WELCOME!



BIG PINE LAKE ASSOCIATION

2019 ANNUAL MEETING

August 17, 2019

MEETING AGENDA OVERVIEW



- Pine River Fish Passage Project (PRFPP) Overview
 - Project Timeline, Teaming Structure Overview, and Current Status
 - Rock Dam History, Project Background, and Lake Elevation Overview
 - New Dam Design and Long-Term Performance Objectives
 - · Q&A
- Call for Nominations
- Short Refreshment Break (Five Minutes)
- Business Meeting Call to Order
 - Meeting Minutes, Treasurer's Report, Committee Reports
 - Election of Directors
- Adjournment



<u>Dennis Bengtson</u>

- 6th Year on BPLA board (*Term Expiring Not Seeking Reelection*)
 - Developed the board's current structure with functional responsibility leadership roles
- President (4 Years); Secretary (1 Year)
- Director, Lake Level Analysis and Monitoring (5 Years)
- PRFPP Project Manager and Technical Lead (4 Years)
 - Worked closely with SWCD Lead Engineer to develop arched riffle design, calibrate hydrological modeling, and negotiate proper permit elevations with MN DNR
- Big Pine Lake Property Owner (7 years)
- Professional/Personal Background/Interests
 - Mechanical Engineering and Business Management
 - IBM Consulting Principal, Retired
 - Volunteering, Classic cars, Fixing/building mechanical things



Ken Ormsbee

- 6th Year on BPLA board (Term Expiring Seeking Reelection)
- Director, Finance and Communications (4 Years)
 - Finance: Rock Dam Grant Funding/Project Development
 - Communications: BPLA Website Management
- Program Manager, EMM Program (4 Years)
- Project Developer/Manager, PRFPP (4 Years)
- President (1 Year)
- Big Pine Lake Property Owner (7 years)
- Professional/Personal Background/Interests
 - Industrial Power Generation Project Development, Construction, and Operation
 - Government Relations and Public Affairs
 - Government Contracting and Procurement
 - Family, Grandkids, Friends, Cooking, Boating, Fishing, Soccer



Bill Korchik

- 5th Year on BPLA board
- Vice President (3 Years)
- Director, Social Committee (2 Years)
 - Family Fishing Contest, Roadside Clean-up Events, Boat Parade, Annual Meetings, etc.
 - Still works closely with the Social Committee to plan and accomplish tasks such as fundraising for the BPLA Family Fishing Contest
- PRFPP: Attended and participated in several public meetings as BPLA's representative
- Big Pine Lake Property Owner (9 years)
- Professional/Personal Background/Interests
 - Recently Retired Physician
 - Internal medicine, Nephrology, and Geriatrics
 - Father of Three and Grandfather of Five



Ann Korchik

- 3rd Year on BPLA board
- Director, Social Committee (2 Years)
 - Family Fishing Contest, Roadside Clean-up Events, Boat Parade, Annual Meetings, etc.
- Co-Director, Social Committee (1 Year)
- Treasurer (1 Year)
- Big Pine Lake Property Owner (9 years)
- Professional/Personal Background/Interests
 - Volunteer for Numerous School, Sports, and Summer Theater Events
 - Girl Scout Troop Leader
 - La Leche League Leader and Advisor
 - Special Education Substitute Paraprofessional
 - Mother of Three and Grandmother of Five
 - Caretaker of Her Husband, Bill ©



Scott Eichhorst

- 2nd Year on BPLA board (*Term Expiring Seeking Reelection*)
- Director, Lake Management (2 Years)
 - Aquatic Invasive Species coordination with MN DNR
 - WAPOA Water Clarity Sampling and Monitoring
- Big Pine Lake Property Owner (8 years)
- Professional/Personal Background/Interests
 - Telecommunications Project Management
 - Fishing in Canada with Sons, Boating, Relaxing at the Lake



Gary Swanson

- 1st Year on BPLA board
- Director At Large (1 Year)
- Big Pine Lake Property Owner (1 year)
- Graciously hosted BPLA 2019 Family Fishing Contest
- Professional/Personal Background/Interests
 - Professional Mechanical Engineer
 - CEO, Energy Management Solutions, Inc.

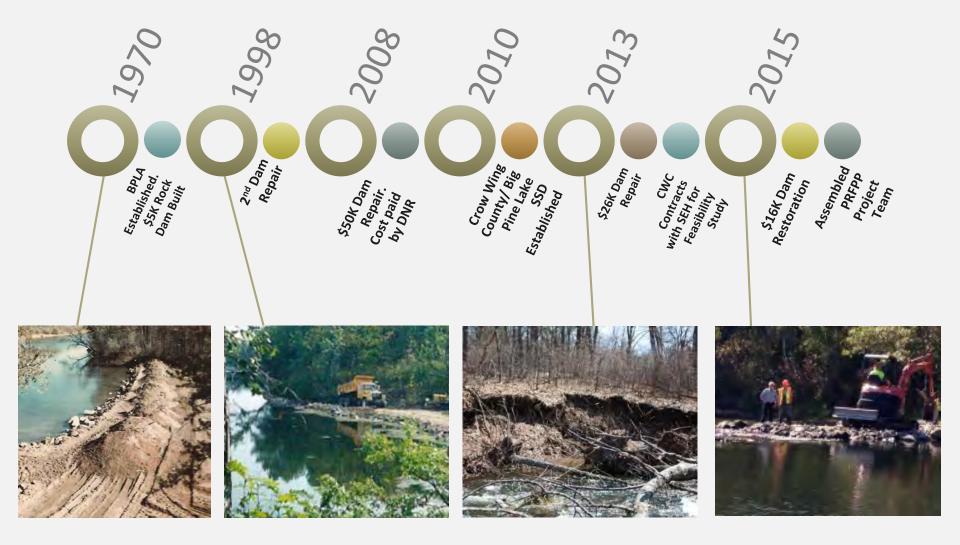


Carolynn Duncan

- 1st Year on BPLA board (Term Expiring Not Seeking Reelection)
- Graciously volunteered to fill remaining year of a former BPLA Director's term at last year's Annual Meeting
- Co-director, Social Committee (1 Year)
- Big Pine Lake Property Owner (2 years)

BIG PINE LAKE ROCK DAM EVENT TIMELINE





PINE RIVER FISH PASSAGE PROJECT (PRFPP) TEAM



- CPL/LSOHF Grant Applicant
- Project Manager
- Engineer of Record
- Procurement Manager
- Construction Manager



- Crow Wing Soil & Water Conservation District (SWCD)
- North Central Minnesota Joint Powers Board (JPB)
- Technical Services Area 8



Crow Wing County

- Pine River Dam Owner
- Pine River Dam
 Maintenance Provider
- SSD Trustee



Minnesota Dept. of Natural Resources

- Subject Matter Expert
 - Aquatic Habitat Improvement •
 - River & Stream Water Control Structure SME
- Public Waters Permitting Authority



City of Crosslake

- Owner of Big Pine Trail
- Will resurface Big Pine Trail following PRFPP construction

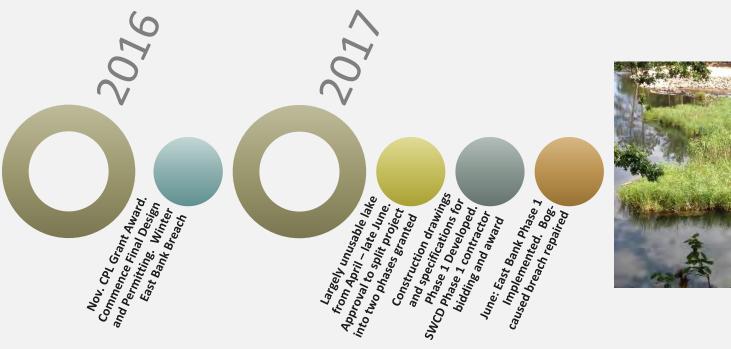


Big Pine Lake Association

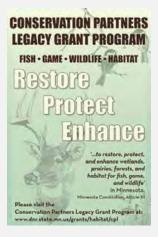
- BPL Property Owners Authorized Representative
- SSD Board of Directors
- PRFPP Co-Project Developer
- Pine River Dam Maintenance Coordinator

PINE RIVER FISH PASSAGE PROJECT TIMELINE













PINE RIVER FISH PASSAGE PROJECT (HRE06) TIMELINE









KEY SCHEDULE DATES



PRFPP Phase 2 Rebid

7/30/19: SWCD releases contractor bid packages

8/06/19: SWCD Pre-bid Conference

8/19/19: Bids Due

8/20/19: Bid Opening

8/21/19: Contract Award

12/13/20: Final Completion Deadline



Round 1 - Phase 2 Bids



PINE RIVER FISH PASSAGE PROJECT - PHASE 2 CROSSLAKE, MINNESOTA Bid Tabulation March 29, 2018

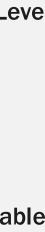
Summary	Base Bid	Alternative No. 1	Total
Landwehr Construction, Inc.	\$ 809,460.36	\$ 346,196.50	\$ 1,155,656.86
Aspen Construction Company	\$ 949,979.98	\$ 346,297.99	\$ 1,296,277.97
Minnesota Native Landscapes	\$ 975,573.20	\$ 339,103.50	\$ 1,314,676.70

- Landwehr Construction and MN Native Landscapes both attended the pre-bid conference and Aspen Construction is a current plan holder.
- On Round 1 bidding, one bidder was disqualified for administrative reasons having to do with the release of an addendum the day before bid opening.
- That company is one of three who were plan holders under both Round 1 and 2.
- Veit Inc. is a large multi-national civil contractor who didn't bid Round 1, but is a current plan holder who intends to bid.
- Since Landwehr, MN Native Landscapes, and Veit attended the pre-bid conference, we expect all three to submit bids.
- Three other companies who were plan holders or bidders on Round 1, are also plan holders for Round 2: NORDIC Group, DeChantal Excavating, Aspen Construction, and Hough Inc. One of these companies was disqualified in Round 1.
- Bottom Line:
 - We could potentially end-up with seven bidders.
 - Alternative No. 1, restoration of Big Pine Trail has been removed from the scope of work, so bids are likely to come-in in the \$1 million range.

BPLA PRFPP OBJECTIVES









Enable Aquatic Upstream Fish Migration



Reduce Long-term Maintenance Costs

DAM/WEIR DESIGN & PERFORMANCE



1. How did we get here? => Original Structure

2. How are we doing? => Recent Performance

3. Where are we going from here? => New Structure

Original Structure: When and how we got the rock dam



- Big Pine Trail & Lake Association created by Big Pine Trail property owners on August 16, 1970
 - 7 Member Board; 4 Officers elected; Ray Egolf, President
 - Bylaws Committee appointed; Property owners assessed \$75 each
 - Motions to construct dam on Pine River asap
- Application for DNR Permit submitted September 17, 1970
 - Rock dam with compacted earthen core 160' long
 - Elevations: Top of dam = 1197.6' Spillway = 1195.6' NDVG29
- DNR Permit No. 70-1079 issued on October 5, 1970.
- Special Provision VIII: "... dam will be maintained by the Crow Wing County Board, through agreements with the Big Pine Trail and Lake Association."
- Contractor's Bid for \$5,063.20 received November 1, 1970
- Construction was completed by May 11, 1971

Less than 9 months from start to finish!

The original BPT&LA request for the rock dam specified an elevation of 1198.1-.3'

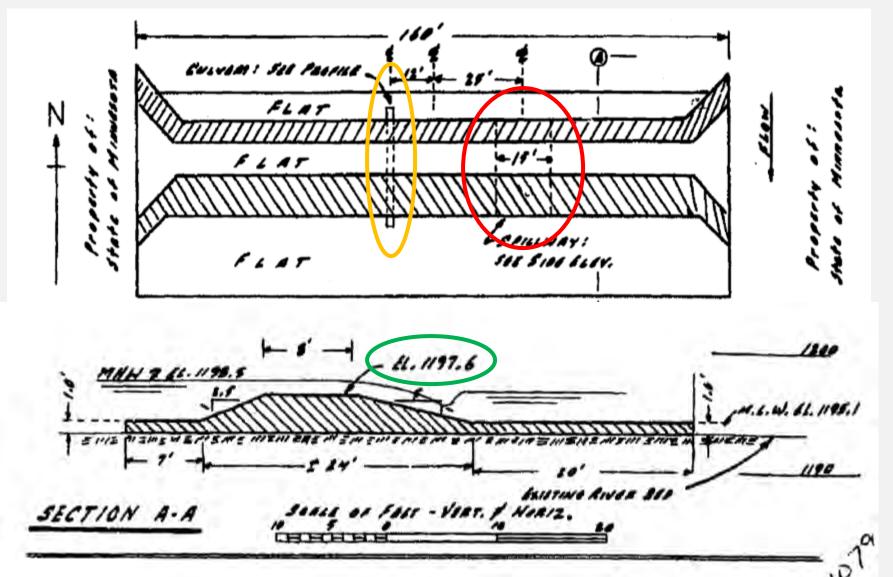


when cirety assessor Respectly from the Road low the relater is today. There week lived it 98.1-3

- August 28, 1970
- Ray Egolf, President of Big Pine Trail
 & Lake Assn
- Initial request to DNR for permit to build a rock dam on August 31, 1970
- Lake is currently too low at 1195.5'
- Specifically requested an elevation of 1198.1' 1198.3' NGVD29
- "The lake level is 95.5' per Corp of Eng gauge. Normal water is 98.1-.3. This will give you and idea how low the water is today. We need to maintain the water level of 98.1-3."
- 1198.25' is exactly midway between our Minimum and Maximum desired elevations

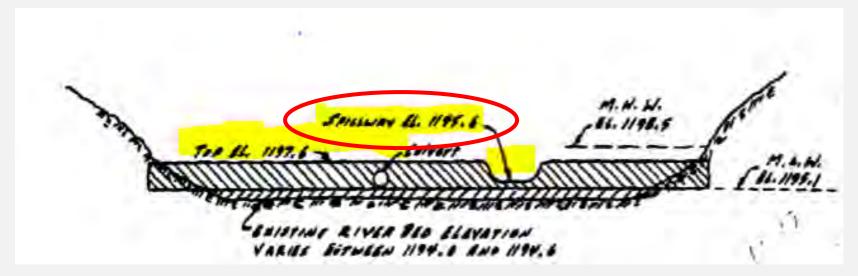
Original Rock Dam Design & Construction Drawings





The original rock dam design and permit virtually guaranteed an unusable lake during low inflow periods





Additional contributors to low water elevations and unusable lake conditions:

- CWC Engineering maintained the dam and spillway to erroneous elevations until September, 2015
- Every breach repair on the east end used loose round rocks which increased dam porosity and leakage

Original Structure: How the rock dam has worked (or not!)



Performance

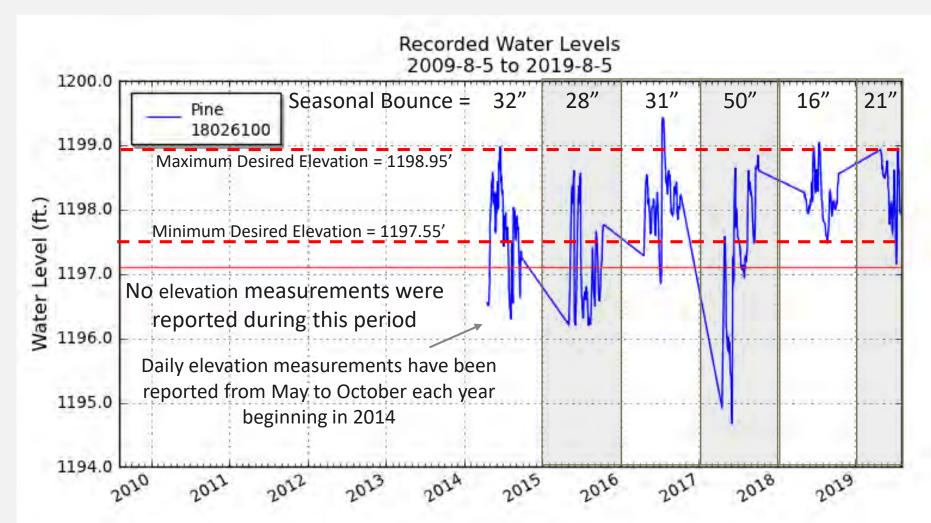
- Critical factors:
 - Inflows from USACE dam
 - Top of dam condition
 - Spillway condition
 - Floating bogs
- Huge seasonal "bounce"
- Unusable lake during low inflow periods
- Shoreline erosion/flooding during high inflow periods
- Many dock/boat lift issues

Maintenance

- Many breach repairs
- Frequent bog removals
- Restoring eroded elevations
- Usually expensive repairs
- Debates over who will pay
 - Numerous property owner assessments
 - County/DNR/FEMA contributions (under duress)
 - 2010 SSD assessment of \$100 was doubled in 2013 to \$200

Daily elevation measurements for Big Pine Lake are reported to the DNR and shown in their Lake Finder website over a 10 year period

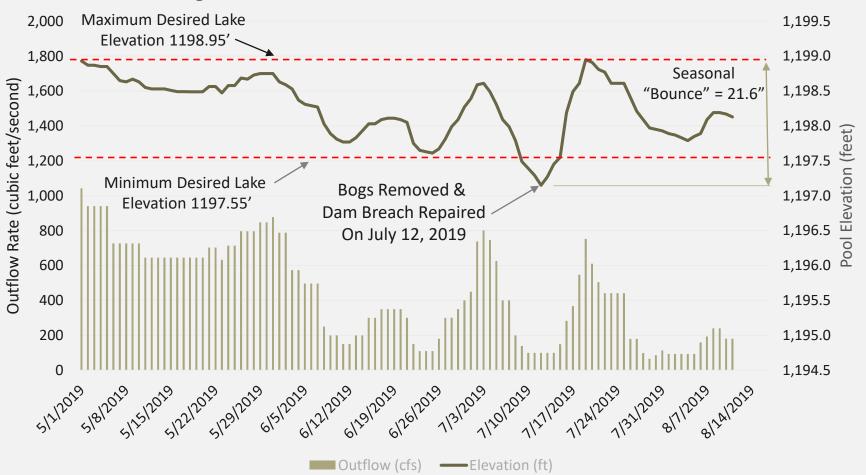




Recent Performance: Lake Elevation vs. Pine River Dam Outflows – May 1 to August 16, 2019



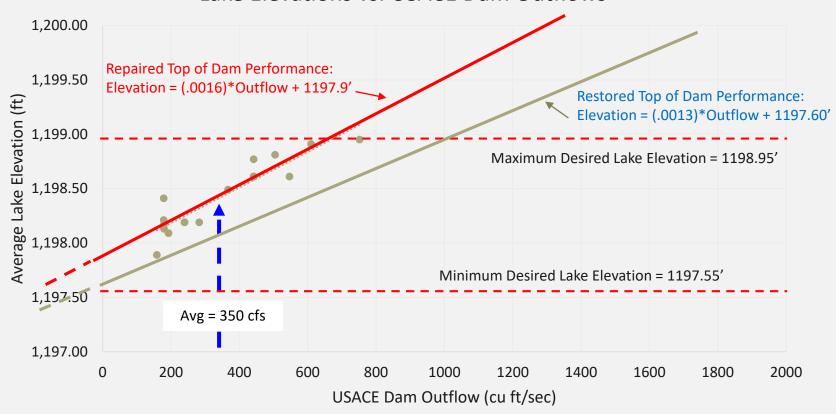
Big Pine Lake Elevation vs. Pine River Dam Outflow



Linear relationship of elevations to inflows >150 cfs shifted after dam repair on July 12



Lake Elevations vs. USACE Dam Outflows



New Structure: Arched Riffle Fish Passage Design



DESIGN OBJECTIVES

- Year-around viable fish passage even at minimum inflow = 33 cps
- Ensure Minimum Desired Elevation of 1197.55'
 - Maintain permitted elevations
 - Eliminate porosity leakage
- Greatly reduced maintenance requirements and cost
 - Withstand high inflows without breaches or significant erosion
 - Facilitate mechanical removal of floating bogs
- Minimum Out-of-pocket Property Owner Funding

DESIGN OPTIONS

- SEH Study Option 6 was a riffle structure with a fish passage
 - Natural stream appearance
 - · Lower cost; grant friendly
 - No hard elevation control
 - Unknown durability
- Recommendations of DNR Fisheries Specialist, Owen Baird:
 - Facilitate DNR's Stream Connectivity Initiative with fish passage structure
 - Natural look but precision design for reliable elevation control
 - Robust multi-riffle design for excellent durability
 - Grant funding through CPL or LSOHF applications

New Fish Passage Structure: Design, Permitting, Construction & Maintenance



DESIGN & PERMITTING

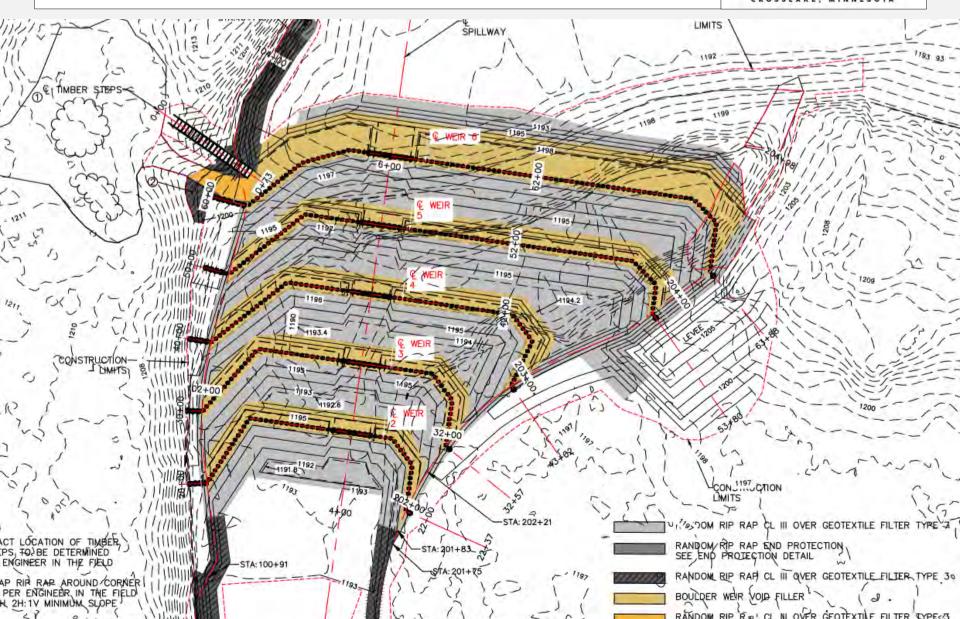
- BPLA provided lake elevation data and min requirements
- Bill Westerberg, SWCD JP Engineer was lead designer
 - Used original 1970 TOD elevation
 - Extensive lake & river mapping
 - Used computer aided design and hydraulic modeling
 - · Consulted with DNR specialists
- DNR permit required a Dam Safety Review
 - Computer model verified design at low, average and high inflows
 - Seasonal bounce reduced by eliminating elevation below min.
 - Permit good through 2023

CONSTRUCTION & MAINTENANCE

- Construction rebid process
 - Advertised in paper & on-line
 - Pre-bid meeting on August 6
 - Bids due August 20
 - Contract awarded on August 21
 - Project completion by Dec 13, 2020
- Maintenance expectations
 - County still owns and maintains new structure
 - Property owners still fund maintenance through on-going SSD
 - No breaches, limited erosion will reduce repairs and expense
 - Easier, cheaper bog removal

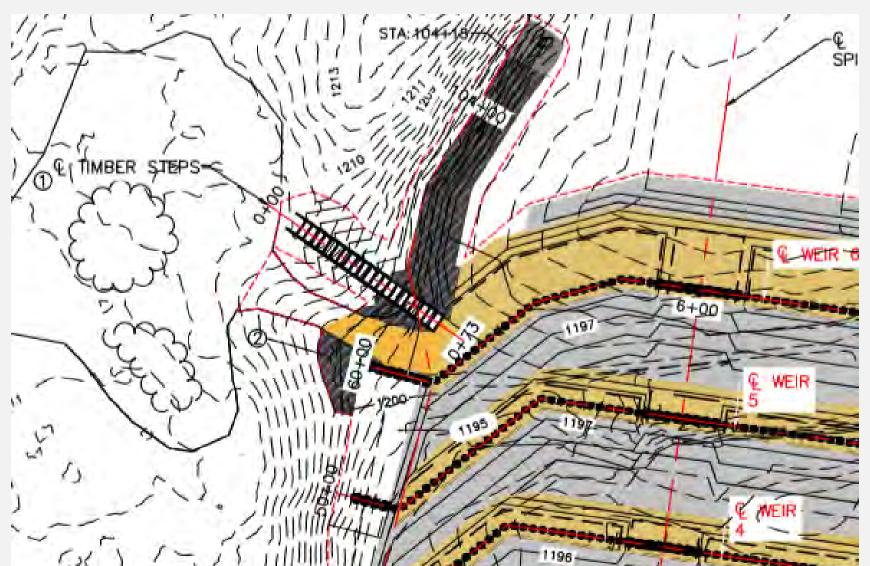
Phase 2 Fish Passage Structure – Plan View





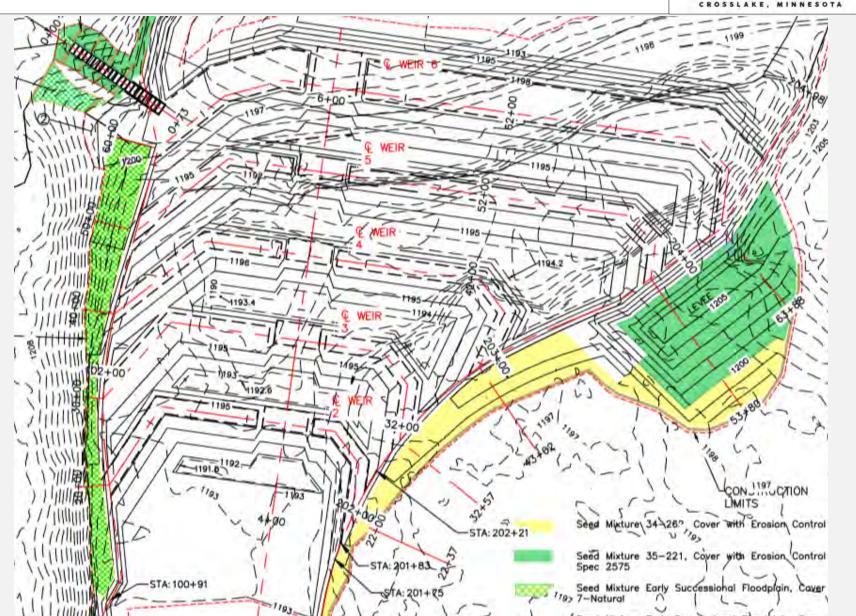
Timber Steps from Parking Area and Bog Retrieval Path in front of Weir 6





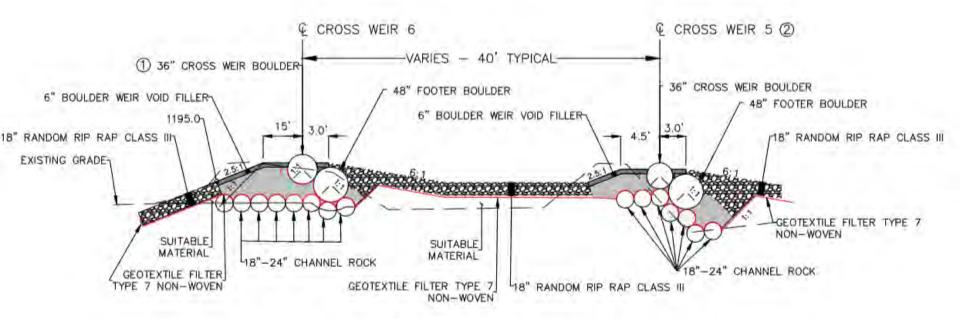
Grassy Walkway along West Bank





Cross Section of Weirs 5 & 6 showing robust construction and fish resting pool

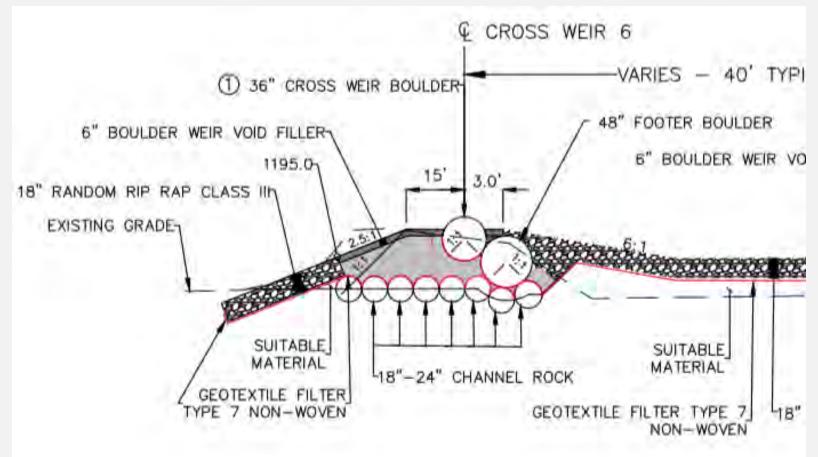




- ① 36" CROSS WEIR BOULDER ELEVATION SHALL BE 1198.3 IN SPILLWAY AND 1198.6 OUTSIDE OF SPILLWAY.
- ② € CROSS WEIRS 2 THRU 4 ARE SIMILAR TO € CROSS WEIRS 5 & 6. SEE CROSS SECTION AND PLAN FOR ELEVATIONS OF WEIRS.

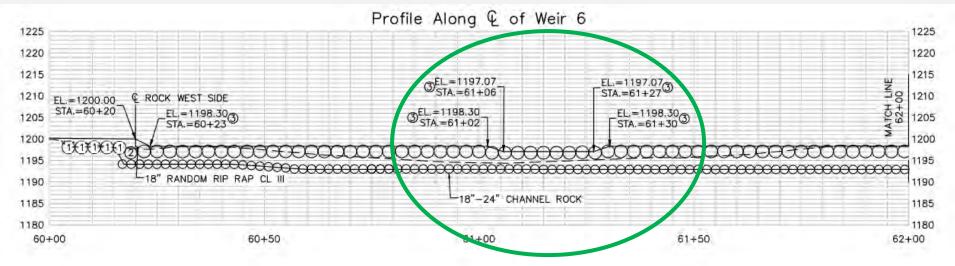
Cross Section of Weir 6 showing durable water control surface and bog retrieval path

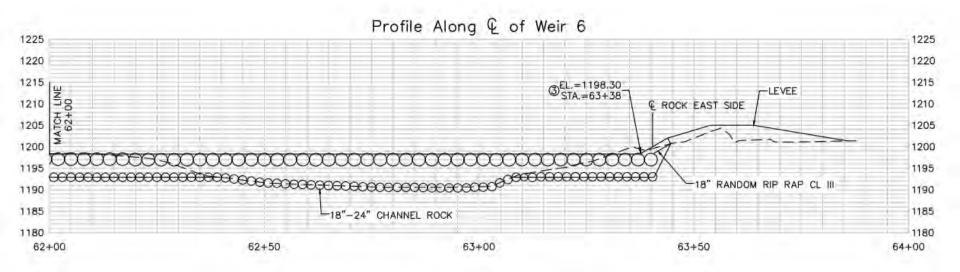




Profile View of Weir 6 showing precision placement of water elevation control rocks

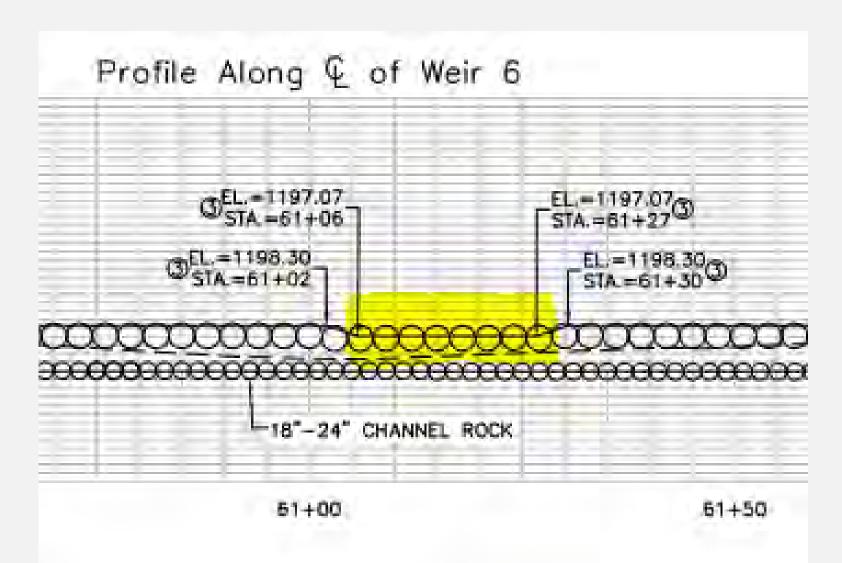






Weir 6 should provide adequate fish passage and maintain our Minimum Desired Lake Level of 1197.55' during periods of minimum inflow





PERFORMANCE EXPECTATIONS SUMMARY



✓ Maintain Usable Lake Levels

✓ Enable Aquatic Upstream Fish Migration

✓ Reduce Long-term Maintenance Costs

✓ No Additional Out-of-pocket Expense!

ELECTION OF DIRECTORS



- One vote per BPLA member household
- If the slate of candidates is equal to or less than the number of open Director positions, a hand vote will be used
- Floor nominations are accepted and encouraged
- Currently, there are four open positions and only three named candidates
- Officer positions and functional roles will be determined by BPLA's board following the Director elections



BIG PINE LAKE ASSOCIATION 2019 ANNUAL BUSINESS MEETING

August 17, 2019

BIG PINE LAKE ASSOCIATION 2018/2019 FINANCIAL REPORT



*	Includes	EMM	Program	Transactions
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Balance Forward	8/13/2018				\$4,131.77
		Income			
			2018 Dues Collected (In Arrears)	\$	150.00
			2019 Dues Collected	\$	1,250.00
			2020 Prepaid Dues	\$	25.00
			Donations	\$	449.59
			Big Pine Trail Name Plaques (3)	\$	75.00
			EMM Subscription Fees	\$	14,310.66
		Total Income		\$	16,260.25
		Expenses			
		шкропосо	USPS Box Rental	\$	(54.00)
			CCC Rental - Annual Meeting	\$	(96.00)
			2018 Meeting Expenses	\$	(277.26)
			WAPOA Annual Membership	\$	(100.00)
			Blue Host Internet Hosting	\$	(17.99)
			Fishing Tournament Expense	\$	(530.75)
			Richard Rammer (BPT Name Plaques)	\$	(50.00)
			PRFPP Phase 2 Rebid Bid Package	\$	(25.00)
			Clarke (EMM) Invoices Paid	\$	(14,305.02)
			2019 Board Meeting Expenses	\$	(82.75)
			Richard Rammer Thank You Gift	\$	(50.00)
		Total Expense	es	(\$	15,588 .77)
		Net Income			\$671.48
		Net IIICOIIIe			φυ <i>ι</i> 1.40
Current Balance	8/13/2019				\$4,803.25

BIG PINE LAKE SUBORDINATE SERVICE DISTRICT 2018/2019 FINANCIAL REPORT

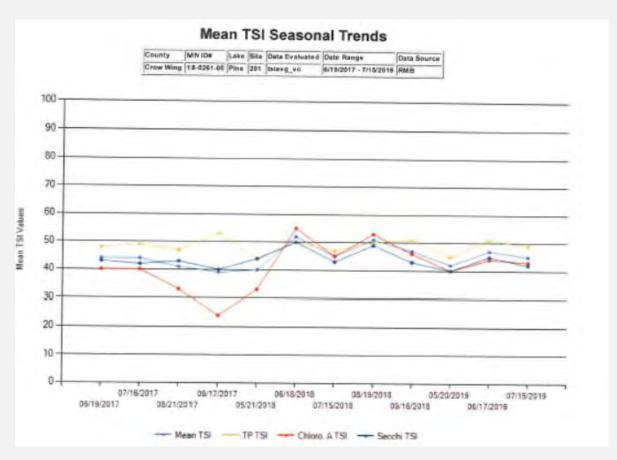


\$200 Per Year Assessment Per Lake Property for Dam Maintenance/Improvement

Balance Forward	1/1/2019	\$	80,095.98
	7/5/2019	\$	10,770.58
	7/16/2019	\$	(11,610.00)
Current Balance	8/13/2019	\$	79,256.56
Repay BPLA Check	imitment of Funds From the SSD Account: sing Account for CPL Grant Application Expenses Paid in 2016 Grant Matching Funds For PRFPP Phase 2 (2019/2020)	\$ \$	(3,900.00) (75,000.00)
Total Future Commitments (2018-2020)			(78,900.00)
Current Balance In	cluding Future Commitments	\$	356.56

Big Pine Lake TSI Trends





TSI or Trophic State Index: A measurement of overall lake productivity (nutrient enrichment). The overall TSI of a lake is the average of the TSI for phosphorus, chlorophyll-a and secchi depth.

Water Clarity Test



- Chla or Chlorophyll-a: The pigment that makes plants and algae green.
 Chlorophyll-a is measured in lakes to determine algal concentration or in other words, how green the water is.
 - https://www.rmbel.info/primer/chlorophyll-a/
- TP or Total Phosphorus: A nutrient needed for plant growth. Phosphorus can enter a lake through runoff from manure and fertilizer or through seepage from leaking septic and holding tanks.
 - https://www.rmbel.info/primer/total-phosphorus/
- Secchi or Secchi Depth: A measure of water clarity that can indicate the overall health of a lake. A black and white metal disc is lowered into the water on a rope until it can't be seen anymore and raised to the point it can be seen. The depth of the disk to the surface of the water is the Secchi Depth. https://www.rmbel.info/primer/secchi-depth/

Zebra Mussels



- Zebra mussels traveled to the United States from the Caspian Sea in Eastern Europe, in the ballast water of ocean freighters, and first took hold in Lake Erie in 1988. They spread through the Midwest almost immediately.
- Were found in our lake last fall
- Hard to prevent
- Help clarity of the lake
- Can be a nuisance
- Hope University of MN is developing a way to allow future zebra mussels to have much thinner shell that could then be eaten by fish.

Eurasian Water Milfoil



- Found in the Big Pine River
- Also found in entrance to Big Pine Lake
- Need to be very careful when coming back from the river to make sure all weeds are off boat propellers



- Can be removed but need training to get the whole plant
- Any part of a broken plant can start a new plant
- Tim Plude of MN DNR has been on the lake this spring and confirmed it is still in the same locations as last year and doesn't appear to have spread any further. He will inspect at least once more this year and let us know the results.

Big Pine Lake 1970



- It is amazing what the Board has done to preserve the lake at today's levels
- The level does go up and down but a lot less today
- In 1970, the lake was a small whole in the middle of the lake with sandy bottom during dryer seasons
- The rock dam and better control of discharge from the Crosslake
 Dam have made this lake into a great recreational lake
- With the new dam in place, we should see less drastic water level changes and less impact from floating bogs

ENVIRONMENTAL MOSQUITO MANAGEMENT (EMM) PROGRAM



- 2019 was the final year of a three-year contract with Clark Environmental Intl.
- 2019 price remained the same as 2018 at \$550.41
- BPLA will rebid the EMM contract this fall to four potential bidders
 - Clarke Environmental
 - Mosquito Squad
 - Foggers
 - TRU GREEN



BPLA WEBSITE

http://www.bigpinelake-crosslake.com/



WEBSITE MENU STRUCTURE:

- Our Mission & History
- BPLA-Managed Programs
- Dam Maintenance
- Lake News & Events

- Meeting Minutes
- Gallery
- Contact



2019 Independence Day Boat Parade – July 6th

Posted on May 2, 2019

Saturday, July 6th at 2:00 p.m. This date was chosen because it is the same day as the Crosslake fireworks. Please join in the parade [...]

Continue reading

Lake News & Events



- Added New Section to BPLA-Managed Programs
 - Aquatic Invasive Species (AIS)
- Keep abreast of upcoming events and newsletter updates on the Lake News & Events post page





Posted on May 2, 2019

2019 BPLA Family Fishing Contest — July 5th Friday, July 5th at 8:00 a.m. Please note that this year's contest falls on a Friday since [...]

Continue reading »

Lake News & Events



BPLA SOCIAL COMMITTEE 2015 - 2019 EVENT HISTORY



	MAY	JUNE	JULY	AUGUST
2015	Family Fishing Contest Planning Meetings	Coffee & Conversation	First Family Fishing Tournament with 24 Families Participating	Annual Meeting
2016	Roadside Clean-up Event and Picnic at the Rock Dam		Second Family Fishing Tournament with 22 Families Participating	Coffee & Conversation Annual Meeting
2017		PRFPP Phase 1 Update at Cedar Chest	First Boat Parade w/ 12 Boats Woodtick Inn Thank You Party for Brad Holmvig	Annual Meeting
2018	Roadside Clean-up Event	Third Family Fishing Tournament with 7 Families Participating	Second Boat Parade w/ 11 Boats and 1 Sailboat	Annual Meeting
2019			Fourth Family Fishing Tournament with 11 Families Participating Third Boat Parade w/ 13 Boats (including Kayak & Pirate Ship)	Annual Meeting

BIG PINE LAKE ASSOCIATION 2019 FAMILY FISHING CONTEST





BIG PINE LAKE ASSOCIATION 2018/2019 SOCIAL EVENTS





Fishing Contest Volunteer Roles



- Solicit Local Businesses for Prizes and Donations
- Participant Registration
- Snacks and Water
- Bring Cooler/s with Ice
- Fish Weighing
- Set-up and Run Guessing Games

- Prepare Winner's Certificates
- Hand-out Raffle Tickets
- Set-up and Run Door Prizes
- Set-up and Take-down
- Prepare and Send Thank You Cards





BIG PINE LAKE ASSOCIATION 2019 ELECTION OF DIRECTORS

August 17, 2019

BPLA BOARD CANDIDATES



- Ken Ormsbee
 - Current President
- Scott Eichhorst
 - Current Director, Lake Management
- Jackson Purfeerst (Nomination by Ken Ormsbee)
 - Lake resident for last six years Fulltime for the last four years
 - Past National Honor Society Vice President
 - Graduated from Pequot Lakes High School, Summa Cum Laude, with a four-year cumulative 3.9 GPA
 - Crow Wing Power's 2018 Washington, DC Youth Tour Delegate
- Floor Nominations ???

BPLA 2019 ANNUAL MEETING



WE ARE ADJOURNED

THANK YOU FOR COMING!!