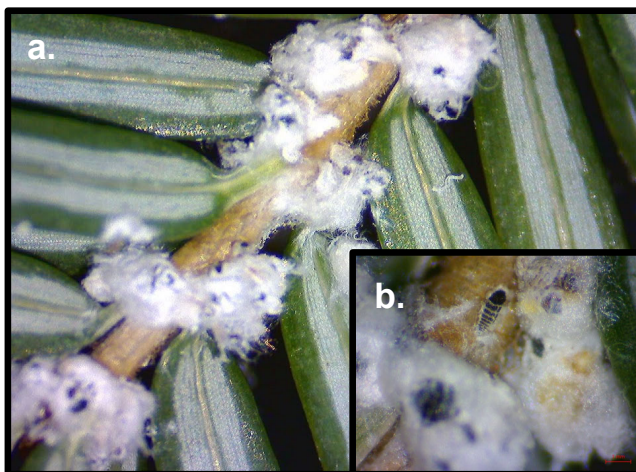




Evaluating Hemlock Woolly Adelgid (HWA) Outbreak Severity Measurements IOT Inform DPW Mitigation Strategies



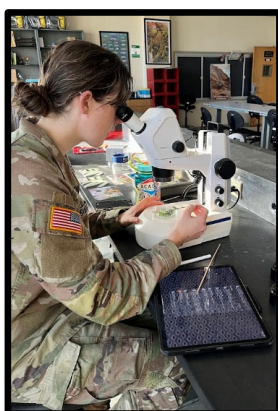
PI: LTC Lauren Koban; Ms. Kim Quell;



Figures 1a. Hemlock woolly adelgid (HWA) ovisacs on the underside of hemlock needles, imaged using a Zeiss Microscope. b. HWA aphid crawling on a tree stem



(Left): Survey 123 Questions, s,(Right) Counting ovisacs in lab



- **Foundation Species:** Eastern Hemlock (*Tsuga canadensis*) supports wildlife and regulates ecosystem processes like stream shading
- **The Threat:** HWA infestation at West Point is a significant threat to both the ecosystem and military training operations, as the loss of foundational Eastern Hemlock stands disrupts critical training terrain.
- **Locations:** Research focused on Bull Pond and Round Pond within West Point Military Reservation.
- **Cadets on this project will:**
 - Continue on research from AY26-27
 - Use a combination of remote sensing (NDVI analysis) and field surveys for reservation-wide monitoring.