**TREATMENT OF RAINBOW LAKE TO REDUCE PHOSPHOROUS: A FULL BRIEFING**

**Marty Gold**  **4/28/24**

1. Lower concentrations of phosphorus (the major nutrient feeding plant growth in the Lake) will, over time, lead to less bad algae and fewer weeds, also the avoidance of blue-green algae and the growth of beneficial algae (which is food for fish) and a generally healthier lake ecosystem. It should also lead to somewhat fewer applications of herbicides.
2. The chemical used to absorb phosphorous is **lanthanum.** It comes embedded in **bentonite.** (Lanthanum is a chemical element found in nature. Bentonite is a natural clay.) Five lbs. of lanthanum nullify 1 lb. of phosphorous.
3. Following RLA membership and Board approval in June, both of which were unanimous, I called SePro, a leading supplier of EutroSorb and Phoslock.
4. Phoslock is 5% lanthanum. EutroSorb is 10%. 100 lbs of Phoslock and 50lbs of EutroSorb have comparable prices. But due to the weight difference EutroSorb requires almost twice as much labor and longer use of a boat to apply,.
5. Their chief scientist, Byran Fuhrmann, called me back and we spent an hour on the phone. David, Doug and I then forwarded every bit of data we had on the Lake to SePro.
6. We had a sampling of the Lake sediment done in August by SePro to assess variations in the “*releasable sediment phosphorous*” per acre. Heavy spots would require more product. Light areas might require none. (We *expected* the coves to require more.)
7. To everyone’s surprise the sampling showed that an even application, lake-wide, was best.
8. A consensus also developed that treatment should be done over three or four years and that a total of 24,000 lbs. of EutroSorb (equal to 48,000 lbs. of Phoslock) should be applied. About 30% would be applied in Year One.
9. April is considered the best month for application because the Lake sediment is packed and is relatively smooth, allowing it to act like a sponge. Full removal of Phosphorus is not required; small reductions (e.g. 25%) can yield significant benefits.
10. We sent out a Request for Proposals. P&L provided the best response.
11. I converted the RFP and the P&L proposal into a one-year contract for 7,500 lbs. of EutroSorb (the more efficient product). Sediment samples would be taken after treatment to test the results and help make any necessary adjustments.
12. When our CT treatment Permit finally arrived on April 8th it approved only Phoslock, a brand name. It should have approved the compound lanthanum, or both Phoslock & EutroSorb.
13. But SePro has graciously agreed to supply 15,000 lbs. of Phoslock instead of the EutroSorb at no extra cost. P&L, after several days of consideration, agreed to not increase its labor and boat charges despite the weight of materials required doubling.
14. A proposal made by P&L on June 14 last year contained a price of $37,550 for 10,500 lbs. of Phoslock. That price did not include sampling or taxes-a $4,500 combination, so the full cost was ~$42,000). The contract we have now (dated 4/15/24) applies **1**5,000 lbs. of Phoslock for a total of $32,582 (including samples and taxes). That is about $9,000 less than the 6/14 proposal, and, *in addition*, we are getting 4,500 lbs. more product. **The original P&L offer equaled $3.58 per pound all in.** **The contract price we now have comes to $2.17 per lb all in**.
15. NOTE: We have been told we will probably not visually see an impact this year (except that post-treatment sediment samples should show positive sediment change). We have a four-year plan.