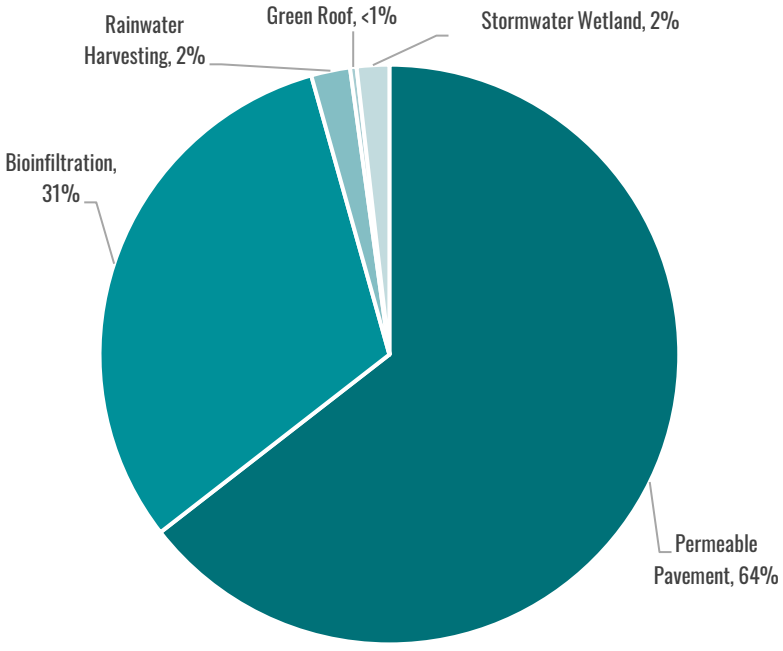
Project Highlight: Coastal Low Impact Development Best Management Practices Inventory

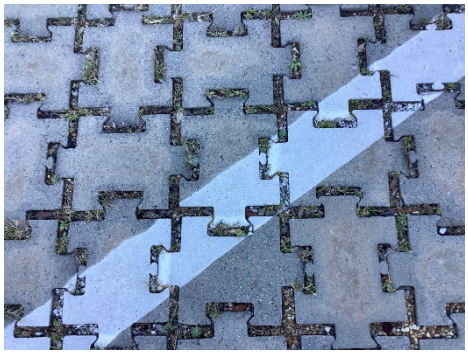
Coastal Low Impact Development Inventory

The *Coastal Low Impact Development Best Management Practices Inventory* ("*Coastal LID Inventory*") includes data collection for 308 green infrastructure practices in Georgia's eleven coastal counties. Practices range in size and scope yet manage 133 million gallons of stormwater runoff annually. The *Coastal LID Inventory* is foundational to greater understanding of how these systems function in coastal environments and is an intended resource for practitioners, educators, and stormwater enthusiasts.

The Coastal LID Inventory development is a collaborative effort among UGA Marine Extension and Georgia Sea Grant, the Georgia Coastal Management Program (Georgia Department of Natural Resources), Goodwyn Mills Cawood, LLC and coastal municipalities. A total of 276 sites/practices were accessible for visual assessment. The most common GI practices are permeable pavement (64% of assessed GI practices) and bioinfiltration practices (31% of assessed GI practices), such as bioretention, rain gardens, bioswales, and infiltration basins.



GI Practices by Category for Sites Assessed in 2022



Permeable Pavement on Tybee Island (JTRB069)

Bioswale in Savannah (JTRB107a)

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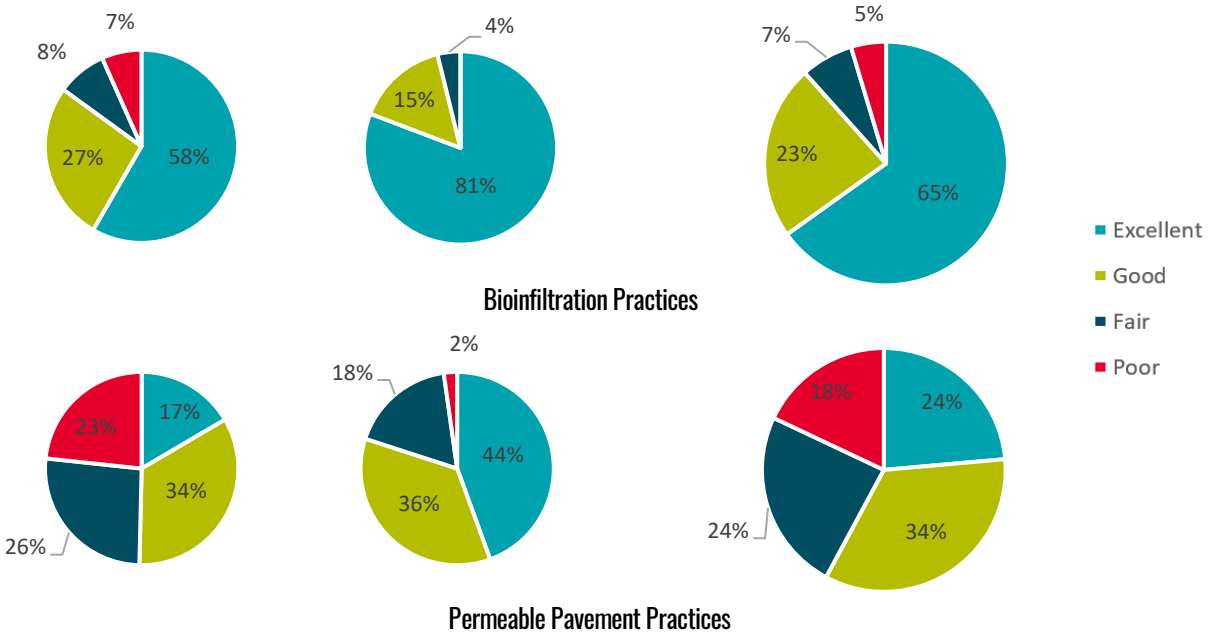
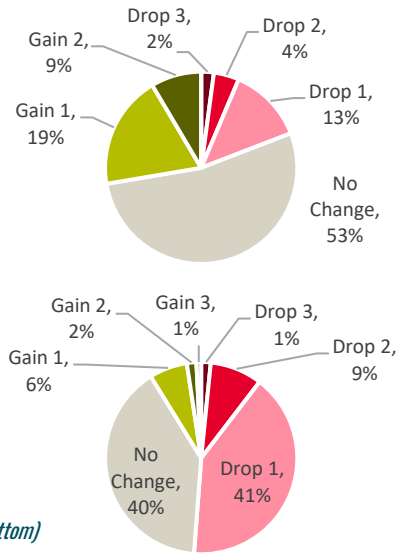
Perceived Effectiveness Rating

During assessment, each GI practice was given a perceived effectiveness rating, a visual assessment of performance based on surface conditions, inlet and outlet condition, presence of erosion, structural issues, vegetation (if present), and stability of the drainage area. Approximately 7 out of 10 sites had a "good" or "excellent" rating for perceived effectiveness, indicating less than 25% of the surface is affected. A total of 264 bioinfiltration and permeable pavement sites were rated; however, a previous assessment had been conducted for 193 sites as part of the *2017 Coastal LID Inventory*. In general, bioinfiltration practices have higher perceived effectiveness ratings compared to permeable pavement, and newer sites/practices are in better condition than the older practices. Higher perceived effectiveness ratings for newer sites are likely due to more recent construction, particularly if older sites have not been maintained.



Perceived Effectiveness Rating at Reassessed Sites (left), New Sites (center), and All Sites (right)

There were 179 bioinfiltration and permeable pavement sites that met criterion for having perceived effectiveness ratings from the *2017 Coastal LID Inventory* and were reassessed five years later. There was "no change" in 45% of these sites. Age or a lack of maintenance resulted in 74 sites (41%) experiencing a decrease in perceived effectiveness rating, where the majority of those changes exhibited a drop of one rating (i.e., Good to Fair). Maintenance or site establishment had improved the score of 25 sites. Over half of the bioinfiltration practices had no change (53%), with 21 of 25 sites maintaining an "excellent" rating and 13 sites gaining or increasing their perceived effectiveness. Permeable pavement sites however had 41% (51 sites) drop 1 rating which was the most common response, followed by no change at 40% (50 sites).



Changes in Perceived Effectiveness Rating between 2017 and 2022 (Bioinfiltration, top; Permeable Pavement, bottom)