



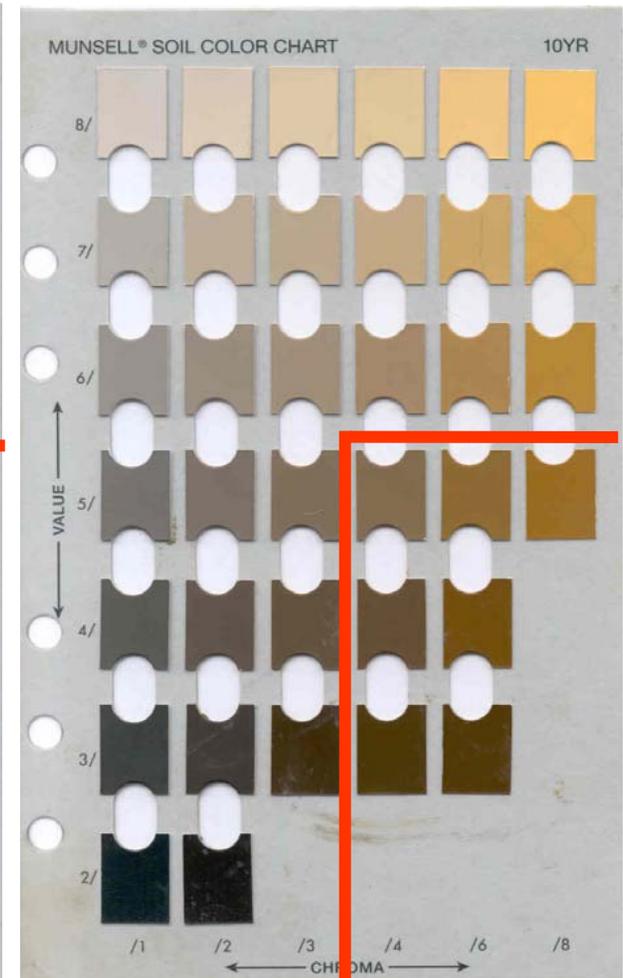
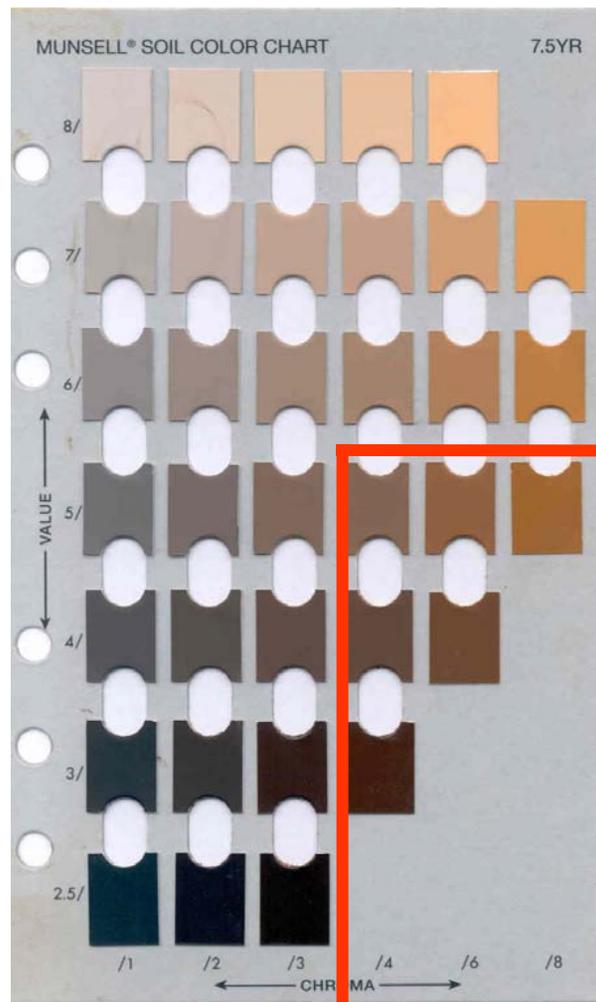
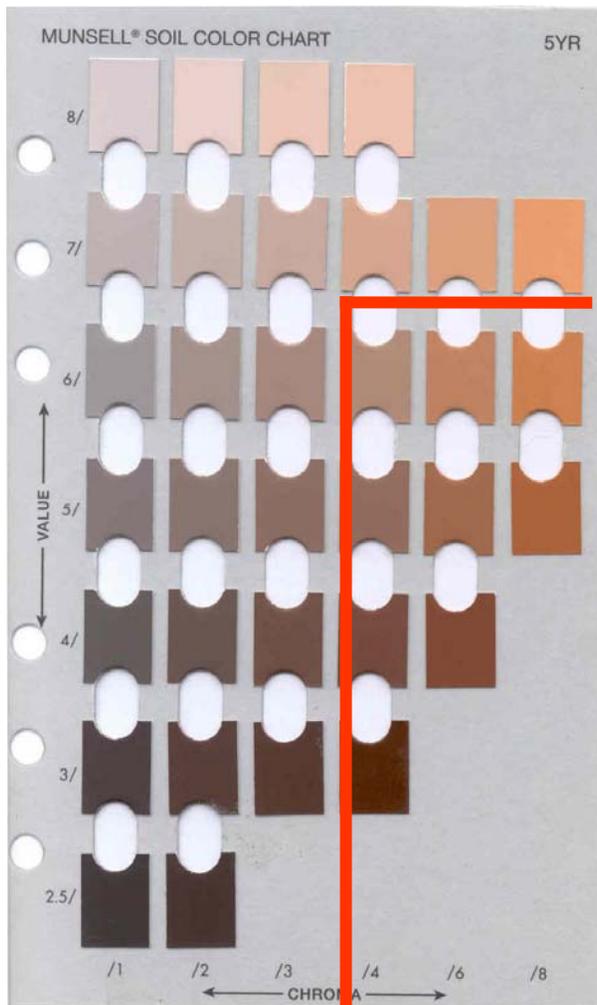
New England Post-Active Acid Sulfate Soils in Till from Sulfide-Bearing Schists

Shawn J. McVey



Background (continued)

The upper part of the Bw horizon has hue of 2.5YR or 5YR, value of 3 to 6 and chroma of 4 to 8. The lower part of the B horizon has hue of 5YR to 10YR, value of 4 or 5 and chroma of 4 to 8.





Background

- **Dithionite-citrate extractable iron (Fe_d)**

- Crystalline Fe
- Pedogenically significant
 - ✓ increasing concentration with increasing weathering and effect on soil colors (*Schwertmann, 1992*)
- Ferritic and parasesquic mineralogy classes of *Soil Taxonomy*

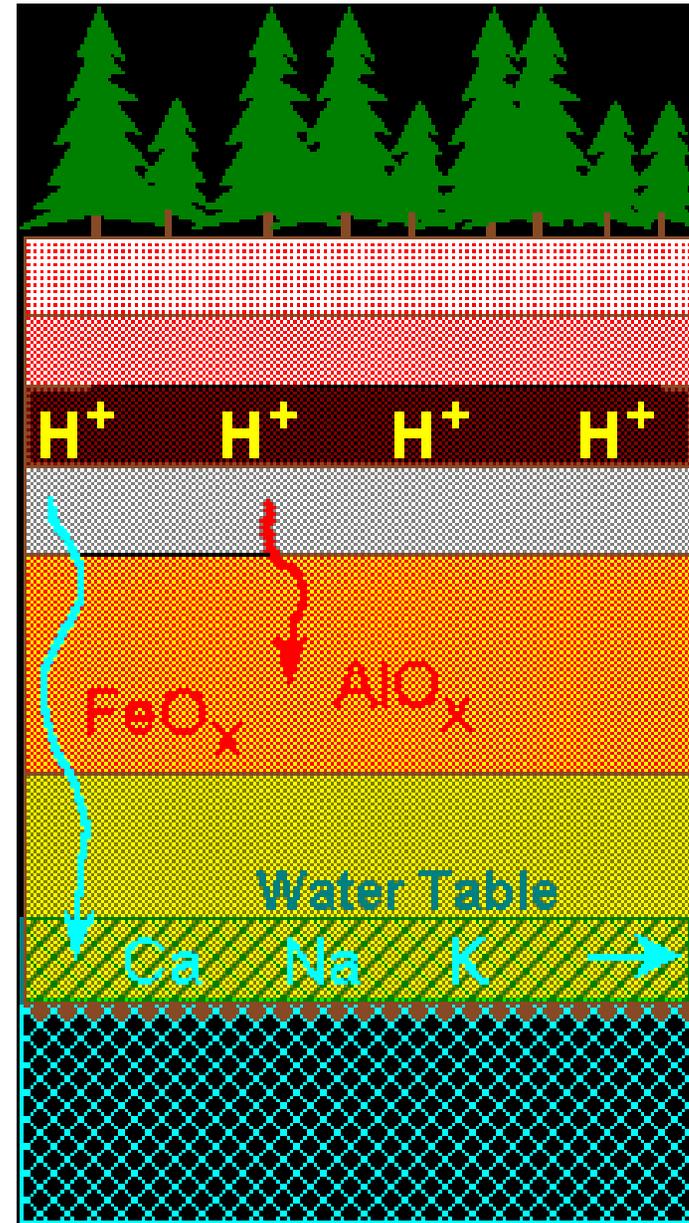
- **Ammonium oxalate extractable iron (Fe_o)**

- Poorly crystalline
- Spodic materials and andic soil properties in *Soil Taxonomy*



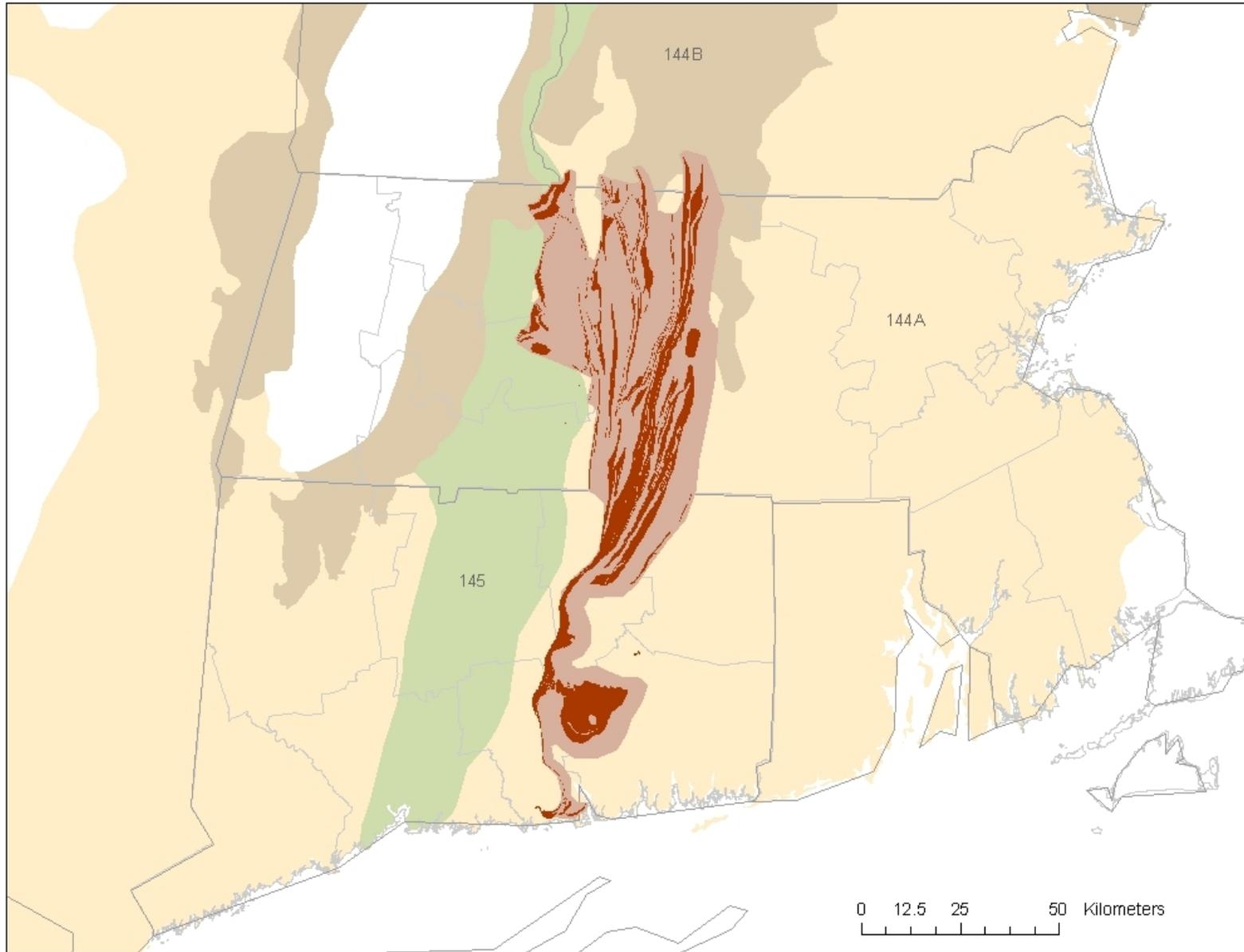
Background (continued)

Using ratio of iron extracts provides a potential measurement of podzolization and weathering



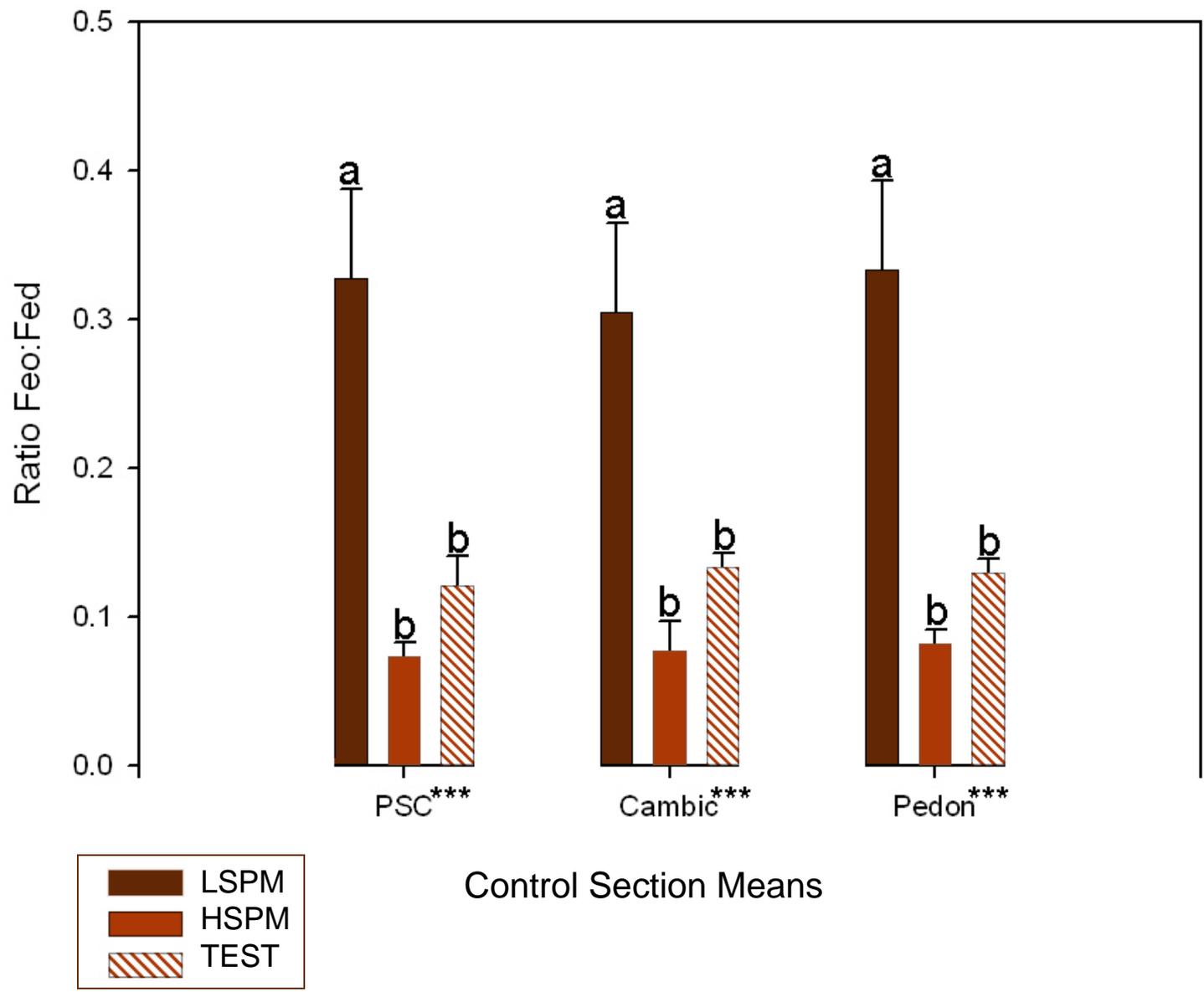


Methods





Results





Results (continued)





Conclusions and Applications

- Brookfield & Brimfield different from competitors
 - Parasesquic
- Nipmuck series (new)
- Jarosite present (2Rj horizon)
- Brookfield, Brimfield and Nipmuck are PAAS
- PAAS soils under represented in region
- Connecticut Valley soils are red for different reasons



Phases of Acid Sulfate Soils

- Potential



- Active

- Post-Active (Fossil)



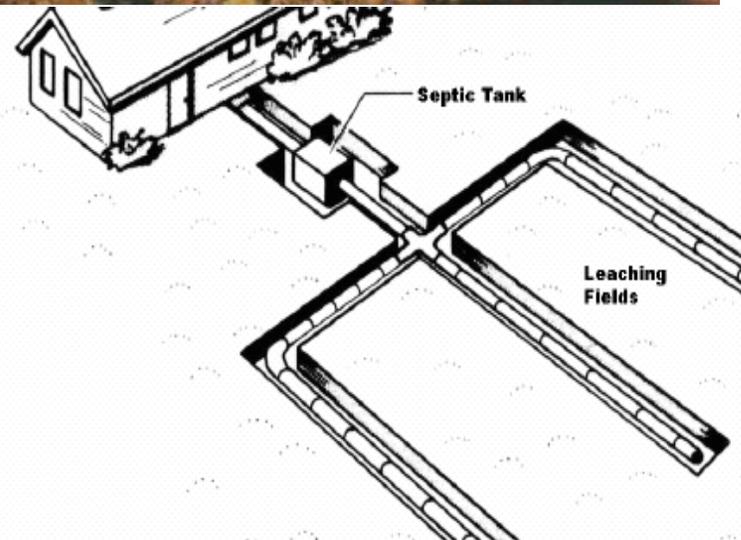


..... Conclusions and Applications (continued)

- Aggregate stability



- Phosphorous retention





..... Conclusions and Applications (continued)

- Water quality



New England Post-Active Acid Sulfate Soils in Till from Sulfide-Bearing Schists



..... Conclusions and Applications (continued)



- Community development and excavation for roads





..... Conclusions and Applications (continued)



Concrete etching

Vegetating the surface
does not stop sub-
surface weathering

