MAINE'S ANNUAL INVENTORY: STATE PERSPECTIVES

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ABSTRACT.—In 1999, Maine became the first northeastern state to begin implementing the USDA Forest Service's annual inventory system as directed by PL 105-185, the Agricultural Research, Extension, and Education Reform Act of 1998. The Maine Forest Service, in collaboration with Forest Inventory and Analysis program of the Northeastern Research Station of the USDA Forest Service is currently measuring Panel #1, a 20-percent component of the annual inventory design. This paper covers five major topics: the implementation plan, training and measurement progress, data analysis, reporting goals, and conclusions.

IMPLEMENTATION PLAN

The current implementation plan for Maine's annual inventory system, dated April 30, 1999, grew from a meeting of the Advisory Committee convened by the Maine Forest Service (MFS) at the University of Maine on November 24, 1998. This meeting, attended by a wide array of stakeholders, was held to outline the critical needs for implementing the new inventory system. Additional meetings and teleconferences of USDA Forest Service's Northeastern Research Station (NERS) and MFS specialists focused on the core variable listing and the development of a field guide. Then, in February 1999, the Advisory Committee reconvened to finalize the list of measurement variables and other procedural details.

This plan was fluid over the 6-month planning horizon, changing as the new national measurement protocols were proposed, other information needs evaluated, and variable tradeoffs discussed. With the initiation of training in April 1999, its content became formalized into a study plan.

The Advisory Committee met again in late May 1999 for an update on training, early measurement progress, potential changes, and a field visit to a simulated measurement plot. This committee is expected to become actively involved again early in the year 2000, for the discussion of analyses and reporting of the Panel #1 measurements.

As part of the implementation plan, MFS agreed to supply the personnel requirements and get the program jump-started in 1999. The future expectation is for NERS to fund their 75-percent proportion of the required 20-percent annual measurement expenses, based on the U.S. Congress providing sufficient appropriations for a 7-year annual inventory system (15 percent) in the East. However, MFS does not intend to continue to fund the staff allocation into the future.

TRAINING AND MEASUREMENT PROGRESS

In April 1999, two NERS sponsored and five MFS sponsored crews were trained and certified over a 2-week period by David Alerich, Jason Morrison, and other NERS personnel.

Following crew certification, field measurement of Panel #1 plots began immediately in late April. The graph on the next page displays both weekly and overall-to-date crew plot measurement production in Maine's Panel #1 (fig. 1).

Currently, 88.5 percent of plot measurements have been completed for the year, and the measurement season is expected to conclude around the end of November. More importantly to date, crew production has averaged 3.3 completed plots per week.

Panel #1 had its fair share of start-up problems to overcome. In terms of crew efficiency, the greatest impact was the unavailability of the full complement of Panel #1 plot tallysheets at the start of the measurement season. Plots trickled in over a 2-month period, delaying preparatory work like landowner contacts and increasing crew allocation inefficiencies. Also,

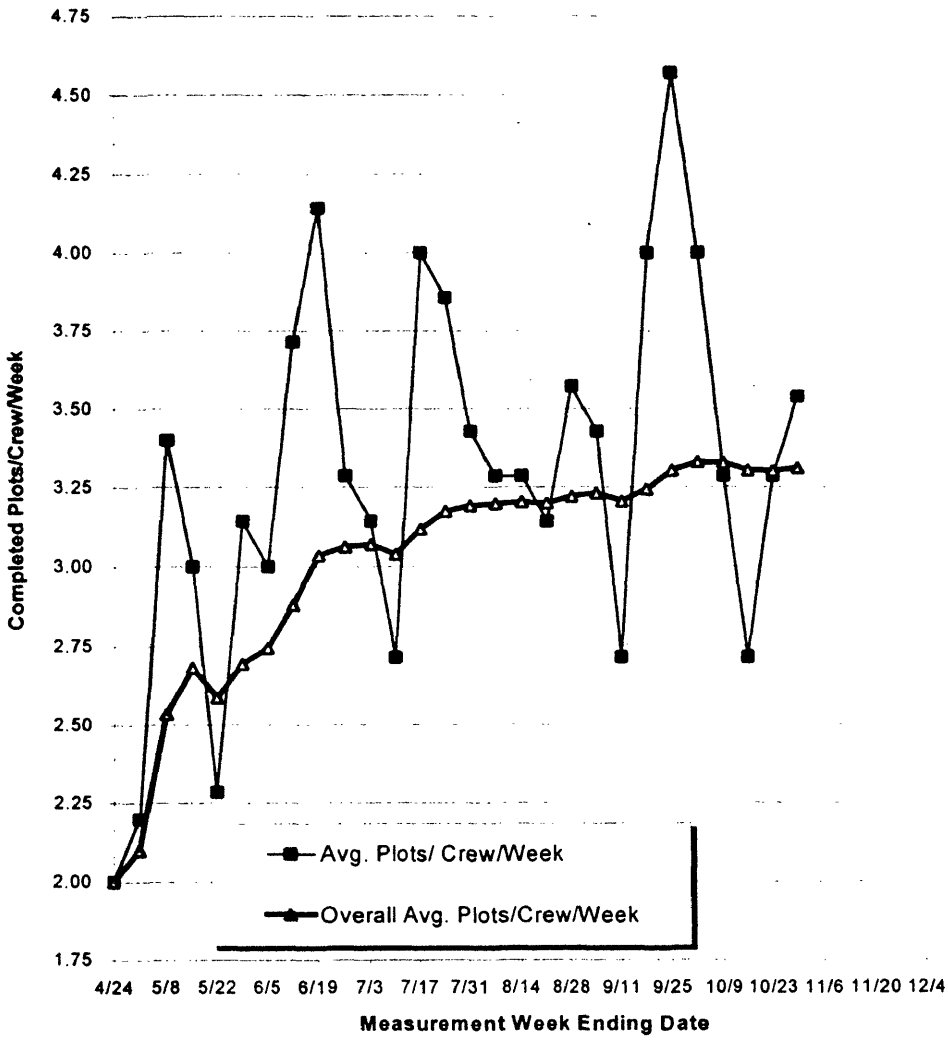

Figure 1.—*Plot measurement productivity.*

data entry and analysis was handcuffed by the unavailability of portable data recorders. When the recorders finally became available in August, 50 percent of the plots were already measured, and MFS decided not to introduce them at that time to maintain measurement progress and data reliability.

One additional problem cropped up late in the measurement season that could be described as a minor difficulty with major implications. On October 1, the NERS Quality Assurance/ Quality Control Coordinator and the MFS Field Supervisor were verifying completed plots when they collectively realized that the real plot count for Panel #1 was 21 more than originally scheduled. This number constituted an average week's production for the seven field crews, and its discovery at that time of the year in Maine caused a slight panic.

Two of the more controversial issues involving the annual inventory system are the core plot design and the core variables. MFS supports the goal of creating data collection procedures for a single, consistent, and uniform framework across all FIA units, in accordance with the Blue Ribbon Panel recommendation (American Forest and Paper Association 1998). Beyond that level, regions and states can each add other variables or data collection procedures to incorporate special information needs. Maine, for example, has 1 additional mil-acre seedling/sapling plot and is doing the full suite of Forest Health Monitoring crown damage coding on all measured trees. Finally, MFS is adamant

that on the average, a two-person crew must complete a plot measurement in a 1-day visit. Based on experiences in the first year, we are almost there.

DATA ANALYSIS

In September 1999, I requested a subset of validated plots, preferably a single FIA unit, to begin data familiarization, graphic template construction, and statistical testing/comparison to the 1995 periodic inventory. That request mirrors a separate mandate for MFS, in that the State Legislature is requiring the publication of an annual inventory report. It was disappointing to learn that only very limited data entry for completed plots had begun by a point in the season when total panel measurements were 80 percent completed. Maine plot data, recorded on paper tallysheets, were being used to beta test the portable data recorder programming for data entry and error checking.

One of the major issues that the Advisory Committee discussed in detail was the continuing lack of remeasurement data for component of change analysis and trends. Only 50 percent of the plots measured in the 1995 periodic inventory are part of the new annual 5-year Panel sample. Furthermore, the change to the core plot design meant that only the 1/24-acre concentric overlay of subplot #1 in the new cluster would contain remeasured information from the 1995 1/6-acre plot area. As a result, only 13 percent of the data are of remeasurement quality. The Advisory Committee was well aware of this predicament and the inherent analytical weakness, but the alternative of aggressively collecting additional remeasurement data on the 1995 1/6-acre plots would have increased measurement time beyond the one plot/crew/day productivity threshold. All parties agreed to recognize the lack and to move onward with just the core plot design.

REPORTING GOALS

At this point in the inventory process of Panel #1, the remaining goals are pretty distinct, at least from my viewpoint:

- Complete data collection
- USFS provides keypunched data, common tables, analyses, and descriptive statistics
- Begin creation of templates on a state-level analysis of inventory
- Reconcile mutual reporting responsibilities.

I have a mandate to make a March 2000 presentation to the Maine Legislature on Panel #1's progress and gross comparisons of population estimates to the 1995 periodic inventory. No excuses will be accepted for not meeting that mandate.

CONCLUSIONS

In conclusion, MFS and I are confident that the spirit of collaboration and cooperation expressed and demonstrated to date will continue, and that both MFS and NERS will meet their own unique, independent, and collective needs in supplying new inventory information to the public.

LITERATURE CITED

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