



ARTICLE

Understanding and Protecting Northern Coastal Scrub Diversity

Golden Gate National Recreation Area (<https://www.nps.gov/goga/>), Point Reyes National Seashore (<https://www.nps.gov/pore/>)



Species-rich, low-stature coastal scrub is found on windswept bluffs and terraces along the California coastline, such as this location at Point Reyes National Seashore.

NPS / Eric Wrubel

July 2018 - Conserving biodiversity hotspots like the [California Floristic Province](http://legacy.cepf.net/resources/hotspots/North-and-Central-America/Pages/California-Floristic-Province.aspx) (<http://legacy.cepf.net/resources/hotspots/North-and-Central-America/Pages/California-Floristic-Province.aspx>) requires an understanding of plant diversity patterns in a given area. A recent study published in *Ecology and Evolution* looked at these patterns of vascular plant diversity in relation to coast-inland environmental gradients in Central California shrublands.

The authors—including the San Francisco Bay Area Network's own Eric Wrubel and USF's V. Thomas Parker—compared diversity, composition, and structure of coastal and inland plots. They found that the coastal plots had twice as much plant species diversity and richness as inland areas, which they attribute to differences in salt deposition and water availability. The influence of local topography on wind, salt exposure, heat load, and water availability further affected diversity within specific sites.

Their results suggest that conservation efforts should focus on coastal scrub along bluffs and terraces nearest the ocean, and they present models for cloud frequency, water availability, and salt deposition that can be used to define priority areas. Other considerations that should factor into conservation decisions include a

focus on currently unprotected areas and restoration in places that have already been impacted by development or agriculture. Mitigation measures to protect local diversity hotspots may include reducing human disturbance, erosion, and invasive species. Because of how locally adapted plants in these areas are, restoration should use species from nearby reference sites with similar topography, and should also remediate altered soil and hydrological conditions.

Read "[Local patterns of diversity in California northern coastal scrub](https://onlinelibrary.wiley.com/doi/pdf/10.1002/ece3.4104) (<https://onlinelibrary.wiley.com/doi/pdf/10.1002/ece3.4104>)" in full or contact [Eric Wrubel](https://www.nps.gov/common/utilities/sendmail/sendemail.cfm?o=4E97D2B8A2C4BDA996BE1F8FF707B8E3419250&r=/articles/understanding-and-protecting-northern-coastal-scrub-diversity.htm) (<https://www.nps.gov/common/utilities/sendmail/sendemail.cfm?o=4E97D2B8A2C4BDA996BE1F8FF707B8E3419250&r=/articles/understanding-and-protecting-northern-coastal-scrub-diversity.htm>) with questions.



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