



Six paired images showing before (top) and after (bottom) images of restoration activities on Forest Service land, including stabilization of an eroding stream, reduction of fuel loads in an overgrown forest, and creation a stream passage that allows movement of aquatic organisms. Source: www.fs.fed.us/restoration/

INTEGRATED RESOURCE RESTORATION 2015 REPORT

USDA FOREST SERVICE



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Executive Summary

The National Forest System (NFS) has over 193 million acres of national forests and grasslands, and the effects of Forest Service management and restoration extends widely beyond NFS land. The U.S. Department of Agriculture (USDA) Secretary Thomas J. Vilsack's "All Lands" vision recognizes that forest management and threats do not end at property boundaries and emphasizes that in order to effectively restore all of our forests, we need to integrate our restoration activities to meet multiple objectives at the same time. For the past 5 years (fiscal year (FY) 2012—FY 2016), the agency embarked on a pilot program of Integrated Resource Restoration (IRR). IRR realigns the agency's budget structure in three pilot regions to increase the efficiency and flexibility to perform integrated watershed protection and landscape-scale restoration.

We evaluated the success of the IRR pilot program by tracking five core performance measures related to watershed health and vegetation management. This report compares these performance measures in IRR and non-IRR regions between FY 2012 and FY 2015. It also includes results from a team of researchers from Colorado State University and the University of Oregon, who conducted a third-party evaluation of IRR and its effects.

Key Messages

- IRR pilot regions were more likely to show gains in performance through time than non-IRR regions. They also generally achieved a higher proportion of their assigned targets than non-IRR regions.
- IRR showed the value of emphasizing outcome-based performance measurements. IRR regions focused on the outcome of improved watershed condition and were remarkably successful in achieving that goal.
- The third-party monitoring found that the IRR budget authority forced improved communication among program managers and line officers, and it allowed them to better pool resources to conduct priority work and achieve landscape-scale restoration objectives. This was especially true in units with a strong culture of staff and leadership integration.
- The IRR program showed the budgeting and administrative efficiencies could be gained by simplifying budgeting structures, but having IRR in only three of the nine regions created dual budget structures and generated more work at the national level. Also, IRR regions had more difficulty tracking unit costs, and there is no quantitative evidence of increased efficiency.
- There is also concern that programs that do not contribute towards the five core IRR measures will not compete as well for IRR funding and will be de-emphasized.
- Forest Service experience with IRR shows the value of working across program areas to concentrate resources on priority projects. We believe that these organizational behaviors and emphasis on improved performance measures are the key drivers to success in improving our restoration efforts, and we are focused on expanding the implementations of these lessons nationwide in FY 2016 and FY 2017.

Introduction

USDA Secretary Vilsack's "All Lands" vision recognizes that forest management and threats do not end at property boundaries and emphasizes that, to effectively restore all of our forests, we need to integrate our restoration activities to meet multiple objectives at the same time.

Integrated Resource Restoration (IRR) is a proposal to realign the agency's budget structure to support integrated, landscape-scale restoration. It consolidates several existing programs into a single budget line-item (BLI). The FY 2012 Appropriations Act granted authority to implement IRR in three pilot regions: Region 1 (Northern Region), Region 3 (Southwestern Region), and Region 4 (Intermountain Region), and it has been extended each year since.

Under the pilot authority, the Forest Service can combine budget line items (BLIs) for Wildlife and Fisheries Habitat Management, Vegetation and Watershed Management, Forest Products, Legacy Roads and Trails, and Hazardous Fuels Outside of the Wildland-Urban Interface (WUI) into a consolidated budget. Funding for the pilot ranged from a low of \$138 million in FY 2013 to a high of \$190 million authorized for the FY 2015 pilot (see Table A in the Appendix for the full funding history).

The intent of the IRR pilot authority is to provide the Forest Service with increased flexibility to perform integrated watershed protection and landscape-scale restoration work. IRR helps target regional funding allocations towards activities that meet multiple goals and is designed to increase agency capacity for accomplishments toward the attainment of forest health and water quality improvement outcomes. As stated in the 2012 House Report:

The Committee applauds the underlying effort by the Forest Service to focus the budgeting process on achieving overall goals in its multiple-use mandate. The Committee shares the Service's belief that a stove-piped budget can distract both Congress and Federal agencies from setting and accomplishing measurable, big-picture goals and recognizes that the Service should have the flexibility to set and meet goals to carry out its overall mission and should then be held accountable to Congress and the taxpayer. To this end, the Committee will be carefully evaluating whether the IRR pilot program helps the Service to better set, accomplish, and report management goals and enhance transparency and accountability.

This report examines the first 4 years of IRR implementation under limited pilot authority, evaluates successes and challenges in achieving objectives, and develops recommendations for future improvements¹. It provides results from FY 2012 to FY 2015, using both internal agency performance data and three third-party evaluation reports by Colorado State University and the Ecosystem Workforce Program at the University of Oregon (referred to as Phase 1, Phase 2, and Phase 3 reports).

¹Past IRR reports are available at: <http://www.fs.fed.us/restoration/IRR/results.shtml>

IRR Performance Measures

The Forest Service annually measures IRR performance with five “core measures.” These are

- number of watersheds moved to an improved condition class,
- acres treated annually to sustain or restore watershed function and resilience (hereafter referred to as “acres treated for resilience”)²,
- miles of stream habitat restored or enhanced,
- miles of roads decommissioned, and
- volume of timber sold.

The number of watersheds moved to an improved condition class is an “outcome measure.” It is determined through the Watershed Condition Framework, which uses a nationally consistent approach to classify watershed condition, employing a comprehensive set of 12 indicators to assess underlying ecological, hydrological, and geomorphic conditions. It also integrates a number of traditional output measures, such as the volume of timber sold, to assess the actual impact the Forest Service wants to see on the landscape. With the Watershed Condition Framework, it can take several years to complete the projects needed to improve watershed class.

The remaining four measures are output measures that contribute to critical outcomes. The acres treated annually to sustain or restore watershed function and resilience, as well as the miles of streams restored or enhanced directly lead to the outcome of sustained or improved watershed health. The miles of road decommissioned leads directly to the outcome of reduced habitat fragmentation and indirectly to improved watershed health. Most of the timber volume sold contributes to improving watershed resilience, but some sales have no restoration objective.

This report compares these core performance measures in the three IRR pilot regions versus the six non-pilot regions that continue to use the traditional BLI structure. By comparing the performance results in pilot and non-pilot regions, we can assess the advantages and disadvantages of the IRR pilot authority.

² Acres treated annually to sustain or restore watershed function and resilience is comprised of 9 feeder measures. See Table B in the Appendix for further details.

Results: Overall Agency Accomplishments & IRR vs. non-IRR Accomplishments

During the 2012-2015 period, the agency showed increasing performance in the number of watersheds improved, the number of acres treated for watershed resilience, and the amount of timber volume sold. For the number of watersheds improved and the number of acres treated for watershed resilience, IRR regions primarily drove these gains. For the number of roads decommissioned and the number of stream miles improved, agency-level performance declined somewhat. However, for these measures IRR either had higher performance overall or managed to better maintain performance through time.

Watersheds moved to an improved class: The agency almost doubled the number of watersheds moved to an improved class between 2012 and 2015, and IRR regions drove these gains (Fig. 1).

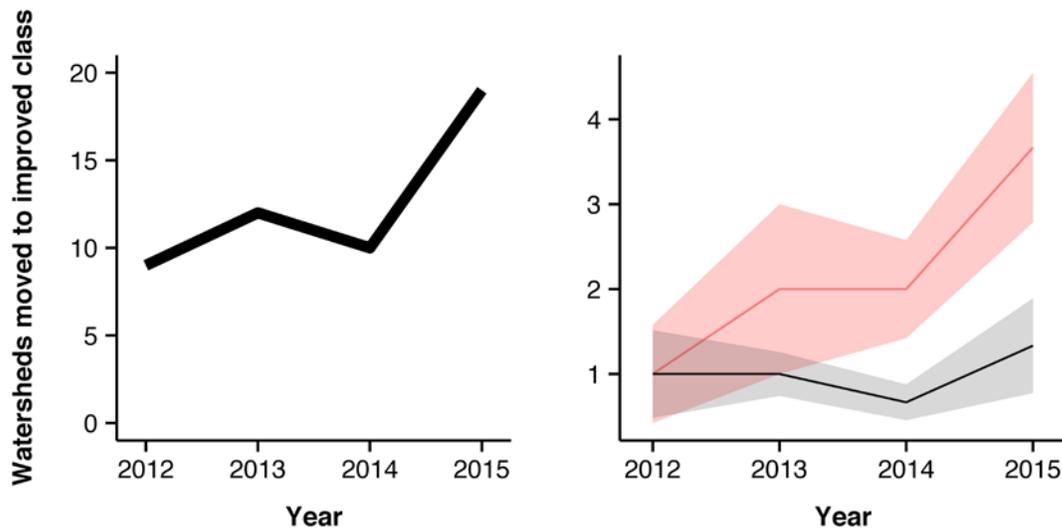


Fig. 1: Number of watersheds moved to an improved class across the agency overall (left panel) and in each region on average (right panel). We show average regional performance plus standard error in red for IRR regions and gray for non-IRR regions. Detailed regional performance data is provided in Table C in the Appendix.



Photo source: www.fs.fed.us/rm/boise/awae_home.shtml

Acres treated for watershed resilience: The agency increased the number of acres treated to improve watershed resilience over time and IRR regions drove these gains while the non-IRR regions' performance remained fairly flat (Fig. 2).

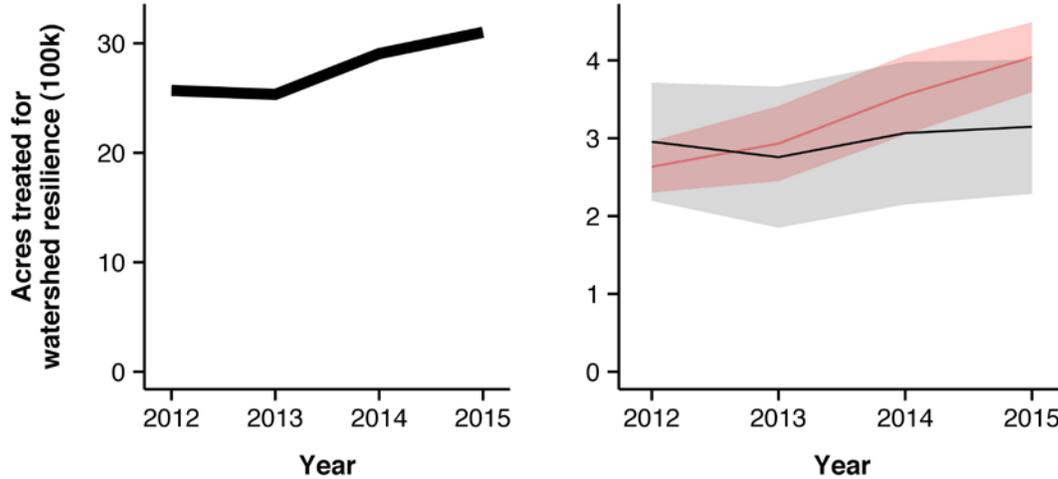


Figure 2: Number of acres treated to improve watershed resilience across the agency overall (left panel) and in each region on average (right panel). We show average regional performance plus standard error in red for IRR regions and gray for non-IRR regions. Detailed regional performance data is provided in Table C in the Appendix.

Timber Volume Sold: The Forest Service showed a steady increase in timber volume sold. Although non-IRR regions produced more timber than IRR regions, they are traditionally higher timber producers. However, while their timber production remained approximately even through time, IRR regions showed increasing performance (Fig. 3).

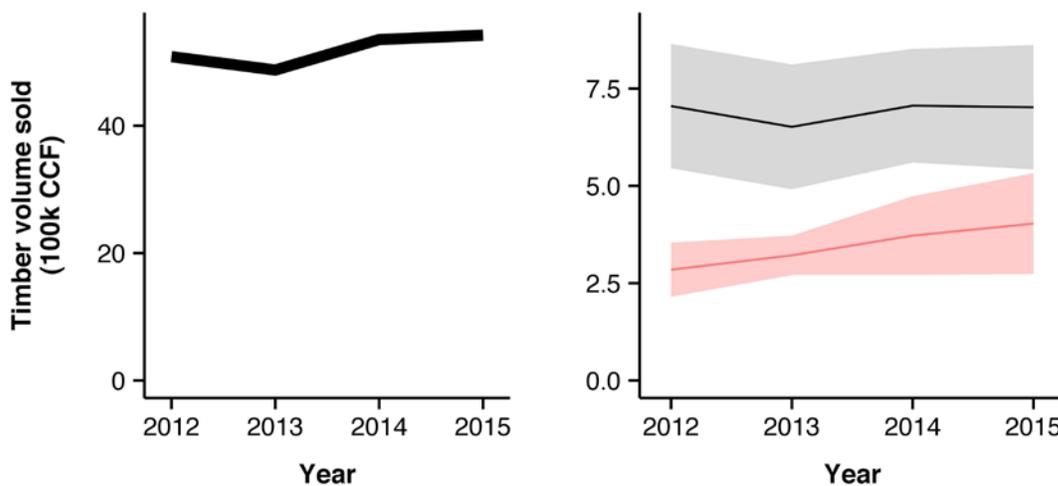


Figure 3: Timber volume sold across the agency overall (left panel) and in each region on average (right panel). We show average regional performance plus standard error in red for IRR regions and gray for non-IRR regions. Detailed regional performance data is provided in Table C in the Appendix.

Stream miles improved: Overall, the Forest Service showed a slight decline in the number of stream miles improved between 2013 and 2014. However, IRR regions managed to remain steady throughout this time period, and generally showed a slight increase through time (Fig. 4).

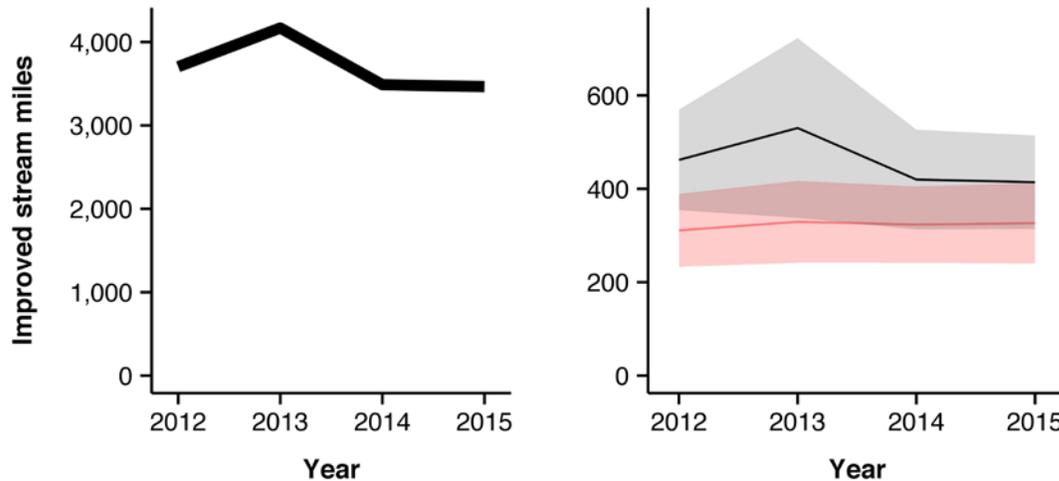


Figure 4: Number of stream miles improved across the agency overall (left panel) and in each region on average (right panel). We show average regional performance plus standard error in red for IRR regions and gray for non-IRR regions. Detailed regional performance data is provided in Table C in the Appendix.

Road miles decommissioned: Across the agency, the number of road miles decommissioned declined slightly through time, and the decline occurred in both IRR and non-IRR regions. (Fig. 5).

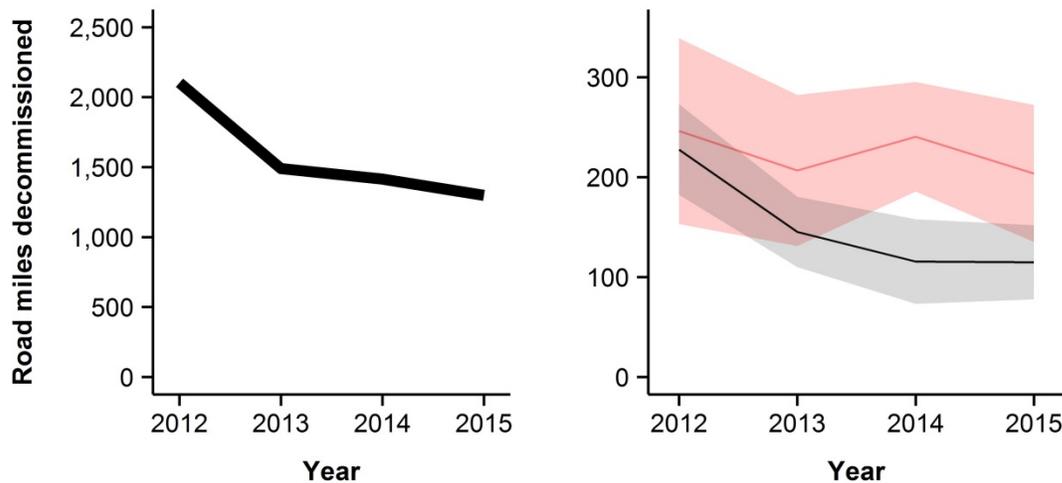


Figure 5: Road miles decommissioned across the agency overall (left panel) and in each region on average (right panel). We show average regional performance plus standard error in red for IRR regions and gray for non-IRR regions. Detailed regional performance data is provided in Table C in the Appendix.

Results: IRR vs. non-IRR Regions Performance in Meeting Assigned Targets

For each of the five core measures, the pilot regions generally achieved more than they were assigned as targets (Fig. 6). They also were generally better at meeting or exceeding their targets than the non-IRR regions were (Fig. 6). This suggests that the IRR pilot authority may have a positive impact on Forest Service capacity to meet the five core targets. However, the trend for road miles decommissioned suggests that, over time, IRR regions may have more difficulty meeting their road miles target than non-IRR regions.

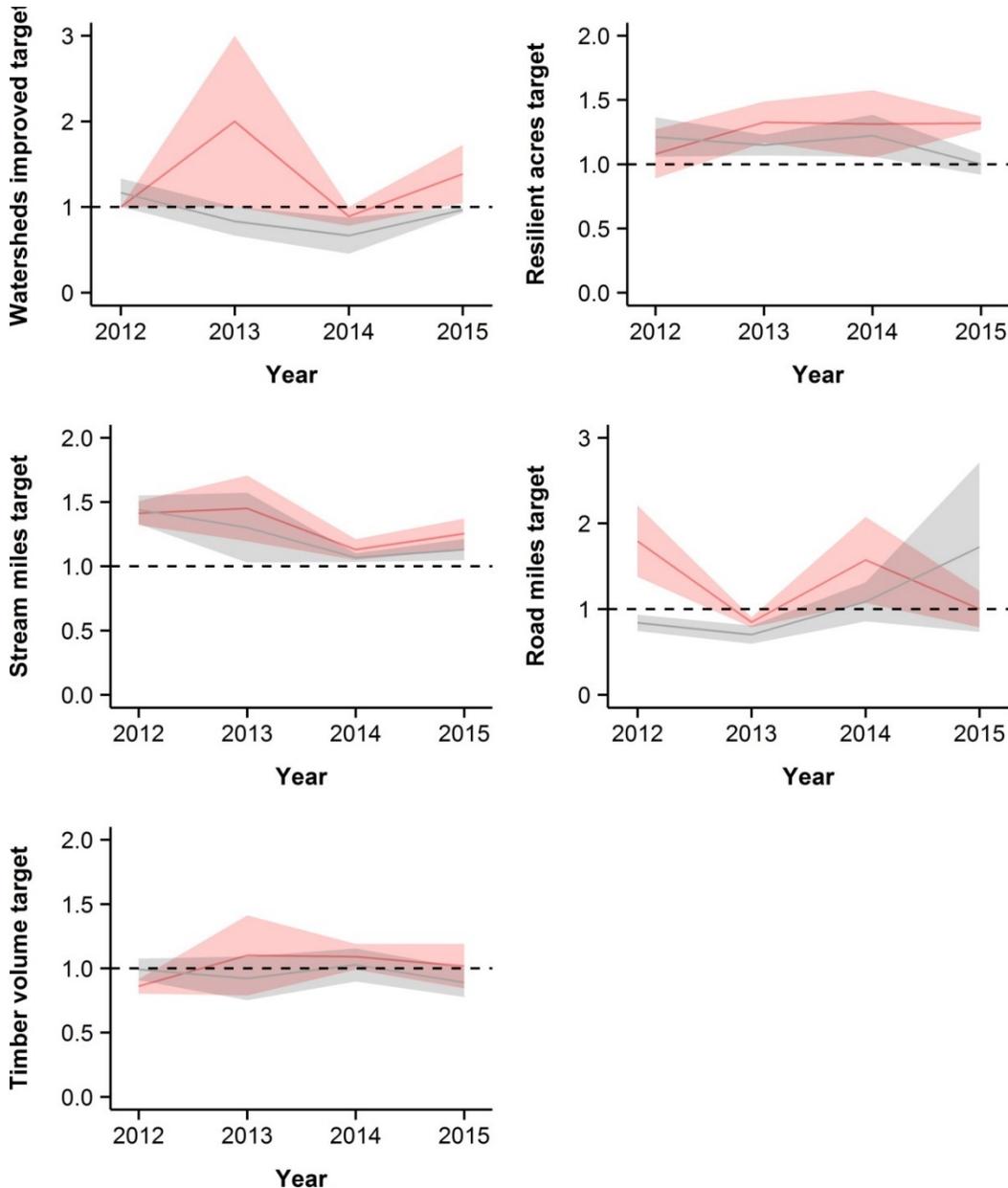


Figure 6: Ability of IRR regions (red) versus non-IRR regions (gray) to meet their targets. The dashed line indicates the target was met and anything above the line indicates that the target was exceeded. Note that the red line is typically above the gray line indicating that IRR regions are better at meeting their target. Data are regional means with standard error.

Results: IRR Regions Contribution to Overall Agency Accomplishments

The IRR regions contributions to overall agency accomplishments generally increased through time for all five measures, though the effect was sometimes small (Fig. 7). IRR regions made the greatest contribution to the number of watersheds improved, the primary outcome-based measure in the Forest Service. Even though IRR regions only contain 40 percent of National Forest lands by area, they provided up to 60 percent of the watersheds improved across the agency.

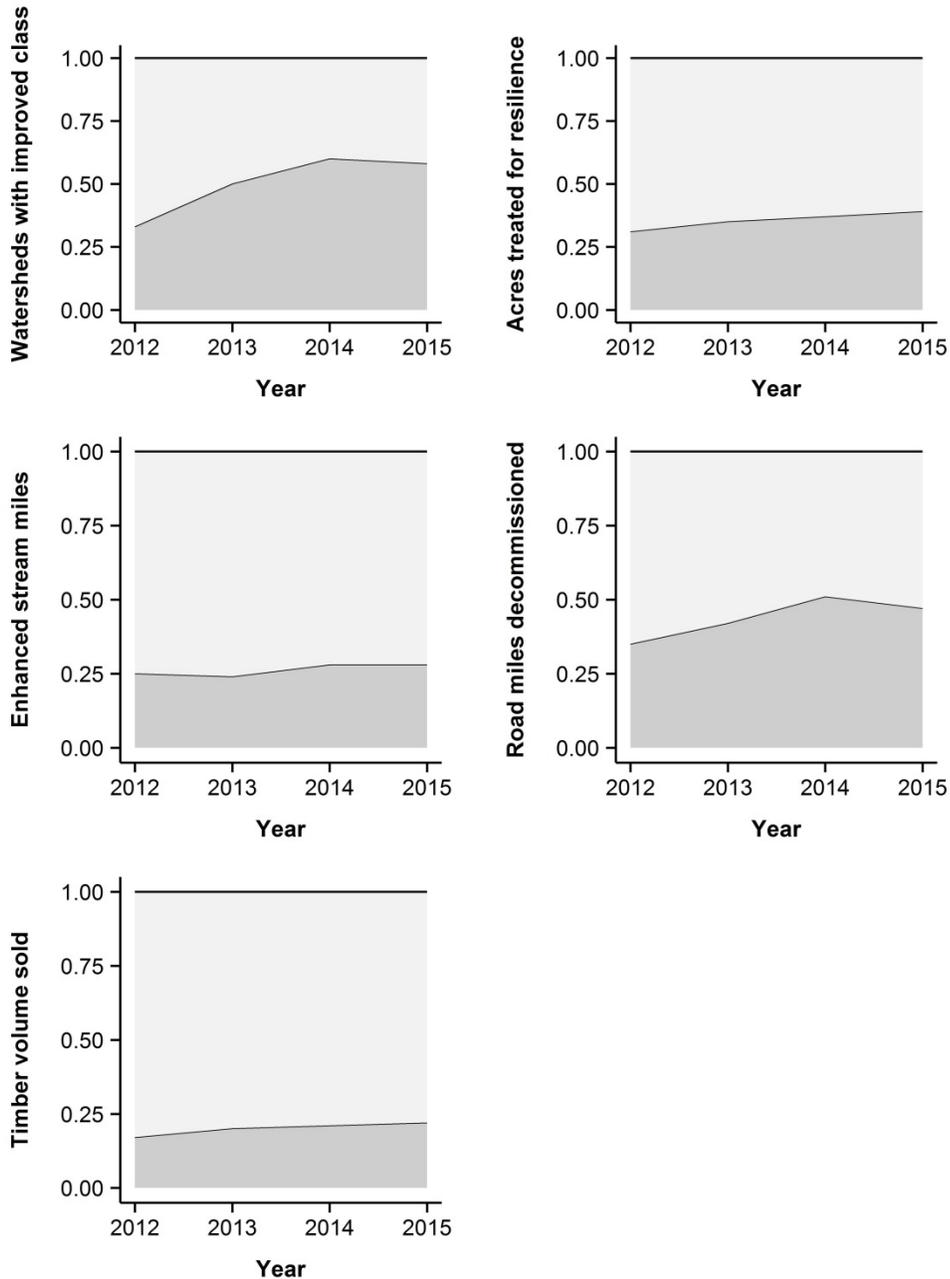


Figure 7: Contributions of IRR regions to agency totals for each performance measure. The vertical axis represents what percentage IRR regions (dark gray) contributed to agency totals (light gray).

Results: Regional Approaches to Prioritizing Restoration Work

The three IRR pilot regions approach the prioritization of IRR work differently, offering potential lessons learned for the advantages and disadvantages of different prioritization strategies.

Region 1

Under the IRR pilot authority, Region 1 melded a top-down and bottom-up approach to allocate funding to forests and programs with the most potential to meet targets for the five core measures, generate beneficial outcomes not traditionally captured through hard target numbers, and leverage partner or other program funding and opportunities. IRR has given Region 1 the opportunity to develop tools that help forests collect information in a collaborative fashion, while building integrated projects that result in meeting the five core IRR targets. Regionally, IRR is seen as an important tool to address long-term restoration plans and objectives and provide forests the flexibility to match the available funding and on-the-ground resource needs. Several forests adopted a visual display process to define an integrated program of work that prioritizes projects based on targets for core measures, larger ecosystem restoration outcomes, and funding needs.

Region 3

In Region 3, each forest prioritized projects in a different way. Prioritization criteria used included the need for restoration, reduction of wildfire risk, the Watershed Condition Framework, partner funding, ability to quickly complete environmental analyses required by the National Environmental Policy Act (NEPA), ongoing commitment from a prior year, or a combination of these criteria. Forest leadership, an IRR interdisciplinary team, or a combination of the two then prioritized projects according to these criteria.

Some forests in Region 3 adopted a more tactical approach, prioritizing projects based on a cost per acre ratio to ensure the watersheds improved target, while others prioritized projects based on the ability to leverage partner dollars for implementation. Other forests adopted a more strategic framework, designating priority watersheds on a forest and concentrating project work that met their criteria in those areas.

Generally, forests and projects that contributed towards multiple core performance measures were prioritized for funding and implementation. The Phase 2 monitoring report echoed this, finding that forest staff perceived that the core measures, specifically timber volume produced and watersheds improved, influenced the prioritization of projects and restoration work.

Region 4

In Region 4, the Regional Office gave specific direction to focus use of IRR funds to implement essential projects in Watershed Restoration Action Plans, with the expectation to direct funding to achieve priority work in the most important places at the most meaningful scale. It was recognized that not all IRR objectives could be met in each project and not all IRR funds would be spent on direct restoration actions. Funded projects were heavily driven by targets assigned to the five IRR measures, and those programs not captured in the five core measures were a

reduced priority. In 2014, all forests used a team approach to project prioritization, with teams including a few to several members. Team recommendations were typically shared with and approved by forest leadership. All forests capitalized on partnership opportunities and targeted landscapes or watersheds where there were opportunities to accomplish multiple objectives.

Both the regional reports and the third-party monitoring report indicate a wide range in prioritization experiences during the IRR pilot period. Forests with a strong culture of staff integration before the pilot or whose leadership actively engaged a diversity of staff areas reported positive experiences with IRR. Forests that continue to struggle to integrate staff areas or where program managers were not actively engaged in the prioritization and planning process tended to report struggles with the pilot.

Third-Party Monitoring Reports

To better understand progress and existing challenges as the Forest Service implements the program, the Forest Service sought a third-party evaluation of IRR and its effects. A team from Colorado State University and the University of Oregon is conducting a three-phase analysis of IRR, and they delivered their Phase 1 report in the spring of 2014, their Phase 2 report in the winter of 2015, and their Phase 3 report in the fall of 2015.

Summary findings are included below, with greater detail available in the full Phase 1, Phase 2, and Phase 3 reports, which are available online at:<http://www.fs.fed.us/restoration/IRR/results.shtml>.

Phase 1 Report

The Phase 1 report found that the IRR pilot:

- resulted in greater emphasis and time spent on program integration and project prioritization at the regional and forest levels;
- allowed staff to spend less time budgeting;
- increased flexibility to move dollars between programs, enter into multi-year contracts, focus on priority work, and fund larger scale projects in priority areas;
- allowed forests to focus on the most important work in any given year and to focus on the highest priority work for individual units; and
- consolidated decisionmaking with line officers as opposed to program managers.

Phase 2 Report

The Phase 2 report provides important data on Forest Service employee experience implementing the IRR pilot.

- Many Forest Service employees reported that IRR is increasing flexibility, complementing other authorities and improving prioritization and integration in restoration work.
- Employee perception of IRR ranged from positive to negative and differed depending on position within the organization. The majority of line officers saw a benefit to IRR because it is enabling them to pool resources and focus on priority projects on the

landscape. Some program managers feel that other, important programs were not receiving the attention they deserve under the IRR pilot authority.

- On average, Forest Service employees were neutral about whether IRR created restoration efficiencies or had helped them implement projects associated with multi-stakeholder collaborative processes.
- Many staff members reported that hard targets most influenced the allocation of IRR funds, followed by key projects in priority landscapes. There was concern among some staff that, as budgets decline, activities that are not associated with the five core IRR measures, are hard to measure, or expensive to accomplish, may become under-prioritized.

The Phase 2 report also highlighted that the IRR pilot is not occurring in a vacuum. There are many factors affecting the Forest Service ability to complete restoration work, and some of these factors make it difficult to tease-out exactly what impact IRR is having. Some of these confounding variables include declining budgets.

Phase 3 Report

The Phase 3 report investigated stakeholder opinions, perspectives, questions, and concerns about the IRR pilot. The third-party researchers conducted outreach on 15 national forests across the three pilot regions, reaching approximately 145 stakeholders. Key themes from Phase 3 include:

- Stakeholders wanted more information on the IRR pilot program and the Forest Service process for budget allocation and performance targets in general.
- Stakeholders felt that with increased integration there was increased flexibility to choose and design integrated projects, which could result in both positive and negative outcomes.
- Some stakeholders indicated they had seen improvements to integrated planning and implementation and that IRR complemented authorities like CFLRP.
- Other stakeholders expressed concern that under IRR, tracking accomplishments in program areas is more difficult, meaning forests are less accountable for accomplishments across multiple resource areas.

Positives and Negatives of the IRR Pilot Authority

Regional reporting and feedback over the 4-year pilot of IRR has identified additional positives and negatives of the IRR pilot authority.

Positive aspects of IRR include:

- Pilot regions believe the behavioral change of integrating those programs that help core IRR measures is the greatest benefit of the pilot IRR authority.
- The IRR pilot authority helps forests fund and accomplish projects at larger scales. This is in line with the overall agency objective to accomplish projects at a larger scale.
- IRR increased flexibility to focus on high priority restoration work and landscapes, address unexpected challenges, conduct larger projects, and enter into multi-year contracts.

- There are some indications of budgeting efficiencies with a single IRR BLI, such as not having to track and account for five separate BLIs. However, the agency does not have any quantitative evidence of the increased efficiency.
- Some lessons learned regarding integrated planning and implementation are being applied within the non-pilot regions.
- Focused investments in landscape-level projects allowed restoration actions to be funded in a single year that would otherwise require several years to complete.
- The focused, integrated effort under the IRR pilot authority made setting goals and priorities easier.

Challenges that remain with IRR include:

- Unit costs for accomplishments are more difficult to track with IRR than under a traditional BLI structure. In addition, implementing IRR in some regions but not all has created a dual budget structure, which currently takes extra budget and administrative staff time at the national level.
- In some cases, the focus on meeting the timber volume sold and acres treated for resilience drives project prioritization, and results in diminished funding and performance in other program areas, even those such as road improvement or fisheries work that contribute towards the five core measures.
- The need to meet targets for traditional output measures may drive prioritization and funding at the expense of ecosystem restoration goals. A number of programs, including fisheries, range management, air, soils, water rights, conservation education, botany, and rare species have seen reduced funding under the IRR pilot compared to earlier years. However, not all programs report the same negative impacts in each region.
- Managing the fuels program between two different BLIs and two distinct measures (acres treated in the WUI and acres treated overall) has created barriers to integration between the Hazardous Fuels and National Forest System restoration programs. This has led to reluctance to spend Hazardous Fuels dollars in non-WUI areas and IRR dollars in WUI areas and has prevented some restoration accomplishments from being captured in our current performance measures if they occur in the WUI.

The IRR Pilot within a Larger Context

IRR pilot implementation has occurred at the same time as other Forest Service initiatives designed to improve and expand restoration work, such as the Watershed Condition Framework, Collaborative Forest Landscape Restoration Program (CFLRP), the NRCS/Forest Service Joint Chief's Landscape Restoration Partnership, as well as the implementation of the 2014 Farm Bill authorities, permanent reauthorization of stewardship contracting, and implementation of the National Cohesive Wildland Fire Management Strategy.

The Phase 2 report found that Forest Service staff, on average, thought IRR complemented other restoration authorities. Responses indicated that staff believed IRR was most valuable for complementing, in order: the CFLRP, the Watershed Condition Framework, stewardship contracting, and the Good Neighbor Authority. Regional office staff and line officers rated this aspect of IRR more positively than staff overall.

Constraints outside of IRR have also affected the implementation of the pilot program, creating confounding variables that make it more difficult to assess the advantages of the pilot authority. The timing of IRR availability in FY 2012 (partway through the FY) focused priorities on "off the shelf" projects without additional collaboration.

The IRR pilot authority has also occurred during times of limited budgets and challenging market conditions, with sequestration further limiting budgets in FY 2013. In this environment, fixed costs on many forests are very high and many forests are having more trouble covering their baseline costs. This limits flexibility and capacity to implement projects under IRR. The declining Roads budget has also limited restoration work under IRR. The need to meet road system maintenance and other obligations has reduced the effectiveness of Legacy Roads and Trails funding included in IRR authority.

Future Direction and Opportunities

Regional IRR reports and the third-party monitoring reports suggest that partners could be more effectively engaged in the IRR pilot process. Many partners report that they generally like the concept of IRR and large-scale ecosystem restoration, but they have concerns that IRR authority will reduce funding for their particular program of interest. Forest Service experience to date shows that highly functional collaboratives can be useful in informing integrated projects. There may be opportunities to increase collaborative involvement in ecosystem restoration prioritization, planning, and support within IRR pilot regions and in the non-pilot regions.

The Phase 2 report tells us that employee opinion on the IRR authority is mixed. The majority of line officers surveyed saw a benefit to it because it is enabling them to pool resources and focus on priority projects on the landscape. Many program managers reported a negative perception of IRR and think that, under IRR, important programs are not getting the attention they deserve. This tension is not surprising given that a primary purpose of IRR is to help agency leadership prioritize restoration work, and this is occurring in a reduced funding environment. The Forest Service is committed to focusing limited agency resources where they will have the biggest impact on the landscape. This creates necessary tradeoffs and means that other worthwhile, but lower priority, work may not get done.

Conclusion

Regional reporting and feedback over the 4-year pilot of IRR suggests that IRR's primary value has been increased flexibility, complementing other authorities and improving prioritization and integration in our ecosystem restoration work.

IRR pilot regions were more likely to show gains in performance through time than non-IRR regions for most of the five IRR core measures. They also generally achieved a higher proportion of their assigned targets than non-IRR regions.

Downsides of the IRR pilot include the cost at the national level of maintaining two budget structures within the agency, increased difficulty in tracking unit costs, and an increased risk of diminished funding and performance in other program areas. However, the risk of programs being marginalized can be mitigated by strong leadership and communication among forest employees.

More generally, the IRR pilot program provides several valuable lessons about how to conduct integrated restoration work across the agency. IRR demonstrated how important it is for line officers and program managers to work together to set priorities and targets and to bring together people to address shared restoration goals. Collaborative prioritization and target setting led to more landscape-scale restoration and helped to concentrate resources on priority projects. It also fostered a culture of working together towards mutual benefit. Forests with a strong culture of staff integration or whose leadership actively engaged in a diversity of staff areas reported positive experiences with how priorities were set and resources allocated. Forests that continued to struggle to integrate staff areas or where program managers were not actively engaged in the prioritization were more likely to feel like their programs lack sufficient support. IRR also showed the value of emphasizing outcome-based performance measurements. IRR regions focused on moving watersheds into an improved condition class and were remarkably successful in achieving that goal. The IRR program also showed the budgeting and administrative efficiencies that could be gained by simplifying budgeting structures, although having IRR in only three of the nine regions created dual budget structures and generated more work at the national level.

We believe that these organizational behaviors and cultural attributes are the key drivers to success in developing an integrated approach to restoration. While the agency still hopes to be granted nation-wide IRR authority in the future, we are focused on implementing the lessons learned from IRR nation-wide, regardless of what happens with the IRR budget line item.

The Forest Service remains committed to accelerating the pace of restoration and continuing our work to create healthy landscapes and healthy communities and associated jobs and economic benefits. We will continue to integrate efforts to foster ecosystems that are resilient and adaptive, and to provide abundant clean water to Americans.

Through an integrated approach to restoration, we will continue to sustain and improve ecosystems that deliver so many benefits and values to the American people.

Appendix

Table A
Integrated Resource Restoration Pilot Funding Levels¹
(dollars in thousands)

Approp.	Budget Line Item	FY 2012 Pilot	FY 2013 Pilot	FY 2014 Pilot	FY 2015 Pilot	FY 2016 Pilot
NFS	Wildlife and Fisheries Habitat Management and Vegetation and Watershed Management ²	\$67,891	\$64,404	\$81,000	\$81,941	\$81,941
NFS	Forest Products	44,514	42,227	53,000	65,560	65,560
CIM	Legacy Roads and Trails	12,979	11,502	12,000	14,743	14,743
WFM	Hazardous Fuels Non-Wildland Urban Interface	20,966	19,907	24,000	28,077	24,000
	Total	\$146,350	\$138,040	\$170,000	\$190,321	\$186,244

1. Integrated Resource Restoration in FY 2012 to FY 2016 is a pilot program in Regions 1, 3, and 4. The funding amounts listed are the amounts authorized for transfer in the FY 2012 through 2016 Appropriations Acts.

2. This is the full amount authorized to transfer to both of these budget line items.

Table B: Subcomponents Measures Comprising the IRR Core Measure “Acres Treated Annually to Sustain or Restore Watershed Function and Resilience

Performance Measure	Performance Measure Description
Acres of lake habitat restored/enhanced	Reports the surface acres of lakes, ponds, and reservoirs enhanced using structural or non-structural improvements in the reporting year with current-year funds used for the explicit purpose of improving fish or other aquatic species habitat. Restoration/enhancement activities improve environmental features limiting biological capability of the particular water body. Only count portion of water bodies that exhibit clear biological benefits as a result of the action taken. For example: placement of an aerator may provide for overwinter survival in a ten acre lake - report the entire ten acres of lake with improved production capability. Include portions of lakes, ponds, and reservoirs restored or enhanced through the management of aquatic invasive species (plants, vertebrates, invertebrates, or pathogens) infestations. Accomplishment is reported when improvement has been completed. If work has been contracted, report accomplishment when the project work is obligated.
Acres of water/soil resources protected/maintained/improved	Includes treatments to protect, maintain, improve, or restore water or soil resources. Treatments may be focused on soil productivity); quality, and quantity of surface or groundwater resources); or timing of water flows per Forest Service Manual 2520. Land treatments, structures and other non-structural measures may be implemented. Land treatments may include those intended to protect, maintain, improve, or restore a) soils and plant cover to prevent erosion, sedimentation, and flooding); b) water infiltration, conservation or chemistry); c) water flows and geomorphic processes); or d) soil quality and productivity. Structural measures are those commonly used to control water flow or supply, thus protecting, maintaining, improving, or restoring soil stability, natural geomorphic processes, flood attenuation, runoff dispersion, infiltration, or evaporative processes. Include non-structural measures, such as liming to reduce acidity, and restoration treatments when not required to mitigate another project.
Acres of terrestrial habitat restored/enhanced	Total number of acres restored or enhanced to achieve desired terrestrial habitat conditions. Examples include improvement through application of a variety of management techniques, such as prescribed fire, seeding to improve foraging habitat, or mechanical treatment of priority areas to obtain desired habitat condition for the benefit of wildlife. Only count acres if the action taken results in clear benefits to wildlife resource. Include the number of acres restored or enhanced by management activities against terrestrial invasive species (plants, vertebrates, invertebrates, or pathogens) infestations. Accomplishment is reported when the project has been completed. If work has been contracted, report accomplishments when the project work is obligated.
Acres of forestlands treated using timber sales	Acres of forestlands treated using regeneration and intermediate harvest methods to provide for wood products and to improve and enhance ecosystem health and resiliency to wildfire and insect and disease epidemics. Acres for commercial timber sales designed to meet desired land and resource management plan conditions and the purpose and need of associated NEPA documents should be reported as accomplishments toward this measure.
Acres of forestland vegetation improved	Acres of improved forest vegetation receiving (timber) stand improvement treatments (TSI). TSI actions include release, weeding, precommercial thinning, pruning and fertilization activities. These maintain or increase the growth rate, resilience, species composition, and/or improve the quality of stands to achieve desired ecological conditions.

Performance Measure	Performance Measure Description
Acres of forestland vegetation established	Acres of vegetation established, including planting, seeding, site preparation for natural regeneration, and certification of natural regeneration without site preparation.
Acres of rangeland vegetation improved	Report all acres where rangeland vegetation improvement projects are implemented during the fiscal year. Treatments include nonstructural improvements, such as vegetation, prescribed fire, pesticide or herbicide treatments, as well as structural improvements where the purpose and need is to move the vegetative community toward desired ecological condition. In addition, report total wild horse and burro territory acres when removal of excess wild horse or burro populations during the fiscal year results in attainment of desired population levels identified in approved Territory Plans. For wild horse and burro removal outside of designated territories, report the estimated acreage of the area impacted by the removed animals.
Acres treated for noxious weeds/invasive plants on NFS lands	Treatment and retreatment of invasive plant (including noxious weeds) infestations includes only those treatment activities that occurred during the reporting period (10/1-9/30). Contracted treatment activities are recorded in the FY when contract funds are obligated, even if the treatment activity will occur after that fiscal year. Report all acres actually treated by an acceptable method for the specific objective of controlling invasive plant spread and/or reducing the density or area of occupation. Claim biological control methods for the year of release only where a population of bio-control agents is to be established (e.g., insects, fungus, bacterium, etc.), reporting 5 acres of accomplishment for each release. Separate 5 acre accomplishments may be reported for releases of bio-control agents which are separated from each other by at least 1/4 of a mile. Natural expansions of the bio-control agent's population are not considered additional accomplishments.
Acres of hazardous fuels treated outside the wildland/urban interface (WUI) to reduce the risk of catastrophic wildland fire	Acres of hazardous fuels treated outside the wildland/urban interface (WUI) to reduce the risk of catastrophic wildland fire.

Table C: IRR Five Core Measures by Region¹

Region	2012 Assigned Target	2012 Accomplished	2013 Assigned Target	2013 Accomplished	2014 Assigned Target	2014 Accomplished	2015 Assigned Target	2015 Accomplished
Number of watersheds moved to improved condition class								
Region 1*	2	2	1	4	3	3	6	5
Region 2	0	0	1	1	1	1	1	1
Region 3*	0	0	1	1	1	1	1	2
Region 4*	1	1	1	1	3	2	3	4
Region 5	3	3	1	0	1	0	1	1
Region 6	1	1	2	2	1	1	5	4
Region 8	1	2	1	1	1	1	1	1
Region 9	0	0	1	1	3	0	0	0
Region 10	0	0	1	1	1	1	1	1
IRR regions	3	3	3	6	7	6	10	11
non IRR regions	5	6	7	6	8	4	9	8
Agency Total	8	9	10	12	15	10	19	19
Miles of stream habitat restored or enhanced								
Region 1*	300	426	360	502	457	477	400	475
Region 2	145	222	163	147	165	166	148	169
Region 3*	130	162	113	217	154	198	120	177
Region 4*	220	345	259	269	278	295	300	327
Region 5	350	465	416	394	385	370	397	403
Region 6	650	773	709	607	654	694	720	738
Region 8	470	670	529	1,379	528	618	620	609
Region 9	450	554	506	588	585	606	425	459
Region 10	45	87	50	66	56	65	70	107
IRR regions	650	933	732	987	889	970	820	979
non IRR regions	2,110	2,771	2,373	3,181	2,373	2,519	2,380	2,486
Agency Total	2,760	3,704	3,105	4,168	3,262	3,488	3,262	3,465
Timber Volume Sold (hundred cubic feet, CCF)²								
Region 1*	565,000	423,146	546,000	346,653	570,000	566,970	580,000	623,852
Region 2	385,000	497,212	365,500	523,065	500,000	476,854	484,650	541,459
Region 3*	239,000	224,481	233,000	393,964	250,000	322,430	320,000	409,721
Region 4*	233,000	206,294	227,500	223,991	230,000	227,346	252,747	175,512
Region 5	709,000	638,280	650,000	539,799	1,000,000	588,130	700,000	687,805

Region	2012 Assigned Target	2012 Accomplished	2013 Assigned Target	2013 Accomplished	2014 Assigned Target	2014 Accomplished	2015 Assigned Target	2015 Accomplished
Region 6	1,214,750	1,147,419	1,114,000	1,170,621	1,160,000	1,143,666	1,230,737	1,119,350
Region 8	1,065,000	1,111,533	969,000	949,975	1,050,000	1,086,476	1,125,000	1,074,725
Region 9	661,000	727,127	644,500	692,712	700,000	721,419	720,000	739,778
Region 10	160,250	108,818	200,000	33,543	140,000	219,906	145,013	49,294
IRR regions	1,037,000	853,921	1,006,500	964,608	1,050,000	1,116,746	1,152,747	1,209,085
non IRR regions	4,195,000	4,230,387	3,943,000	3,909,714	4,550,000	4,236,450	4,405,400	4,212,411
Agency Total	5,232,000	5,084,308	4,949,500	4,874,322	5,600,000	5,353,196	5,800,000	5,421,495
Timber Volume Sold² (million board feet, MMBF)								
IRR regions	515	444	503	517	525	591	576	639
non IRR regions	2,085	2,200	1,972	2,093	2,275	2,240	2,203	2,228
Agency Total	2,600	2,644	2,475	2,610	2,800	2,831	2,900	2,867
Miles of roads decommissioned								
Region 1*	345	383	380	290	277	327	322	330
Region 2	238	300	301	282	196	254	250	239
Region 3*	115	69	68	56	54	139	69	94
Region 4*	190	286	284	274	263	255	302	187
Region 5	105	274	273	165	115	33	132	18
Region 6	310	208	208	121	84	108	121	100
Region 8	350	337	336	105	73	49	30	199
Region 9	355	223	223	175	122	232	155	113
Region 10	20	23	23	23	16	17	19	20
IRR regions	650	738	732	621	594	721	693	610
non IRR regions	1,378	1,365	1,364	870	606	694	707	689
Agency Total	2,028	2,103	1,936	1,491	1,200	1,415	1,600	1,299
Acres treated annually to sustain/restore watershed resiliency								
Region 1*	240,700	307,420	211,816	213,726	290,000	259,659	260,000	318,030
Region 2	216,500	214,430	190,520	190,553	184,000	244,406	216,000	299,389
Region 3*	283,100	198,574	249,128	380,315	241,000	434,309	338,000	470,214
Region 4*	225,000	283,795	198,000	285,255	300,000	372,614	314,000	424,192
Region 5	165,000	249,641	145,200	169,052	155,000	158,977	228,000	214,955
Region 6	314,500	464,793	276,760	327,804	505,000	452,580	505,000	428,457
Region 8	910,000	556,688	800,800	681,951	800,000	674,990	721,000	657,441

Region	2012 Assigned Target	2012 Accomplished	2013 Assigned Target	2013 Accomplished	2014 Assigned Target	2014 Accomplished	2015 Assigned Target	2015 Accomplished
Region 9	219,000	246,116	192,720	252,476	200,000	260,329	284,000	253,706
Region 10	26,200	40,907	23,056	31,990	25,000	48,154	34,000	34,597
IRR regions	748,800	789,788	658,944	879,297	831,000	1,066,582	912,000	1,212,435
non IRR regions	1,851,200	1,772,574	1,629,056	1,653,824	1,869,000	1,839,436	1,988,000	1,888,545
Agency Total	2,600,000	2,562,363	2,288,000	2,533,121	2,700,000	2,906,018	2,900,000	3,100,979

1. Each regional total is rounded to the nearest unit; agency totals sum the exact total, so they may vary slightly from the sum of regional totals presented in the table. "Assigned Targets" to Regions may not always add to the national target to allow for flexibility in meeting the national target throughout the year.
 2. Timber volume targets and accomplishments are provided in both hundred cubic feet (CCF) and million board feet (MMBF). Because of the conversion factors used between CCF and MMBF are different for targets vs accomplishments, the percent of target accomplished will not be the same when using CCF vs. MMBF.
- * Regions 1, 3, and 4 are IRR regions. Non-IRR Pilot regions include Regions 2, 5, 6, 8, 9 and 10. The Forest Service does not have a Region 7.