September 30, 2019 Decision Science Working Group Call Agenda

Participants: Jaime Ashander, Rich Fulford, Kira Sullivan-Wiley, Melissa Kenney, Jody Peters, Mike Dietze, Mike Gerst

Summary for Newsletter:
Over the past two meetings, the Decision Science Working Group has made progress on a blog post for the EFI website that will walk through the iterative forecasting process and examples of how from a social science perspective people are involved with making decisions for creating and using forecasts. This blog will also provide a launching point for a manuscript that steps back a bit from forecasting and looks at what decision science is for ecologists more broadly. Over the next month this group will also be creating a scope of work to describe the mission of the group, who is involved currently, and how others can join. Finally, the group will also be adding software tools to the list of resources the Methods group is pulling together and will provide input on the forecasting standards calls on Oct 29 and Dec 3 at 1:30pm US Eastern.

Agenda:
1. Blog update - from Kira and Jaime
   ○ Have draft that outlines the high level structure of the blog
   ○ Iterative process of forecasting: dissemination & use → design→ refine & implement cycle (it is not a chronological process and people are involved in all areas of the process. Want to get across the thinking that social science asks questions about people)
   ○ Includes stories
   ○ Possibly include questions that social scientists might ask about the scientists doing the forecasting, or about the funders, or about the end users
   ○ **Jaime** Will send out outline/plans moving forward to the group after the call
2. Terms of Reference ("scope of work", who we are, why we're doing this)
   ○ The partners group had created a scoping document that says what the group is doing and what their charge is. Use as a guide for conversations and providing direction for the group
   ○ What would help the larger EFI organization?
      ■ Mike: think about how we can keep the webpage more up to date about what the groups are doing? We'll have a blurb for the newsletter with summaries from the working group calls. But the text on the website is what was originally put on the website before the working groups started to meet.
      ■ It is not too late for folks to join Working Group calls

- Describe purpose, scope of work, who is involved now, and how do others joins, meeting frequency
- **Jody** will put together initial draft and share with the team to build out
- **Next meeting - put together a draft. Co-write during the meeting to pull together text for the website and general agreement of who the group is and what the group plans to do and how others can get involved. JP to create doc that everyone can add to and then discuss at the next meeting**
- **I am not sure where this fits but it came up in one of our Decision Science discussions that people 'use' forecasts in two basic ways. First is a 'description of nature' forecast such as weather, which is simply provided as information and places a burden on the user to apply it to a decision. Second is a 'user integrated' forecast that usually involves scenario development associated with the decision and the forecast provides the decision maker with specific options/recommendations. This seems like a key division both for application and development of a forecast.**

3. Update on "technical readiness standards" (Rich and Jaime as POCs)
    - The Oct 29 at 1;30 pm will be good to join in regards to the technical readiness.
    - Update on "uncertainty" discussion in Theory group (Carl as POC).
4. Discuss potential for a review/primer paper that Mike Dietze brought up in Sept 5 call
    - For review paper step back from forecasting - focus on more broadly - what is decision science for ecologists?
        - Melissa can pick this up in the spring. Work with Mike Gerst and folks at UM
        - Have something to present to folks at the RCN meeting. Rough first draft
        - Could take a broader perspective on the decision science toolbox
        - Original idea was for ecologists that know they want to develop something that will help people make smarter decisions, but don't know what the tools are. There is a whole suite of quant/qual analyses that could be done.
        - Use framing from Kira/Jaime's blog post. This will let us leverage what has been done and be able to use feedback/reactions to the post
5. RCN has first meeting May 11-14 in Boulder (date/location to be determined). Are there specific things we want to get done/present at that meeting?
    - RCN general goal is to build community/coordinate research
    - Our RCN will do a forecasting challenge open to anyone anywhere to participate. The challenge will leverage NEON data. From this meeting will develop protocols to compare the forecasts. These protocols will be EFI effort to develop standards for the forecasting community that will be used consistently moving forward. These standards will describe forecasts and how to use it

- ○ Want to make sure we have the right people in the room to make sure forecasts are being developed for partners/others.
- ○ Before sending invites, want to think about key people to invite to help forecasters know what variables are able to do useful forecasts
- ○ All forecasts will probably be site scale - will be too tough to do continental scale forecasts.
- ○ But forecasts can be for anything in the NEON catalog
- ○ Other groups have used RCN meeting to set medium-term goals
  - ■ Medium goal for Decision group had been review/primer paper - What is decision science for ecologist?
  - ■

- ● Methods group started document with tools used in forecasting (e.g. visualization, workflows, etc):

  - ○ Decision Support Software Tools section in this document would be good to have input from this group (SOFTWARE TOOLS)
    - ■ Visualization tools
    - ■ R, Shiny
    - ■ Customized based on data and decisions
    - ■ Could be custom-made tools
    - ■ Short term and long term goals for using this list:
      - ● Short term - educational resource. What are other forecasters in the group using?
      - ● Long term - will let EFI do a gap analysis. Where are we getting alot of custom code being used. Are there approaches that are more generalizable that could be used across forecasts?
  - ○ Melissa, Kira, Mike G. to add tools in the next 2 weeks
- ● Theory/CI groups will have a joint call about Forecasting Standards will be held on Oct 29 at 1:30pm Eastern
  - ○ Theory group has moved this most forward. What standards will need to include to make a forecast usable?
  - ○ What is the metadata associated with this? In an EML what is really important for different communities so we make sure to get this information.

- ● Homework:
  - ○ Jaime will send around blog. People to comment/feedback
  - ○ Terms of Reference - everyone to brainstorm on Google doc JP will send out
  - ○ Melissa to start thinking about the Primer: Decision Science Tools for Ecologists (use the blog as a jumping off point) and think about option for Frontiers
  - ○ RCN meeting thoughts
    - ■ Having the Primer

- - - ■ Build out Decision Science team to join with EFI or RCN efforts - who do we need on our team
      - ■ What are the opportunities for social scientists to use the data/forecasts produced to look at emerging social science questions emerging.
  - ○ Add ideas to the Methods list of resources