



## DECISIONS AND ACTIONS

**Steering Committee**  
Tuesday, October 10, 2017  
Colwood Municipal Hall

**Present:** Sheryl Grieve, Jason Nault, Judy Nault, Gayle Johnston, Beth Mitchell, Joe Richardson, Vicki Metcalfe, Ivo van der Kamp, Kitty Lloyd

**Guests:** Kristin Morell, Ann Nightingale

DECISIONS			
1			
Next Meeting: 12 December 2017			
ACTIONS		ACTION BY	DUE
1	Make suggestion to Colwood about where the food trucks and picnic tables should be located for 2018 season	Kitty	Spring
2	Engage RRU to see if they would put up the First Nation mural and sign on their property	Kitty	Carry forward
3	Send a link when RRU student bird projects are complete	Roberto	When available
4	Check with Sandra about when Colwood draft OCP visions and goals will be ready for final review	Kitty	ASAP

### INFORMATION

#### Decisions and Action items from last meeting:

- Ivo is unsure when Colwood draft OCP visions and goals will be ready for final review – Kitty check with Sandra **ACTION**
- Jason met with Sandra and discussed a few other lagoon issues (climbing wall, etc.), but was not able to set a meeting to discuss signage etc. at the lagoon. Generated more discussion including:
  - people camping overnight at lagoon
  - food trucks - Jason suggested ELSI might want to talk to them about moving location for food trucks next summer and make it a more formal request
  - updating parking hours
  - bylaw enforcement
  - washrooms locked/portable toilets etc. as related to people staying at the beach late, and (illegal) overnight campers

### **Presentation – Recent research finding on the Leech River fault system**

(Slides of ‘published information’ only attached to these notes) – Dr. Kristin Morell, paleogeologist from University of Victoria

- Leech River fault has been around for 50 million years, previously considered to be inactive
- Juan de Fuca plate is subducting under North American plate at a rate of 40mm/yr
- Crustal (i.e., shallow) quake of 7.1 can cause as much damage as a 9 deep under the crust – Leech River fault is a crustal fault
- Active faults are determined by finding sediments that can be dated, that are clearly cut by fault
- LiDAR (essentially a laser scanner that’s attached to a helicopter or airplane) data is used to find smaller faults and can be used for many different types of data
- Video showing surface rupture as an example of what would happen at the lagoon
- CRD Drinking supply watershed been flown over and details of land was discussed in slide – CRD Watershed Services was instrumental in this work and work couldn’t have been done without them
- There is evidence of more active faults including San Juan and Beaufort Range faults

**Q:** What’s the real driver? **A:** Ocean floor is colliding with the land mass at a rate of 40mm/year (determined by GPS)

- Best thing we can do is make sure our buildings are retrofitted/reinforced to save lives and money; Christchurch, NZ is a good example as it was on a Crustal fault that no one really knew about

**Q:** Correlated the Leech River quake to the mega thrust event – is there any effort to correlate other earlier ones to other mega thrusts? **A:** 2011 Japan and 2011 Chile quakes triggered other quakes

- Offshore quakes could produce a tsunami in Victoria. There needs to be funding to continue this kind of research to help ensure the right building practices, especially for downtown Victoria. It’s been difficult to get funding. LiDAR data used was collected in 2007. Most of the funding that Dr. Morell had for this study is from NSERC (her research program) and from money she received as a startup grant to begin her job at UVic. Many companies have been contacted and no one has the budget right now to help with this.

**Q:** Is there anything that a group like ELSI can do to help? Letter of support or...? **A:** Unsure at this time. Dr. Morell is trying to get the word out that this an important thing to study

**Q:** At what point does the Leech River fault line hit land, is it through the Royal Roads campus? **A:** Yes, ½-km zone under delta that projects offshore

- There was a discussion about changing landscapes and what to look for
- Devil’s Mountain fault line - Suggestion to have [Vaughn Barrie, Pacific Geoscience Centre](#), to talk about issue as he has some data from topography offshore and has done some coring and geophysics

**Q:** What do you think the fault has done to the bottom of the lagoon? **A:** Probably created topography. What it’s going to do during the next quake (if it’s surface rupturing) is basically make a step in the earth’s surface within seconds and create a lot of topography and potentially displace water and all the things on the seafloor and create lots of sediment and landslides.

**Q:** What would be a conservative reasonable change to make to the building code under uncertainty, knowing that there is an active fault? **A:** Outside of Dr. Morell’s expertise, but she has spoken to experts and they say that the main thing is to make sure that old buildings

(like many in downtown Victoria) are reinforced for local shaking. Like Royal Roads University, any buildings that are sitting right on the fault are the most vulnerable.

### **Colwood Updates - Ivo van der Kamp:**

#### Colwood Corners

- Issued a development permit for Phase 1, 10 buildings
- Expecting to start construction mid-Oct., for past 2-3 months dewatering underground parking garage
- Colwood Pub – hasn't heard if anyone is interested in this old building, will get demolished if no interest

#### Brookes School

- Started construction, first 2 storeys of dorm building (will be 6 storeys), building permit application now in for all buildings on site, should have permits in next 1½ weeks

#### Pacific Landing

- Phase 2 application in (one 5-storey building with 20 units, south of existing building)

#### Corner of Seafield and Heatherbell

- Scheduled adoption of bylaw tonight, development agreement registered, works are taking place on Seafield now are for Ocean Grove project, temporary sidewalk, nothing else much happening with Ocean Grove project

#### Royal Bay

- Still working on Latoria North, issued a development permit for 63 townhouses (SW of the school), servicing now on NW side of intersection of Latoria/Metchosin

#### Hatley Drive (between Millburn/Metchosin roads), Daniel Place

- Multiple 5-storey buildings, report deadline in 1½ weeks, 2 different options, 11 single-family lots, or 5-storey buildings, had a neighbourhood meeting last Saturday. The neighbours Ivo talked with are not in favour, they'd rather have the 11 single-family lots than the 5-storey buildings

#### Pithouse Park building

- Used to be the Aquattro sales centre, is now confirmed to belong to the City of Colwood. Jason will be following it closely to see what Colwood decides to do with it.

#### Millburn Road safety

- Safety of children heading to school on Millburn (no sidewalks) from traffic diversions etc.

**Q:** Why was the rock on Heatherbell left instead of filling it and used for parking (between the sidewalk and the road there's a 4- to 6-foot-wide ditch)? **A:** Ivo doesn't know the answer to that question – It's a valid concern, but the issue should be discussed with Engineering

### **Presentation – Swans and other bird populations in and around Esquimalt Lagoon**

Ann Nightingale, Rocky Point Bird Observatory and Victoria Natural History Society

- There was a provincial Ministry of Environment decision 2008 to cull the Mute swans (non-native species), but there was a huge public outcry, so it was never acted upon; swans can be dangerous/aggressive

- Discussion regarding decapitated swans found at the lagoon that washed up on the beach. Deliberate act?
  - Illegal to move a trumpeter swan. Life span can be up to 20-25 years
  - Esquimalt Lagoon has been a dumping ground for years for people with domestic waterfowl
  - There are native Canada geese, as well as Cackling geese; prior to 1970s when hunting regulations were changed, highest number of Canada geese was 125, now we routinely have 6,000 in the region, not including outlying areas, easily 10,000 geese on Southern Vancouver Island
  - Banding/collar study done in Nanaimo and north: Geese with white collars with black type on them – report them to Vancouver Island University - Some of the geese we thought were non-migratory are actually showing up in Oregon. Parksville had some culls – First Nations harvesting for food supply
  - Rocky Point Bird Observatory – Issues with access from DND. Military is using Rocky Point much more than they used to and there have been many days RPBO has been barred from the site; this was one of the worst years for access; has impacted long-term studies; happened in 2011, but not as bad as 2017; started a second station in Pedder Bay to avoid this problem, able to monitor populations better; tap into a different group of species than typically seen at RPBO, down side is that access to Pedder Bay is also at the whim of landowner **Q:** What about Pit House Park? **A:** Not right at the south end of Vancouver Island.
  - Northern saw-whet owls are very abundant this year. Since Sept. 15, 1,450 have been banded!! Fires in BC interior may have caused some birds to come into this area
  - Birds in Williams Lake area are coming to Vancouver Island – this is important for a conservation message because we're monitoring birds from Southern Vancouver Island, but we need to be concerned about what's happening in the northern central coast on the mainland because that affects the birds that come here
  - Discussion about vandalism and theft at bird banding and fish monitoring stations recently (Bee Creek site on RRU property); wildlife cameras are useful (birdhouse as a decoy idea)
- Q:** Any drop in bird populations at Esquimalt Lagoon? **A:** Esquimalt Lagoon is a hot spot on eBird (app). eBird Has some historical data too, e.g., American Coots not seen there anymore, fewer ducks also
- Worrisome that there's lots of sand bars, south end of lagoon is very grey and yucky looking; water stinks. With more development around the lagoon, there will be more changes
  - Discussion re. can Colwood, with Canadian Wildlife Service, make people more responsible for their pets (cats and dogs), particularly in nature-sensitive areas. Kitty has had detailed discussion with CRD animal control and they have never actually given out a ticket [they don't patrol after 6 p.m. and may not enforce it on the waterside (ocean side) of the Lagoon]
  - Dog walkers (with dogs off leash) in area are very vocal/aggressive about their differences
  - Bird questions can be sent to [RPBO@RPBO.org](mailto:RPBO@RPBO.org)

### **Coordinator updates:**

#### **Signage at Lagoon – with updates from CWS via email from Owain McKibbin**

- Recent discussions with Owain McKibbin from Canadian Wildlife Service; CWS has good intentions of getting signs up; ideas to re-sign all along the boundary of the lagoon, to ensure that the public's aware of it being a migratory bird sanctuary, especially in the RRU area; looking at involving the University
- Working with DND about the disposal of the RRU properties and how it impacts the sanctuary

- Working with the signage company to get the new and replacement signs up; signs need to be in both English and French; and to see how best to use the digital images
- Signs will incorporate the use of educational messages re. feeding wildlife
- Signage for canoeists and boaters

#### **Coordinator Activities since meeting in June:**

- International Migratory Bird Day at Fort Rodd Hill
- Paint In at RRU with watershed model (now being taken over by Peninsula Streams Society – all watershed models are located at their offices near Deep Cove)
- Broom pull in June, Greater Victoria Green Team joined in, 23 people
- Canada Day @ Fort Rodd Hill, 350 people came by the display and watershed model
- Eats and Beats Festival
- Volunteer Appreciation BBQ was held at the Gorge Waterway Nature House in September, with GWI and Bowker Creek volunteers, 25 people – great chance to meet others with similar interests, at an interesting venue
- Beach clean-up with green team in Sept. - 2,240 cigarette butts collected!!

#### **Upcoming Activities:**

- All Bufflehead Days in Sidney and All Buffleheads Day Family Festival at Bateman Centre; Judy Nault will be at ABD in Sidney to represent ELSI
- Migration symposium and GreenShores program discussion
- Riparian restoration workshop on Haliburton Brook (Elk/Beaver Lake park); day in the classroom and day in the field, Nov. 18/19 – Kitty will be sending a notice about it

#### **Partner updates:**

##### Colwood council: Jason Nault

- Pit House Park building (previously Aquattro sales building) – suggestions about what people would like to see (Ideas: bird observatory, educational centre, coffee shop)

##### Pacific Landing – Judy Nault

- Attended Habitat Acquisition Trust event at Metchosin re. yellow flag iris and didn't get any good news other than you just have to pull them out

##### Gayle Johnston

- Happy with new sidewalks and speed bumps in neighbourhood

##### Beth Mitchell

- No fish in Selleck Creek
- Colwood creek has no sites deep enough to put traps in; circulated a photo of exposed gravel bed
- Provincial *Water Sustainability Act* infractions (long list of items in relation to golf course discussed), no one from the province is calling her back
  - Q:** Can the CRD address this in any way? **A:** Suggestion that CRD has 5-in-30 sampling with flow meter above and below the golf course, CRD should be able to offer that info; Riparian rights were also discussed
  - Q:** Is there anything that ELSI can do as far as this water situation goes? **A:** Beth will contact organizations again, and give them another opportunity to respond to her

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- No response from Peninsula Streams after project in Millstream Creek re. problems with spawning in Colwood

Victoria Natural History Society – Vicki Metcalfe

- Meeting in Sept. and the last Board meeting was cancelled due to lack of quorum
- All Bufflehead days
- Bird guide/checklist sold out
- Membership (VNHS) is good, but there's strong attrition that people are concerned about; questionnaire being developed

Joe Richardson

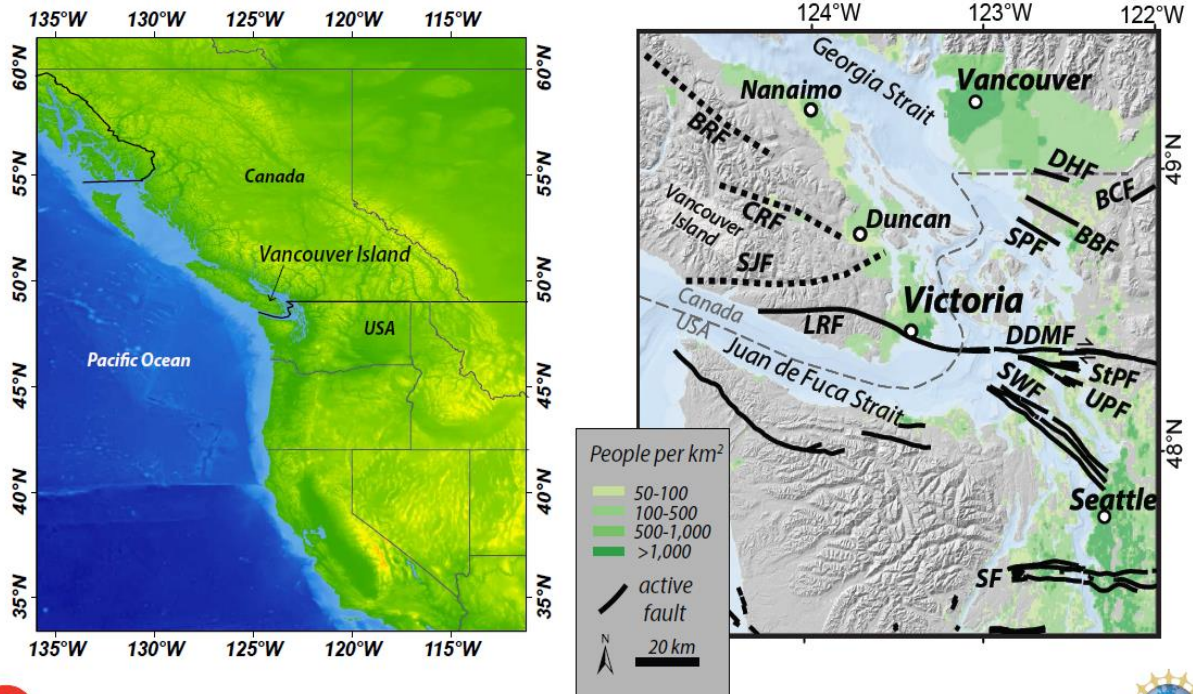
- Beth has covered most updates- keep going with fish monitoring
- Things are okay with Bee and Colwood creeks, finding some fish there
- Selleck Creek is not looking good, not finding fish and have looked 3 times this year

**Meeting adjourned 4:45 p.m.**

Copy of Presentation: Dr. Kristen Morell, UVic School of Earth and Ocean Sciences  
Recent research finding son the Leech River fault system

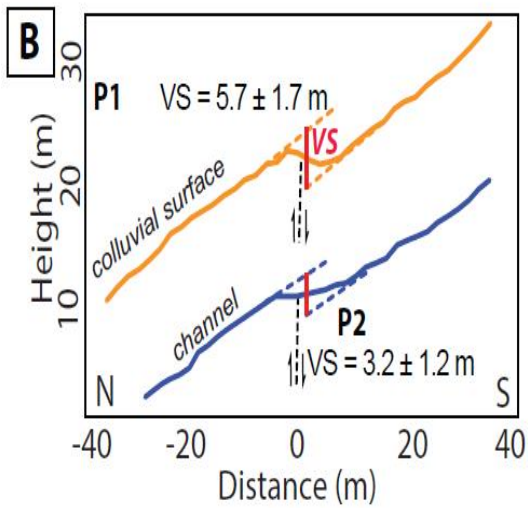
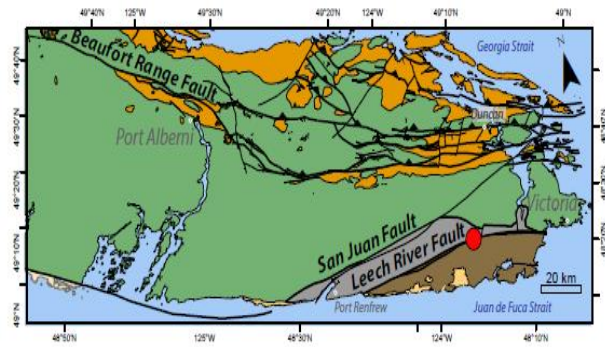
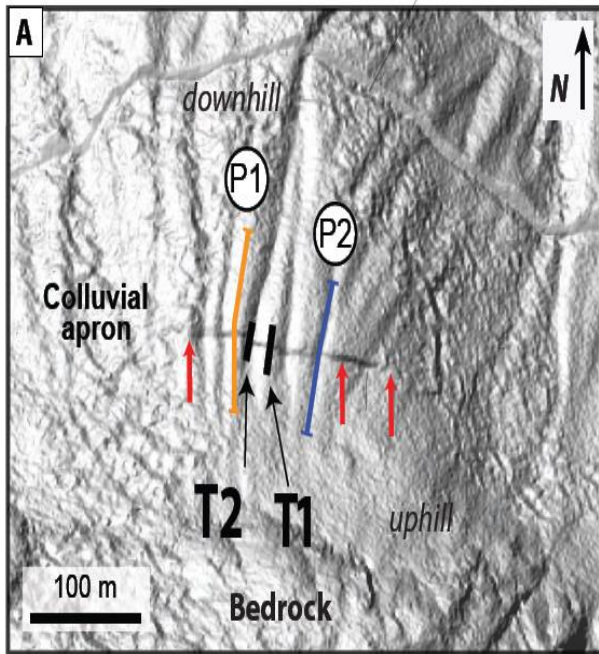
## A newly discovered active fault beneath Victoria

Kristin Morell—University of Victoria, Victoria, BC, Canada; Christine Regalla (BU), Audrey Graham (UVic), Lucinda Leonard (UVic), Colin Amos (WWU), Scott Bennett (USGS), Vic Levson (UVic), Theron Finley (UVic), Emerson Lynch (BU), Nick Harrichhausen (UVic)





# The Leech River Fault

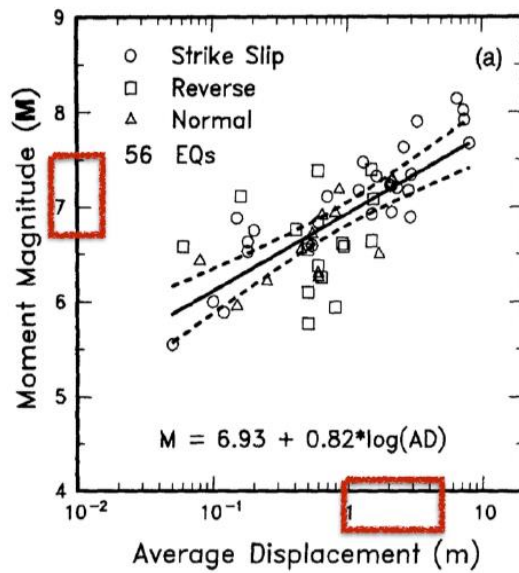
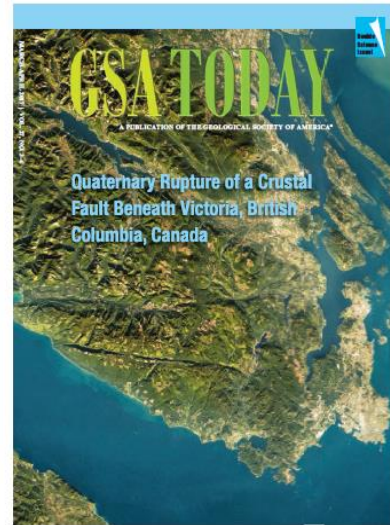


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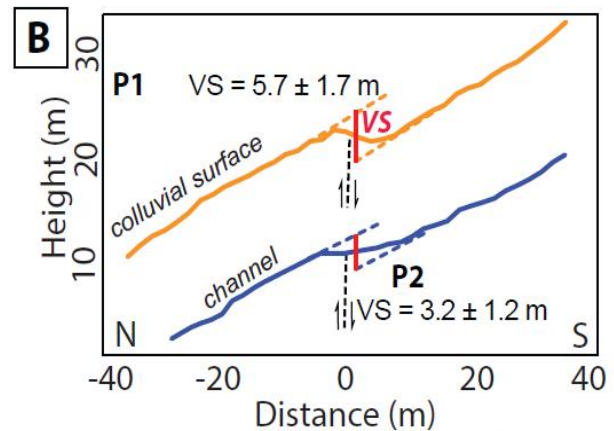


## 2-3 surface-rupturing earthquakes since ~12 ka

Displacements correspond to earthquakes > M 6.5



Wells and Coppersmith, 1994



Morell et al. 2017