

How's the Lake Doing?

A Study of Facts

LRPD 2007 Annual Meeting

Al Baade

“The lake has never been this bad.”

True or False?

What do we *know*?

UW Institute for Environmental Studies 1981

- "Since this man-made lake was filled in the mid-1960's, water quality problems have plagued residents."

UW Institute for Environmental Studies 1981 (cont.)

- "Shortly after Lake Redstone was filled, signs of water deterioration appeared. Fast-growing, or blooming, algae clouded the water in the warm summer months. Dense growths of aquatic weeds stood along the shores. Small bays became shallower. Fish kills occurred during several summers."

Other Information

- Don Evensen has said in the early years of pea-soup water, people dragged chains behind their boats to break up vegetation for better navigation.
- Copper Sulfate Treatments for Algae
 - Treated on summer Wednesday or Thursday so it looked good for the weekenders
 - Copper sulfate last used in 1997

1999 Had Algae Blooms



“The lake has never been this bad.”

True or False?

Let's Deal Only With Objective Data

- Subjective data uses people's opinions
- Objective data uses actual numbers
- Objective data has no human perception
- Allows graphical representation

But What Data To Analyze??

Trophic State Index

Total Phosphorous

Ortho Phosphorous

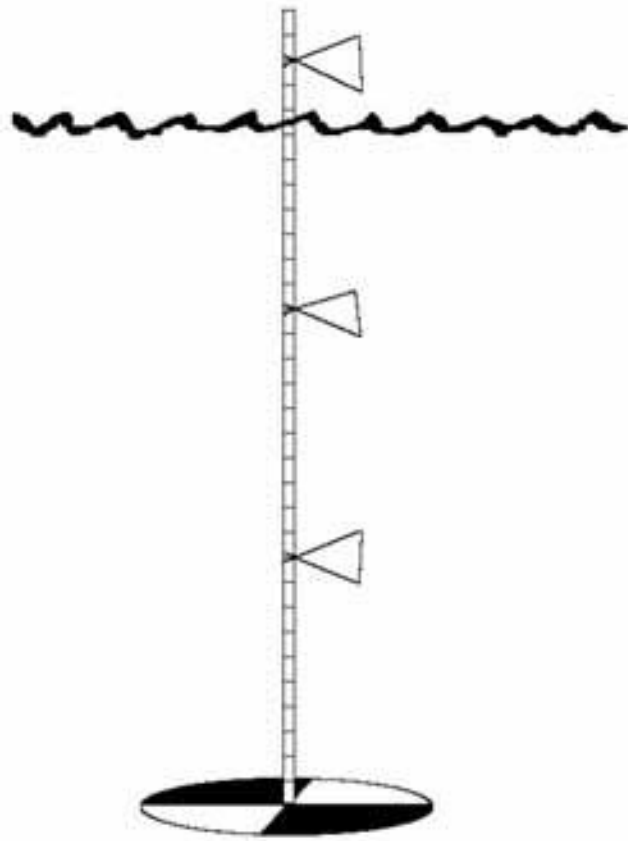
Dissolved Oxygen

Chlorophyll a

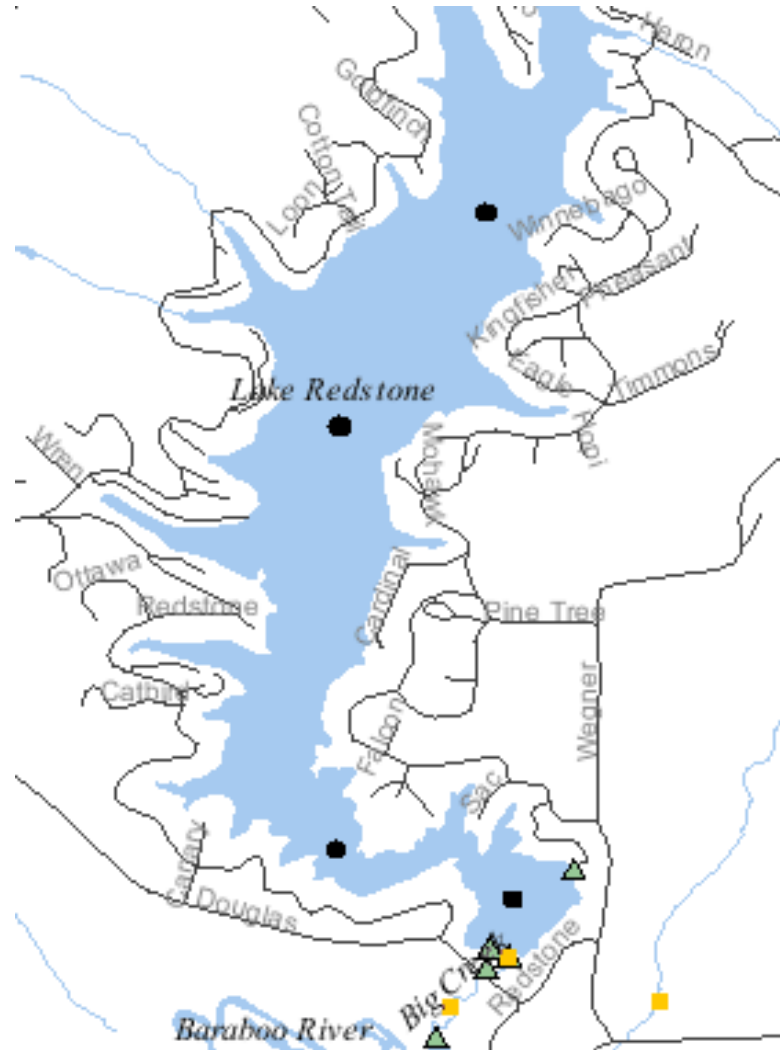
Temperature Profiles

Secchi Disk

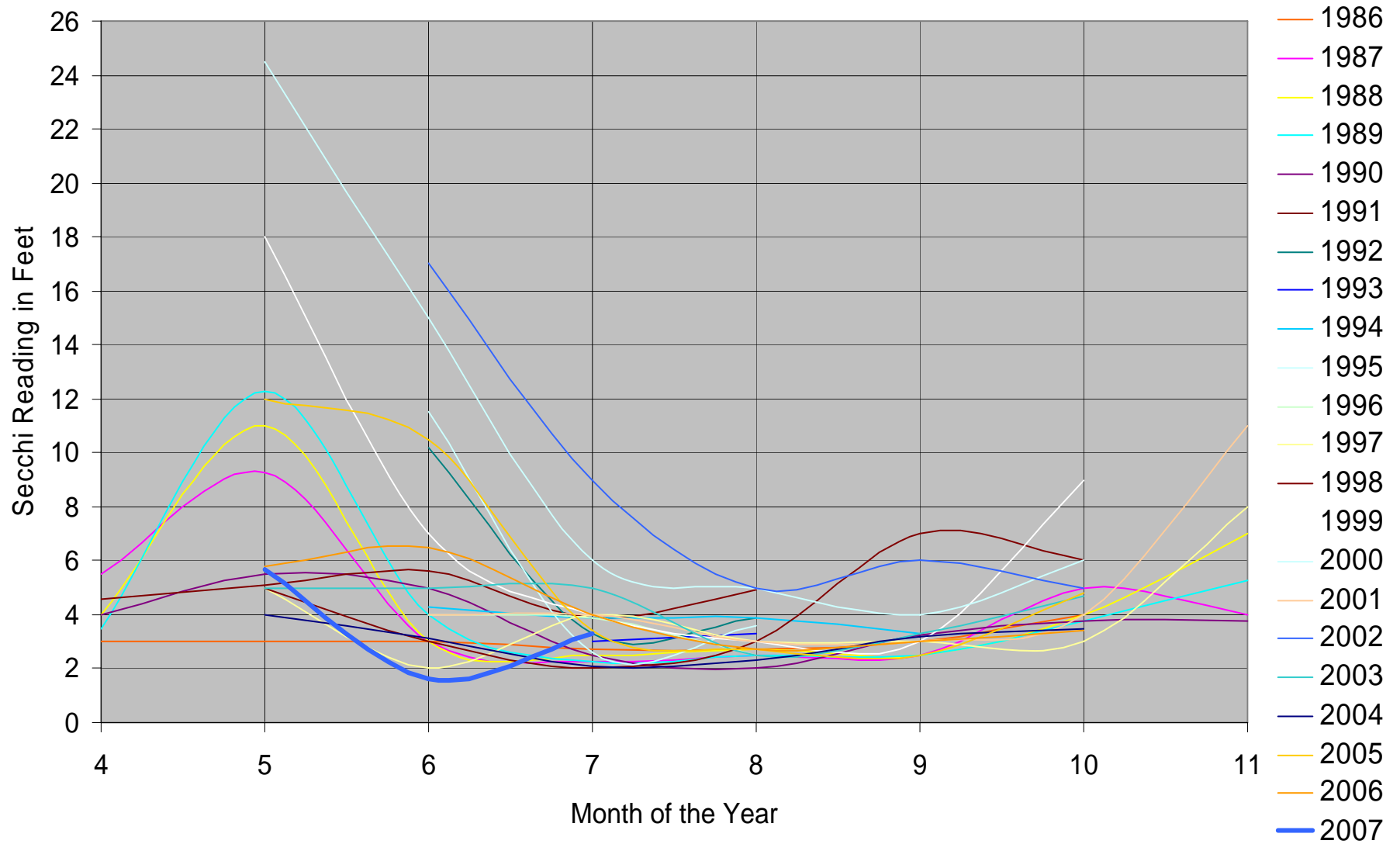
Secchi Disk Measures Clarity



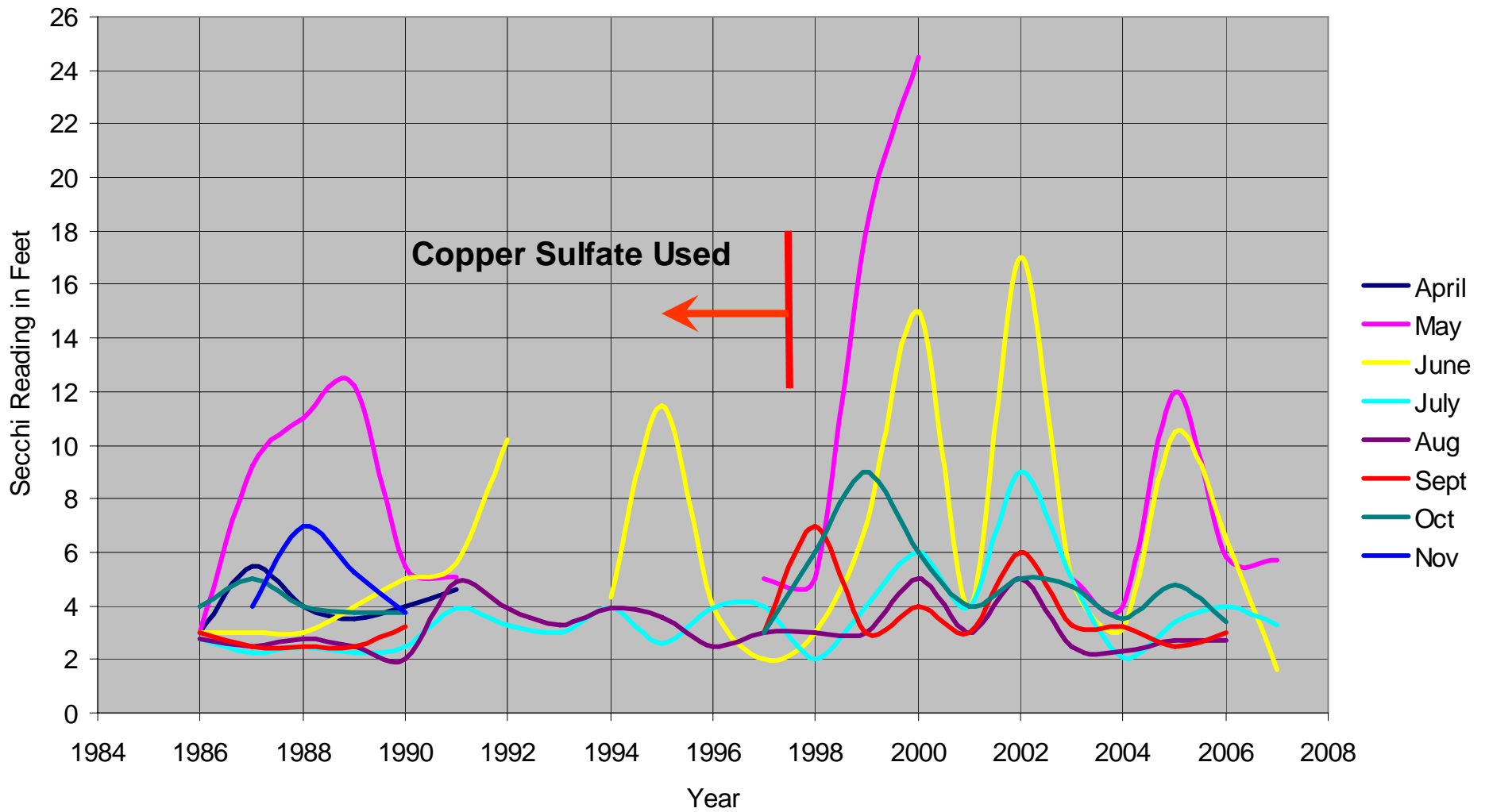
Data Taken is at Four Sites



Clarity Declines During Summer



Good and Bad Years



The Lake Has Looked Worse

1994

1996

2001

2004

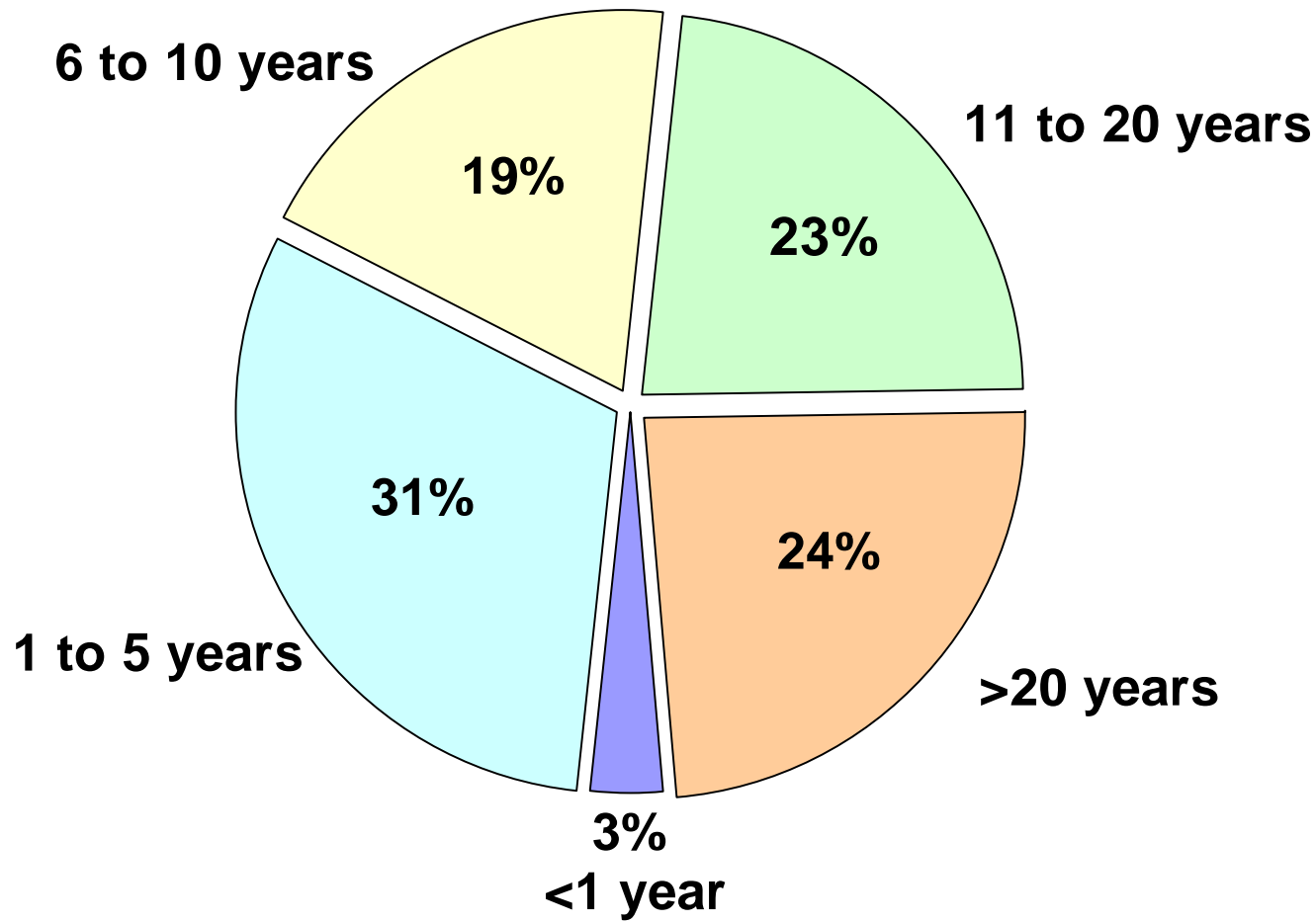
“The lake has never been this bad.”

False

Probably Meant To Say:

***I have never seen the
lake look this bad.***

Over 50% Property Owners Here Less Than 10 Years



What Makes a Good or a Bad
Year?

Sunshine
+ Nutrients
+ Warmth

Plant Growth

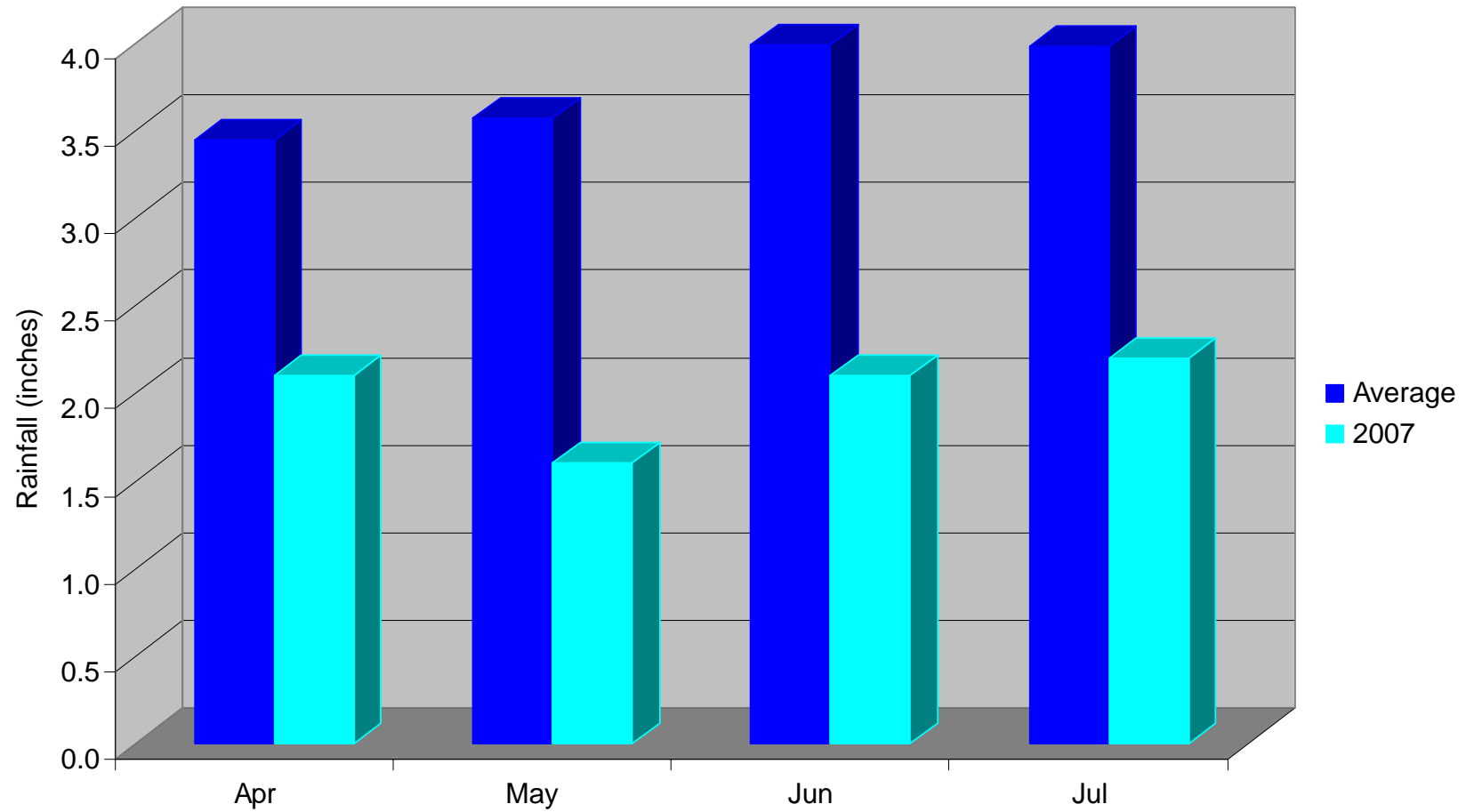
Clarity Has Many Factors

- Water Temperature
- Rainfall
 - How Much
 - When
- Sunshine
- Nutrient Level
- Ice Out
- Snow Cover
- Sediment

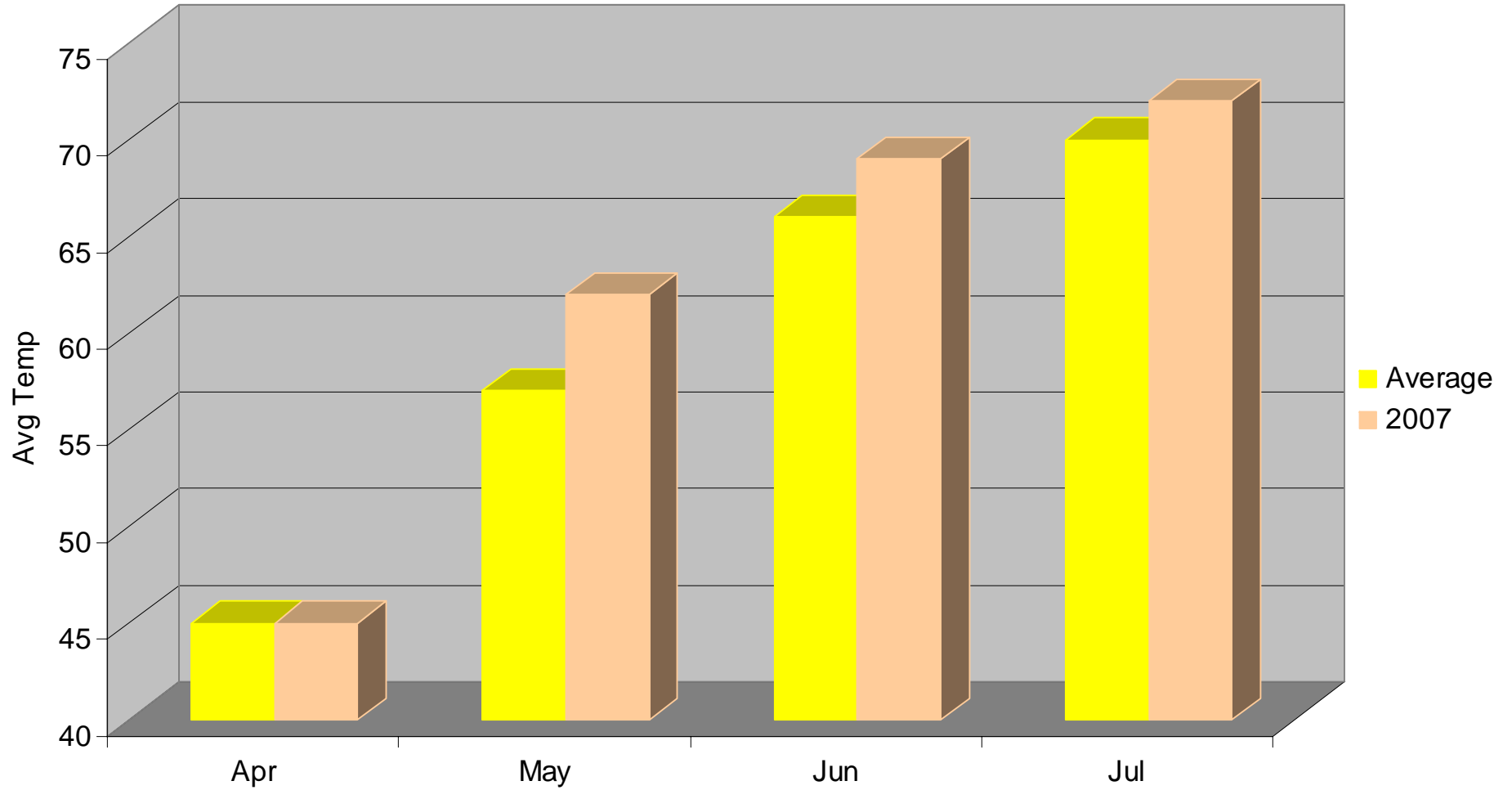
2007 Is Abnormal

- Low Rainfall
 - Lake is low for second year in a row
 - Minimal water over spillway since 7/12
 - Tied a 1950 record low for Baraboo River elevation
- Temperature is warmer than average
 - 5 degrees above average in May alone

Drier Than Average



Warmer Than Average



Some Perspective Helps

- Southern Wisconsin lakes mainly man-made
- Fertile watersheds
- Madison closes beaches
- Lake Redstone will never be a crystal-clear lake

Summary

- Use objective data, not subjective data
- Lake *is not* the worst it has ever been
- 2007 is not a great year
- Lake Redstone will never be crystal clear

