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Using available historical data for developing reference condition

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Although least-disturbed reference sites form the foundation for most ecological assessments, they have serious limitations in regions and rivers that are intensively and extensively altered. In such landscapes, least-disturbed may be better termed least-impaired. Certainly least-impaired reference sites are a far cry from minimally-disturbed sites, cannot represent ecological integrity, and differ little from most other sites in the systems of interest. In such areas, historical data, especially landscape, fish, and paleolimnological data, have merit for consideration in conceptual and quantitative models.

Dr. Hughes received his AB & MSc from the University of Michigan, and his PhD from Oregon State University. He has conducted research on aquatic ecosystem assessments for the USEPA for the past 27 years, focusing on IBI development and regional-scale analyses