Patuxent Wildlife Research Center
Science Brief for Resource Managers

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Design and Testing of a Sampling Protocol for Monitoring Visitor Use and Resource Impact

Description:
The USGS - Biological Resources Division is in the process of designing and testing monitoring protocols for the Long-term Coastal Monitoring Program at Cape Cod National Seashore. High visitation within the park creates the potential for significant and widespread impacts to natural resources and processes. The objectives of this research project are to identify and evaluate alternative protocols for monitoring both visitor use (type, amount, and distribution) and its more significant effects on park natural resources. The protocols developed must address high-priority management information needs, be efficient in meeting the staff and budget constraints of the park's long-term monitoring program, and be scientifically and statistically valid.

Progress to Date:
Field work has been completed to develop, field test, refine and apply monitoring procedures to assess conditions on formal park trails and at Kettle Pond beaches. Similarly, procedures were also developed and applied to characterize recreation use patterns along ocean shorelines leading away from park beaches. Visitor/wildlife interactions were also assessed. Data entry is complete and analysis and report writing are underway.

Management Implications:
This work will provide indicators of quality and standardized monitoring procedures for tracking changes in resource conditions affected by visitation. Documenting changes in visitor use patterns is also an important component to understanding how visitation is affecting the park's natural resources. Simple monitoring of amount of use is insufficient and may be a poor predictor of the potential for resource impacts. For example, the recent trend of visitation shifting from summer to spring and fall "shoulder" use seasons could increase resource degradation by increasing use during the more sensitive spring season when soils are wetter, by lengthening the period of disturbance for vegetation and wildlife, or by reducing the amount of time trampled vegetation has to recover. Different types of visitation can have substantially different environmental consequences. For example, motorized boats are restricted to deeper waters while canoes and kayaks can venture into shallow waters that may contain more sensitive wildlife habitat. Similarly, a shift in visitation from beach-oriented activities to forest or dune activities could dramatically increase many forms of resource impact due to the greater sensitivity of these environments.

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