2020 - 2021

LNID Trustee Report to Members

This past year has been a challenging one for everyone as we have dealt with the restrictions and uncertainties associated with the COVID-19 pandemic. We hope all LNID members and their extended families are safe and healthy and will continue to be so in the future. Our thanks goes out to Pam Mann, George Windsor and, of course, Coral Brown for their help and support. The board would like to take this opportunity to acknowledge the many years of service that George Windsor has given to the LNID. He served the LNID in many roles and positions. George stepped down from his position as Secretary this past fall and will be greatly missed.

Last year, due to health restrictions and concerns over the pandemic, our AGM was postponed until November and held over Zoom. Prior to that meeting, a trustee election was held by email and Glenda Stewart-Smith, the LNID chair was elected to another three year term. Sandie Wilson is a long-time resident and is completing her third year on the board and another email trustee election will be held prior this year's June 19, 2021 AGM. Bill Kresowaty has volunteered to take on the role of LNID Secretary.

Background:

There are only 2 Land Improvement Districts in BC, but we are included in Provincial regulations with Irrigation Districts (IDs) that provide water to 3 or more on one intake, such as a Community Well. The LNID is governed under the Ministry of Municipal Affairs & Housing (MoMAH). The LNID has specific regulations that must be followed and all Bylaws (operating taxes, meeting procedures) must be approved. We are a form of Government with direct access to taxation, but with a

mandate for works/land improvement described as “drainage” in the 100 year old Water Act which still is our guide under the 2016 Water Sustainability Act.

We have held thirteen meetings from June 25, 2020 to May 27, 202.

At the May 19th, 2019 AGM members passed resolutions:

*]1. “That the LNID convert to a Service Area (SA) of the RDOS with recommendations from **Don Dobson** – letter of intent”*

***2.** “That the RDOS identify the scope and the cost of the conversion and with the intent of having a LNID vote once costs are determined”*

Much of our work up to May 2021 has been on bringing these resolutions to fruition. In December 2019, the RDOS Board passed a resolution to proceed with a conversion study to explore the different implications of creating a Flood Mitigation Service Area. The study is complete and we were expecting to have had it presented to the RDOS Board by now, but the decision has been made to send the study back to address the possibility of expanding the service area to include the waterway and flood basins down into Oliver and other areas. It is difficult to estimate when this additional study will be completed and what the result will be.

There are many possible outcomes to the conversion study - it is possible that RDOS may decline to take us on, the cost to LNID members may be high or it may be an ideal solution for us. Having additional geographical areas added to the service are may be of benefit to us. **The important thing to remember is that before any decision is made, LNID members will be consulted and there will be a vote on the process.**

The issue for us is the funding we need for the gravitational pipe that has been recommended as the standard. This is likely beyond our financial capability at this time without looking at increasing the tax assessments. Conversion would provide access to provincial grants that LNID cannot apply for. Improvement Districts (IDs),

of which Lower Nipit (Twin Lake) Land Improvement is one, are not eligible for Government Infrastructure Grants, but they can apply for Conservation Project Grants or perhaps Gas Tax Grants when approved by the Regional District (RD). This lack of access to provincial funding has been resisted by the 211 Improvement Districts, without success. Decreased access to funding has been an initiative to decrease IDs so that IDs will come under the RDs created in 1966.

There are a few possible options open to us: maintain the status quo (pumping either with our pump or a replacement pump), wait for the conversion decision and hope for provincial grants to alleviate the cost, proceed with the gravitational pipe independently (possible liability issues if not done correctly) or a combination of some or all of these.

We were again fortunate last summer (summer of 2020) with regards to flooding. The water running into the lake throughout the summer and fall was ongoing and the decision was made to begin pumping in September to make room for 2021 spring freshet. We asked and received permission to pump again this spring and decreased the lake level by 9 inches (from 17 feet at ice off to 16 feet, 3 inches once pumping ended). Pumping was discontinued as flow into the lake is slow at this time. Lake levels are continuing to drop and the lake is at 16 feet as of May 26th. If necessary, we will request to resume pumping again. We have included a summary of the Water Triggers for 2020 along with the Trustee Report as Appendix I.

Love Your Lake is a shoreline evaluation program developed by Watersheds Canada and the Canadian Wildlife Federation (CWF). They evaluated our lake last summer and have provided each property owner with a report on the health of their individual shoreline. LNID successfully applied for a $500 grant that will be put towards a demonstration garden. The process and plans will be showcased on the LNID website for those interested.

Lake level monitoring equipment which provide real-time feedback on lake levels and lake health has been installed. The data logger cost is covered by money from a former RDOS Director's grant.

Glenda and Coral were able to participate in a meeting with Gorman Brothers Logging and expressed concern about possible impact the logging could have on water flow and drainage into the lake. They have committed to having a hydrologist assess their works and make sure any runoff will not contribute to spring flooding.

The LNID website is complete. It contains information including the budget, LNID board meeting minutes, upcoming events, water reports,Twin Lake history and more. The URL is www.twinlake.ca

Please feel free to email us at lnidcttee@gmail.com.

Respectfully Submitted by the May 2020 – May 2021 Board of the Lower Nipit (Twin Lake) Land Improvement District. Trustees: Glenda Stewart-Smith, Sandie Wilson, Reinhard Maier, Director: Coral Brown, Treasurer: Pam Mann and Secretary: Bill Kresowaty

2020 Twin Lake Trigger Levels/Waterway Management

Triggers	Date **2020**	UTL storage Ft/m	TP storage Ft/m	LTL vertical Ft/m		Date	UTL stor Ft/m	TP stor Ft/m	LTL Ft/m
Snow pack /**Precipitation**	Feb 10 **132%N**	**Spring & fall rains ++**							
LTL ice off	**Apr 15**	.49/.15	0/0	14.4/4.389					
DL 1469s culverts ice out	**Apr 12** H20 for 40ft								
Water into UTL	**Apr 18**	.49/.15	0/0	14.4/4.389					
Water over UTL spillway	**May 2**	**3.98/1.2**	0/0	**14.4/4.389**					
Water into LTL	**May 5**	**3.98/1.2**	**3.28+ /1+**	**14.67/4.47**					
Horn Creek stops	**Jun 4**	**3.11/.95**	**2.62/.8**	**17.08/5.20**					
Spillway stops	**Jun 30**	**2.95/.9**	**1/3.28**	**17.76/5.41**					
Water to LTL stops	**Oct 17**	**.656/.2**	**1.31/.4**	**17.9/5.45**					
Dam culvert open/shut	**Jun30/Oct.1**								
LTL Peak	**Sept 17**	**.820/.25**	**2.62/.8**	**18.2/5.54**					
Ice -on	**Dec 3 to 21**	**.820/.25**		**17.118/5.217**					
Pump on	**Sept 17**	**.820/.25**	**2.62/.8**	**18.2/5.54**					
Pump off	**Dec. 17**	**.820/.25** Gr.Water high-→	Pump fr. 2 lakes + rain/snow	**17.118/5.217 Water-in until Oct.17.**					
Total Freshet	**8.13' (.82' +18.2') – (14.4'+.49')- 4'EUS**			**(peak – low - EUS)**					
EUS	**~4 ft.**	**Varies with precip., temp. & ground water level.**							
Total pumped	TL (UTL+LTL) total peak 19.02' (.82'+18.2'). 19.02'+ 4'EUS = 23.02'- 17.938' = 5.082' – 4'EUS = **1.082 ft.**			**Groundwater above average Lesswateruse?**					
Projected Next Capacity Addition info.	**LTL 2.19' (flood at 19.2') + UTL 3.18' = 5.37 ft.** **Bottom load from many washouts & 2019-2020 extensive logging may affect future water records.**								

Legend:

- WCG is Water Canada Gauge,
- UTL is Upper Twin Lake,
- TP is Turtle Pond,
- LTL is Lower Twin Lake,
- TL is Upper & Lower Twin Lake,
- Stor is live storage and MHC is Middle Horn Creek – from UTL outlet to TP.
- EUS is evaporation/use & seepage which in 1973 average was 3 ft. but 2019 proved to be 4 ft. (2 ft. from each UTL & LTL).
- DL 1469s culverts are at South White Lake Rd. ~ 1km above or south of UTL where Horn Creek leaves Orofino Mt. and enters a field.
- Snow pack is predicted mid Feb., mid Mar., & mid Apr. at Mt. Kobau snow pillow.
- LTL has full lake supply (FLS) at 18.6 ft when water spills beyond the tree line.
- Flood at LTL begins at 19.2 ft.
- Full System Supply (FSS) - UTL storage (licensed for 320 acre ft. which is ~4 vertical ft. on WCG before spill) + LTL 19.2 ft. at flood level = 23.2 ft.
- One vertical inch of LTL water when LTL is at ~ 80 acres or recommended high water level of 17.6 ft. is 2.173M US g. UTL & LTL area each about 80 acres but UTL is a shallow lake. LTL is 90 ft deep in the S. bay.
- LTL vertical water level is as the 1968 hydrometric station (Botham in 1973 stated normal should be a low of 12.6 ft to high of 17.6 ft).
- TL waterway is formed by its geology and initially was used by 2 ranchers for gravity feed irrigation. In the spring water was stored behind the 1948 dam to flood the upper field. By June 30 the dam slide culvert was opened so that water moved into the LTL which overflowed or later (1951 to 1962) was released via a slide culvert on a gravity feed pipe to a lower field DL 280.