

An aerial photograph of a winding river, likely the St. Johns River, flowing through a dense, lush green forest. The river is a deep blue color, contrasting with the vibrant green of the surrounding trees. The landscape is flat, and the sky is a clear blue with scattered white clouds. The text is overlaid on the center of the image.

Lower St. Johns River Tac Meeting – Senate Bill 64

Ted Hughes

Point Source Domestic Wastewater in the Northeast District

- **Facilities effluent discharge**

- **Directly into St. Johns River**



- **Tributaries that flow into St. Johns**



Estimation Methods for Current Loading for the Annual Average of TN/TP

- Based on Permitted Capacity of Loading
 - Effluent limit and annual average concentration limit for TN/TP
 - Total Mass Daily Load (TMDL) for TN/TP
 - Aggregate Permit for TN/TP

Effluent limit and Annual Average limit for TN/TP

- $TN \text{ or } TP = Q * t * C$
 - $TN \text{ or } TP$ – Annual average total nitrogen or total phosphorus per year $\left(\frac{lbs}{yr}\right)$
 - Q – Permitted capacity of the annual average daily surface water discharge per day $\left(\frac{MG}{Day}\right)$
 - t – Days in a year $\left(\frac{365 \text{ days}}{yr}\right)$
 - C – Permitted capacity of the annual average TN or TP concentration $\left(\frac{lbs}{MG}\right)$

Total Mass Daily Load (TMDL) for TN

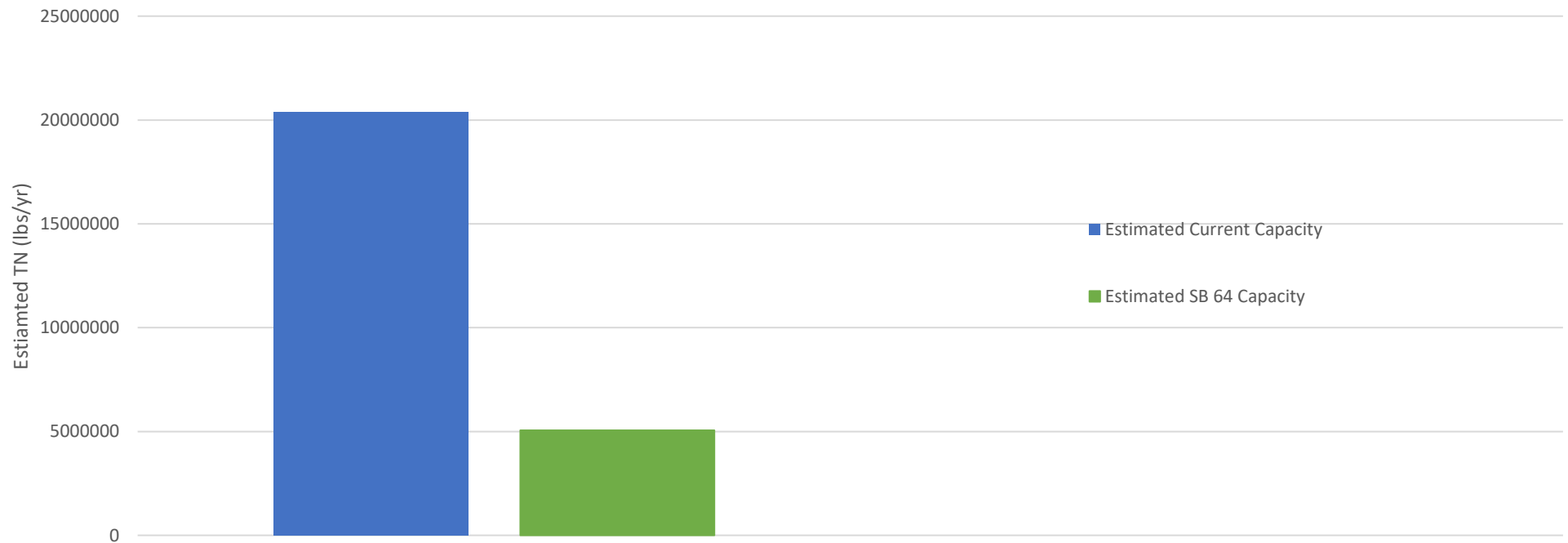
- *TN or TP = TMDL*
 - *TMDL – Capacity based off the WQBEL to prevent degradation of the water body $\left(\frac{lbs}{year}\right)$*

Aggregate Permit for TN

- $TN \text{ or } TP = \left(\frac{Q_{Facility}}{Q_{Total}} \right) * M$
 - $Q_{Facility}$ – Permitted capacity for the Annual Average Daily Flow $\left(\frac{MG}{Day} \right)$
 - Q_{Total} – The combined total Annual Average Daily Flow permitted capacity for all facilities $\left(\frac{MG}{Day} \right)$
 - M – Total combined TMDL limit for the utility allocated for total nitrogen or total phosphorus $\left(\frac{lbs}{yr} \right)$

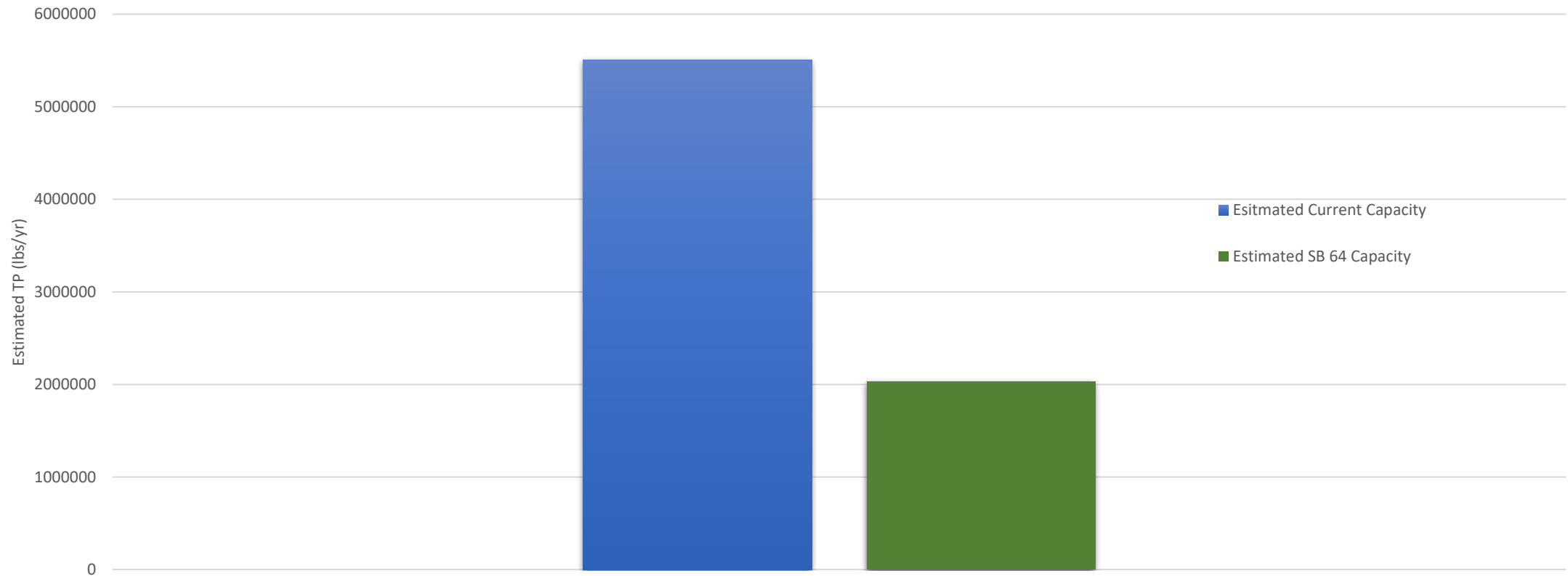
Estimated Changes in Permitted Capacity of TN

Estimated Annual Permitted Capacity of TN



Estimated Changes in Permitted Capacity of TP

Estimated Changes in Permitted Capacity of TP



Conclusion of SB 64 on TN Reduction for Point Sources

- Approximately a 75% reduction for TN based off the permitted capacity
 - Facilities will be utilizing reuse
 - Many facilities will be utilizing the Apricot Act
 - AWT, HLD, and a maximum allowed discharge of 30% of its reuse capacity
 - Some facilities will utilize Deep Well Injection into the aquifer
- The estimated TN reduction will happen by January 1, 2032
 - ❖ The estimated values are subject to change, as facilities can modify their plans to comply

Conclusion of SB 64 on TP Reduction for Point Sources

- Approximately a 63% reduction for TP based off the permitted capacity
 - Facilities will be utilizing reuse
 - Many facilities will be utilizing the Apricot Act
 - AWT, HLD, and a maximum allowed discharge of 30% of its reuse capacity
 - Some facilities will utilize Deep Well Injection into the aquifer
- The estimated TP reduction will happen by January 1, 2032
 - ❖ The estimated values are subject to change, as facilities can modify their plans to comply