A History of U.S. Department of Agriculture Forest Service Forest Survey, 1830–2004

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Abstract.—This article provides a summary of a new report on the history of the Forest Survey (Forest Inventory) in the United States as it evolved within the U.S. Department of Agriculture Forest Service over a period of more than 100 years. It draws on the writings of several authors who have published on various aspects of the Forest Survey program. It reviews nine ground-plot designs used in the Forest Survey and Forest Inventory and Analysis (FIA) programs since 1931. The report also highlights the major events contributing to the current FIA, beginning as far back as 1830.

It is impressive to look at the many contributions of various people working with the Nation's Forest Survey program, as well as the various methodologies that have contributed to understanding and updating the national Forest Survey statistics. It is especially timely that this historical report should occur at the time the Forest Service is celebrating the anniversary of its 100 years of service to the American people.

History of the Forest Survey

The history of the Forest Survey in the United States, as it evolved within the U.S. Department of Agriculture (USDA) Forest Service over a period of more than 100 years, is an interesting story. We have drawn on the writings of several authors who have published on various aspects of the Forest Survey. It is especially timely that this documentation should occur at the time the USDA Forest Service is celebrating the anniversary of its 100 years of service to the American people.

This report is for those readers who wish to understand the evolution and contribution of the Forest Survey program in U.S. forestry. Considerable attention is given to the different plot designs that were used and to an explanation of how the focus and goals of the Forest Survey program changed over time. The report (LaBau *et al.* 2007) documents the various designs and explains how the focus and goals of the Forest Survey demanded changes in plot designs over time. The Forest Survey has always been faced with a variety of conflicting objectives—timber volumes, reproduction success, species composition, tree quality, etc. Statistical efficiency for one objective often compromised the estimate of other attributes. There are many difficulties in estimating growth, mortality, removals, forest type, condition class, and many other multiresource variables that the inventory estimated. The early Forest Surveys were almost exploratory in nature and evolved into increased emphasis on change, condition, quality, and other descriptive characteristics. The changes in design over time attempted to meet the emerging objectives and challenges.

Credit is given to those members of the Forest Survey whose vision and fortitude contributed so much to taking a concept, which began as an effort focused on monitoring the Nation's timber supply and consumption, and expanded that concept to a multiresource and multifunctional program. This program has evolved over the years to meet the changing needs of a Nation that required a broadened forest inventory and monitoring program.

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To the Future

The future of Forest Inventory and Analysis (FIA) program, as in the past, is still timber, but it is so much more. A national information management system has been completed and will serve both internal and external data needs. Work is under way to develop a set of standardized map products such as forest type maps, biomass maps, and a myriad of other spatial products. And, since the mid 1980s FIA and its cooperators have published more than 1,400 papers and articles on nontimber uses of FIA data. Clearly, FIA's client list and program value will continue to grow to meet the needs of monitoring the sustainability of the Nation's forest ecosystems.

In addition to traditional fieldwork, the new FIA continues to conduct surveys of private forest owners to assess their ownership objectives, track wood harvested from America's forests, and conduct utilization studies on active logging operations to provide the factors needed to link the input (trees standing in the forest) with the output (wood products produced by a mill).

Collaborative relationships with universities, industry research organizations, interest groups, and other Federal agencies have been strengthened, allowing FIA to gain increased experience in specialized areas, as well as gain access to creative scientists outside of the USDA Forest Service.

The emphasis of FIA for more than 75 years has been data quality. The new program continues this tradition with a Quality Assurance program that includes documentation of methods, training for data collectors, checks of data quality, peer review of analysis products, and continuous feedback to ensure that the system improves over time. The search will continue for more efficient and more cost effective ways of fulfilling the FIA mission. Good men and women will move forward with a dedication to evaluate forest inventories and forest health, and produce information and analyses that will serve generations well into the future.

Literature Cited

LaBau, V.J.; Bones, J.T.; Kingsley, N.P.; Lund, H.G.; Smith, W.B. 2007. A history of forest survey in the United States: 1830–2004. FS-877. Washington, DC: U.S. Department of Agriculture, Forest Service. 82 p.