

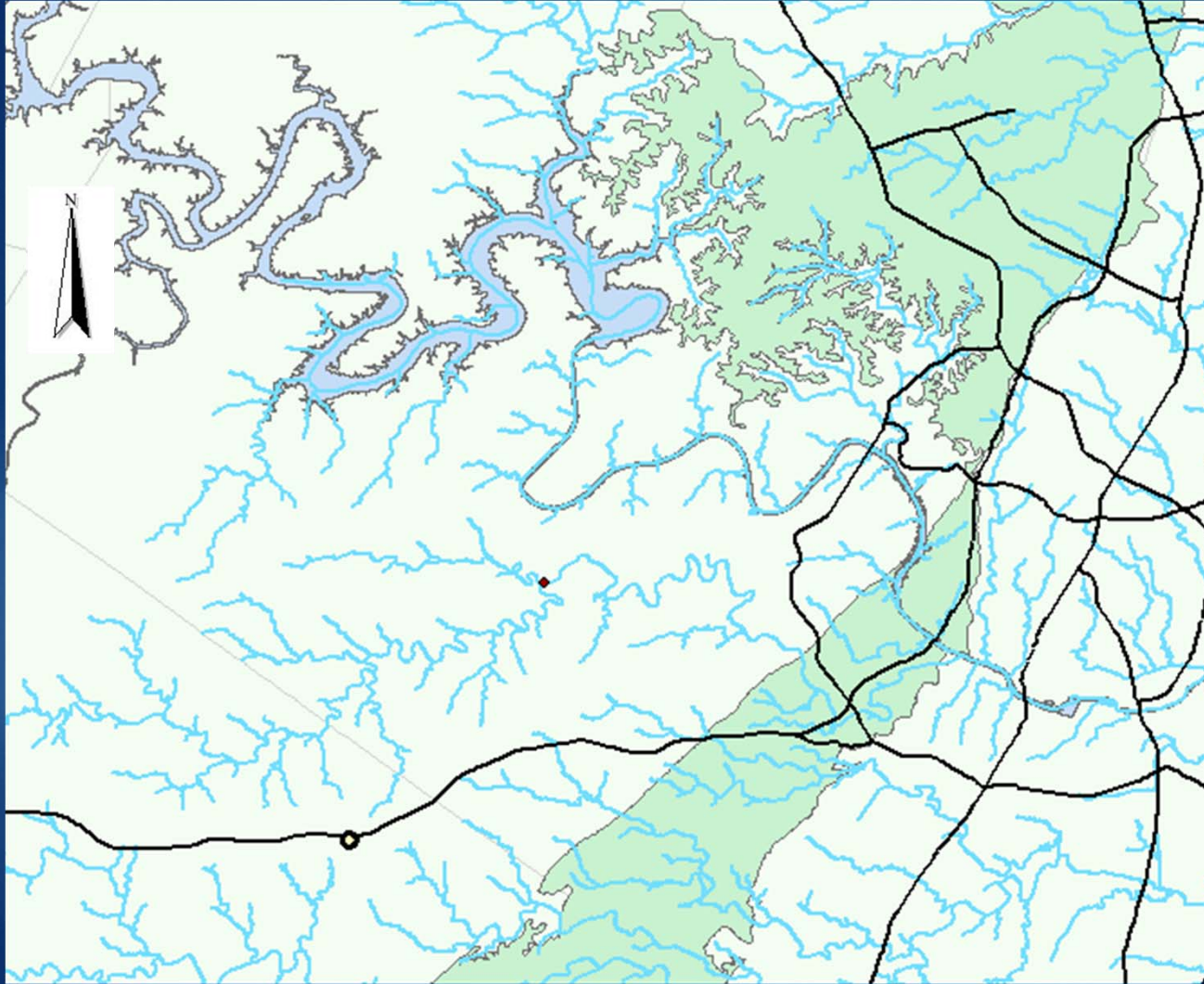
Water Quality Impacts from a Proposed Wastewater Discharge to Barton Creek

ABEL PORRAS, PE
ENVIRONMENTAL RESOURCE MANAGEMENT DIVISION
WATERSHED PROTECTION DEPARTMENT

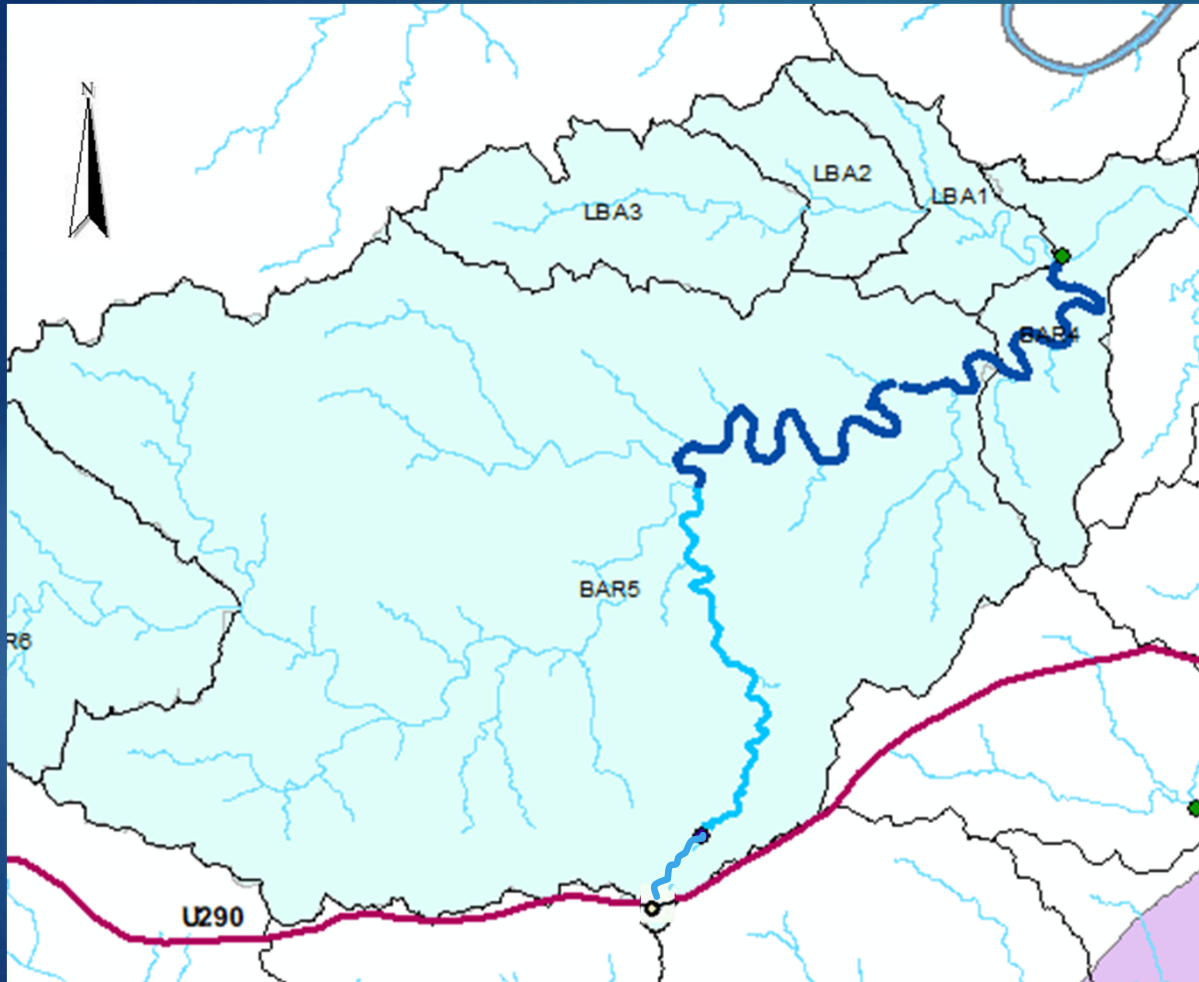
MAY 15, 2019

The Proposed TPDES Permit

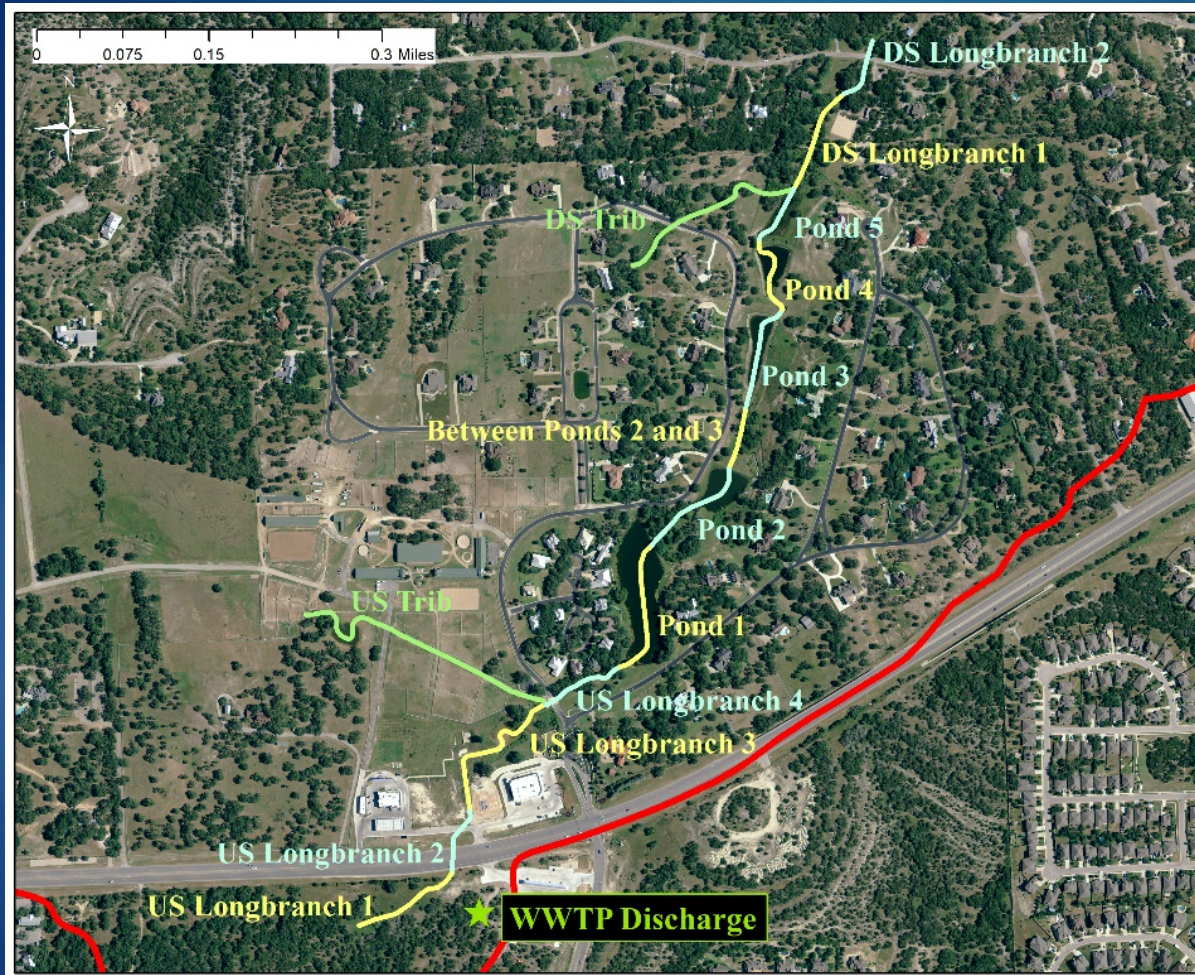
- ▶ The Sawyer-Cleveland Partnership applied for a TPDES permit
- ▶ The permit would allow treated wastewater effluent to be discharged to a tributary of Barton Creek in the Contributing Zone of the Barton Springs Segment of the Edwards Aquifer
- ▶ Environmental Resource Management Division has modeled this discharge and assessed its impact.



The
Location
of the
Discharge



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Discharge



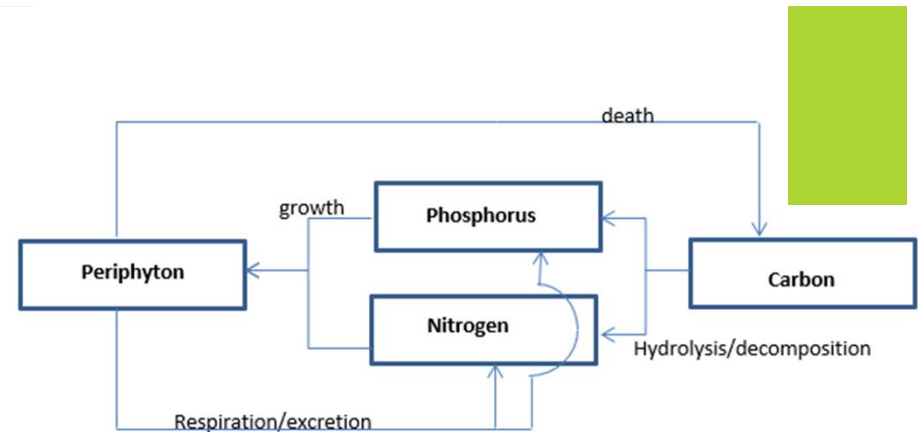
The
Location
of the
Discharge

The TPDES Permit

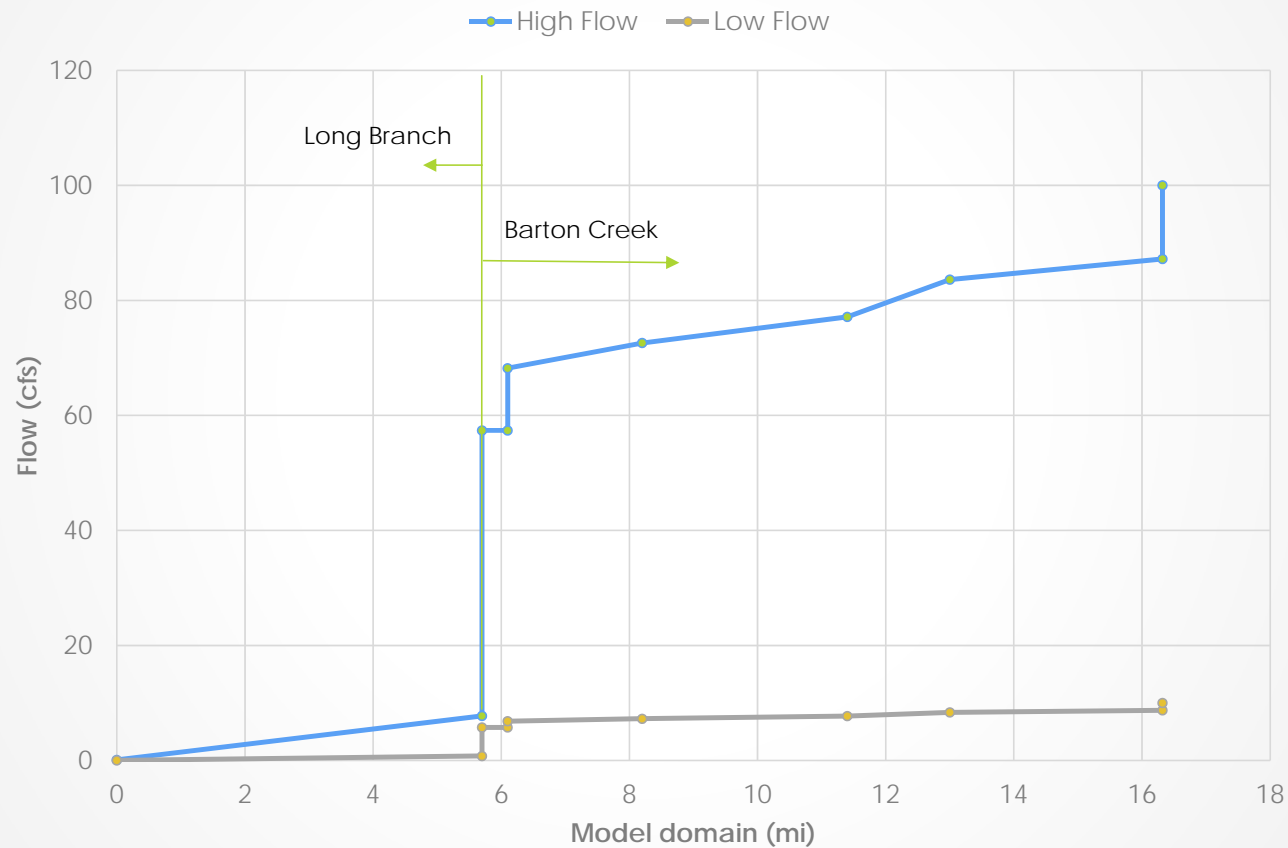
- ▶ Would authorize a discharge of treated wastewater not to exceed a daily average flow of 92,000 gallons/day;
- ▶ Estimated effluent concentrations of ~22mg/L of Nitrogen and ~4 mg/L of Phosphorus
- ▶ Dripping Springs TPDES permit allowed discharge of treated wastewater not to exceed a daily average flow of 995,000 gallons/day
- ▶ Estimated effluent concentrations of ~6mg/L of Nitrogen and ~0.5 mg/L of Phosphorus

The Model

- ▶ We're interested mostly in the impact on the stream from algae due to N and P.
- ▶ Algae changes the trophic status (or the clarity of the stream).
- ▶ The water quality model looks at flow, light conditions, and nutrient cycling to assess the impacts from nitrogen and phosphorus into algae.
- ▶ We used site-specific data for flow and light.



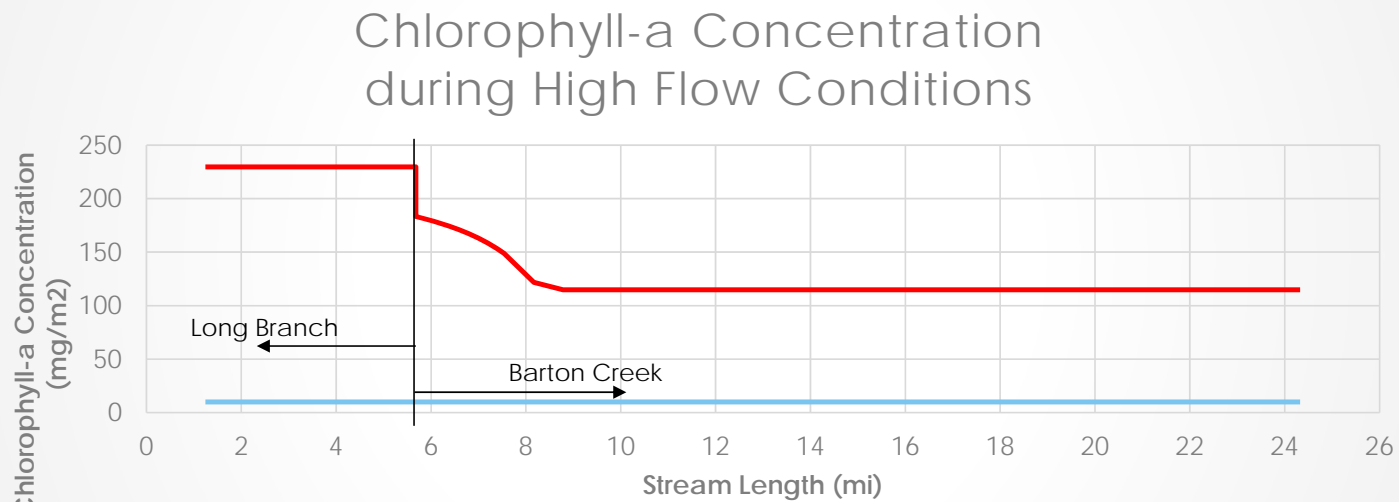
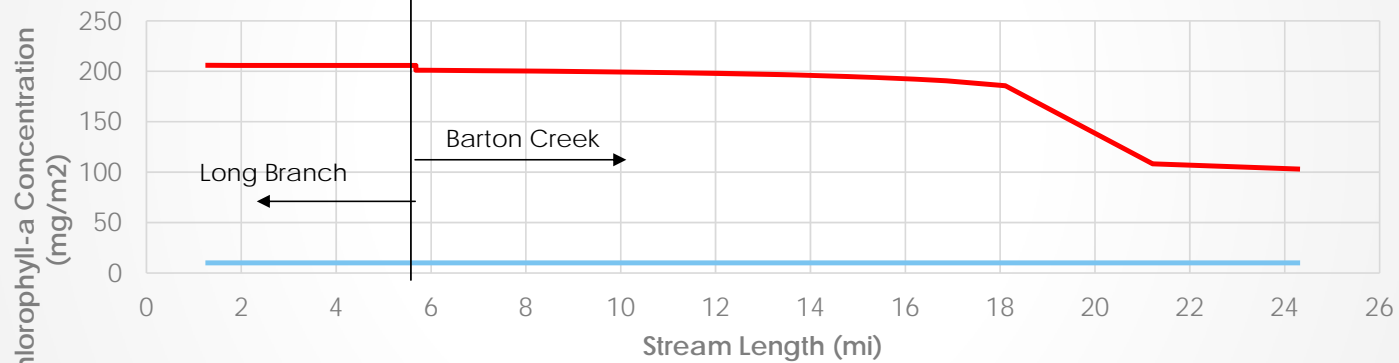
Flow rate along Length of the Model



Flow Summary

High Flow or greater
10% of the Time

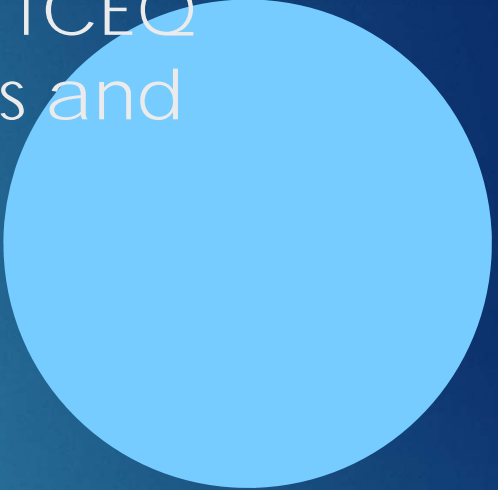
Low Flow or less
40% of the time



The
Results



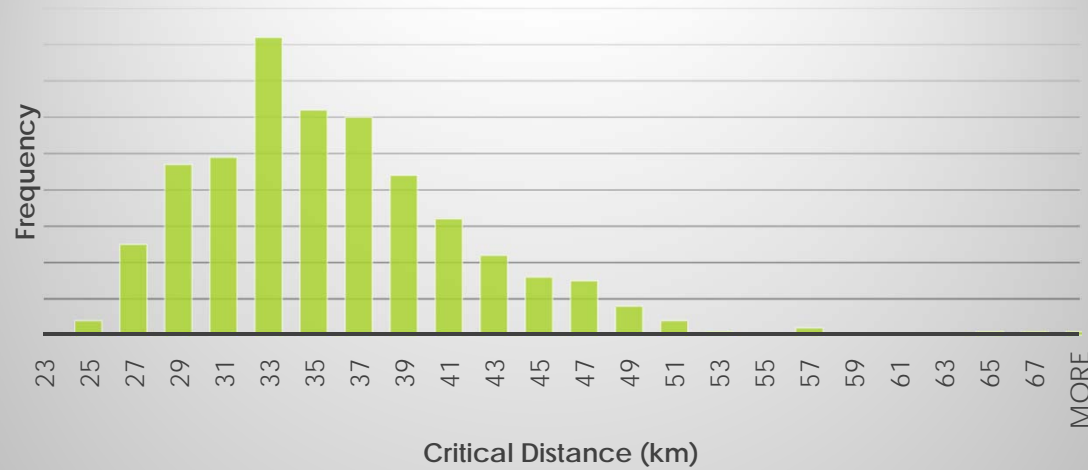
Next Steps

- We provided a letter of comments to TCEQ
 - We provided this letter to stakeholders and will be continuing to keep Env. Board informed.
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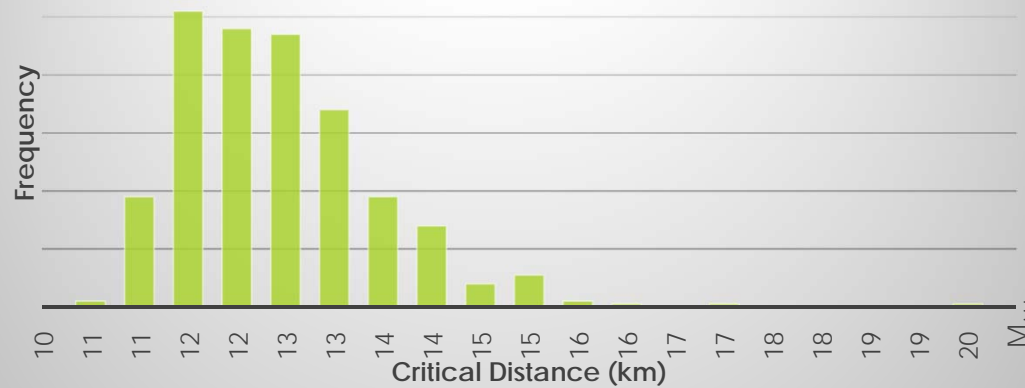
Questions or comments?

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Critical Distance under Low Flow



Critical Distance under High Flow



Uncertainty
in the
Results