STEAC MEETING REPORT
(08/21/2024)

The members of the STEAC met on August 21, 2024, with a quorum of seven members attending (Rich Fiorella, Shannon LaDeau, Steve Petruzza, Sydne Record, Daniel Rubenstein, Shawn Serbin, and Adrienne Sponberg). Eight NEON-Battelle staff attended (Zoe Gentes, Darcy Gora, Paula Mabee, Chris McKay, Tanya Maslak, Sara Paull, Kate Thibault and Chau Tan). The meeting was virtual, and the following topics were discussed: I. Approval of the minutes, II. A change in the NEON STEAC Bylaws, III. Update on NEON participation at the ESA meeting, and IV. Discussion of Mosquito Pathogen Data Product.

I.   **Approval of previous minutes for 06/19/2024:** Minutes approved (Unanimous vote).

II.   **Change to the NEON STEAC Bylaws:**
A request was made to move the start date for new STEAC members from September 1 to October 1, and that the new term end date be moved to September 30. The justification was that this would align with the NEON Award Year, which is aligned with the Federal fiscal year and begins on October 1. The goal for this change would be to make logistics for new members easier. The STEAC agreed to this request and suggested the change be made permanent in the STEAC bylaws.

III. **NEON ESA Update:**
NEON provided a summary to the STEAC of their activities at the recent Ecological Society of America (ESA) meeting in Longbeach, California during the week of August 5-8. NEON communicated with the scientific community and attendees via an exhibitor booth they ran during the meeting period. NEON reported numerous and positive discussions with participants interested in the Observatory, such as conversations about research opportunities and support and advertising of open positions with NEON including field positions. NEON also informed the STEAC that they would be holding an internal debrief to discuss the meeting and feedback they received. The reflection from this debrief will be communicated to the STEAC at a future meeting. At the meeting NEON held short-courses and workshops as well and provided a link to their participation at ESA (https://www.neonscience.org/impact/esa2024). Notably, between 40-50 different community presentations mentioned the use of NEON data. NEON also published a blog about the meeting.

IV.   **Discussion of Mosquito Pathogen Data Product:**

The STEAC received a briefing by NEON from Sara Paull and Kate Thibault discussing recent conversations and planning around the NEON Mosquito Pathogen Product and potential changes in data collection, sampling, and analysis as suggested by the Mosquito TWG. NEON noted that the TWG has provided good feedback that is informing any potential changes. NEON conducted a survey to help identify priorities, which helped them to identify that the community consensus is to adopt a metagenomics / RNA sequencing approach for this data product. NEON noted that they are already a leader in providing public sequencing data and that the RNA approach would provide potential for novel virus detection and monitoring of insect-specific viruses through the Observatory. The survey noted the community priorities and applications of the data. In

response, NEON is considering the seasonality of the sampling to account for local conditions and phenologies. Before making any changes to the data collection, NEON is considering an exploratory year to identify optimal sampling that maximizes species. NEON presented their proposed data format for the metagenomic / RNA sequencing data which is consistent with other NEON datasets. NEON also informed the STEAC about remaining community concerns raised by the TWG. For instance, the TWG noted that guidance and tools will need to be developed to enhance data usability given that there are currently too few users with the appropriate combination of bioinformatics, ecological, and pathogen skillset to effectively use the data. The TWG also noted that NEON consider carefully analyzing the first year of data to optimize sampling, that it might be hard to find a contracting laboratory, and that currently the viral database is limited but it is expected that this will improve with the NEON data. The STEAC additionally noted that data release lags may be too slow for disease spread analysis and asked Battelle if they could explore an MOU with the Joint Genome Institute to identify a long term plan for data archiving and linking with other databases. NEON noted the need to continue existing relationships with DOE and that they are already sharing data with the CDC ArboNET. The STEAC also noted that NEON could help set data standards in the community through this effort.