Combining Ag Census and Satellite-based Land use

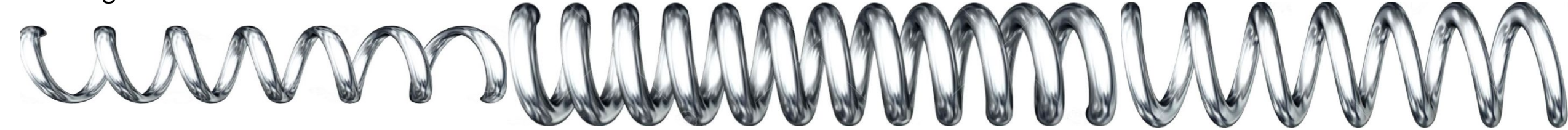AMT

9/8/2023

Phase 6

- Developed and Natural classes from Satellite data
- Ag Classes from Ag Census

- Made to equal total acreage in a land-river segment
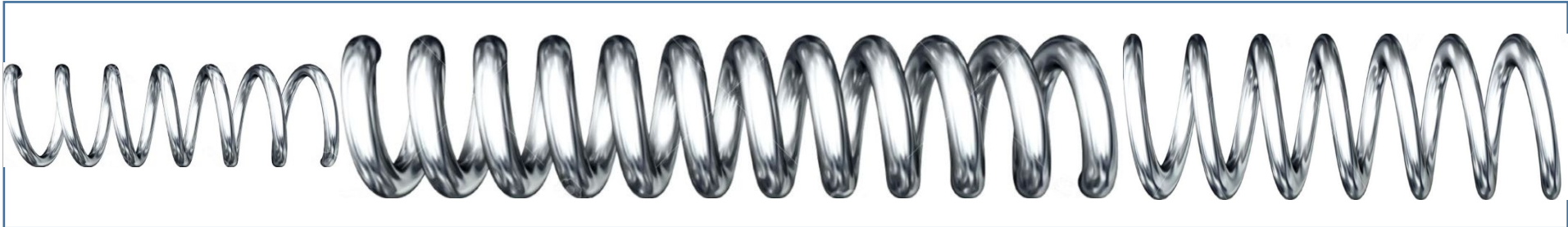 - Classes with more uncertainty changed more

Exact physical analog

Original Land Use
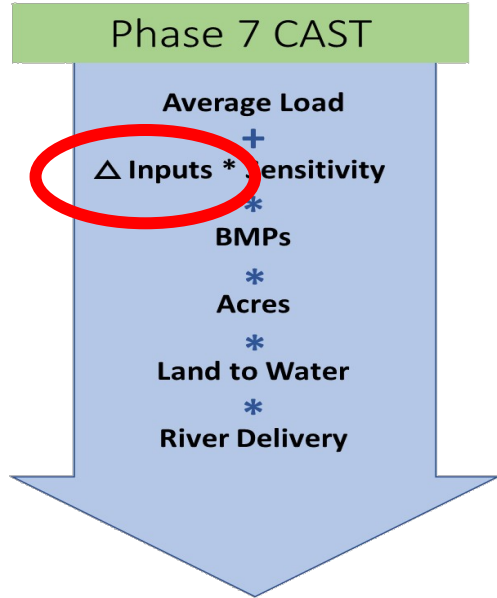

Land Use Box / LRseg Size

Revised Land Use

Phase 6 problems

- Official CBP TMDL model land use exists only at the Land-River segment scale
  - LRseg = county cut by about 10 watersheds
  - Cannot represent the official land use at the NHD or pixel scale

- Had unlikely results through time
  - Developed land decreased in some instances
  - Best estimate of land use for any year ***given the data from that year***
  - Not the best estimate of change over time.

Consistency > Accuracy

Phase 7 CAST

Average Load
+
△ Inputs * Sensitivity
*
BMPs
*
Acres
*
Land to Water
*
River Delivery

Accuracy of the spatial and temporal trends is more important that the absolute value

Spatial - Model used to allocate responsibility between jurisdictions

Temporal - Model used to track TMDL, based on changes since 1995

Phase 7 proposal

- Satellite data used to set:
  - Developed **land uses**
  - Natural **land uses**
  - Agricultural **classes**
- Agricultural classes will be split proportionally by ag census

- Satellite data will likely be a better indicator of trend

- Land uses can be downscaled to NHD catchment
- Developed and natural land uses and agricultural classes can be downscaled to pixels