



Palo Alto Battlefield National Historical Park, Texas

Project Descriptions

The Gulf Coast Network (GULN) conducts long-term ecological monitoring on three indicators of ecosystem health –called vital signs– in Palo Alto Battlefield National Historical Park. All sampling point locations are shown on the map on the next page.

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. Twenty-nine points are sampled twice during the summer breeding season, close in time as repeat visits.

Terrestrial vegetation is currently sampled within nine fixed 20 meter x 20 meter plots to determine the composition and condition of vascular plant communities over time. Within each full plot, all plant species are identified, and in nested subplots, the relative frequency and percent cover of each species are recorded. All plots are sampled once every three years, and all are located within 10 meters of a bird monitoring point. In the near future, sampling effort will be expanded to cover the park's newly acquired lands.

Texas tortoises are monitored using a long-term mark-recapture study on seven permanent sampling units that encompass 28 hectares of the tortoises' preferred thornscrub habitat: low-rising ridges called lomas. During a single fall trip, each loma unit is searched twice, for a total effort of 112 person-hours. All encountered tortoises are weighed, measured for carapace dimensions and photographed. Their sex, overall condition and GPS location are also recorded. For newly-encountered individuals, holes are drilled in marginal scutes according to a unique numeric code, so recaptured individuals can be identified.



The Olive Sparrow (*Arremonops rufivirgatus*) is recorded each year during bird monitoring. Its range is Central America and south Texas.

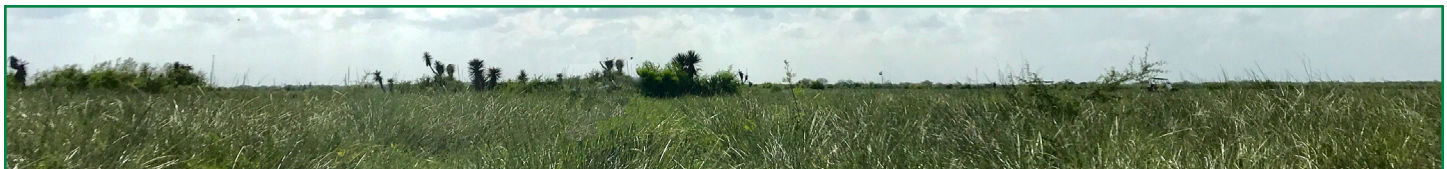


Tornillo (*Prosopis reptans*)



Texas tortoise (*Gopherus berlandieri*)

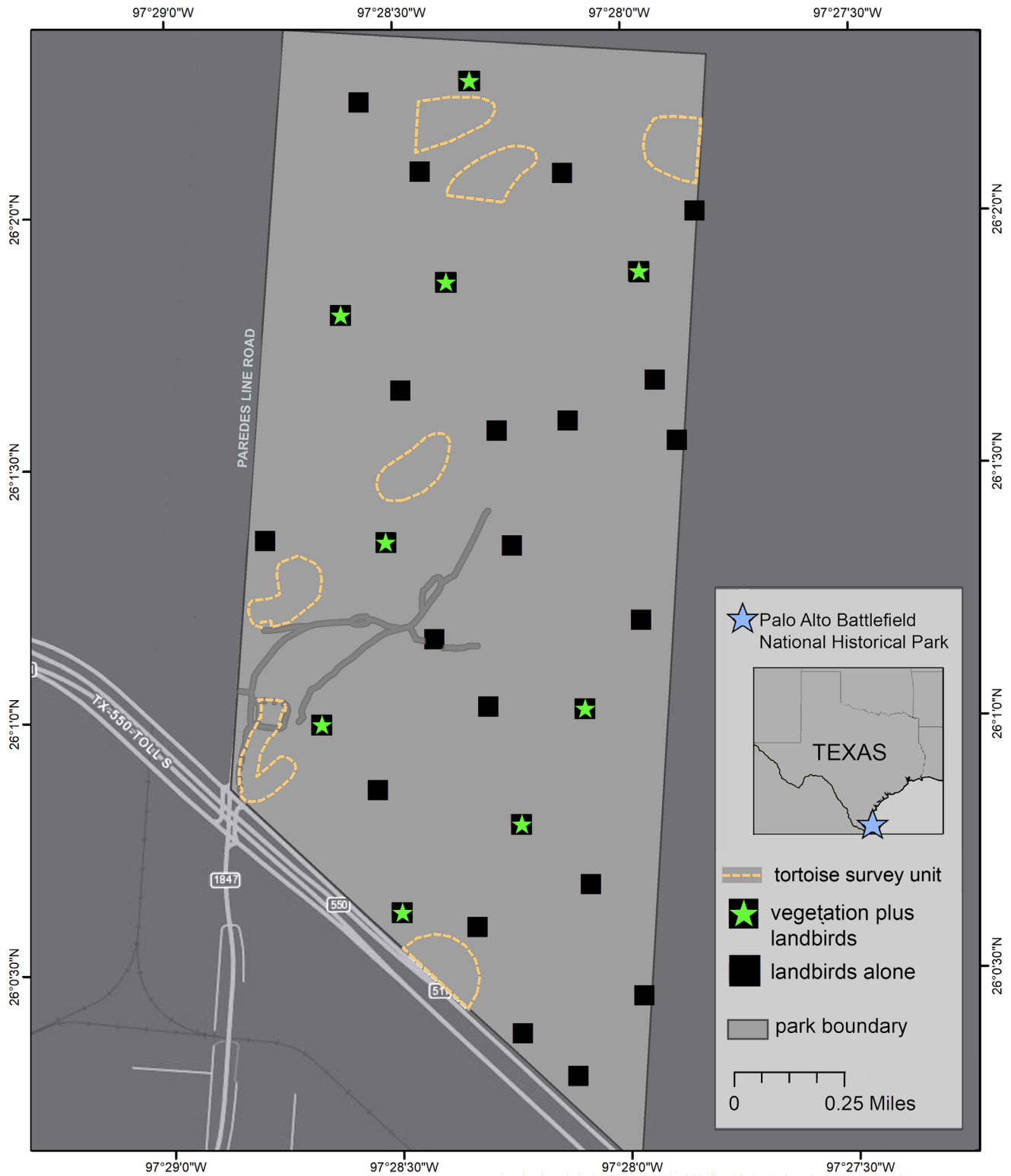
GULN Vital Sign	Number of Sampling Points	Sampling Frequency	Monitoring Start Year
Breeding Landbirds	29	Annually	2011
Terrestrial Vegetation	9	Every 4 Years	2019
Texas Tortoises	7 four-hectare units	Annually	2008



Gulf Coast Network

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Inventory and Monitoring Division
National Park Service
U.S. Department of the Interior



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

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