

Soil Carbon in Managed Northern Forests

- Don Ross, UVM
- Sandy Wilmot, VT Dept. Forests...
- **Juilette Juillerat**, UVM Graduate Student
- Many state and federal partners



Website: <http://www.uvm.edu/~soilcrbn>

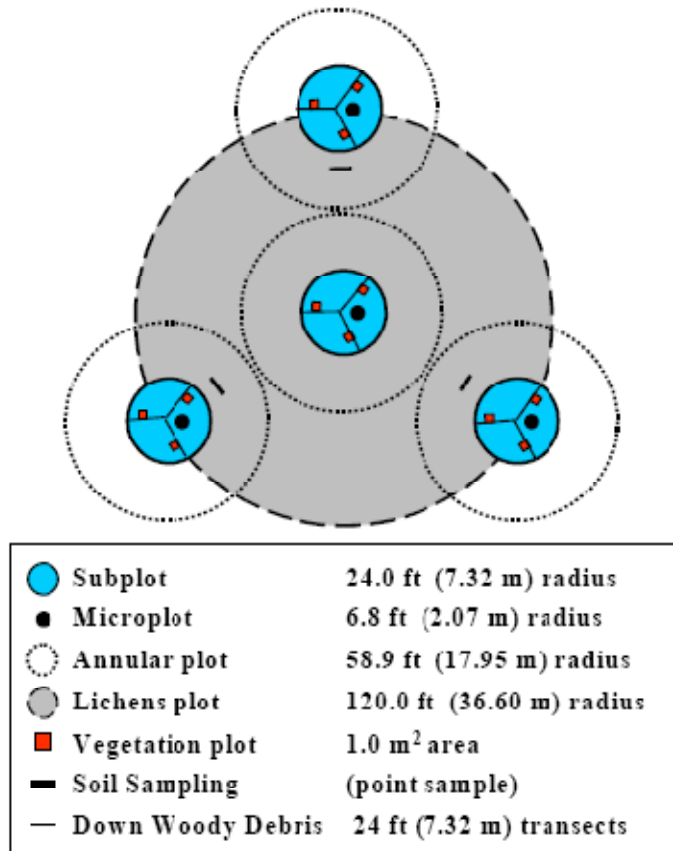
Purpose: Establish reference plots on sites that have a sustainable management plan.

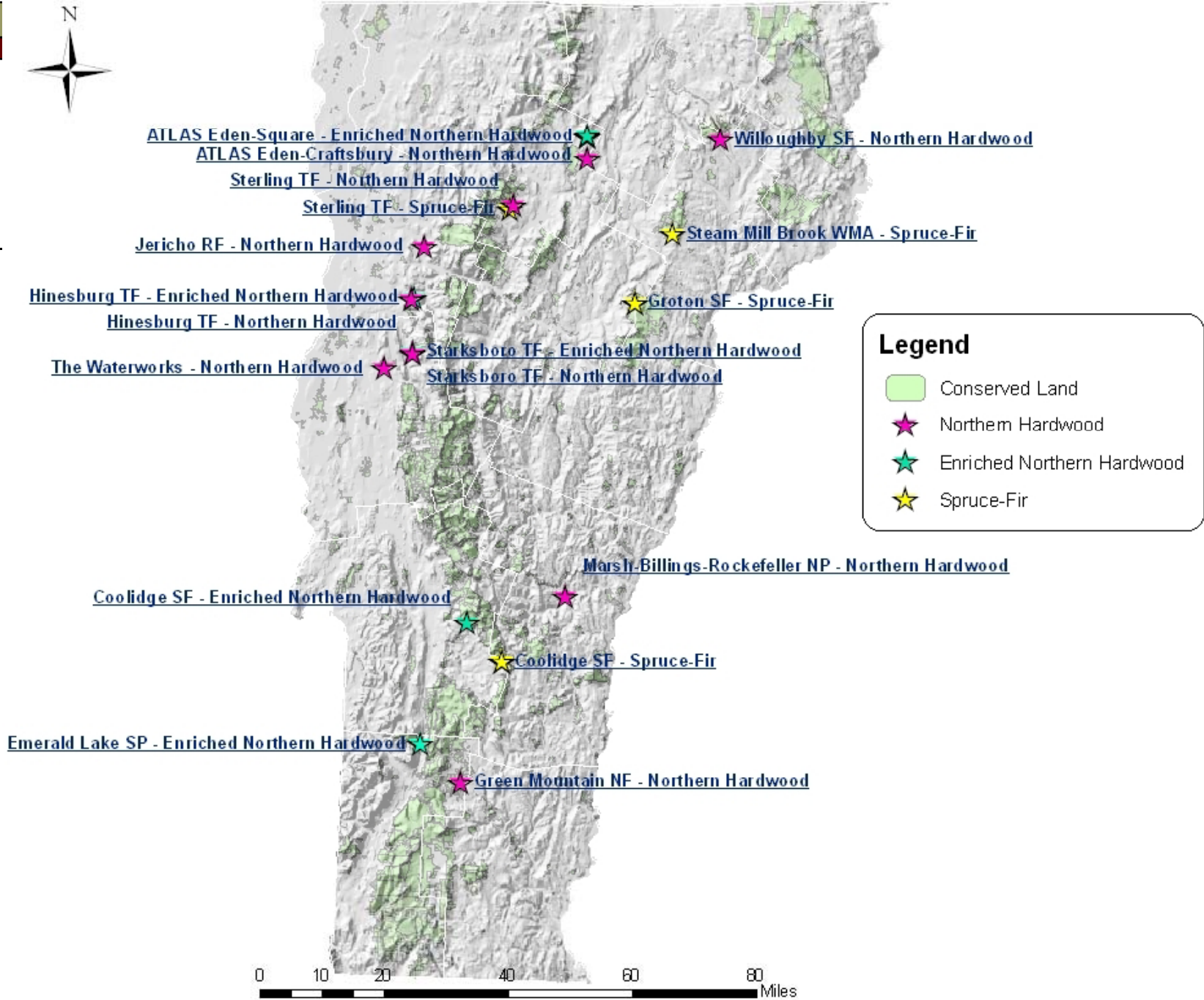
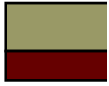
Resample (if funded) to investigate change over time.

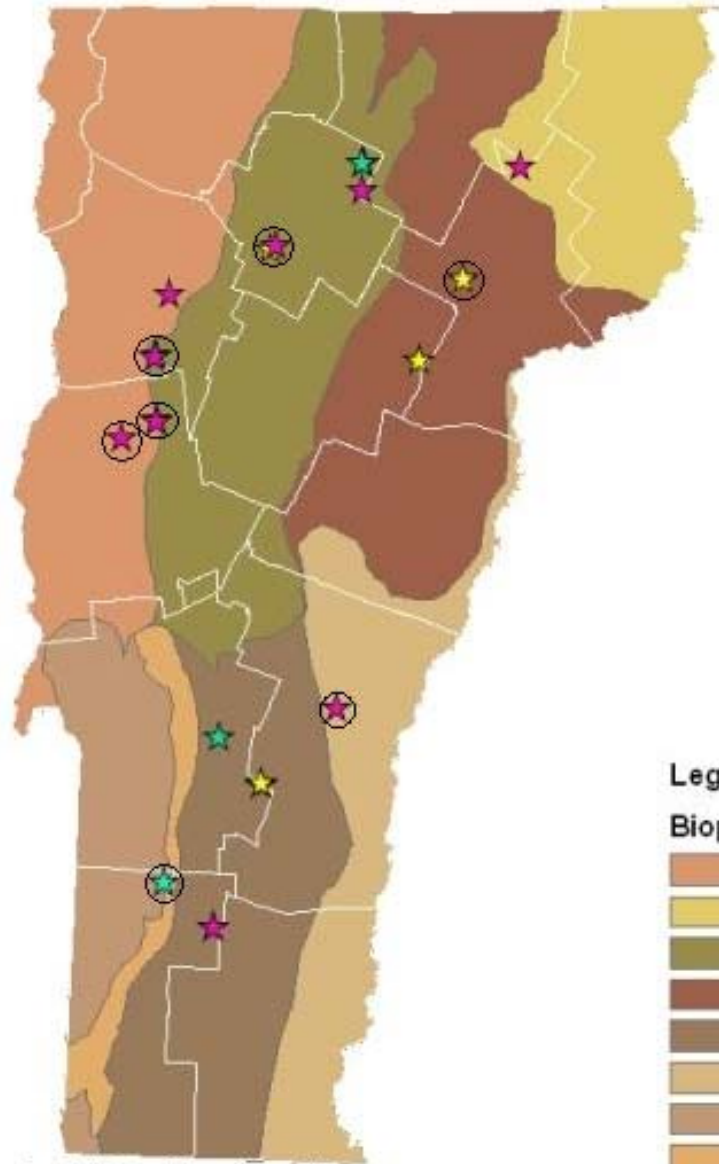
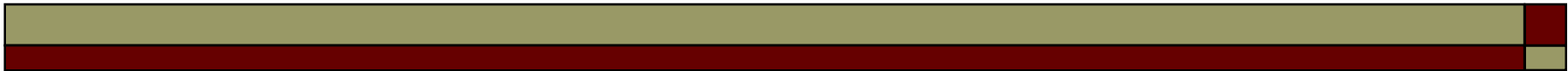


Using the FIA plot design but digging three pits and taking six cores

Phase 2/Phase 3 Plot Design








Legend

Biophysical Regions of Vermont

-  Champlain Valley
-  Northeastern Highlands
-  Northern Green Mountains
-  Northern Vermont Piedmont
-  Southern Green Mountains
-  Southern Vermont Piedmont
-  Taconic Mountains
-  Vermont Valley

 Earthworms Detected

	PLOT	Forest Community	Biophysical Region	Elevation Center [m]
Atlas Square	SQU	Enriched Northern Hardwood	Northern Green Mountains	589
Atlas Garfield	GAR	Northern Hardwood	Northern Green Mountains	488
Willoughby	WIL	Northern Hardwood	Northern Highlands	465
Sterling Hardwoods	STE	Northern Hardwood	Northern Green Mountains	528
Sterling Spruce-Fir	STS	Spruce-Fir	Northern Green Mountains	
Steam Mill Brook WMA	SMB	Spruce-Fir	Northern Vermont Piedmont	649
Jericho	JER	Northern Hardwood	Champlain Valley	154
Hinesburg Poor	HIN	Northern Hardwood	Northern Green Mountains	403
Hinesburg Rich	HIR	Enriched Northern Hardwood	Northern Green Mountains	370
Groton	GRO	Spruce-Fir	Northern Vermont Piedmont	425
Starksboro	STK	Northern Hardwood	Champlain Valley	333
Starksboro Rich	SKR	Enriched Northern Hardwood	Champlain Valley	349
Waterworks	WAT	Northern Hardwood	Champlain Valley	237
Marsh-Billing	MBR	Northern Hardwood	Southern Vermont Piedmont	397
PCB (Coolidge)	PCB	Enriched Northern Hardwood	Southern Green Mountains	651
Ninevah (Coolidge)	NIN	Spruce-Fir	Southern Green Mountains	552
Emerald Lake	EML	Enriched Northern Hardwood	Vermont Valley	299
GMNF	NFS	Northern Hardwood	Southern Green Mountains	493

Diamond-tipped 3" (7.6 cm) corer mounted on a post auger





Emerald Lake:
calcareous till in
the Taconics

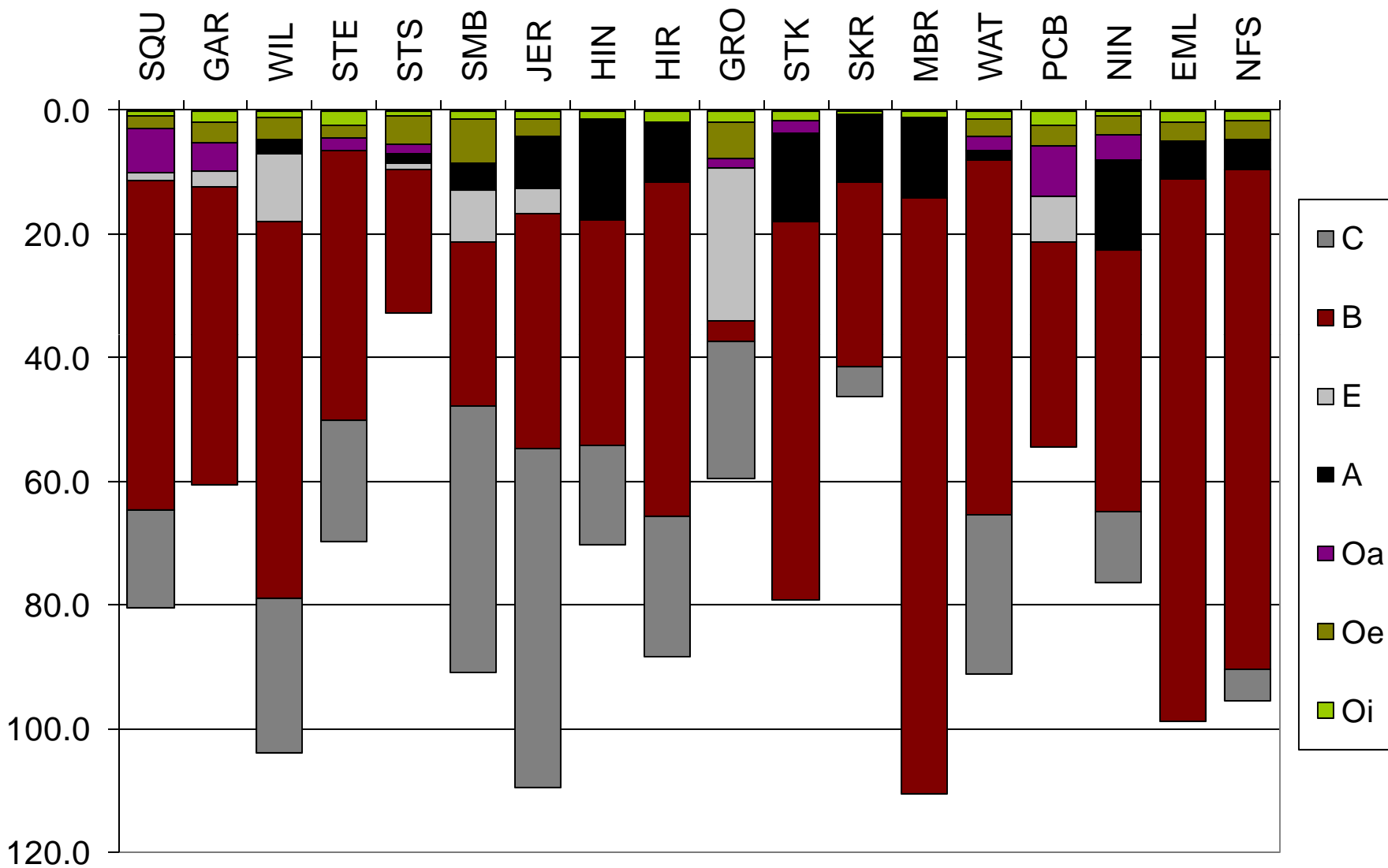
Groton:
lowland
spruce-
fir



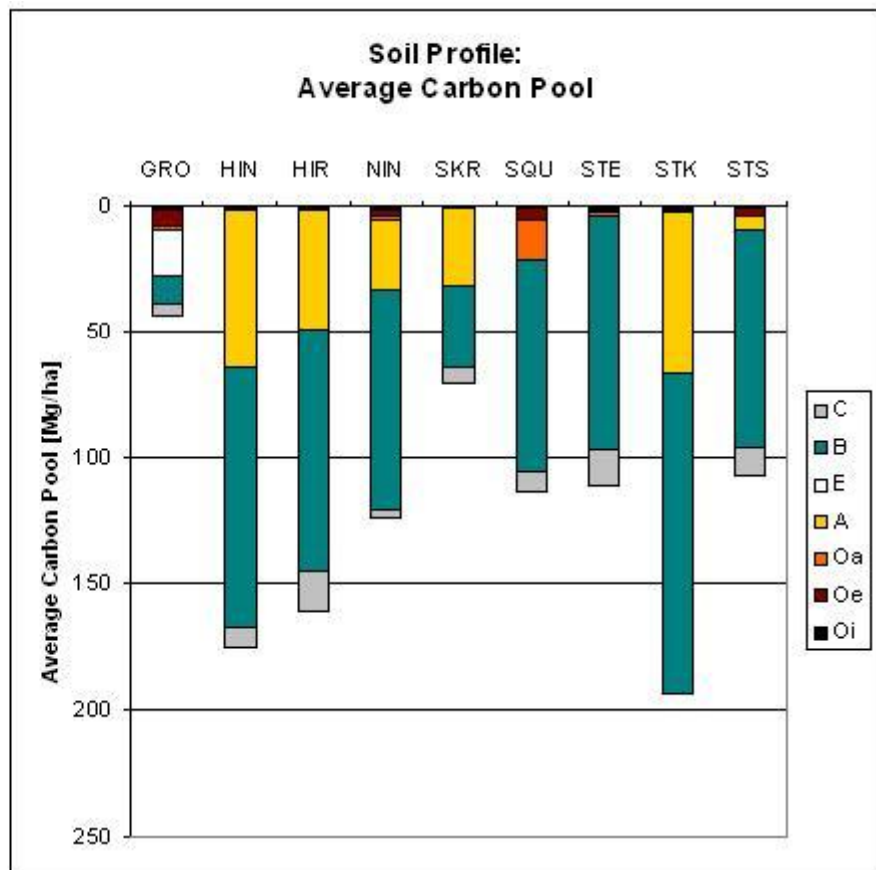
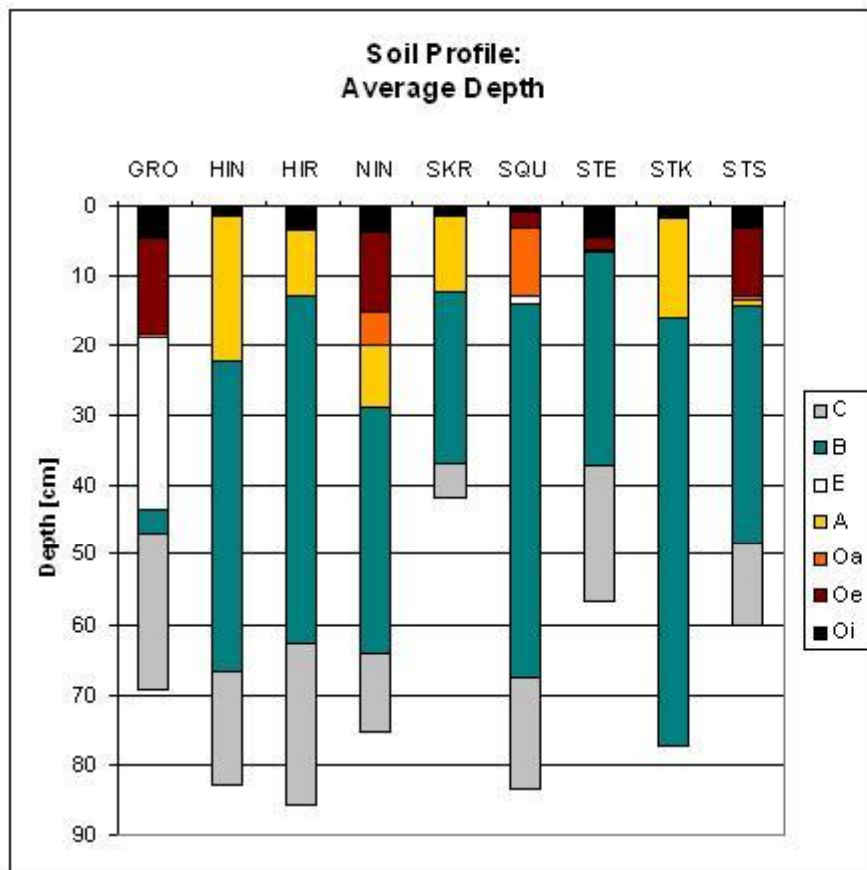
Jericho:
deep
sands
from
glacial
outwash



Sampled Soil Profile Depths

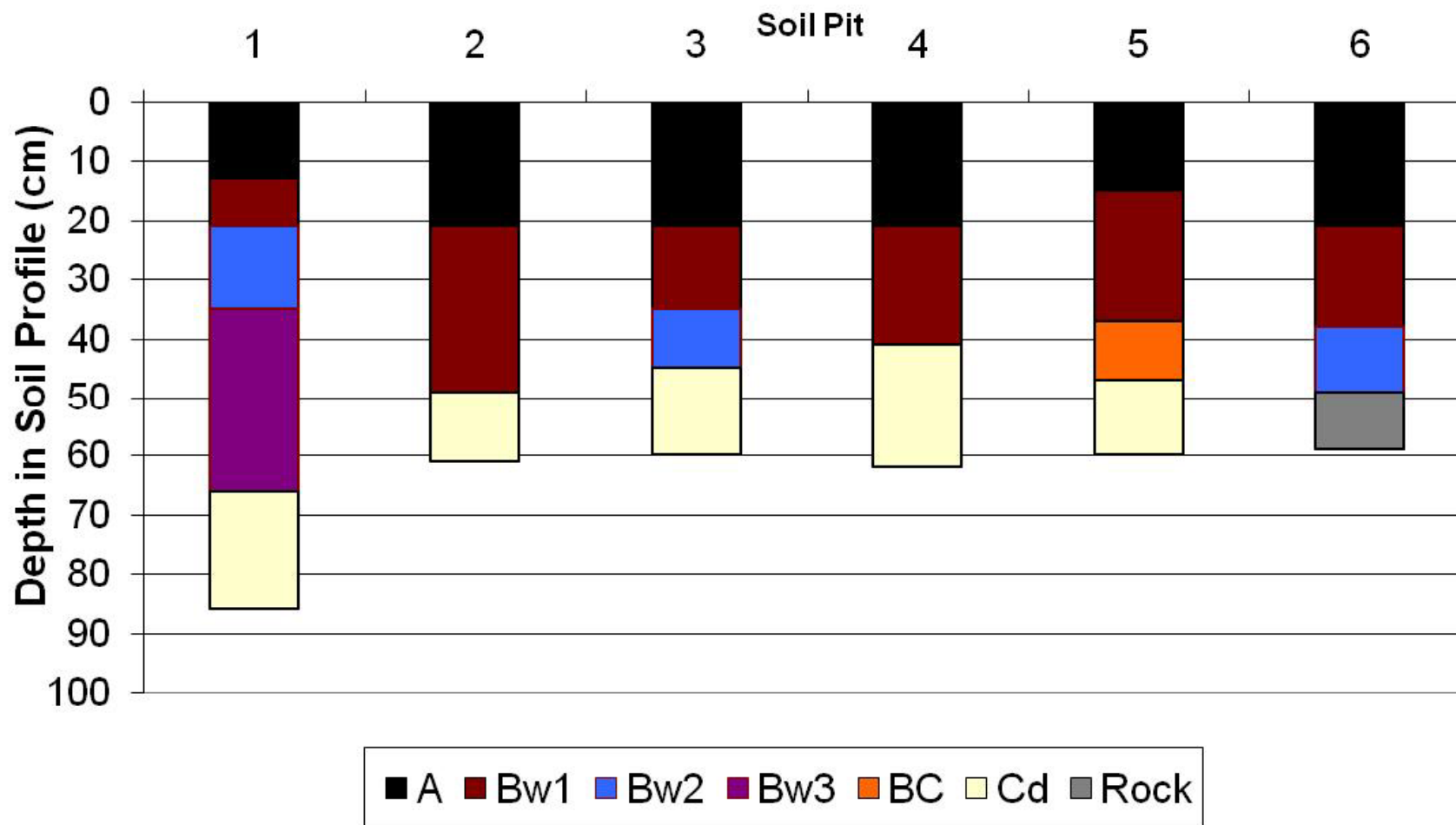


Horizon Depth and Carbon Pool by Horizon



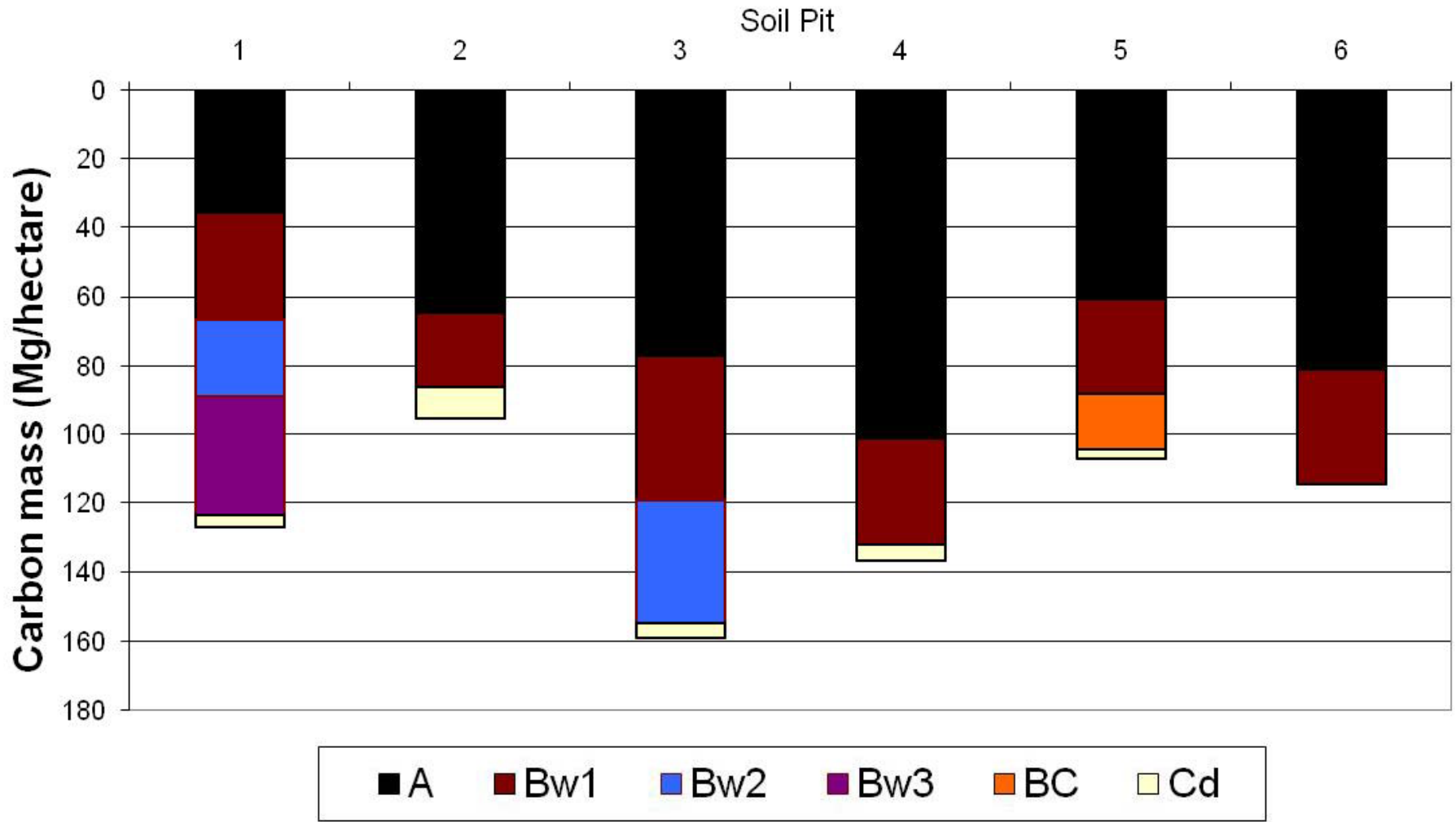
Horizon Depth by Soil Pit

Six profiles from the Hinesburg Town Forest



Carbon Mass by Soil Pit and Horizon

Six profiles from the Hinesburg Town Forest





The 2009 crew: Jerome Barner, Chauncey Smith and Emily West