**CNH Team Video Conference**

**September 1, 2017**

1. Welcome
2. Team updates
   1. Armen – Cycles
      1. First goal: costs of implementing BMPs; what is the benchmark?
      2. Has a long list of BMPs (200!) that could potentially be implemented in Mendota watershed; some are part of benchmark, some are potentially implementable
   2. Kelly – SDP
      1. Calibrated to 2003; extending calibration to average 2003-2013
   3. Chris – PIHM
      1. Yu is working on most recent run of Mendota Reanalysis; finished and ready to run; most recent calibrated run will be posted online shortly
      2. Lele defended his PhD, will begin working on some of Yu’s duties for other lake(s); starting next week on this project to run through next 6 months
      3. Paul, Hilary, Chris – meta-model for Mendota that mimics PIHM-GLM interaction; added carbon; could be extended to nutrients; not calibrated, just in testing phase; coded in both R and Mathematica
         1. Paul – simpler model that crosses over from NSPIRE; first fully integrated catchment-lake model to solve for equilibrium conditions (age/concentration of water and carbon) and dynamics; allows for testing parameterization; paper submitted (L&O Letters Special Issue) and talk at ESA (added CNH to acknowledgements); can be used in scaling up activities since it’s so simple (only requires a few parameters)
         2. Cayelan – can it be applied to N and P? Not short-term dynamics (or transient properties of the system); optimal time scale is years to decades or a century; could be used for coupled C-N-P; sediment-water interface model recently added to capture recycling P out of sediments
         3. Chris – can add in transient properties easily; Sam Oliver’s recent pub in Global Change Biology – long lags between action and WQ change
         4. Paul – parameter set? 4 components to system: drivers (precip and C in precip), physical parameters (area, depth, soil porosity, organic C pool, PET/AET, area and depth of lake), rate parameters, states (organic C concentration and age in catchment and lake)
         5. Chris – working on coupling to a land-use change model between veg-ag-urban, changes dynamics and could be added in (through PET and other properties)
         6. Cayelan – could this be used to support scaling up since it’s more parsimonious in parameterization? Link to Joe’s work in LAGOS
         7. Paul – need to discuss lake model; this is a one-box lake model w/o stratification and other processes that might be important; also strategic decisions about level of complexity
         8. Armen – good to keep balance between stylized and complex models
         9. Paul – it’s a complement to GLM
         10. Chris – Meso-scale, synoptic-scale modeling; use at the same time as the detailed models
   4. Cayelan and Paul – GLM
      1. Sunapee model under development
         1. Nicole and Cayelan in Sunapee for 1 week during summer; data collection and model calibration; meeting with LSPA
      2. All-hands GLM meeting at ESA
         1. Nicole talk 30-year Sunapee model
         2. CC talk on Mendota (paper led by Hilary)
         3. Discussion of GLM papers emerging: 2 papers for submission by end of year
      3. Coupling with hedonic model
         1. Scenario development
      4. Kait redoing water budgets for Mendota
   5. Kevin and Weizhe – Hedonic
      1. Aside: WOTUS arguments at SCOTUS in October; EPA analysis modified by administration; public comment period is open – opportunity to write in and comment on benefits/costs (KB will send link); relevant to lakes
      2. Dropped 2015 from Hedonic analysis; final time period 2006-2014
      3. Data collation complete; lined up to get data from GLM team soon; preparing to pull together paper on that coupling
      4. Sunapee data: focus on Secchi depth and chlorophyll as WQ measures; using Lidar to calculate property variables, such as view (Sunapee only because of topography); potential short paper on the interaction between Lidar-calculated values and WQ
      5. Interested in adding membership variables to the analysis (another paper?); will membership change reactions to changes in WQ? Are those with membership sorting into homes closer to the lake? Membership may influence perceptions of WQ.
      6. Mike – data needs? Needs year of joining association and address
      7. Kevin – key is when they purchased the property; how quickly did the join after purchasing? Or before?
      8. Cayelan – IRB approval?
      9. Mike – not yet, can obtain
      10. Kak – some of those data might be sensitive, though they do exist; not sure whether LSPA will be concerned or not; can ask
      11. Mike – IRB okay; LSPA sharing information may be the challenge
      12. Kevin – don’t need IRB approval if LSPA shares it?
      13. Kak – anonymize data? Analysis requires linkage in the dataset, but can’t trace observation value back to an individual property
      14. Cayelan – can a smaller group talk about the membership question? Side meeting to coordinate? Kak in agreement
   6. Mike and Leah – CE
      1. Leah started Aug 10; visited Sunapee beforehand; found documents on LSPA; spent 1 month volunteering with LSPA, observing and participating in activities, digitizing data
      2. Leah’s report: in addition to scanning docs, became familiar with day-to-day activities of LSPA and the people involved; helped with deep WQ sampling, repaired GLEON buoy; gained an understanding of the organization
      3. Need to conduct interviews with LSPA members to collect information on LA activities and history
      4. Mike: research push will be summer 2018; data on membership may need to be collected via a survey, may not exist now
   7. Pat and Joe – Scaling up
      1. Scaling up efforts from workshop: 1) scaling of hedonic modeling (sent Weizhe locations of lakes for which property value data is available; not processed yet; Kevin has another student working on it); 2) questions from GLM team beyond focal lakes; developed dissertation proposal to relax GLM assumptions and take to a larger group of lakes (could they now use Paul’s model?); now maybe look at both options to decide how to move forward
   8. Kathie – BI
      1. Biggest BI activity: Cayelan, Nicole, Mike, Leah at LSPA annual meeting and engaged with the group
      2. Kak – gave talk with benefits group at LSPA
3. Paper updates
   1. Framework paper
      1. Look for new revision requests from individual coauthors
      2. Adding in new team members
      3. To be submitted this Fall
   2. Grad lit review paper
      1. Cayelan on behalf of Nicole: working on identifying target journal; has an inquiry out with an editor; will touch base with senior grad coauthors and then sending out updated memo to other coauthors
   3. Other papers in development: tabled for next month
4. Administrative updates
   1. Year 2 agenda/minutes/etc. posted on ODS
   2. Authorship memo
      1. Posted on ODS
      2. Revisions include manuscript type
      3. Kak – this is an evolving manuscript
      4. Kelly – presented to team for comment/revision twice per year, but revisions welcome anytime
   3. Year 3 workshop: May 15-18, 2018 in Sunapee, NH; travel details to be worked out; need to discuss engagement of lake associations (extent and who to include); meeting at LSPA; reserved whole B&B – Dexter’s Inn.
   4. Pat – Zoom link is permanent meeting room so we can use the same link every time