Indicator 7.63.

Capacity To Conduct and Apply Research and Development Aimed at Improving Forest Management and Delivery of Forest Goods and Services and Enhancement of the Ability To Predict Impacts of Human Intervention on Forests

What is the indicator and why is it important?

This indicator is a measure of the capacity to predict how humans affect forests using a quantifiable, aggregate scale. This understanding will help conservation and sustainable management of forest ecosystems.

What does the indicator show?

The ability of the United States to predict the effects of human intervention on forests could be construed to mean the assessment of the effects of research, development, and forest management on forest extent, composition, functions, and values. This subject is broad.

Analysis of the effects of human intervention on forests, at a stand level or perhaps a landscape level, occurs routinely for forest management actions and for research and demonstration. These assessments are occasionally accumulated into an integrated database for monitoring or analysis of trends and for regional policy deliberations and decisionmaking.

Assessments such as the Pacific Northwest Forest Plan, the Northern Forest Lands Assessment, or the Southern Forest Resource Assessment make integrated analyses that occur periodically. The national Renewable Resources Planning Act assessments also contain estimates of the effects of human intervention on forests in general, although not couched in the context of this indicator specifically.

Most of these analyses of the effects of human intervention on forests, in response to normal forest management activities, occur as informational and educational policy mechanisms, through research, professional education, and planning. The private sector is becoming more involved in these analyses, at least in terms of risk analysis and for long range planning.

What has changed since 2003?

The U.S. forest sector has had periodic, comprehensive forest assessments at the regional and national levels. These assessments are apt to continue, in accordance with national laws and mandates (such as the RPA and MP C&I reporting processes), and in the course of periodic regional initiatives (such as the Southern Futures Study). These ongoing and periodic efforts involve incremental improvements in forest sector modeling techniques and public participation processes. Economic, ecological, and social models have become more powerful and pervasive, and stakeholder consultation has become the norm in large scale forest planning and monitoring work.

Table 63-1. Policy and Governance Classification.

Mechanism	Scale: National (N), Regional (R), State (S), Local (L)	Approach			
		Prescriptive	Process or Systems Based	Performance or Outcome Based	Private Enterprise
Nondiscretionary/mandatory[a]					
Informational/educational[b]	N, S	E, R, A	E, R, A		
Discretionary/voluntary[c]					S
Fiscal/economic[d]					
Market based[e]					M

[a] Laws (L), Regulations or Rules (R), International Agreements (I), Government Ownership or Production (G).
[b] Education (E), Technical Assistance (T), Research (R), Protection (P), Analysis and Planning (A).
[c] Best Management Practices (B), Self-regulation (S).
[d] Incentives (I), Subsidies (S), Taxes (T), Payments for Environmental Service (P).
[e] Free enterprise, private market allocation of forest resources (M), or market based instruments and payments, including forest certification (C) wetland banks (W), cap-and-trade (T), conservation easement or transfer of development rights (E).