

## **Saving Darlingtonia: Pumping, pollution, public participation and perceived impacts to a carnivorous pitcher plant, Darlingtonia State Natural Site, Florence, Oregon**

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**Abstract:** The Darlingtonia project is a comprehensive coastal aquifer study which commenced in November 2016 and is currently ongoing. The *Darlingtonia californica* is a rare carnivorous pitcher plant featured at Darlingtonia State Botanical Wayside 2 miles north of Florence, Oregon. This pitcher plant is shallow groundwater dependent and sensitive to salinity and nitrate pollution. A geologic site conceptual model of the Darlingtonia vicinity has revealed that the unconfined aquifer system is within Quaternary sand deposits. A potentiometric surface connecting the aquifer to the nearby lakes and the Pacific Ocean reveal a shallow groundwater table at the Darlingtonia site, a condition necessary for the shallow root system of the *Darlingtonia californica*. Ongoing groundwater level monitoring is conducted with a pressure transducer installed inside a geotechnical boring on-site. Monthly aquifer chemistry samples are analyzed via anion chromatography (EPA method 300.0) for nitrate and chloride concentrations. The study is also analyzing the local human-landscape interaction and general development trends of the central Oregon Coast. Development in the Florence area is relatively recent (60 years) and includes a variety of vacation homes linked to domestic wells and septic systems, recreation sites, commercial tourism services, and industrial/agricultural facilities.

