

Agricultural Management: Soil Conditions

- **Policy Guidance**
 - *Open Space Long Range Management Policies*
 - *Minimize soil loss and blowing dust by appropriate agricultural and soil management practices.*
 - *Impacts on soil resources will be monitored, as feasible. Management actions may be taken to mitigate adverse, potentially irreversible, impacts on soils caused by compaction, contamination, and erosion. Conservation practices will be implemented to reduce these impacts. Soil degradation will be minimized. If soil is imported, actions will be taken to avoid introduction of exotic species.*
 - *The department will preserve the soil resources of Open Space lands and prevent, to the extent possible, the erosion, physical removal, or contamination of the soil, or its contamination of other resources. Detailed soil maps defining the distribution of soil series will be used to provide interpretations needed to promote soil conservation and to guide management decisions by Open Space staff.*
 - *Grassland Ecosystem Management Plan*
 - *Manage agricultural activities to minimize soil erosion and protect soil fertility.*
- **Existing Conditions**
 - *Importance of soil health (include sidebar on soil health)*
 - *Acres currently tilled annually*
 - *Acres previously tilled now turned back into grasslands, perennial hay*
 - *General condition description – no regular monitoring by OSMP*
 - *Description of effect of prairie dogs on soil conditions*
- **Objective(s)**
 - *Increase soil organic matter and soil biological diversity on all OSMP lands, with focus on tilled lands*
- **Management Strategies**
 - *Manage agricultural activities to minimize soil erosion and protect soil fertility.*
 - *Best Management Practices (from NRCS)*
 - *Conservation tillage*
 - *Cover cropping*
 - *Diverse crop rotations*
 - *Stubble height*
 - *Compost and organic matter amendments*
 - *Set minimum standards for number of years a field can be continuously tilled*
 - *Develop soil health monitoring plan to track soil organic matter and soil health over time.*
 - *Develop soil sampling protocols and monitoring schedule for:*
 - *Irrigated annually tilled fields*
 - *Dry land annually tilled fields*
 - *Irrigated hayfields and pasture*
- **Measures of Success**
 - *Change in soil health/organic matter over time*

- *Proportion of operations implementing appropriate soil protecting measures*
- **Research Opportunities**
 - *Best ways to decrease tillage – in organic and non -Round Up Ready systems*
 - *Living covers for annually tilled fields*
 - *Viable intercropping systems*
 - *Viable cover cropping systems*
 - *Carbon sequestration potential of integrated livestock-crop operations*
 - *Investigation of different rapid soil respiration assessments*
- **Estimated Cost(s)**
 - *\$-\$\$*
 - *Less than \$10,000 for annual soil sampling + tests, cover crop seed, compost*
 - *\$10,000 - \$49,999 for additional staff to collect samples*