? Stream Habitat Quality

What Is This Indicator, and Why Is It Important? This indicator would describe stream habitat quality by comparing the habitat in any given stream segment against the habitat that would be found in a relatively undisturbed stream in the same region. The index used for comparison would incorporate the presence of riffles and pools, the size of streambed sediments and the degree to which larger gravel and cobbles are buried in silt, the presence of branches, tree trunks, and other large woody pieces, and the stability of the bank. A companion indicator would report on stream habitat quality in farmland streams (p. 105).

Streams with higher condition ratings—that is, they closely resemble undisturbed streams—have a more natural and diverse array of underwater and bank habitats and are therefore capable of supporting diverse native species. These streams are also more likely to have relatively undisturbed flow patterns (see p. 142) and to have vegetation along their banks. Both these features help maintain the conditions necessary to support a healthy biological community over the long term.

Stream-dwelling animals and plants require specific habitat conditions in order to survive and reproduce. Because each species has its own particular habitat requirements, a variety of habitats along a stream are needed to maintain the stream's natural complement of plants and animals.

Why Can't This Indicator Be Reported at This Time? Scientists generally agree on the key stream attributes that should be measured to evaluate stream habitat quality (riffles and pools, streambed sediments, and so on), and there is considerable work under way by the U.S. Environmental Protection Agency, the U.S. Geological Survey, and state agencies to gather data and develop ranking methods. However, there is still no generally accepted method for combining data on individual attributes into a single index. In addition, habitat values for any particular stream must be evaluated in relation to the plants and animals in that region, so any stream habitat index would have to be tailored for different regions.

The technical note for this indicator is on page 237.