

Cheryl Smith, **President Peninsula Geological Society**

***Geochemical Investigation of Distribution Habitat of Arabis
macdonaldiana in the Six River National Forest, Del Norte County,
California***

This study is an assessment of anomalous growth patterns of *Arabis mackonaldiana* by the examination of possible geochemical effects on these growth patterns. High concentrations of specific elements or a combination of elements, in addition to low concentrations of nutrients needed for growth, are possible explanations. Soils developed from serpentinized mafic and ultramafic rocks may be reactively enriched in various toxic metals, including nickel, magnesium, barium, and chromium, and lacking in important nutrients, such as calcium. Nickel in serpentinized soil is toxic to most plant life. However, nickel accumulation by biota is essential for evolutionary adaptation. Extraordinary facilitation of serpentine taxa is called *hyperaccumulation*, (Robertson 1985). This enables taxa to alter the toxicity of nickel, thus enabling toleration.

Cheryl Smith is currently President of the Peninsula Geological Society. For those of you who are not aware, the PGS meets the second Tuesday of most months, and like the NCGS observes a summer recess. She is currently employed at Northrop Grumman Systems Corporation in San Jose. She obtained her BS in geology from Humboldt State University in 2000. Since then she has worked at the U.S. Geological Survey, the Alameda County Water Agency in Fremont, and at several firms involved in environmental cleanup and remediation.