



Reforestation Needs

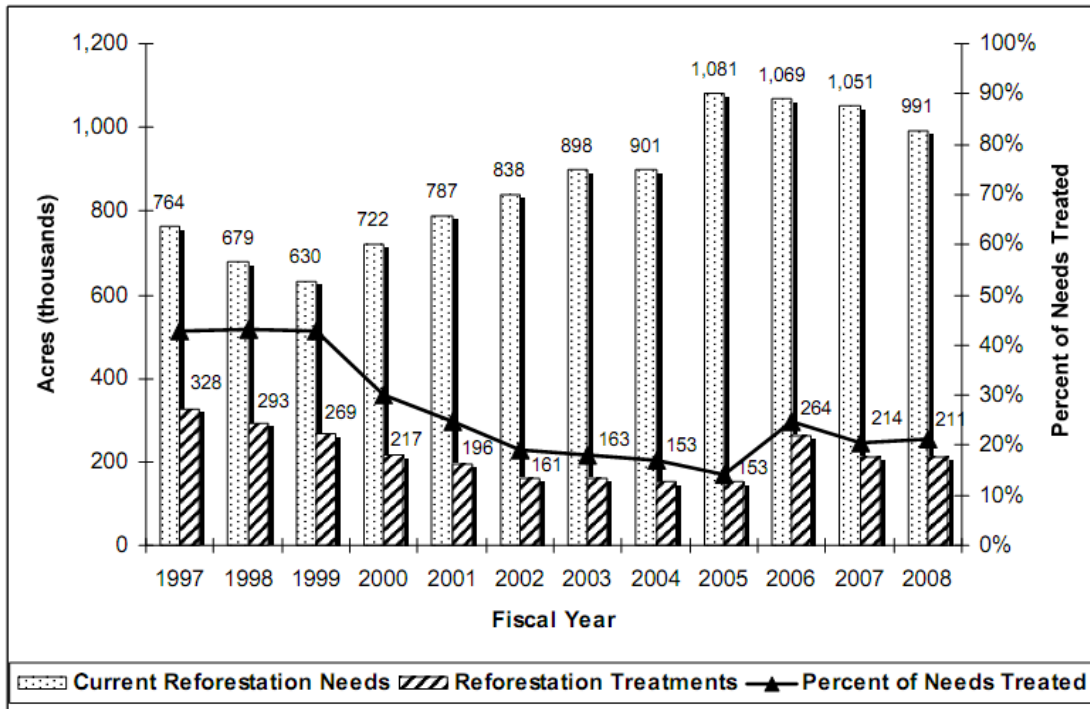
A Report By The National Association of Forest Service Retirees

INTRODUCTION

This paper documents the efforts of NAFSR to investigate the apparent increase in reforestation needs in the National Forest System over the past decade. In response to information provided to George Leonard, NAFSR Past Chair and formerly NAFSR's legislative contact on Capitol Hill, a "reforestation backlog issue" team was formed to determine the extent and seriousness of the appearance of a growing reforestation "backlog". The team consisted of NAFSR members Jerry Gause, Richard Stem, and Jim Golden, NAFSR Board Chair.

The Forest Service Budget justification for the year 2010 indicated a disturbing trend in growth of reforestation needs over the past decade (see Figure 1 below). Our collective experience with similar reforestation issues in the past added to our concerns that history may be repeating itself.

Fig. 1 - Reforestation Needs, Treatments and Percentage of Needs Treated by Fiscal Year



NOTE: “Reforestation Needs” include all of the tasks that result in certified reforested lands. This includes the surveys to determine if there is a need for planting, any site preparation work, the planting of seedlings, and the subsequent stocking surveys and final certification survey. As it turned out, the actual planting needs was only a part of the reforestation needs acreage.

Historical Perspective

It is instructive to look back on the reforestation backlog that was identified and resolved during the period 1950 – 1980.

Millions of acres of National Forest lands were found to be in need of reforestation for a variety of reasons. In the West it was largely the result of fires and reforestation failures associated with timber harvest. In the East it was deforested lands acquired under the Weeks Act. In California, for example, much of the backlog was large brushfields that dated from Gold Rush times or fires associated with development of the railroads. The slopes of Mt. Shasta were a notable example.

Because of the high level of demand for National Forest timber following the War, there was increasing interest in improving the productivity of these lands in order to permit increases in the allowable timber harvest levels. This included reforesting productive lands. The term “backlog” was first used in the 1961 Development Program for the National Forests.

The Forest and Rangelands Renewable Resources Planning Act, as amended by NFMA, established the policy that “all forested lands in the National Forest System be maintained in appropriate forest cover with species of trees, degree of stocking, rate of growth, and condition of stand designed to secure the maximum benefits of multiple use sustained yield management in accordance with management plans.” The Secretary (of Agriculture) is directed to identify and report annually the amount and location “of all lands in the National Forest System where objectives of land management plans indicate the need to reforest areas that have been cutover or otherwise deforested ...”

The statute prescribes the examination of treated areas to determine stocking rate, growth rate in relation to potential and other pertinent measures. It provides that “Any land not certified as satisfactory shall be returned to the backlog and scheduled for prompt treatment.”

At the time the Act passed, it was estimated that the reforestation backlog was approximately 5 million acres. The Act mandated an accelerated reforestation program aimed at eliminating the backlog within 8 years. Through timely research and a focused agency initiative, that mandate was met in the early 1980’s. The backlog had been eliminated. The experience with the effort needed to eliminate the backlog at that time is what makes retirees concerned that the agency not allow a backlog to develop once again.

Concerns

NAFSR became concerned because of the possibility that:

- Large areas of National Forests were not meeting the goals of Land Management Plans.
- Large and intense fires of the past decade may have outpaced the ability of the Forest Service to respond in a timely fashion to reforestation needs.
- Where planting may be needed, any delays would increase costs significantly in an era of declining budgets.
- A history of excellence in the field of reforestation may have been compromised by down-sizing, budget cuts and/or changes in priorities.

And perhaps the agency needed some help in exposing the extent and seriousness of the reforestation issue.

What’s At Stake?

Given the deteriorating condition of many of the western National Forests, and the increase in the size and severity of fires in the past 20 years, reforestation has become even more critical to meeting the goals of National Forest Management. Whether natural

or artificial, reforestation as prescribed by certified silviculturists plays an important role in the rehabilitation and restoration of the large, uncharacteristic fire areas in the west. And with a new emphasis on the role of the National Forests in carbon sequestration, appropriate stocking levels have become an even more important factor in ensuring the public lands are carbon sinks and not carbon sources. And, simply stated, trees are an important part of meeting the expectations that the American public holds for their public lands, whether that be for scenery, recreation, watershed protection, wildlife habitat, or forest products.

PROCESS

In order to learn more about the issue the team decided to interview the Regional Silviculturists and their Reforestation Specialists in seven of the nine FS regions where a significant amount of work was shown.

We developed a series of questions that we believed would assist in determining “what really was going on”.

The questions and rationale follow:

Is the backlog being addressed at the regional level as an issue? (Why not?)

To determine if there was a sense of priority in the region about reforestation needs

Is funding the primary cause that the backlog has not been resolved? (Why or Why Not?)

To initiate the discussion about funds, this would always be an issue.

Is the inability to generate funds through fire salvage a contributing issue?

Once again, asking what might be obvious to many who have been involved in large fires and reforestation efforts.

Other contributing factors to growth of reforestation backlog?

Here we were looking at potential leadership issues, planning and implementation barriers, and the possibility that reforestation had lost its place among the highest priority treatments needed in a given year at the forest and district level.

How confident are you in the official reforestation needs estimates, particularly given the large fires that have occurred in the past decade?

Our collective experience told us that sometimes the Washington Office numbers do not reflect the reality on the ground. We felt it would be a good stroke to allow the regional folks to defend their numbers.

If the funding was available, does the FS have the expertise to get the job done?

The concern here was the erosion of talent in the field of reforestation and Silviculture in general, a trend that we have witnessed as the timber program has declined in the last decades.

Do you expect any logistical issues, such as seedling sources, site preparation, site access, etc, to create barriers to getting the work done?

In other words, if there IS a backlog that needs to be addressed, are there sufficient materials, processes, and other logistics in place to enable a large scale increase in reforestation work to succeed.

SUMMARY OF RESPONSES TO QUESTIONS

Is the backlog being addressed at the regional level as an issue? (Why not?)

Yes, to varying degrees. Some personnel felt that if the regional leadership team were made aware of an issue, they would address it more aggressively.

Use of the “backlog” term was discouraged by some folks that we interviewed. It has legal NFMA implications, and refers back to a period in FS history when there was a backlog of unfunded reforestation work which was created by fire, timber harvest, cutover lands acquired through the Weeks Act and other authorities, and land use history prior to acquisition into the National Forest System.

Is funding the primary cause that the reforestation needs have not been reduced? (Why or Why Not?)

Remaining needs are generally a result of funding shortfalls. An associated issue is that when the NFWW budget line item was created, it lumped together Reforestation, TSI, Range Management, and Invasive Species. Competition exists among program managers to meet their priority needs and get the work done.

Most recent focus on thinning and work in WUI has biased priorities toward TSI over Reforestation.

Another mentioned that KV rates no longer cover the work needed to be done.

Also some indication that some folks do not report reforestation needs because of the uncertainty of the data and lack of field surveys.

Is the inability to generate funds through fire salvage a contributing issue?

Yes, though more of an issue in some regions than others depending on timber values and markets. Most did not respond very strongly to this issue. Some felt that if there is a demand for biomass from National Forests and it becomes marketable, this will become a bigger issue, and that the ability to remove dead timber also has implications for carbon emissions.

Dead timber left standing also may create safety issues which can prevent reforestation operations. As it stands now in many places, if field personnel and contract crews cannot get in there early enough to do the surveys and/or contracts, it won't ever get done.

Other contributing factors to growth of reforestation backlog?

Generally, the increase in disturbances (fire, insects and disease) has not been matched by increases in funding for reforestation.

The lack of field verification causes needs to be reported that may not actually exist. Contributing to this is current priorities in the region, lack of budget, access to roadless areas and wilderness, and safety issues around working among snags in burned areas. Some line officers have closed large areas to employee entry for safety concerns.

Increasing use of "let it come back naturally" as a prescription is not always accompanied by the professional advice (e.g., from certified silviculturists) as to whether the vegetation response can or will meet the land management goals for the area. While this was not found to be a widespread issue, it needs mention. Uncharacteristic fires can create uncharacteristic consequences, which sometimes preclude natural regeneration.

The ever changing rules on reporting reforestation needs is an issue, with little consistency of advice between budget people and timber staff, especially at WO level.

How confident are you in the official reforestation needs estimates, particularly given the large fires that have occurred in the past decade?

With only one exception, all expressed confidence in the numbers used to portray reforestation needs, including planting and surveys. One region took issue with the national numbers and had those numbers revised. Others took issue with various conflicting data bases which add to field level frustrations.

All agreed that many of the reported acres represent areas that need to be field verified as to whether planting is needed or not.

If the funding was available, does the FS have the expertise to get the job done?

Very positive responses. While there was acknowledgement that the aging and retiring workforce threatens to reduce professional capacity in silviculture and reforestation, all regions indicated that they were working to increase the number of certified silviculturists, and most had already accomplished that.

Do you expect any logistical issues, such as seedling sources, site preparation, site access, etc, to create barriers to getting the work done?

Most of our interviews indicated that the logistical issues were anticipated and would not be a barrier to responding to an increase in the programs.

Access for management is an issue for some (road condition, closures, etc).

And the existing snags in large fire areas are preventing access due to safety concerns.

Any program increase, however, would need a careful “ramp-up” to avoid inefficiencies. Seed collection, nursery production, site preparation, etc. all require out-year planning to accomplish programmed planting operations.

OUR CONCLUSIONS

There are vast burned areas, a result of the many massive fires of the past two decades, which have not been properly evaluated on the ground by qualified personnel for reforestation needs. Many of these areas exist within designated roadless areas. Without the proper monitoring and evaluation following disturbances such as fire and insect infestations, it is not possible to determine if National Forest land management goals are being met.

In addition, as carbon sequestration become a goal of National Forest management and is incorporated into Forest Plans, it is likely that reforestation needs and stocking objectives will be re-evaluated and revised upwards in some places. Thus, reforestation for carbon management purposes brings added importance.

Increasing use of “let it come back naturally” as a prescription is not always accompanied by professional advice as to whether that will/can happen. While this was not found to be a widespread issue, it needs mention. Uncharacteristic fires can create uncharacteristic consequences, sometimes affecting the regeneration of desired tree species for decades. Doing nothing is not always a good option.

Finally, we sensed a fair amount of frustration over the management of the databases used to report reforestation needs to the agency headquarters in Washington, D.C. Changing reporting rules, poor integration of data with other systems, and untimely data calls (from above) and responses (from the field) all contribute to the degree of reliability of the reports.

COMMENDATIONS

Training and development of new certified silviculturists appears to be keeping pace with the growing need for those skills. All of the Regional personnel we spoke with were confident that staffing is adequate to meet any new reforestation initiatives that may come about. The FS is to be commended for making the scarce resources available to make this happen.

We were impressed by the knowledge and professionalism of the silviculturists and reforestation program managers that we contacted in the course of this project, they were prepared to meet the challenge of an accelerated program, should one be needed. And that was exactly what we had expected! All were confident that any logistical concerns could be overcome. Given the de-emphasis of timber management and silviculture over the past years, this is truly commendable.

RECOMMENDATIONS

- Field evaluations of disturbed areas are a high priority. The Forest Service must establish a process whereby disturbed lands are examined, necessary treatments identified, and funding procured for those treatments. If the agency, the public, and the Congress are to properly understand the magnitude and significance of the issue, adequate data needs to be available to clearly understand the situation. Lumping various program elements together (as in the current report, see Fig. 1) does not allow any analysis of either the current situation or of a needed response.

A standard must be set that following large disturbances on forested lands, a field exam of areas potentially needing reforestation (as identified by the Rapid Assessment of Vegetation Condition After Fire, RAVG) will be completed within two years. Land management plans should describe the “desired future condition” for vegetation (such as tree cover) and should guide prescriptions following disturbance. Wilderness, inventoried roadless, or other special management areas must follow the same standards. We suggest that following field exams, the Forest Supervisor, relying on the documented report of a certified silviculturist shall identify areas needing treatment, including an estimate of costs, and those areas where satisfactory stocking to meet land management objectives can be attained without treatment.

- Evaluate the apparent widespread safety concerns about working near snags in burned areas. Is a full closure to field professionals and contract crews really necessary? Or could the situation be managed in a different way?

- As carbon sequestration gains in importance as a goal of National Forest management, leadership must **reinforce the linkage of land management goals with scientific and professional evaluations and prescriptions for meeting vegetation goals** (desired future condition), especially in large burned areas.

- **Revise the Reforestation Needs Report and reporting process.** The existing report does not provide congress of the public with adequate information to identify a problem. For instance, the report now lumps acres needing examination with acres needing planting. The FS can do better than that. (NOTE: Since our initial draft, we were informed that some reporting methods were revised, and new protocols posted on the website.)

APPENDIX A

Note from Monty Maldonado USFS to George Leonard, NAFSR

To: Mr. George Leonard

Subject: Information on Reforestation Needs

From: Monty Maldonado- Forest Management Staff, Reforestation Program Manager

George: Approximately one million acres (929 thousand acres) were identified as in need of reforestation treatments at the end of Fiscal Year 2009. This is a very small decrease from FY 2008 when total needs of 991 thousand acres were reported. This decrease is in response to stand exams and silvicultural prescriptions and other field checks determined that in many areas natural regeneration was the preferred alternative for regeneration. In addition, we enforced a business rule in FY 2009 where identified reforestation needs needed follow-up treatments identified in the database. We identified the needs by its causal agent, harvest, wildfire, insect and disease, regeneration failures and other changes (land classification adjustments, land exchange and acquisition). However, fire created needs identified significantly increased from the needs reported in FY 2008; the snapshot for fire created needs was 276 thousand in FY 2009 compared with 96 thousand in FY 2008.

Needs Causal Agents in FY 2009 (acres)

Commercial Timber Harvest: 116,167

Fire Additions: 276,325

Regeneration Failures: 3,174. This are re-schedule for treatment and part of current needs

Average Unit Cost:

Establish Vegetation Average Unit Cost: Approximately \$450 per acre for NFVW and RTRT. This unit cost is the average of the individual components

that are identified to describe reforestation treatments. These are site preparation for natural regeneration, certification of stands naturally regenerated without site preparation, planting and seeding, and other necessary treatments for establishing forest vegetation.

Stand Exam Cost: We continue to see an average of \$8 per acre (exam and data processing). This process provides the necessary information based in-place field data to determine management opportunities and direction. The data collected allows for a determination of the current condition of a stand or group of stands and provides a basis for silvicultural prescription. However, there is a need for increased awareness for the need of additional funding for this activity in order to fully address on the ground vegetation conditions especially following wildfire.

We continue to experience the benefits from the Emergency Supplemental Funds appropriated late in FY 2007 and FY 2008. Some of this allocation was used to increase seedling production; which will be used during the FY 2010 planting season.

Rapid Assessment of Vegetation Conditions After Fire (RAVG)

2008 Summary

In 2007, the Washington Office worked with the Remote Sensing Applications Group in Salt Lake City to develop a consistent, rapid, remote sensing based assessment process to compile spatial information on the effects of wildfires. The goal is to improve our ability to rapidly and accurately assess large-scale fire events to identify likely, high priority needs for forest recovery treatments. The resulting analysis, termed Rapid Assessment of Vegetative Conditions After Fire (RAVG) compiled geospatial information on land ownership, vegetation type, and fire severity for wildfires exceeding 1,000 acres in size that occurred on National Forest System lands was utilized in 2007, and again in 2008 to provide an initial assessment of fire impacts.

The following table summarizes the results of this analysis for the 2008 wildfires. A total of 42 fires were reported in RAVG and these events were concentrated in two FS Regions: R-3 (13 large scale events) and R-5 (25 large scale events). R-4 reported two fires, and R-6 and R-8 reported one fire each. The following summary (Table 1) indicates that, cumulatively, approximately 830 thousand acres were burned as a result of these events.

Table 1 – RAVG Summary of Area Impacted by 2008 Fires by FS Region

All figures are in thousands of acres

Forest Service Region	National Forest System Lands				Other Owner-ships	Totals Within Fire Perimeters
	Non-forest (Grass, shrubs)	Forested Outside of Wilderness	Wilderness	NFS Totals		
R-1	0	0	0	0	0	0
R-2	0	0	0	0	0	0
R-3	41	44	14	99	35	134
R-4	7	1	0	8	0	8
R-5	54	253	164	471	208	679
R-6	0	5	0	5	3	8
R-8	0	0	3	3	0	3
R-9	0	0	0	0	0	0
Totals	102	303	181	586	246	832

The severity of these events in terms of the effects of the fire on initial stocking levels is summarized on the following page on Table 2. About two-thirds (63%) of NFS forestlands fell in the low intensity category with less than 25% of the initial basal area affected by the fire. Roughly 30% of NFS forested lands were moderately or highly impacted with more than 50% of the initial basal area impacted by these events based on national averages shown on Table 2.

Table 2 – RAVG Summary of the Impacts to Forested Ecosystems from 2008 Fires

All figures are in thousands of acres

Forest Service Region	NFS Forested Acres Impacted by Percentage of Initial Basal Area Impacted by Event				NFS Forestland Totals
	<25%	25% to 49%	50% To 74%	>75%	
R-1	0	0	0	0	0
R-2	0	0	0	0	0
R-3	24	3	3	14	44
R-4	0	0	0	1	1
R-5	166	16	12	59	253
R-6	2	1	0	2	5
R-8	0	0	0	0	0
R-9	0	0	0	0	0
Totals	192	20	15	75	303

Reforestation Needs by Region

All figures are in thousands of acres

Forest Service Region	Reported Reforestation Needs
R-1	254
R-2	156
R-3	87
R-4	83
R-5	128
R-6	102
R-8	38
R-9	76
R-10	5
Total	929