Dear Park Pointers, May 28, 2021 original Breeze submission.

Like most of you, I love and respect Lake Superior. I grew up on its shores and spent my career studying and caring for it while at the EPA lab in Duluth. I have also volunteered with the PPCC since the 1990's seeking long term solutions for erosion challenges on Minnesota Point. My recent involvement allowed me the opportunity to take a close look at what was placed onto the beach and into the lake in 2020. In direct terms, the comparison is simply "clean vs. dirty!"

Clean versus Dirty: Lake Sediments Before and After Dredge Spoil Loadings into an Outstanding International Resource Water. Concerns for Lake Superior's Degradation.

"Clean" -Lake Superior Sediments: 2018 Near Shore before 2020 placement (1, 2) **Bold: indicate probable exceedences of WQC.**	"Dirty" -Harbor Dredged Sediments 2020 Beach-water Placement USACE data (2)	2020 Total Beach-water Loading Per 48,000 cy Covering 1-2 sq miles of L. Sup. Sediments & water project area.
Surface 0.5ft, 7.2% course-medium 92.7% fine; 0% silt, 0% clay	Sed. Depth 2ft 18% course, 62% fine, 10% silt, 0.1% clay	**184 million lb, wet wt** **115 million lbs, dry wt**
Organic Carbon, total: None detected, < 2,000 ppm	**18,000 ppm**	**2,100,000 lbs**
Oil & Grease: None detected,<150 ppm	**210 ppm**	**24,000 lb**
Poly Aromatic Hydrocarbons: None detected, <40 ppb	**3,100 ppb**	**353 lb**
Benzo(a)Pyrene: None detected, < 40 ppb	**270 ppb**	**31 lb**
TCDD (dioxin): None detected, <0.45 ppt	**5.4 ppt**	**0.0007 lb**
Nitrogen (Kjeldahl): Non detected < 30 ppm	695 ppm	79,000 lb
Phosphorus: 97 ppm	185 ppm	22,000 lb
As, arsenic: 2.3 ppm	**3.1 ppm**	**353 lb As**
Cr, chromium: 3.3 ppm	20.3 ppm	2,400 lb Cr
Cu, copper: 1.7 ppm	**19.3 ppm**	**2,200 lb Cu**
Fe, iron: 2,800 ppm	**17,700 ppm**	**2,000,000 lb Fe**
Hg, mercury: None detected, < 7ppb	**91ppb**	**10.6 lb Hg**
Mn, manganese: 44 ppm	**380 ppm**	**44,000 lb Mn**
Ni, nickel: 2.3 ppm	16.3 ppm	2,000 lb Ni
Pb, lead: 0.9 ppm	17 ppm	2,000 lb Pb
Zn, zinc: 8.0 ppm	67.3 ppm	7,700 lbs Zn

(1) The measured components in the 2020 sediments deposited will cause the water quality to be degraded when the Water Quality Criteria (WQC) for that component is exceeded. The probable dredge spoils constituent exceedence level within the 1-2 sq. mile project area are listed for each component and its WQC: aesthetics, suspended solids - turbidity, < 10% reduction of transmittance; oil & grease, no visable signs; arsenic, 0.0022 ug/l; copper, 9.3 ug/l; iron, 300 ug/l; manganese, 50 ug/l; mercury, 1.5 ng/l; polyaromatic hydrocarbons, 2.8 ng/l; benzo(a)pyrene, 0.0028 ug/l; polychlorinated biphenyls, 0.079 ng/l; and dioxin, 0.013 pg/l. Reference: USEPA Quality Criteria for Water, Red Book, 1976, 256 pp. & USEPA Quality Criteria for Water 1986, Gold Book, 477 pp. EPA 440/5-86-001. Water quality standards for Minnesota may more restrictive.
(2) Data source: USACE FY2019 Minnesota Point Monitoring Plan Final Report to MPCA, Oct. 28, 2020, 5,924 pp**, in** Appendix L, 2862 pp.; g = gm, grams; mg = milligrams, 1/1000 g; ug = micrograms, 1/1,000,000 g; kg =1000 gm. ppm = parts per million; ppb = parts per billion; ppt = parts per trillion. The full report and letter to the Mayor will be posted on the PPCC.org web site: Report to PPCC 5.27.2021 by GEGlass 218-391-4242.

My concerns arise from the irreversible impacts from the hundred millions of pounds of persistent pollutants including the a) Presence of biological contaminants; bacterial and viral pathogens & invasive species; b) Suspended solids and turbidity causing reduction of sunlight penetration, clogging of fish gills, blocking fish migration and accelerated warming of lake water; c) Sediment deposition smothering bottom dwelling aquatic organisms, altering benthic habitat and covering fish spawning areas; d) Legacy chemical compounds and elements with toxicity to bottom dwelling aquatic food chain organisms and fish; e) Stimulating cyanobacteria growth and in- water blue-green algae while suppressing vital diatom population necessary to primary production; f) Secondary physical and chemical reactions reducing oxygen and releasing of elements and compounds to the water column in toxic concentrations; g) Enhancing mercury food-chain bioaccumulation, (US FDA mercury fish action level is1 ppm mercury); h) Enhancing forever chemical (PFOS) concentrations and food-chain bioaccumulation; i) Tainting drinking water at Superior and Cloquet municipal lake water intakes (from south shore placement).

The Park Point Community Club made this recommendation for the 2021 project:
Dredged materials considered for continued beach nourishment will undergo detailed analysis for suitability before they are placed on the beach. The USACE's sediment sampling plan must demonstrate state water quality standards for Lake Superior will not be exceeded. During the application of new beach materials in 2021, the City of Duluth and PPCC will request MPCA require constant monitoring of the lake and discharged materials for the presence of any harmful components. If harmful components are found in the discharge, the USACE will take steps to remove or treat them.

For some unknown reasons, the Minnesota Pollution Control Agency is not enforcing the rules and laws protecting the environment and has approved the polluting of Lake Superior in 2019 & 2020, and yet again for 2021.

If you believe that this is wrong, would you be willing to do something about it? Please contact your state legislators and the governor today.

Thank you, Gary E. Glass, Duluthian & PPCC Member, phone 218-391-4242