

North Central Texas

Water Quality Project



Eagle Mountain Lake and Watershed Background Issues

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Tarrant Regional Water District

TARRANT REGIONAL
WATER DISTRICT



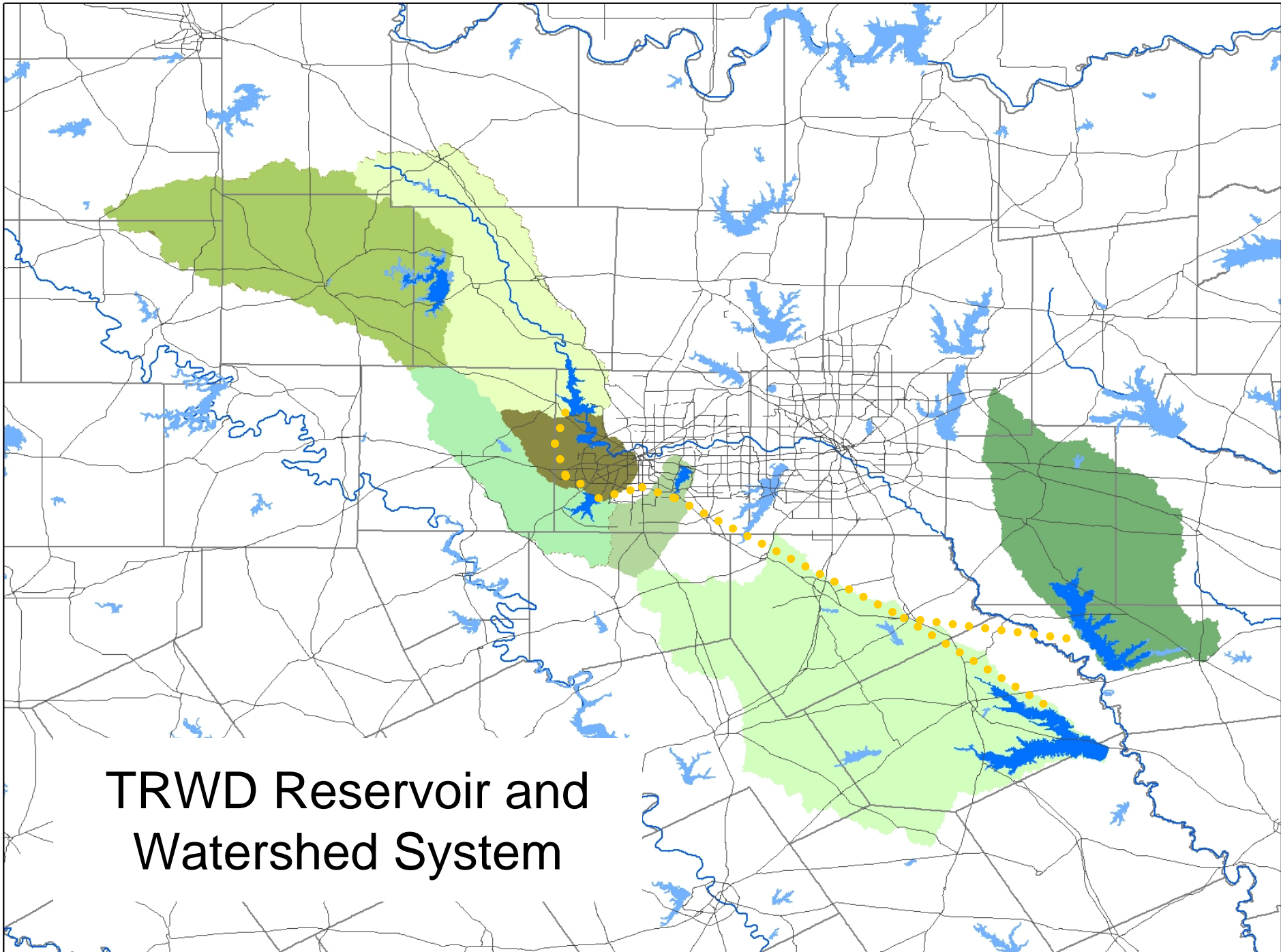
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Tarrant Regional Water District

- Serves 1.7 million people
 - Eleven counties in and around Fort Worth
- Expected to serve a population of 2.6 million people by 2050
- Contracts with 66 cities
- Manages 5 major reservoirs
 - Cedar Creek, Eagle Mountain, Richland-Chambers, Bridgeport and Benbrook.



**TRWD Reservoir and
Watershed System**

Eagle Mountain Watershed

- Watershed size – 860 square-miles
- Lake Surface area - 8702-acres
- Lake Conservation Storage - 182,505 ac/ft



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Water Quality -

Reservoir

- High pH
- Use Concerns
 - Depressed Dissolved Oxygen
 - Aquatic Life Use Concern
 - Ammonia, Orthophosphorus, Total Phosphorus, Nitrite
 - Nutrient Enrichment Concern
 - Excessive Algal Growth, Chlorophyll a
 - Algal Growth Concern

Watershed

- Texas Water Quality Inventory- Clean Water Act 303(d) Listing for
 - Bacteria (Upper West Fork Trinity below Bridgeport Dam)
 - Standards are currently under review

SegID: 0806E Sycamore Creek (unclassified water body)
 Five mile stretch of Sycamore Creek running upstream from confluence with the W. Fork of Trinity River to confluence with Echo Lake Tributary in Fort Worth.

| <u>Area</u> | <u>Category</u> | <u>Year First Listed</u> |
|---|-----------------|--------------------------|
| 0806E_01 <i>Five mile stretch of Sycamore Creek running upstream from confluence with the W. Fork of Trinity River to confluence with Echo Lake Tributary in Fort Worth</i> bacteria | 5a | 2006 |

SegID: 0810 West Fork Trinity River Below Bridgeport Reservoir
 From a point 0.6 km (0.4 miles) downstream of the confluence of Oates Branch in Wise County to Bridgeport Dam in Wise County

| <u>Area</u> | <u>Category</u> | <u>Year First Listed</u> |
|--|-----------------|--------------------------|
| 0810_01 <i>Lower 25 miles of segment</i> bacteria | 5a | 1998 |

SegID: 0810A Big Sandy Creek (unclassified water body)
 Fifteen mile stretch of Sycamore Creek running upstream from confluence with Waggoner Creek to FM 1810, west of Alvord, Wise County

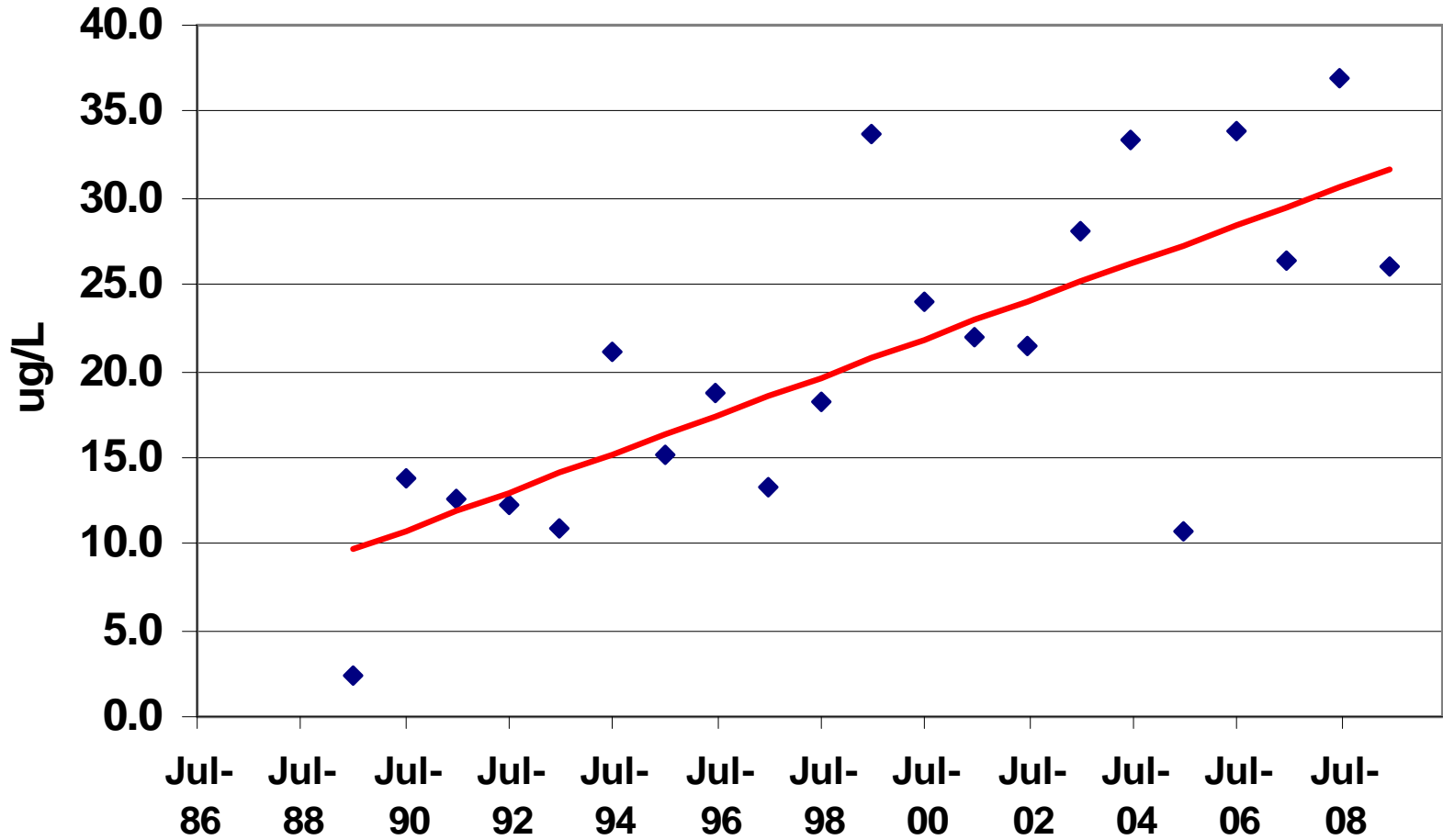
| <u>Area</u> | <u>Category</u> | <u>Year First Listed</u> |
|---|-----------------|--------------------------|
| 0810A_01 <i>Fifteen mile stretch of Big Sandy Creek running from confluence with Waggoner Creek to FM 1810 West of Alvord, Wise Co.</i> bacteria | 5a | 2006 |

SegID: 0810B Garrett Creek (unclassified water body)
 Eighteen mile stretch of Garrett Creek running upstream from confluence with Salt Creek to Wise County Road approximately 14 miles upstream of SH114, Wise County

| <u>Area</u> | <u>Category</u> | <u>Year First Listed</u> |
|--|-----------------|--------------------------|
| 0810B_01 <i>Eighteen mile stretch of Garrett Creek running upstream from confluence with Salt Creek to Wise County Road approximately 14 miles upstream of SH114, Wise Co.</i> bacteria | 5a | 2006 |

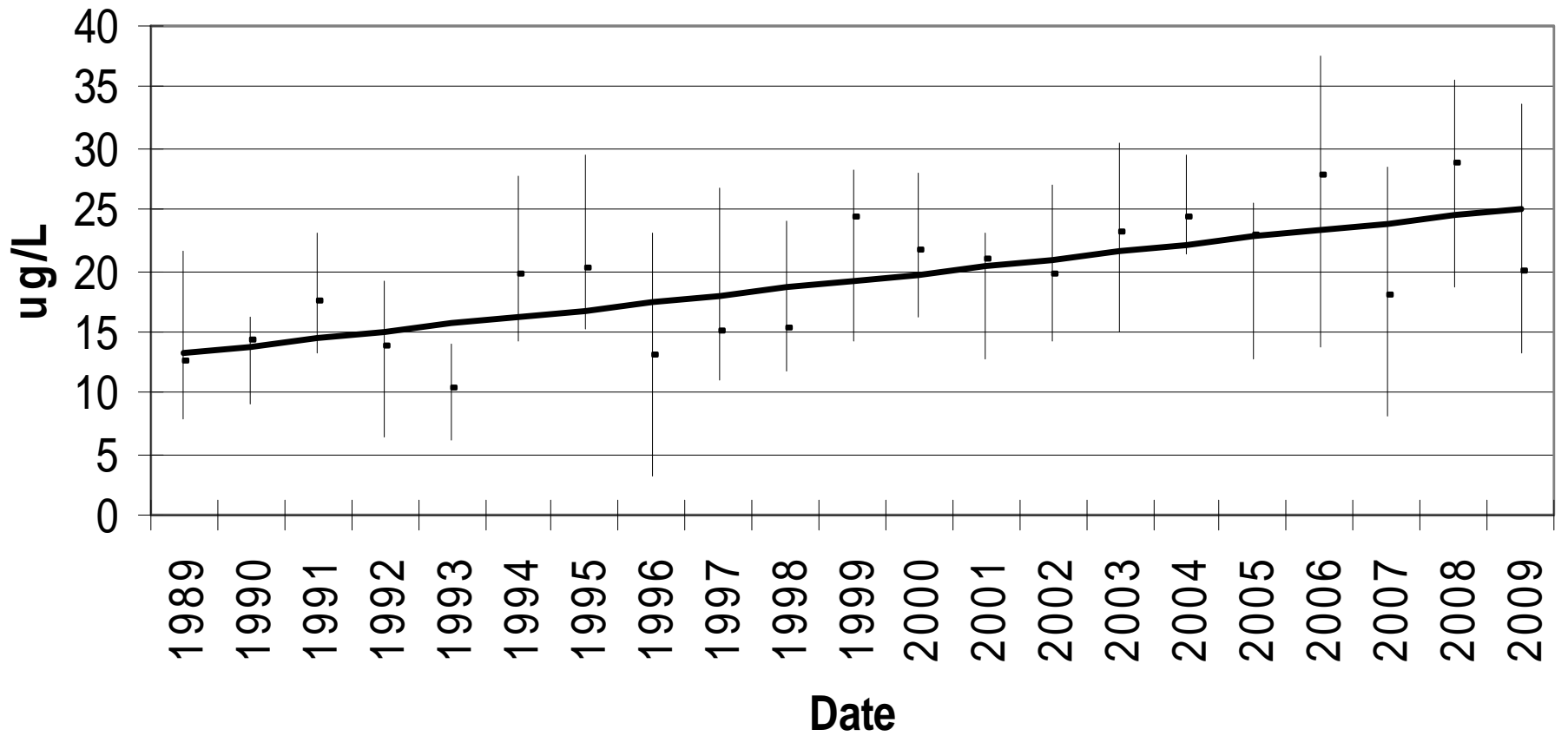
Eagle Mountain Chl'a' Main Pool 3Q Top

n=42, Median 19.7, APR 6.96%



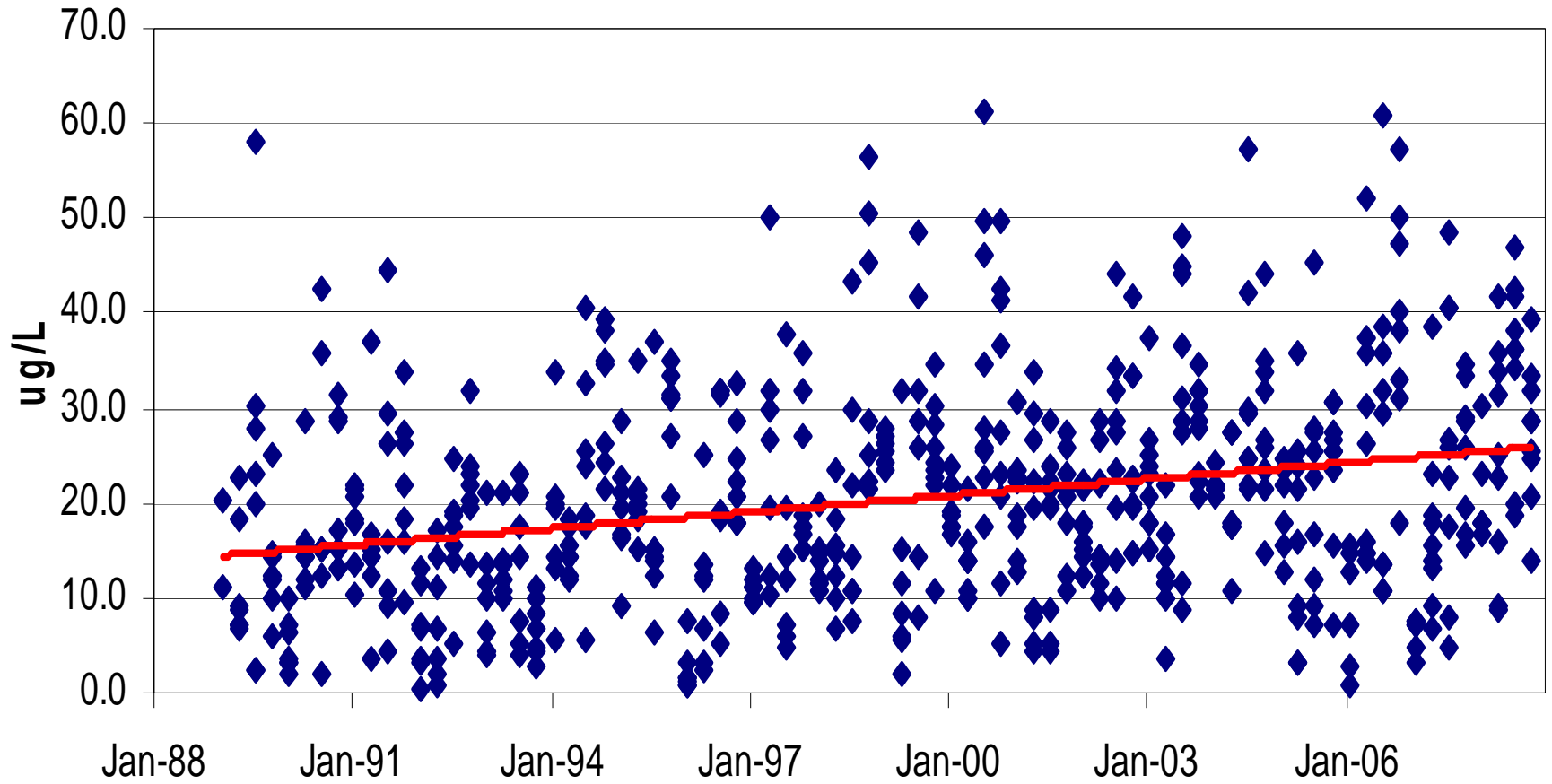
EM Chl'a' 1989-2009

n = 637, Median = 19.3, APR = 3.53%



EM Chl-a 1989-2009

n=637, median=19.3, APR=3.53%



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Watershed Protection Planning for Eagle Mountain Lake

- Utilize computer modeling of watershed and reservoir processes
- Follow USEPA Guidelines for watershed planning
- Sub-watershed and site specific best management practice selection and implementation
- Economic performance analysis of management solutions
- Targeted Education and Outreach Programming

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Questions?



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