

## Data Model Development

### Potential Polygon Descriptors

Component of Polygon	Areal %
1	40
2	25
3	20
4	15

#### 1. Attributes

1. A Horizon Texture (A1, A1p within 20cm) + methods code
2. B Horizon Texture + methods code
3. A Horizon Coarse Fragment + methods code
4. A Horizon Bulk Density + methods code
5. B(Top) Horizon Bulk Density + methods code
6. Acidity
  - Minimum pH in A horizon control section + methods code
  - Minimum pH in subsoil control section + methods code
7. Alkalinity
  - Max pH in upper control section + methods code
  - Max pH in lower control section + methods code
8. Permeability
  - Surface + methods code
  - Upper - B + methods code
  - Lower control section + methods code
9. Drainage
  - (Yellow Book) (Issue: local wetness vs. changed water inputs)
10. EC
  - SA & WA criteria. QLD depth weighted means
11. Depth
  - A1
  - B (Top)
  - Solum
  - Impeding layer depth
  - Impeding layer type (chemical toxicity/deficiency, physical, hydrological)
  - Regolith
12. Aggregate Stability of Upper & Lower Control Sections
13. Water Repellence
  - 3 levels (WA criteria)
14. Sum of Exchangeable Bases
  - Upper control sections
  - Lower control sections
15. P sorption
  - (Low/Med/High)
16. ASC
  - Soil Order

17. Profile Available Water           - Upper Control - Upper Limit, Lower Limit  
   - Lower Control - Upper Limit, Lower Limit
18. Depth to Groundwater           (Notion: Freshwater supply that is accessible by plants.) \*\*Tricky, but locally significant.
19. Seasonal Waterlogging           ?           - No obvious consistent variables.
20. Biological Activity               - \*\*Tricky/Worms
21. Landform
- Component:           - Landform element (multiple)  
                                   - Morphological type  
                                   - Modal slope (numeric)
- Polygon:               - Relief/Modal Slope  
                                   - Pattern
22. Land Surface
- Component
- Microrelief
- Gilgai               - Type (horizontal interval, vertical interval)
- Rock Outcrop           - Percentage of area
- Surface Coarse Fragments - Percentage of area  
                                   - Size in each class (see Yellow Book but > 60mm - 3 classes)  
                                   - Lithology  
                                   \*\*Notes required to avoid double counting of rock & surface course fragment
- Land Condition
- Type:
- Scald Erosion  
             - Scald Seepage (saline)  
             - Scald Natural (saline)  
             - Erosion
- State:
- Yellow Book (needs to be reviewed) eg. present condition, stability
- Severity:
- nil, minor, moderate, severe
- Extent:
- different class limits for each type.
23. Substrate
- Lithology Type
- Weathering - Alteration of substrate (yellow book)