

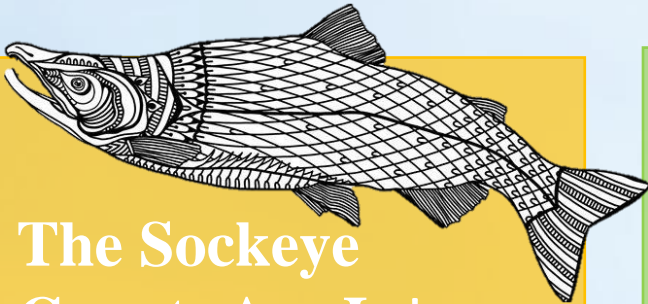
The

# GUMBOOT GAZETTE



Volume 11, Number 1

Spring 2021



The Sockeye  
Counts Are In!

Visit us at the  
Skeena Farmers  
Markets on May 1<sup>st</sup>



We  
Have  
Volunteer  
Opportunities!



Funding  
Opportunities



Zebra Mussels  
Discovered in  
Terrace



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@lakelse\_watershed\_society



@Lakelse Watershed  
Stewards Society





# Market Opens May 1st

SKEENA VALLEY FARMERS MARKET

## LWSS SKEENA VALLEY FARMERS MARKET

We are excited to announce that we will be partnering with SkeenaWild and will be hosting a booth at the Skeena Valley Farmers Market on May 1<sup>st</sup>.

Come visit our booth and enter to win a stewardship essentials gift basket. We will also have a fish tank and encourage you to try to identify the species of fish on display!

We will also be selling memberships, as well as a variety of promotional items including hoodies, t-shirts, hats, and stickers.



# **Sockeye Scully Counts 2020**

**The counts are in!**

**Using an underwater camera a total of 285 sockeye were counted heading upstream to spawn.**

**Out of the 285 sockeye counted there were:**

- 176 male**
- 72 female**
- 32 unknown sex**

**Some fish swim by the camera too fast and don't give us a glimpse of there face or back. This makes it difficult to identify their sex.**



## Terrace Community Forest Grant Fund Approval

With funding granted by the Terrace Community Forest we plan on adding more interpretive signs to the signage along the Clearwater Lakes hiking trails! Potential sign topics include moose, invasive species, and otters.

In addition to the interpretive signage, we will be installing ATV signage at two different areas of concern within the Lakelse watershed. Signage will remind people on ATVs that they should avoid driving through sensitive habitats and try to remain on defined trails.



# Zebra Mussels Found in Terrace

The Conservation Officer Service can confirm zebra mussels have been found on moss balls in Terrace.

CO's collected the contaminated moss balls, after a woman made the discovery inside the aquatic plant aquarium in her home and phoned the #RAPP line.

We ask the public to please inspect their aquarium moss balls for any potential zebra mussels. If you think you have found a zebra mussel, please call the RAPP line at 1-877-952-7277.

To safely dispose of contaminated moss balls, please do one of the following:

Place the moss ball into a sealable plastic bag and freeze for at least 24 hours or place the moss ball in boiling water for at least 1 full minute. After this, place the moss ball and any of its packaging in a sealed plastic bag and dispose in the trash. Do not flush moss balls down the toilet or dispose of them in the compost. Never dump aquarium tank pets, plants or water into any residential water system or B.C. waterway.

To date, there has been no reported introduction of live zebra mussels into B.C. lakes or waterways. For more information on zebra mussels, please visit: <https://www2.gov.bc.ca/gov/content/invasive-mussels>.



# Marine Clays in the Kitsumkalum-Kitimat Valley

If you have ever walked along the Thunderbird powerlines north of Lakelse Lake after a hard rain, you may have noticed the slippery, soapy feeling underfoot. The greasy feeling you are noticing is caused by marine clays. The particle size that forms these clays is extremely fine, making it ideal for forming pottery and giving a smooth finish; however, marine clays are not ideal for land stability and pose serious problems when constructing highways, buildings, and other infrastructure.

Marine clay sediments settle the ocean through the processes of erosion and deposition. Clay sediment size is less than 0.002mm in diameter. Clay is the finest sediment that can be found. It is smaller than silt which ranges from 0.002mm to 0.05mm in diameter, and sand which ranges from 0.05mm to 2.0mm in diameter. Clays often form in estuaries and deltas where fresh and salt-waters mix, which is why it is often found in coastal regions. Clay particles flocculate in these environments, meaning that they bind to other particles dependent on molecular charge and will gain in mass and size and settle on the ocean floor (Barrett et al., 2014).

Marine clay has minimal permeability which makes it ideal for holding water. This is sometimes responsible for holding ground water in perched water tables, making it available to access through the drilling of wells. It also has low shear strength due to the small particle size, making it very plastic and sensitive to external factors such as vibration and saturation (Raju & Sondermann, 2015).

But how did marine clay end up near Lakelse? To answer this question, we must look at the geographic and glacial history of the Terrace-Kitimat area. A large trough runs from north to south, from the north end of Kitsumkalum Lake to Kitimat. This valley was not formed by moving water, but rather faults that run deep into the earth (see figure 2). These faults are responsible for the upwelling of hot ground water that form the Lakelse Hot Springs (Hayward et al., 2010). Rewind 10,700 years ago and the entire Kitsumkalum-Kitimat Valley would be under a glacier which caused the land to become compressed under the weight of ice. This compression is called isostatic depression. The depression was great enough for ocean levels to come up nearly to Terrace (see figure 3), hence the marine clays that can be found near Lakelse Lake.

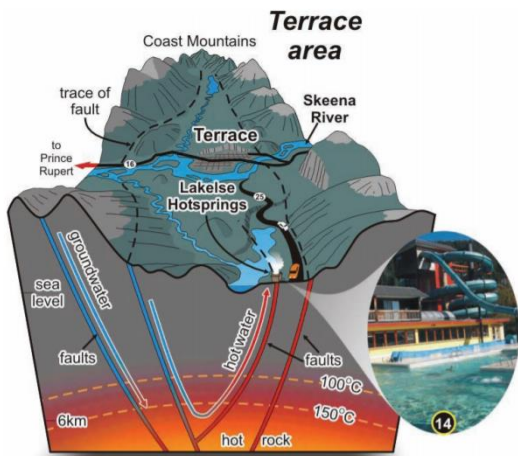


Figure 2. Overview of Kitsumkalum-Kitimat valley formed by geological faults (Turner et al., 2010).

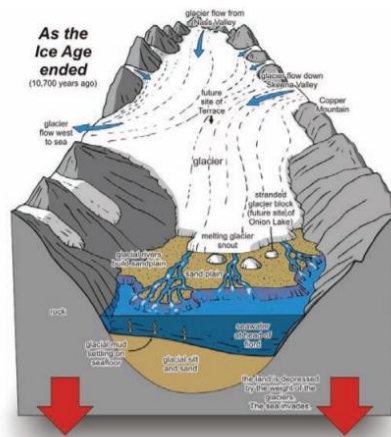


Figure 3. View of interpreted glacial history of Kitsumkalum-Kitimat valley (Turner et al., 2010).

There have been a number of relatively recent events that have occurred between Terrace and Kitimat that illustrate just how devastating marine clays can be. In 1962 a massive slide occurred between Granite and Furlong Creeks (see figure 1). The slide took out the highway between Terrace and Kitimat. It buried vehicles and heavy equipment and power poles “snapped off like toothpicks” (Hallock, 1962). According to Hallock, the slide spanned 1.5 miles and fissures as large as 12 feet across and 30 feet deep opened.



Figure 1. View of Furlong landslide (Terrace Library).

Sometime between mid-December 1993 and early-January 1994, another massive slide occurred a few kilometers West of the Furlong slide. This slide occurred on relatively flat ground where approximately 23 hectares of glaciomarine sediment flowed into Mink Creek (Geerstema & Shwab, 1996).

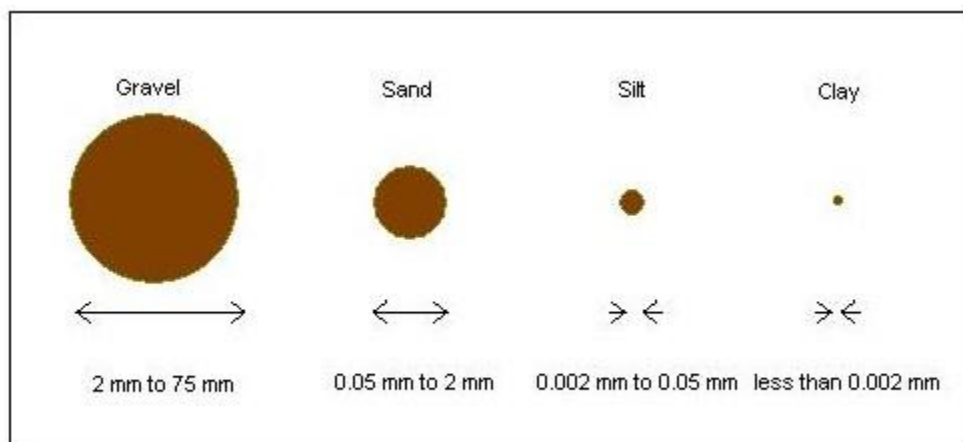
The most recent landslide event in the area occurred in late 2020 on the Thunderbird Road adjacent to the Lakelse River. The slide was approximately 10 hectares in relatively low-grade terrain. This emphasizes the instability of marine clays and importance of surveying an area properly prior to developing.



Photo Credit: (Scoopeddad Drone, 2021)

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We look forward to offering volunteer opportunities this summer!

We have a variety of projects starting in May, including water quality sampling, salmon escapement, and interpretive programs!

If want to get involved or if you have questions, feel free to email Summer at [sschulte@westlandresources.ca](mailto:sschulte@westlandresources.ca).

All opportunities are dependent on updating COVID health regulations.

We hope everyone is staying healthy, happy, and safe out there!

