UF College of Design, Construction and Planning

Endangered Florida seabirds get a helping hand from UF landscape architecture student

By: Jori Rzepecki

As coastal development in Florida continues to threaten natural habitats, endangered seabirds are searching for safe places to make their nests. Some species have turned to gravel rooftops but, as these building materials fall out of favor, seabirds are unsure of where to go and what to do.

University of Florida landscape architecture student Megan Laffey has some ideas – ones that could help shape the future of sustainable development and conservation throughout the state.

During a recent 11-week summer internship with the Florida Fish and Wildlife Conservation Commission and the American Bird Conservancy, Laffey researched the struggles of three

threatened seabird species: least terns, black skimmers, and roseate terns. These seabirds, pushed from their traditional coastal nesting grounds, have increasingly turned to gravel roofs as alternative breeding sites since the mid-1900s.

“Florida’s growth along its coastlines has led to the development or disturbance of suitable habitat ground, placing stress upon these species,” Laffey said. “Gravel roofs have become an unexpected sanctuary.”

However, these man-made habitats are also under threat. Gravel roofs are often associated with energy inefficiency, increased maintenance costs, and potential health risks due to the asphalt construction. So Laffey did a dive deep into the complexities of this issue, compiling extensive background research, conducting interviews with a range of professionals, and making field visits to assess current rooftop conditions.

“I consulted with biologists, ecologists, roofing contractors, material specialists, architects, insurance agents, and fellow landscape architects,” Laffey said. “Understanding the full scope of the problem requires insights from multiple disciplines.”

As the sole undergraduate on the project, Laffey was supervised by a team of advisors, including Jules Bruck, Ph.D., director of the School of Landscape Architecture and Planning in UF’s College of Design, Construction and Planning; Dani Tabilo, the shorebird program coordinator for the Florida Fish and Wildlife Conservation Commission; and Sea McKeon, the marine program director for the American Bird Conservancy.

The internship took an unexpected turn when Laffey's research revealed that preserving existing gravel roofs was not a viable long-term fix. This realization prompted a shift in focus toward developing alternative habitat solutions.

"I began looking at current roof safety measures for both birds and humans," Laffey said. "I also studied successful case studies from Maryland and applied the skills I've gained through my landscape architecture program to design suggestions for various scenarios."

The culmination of Laffey's work is a comprehensive report for the Florida Fish and Wildlife Conservation Commission and the American Bird Conservancy. It includes a decision-making model to guide property owners in establishing or enhancing seabird habitats. The organizations hope this information will inspire commercial property owners and large corporations to create new spaces for displaced seabirds.

"This set of guidelines could be used in design charrettes to generate more ideas as we work toward a sustainable habitat solution for seabirds, not only in Florida but across the nation," Laffey said.

Reflecting on her internship experience, Laffey emphasized the broader lessons learned.

"I gained extensive knowledge about the complications that result from human actions in our natural world and how difficult habitat remediation, or replacement, can be," she said. "I also learned about the structure of roofs and their requirements to fit building codes and be insured."

Laffey's report and innovative proposed solutions could influence future conservation efforts, potentially increasing available habitats for seabirds and strengthening their populations. Her work underscores the importance of taking interdisciplinary approaches to solving complex environmental challenges.

"I'm proud to be producing a final report that may have long-term implications," Laffey said. "I hope this work contributes to conserving and strengthening our natural world."

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