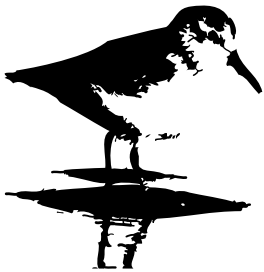




The  
SeaDoc  
Society

# February 2006 Update

## A Marine Ecosystem Health Program



Dear SeaDoc Society Supporter,

You may have seen – and smelled! – a big marine mud flat when the tide is out, and been less than favorably impressed. It may not be readily apparent, but those mucky expanses provide critical habitat to migratory birds.

Recently completed work studying the fattening rates of Western Sandpipers (*Calidris mauri*) is now helping improve our ability to identify and conserve important habitat for migratory shorebirds. The Western Sandpiper is a small shorebird that utilizes the Puget Sound's mudflats as stopover feeding and resting sites during its biannual migration between Arctic breeding grounds and wintering grounds from California to Peru. It feeds on marine invertebrates occurring on exposed intertidal mudflats and these birds are great indicators for determining the health of these marine habitats. Research by Dana Seamans and Tony Williams at Simon Fraser University (British Columbia), funded by the SeaDoc Society, has shown that metabolites in the blood, such as triglycerides, can be used to tell us how much weight birds put on at specific sites. Weight gain is critical for helping these birds make long migrations between breeding and non-breeding areas. This research has shown that there are different fattening rates between shorebird stopover sites and also at specific sites from season to season or year to year. Clearly birds fatten faster at some sites compared to others.

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Interestingly enough, sites have historically been judged to be important to shorebirds based on the numbers of birds present. Thanks to this SeaDoc-funded research, we now know that birds still utilized some sites, even if they aren't great for fattening, suggesting that fattening rate is just one factor in determining the importance of a site. Loss of habitat and declining habitat quality have been identified as a cause for declines in many of Puget Sound's marine birds and this new technique will help improve our ability to identify and conserve important habitat for migratory shorebirds.

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To see the results of this research as published in the journals *Auk* and the *Journal of Experimental Biology*, or to learn more about other critical research projects funded by the SeaDoc Society, please visit our website: [www.seadocsociety.org](http://www.seadocsociety.org). Thank you again for your continued support for our work. You are enabling private dollars to fund critical science, the results of which are helping conserve our amazing marine resources.

Sincerely,

Kirsten Gilardi

Joe Gaydos

P.S. If you would prefer to receive these research updates electronically, please contact Lavonne Hull ([lwhull@ucdavis.edu](mailto:lwhull@ucdavis.edu)).

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