

Environmental Monitoring: Nice or Necessary?

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Monitoring – Pros(!) and Cons(?)

Criticisms:

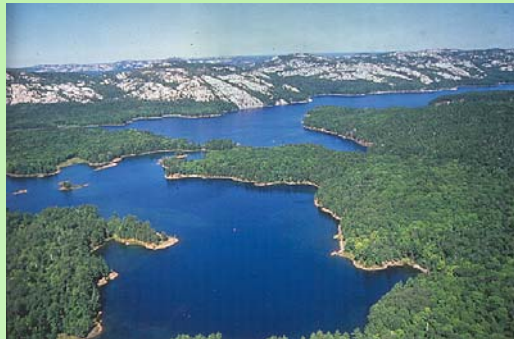
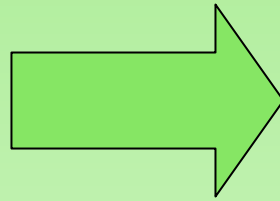
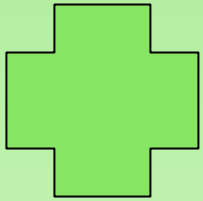
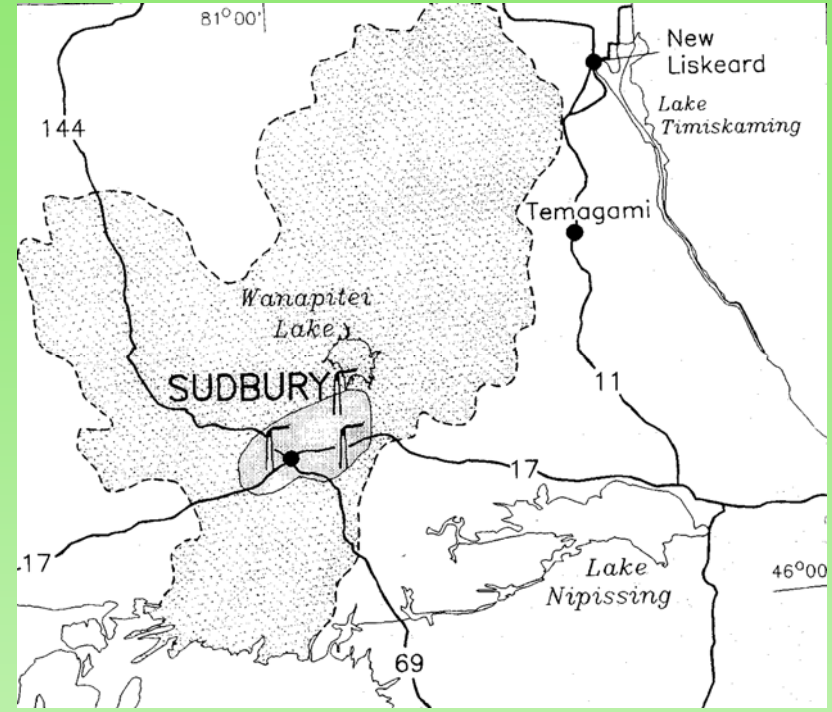
unscientific, expensive, unnecessary

Reality:

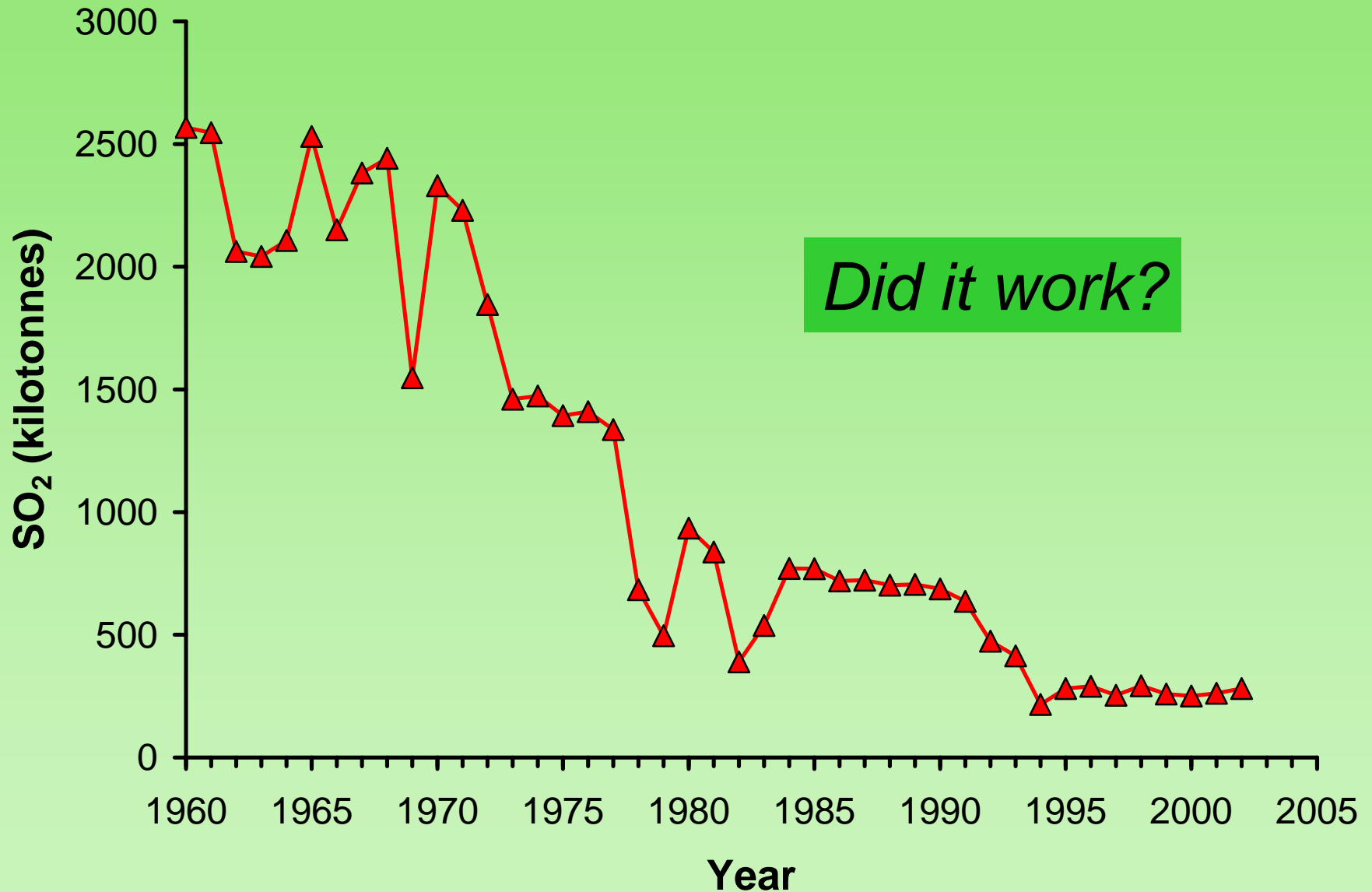
scientific advances, cost effective, necessary for environmental management

DEMONSTRATE THE REALITY USING REAL EXAMPLES!

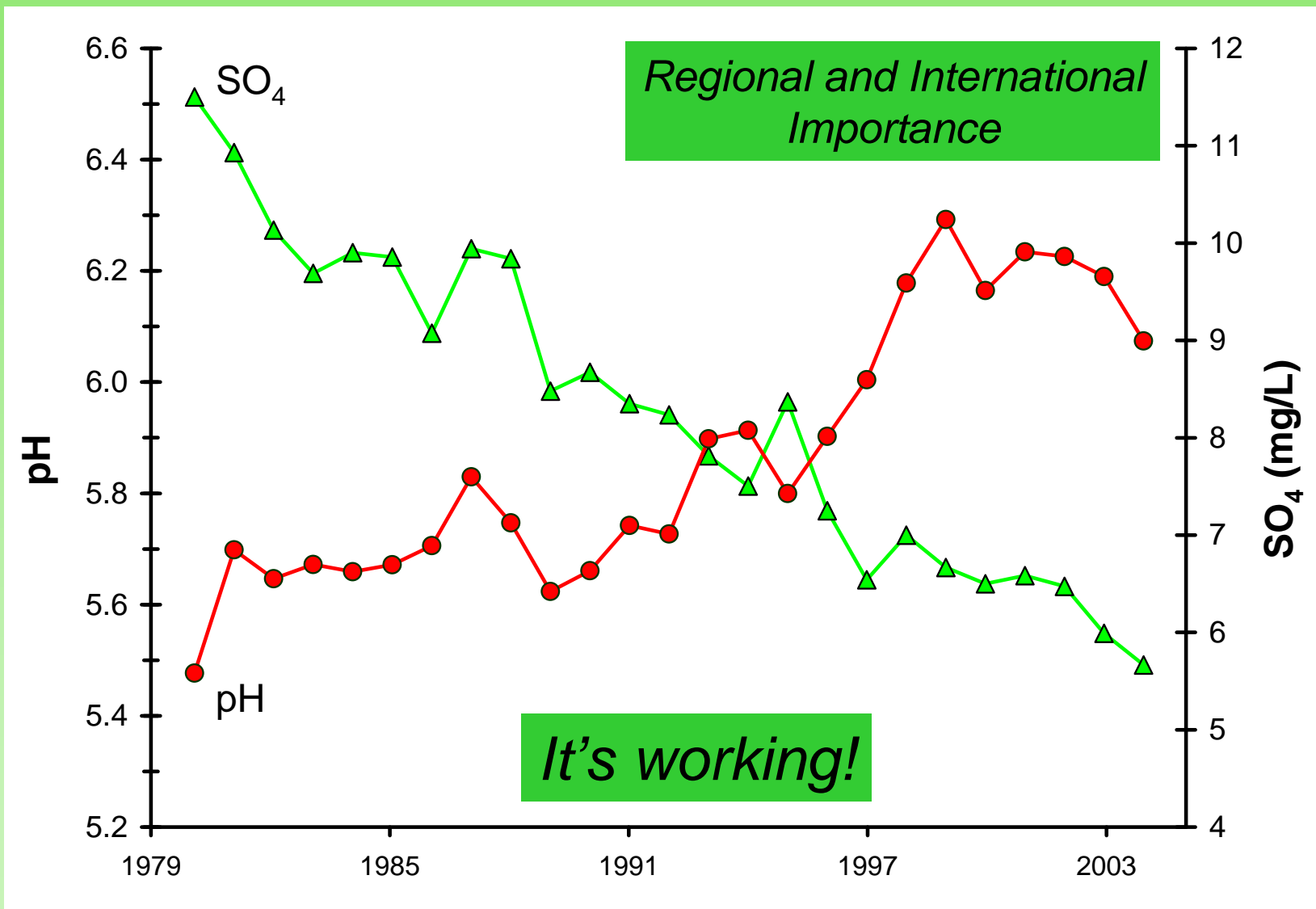
Sudbury Damage History



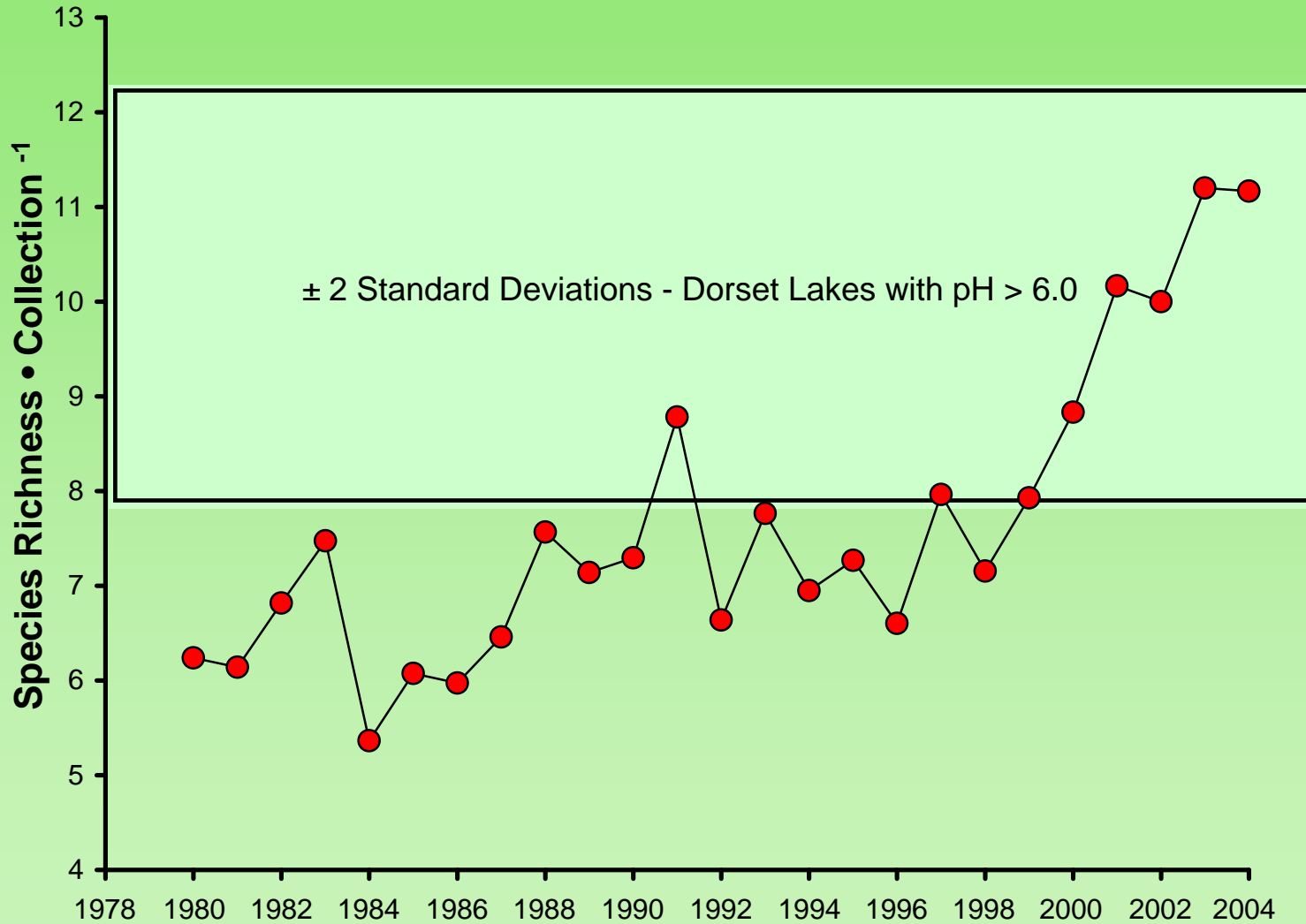
Science - A Huge Experiment



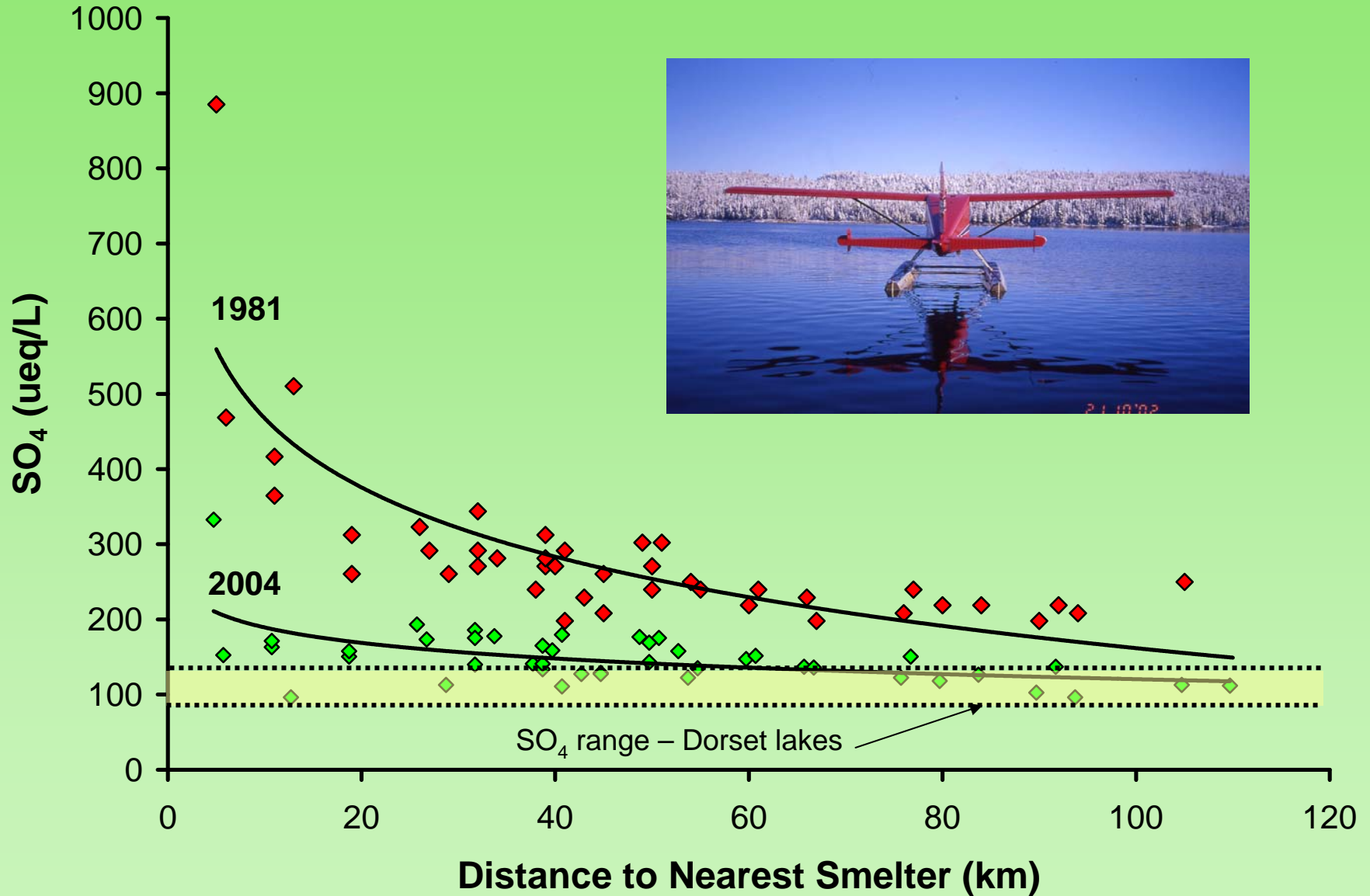
Improving Lake Chemistry



Improving Lake Communities



Regional Changes in Sulphate



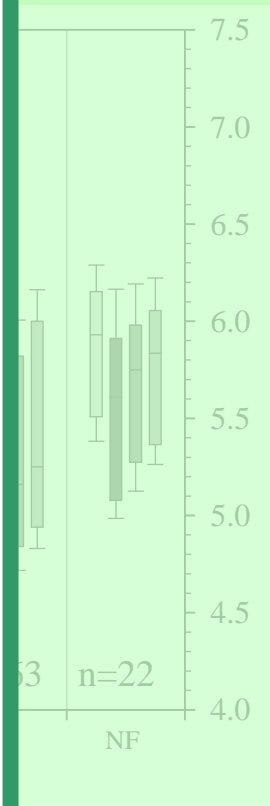
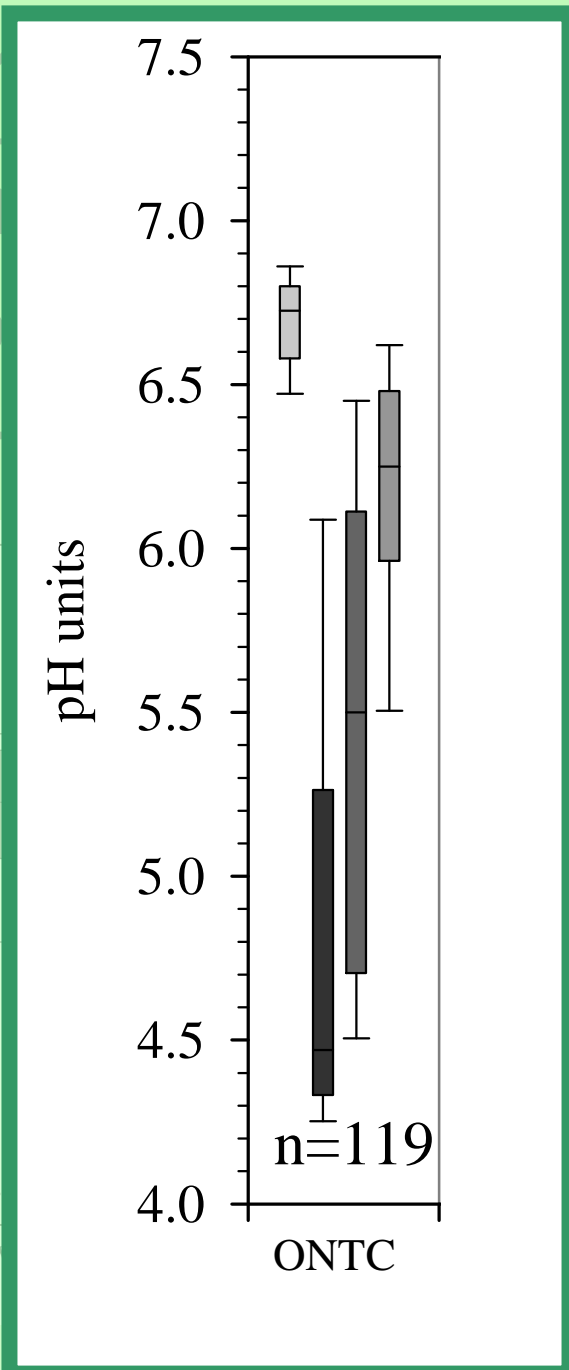
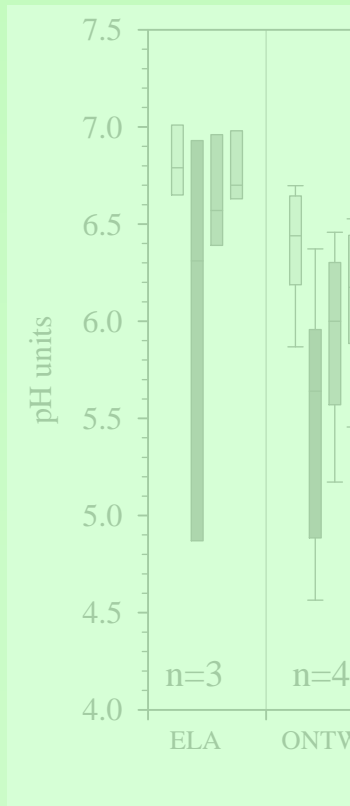
(WASP 2001; WASP: Focus 2007)

Magnesium

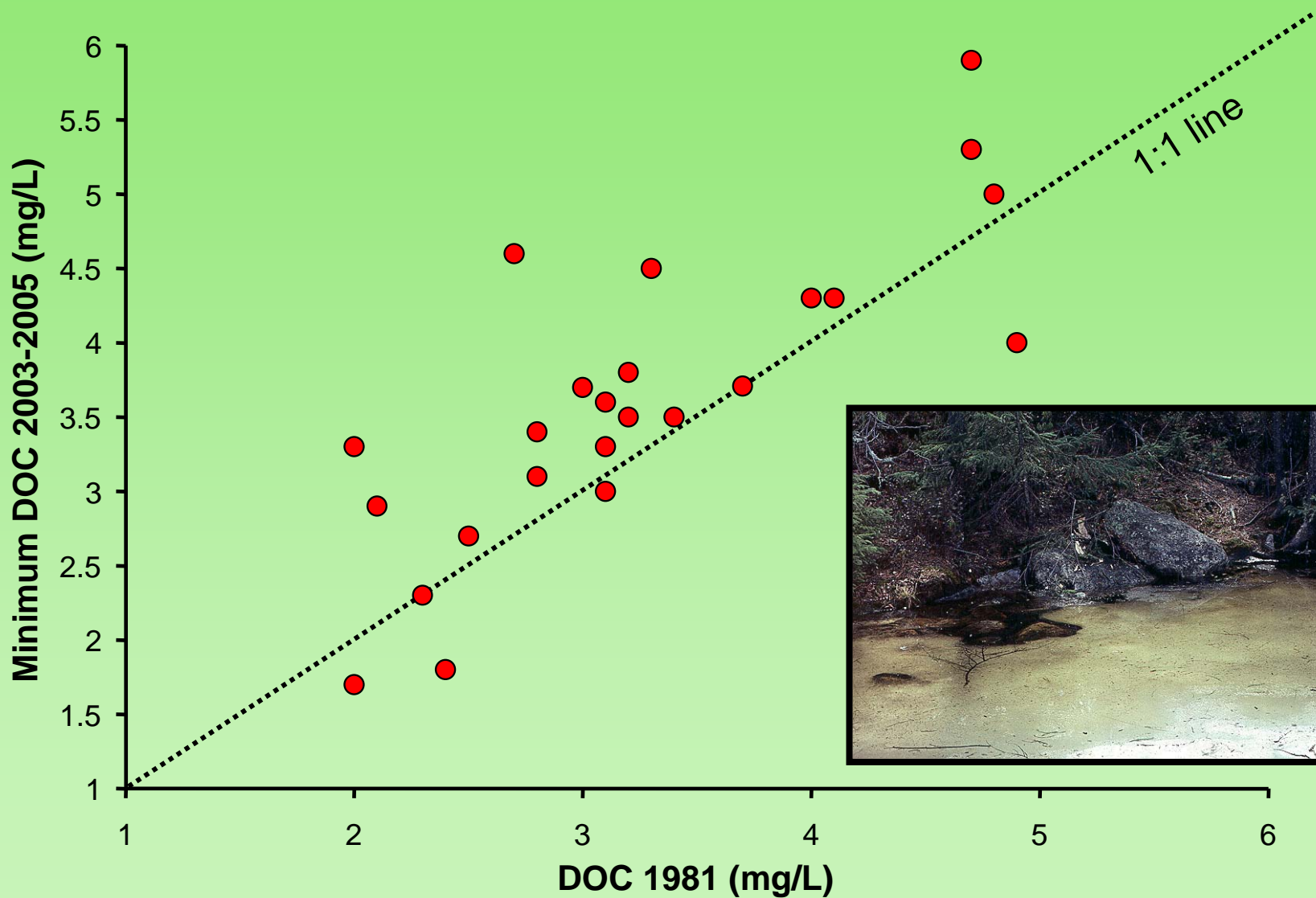
Magic Modelling

*Predicted improvement in all regions
but not to predicted levels*

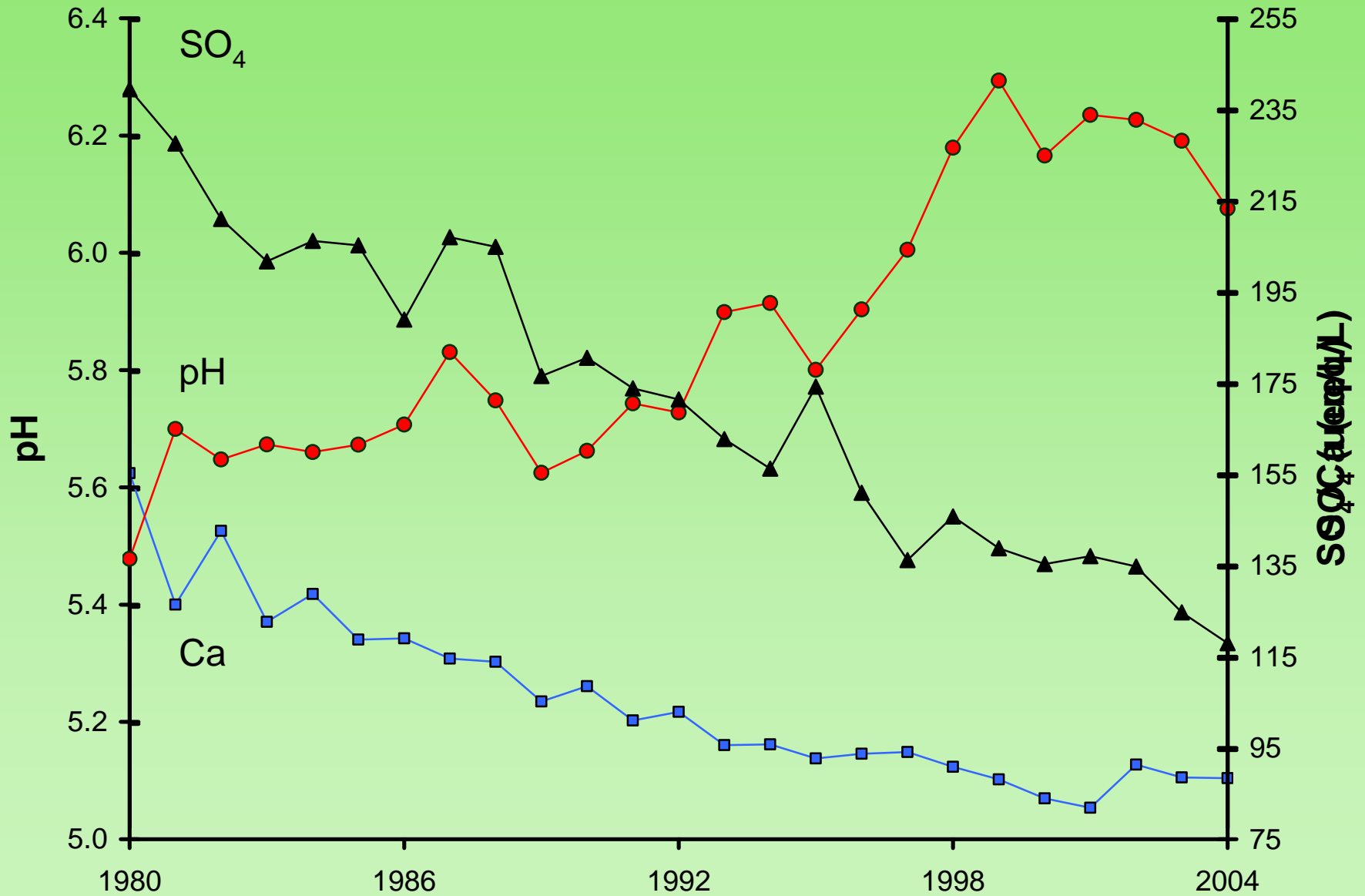
*in all regions
levels*



Reference Data - a changing world



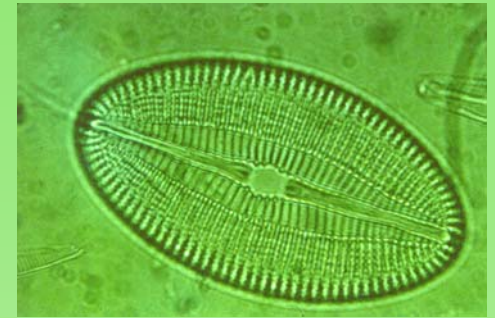
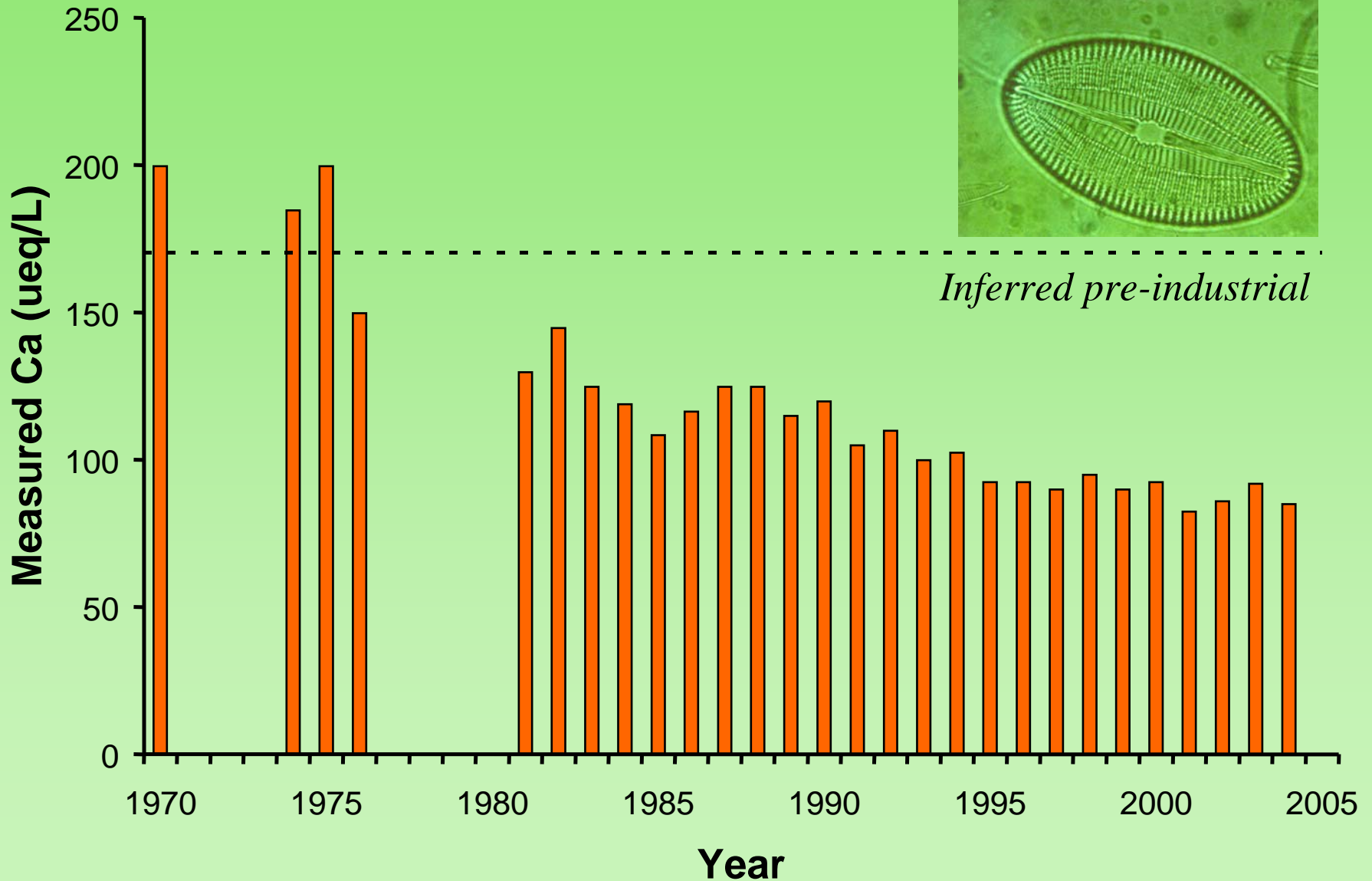
Surprises....



Whitepine Lake

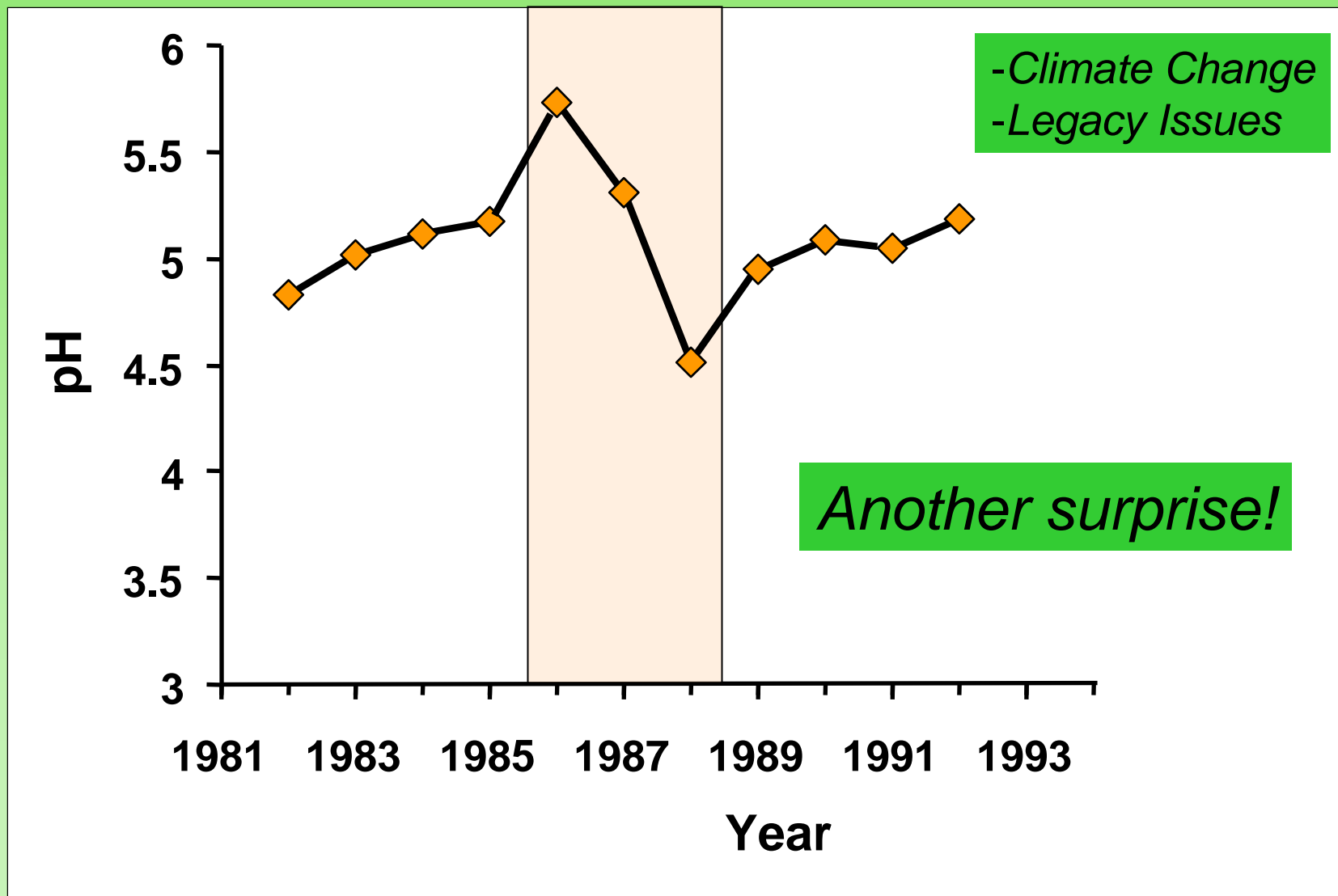
(CJFAS 2001; WASP: Focus 2007)

Reconstructing the Past

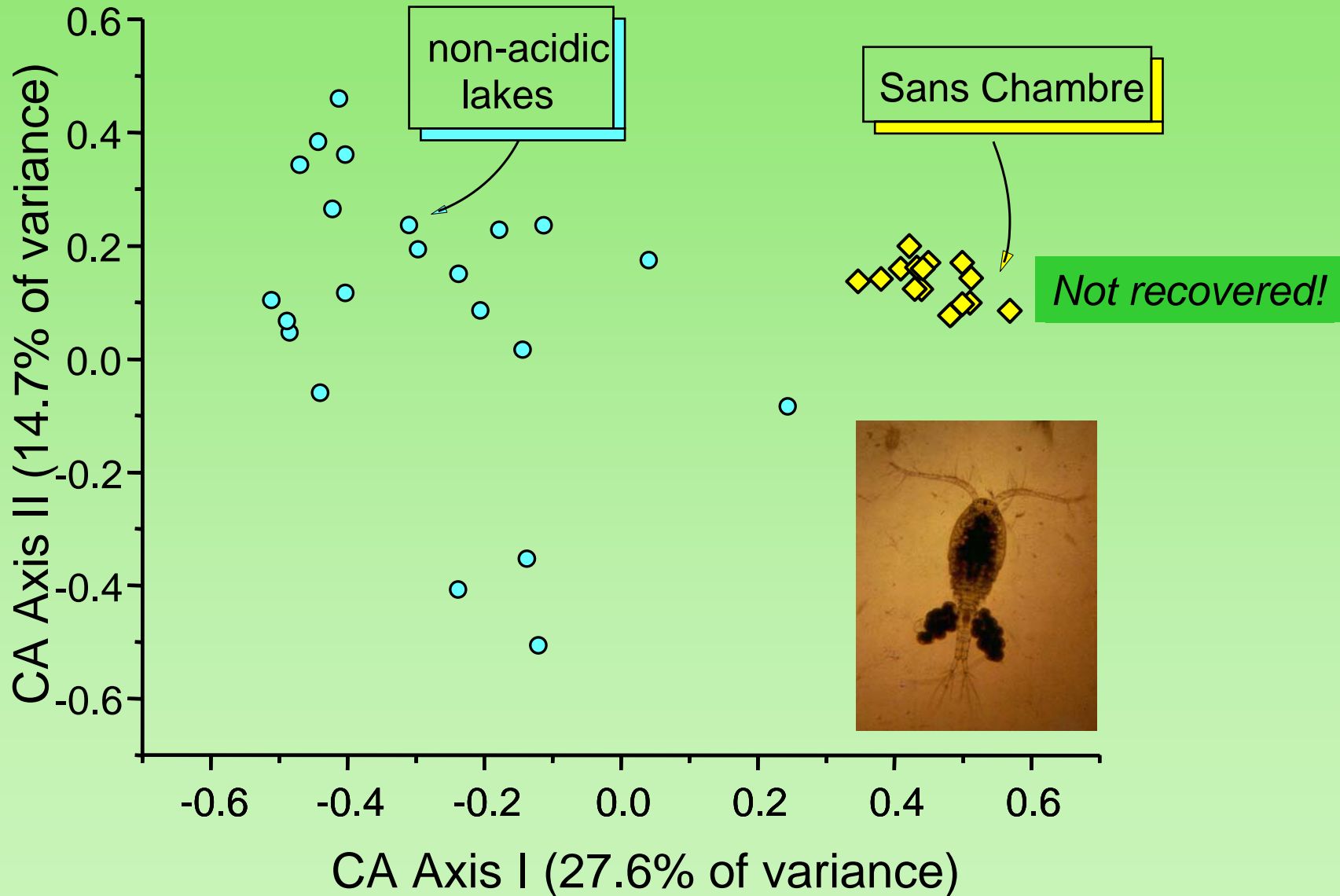


Inferred pre-industrial

The Value of Continuous Data



Biological Recovery?



Criticisms?

Unscientific?

- *many publications in top journals*

Expensive?

- *eg. US Clean Air Act: monitoring costs <0.4% of implementation costs (\$3 Billion)*
 - *<0.01% of expected benefits (\$122 Billion)*
- (Lovett et al., 2007)*

Unnecessary?

- *accomplishments*
- *future needs*
- *new threats and emerging issues*



Our Partners



Sharing Responsibility for Environmental Monitoring

