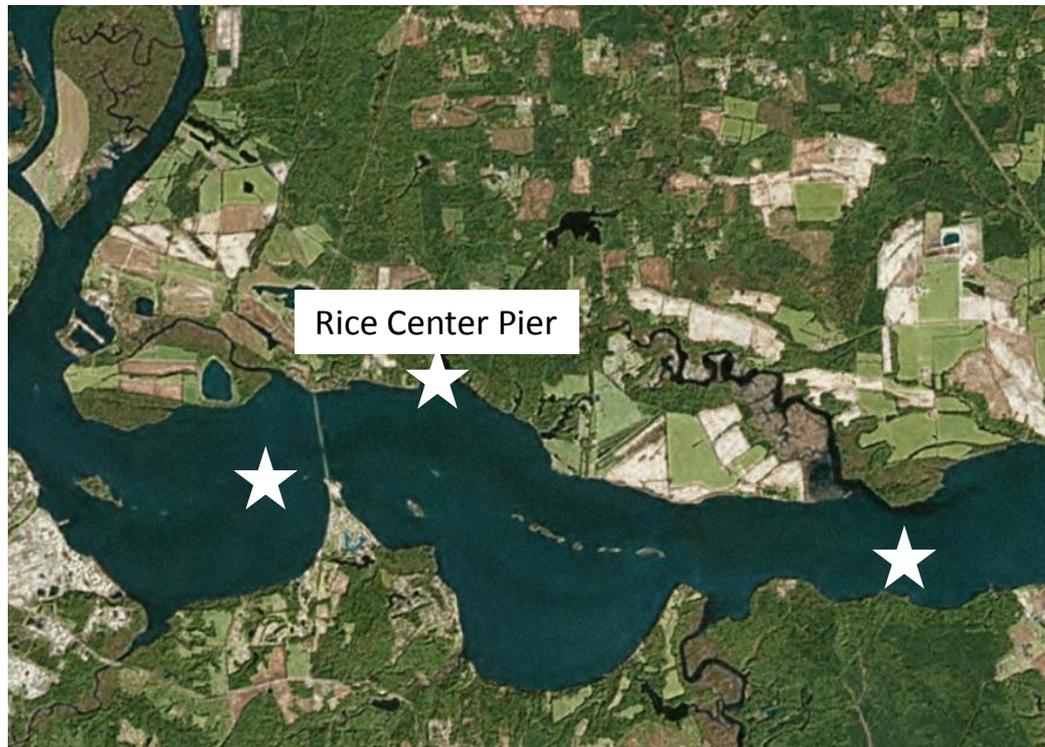


Are chlorophyll and pH concentrations at the Rice Center Pier representative of the entire upper portion of JMSTFL?

Or we should put more weight on data collected at mid-channel stations?



Three ways to answer this question:

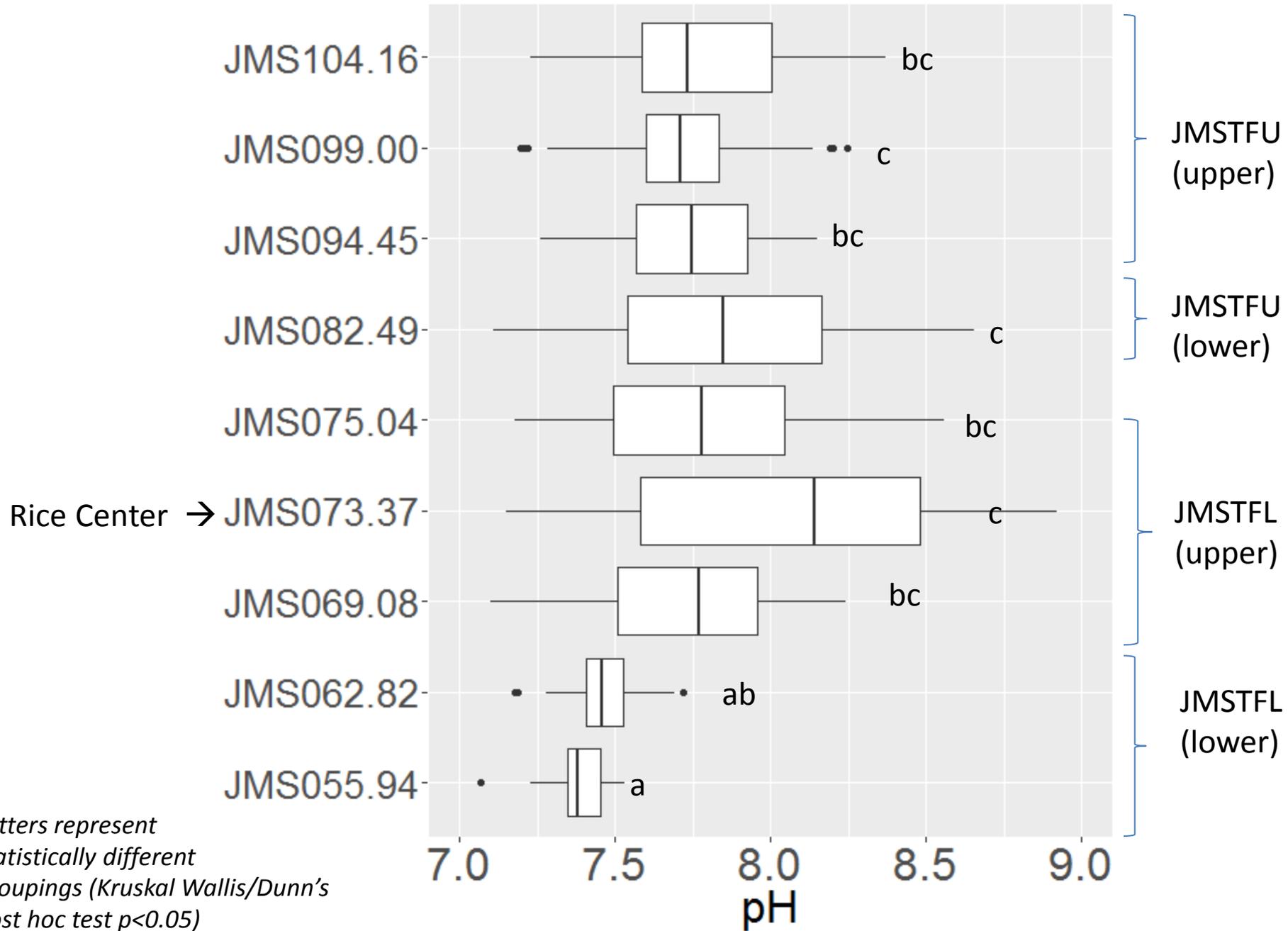
1. Statistically compare discrete samples taken at Rice Center Pier with samples taken at the mid-channel stations.
2. Statistically compare chl-pH relationship derived from Rice Center ConMon with relationships derived from other datasets.
3. Visually compare the Rice Center Pier habitat with the surrounding habitat.

Statistical comparison of discrete samples

Stations visited by VIMS spring/summer 2006-2008

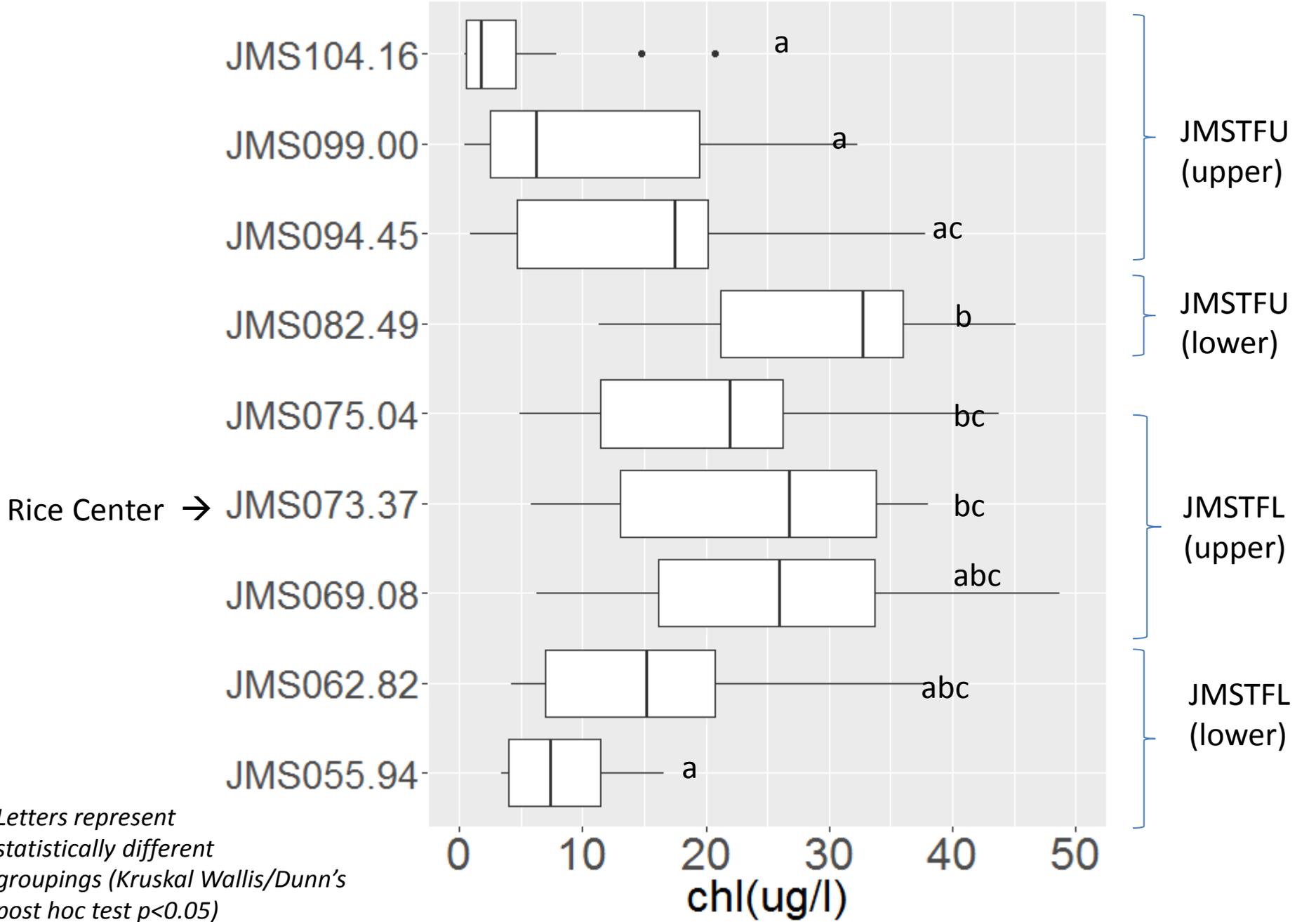


DFLOW Verification Station pH Distributions (spring/summer 2006-2008)



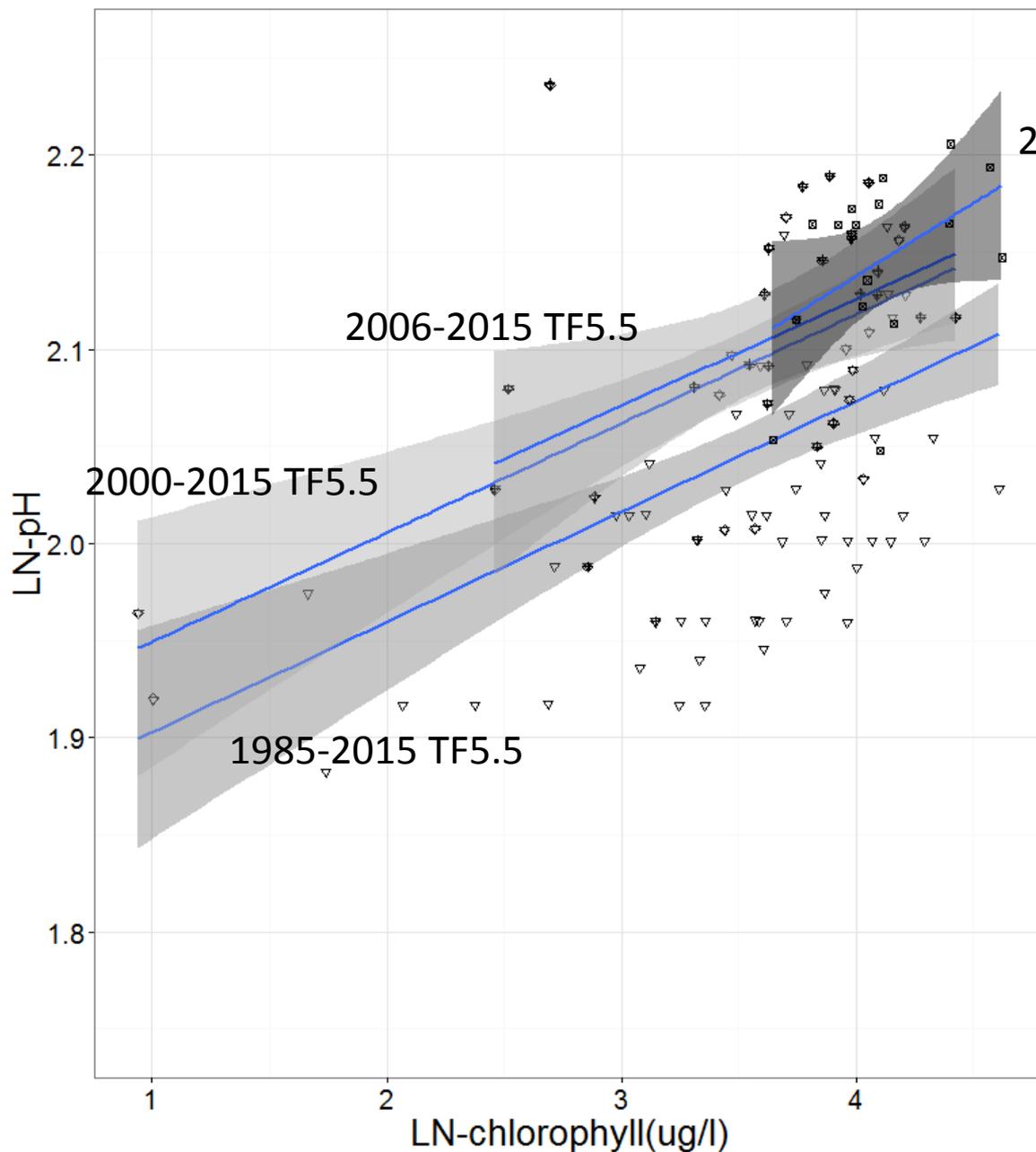
Letters represent statistically different groupings (Kruskal Wallis/Dunn's post hoc test $p < 0.05$)

DFLOW Verification Station Chl Distributions (spring/summer 2006-2008)



Statistical comparison of chl-pH relationships

Comparison of Rice and TF5.5 Chl-vs-pH Relationship



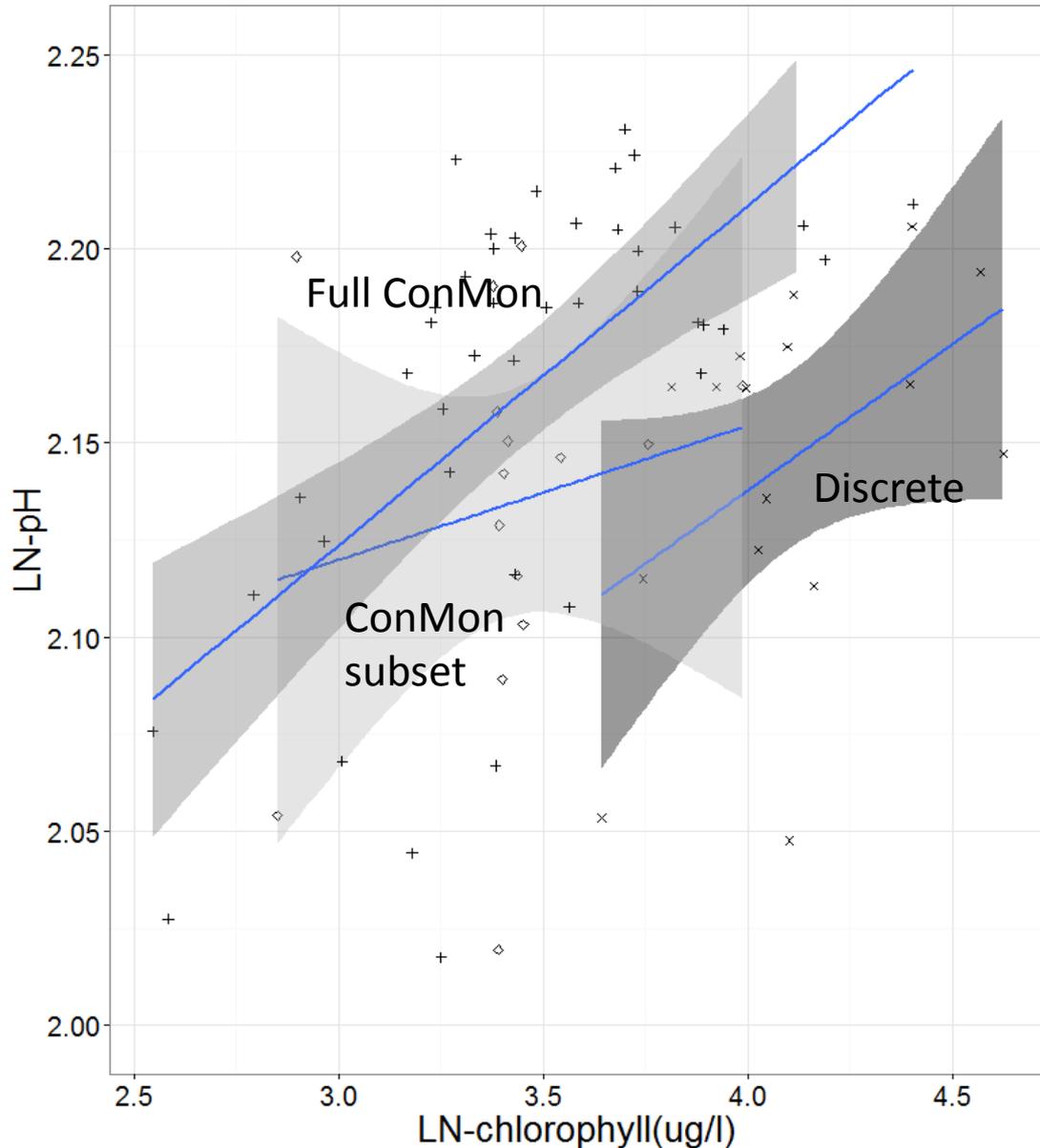
2006-2015 Rice

Shading represents the 95% confidence interval.

No significant difference between Rice and 2006-2015 TF5.5 and Rice and 2000-2015 TF5.5 (ANCOVA, $p > 0.10$)

Significant difference between Rice and 1985-2015 TF5.5. (ANCOVA, $p < 0.05$)

Comparison of Chl-vs-pH relationships derived from ConMon and discrete samples taken from the Rice Center Pier



Shading represents the 95% confidence interval.

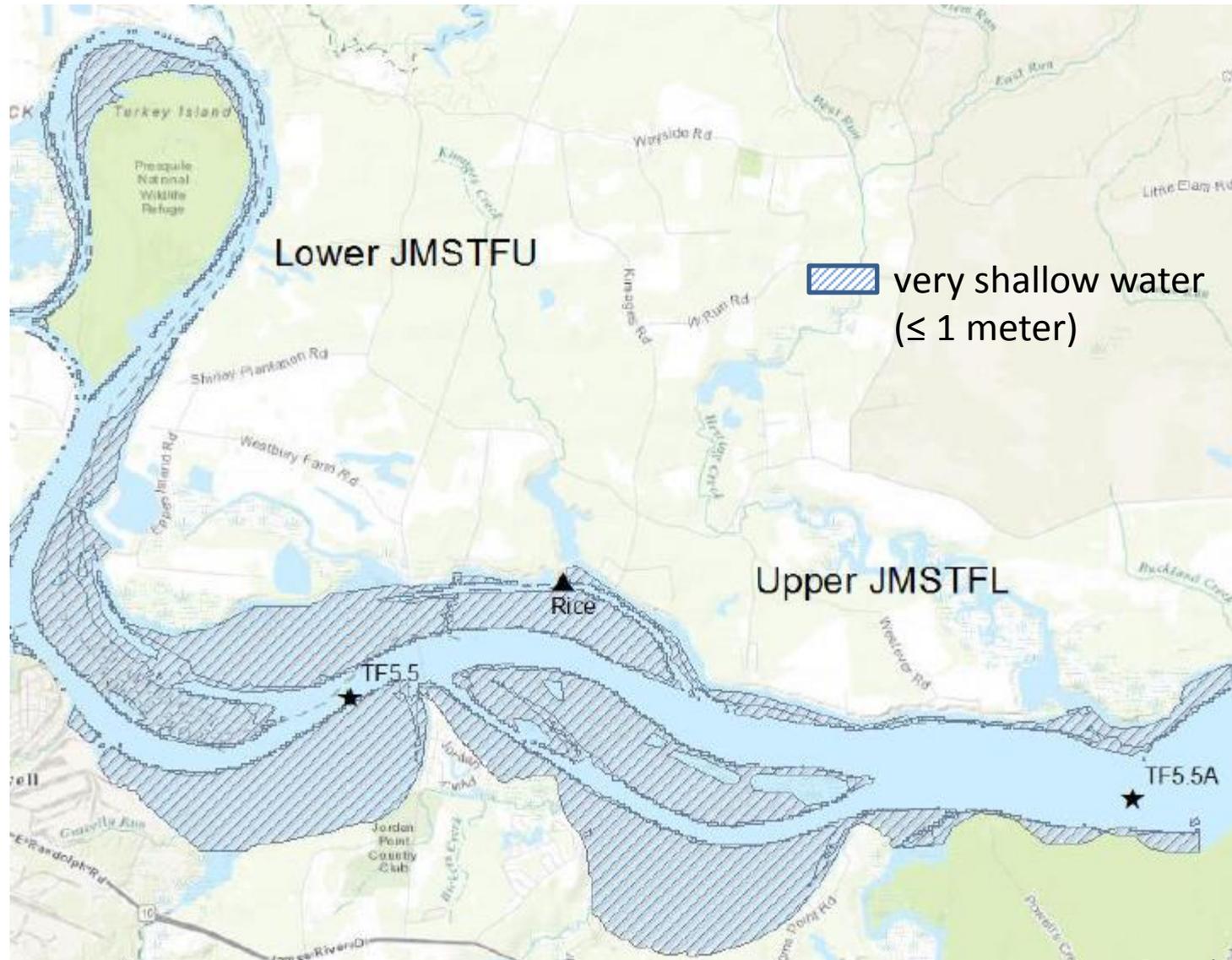
No significant difference between full ConMon and ConMon subset (ANCOVA, $p > 0.05$).

No significant difference between ConMon subset and discrete samples (ANCOVA, $p > 0.10$).

Significant difference between Full ConMon and discrete. (ANCOVA, $p < 0.05$)

Visual comparison of habitats

The Rice Center Pier is not in a “weirder” location than either TF5.5 or TF5.5A



Based on NOAA 1998 bathymetry

Conclusion

There is strong empirical evidence that conditions around the Rice Center Pier are adequately representative of the upper zone of JMSTFL.

- Discrete samples taken at the Rice Pier are statistically indistinguishable from samples taken in the mid-channel.
- The chlorophyll-pH relationship modeled from Rice samples is statistically indistinguishable from the relationship modeled from *recent* observations taken at the closest mid-channel station, TF5.5.
- There are no obvious features about the Rice Center Pier that set it apart from the rest of the tidal fresh habitat.