

Barnegat Bay Scorecard Data Sheet DRAFT 10.20.09

Date: _____ Weather: _____ Current Land Use: _____ Name: _____

Site Location: _____

Soil Series Name: _____

Today the soil is: *(circle one)* dry moist wet

Field Observations: *(soil texture, drainage, topography, vegetation, land use history, etc)*

Location	Surface hardness	Soil Tilth/ Friability/ Consistence	Erosion	Drainage/ Infiltration	Organic Matter Color & Roots	Earth- worms & other organisms	Plant growth	Nutrient Content/ pH	VALUE TOTAL

Directions: Enter the value totals for each soil health parameter and add all totals to get the Value Total Score. The Value Total represents the relative value where the higher the number, the better the overall soil health.

RESULTS

40= Excellent!, 26-38= Getting Better, Needs Improvement,

10-24= Poor-Fair, Critical Need for Improvement 8= Poor, Extreme Need for Improvement

See *Management Solutions* on reverse side for soils with low value totals.

Suggested Management Solutions for Low Soil Health Values

	Potential Cause	Possible Solution
Compaction	Working wet soil, excessive traffic, heavy machinery, repeated tillage at same depth, excessive animal traffic, poor soil aggregation, low organic matter	Avoid working wet soil, reduce traffic/tillage patterns, avoid using heavy machinery, subsoil or rip when soil is not excessively wet or dry, alter tillage depth, add organic residues, diversify cropping system, add cover crops, use crop rotations, add animal manures, use reduced tillage
Tilth, Friability, Consistence	Low residues, low organic matter, excessive tillage, fallow system, compaction	Increase organic residues, use cover crops, add animal manure, reduce number of tillage passes, avoid tillage of wet soil
Erosion	Lack of cover and plant residue, low organic matter, poor aggregation, tillage pan or compacted layer, tillage practices that move soil down slope, excessive tillage, intensive crop rotation	Diversify crop rotations, reduce tillage, use animal manure, use cover crops, increase surface residue or roughness, shorten slope length, plant strips crops, use wind breaks
Drainage/Infiltration	Compaction, surface crusting, plow pan, poor soil structure and aggregation	Add organic residue, add animal manure, use cover crops, diversify crop rotation, subsoil or rip when soil is not excessively wet or dry, use tillage that preserves soil structure
Low Organic Matter	Excessive tillage, residue burned off, low residue crops, too much fallow, insufficient additions of crop residue	Diversify or increase crop rotations, add animal manure, use cover crops, use high residue crops, reduce tillage
Soil Life/ Earthworms	Low organic matter, low residues, excess pesticides or fertilizers, excessive tillage, poor aeration	Increase organic residues, use conservation tillage, use crop rotations, add cover crops
Plant Growth	Compacted layers, saturated soil, soil pathogen problems, nutrient deficiencies or imbalance, low organic matter, monoculture, low biological diversity	Soil test-correct nutrient and pH levels, check for pathogens/pests/ reduce compaction, improve drainage, increase organic residue, use animal manure, add cover crops, use crop rotation, diversify cropping system
Soil Fertility (pH & Nutrient Holding Capacity)	Nutrient imbalances (deficiencies or excesses), poor drainage, poor or limited soil microbial activity incorrect pH, low organic matter	Soil test-correct nutrient and pH levels, increase organic residue, use animal manure, use cover crop and rotations, reduce tillage

Go to the USDA NRCS Soil Quality Website at <http://soils.usda.gov/sqi/> for more information.