**CNH Team Teleconference, 10/7/16**

**Meeting Minutes**

Lars, Pat, Joe, Paul, Hillary, Kevin, Weizhe, Nicole, Cayelan, Kelly, Armen

1. Welcome and additions to the agenda
   1. Workshop dates – Paul
2. Model updates
   1. SDP – Kelly
      1. Working with Armen’s team to pass data from Cycles to SDP
      2. Established work flow with team during visit to PSU in September for passing data related to N
      3. Charlie creating 2 types of functions for SDP model
         1. Fertilizer-yield response function
         2. N leaching-fertilizer application function
      4. SDP model framework constructed, integrating these N functions into model this month
      5. Questions about coupling SDP/Cycles with PIHM
   2. GLM – Cayelan and Paul
      1. Overview – Cayelan
         1. Nicole & Cayelan went to Penn State, put together working PIHM models for Mendota & Sunapee
         2. More importantly, put together work flow for how outputs from PIHM will drive GLM
         3. Worked on getting PIHM Mendota calibrated, another major meeting 11/1 to get that set up; also to set up timeline for Sunapee
         4. Mendota efforts – Hillary has been putting that data together, posted on CNH data repository
         5. Nicole, Cayelan, Kak working on data collation for Sunapee
      2. Sunapee data – Nicole
         1. Working with Bethel to collect data from diverse sources
         2. All water chemistry data from inflows put together this week; looking for patterns through time
         3. Finishing dataset by end of November
         4. Collates data from LSPA, the state, datasets from private homeowners, etc. BROADER IMPACT – using the LSPA’s data in a QA/QCed dataset
         5. Pat – would people who contributed these data be interested in adding the data to LAGOS? They could be archived for long-run accessibility there
      3. Mendota model – Paul
         1. Paul – what’s the status of PIHM output for GLM?
            1. Output from PIHM is put together in a way that needs to be reformatted; will be using PIHM R tools to deal with output; should have it within a week (includes water budget for incoming streams, groundwater, and overland runoff)
            2. NSPIRE call with Chris, talked about workflows; documenting where to get datasets from, the tools that need to be used so that data are ready to be ingested into GLM

Nicole’s diagram contains new information to be integrated into that workflow

Calibration of Mendota model supports both projects

* + - 1. Calibration – holds for 2009-2010; next step is 2003-2013, at tail end of data manipulation needed to bring USGS driver data into GLM-AED; if it holds for over a decade, they’re ready to go with coupling with PIHM
         1. Initial project – look at 30-year time period, proof of concept of coupling PIHM and GLM; timeline is winter and spring
      2. Mike S. visited with Paul, Hillary, and CLA
         1. Valuable in understanding context, describe storylines for scenarios
         2. Lot of material to guide future efforts
      3. Julia finishing MS work in May; CNH project that looks at carbon dynamics of system; implications for calibration of GLM-AED
      4. Spring meeting – May 30-June 2 can get hotel/space on campus; need to decide whether to go with that time frame; can get Lowell Center rooms (walking distance to music venues)
         1. Add a day to CNH meeting for NSPIRE meeting (Tuesday or Saturday)
    1. Oneida Lake – Lars
       1. Sabbatical in early 2017 in Madison with Paul
       2. Has data for GLM through 2015
  1. Hedonic modeling – Kevin & Weizhe
     1. Met with GLM team to talk about output for Mendota; rich dataset for economic analysis
     2. Property sales data – already had NAR data at proposal, but only for a limited period of time; working on buying additional property sales data to enrich the dataset and extend time series, add variation in water quality for analysis
        1. A lot of missing data in dataset, e.g. sale price or sale date
        2. Weizhe looking at that missing data
        3. Bought earlier and later data; have overlap with existing dataset in first and last year so that they can compare sales data for same locations and periods of time to see if there are any selection/data quality issues that might affect the analysis
        4. Weizhe – created data cleaning protocol for geographical references, in particular
  2. Social science – Kelly for Mike
     1. Visited Oneida, Mendota; recruiting MS student for Fall 2017
     2. Upcoming trip to Sunapee in November is confirmed
  3. Scaling up – Pat & Joe
     1. Joe writing an R package to allow users to access the LAGOS database
        1. Simple functionality allows R users to import data
     2. How representative are our 3 lakes in reference to larger database of lakes in 17-state area? High-level question to start thinking about
        1. Starting by thinking about what’s in LAGOS (mostly biophysical variables), but don’t have data on socio-economic characteristics (what would make these lakes comparable with respect to these characteristics?)
        2. Kevin – census data would be helpful to include as a connector in LAGOS to connect georeferenced datasets
        3. Land use/land cover – NLCD data layers are included; USDA CDL not in the dataset, but well within their capabilities to add that data; no data prior to 1992 that’s standardized across the US
  4. Cycles – Armen
     1. High-throughput simulations trial from Charlie to Kelly
     2. Status of P? Rachel and Armen are working on P model to integrate into Cycles; once there goes immediately into PIHM/Cycles

1. Administrative items
   1. Annual report: what products are included in the CNH report?
      1. Closely related projects: NSPIRE, PRAGMA, CNH
      2. Can add 1-2 funding numbers to the paper; not because they’re fully funded under a particular project; rather because INSPIRE benefitted from what people in CNH contributed, would put CNH grant number into the acknowledgments
      3. Paul – Some brief guidelines would be helpful; what are the expectations, how do we communicate and acknowledge different practices across disciplines?
      4. Pat – written statement would be helpful