

High Rock Lake Fisheries Assessments



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North Carolina Wildlife Resources Commission



Outline

- **Monitoring Activities**
- **Data Available**
- **Answers to Questions from the SAC**

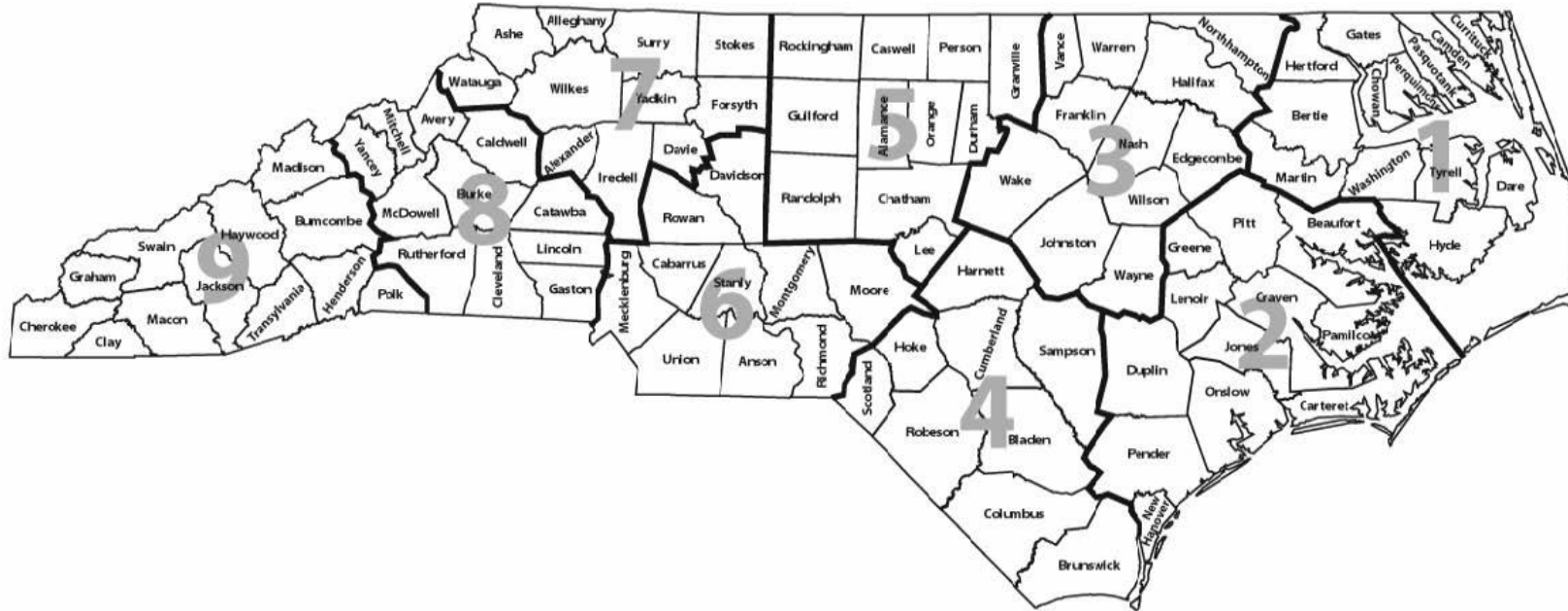


My Background and Responsibilities

- B.S. in Fisheries and Wildlife from N.C. State (1995) and an M.S. from Tennessee Tech University in Biology-Fisheries Concentration (1997)
- Employed with the NC Wildlife Resources Commission since 1997; District 6 Fisheries Biologist since June, 2000.
- Responsible for fisheries management in a ten county district that includes all reservoirs on the Yadkin- Pee River except W. Kerr Scott and Lake Norman and Mountain Island Lake on the Catawba River



North Carolina Wildlife Resources Commission Districts



Species of Interest

- Largemouth Bass
- Crappie
- Striped Bass



Monitoring Efforts in General

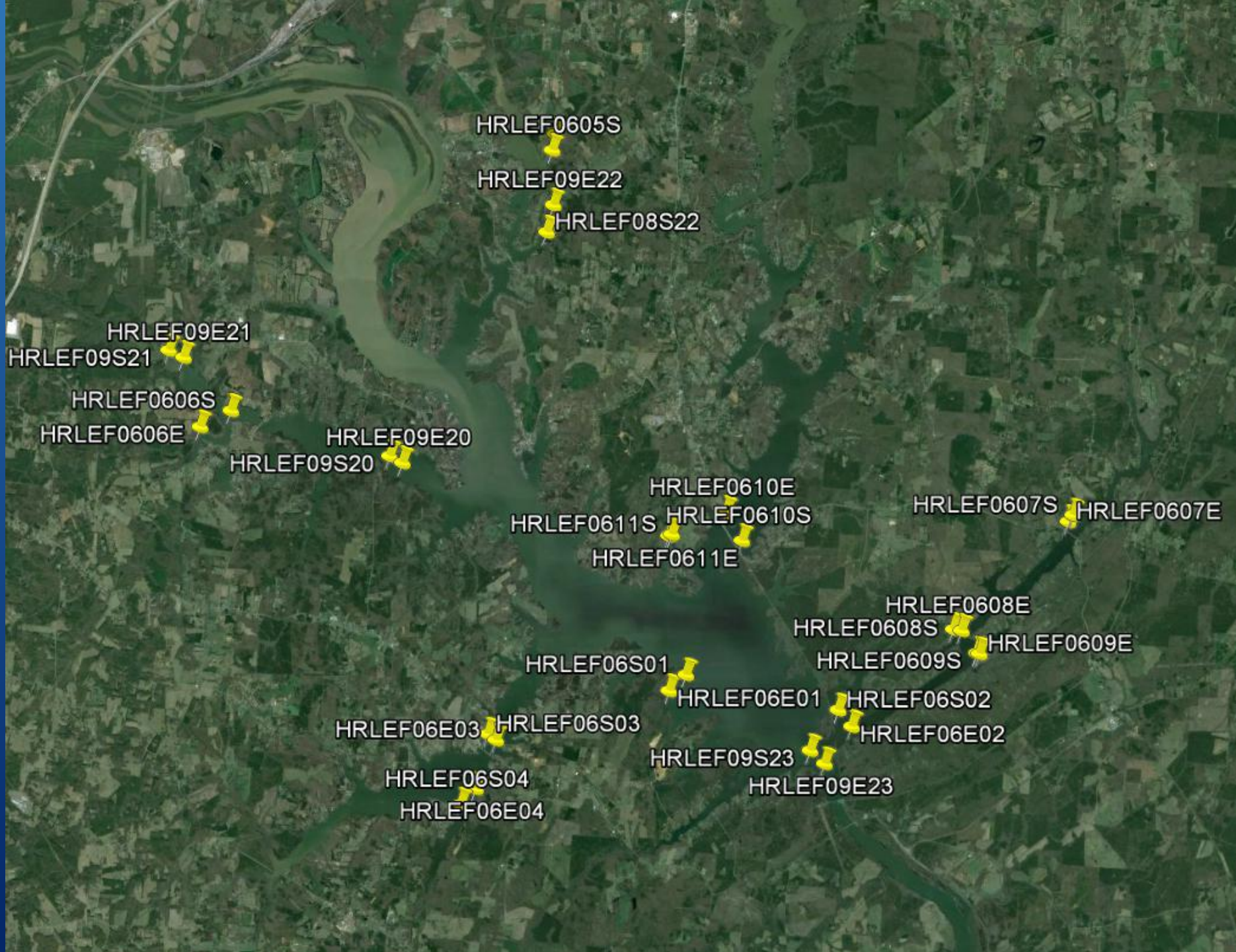
- Each reservoir is sampled at three year intervals
- Sample throughout the reservoir to gain complete picture of fishery
- Collect catch per unit effort data for electrofishing and trap netting
- Individual data collected in the field include length, weight, and age (subsampled)
- Metrics calculated : mean catch per unit effort, mean total length, relative weight, age distribution, size distribution, length at age.



Largemouth Bass

- Electrofishing surveys conducted during April-May of each year.
- Goal is to collect 400 fish or expend 23,000 seconds of effort





Crappie

- Trapnetting surveys conducted during October-November of each year.
- Goal is to collect 500 fish or expend 48 net-nights of effort





Striped Bass

- Gillnetting efforts sporadically – best survey in 2006
- Bycatch of common carp and flathead catfish has rendered gillnetting ineffective
- Work with angling groups to collect length, weight, and age data.



Data Available

- Data from 2000 – present is in Microsoft Excel format.
- Completion reports are available in PDF format.
- Most complete data are for largemouth bass and crappie surveys.



Questions

- Fishery Health
- Monitoring
- Data



NC Wildlife Resources Commission

Wildlife Diversity Program



NORTH
CAROLINA

Wildlife

RESOURCES
COMMISSION



What Kinds of Things Do We Do?

- Inventory/Monitoring of Wildlife Action Plan priority species
 - Many are state and federally listed
- Research
 - Life History
 - Management recommendations
- Habitat protection and enhancement
 - Technical Guidance
 - Permit Review
- Goal of conserving, restoring or enhancing non-game animals





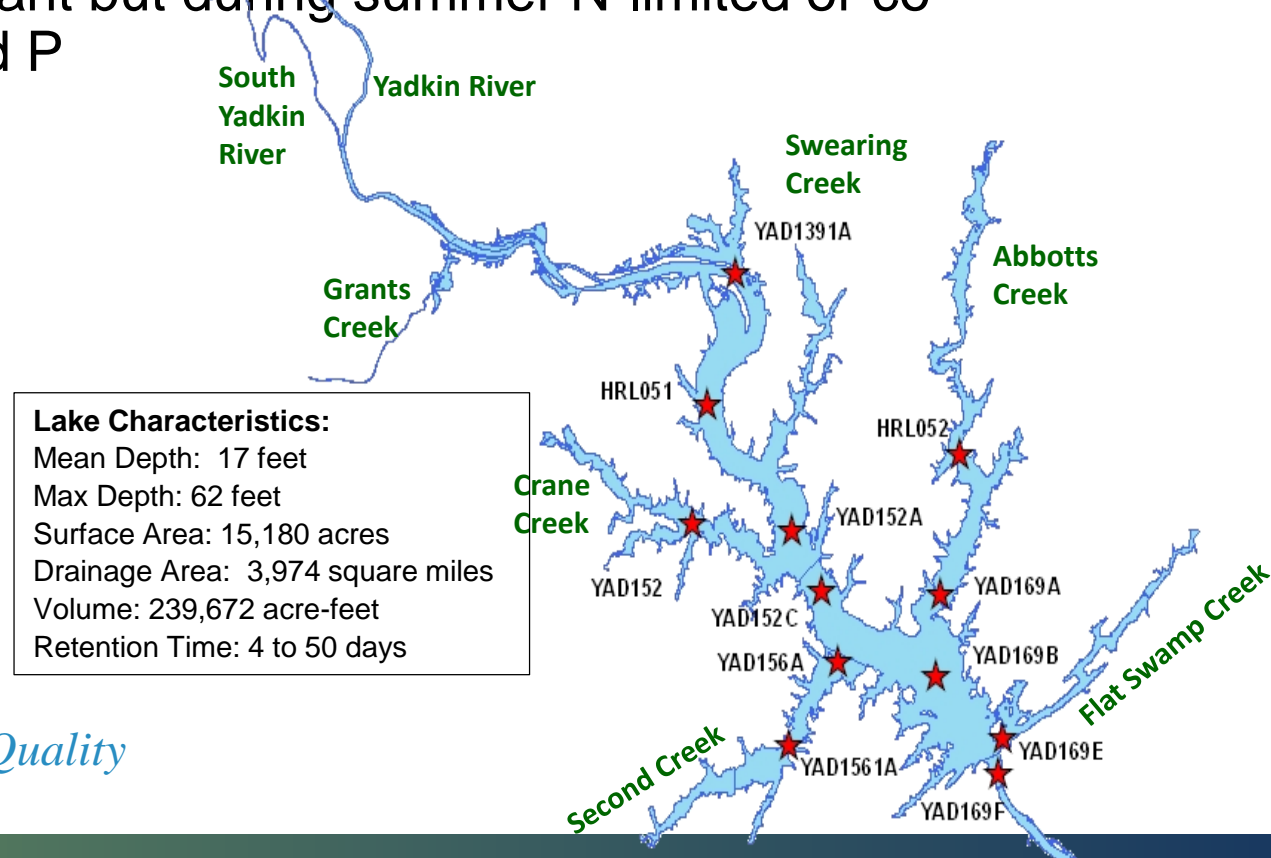
High Rock Lake Data Correlations
NCDP -November 18, 2015

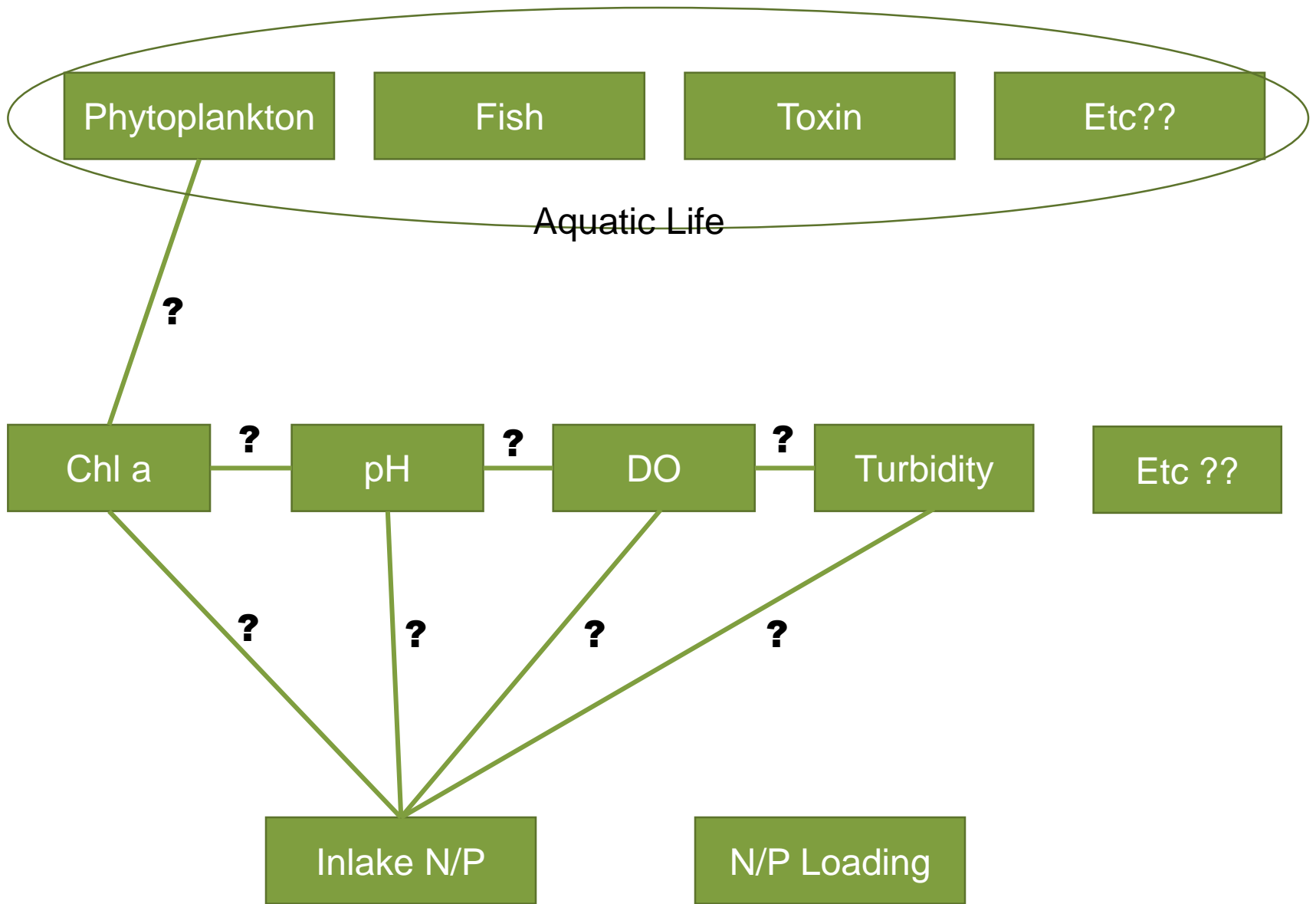
Department of Environmental Quality
Division of Water Resources-Modeling and Assessment Branch
Jing Lin



High Rock Lake – major characters review

- Seasonality
- Spatial Variation
- Dynamic system
- Nitrogen Abundant but during summer N-limited or co-limited by N and P





Correlations

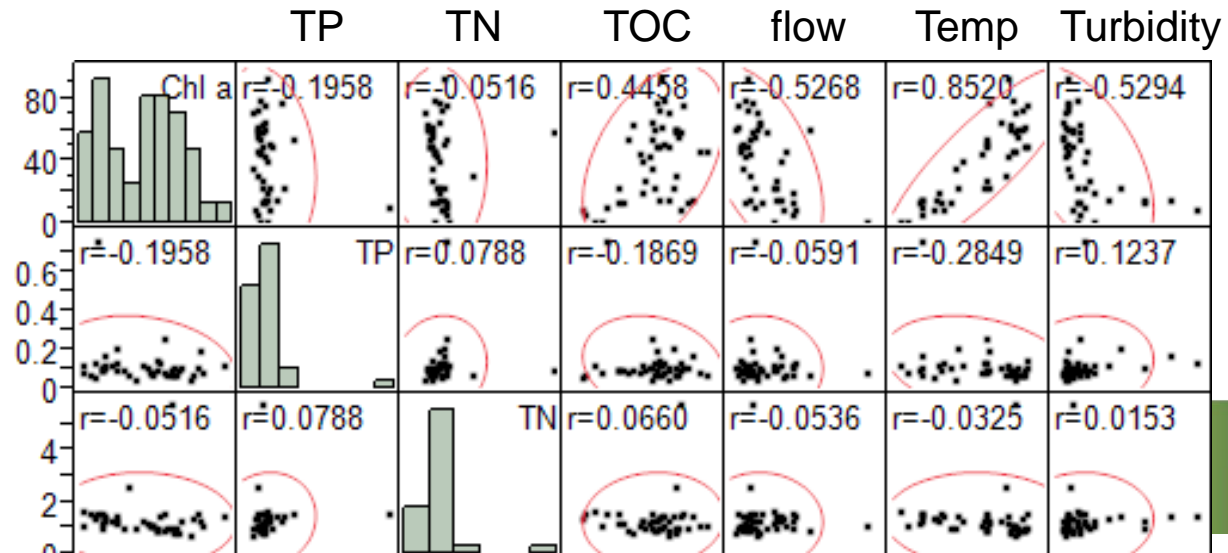
- Chl a and phytoplankton data
 - *Chl a and other relevant parameters*
 - *pH and other relevant parameters*
 - *DO and other relevant parameters*
 - *Turbidity and other relevant parameters*
- Duration Curve for Chlorophyll a

Year-round
Summer
YAD152C

Correlations

- Correlation Coefficient - r
 - lists the Pearson product-moment correlations for each pair of response (Y) variables. It is their covariance divided by the product of their individual standard deviations.
 - summarizes the **strength** of the linear relationships between each pair of Y variables.
 - $-1 \leq r \leq 1$
 - Signif Prob: The **significance** of the relationship is expressed in probability levels, tells how **unlikely** a given correlation coefficient, r , will occur given **no** relationship in the population

- Scatterplot



Discussion ??

