



San Antonio Missions National Historical Park, Texas

Project Descriptions

The Gulf Coast Network (GULN) conducts long-term ecological monitoring on four vital signs in San Antonio Missions National Historical Park.

Water quality is measured at four park sites —Acequia de Espada, Acequia de San Juan, Piedras Creek, and the San Antonio River at San Juan Mission— through a contract with the San Antonio River Authority. Monitoring is conducted concurrently with that of the Upper San Antonio River Texas Clean Rivers Program (CRP). Parameters are the same as the Upper San Antonio River and include the standard field measures of water temperature, specific conductance (SpC), dissolved oxygen (DO) and pH as well as laboratory analysis for key ions and nutrients.

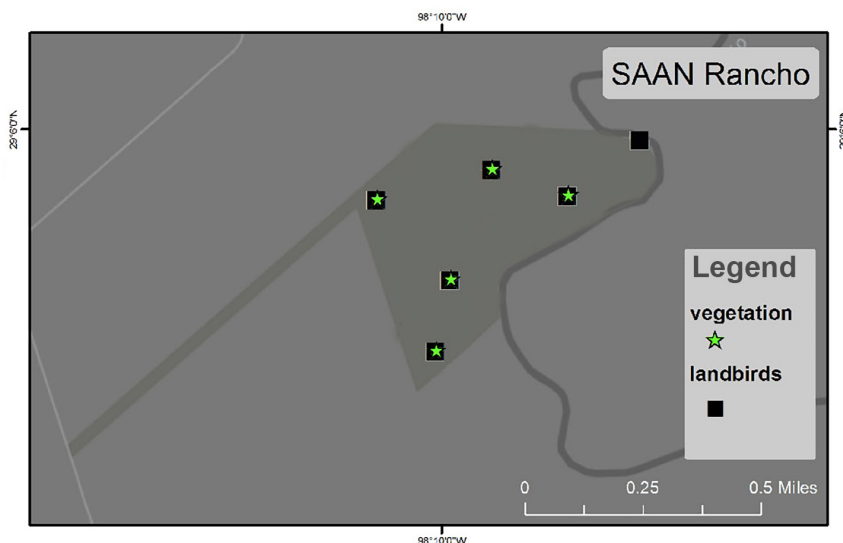
Amphibians are monitored using plywood coverboards as passive artificial cover objects. These boards are distributed at three park sites, from north to south: State Hospital, San Juan Nature Trail & Mission Espada. During a sampling event, the crew records the amphibian species present under boards, counts individuals and also records environmental variables. Coverboards are in five clusters of four boards each, arranged along transects. Transects are situated in forested habitats near water.

Breeding landbirds are sampled from fixed point locations using an established point-count method, which documents every individual seen or heard during a ten minute period. Of the thirty-three points, six points are at Rancho and the remainder are distributed among the Missions units. All points are sampled twice during the summer breeding season, close in time as repeat visits.

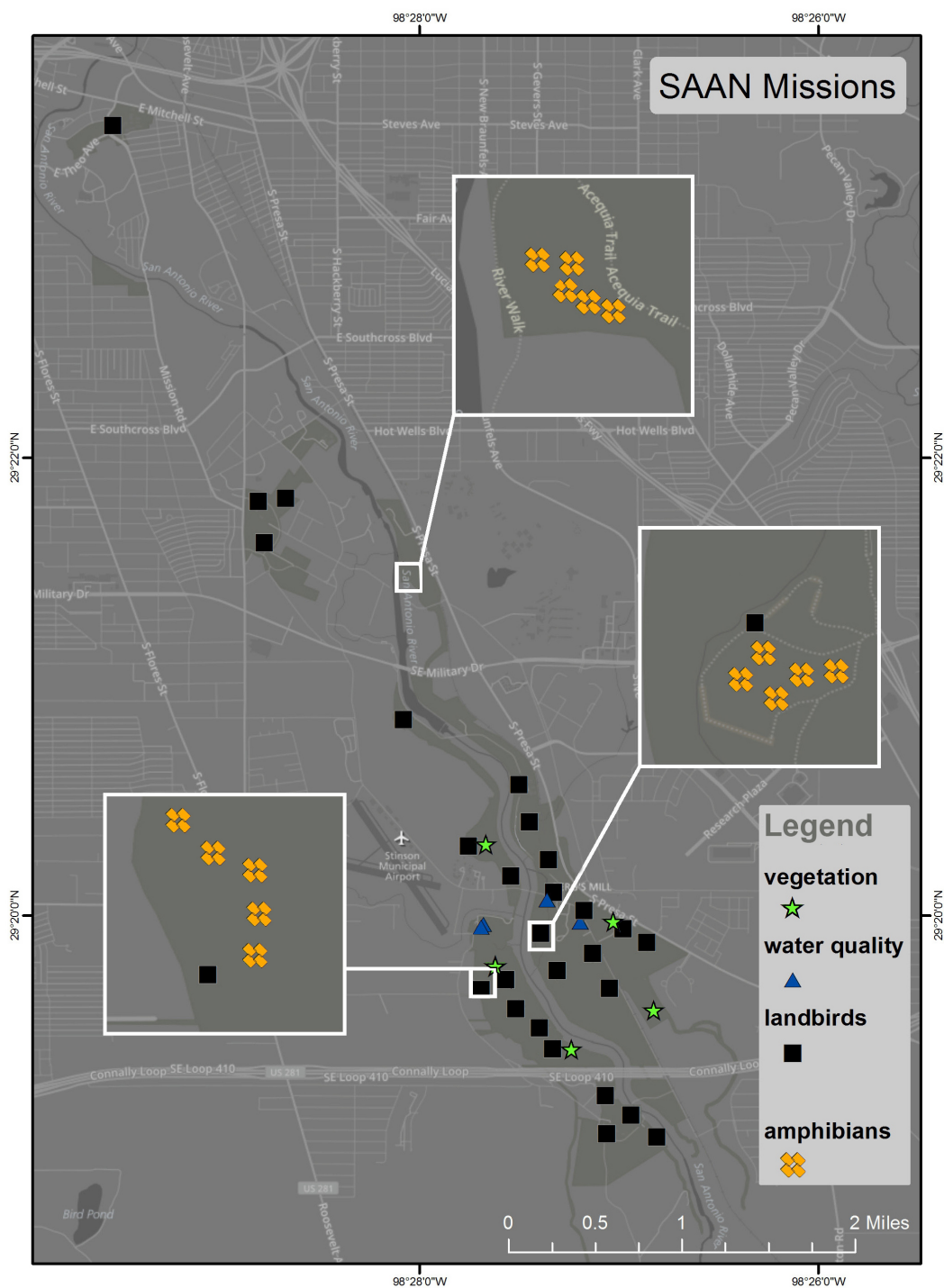
Terrestrial vegetation is sampled within fixed 20 meter x 20 meter plots to determine the composition and condition of vascular plant communities over time. All plant species are identified, and in nested subplots, the relative frequency and percent coverage of each species are recorded. Data are also collected on tree growth, recruitment and mortality. All plots are sampled once every three years



Northern Mockingbird and prickly pear cactus are among the organisms that the GULN monitors.



GULN Vital Sign	Number of Sampling Points	Sampling Frequency	Monitoring Start Year
Water Quality	4	Every Other Month	2008
Amphibians	60	Every Other Month	2010
Breeding Landbirds	33	Annually	2010
Terrestrial Vegetation	10	Every 4 Years	2019



For more information, visit <https://www.nps.gov/im/guln/index.htm>