I remember the first time I saw golden paintbrush, Castilleja levisecta, in the field. I had been laid off near the end of the pandemic and I started volunteering with the Center for Natural Lands Management on their prairie restoration. It was early October but out on a mound was a lone paintbrush still blooming, it moved me and solidified the need to do something. After getting out of the military one job led to another and bills needed to be paid but I was not satisfied. When I got laid off, I had to make a choice, I knew if I was to continue in marketing I needed to go back to school to further that career, but I hated marketing. I decided that I needed to change careers and pursue what I was passionate about, the natural world and agriculture. I looked at state agencies that worked in those fields and found position that got my foot in the door at the Department of Natural Resources and I am now ready to work towards the next step.

Pursuing a Master's degree in Environmental Studies will further my goals of working in landscape conservation and restoration and the program fits perfectly with my experience and mindset. Working with professors who understand the importance of interdisciplinary work to achieve meaningful and measurable results will build off my past experience solving problems in policy and in the field. My education in history built the foundation of interpreting and analyzing complex and often incomplete data to come to conclusions. It also taught me how environmental problems are fundamentally human problems, and solutions to them that endure cannot be achieved without human focused solutions.

My experience with CNLM, both as a volunteer and intern, gave me valuable experience that prepared me for this program. I learned the native species of the local prairies and their ecological roles, how to identify them, and methods of propagating and maintaining them. One of the problems I learned about is hybridization of Castilleja levisecta and Castilleja hispida and how it complicates management decisions for conservation and recovery of the rare paintbrush

and the butterfly that hosts on it, Euphydryas editha taylori. C. hispida is often not planted at restoration sites as part of C. levistecta recovery and butterfly releases are often avoided on sites that have both species, even if there is a viable host plant population. Thomas Kaye & Matt Blakeley-Smith's research, An Evaluation of the Potential for Hybridization Between Castilleja levisecta and C. hispida 2008, shows that since C. hispida is both polyploid and diploid, one management option is to ensure C. hispida plants used in restoration efforts are polyploid to avoid crossing with diploid C. levisecta. This information would also be useful for native plant growers that sell to the public, as I know from experience many avoid growing C. hispida because of the hybridization concern but were not aware that C. hispida is both polyploid and diploid and the former could be grown with reduced risk if the polypoid was selected.

My volunteering with the Master Gardeners and Washington Bee Atlas has reinforced my experience with cross disciplinary work and its importance. I have used the knowledge and experience I have gained elsewhere to give environmental advice to residents for their landscapes. I also led and planned a new prairie demonstration garden in Thurston county. I utilized Thurston County CAO Target Prairie Plant Species Manual to select species in the design and implementation. The demo garden will provide a practical example of research into these species and how the will respond to urban environments while also breaking down the cultural barriers or utilizing nontraditional horticultural species. As part of the WA Bee Atlas I provide cross disciplinary knowledge on the botanical side, helping identify the plants the bees are collected off of. Since many members have no formal background in botany and many are entomologists, I am able to provide plant knowledge to ensure the Atlas is recording accurate information on collections. These experience's further my qualifications for this program and its emphasis on cross disciplinary learning and community engagement.

This program will further my personal and career goals. My primary near term career goal is to move within the Department of Natural resources to the Natural Areas Program and eventually the Natural Heritage Program. I will have the required formal education and field experience to qualify for positions I a desire and more importantly make a difference both influencing and enacting policy within the state of Washington. This program will also allow me to continue to pursue my goals of integrating natural systems into the human landscape. It will allow me to provide scientifically accurate and timely information to the local community. I firmly believe that research should not be esoteric and should be communicated to the public to better solve the various environmental challenges we face. Studying the effects of these plant introductions back into the human landscape is important, with potential genetic effects on rare plants especially being a concern. Many native plant nurseries and seed producers sell rare plants, rather than try and return the horses to the barn, I would provide accurate research to inform these producers to reduce the potential harms.

While I may not have the traditional background my winding academic, professional, and personal experiences make me an excellent candidate for the program. I am well experienced in tackling new problems with little prior experience. I have the skills to research and apply that to solving those problems. I am passionate about facing and solving the environmental challenges we face in the present and future while ensuring those solutions reach all members of the community.