoring and baselines against which to assess how to mitigate risk, understand ecosystem compensation or where to practically enhance habitats to regain losses in a post-spill world. ER recommended to the NEB an oversight committee on marine research and monitoring which includes First Nations, Federal and Provincial Agencies, the State of Washington, Kinder Morgan, environmental organizations such as FER, and an entire arm's length structure to set priorities and support marine research. The FER vision is a commitment to marine research in the form of “an Endowment Fund” using the risk bringer's funds to do research and marine monitoring. Equally important, we advocate research at arm's length from Provincial, Federal and private influence.

GOAL 3. To support the *development* of a resilient and enduring science-based ecological reserve system.

- Gaps and limitations of the current ecological reserve system are identified and understood.
- The ecological reserve system is an integral part of the province's biodiversity strategy.

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Vision to developing a resilient and enduring ER system.

1. Identify and make public where additional ERs and protection are most needed in BC and to continue to acquire lands for low elevation sites for ERs on the coast and in the southern interior.
2. Establish an advisory panel to government to report on Ecological Reserves, as was enabled in the *ER Act* and in place during the initial building of the ER system.
3. Endorse the original ER system goal of 1% of BC's crown lands (88.7 million hectares) or an ER system with an area of 887,000 ha. Currently there are 112,543 ha of land in the ER system. This means an 800% increase is needed to have a 1% land bank for natural ecosystem study.
4. Create new ecological reserves from within the current BC Parks system. Some emphasis is needed on larger intact watersheds since they are largely absent in most areas outside of BC Parks. During the Parks Centennial year 2011, FER was able to up-date the provincial map of ERs that had become out of print. This was a real milestone for both BC Parks and FER. On this map there is information on purpose, history, location and as well, ecosystem representation of the 154 ER within the ecological zones in the BC. Low elevation zones on the coast and in the southern



Wolverine (*Gulo gulo*) have been spotted in Torkelson Lake ER #73 (photo by Zephram)

interior have the lowest percentages in the protected area system and the lowest number and percentage in the Protected Area of ERs.

There are many opportunities and an urgent need to add to the ER system, to meet and understand cumulative effects and impacts. Fenger and Bradford 2012⁵ did a review of BC government monitoring initiatives; some of these government monitoring programs supported a network of longer term monitoring sites and these are truly candidate sites for ER designation: an ER designation provides the greatest protection for these research sites and will prevent erosion of studied natural areas which already have a history of natural area data.

There are some underdeveloped watersheds inside and outside BC Parks. Fenger and Wheatley 2007⁶ completed a GIS assessment to identify such watersheds and help inform

opportunities to establish natural research watersheds. A watershed level design criteria for active adaptive management was also provided as part of Ecosystem Based management being considered for the Great Bear Rainforest in a report by Fenger, Howard, Loo and Holt 2009.⁷ Some of these watershed level design experiments as well as assessment would be best protected by an ER designation.

There have been a number of ER candidates proposed by regional conservation groups, supported by local government agencies and First Nations. FER first submitted a list of such ER candidates to a Liberal government in 2014 and then again in 2017 to the NDP government. FER is non-partisan but neither the Liberal nor NDP governments to whom FER put forward the identical agenda for adding new ERs, responded. There continues to be a need for a process to assess and advise government on con-

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servation proposals to decide whether they are worthy of ER designation.

There are provisions in the *ER Act* for the Minister to establish an advisory group for ERs. There was such advisory group to inform the government during the creation the ER systems and vet ER candidates. The *Ecological Reserves Act* states:⁸ “*The minister may appoint a person or persons to advise the minister on any matter relating to the establishment and administration of ecological reserves*”. Such an advisory is critically needed today. Currently in Canada the government of Newfoundland and Labrador have such an advisory council to advise and report on creation and management of Wilderness and Ecological Reserves.⁹ BC needs the same advisory panel and FER would very much like to contribute to this should it be formed..

FER did get a meeting with the new Minister of Environment (George Heyman and senior staff) and were very hopeful of support for the candidate ERs that were submitted to government in 2014. The only clear communications with senior management since that meeting informed FER that the budget had been allocated without additional funding for Parks and ERs. FER did request consideration or reallocation of one of the 25 recently hired park ranger positions as a provincial ER coordination position but the status of this request is unknown. Creating an evaluation process for candidate areas is feasible without new funding and could be handled by existing Parks staff.



Volunteers working on Trial Island ER #132 to rid the meadows of invasives such as broom.

GOAL 4. To raise *awareness* of the value of ecological reserves among targeted groups, including: local and provincial elected officials; public servants; neighbours of ecological reserves; and the conservation community, by communicating to:

- key stakeholders about the purpose and importance of ecological reserves, and
- key stakeholders about the purpose of Ecological Reserves most at risk.

Strategy for increasing awareness of the value of ERs.

1. Continue distribution of the ER map and narrative.
2. Participate in BC Parks research and natural history forums.
3. Write letters to editors and to other print and media forums to increase awareness of ERs.
4. Make known that all is not well with natural resource management and that ERs need a higher profile in

research and monitoring.

5. Complete the gathering of ER information from Regional Parks offices.

A real success in the past decade has been the significant improvements in the FER website and amount of material now captured, and we now have the most complete ER legacy ever amassed. We continue to fill known gaps but the review of some regionally-held files has not been done and more information is likely resting in regional offices, not shown on any websites. The FER website is our primary communications tool and would not be as robust and information-rich were it not for frequent postings, primarily by Garry Fletcher and Fred Beinhauer.

Another awareness tool is the bi-annual FER newsletter the LOG. Although the readership of the LOG is small and distribution limited, it forces FER to report on the ER system and on activities of

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interest on ER conservation. It is our diary of activities and we can skim back through older issues/revisit achievements to see if concerns raised in older articles remain or need action. We are always looking for contributions from members and ER wardens about activities. Written records of what volunteers have done are welcome. All past issues of The LOG are on the FER website; they are a storehouse of information on past initiatives.

This year FER hosted its most daring forum to raise awareness of ERs by featuring a four-person panel of intervenors to share their experience with the NEB process for the Kinder Morgan Trans Mountain Pipeline project. It was daring for FER because we had Elizabeth May on this panel, not as a politician but as an intervenor who had read and participated in NEB hearings. The learned experiences of intervenors were shared at this excellent public forum.

FER presented the audience with the same final arguments provided to the NEB and how to address the risks of tanker traffic, also how to mitigate the risks to the 19 Ecological Reserves of diluted bitumen transport. (See the Spring/Summer 2015 edition of the LOG to read the Executive Summary of FER's Final Evidence Report, as well as the article entitled "Level the Playing Field for NEB's Pipeline Project Conditions" in the Autumn/Winter 2015/16 LOG, and finally, see the following article entitled "Spilling the Facts on Dilbit" which is a brief summary of the FER Public Forum held in May 2018.)

GOAL 5. To sustain a nurturing and effective **organization** that supports the maintenance and development of ecological reserves and the concepts underpinning them by:

- maintaining a sustainable, effective and energetic Board that is reflective and aware of the regions of BC and the expertise associated with ERs,
- helping staff and volunteers by supporting learning and working effectively to achieve clear, commonly understood objectives and tasks,
- maintaining a strong membership base, and
- ensuring there are sufficient funds to sustain and meet FER's mandate.

Strategy for keeping an effective volunteer organization

1. Ensure the constitution is up-dated and meets requirements in the *Societies Act*.
2. Continue field trips to ERs with board members to maintain a connection to the ERs.
3. Invite potential board members on field trips and to meetings, and recruit additional members.
4. Increase membership and donations.
5. Pursue funding opportunities and grants where work in ERs will likely be supported.
6. Look for funding partners in business through 1% for the planet opportunities.

The role of a volunteer board member, to those considering participation, is to attend as many monthly meetings as possible and to contribute insights/shape the monthly board meeting agendas.

Though FER is a volunteer board, members are expected to spend a few hours between meetings contemplating how they can advance the strategic goals. Attendance of board members requires one evening a month but there are no meetings in July and August and often not in December due to winter holidays.

I thank the board members with whom I have worked as I have learned from each of you. When I look back, the cumulative effect of all those seemingly little initiatives, when taken collectively, have achieved something everyone can take pride in. Board members are making differences to ERs. FER board volunteers are as much the soul of ERs as are the regional ER wardens.

The role of President takes more time since it requires drafting the monthly agenda, seeking additional items from the board members, managing the agenda and time at the meetings and doing the annual summary for the LOG. The President also needs to contemplate the most direct path towards achieving the strategic plan goals.

As president I found I took on more of the roles of the office manager after our wonderful, long-time office manager Tom Gillespie died. We all began to appreciate just how much he had done for us. Other members of the FER Board have picked up the office manager duties, such as checking the incoming e-mails, retrieving the post from our post box, answering information requests, reviewing the minutes with the notes taken, confirming the action items and circulating them after the meetings. The President frequently receives

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more action items and needs to spend more time on them between meetings; finally, the President must take the time to reflect on and write funding proposals or communications articles and amend them if needed.

During my time I have had excellent support at the board meetings and have taken a very informal approach to getting through the agenda, because for me, meetings need to be fun to be effective. FER has also been reasonably successful when we have written funding proposals. I estimate that over the course of my presidency approximately \$80,000 in external grant funding has been obtained and directed toward ERs to do reports, conduct elders' interviews, enable participation in research forums and participate in KM Trans Mountain Pipeline hearings. Most of these projects have been done by members of the board including me, but when GIS work and web design were called for, expert help was contracted.

FER has remained small and will not seek paid directorship as other larger NGOs have. While FER does pay to have the LOG edited, compiled and printed, and the FER books kept in order, there are no staff to support the FER Board. The board members also do much of the work themselves because they have some of the best insights into the ER system. Should a third party be hired, a lot of additional volunteer time would be required to pass on what is known by board members, and also edit and revise reports etc.

One of our primary sources of income is our annual membership fees. If we are able to keep the membership sufficiently high,



Sign posted at Trout Creek ER #7.

we can cover operating expenses. The higher the number of members FER can attract, the greater the flexibility FER has to fund additional projects. The more time FER takes to write proposals the more ER directed work is possible.

I am proud of the incremental improvements that have been made by the FER Board members while I have been president. It worries me that the ER system is slowly shrinking and how little new research is going to most of the ERs. I am impressed by regional environmental groups and amazing individuals who continue to bring forward ER proposals. Even when working with FER, these proposals have had little or no traction with government.

My hope for those who volunteer to support FER and for members who believe in the benefits of a world class ER system, is that you agree with my assessment that more effort is required by government to

sustain ERs. In a partnership, one partner can only do so much without support from the other. The status quo approach to ERs is insufficient to face the challenges of rapidly changing climate. After studying ERs and as president of FER, I have shared what I believe is a prudent number of achievable goals for the BC Ecological Reserves which, if realized, will achieve the intent of ERs as set out in the *Ecological Reserves Act* and provide British Columbians the benefit of a well-managed network of ERs and a truly world class ER system.

Most of the globe has lost landscape ecological connectivity. Species have been extirpated and species ranges continue shrinking. BC still has a chance to maintain what most of the world has lost but we need to turn to natural ecosystems to learn what is needed if we are to have any hope of retaining ecologically functioning landscapes and watersheds with their full comple-

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ment of species and complex species interactions.

Given that the 50th anniversary of ERs will occur in 2021, BC can move a long way toward a world class natural areas research network that Ecological Reserves were intended to be back in 1971. The establishment now of a scientific advisory group would help the government meet the challenges it faces in managing the ER system. FER hopes for an invitation to sit on such a council. We have studied ERs and know we have something positive to bring.

Thanks!

Mike Fenger.



British Columbia.

http://www.mikefengerandassociates.com/reports/docs/FREP_Report_33.pdf

⁶ Fenger and Wheatly. *Sustainable Forestry Benchmarks for British Columbia: A Geographic Information Systems Assessment of Undeveloped Watersheds as Ecological Monitoring Units*. 2007. Forrex.

⁷ Adaptive Management in Experimental Watersheds Research Design

https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/natural-resource-use/land-water-use/crown-land/land-use-plans-and-objectives/westcoast-region/great-bear-rainforest/am04a_adaptive_management_watersheds.pdf

⁸ *Ecological Reserves Act*

http://www.bclaws.ca/civix/document/id/lc/statreg/96103_01#section9

⁹ Wilderness and Ecological Reserves Advisory Council. Newfoundland and Labrador

https://www.flr.gov.nl.ca/natural_areas/wer/adc/index.html.

Endnotes

¹ Formation of an ER advisory group is enabled by the *Ecological Reserve Act*. Such a group was used to provide advice to senior government when the ER system was being created but was later disbanded. Such an advisory group does exist in Newfoundland and Labrador to “Advise government on the creation and management of wilderness and ecological reserves” <https://www.assembly.nl.ca/business/electronicdocuments/WildernessEcologicalReview2008-09Report.pdf>

² Mike Fenger and Jenny Feick 2014. “Failing to Plan or Planning to Fail? A case for a new vision for land use planning and protected areas in BC.” A Poster Prepared for the Columbia Mountains Institute event Sept. 30/Oct. 1, 2014 Solving Wicked Problems – Using Human Dimensions to Inform Natural Resource Management. <http://ecoreserves.bc.ca/wp-content/uploads/2014/12/September2014-poster.pdf>

³ Garry Fletcher 2013. Are Ecological Reserves fulfilling their Mandate for Research and Education? BC Protected Area Forum Thompson Rivers University. <http://ecoreserves.bc.ca/wp-content/uploads/2013/12/BCPARF4.pdf>

⁴ 2011, Four members of the Friends of Ecological reserve attended the BC Protected Areas Research Forum at UBC campus in Vancouver.

⁵ FREP Report 33, Fenger and Bradford 2012. *Natural Resource Monitoring in*



Mike Fenger: A tip of his hat to Lasqueti Island ER #4. Photo from a 2016 FER Board field trip.

Friends AGM - Spilling the Facts on Dilbit

By Louise Beinhauer

This year, the Friends of Ecological Reserves Board decided that we would hold a public forum to discuss our experiences as intervenors at the National Energy Board's Kinder Morgan Trans Mountain Pipeline twinning project. To this end, we invited others who had taken part in the process. Our public forum panel consisted of Elizabeth May, MP, Saanich — Gulf Islands; Stanford Reid, authority on shoreline assessment and clean-up techniques who prepared the technical reports for the Cowichan Tribes and Living Oceans intervenors; Mike Fenger, President of the Friends of Ecological Reserves who provided information on the 19 Ecological Reserves along the tanker route and how to mitigate risk; and Eugene Kung, authorized representative of the Tsleil-Waututh Nation, working with TWN's Sacred Trust Initiative.

Our Public Forum was held on May 16, 2018 at the University of Victoria and the evening was moderated by Racelle Kooy, a respected moderator who co-chairs the Assembly of First Nations as well as a member of the Samahquam First Nation. Our evening was well attended by Friends of Ecological Reserve members, UVic students and members of the public, both young and old.

Because of the length of the talks, the following description is a mere representation of the information and detail that we heard. FER is planning to provide the DVD version of the evening on our website shortly.

Our first Speaker was Elizabeth May who started off with the statement, "I was accepted as an intervenor in 2014 and there began what might be described as a



Elizabeth May

'nightmare.'" She went on to say that the NEB used to be a predictable and legitimate regulator created by legislation as quasi-judicial. But due to the previous Prime Minister's Bill C38 which changed 70 different laws, the NEB was now conducting Environmental Assessments and therefore decided not to allow its normal rules of fairness to apply. She said this was important to note as she wasn't allowed in the public hearings, even as a registered intervenor until February 2016. A supposed public tribunal now had all the rules of procedure changed and intervenors were only allowed in the room to give final arguments.

Ms. May actually went through all of Kinder Morgan's (KM) evidence, all 23,000 pages of it which she found duplicative and repetitive. She contended to the NEB that it was Kinder Morgan's intention to provide this voluminous evidence to deliberately deter people from reading it. But she ploughed through it and pointed out in her talk that KM paid a lot of attention to some risks and not to others. The example she provided was that KM spent a lot of time examining the threat of Avian flu being spread by pipeline workers who inadver-

tently blundered into poultry barns as they were constructing the pipeline. On the other hand, they minimized the risk that dilbit in a tanker can spill because that was so improbable that there was no point in even worrying about it.

KM had done a one-time only (not published in scientific literature and not peer reviewed) study of what dilbit would do. They did this study in Gainford, Alberta in the summer. They took tanks of fresh water, stirred in salt and said, "that's just like Burrard Inlet". The temperature and PH parameters that they had set were all violated because the weather was so hot. They poured the bitumen mixed with the diluent onto the surface of the water in the tanks to see what would happen. They reported that it floated. However, the spill floated in a different shape than what they were expecting and so were unable to measure it because the ruler they brought was the wrong size. They did note that they would repeat this experiment with better equipment. This was the sum total of what Kinder Morgan put before the NEB to say that they could clean up a dilbit spill on sea water.

May went on to talk about the Enbridge pipeline spill into the Kalamazoo River in Michigan as this was the first time that dilbit had been spilled in fresh water. It separated and the diluent went off into the air which is actually how the residents of Kalamazoo knew that there had been a spill. They started getting sick.

The review done by the National Transportation Safety Board in the US concluded that when the break in the pipeline occurred, the Enbridge Control room had alarms going off but the people in charge thought they

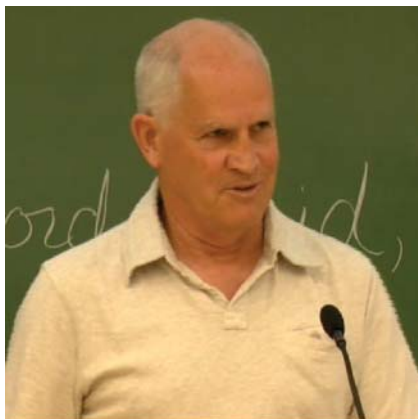
Continued on page 13

knew what the problem was because they had recently done work on a pressure issue. They figured the warnings were wrong, so they turned off the alarms. When there was a shift change, the first shift didn't tell the next shift that there was a break in the pipeline according to the warnings and that they had shut off the alarms. The day shift turned on the taps and 80,000 gallons of dilbit spilled into the Kalamazoo River. So the first sign of a problem did not come from their detection systems, but rather from residents calling 911.

This was the first time that it came to the attention of those working on pipeline and fossil fuel issues, that diluted bitumen does interesting and different things in the natural environment. We found out that the diluent separated out and evaporated and the bitumen sank to the bottom of the Kalamazoo River where it still sits today because engineers concluded that you can't clean it up without destroying the river because you would have to rip up the whole river bottom to get rid of the bitumen that sank there.

May concluded her talks with the important point that we have never had a diluted bitumen spill in an ocean environment. So we don't know what dilbit does in a marine environment. May said she would be quite content for Kinder Morgan to spill as much dilbit as they want in tankfuls of fresh water with salt added in Alberta because it appears in those tanks, that the stuff will float at least for a bit!

Our next presenter was Stafford Reid, our shoreline cleanup expert with over 40 years experience in environmental management that includes environmental emergencies. He stated at the outset of his talk that Canada really does have a safe shipping industry – they have pretty good oversight and a good track record and do not want a



Stafford Reid

marine vessel casualty with spills occurring. He went on to say that he was the technical geek for Cowichan Tribes and the Living Oceans Society and he had read through over 400 pages of material and went through the 23,000 pages of evidence that Kinder Morgan provided. He used specially developed search engines so that he could tease through the documents and find the "Igotcha" moments.

He went on to say that we are too focused on the oil spills and aren't looking at the management of the oil tanker itself. There are things like salvage, the environment and places of refuge that we need to consider. He pointed out that we have an *Oceans Act* and *Oceans Strategy* that say, when in doubt, the environment gets the benefit of the doubt. He also wants the probability and the consequence of risk to be given equal consideration and it's not, which became obvious during the National Energy Board hearings. If a spill's probability was considered very low, then everything else is secondary. Stafford stated that he believes that an oil tanker accident could happen at any time.

Reid's talk was very detailed and quite convincing. His final assertion that dilbit, which is initially made with fresh crude oil but with an added diluent, has a much more extensive evaporative property and is highly volatile. It creates a high likelihood of being a hazardous

material and a spill would create a dangerous and uncomfortable environment to work in. It will very quickly, within a matter of hours, turn into a heavy oil spill and it will emulsify. It will become so viscous it will challenge our ability to recover it in any effective way.

FER President Mike Fenger spoke next. Mike pointed out that FER took a neutral position at first. We were accepted as an intervenor because we were advocating for the 19 Marine Ecological Reserves along the tanker route but we needed more information. After looking at Kinder Morgan's submission, we teased out what we thought were a reasonable set of promises from KM. In the NEB's own words "the Board expects applicants to identify burdens associated with the project and to implement measures aimed at reducing the risk of impact of the burdens."

We recommended to the NEB that the risk bringer be made fiscally responsible for filling knowledge gaps. We were hedging our bets, we didn't think the project would go through but if it did, we presented them with things they could do. We wanted an endowment fund set up to pay for more research and for a monitoring program. We crafted the conditions, but we were unsuccessful.

We used information requests to seek more information, but the NEB said we were all on a fishing trip so they wouldn't compel KM to respond. The request to see spill response plans was denied as the NEB defended KM's position that this was private information. The process was looking biased and people were beginning to leave. Our conclusion was that KM provided insufficient information to intervenors and the NEB shielded them from a need to respond. When we started, KM thought there were five ERs so we had to tell them there were a few more!

Continued on back cover

Elephant Seal Pups Born on Race Rocks

By Garry Fletcher

There has been much news and debate in the media on whether or not we should have a seven fold increase in tanker traffic through our waters, and whether or not diluted bitumen will float or sink or whether we need to allow a massive increase in the shipment of oil from Alberta when it should be refined here in Canada. So it might be useful to reflect on one of the areas in our community most likely to bear the brunt of an ecological disaster and on the unique events which take place yearly at Race Rocks Ecological Reserve.

Since 2009, there have been pups born at Race Rocks to the resident elephant seals. This is very significant as it is the most northerly pupping location on the Pacific Coast. This year was especially significant in that two pups were born in January, several weeks apart and both were able to make it through the nursing period and then the weaning period when the mother abandons them.

It was especially noteworthy that one large elephant seal bull looked after the two pups throughout their most vulnerable period when they were still with the two mothers. Shortly after they have given birth, the females are usually submitted to aggressive sexual encounters, and the pups are at risk of being trampled or bitten. Then, after three to four weeks when the mothers have transferred all their stored up energy to their



One of the elephant seal pups with other females. Photo posted by Laas Parnell, January 31, 2018.

pups, the mothers leave the island for the first time since birthing and the pups are again vulnerable to attacks by the males. This year in particular it could have been difficult because in early January there were five mature bulls on the island. However the large male (he acquired the name of Bernard from the ecoguardian) became a protector and aggressively kept the other bulls away.

One could keep track of the nursery daily using the remote control camera on the top of the lighthouse, see:

www.racerocks.ca/video-cameras/camera-1-race-rocks-lighthouse.

As of March 15 the older of the two pups is now going in the water and hauling out on the jetty. The younger one is still using up his fat storage tissue and just

trying to keep out of the way of other males.

Thanks go to Mickey Muscat and Laas Parnell who have alternately served as Ecoguardians at Race Rocks during the nursery period and have provided pictures of the elephant seals and comments on the behaviours on the www.racerocks.ca website log. Lester B. Pearson College has staffed the Ecological Reserve with a resident ecoguardian since 1997 when the Canadian Coast Guard automated the light station. It is because of the daily observations of these ecoguardians that we gain a valuable insight into the behaviours of these unique animals.

(editor's note: I asked Garry how the two elephant seal pups were and he advised me that they had survived, which is a first at Race Rocks!)

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Continued from p. 13

Our last speaker was Eugene Kung who is the authorized representative for the Tseil-Waututh First Nation. He is also a lawyer for West Coast Environmental Law.

Eugene stated that he grew up on Burnaby Mountain and he finds this whole situation very surreal and very personal. He has spent five years working with West Coast Environmental Law and the Tseil-Waututh Nation; he's eaten, breathed, slept and dreamt Kinder Morgan every day.

He talked about the Tseil-Waututh's experience with the NEB. They, like a lot of First Nations, were put in an impossible situation because of Canadian law. The Court says if you don't participate in processes that are put before you, then you can't complain about them later or say that you didn't get enough opportunity to have your say. They knew from studying the Northern Gateway review process how rigged it was because of the change of rules.

The Tseil-Waututh decided that they would do their own assessment and asked the NEB to cooperate with them as per a section under the *Canadian Environmental Assessment Act*. The NEB didn't know how to respond to that, so the Tseil-Waututh went ahead on their own.

The Tseil-Waututh experienced most of the same issues as other intervenors, not having questions answered, the incredible volume of material, etc. but also they strongly objected to the timing of the Aboriginal oral traditional evidence which was set to happen in the peak of harvesting season!



Eugene Kung

The Tseil-Waututh assessment was not called an environmental assessment, it was called an Assessment of Trans Mountain because their scope was much broader than just ecological impacts. They looked at impacts on culture, on contemporary and traditional economies, on spirituality, health, well being and so on. They also considered climate change which the NEB did not. When the Tseil-Waututh Assessment was filed with the NEB, the National Energy Board called it another study and balanced it against the KM studies. And lo and behold they found Kinder Morgan's studies more credible!

So at the end of the day the NEB failed by excluding marine shipping from the scope of their Environmental Assessment Review, that the consultation regime was completely flawed. There is a motion before the Federal Court of Appeal to reopen the evidentiary record to include some of these documents in an un-redacted form and have them considered by the Court. They still hold out hope.

The Log



Friends of Ecological
Reserves
PO Box 8477 Stn Central
Victoria, BC V8W 3S1

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