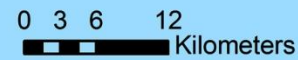
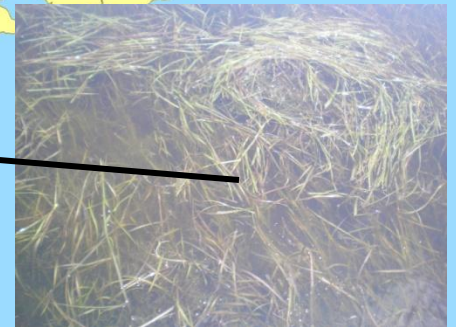
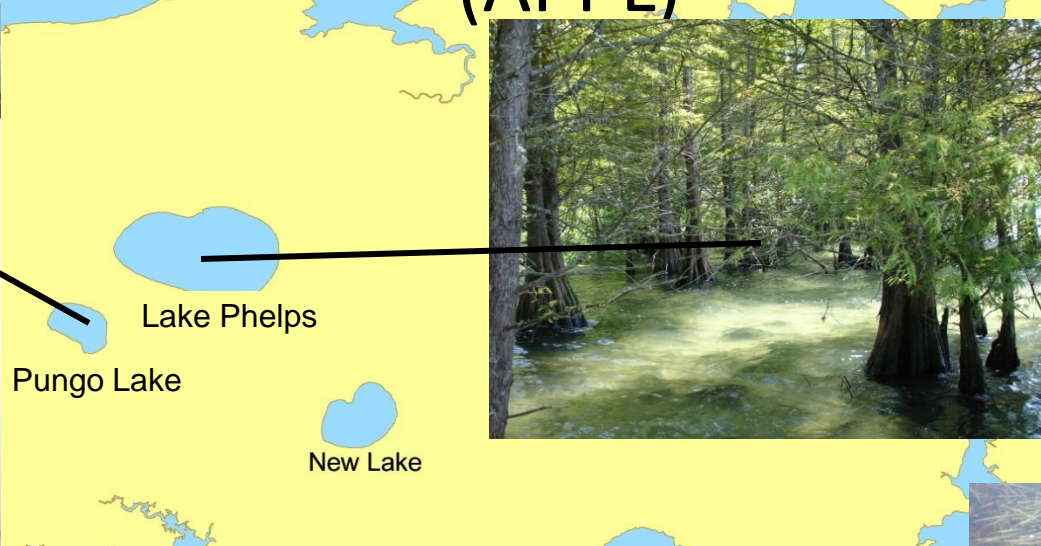


Albemarle/Pamlico Peninsula Lakes (APPL)



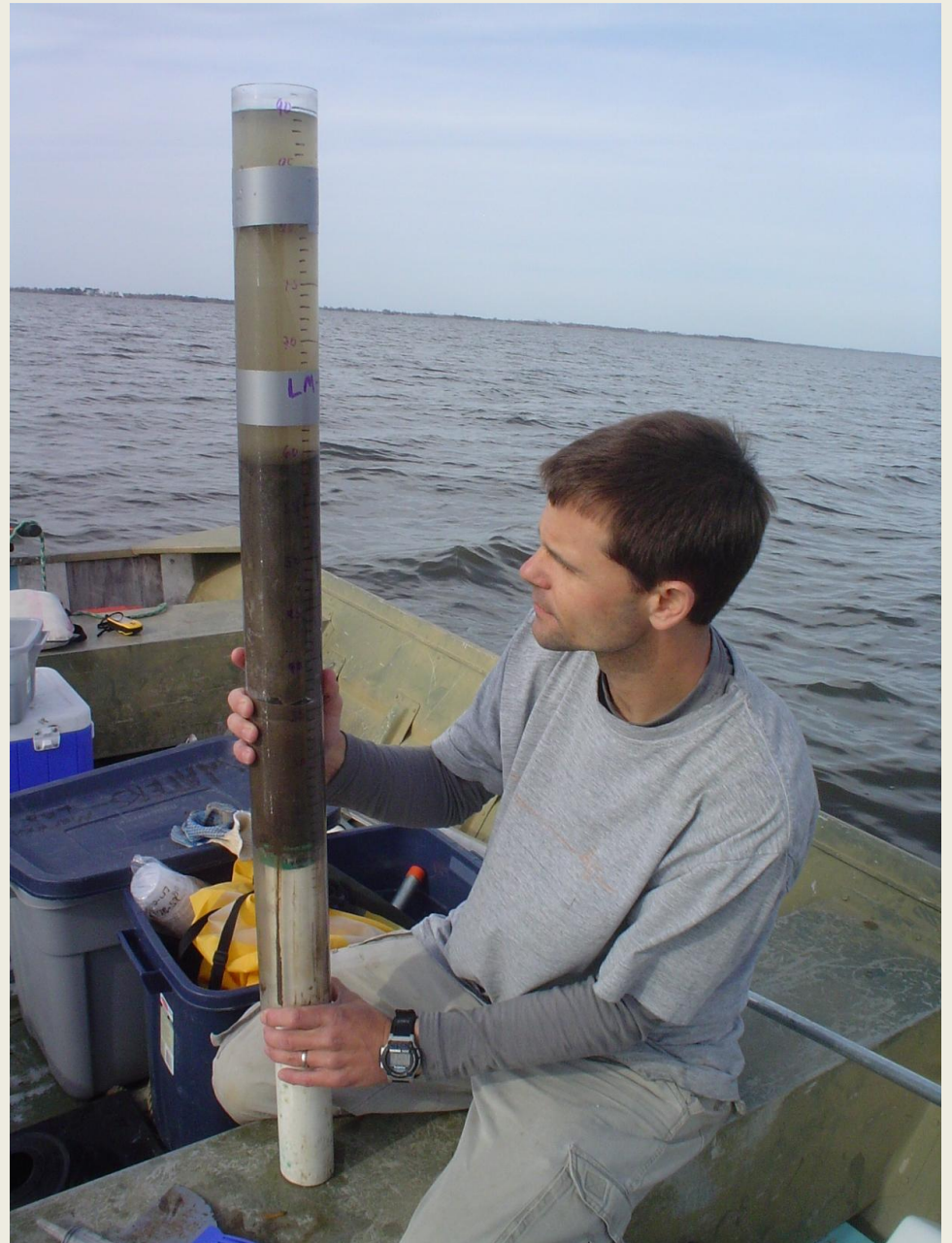
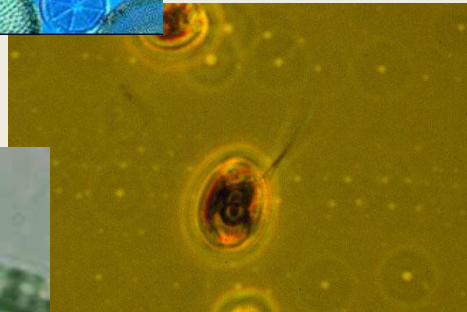
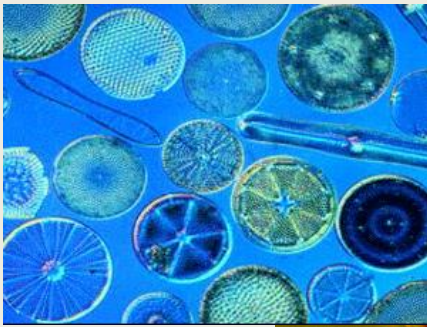


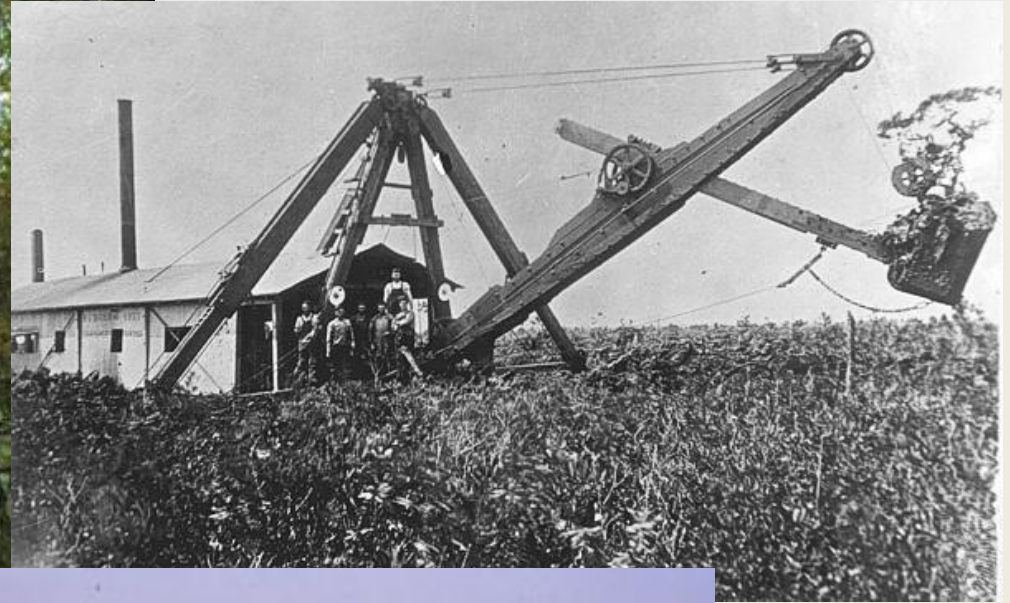
www.ssec.wisc.edu/modis-today/



John White, 1590

Working forward
from the past...





West Mattamuskeet



Pungo



East Mattamuskeet



Phelps





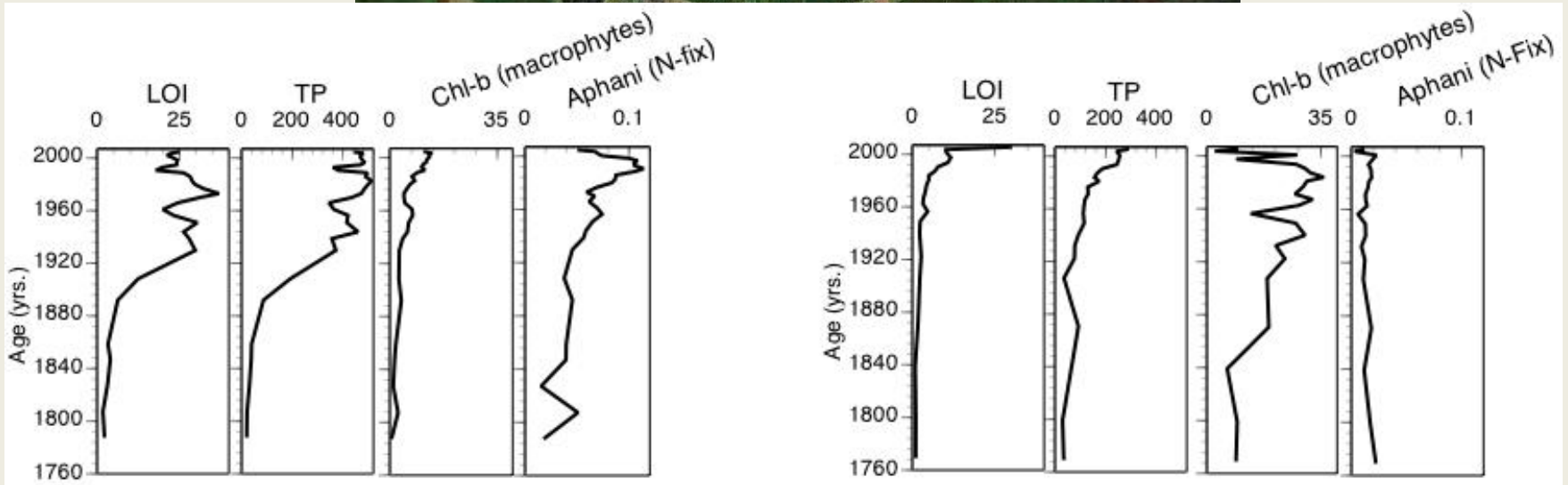
?



phytoplankton

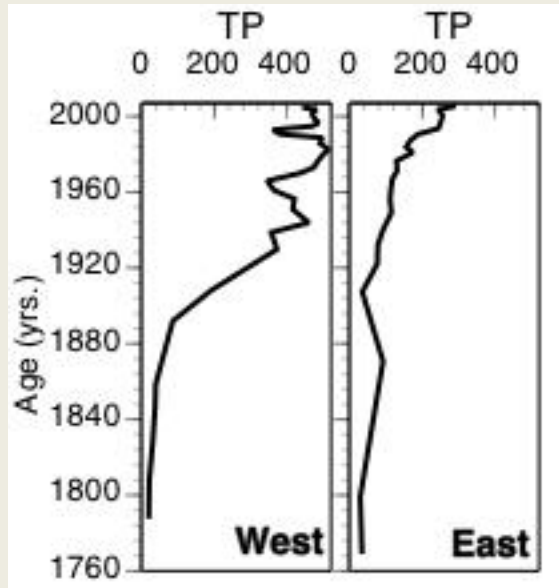


macrophytes



Possible Mechanisms

- Organic Matter and Nutrients
 - Internal Loading/processing
 - Waterfowl
- Hydrology





Pungo Lake

Lake Phelps



Pungo Lake

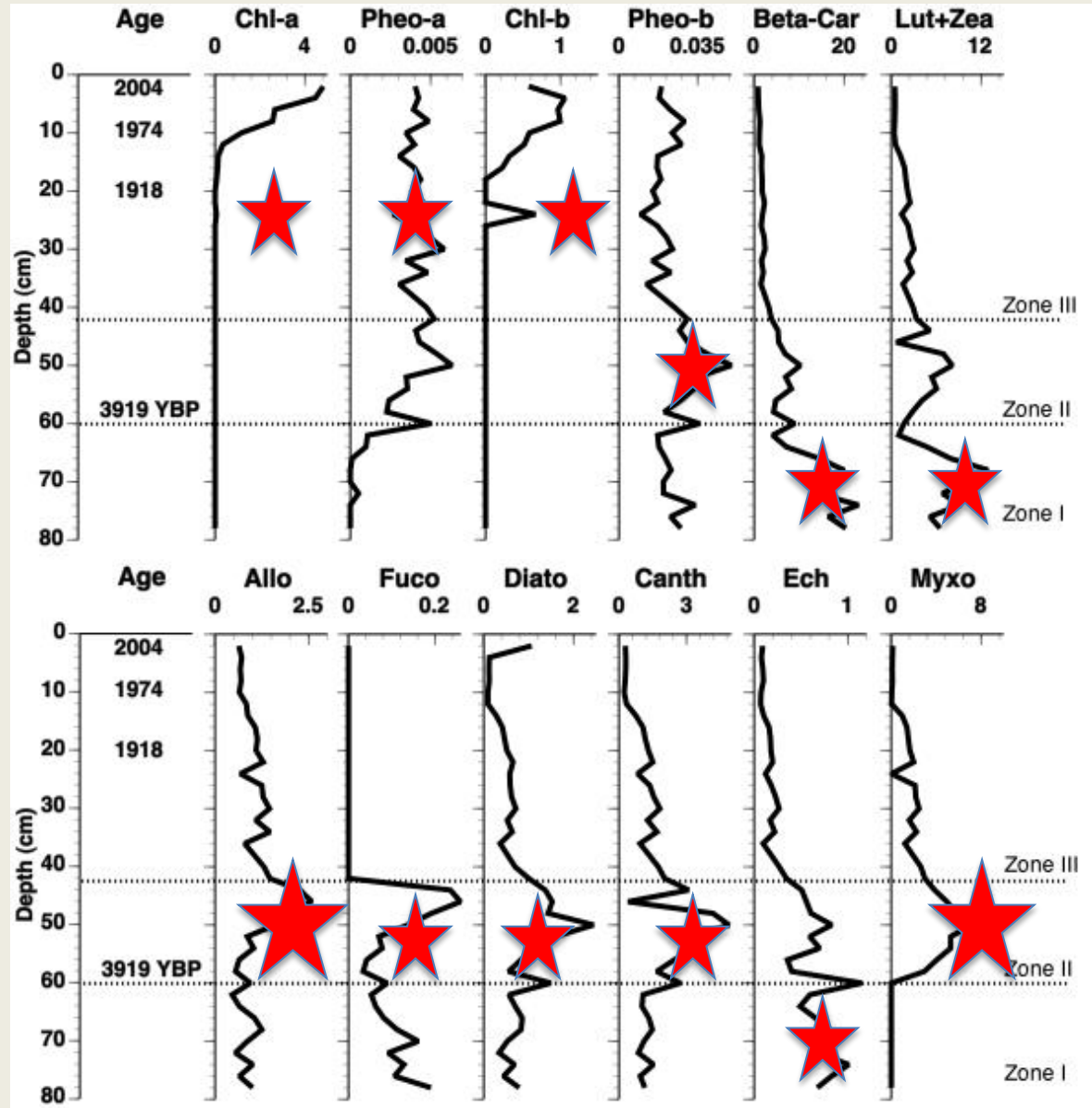
Pigments

★ = PCA and Cluster Results

Klug, 2000

Mesocoms:

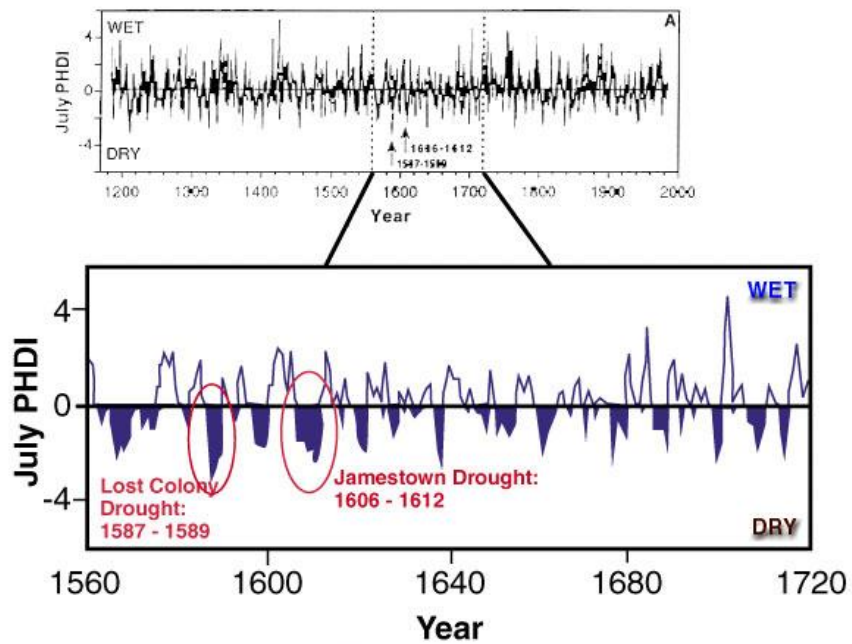
cryptophytes and
cyanobacteria



Klug and Cottingham, 2002

Whole lake:

cryptophytes and
cyanobacteria



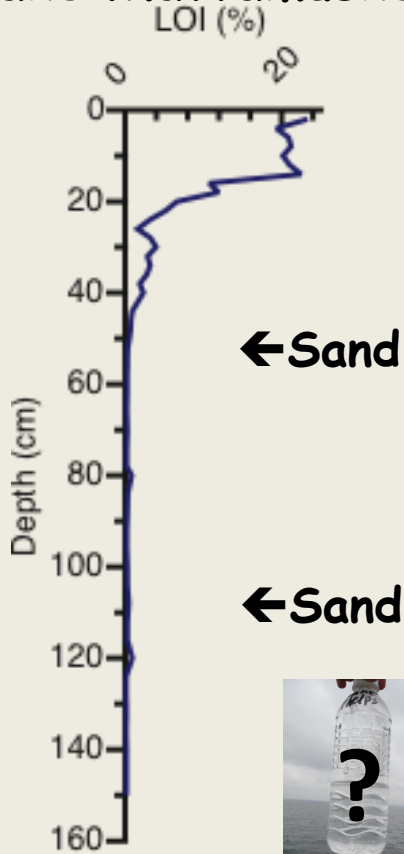
Tree-ring Reconstruction: July PHDI
 Tidewater region of Virginia & N. Carolina
 from 1185 to 1984 (top), and
 early colonial period 1560 to 1720 (bottom).



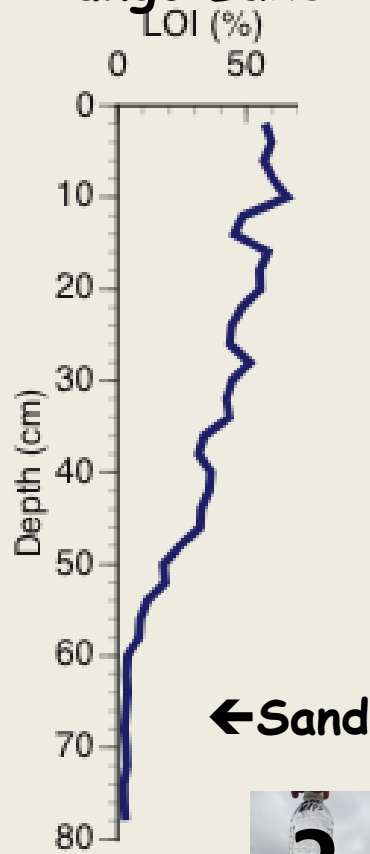
Stahle et al., 1998 *Science*



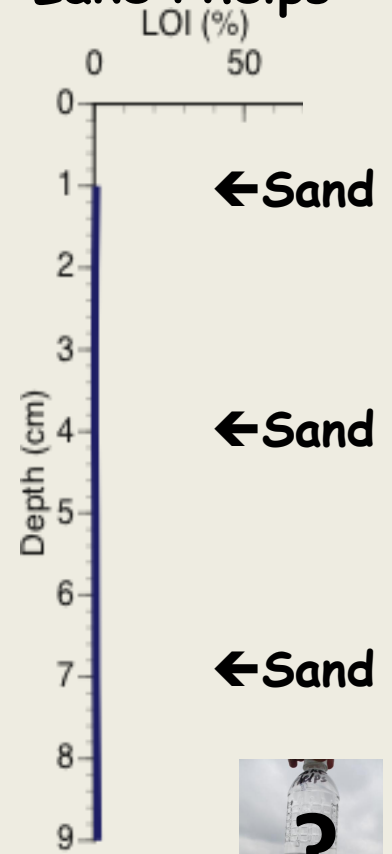
Lake Mattamuskeet



Pungo Lake

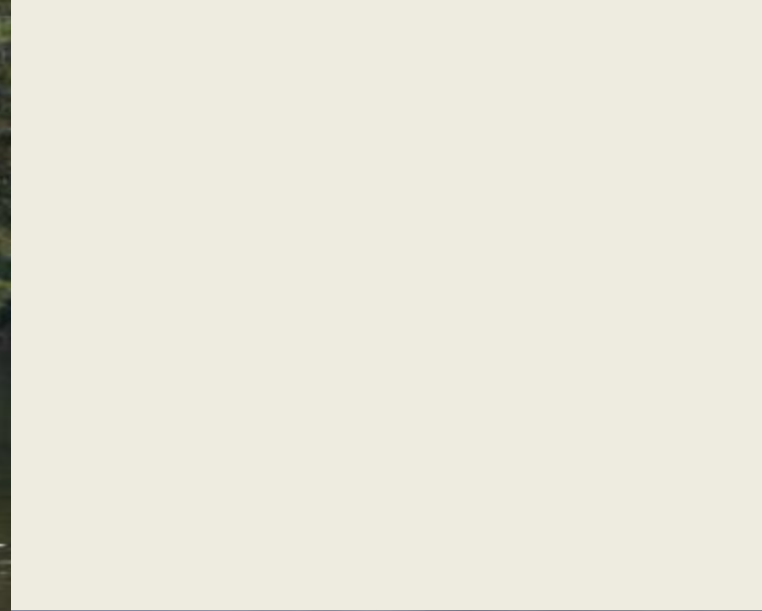


Lake Phelps

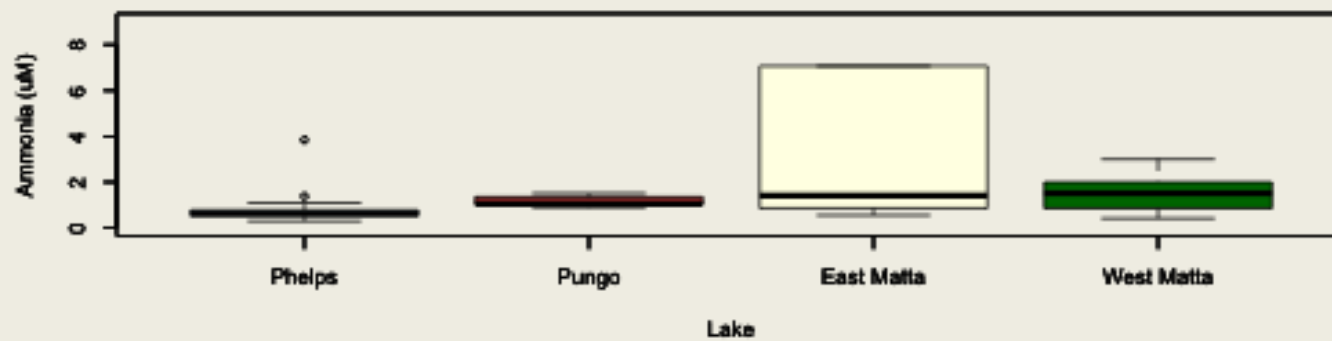
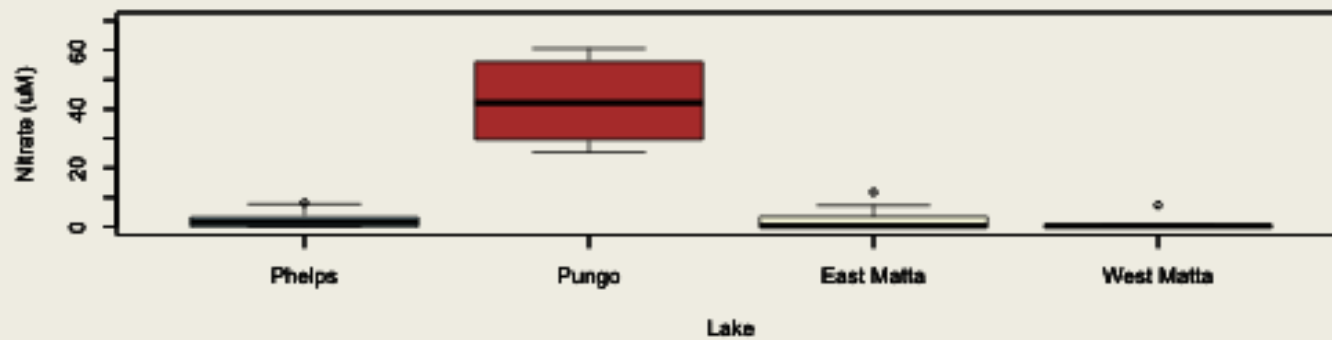
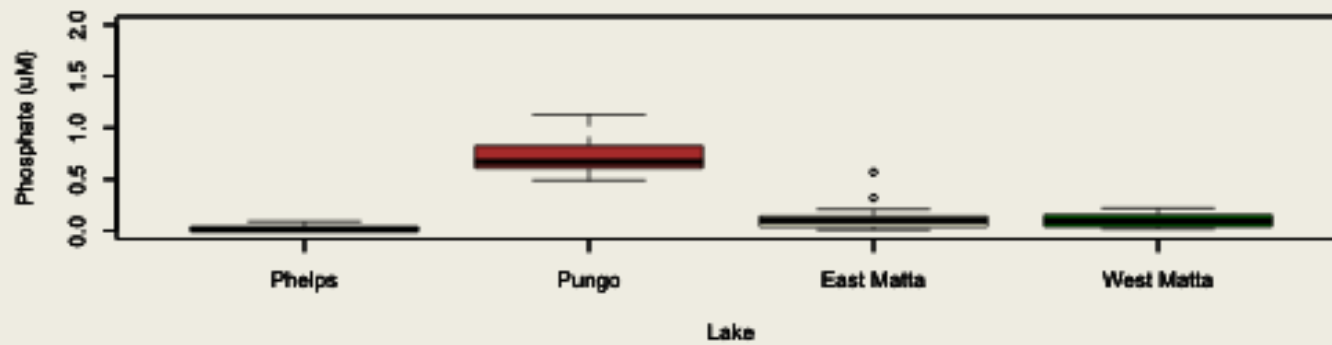


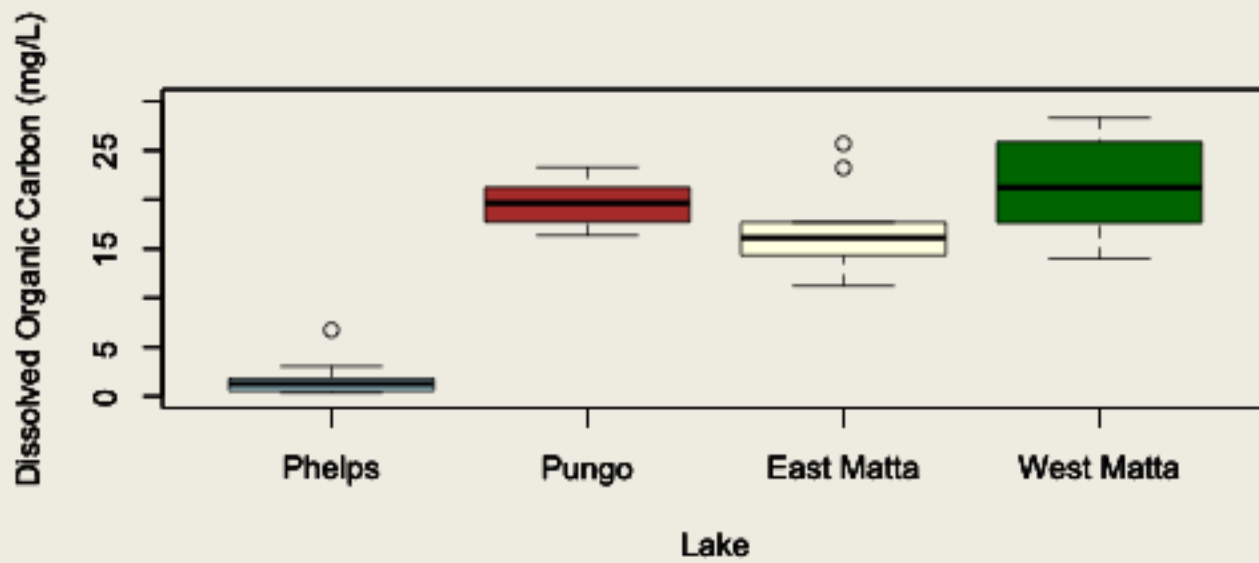
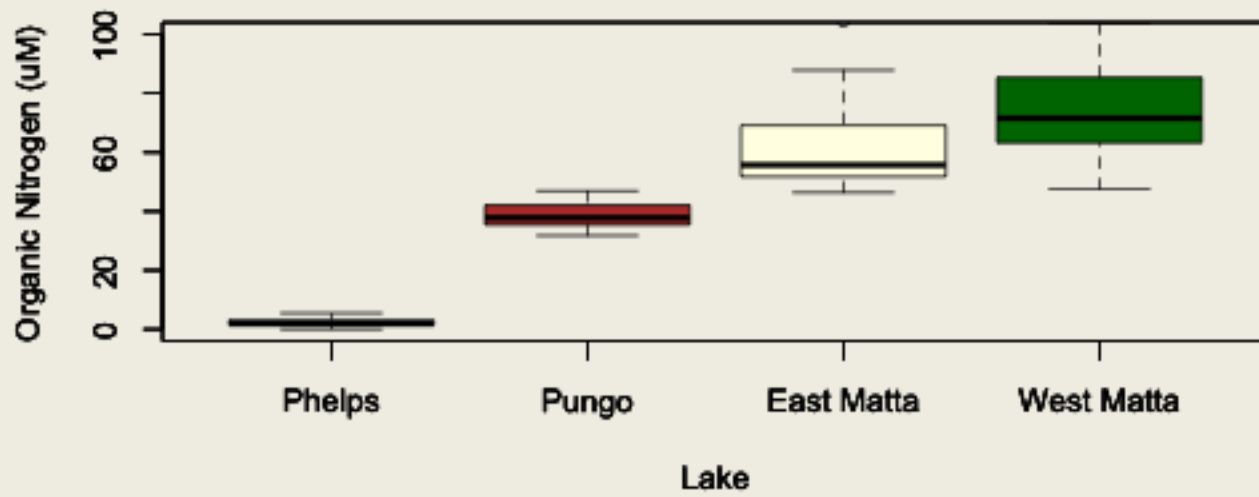


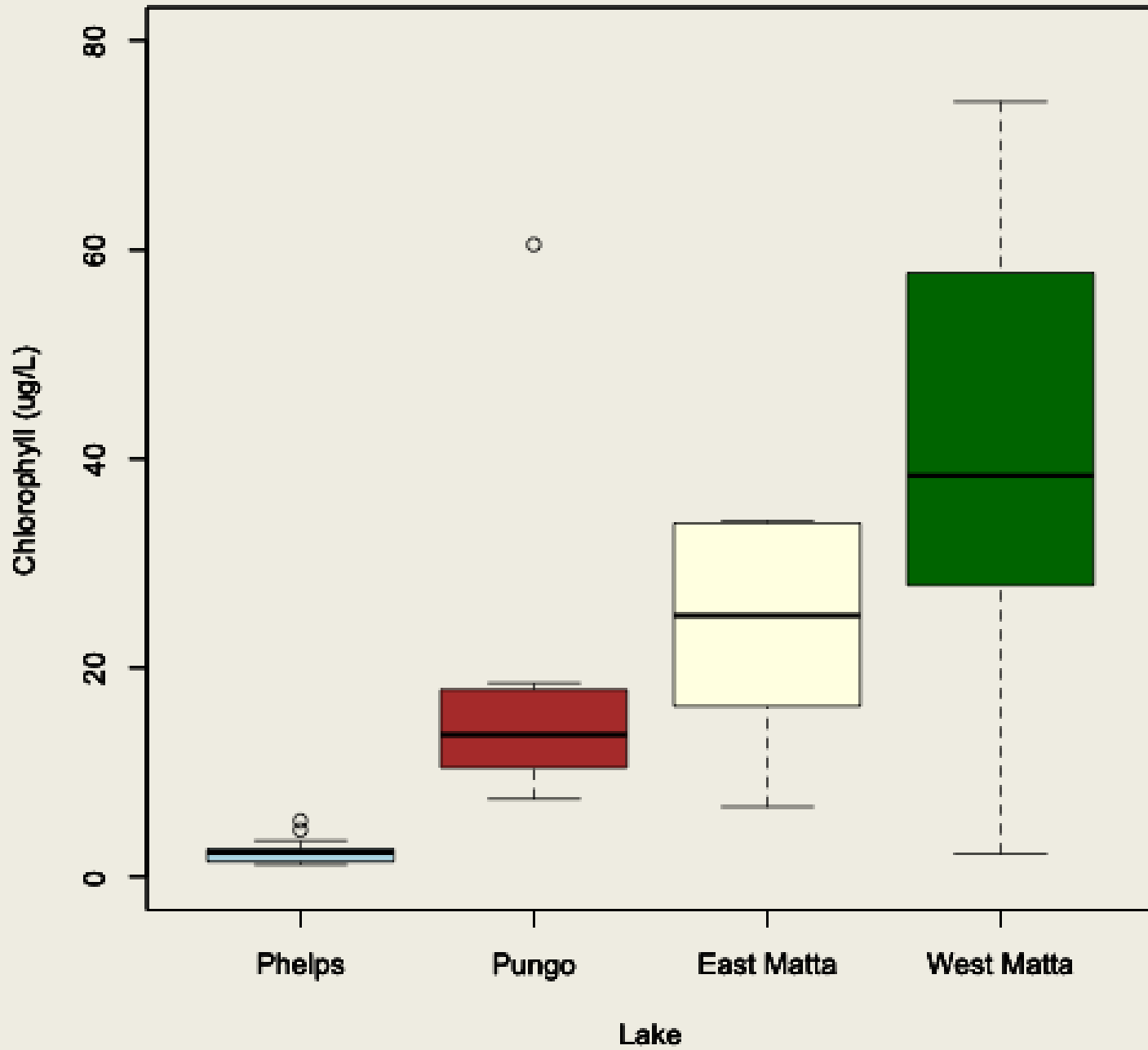
**Time:
2:45 p.m.**

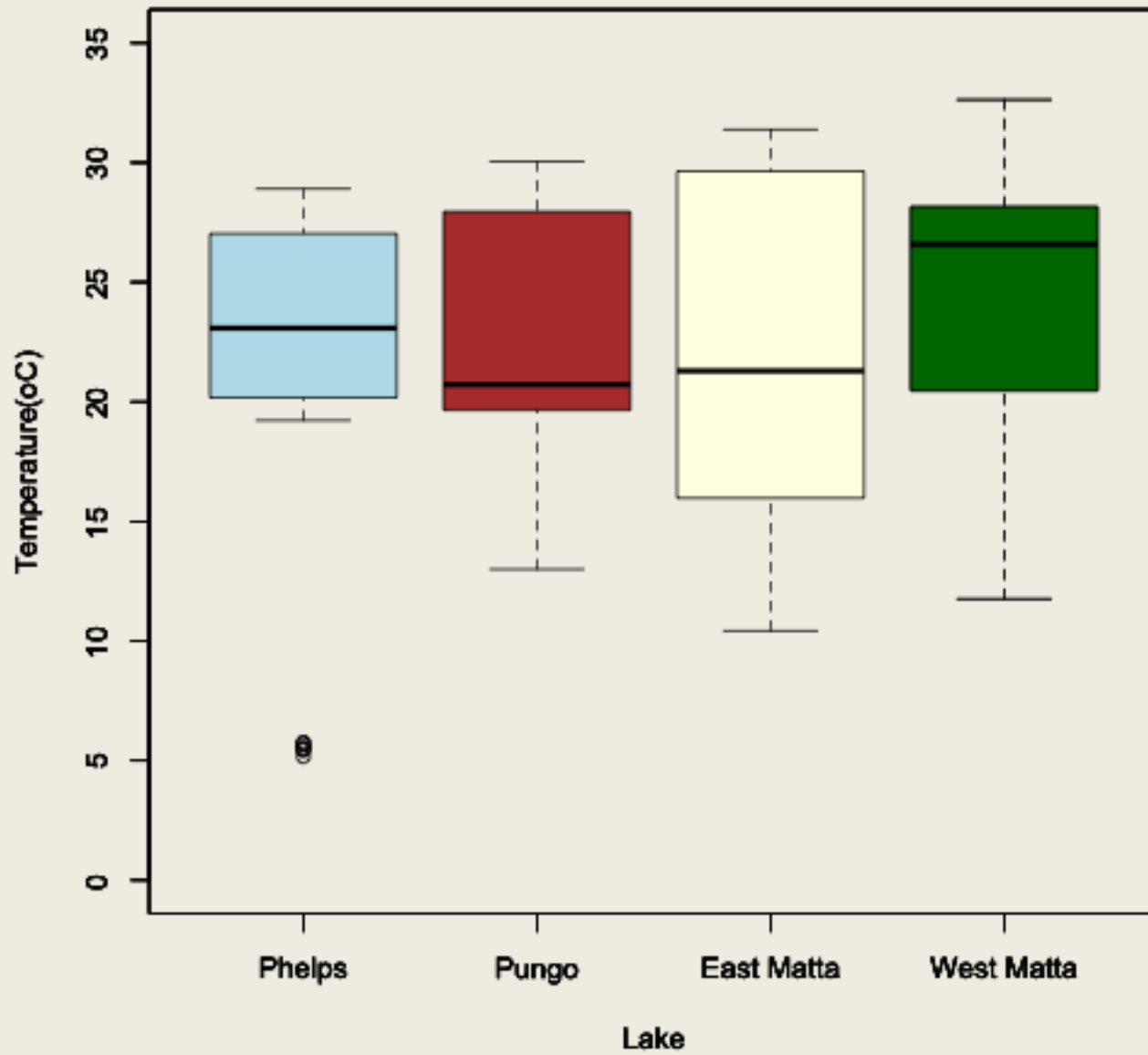


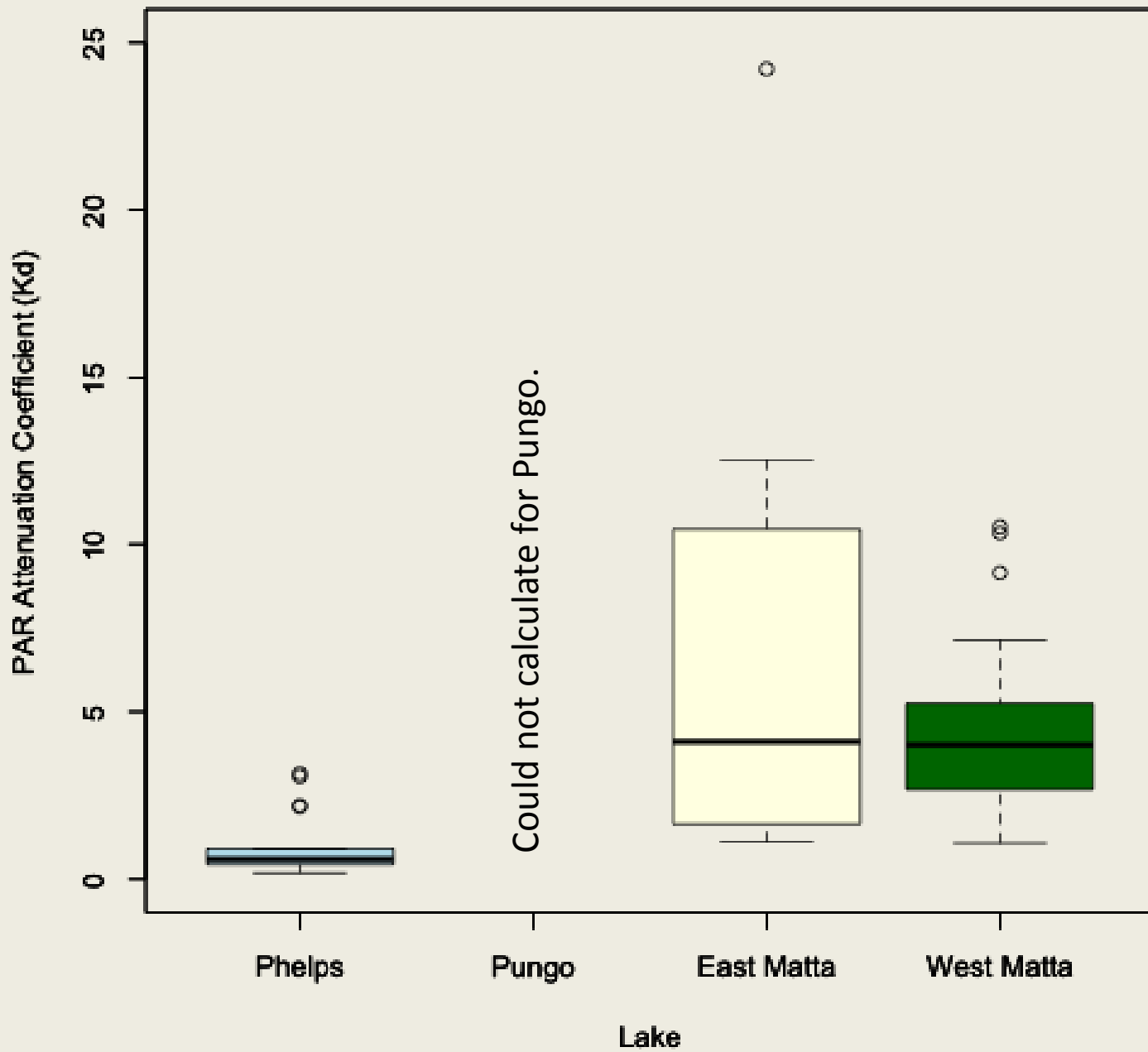
**Time:
2:53 p.m.**

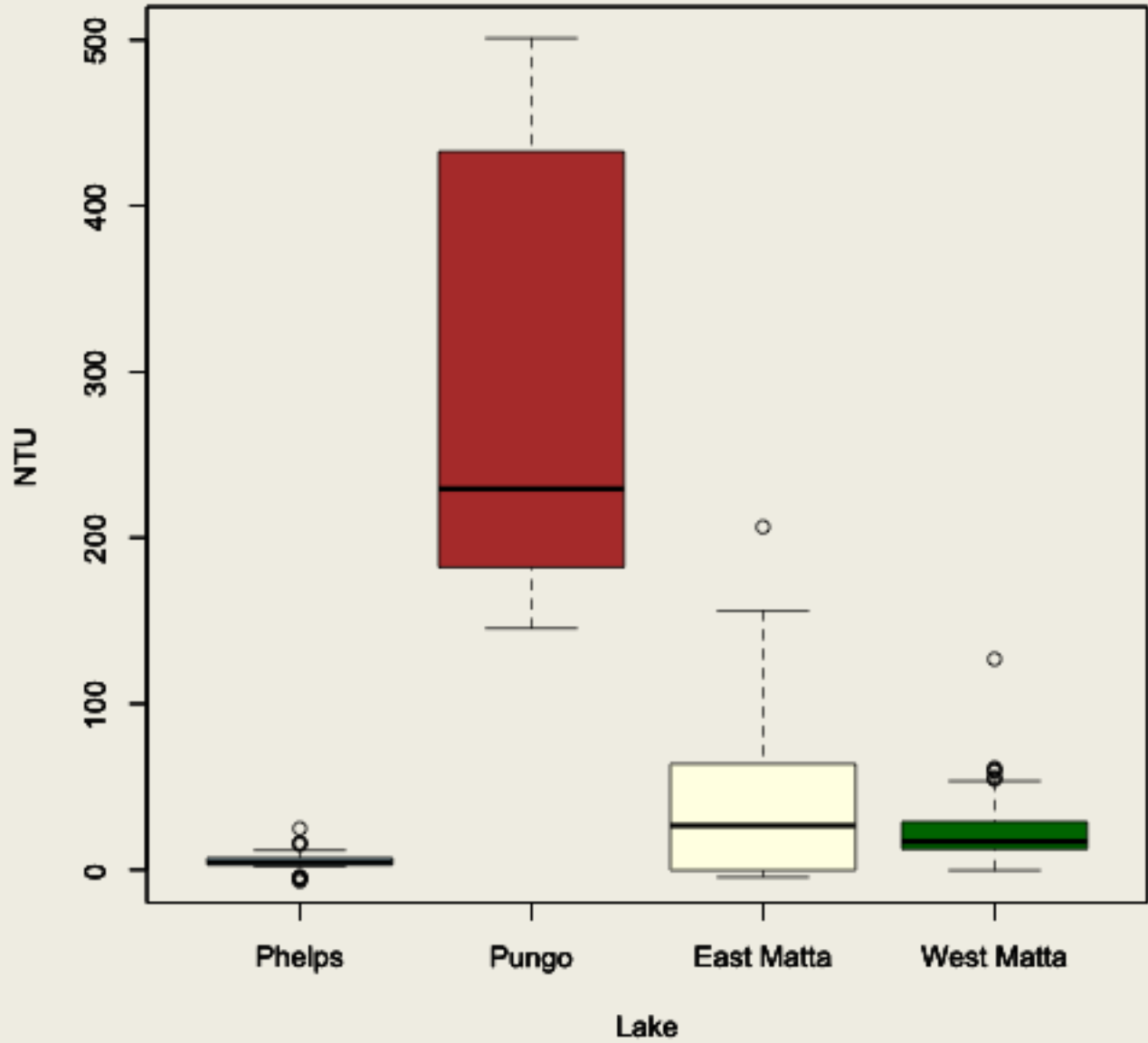


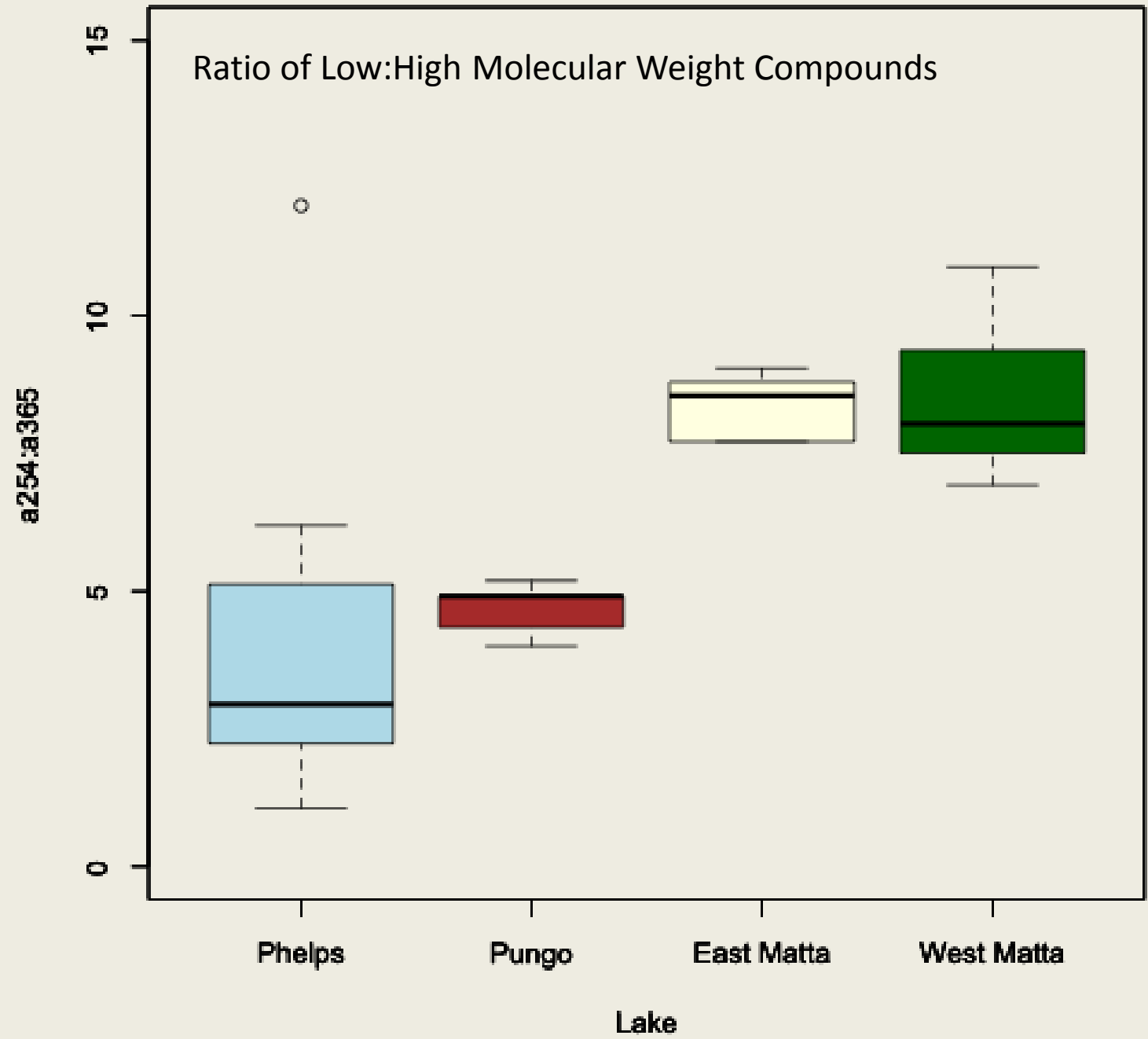


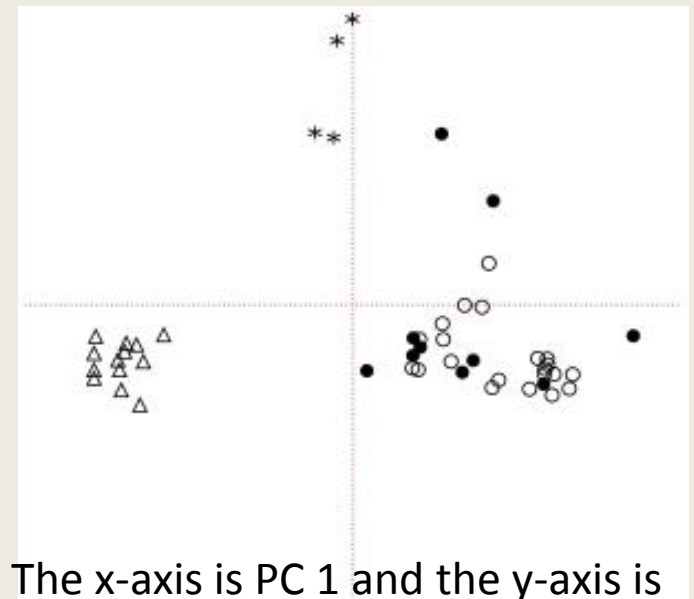
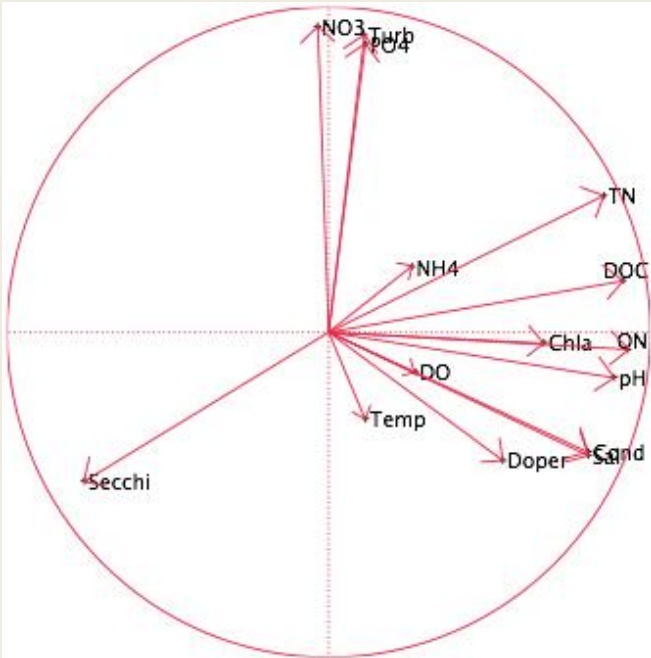




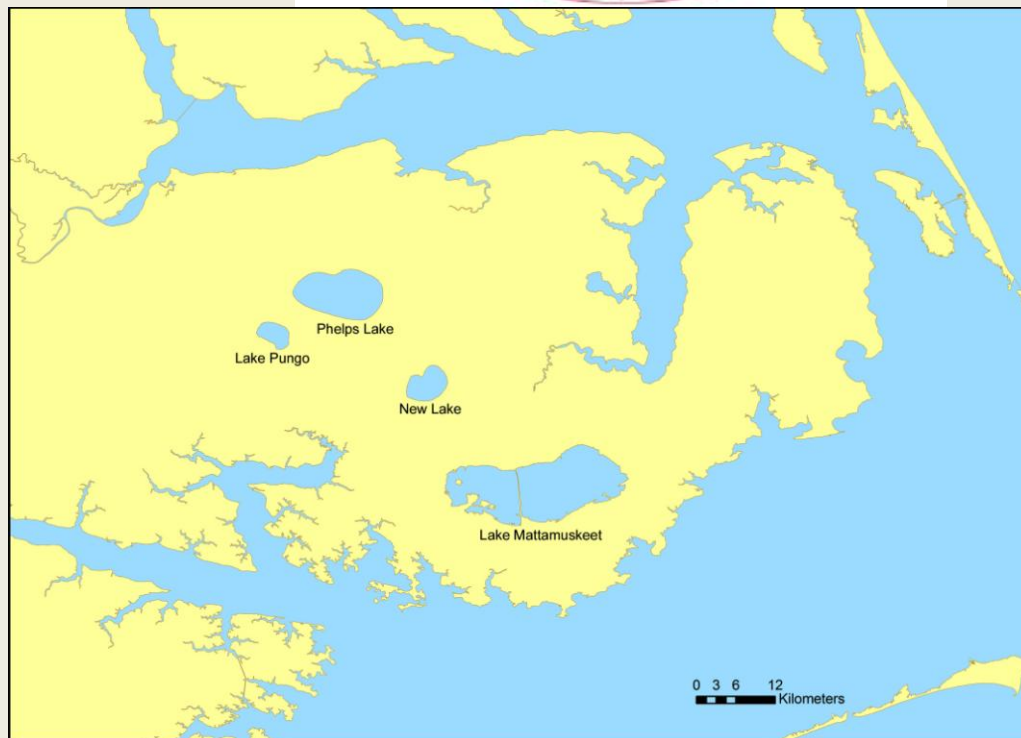








The x-axis is PC 1 and the y-axis is PC2. Stars are pungo, open circles are Matta-east, closed-Matta-west and triangles are Phelps

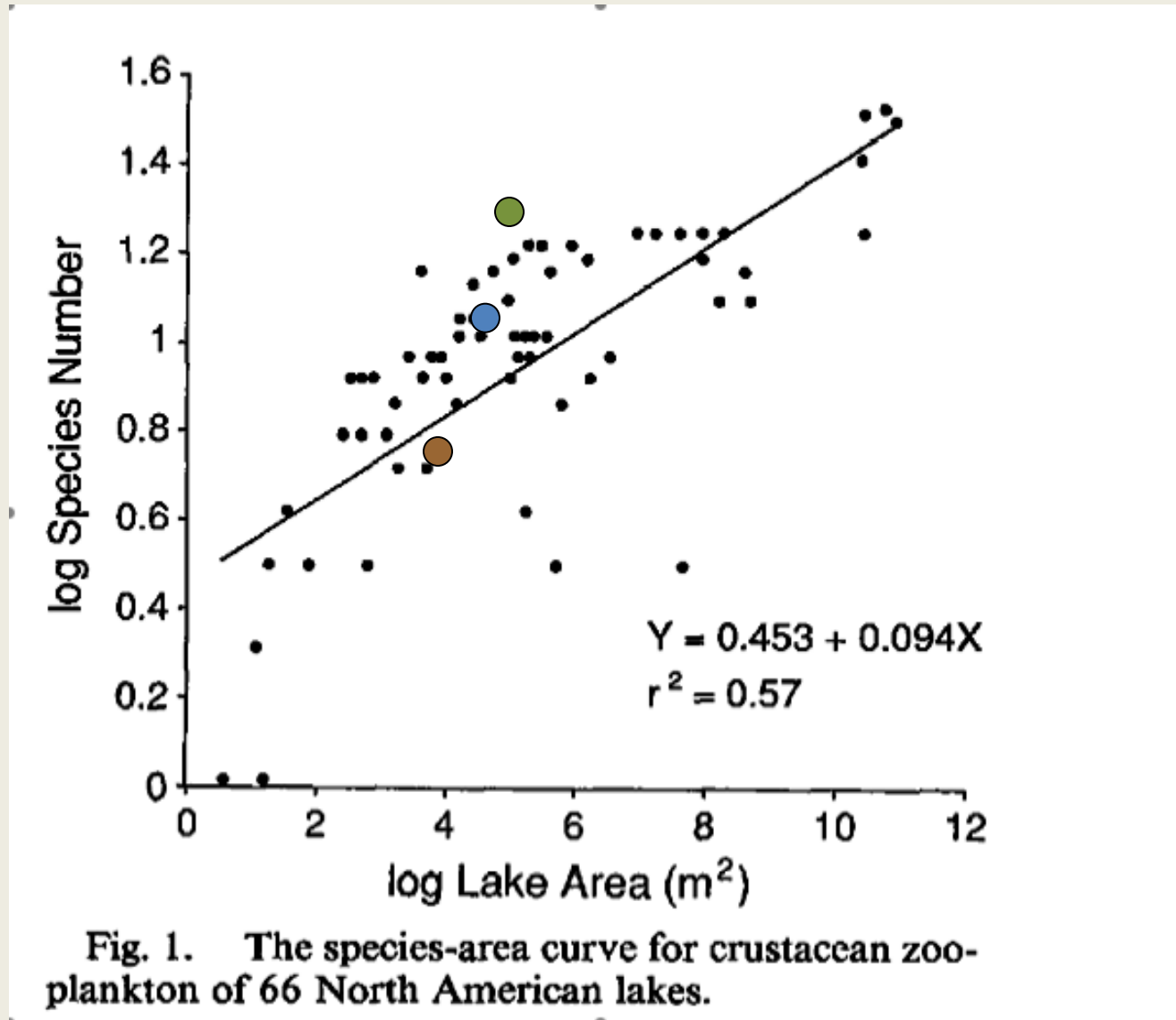


	Pungo	Phelps	E. Matta	W. Matta
Rotifers				
<i>Asplanchna sp.</i>		x	x	x
<i>Brachionus sp.</i>			x	x
<i>Keratella cochlearis</i>		D	x	x
<i>Keratella quadrata</i>			D	x
<i>Keratella taurocephala</i>		D		
<i>Kelicottia sp.</i>			x	D
<i>Ploesoma sp.</i>		D	x	D
<i>Polyarthra sp.</i>		D		x
<i>Trichocerca sp.</i>		D	D	x
Copepods				
Large Cyclopoid	D	x	x	D
Small Cyclopoid	D		x	D
Calanoid Copepod			x	D
Cladocerans				
<i>Bosmina sp.</i>	x	D	D	x
<i>Diaphanosoma sp.</i>	x	x	x	x
<i>Leptodora sp.</i>			x	x
Ostracods		D	x	x

X = present

D = dominant

Species Richness



Where to now?

Whole system paper (Leech et al)

Modeling N cycling (Piehler, Christian et al)

Food webs (Leech et al)

Phytoplankton dynamics (Piehler et al)

Search for funding to keep working in this cool system (al)

