

# Coastal Conservation Fellows: Conservation Challenges and Opportunities

What do a rare species of butterfly, wild horses, and a dune grass called seaside little bluestem (*Schizachyrium littorale*) have in common? First, they all call the Rachel Carson component of the North Carolina National Estuarine Research Reserve home. Second, these three species coexist in a delicate balance of food, habitat, and spatial distribution that presents both challenges and opportunities for wildlife management.

Students from the Coastal Conservation Fellows program, part of the North Carolina Maritime Museum's Summer Science Camp, were able to witness this unique wildlife interaction firsthand this week. Guided by experts Dr. Allison Leidner, whose doctoral research at North Carolina State University focused on Crystal Skipper ecology, Ben Wunderly of the N.C. Maritime Museum and N.C. Coastal Reserve

Central Sites Manager Paula Gillikin, the campers spent three days exploring relationships between different animals and plant species found at the Rachel Carson Reserve and along the Crystal Coast.



Allison Leidner began with a presentation on the Crystal Skipper (*Atrytonopsis* new species 1), a butterfly whose range is limited entirely to the Crystal Coast region of North Carolina. These skippers rely on a very specific dune plant, the seaside little bluestem, to lay their eggs. Their narrow range and dependence on seaside little bluestem means that changes to Crystal Skipper habitat can have truly detrimental effects on population size and sustainability. Some threats to Crystal Skipper populations include habitat fragmentation from coastal development, loss of seaside little bluestem to invasive species, and limited food availability.

Another, less obvious threat to the Crystal Skipper is the feral horses found at the Rachel Carson Reserve. Currently, a small subset of the Crystal Skipper population occupies habitat within the Rachel Carson Reserve, where they contend with both horses' hooves and loss of seaside little bluestem to the horses' ravenous appetite for various types of grasses. During a presentation to the Coastal Conservation Fellows, Paula Gillikin pointed out that both Crystal Skippers and the wild horses are valued for different ecological and cultural reasons, and that balancing resource use and habitat availability between the two animals is a conservation challenge.

The Coastal Conservation Fellows saw a living example of the Crystal Skipper-feral horse interaction during a subsequent boat trip to the Rachel Carson Reserve. The campers took the boardwalk trail at the Reserve to observe



a habitat improvement demonstration project that Allison and Paula spearheaded to address this particular wildlife management challenge. The habitat improvement project is designed to fence off areas of concentrated plant growth from predation by the horses, hopefully allowing seaside little bluestem to gain a foothold in the sandy substrate and enticing Crystal Skippers to lay eggs. Researchers associated with the project looked at whether seaside little bluestem thrived without predation by horses, whether Crystal Skippers were attracted to the area for breeding, and if the seaside little bluestem could further propagate to areas outside the fence. While research is ongoing, campers observed that seaside little bluestem is growing vigorously inside the fenced area, and hypothesized that the new habitat was ripe for hosting Crystal Skippers. Hopefully this habitat improvement project will demonstrate an effective way to balance the resource and habitat needs of two rare and valuable species. And perhaps spark the imagination of future scientists and coastal managers who will likely face similar wildlife interaction challenges in the future.

*The Coastal Conservation Fellows program is designed for students entering grades 7-10, and focuses on environmental conservation issues relevant to coastal North Carolina. For more information please contact [Ben Wunderly](#) at the N.C. Maritime Museum.*