Outlined in this document is a 10-year plan that describes a breakdown of the time frame, my career goals, and how the proposed research would benefit me in ultimately fulfilling my goals.

I am a 2nd year PhD student studying biological sciences at Michigan Technological University. I obtained my bachelor’s degree in environmental science from Northern Michigan University in 2023, and after graduation, I took a year off to gather knowledge and expertise in the fields of biogeochemistry and environmental science. I tentatively plan to defend my dissertation in the spring of 2029. The primary areas of research I will focus on in my PhD research are microbial ecology, limnology, and biogeochemistry. Following a successful defense and graduation, I will participate in a post-doctorate program at either a federal or academic institution in a related field, which I expect to take 3-5 years to complete. Having held previous research positions in the federal government, I expect to do a postdoc in a federal facility. Following the completion of a post-doc, I plan to work for a federal agency such as the Department of Energy (DOE) as a scientific researcher. The total length of time should take about 10 years from now till my end goal as a federal researcher. My anticipated career as a researcher would allow me to continue pursuing biogeochemistry and microbial ecology across a continuum of habitats. My overarching research interest is how biogeochemical and ecological processes change and influence each other from upland systems towards lakes and freshwater bodies, with special interest in intermediate environments like wetlands.

The proposed research will help me reach my career goals in several ways. To begin with, just the act of submitting this proposal has given me valuable insight into what it is like being a PI and a researcher. This experience, regardless of the outcome, has provided me with the opportunity to develop methods and plan an experiment, all while considering how to budget and justify my research. This will become invaluable going forward as a researcher and is an experience I can draw from for the rest of my career. Going forward, if I were to receive funding from this fellowship, I would continue to develop my understanding of and skill at conducting field research. Collecting quality samples and making sure that field work is planned effectively is something that is not easily learned, and therefore, any chance to conduct fieldwork is a beneficial experience that I can leverage when applying for positions. I will also have the chance to broaden my knowledge base concerning microbial ecology and biogeochemistry by exploring new methods and data to interpret, which will ultimately help me later in my career to draw conclusions and think of new hypotheses to test. I would become a more effective researcher and consequently more competitive when applying to postdoc positions and federal agencies. Another advantageous outcome from receiving this fellowship would be the possibility of working with my identified NGO sponsor. I would effectively broaden my network and open the door to future collaborations in future projects. Finally, the paper that I would publish from this research would be a strong addition to my CV and would help solidify my presence in the field as a researcher who can develop novel and impactful research.