SCCWRP #1053

An Index to Measure the Quality of Physical Habitat in California Wadeable Streams

Andrew C. Rehn[1], Raphael D. Mazor[2], Peter R. Ode[1]

[1]California Department of Fish and Wildlife
[2]Southern California Coastal Water Research Project

SUMMARY

•Assessing the condition of physical habitat in streams is vital in supporting Clean Water Act goals to protect and restore the chemical, physical and biological integrity of the nation's waters.
•The condition of physical habitat is a fundamental driver of stream ecosystem health; high quality (natural) habitat is critical for maintaining beneficial uses. Physical habitat components such as streambed substrate, channel morphology, flow-microhabitat complexity, in-stream cover-type complexity, and riparian vegetation cover contribute to the overall physical and biological integrity of a stream.

• Physical characteristics of a site vary due to both natural factors and human disturbance. Statistical models based on a large statewide reference data set can help distinguish natural variability from anthropogenic stress. These models work across the diverse stream types found in California.

• Based on these models, a multimetric index was developed that characterizes physical habitat condition for streams in California. Index scores near 1 indicate physical habitat conditions similar to reference, whereas lower scores indicate degradation.

• This index may be used in a variety of stream management applications, including assessing potential causes of poor biological condition, setting targets for restoration, and prioritizing sites for protection or intervention.

Full Text

http://ftp.sccwrp.org/pub/download/DOCUMENTS/TechnicalReports/1053_CalifPhysicalHabitatWadeableStreamQualityIndex.pdf