**CNH Team Teleconference**

**March 17, 2017**

In attendance: Kelly, Chris, Joe, Julia, Jen, Mike, Nicole, Kevin, Weizhe, Paul, Hilary

Land allocation update

* Update: see slides
* Questions
  + How do we get from SDP output to lake?
  + Outputs are counterintuitive (cfc vs. cfs)
  + N carryover from year to year? Are there cases where this might matter?

GLM update

* Update
  + N is an interesting part of the story even if it doesn’t have the same effect as P
  + Milestones
    - Coupling of PIHM-GLM in last week (13 years), outputs from PIHM/inputs to GLM
  + Data
    - Ice duration matters – affects development of anoxia, nutrient cycling and water clarity issues
    - Phosphorus speciation (3m depth) – don’t know if it’s right
    - Nitrogen speciation (3m depth)
    - Secchi depth – too much phytoplankton, biomass artificially reducing clarity
  + Calibrated model by May
  + Next steps
    - Lack observational data on accurate nutrient loads coming into lake,
    - Challenge is to pair simulated discharge with observational data and hindcast
    - Calibrate water quality and extend to 30+ years
    - Qualitative work to calibrate
  + Inputs/outputs
    - PIHM covers hydrology, scenarios for coupled models (modify nutrient concentrations in inflow)
    - Outputs include any water quality metric people might care about
* Questions
  + Speciation – how P (&N) divided up into different forms
  + Crash in 2012/2013? Might be a data formatting issue

PIHM update

* Update
  + Weir boundary condition is complicated – don’t have detailed operating rules
  + Inflows (slide 25) – overpredicting inflows later in the time series (perhaps the ice conditions?)
  + Outflow (slide 26) – overpredicting later in the series, especially during the later part of the year
    - Summer 2008 is the worst, likely due to flooding, operate weir differently then and don’t have the rules
    - November calibration also off for several years
      * Ice-on conditions may be problematic (maybe not, usually occurs later in the year)
      * Most likely failure to capture gate operations
    - Reanalysis has a rain bias, still working on this
* Questions
  + Two methods
    - Coupling Cycles to PIHM
    - Take balance equations out of Cycles (is PIHM output already reflected in the spreadsheet outputs Charlie sent to Kelly? Set up meeting in the next few weeks.)

Hedonic update

* Update
  + Building data, will use estimates from literature to summarize impacts of changes in WQ in the short run
  + Econometric model
    - WQ variables of interest: e.g., secchi, DO saturation (0-2m depth); will be exploring to see which variables matter (provide the best model fit); work with correlation between WQ variables; looking at different functional forms (log-linear for now in clarity)
    - Observational data first; simulated WQ data later
    - Output: capitalized value of change in WQ, not time-specific (a single number for 2003-2015 interval)
* Questions
  + Supplementary data in 2 weeks; cleaning will be fast

Paper updates

* Framework paper – another round of revisions on coupling discussion
* Grad review results to report out in May
  + Highlighted rows in table with papers that are likely most relevant to our coupling (4-5 great examples)