



# **ALKALINITY TRENDS IN THE SOURCE WATERS**

Niffy Saji

March 6, 2014

# Importance of Alkalinity

- Changing alkalinity can affect water treatment process
- Can increase hardness of drinking water, which can cause pipe scaling and costly infrastructure problems

# Data Sources

1

- Town of Leesburg (2000 – 2013)

2

- WSSC (1982 – 2013)

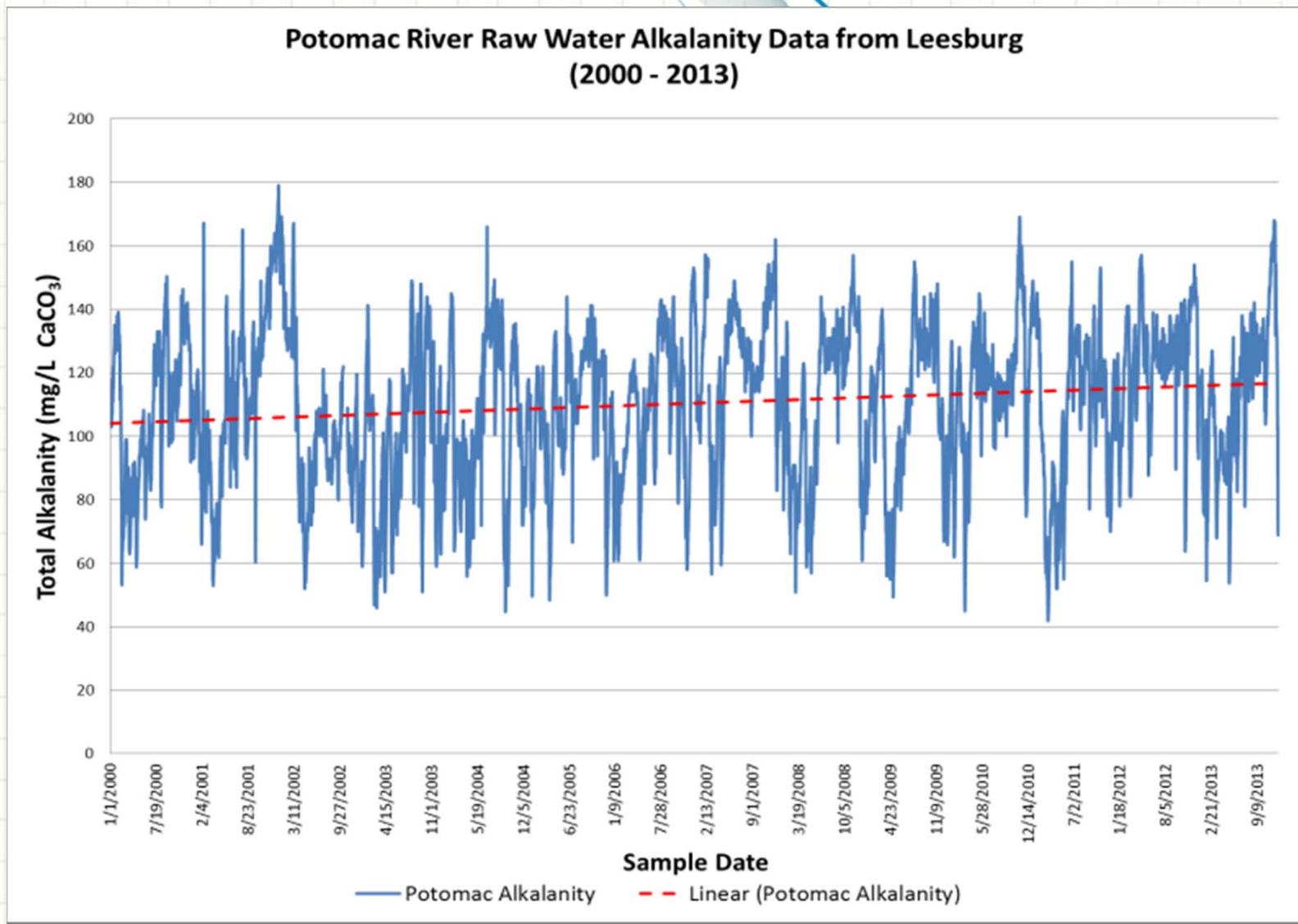
3

- Fairfax Water (1981 – 2013)
- Potomac and Occoquan

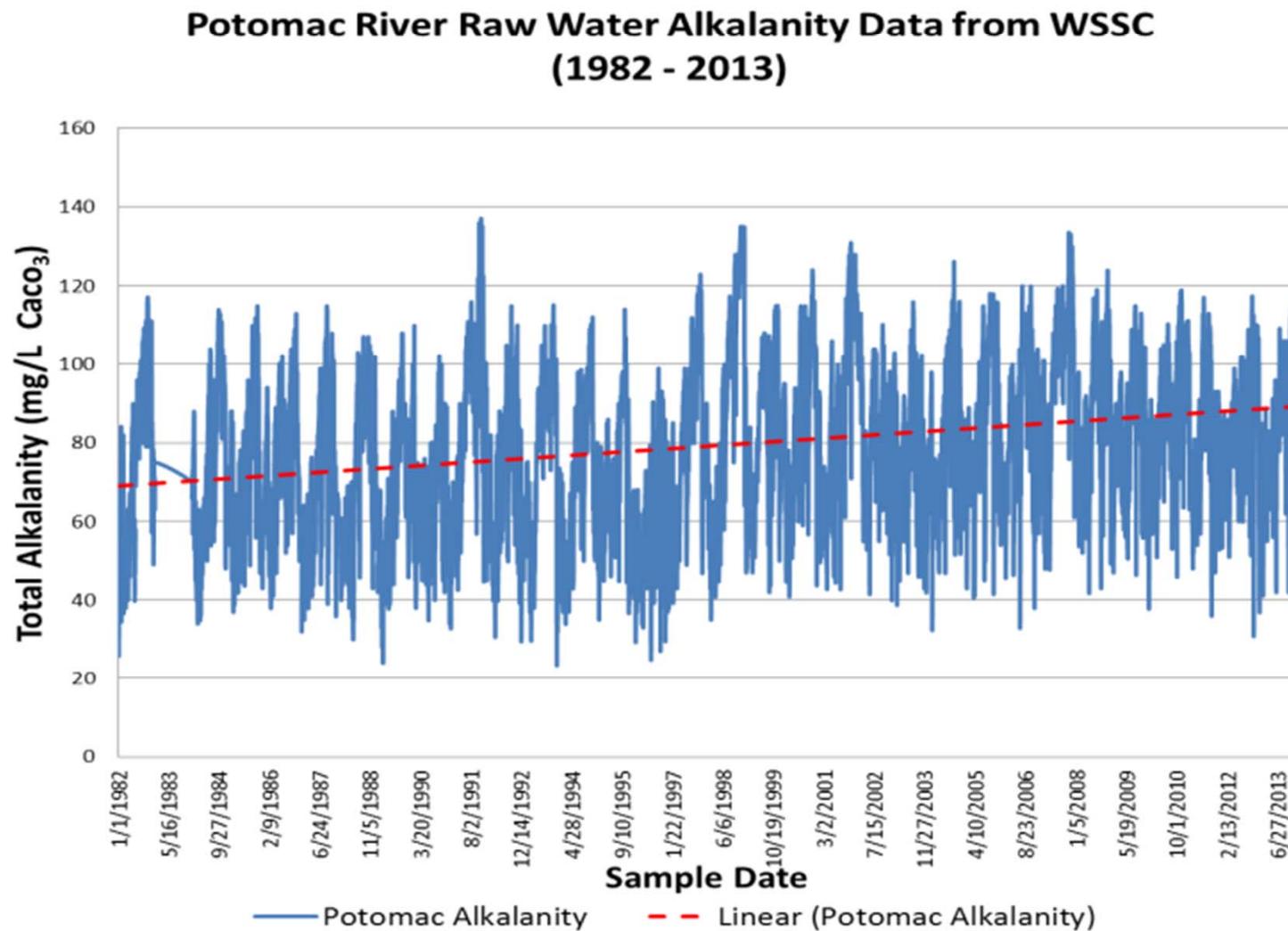
4

- OWML (1982 – 2013)
- Occoquan

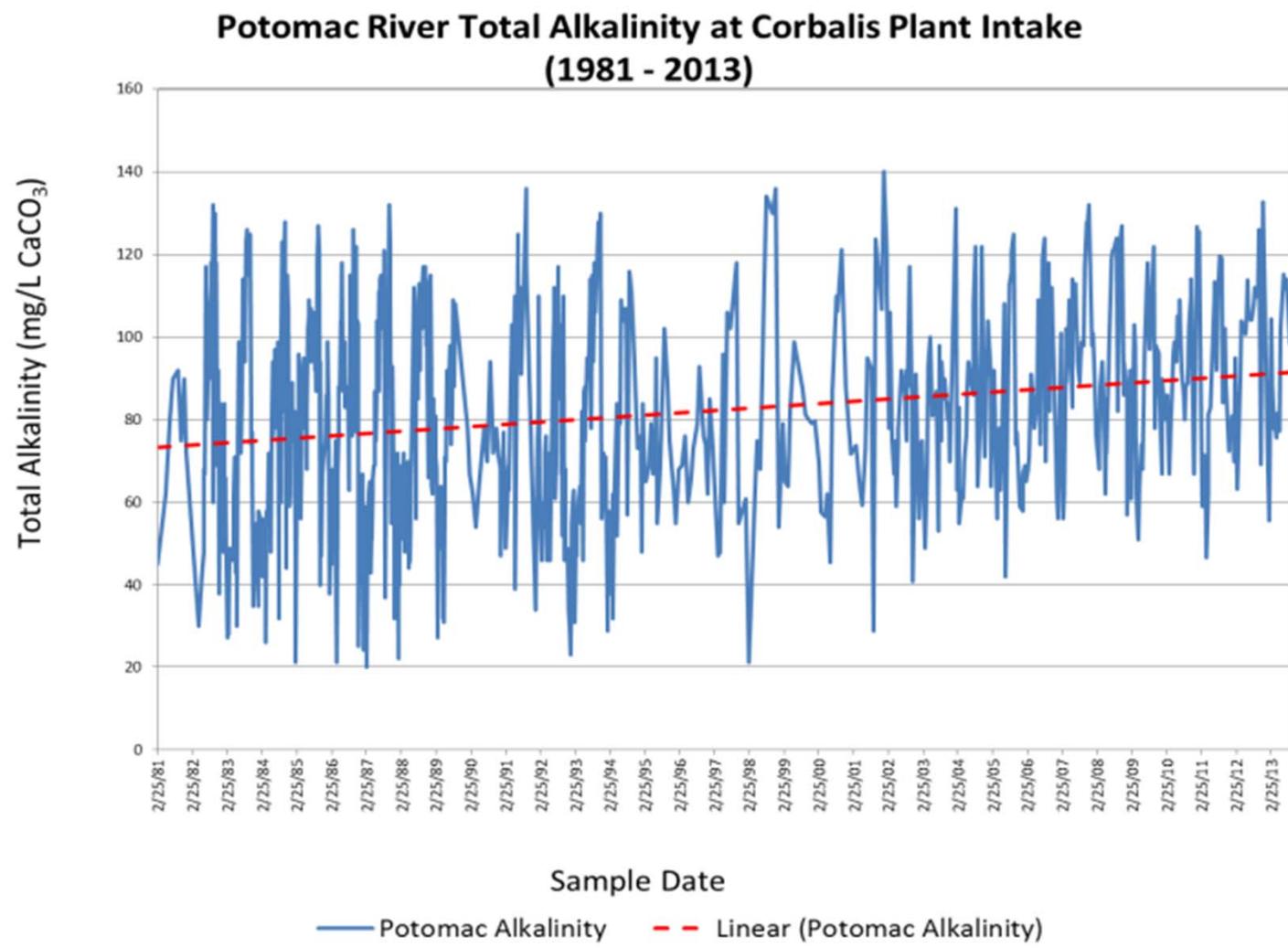
# Alkalinity Trend in the Potomac River (Leesburg data)



# Alkalinity Trend in the Potomac River (WSSC Data)

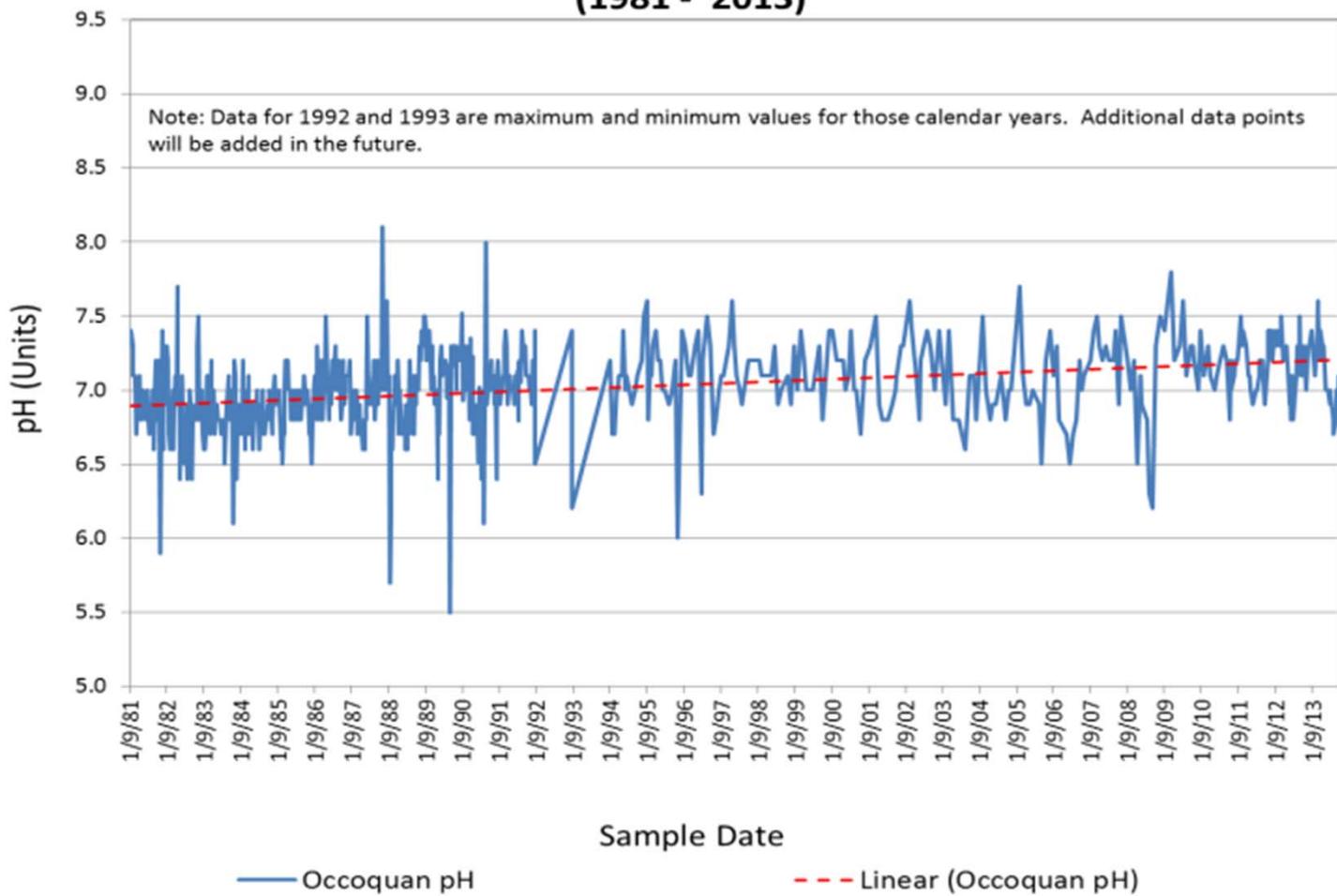


# Alkalinity Trend in the Potomac River (Fairfax Water Data)

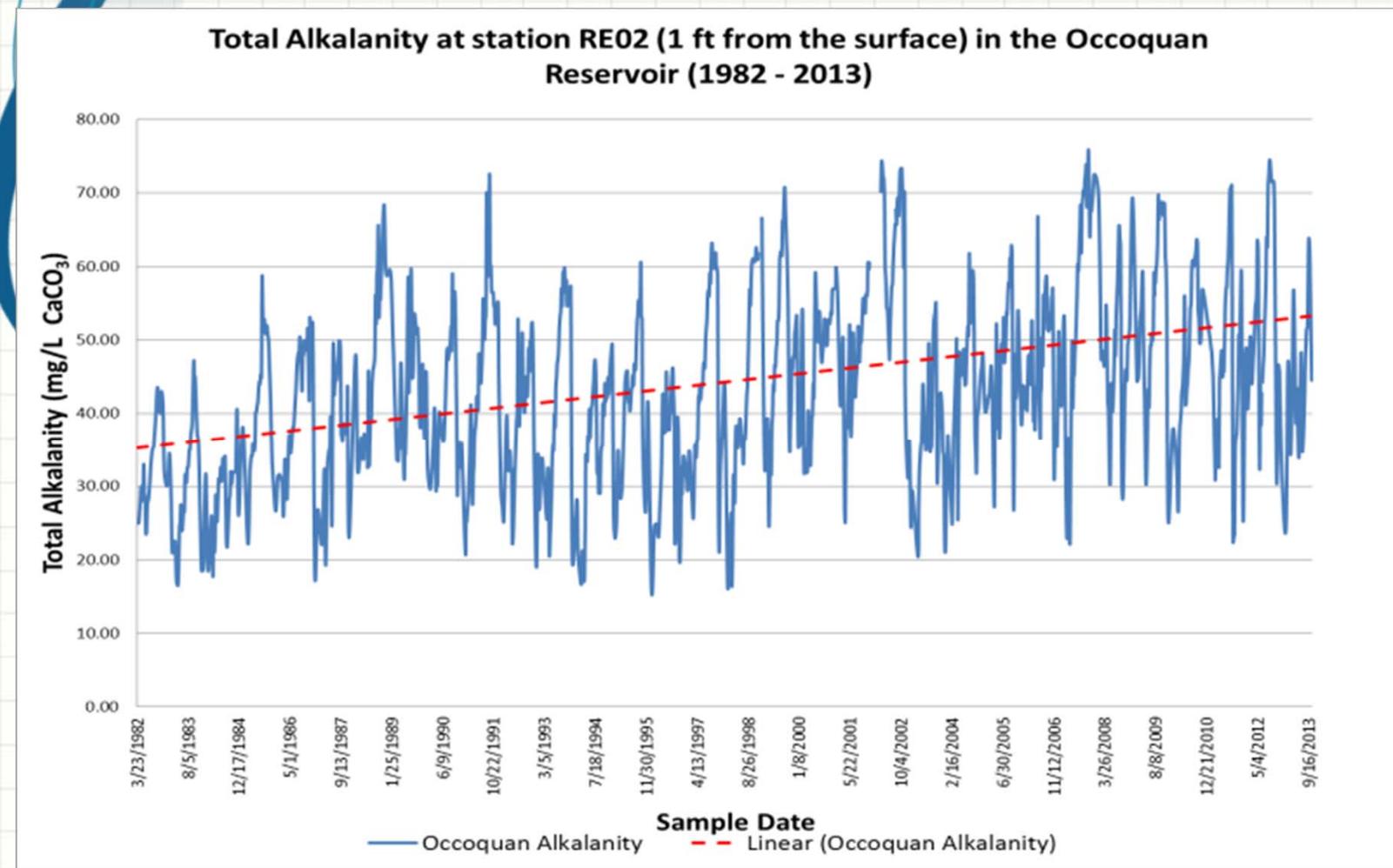


# Alkalinity Trend in the Occoquan Reservoir (Fairfax Water Data)

**Occoquan Reservoir pH at Intake for Southern Treatment Facilities  
(1981 - 2013)**



# Alkalinity Trend in the Occoquan Reservoir (OWML Data)





# Possible Causes of Increased Alkalinity

- Geology?
- Pollution?
- Impact of acid rain?
- Other?

# Conclusion

- An increasing trend in alkalinity values was observed in the Potomac River and Occoquan Reservoir, based on data analyzed
- More information on rising alkalinity in rivers in up coming presentation by Dr. Sujay Kaushal