Session 1: Design & Construction (Norstrom & Gee)

Craig Benson

- Mature design methodology
- Site characterization is essential
- Be realistic about applicability of alternative covers
- Be realistic about input parameters and outcomes from models
- Need better quantification of biological aspects of cover hydrology

Wrap Up

What was said?

Where should we go?

Design and Construction (Norstrom & Gee)

Amy Forman

- Comparable effort into plant design

- Plant communities are complex and changing, both need to be considered in long-term performance

- Need more understanding of long-term changes in plants, including quantitative impacts.

Design and Construction (Norstrom & Gee)

Pat McGuire

- Soil materials are variable, consider in design and QA

- Plenty of existing information on soil properties that is useful in preliminary design

- Over-compaction can occur easily; plan for in the construction method

- JZ: Can we quantify the relative effects of compaction on improved hydraulic properties and diminished transpiration. Cannot quantify currently.

Design and Construction (Norstrom & Gee)

Leonard Butler

- CQA is an integral component of alt. cover construction

- Need to re-train operators for ET cap construction

- Site characterization of borrow areas is critical

Session 3: Case Studies (Albright & Benson)

Bill Albright

- Composite covers work very well, but not as well as currently believed

- Clay barriers fail quickly

- Most alternative covers are meeting goals. Those that are not often can be adjusted using field data to develop a suitable design

- Lots of observations, but still plenty of mystery. Need to focus on *understanding.*

Case Studies (Albright & Benson)

Beth Gross

- Alternative covers can be design, permitted, and constructed in humid regions

- Different equivalency criteria may be acceptable, e.g., risk based.

- Predicted percolation rates comparable to measurements made at humid sites.

- Isolation may be the most important criterion for some covers systems

Case Studies (Albright & Benson)

Mike O'Kane

- Need a stronger quantitative link between vegetation and soil properties

- Vegetation plays a pivotal role, especially in sequential wet years.

- Material properties evolve over time, needs to be considered in design (Ksat, bimodal SWCC)

- In-place material properties may differ from anticipated properties due to construction issues

- Consider design in context of big picture (e.g., rolling hills to harvest water).