ALISON K. WYER, SAM J. TRUSTY, & JEREMIAH DANN, Department of Biological Sciences, West Liberty University, West Liberty, WV. Effects of a Drought on an Invasive Earthworm Population.

The effects of the 2024 drought were seen in deciduous forests and their inhabitant organisms, including earthworms. An important group of invasive earthworms are those in the genus *Amynthas*, which co-exist with the naturalized genus *Lumbricus*. While *Amynthas* has been recognized for disrupting nutrient cycling in the forest, there is still much that is not known about these worms' biology. Population surveys in 2024 and 2025 found both genera within the floor community West Liberty University campus woods. For the past two seasons, worms were sampled using mustard vermifuge, identified to genus, and measured. Abiotic factors including soil temperature, pH and moisture were also recorded. Spatial Analysis by Distance Indices (SADIE) was utilized to visualize how the earthworm populations were distributed throughout the sampling sites. Effective Drought Index (EDI) calculations were used to visualize the significance of the 2024 drought and assess 2025 conditions. It was found that worm density declined significantly in June 2024 and did not recover during the field season. Density in 2025 showed a gradual increase throughout the season. There was a positive correlation between EDI values and worm density in 2024, and a positive correlation between soil moisture and worm density in 2025. Occupancy graphs showed higher and more consistent population stability throughout the 2025 field season than in 2024. Further research is needed to better understand the biology of *Amynthas* and the significance of their drought resistance, as well as how the established populations of *Lumbricus* have succeeded in post-drought conditions.