SENSITIVITIES

Modeling Workgroup

December 10, 2015

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ROLE OF SENSITIVITIES IN THE LOADING RATE TARGETS

- Sensitivities are the ratio of inputs to outputs
- Target = literature target + ∑[sensitivity*(input - average)]
- Geographic variation in the targets comes from the sensitivities and nutrient inputs. Additional variation is accounted for in the land to water factors (work by Claggett, Mandel, Christianson).
- This adjustment can be + or – based on the characteristics of each land segment

SENSITIVITIES ARE FOR THESE INPUTS

TN

- Atmospheric Deposition
- Fertilizer
- Manure
- Legume fixation
- Uptake
- Crop Cover Pct

TP

- Fertilizer
- Soil P-Mehlich
- Sediment
- Runoff

SENSITIVITIES WERE DEVELOPED ON THESE PHASE 5.3.2 LAND USES (BUT NOW ARE FOR PHASE 6)

TN

- cid, nid, rid
- cpd, npd, rpd
- alf
- pas
- hyo
- hwm
- hom
- for

TP

- hwm from APLE
- pas from APLE
- npd for PO4 from PQUAL

ADJUSTMENTS TO ACCOMMODATE TRANSITION TO PHASE 6 LAND USES

- Goal: Scale the sensitivity to the recipient land use by the mean load from the original land use.
- Approach: Adjust the sensitivity for each Phase 5.3.2 land use by the ratio of the target for the Phase 6 land use to the land use on which the sensitivity originally was developed.
- Example:
  - P5.3.2 npd = P6 nch
  - mcn target / nch target * original sensitivity