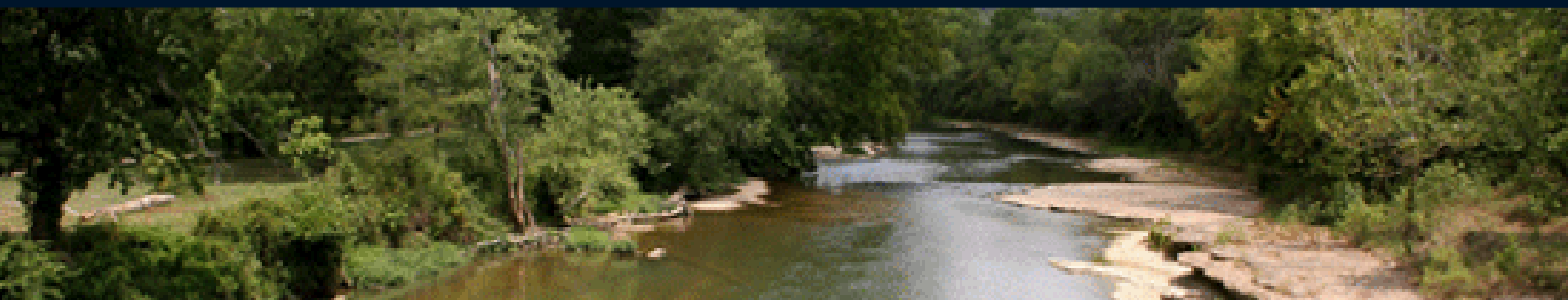


# A VOLUNTEER MONITORING PROGRAM: ILLINOIS RIVER WATERSHED

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Funding provided by ANRC through the Illinois River Watershed Partnership

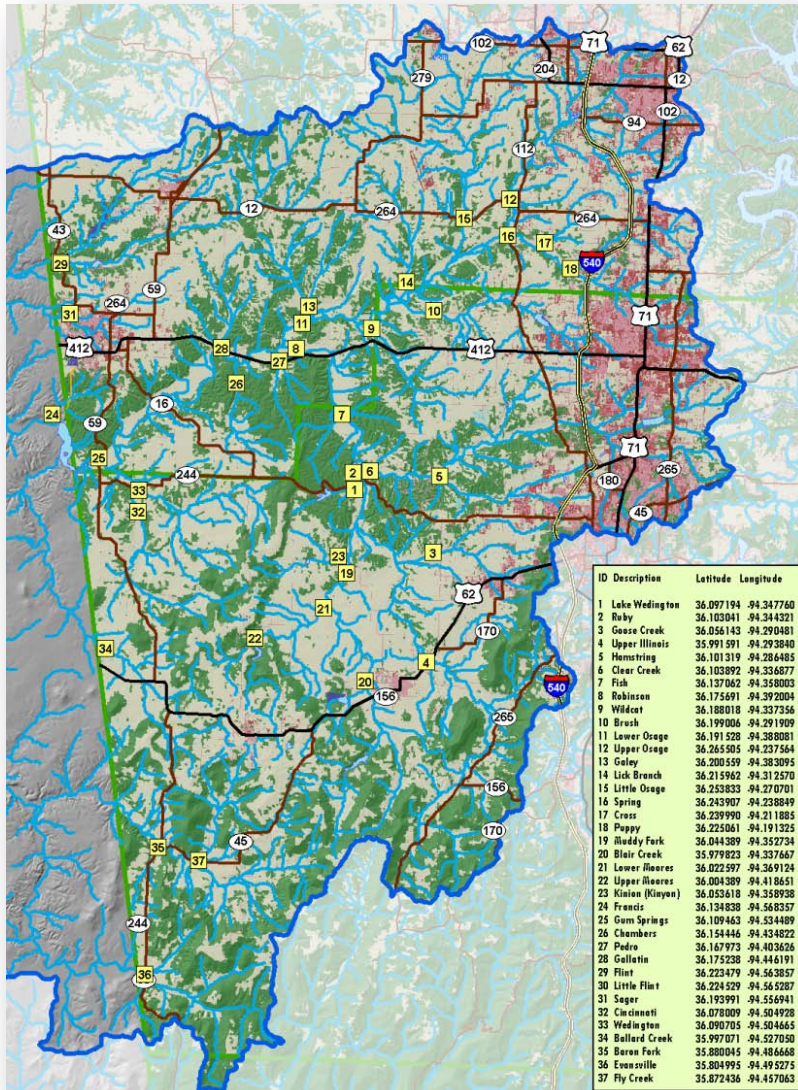


# Why use volunteers?

- **Economical**
  - Free labor!
  - Major project expenses are laboratory analytical costs
  - Hach kits can be cheaper but you don't always get enough information about stream chemistry to be useful
- **Educational**
  - VMP are a great way to get stakeholders interested in environmental issues and (hopefully) promote a sense of responsibility to protect and improve water quality



# The Illinois River VMP—Site Selection



- IRWP used this data to aid in the prioritization of HUCs; so we needed sites that:
  - Encompassed the entire watershed
  - Varied in catchment land use
  - Bracketed known point sources
- Replicated a study done in 1993-1994 by Parker et al.
  - 37 sites
  - Located at easy access points (walking access or bridges)
  - Safety a priority



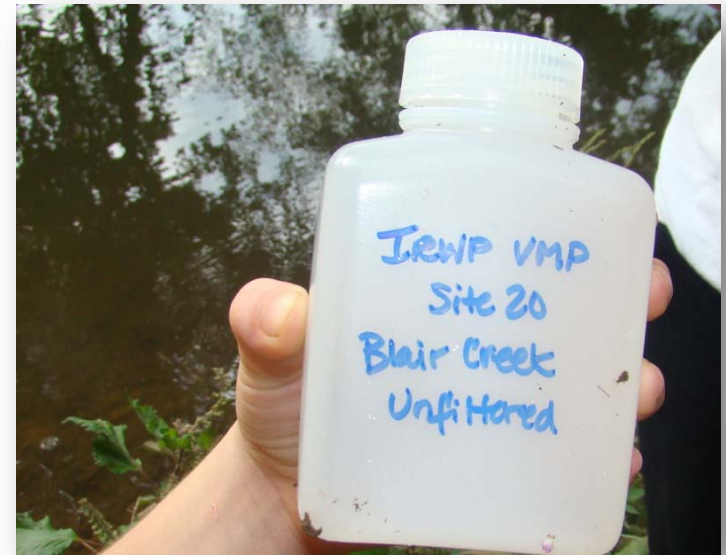
# So we had to recruit volunteers...

- IRWP took the lead on recruiting volunteers
  - Newspaper
  - IRWP and AWRC website
  - News (Watershed Wednesdays)
  - Other partnerships and organizations
- We had all sorts of volunteers
  - Families
  - Businesses (Tyson, Simmons, JB Hunt)
  - Schools (TG Smith Elementary, Prairie Grove, Jr. High, AEES)
  - Boy scout troops



# Coordinating sampling required good organization.

- Volunteers collected four samples over the course of a year (September, December, March and May) during base flow conditions
- We met them at their site in September to make sure they were in the right spot, and to teach them how to properly collect a sample:
  - Field rinse bottle three times
  - Collect sample from flowing water
  - Fill out chain of custody form
  - Deliver samples to lab
  - Pick up sampling bottles and chain of custody for next time
- Sampling tips on chain of custody



# Some volunteers were more reliable than others.

- Some volunteers were eager and needed no management
- Some needed multiple reminders...
  - Send out an email a week before the targeted month
  - Send reminder emails mid month for sites that hadn't been sampled
  - Made phone calls if necessary...
  - Occasionally we sampled for the volunteer last minute
- The best volunteers were those who didn't feel obligated to sign up...



# They volunteered because they were interested...

- So, we made sure to provide the results to the volunteer
- But, most didn't know what the results meant
  - Provided them with the results from their site and then gave the range from all the sampled sites
  - Gave an idea if their site was high, low or average



# So, was the data collected by volunteers good enough?

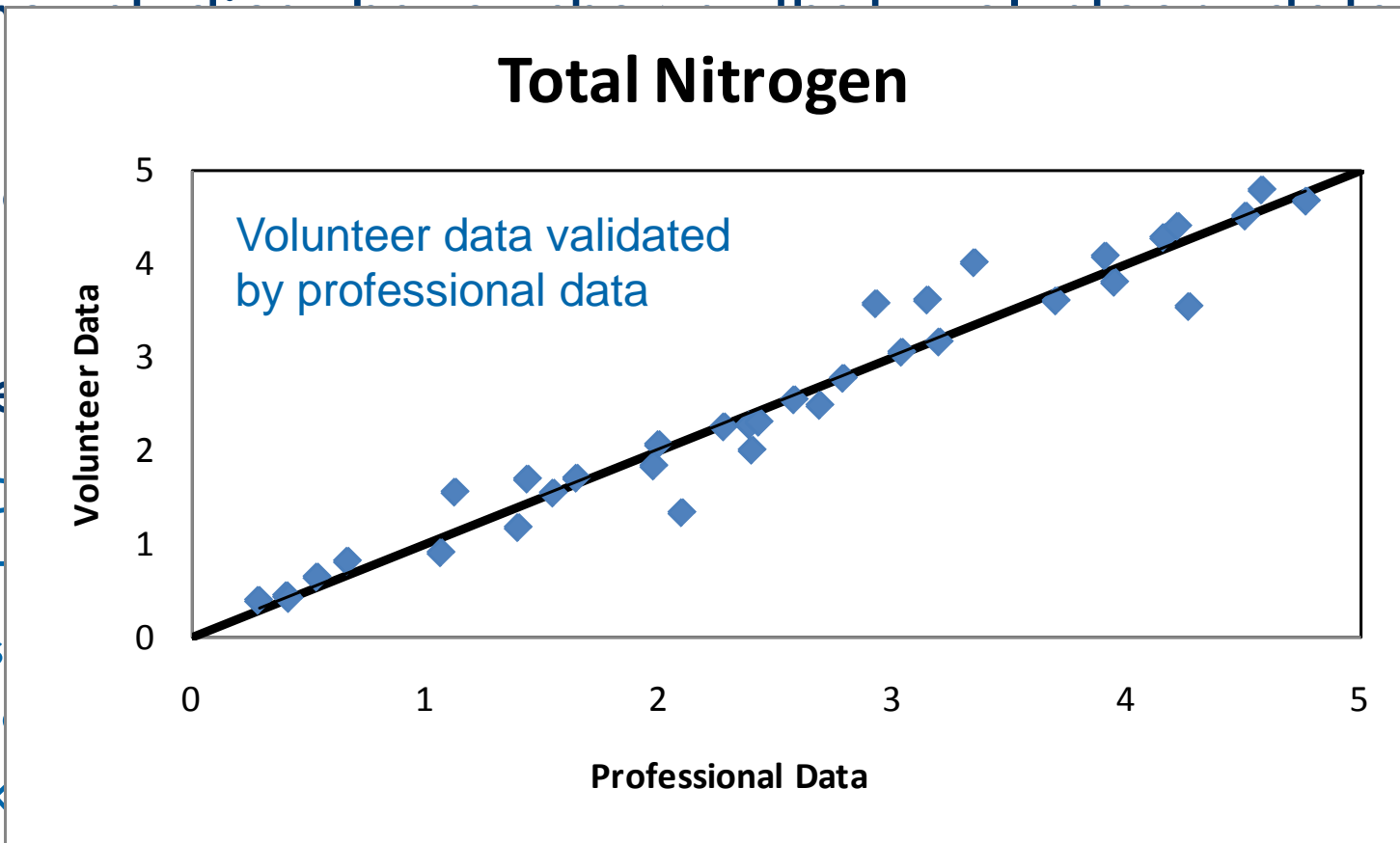
- Some studies have shown that volunteer data varies significantly from professional data (e.g., Savan et al., 2003)
- But, we wanted high quality data that would be acceptable by scientific community
  - Developed a QAPP
  - Trained volunteers to collect samples following EPA techniques
  - Kept it simple! Collecting grab samples and making site notations
  - Collected duplicates





# So, was the data collected by volunteers good enough?

- Some variability
- Save money
- But, accuracy
- Data
- Total
- Sample
- Time
- Knowledge

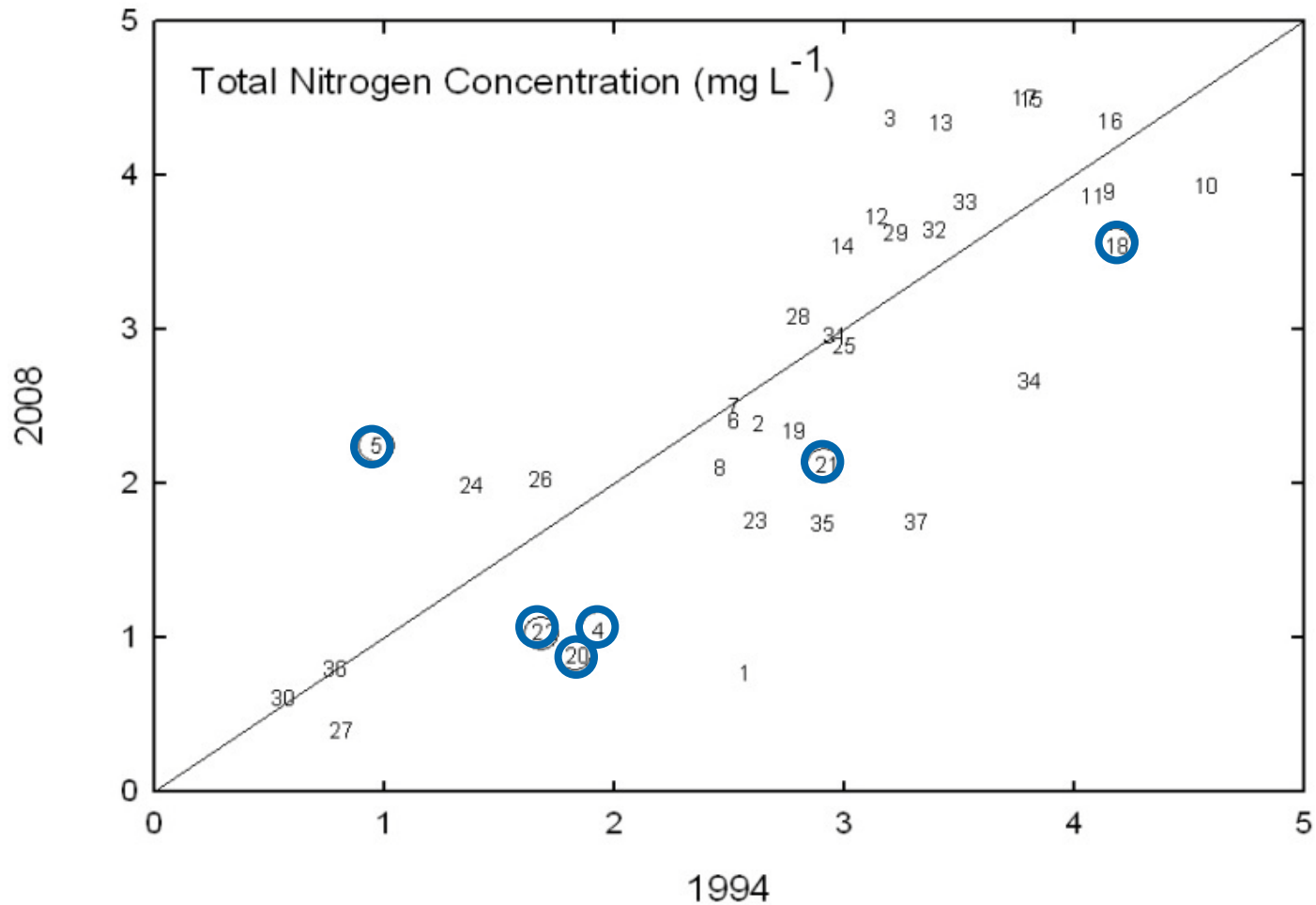


grab samples and making site notations



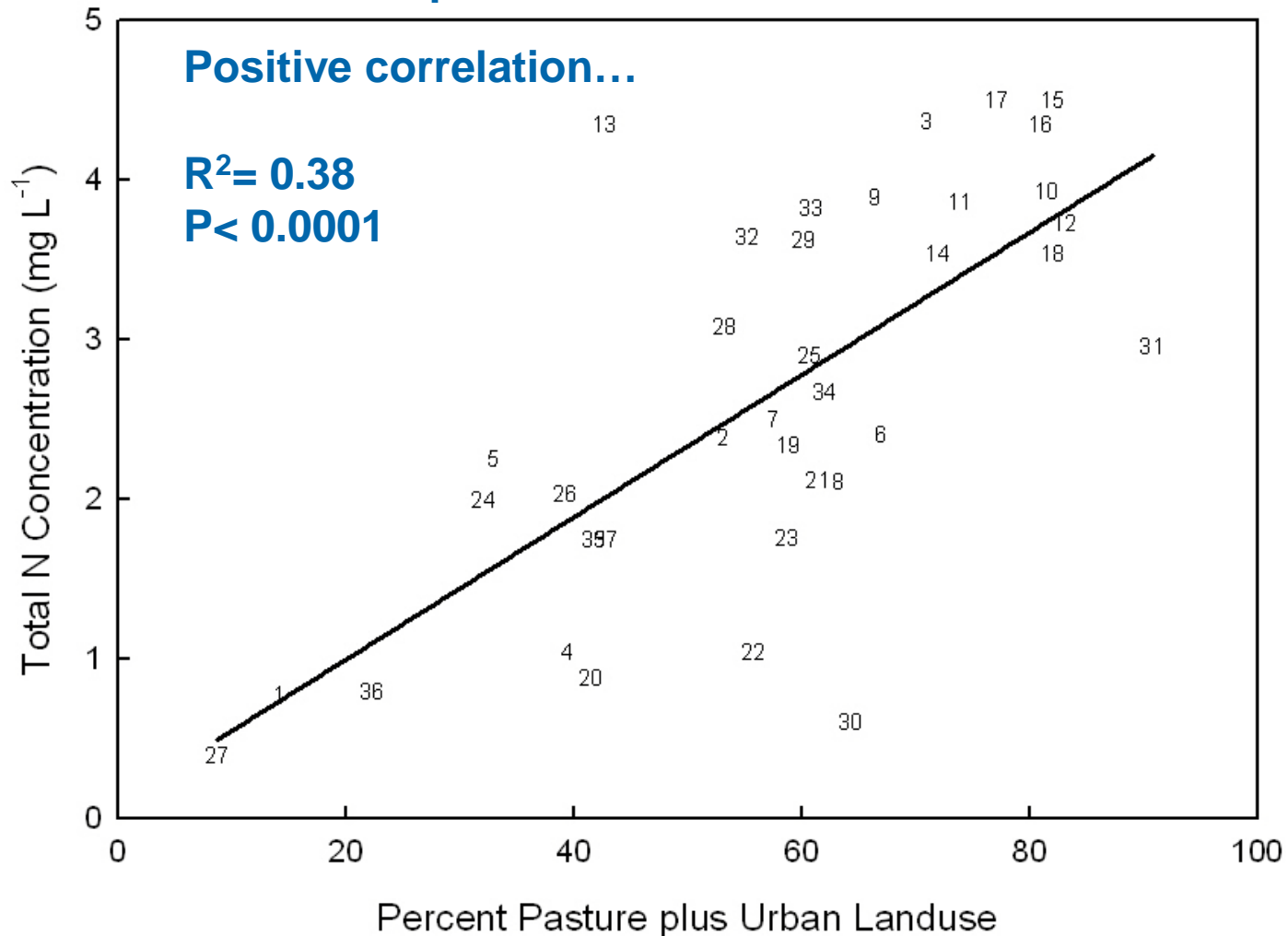
# What were we able to do with the data?

## Compare with 1993-1994 study



# What were we able to do with the data?

Compare with land use...





# Lessons Learned...

1. Some volunteers aren't always reliable...
  - Some volunteers were eager; some needed several reminders
  - We had to be ready to run out and grab some samples at the last minute
2. QC duplicate samples weren't true duplicates since professional and volunteer didn't necessarily sample on the same day of the month
  - Water chemistry can vary from day to day

# Volunteer Monitoring Continued

The AWRC is considering using 104B funding to support analytical costs of Volunteer Monitoring Programs—contact us if you are interested in getting a program started.

