

Evaluating the Integrated Resource Restoration Line Item

Results from a Survey of National Forest System Staff

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Executive summary

The Integrated Resource Restoration (IRR) budgetary approach, which has been implemented on a pilot basis in the Northern, Southwestern, and Intermountain Regions since fiscal year 2012, is meant to facilitate holistic and integrated restoration work at landscape scales on national forests. It combines previously separate budget line items into a consolidated funding stream for integrated restoration planning and implementation. At the request of the U.S. Forest Service, we are conducting a third-party evaluation of the IRR pilot. Our objectives are three-fold: 1) to understand strategic planning approaches and whether improvements in efficiency, prioritization, flexibility, and achievement of restoration outcomes are occurring under the IRR pilot; 2) to assess internal perceptions of the pilot, current challenges, and opportunities for improvement; and 3) to determine the extent to which current performance measures and targets facilitate accomplishment and communication of outcomes. The first phase of our work, based on interviews with staff in the pilot

regions, found that IRR is changing strategic planning approaches at the regions and on many forests, improving integration and prioritization, and allowing some forests more flexibility to focus on their priority work. Staff said effective forest supervisor leadership was essential to IRR's success. The primary concerns that surfaced were around the role of targets and performance measures in guiding the work under IRR, potentially leading to outcomes that may not always align with the goals of the IRR.

This report summarizes our findings from phase 2, which involved a web-based survey across Forest Service staff in program areas associated with IRR in the pilot regions. We received completed surveys from 1,210 regional- and forest-level employees, including 114 line officers, across the three pilot regions. Overall, there was a 47 percent response rate. No differences were observed for participation rates by region or units within regions, suggesting limited threat of response bias. A summary of our findings follows.



General comments

- About 78 percent of those surveyed had heard of IRR. Of those, 91 percent of line officers and 62 percent of other staff said they knew a fair amount or a great amount about IRR.
- Typically, line officers were more positive than non-line staff about IRR, and regional offices were more positive than supervisor's office (SO) and district staff. Because SO and district staff are more numerous, and therefore a greater percentage of the population we surveyed, overall means are usually lower than those for regional office (RO) staff and line officers.

Overall effectiveness of IRR

- Measured by several factors, there was a wide range of responses from very positive to very negative about IRR's overall effectiveness, with the sample as a whole on the fence or neutral. Line officers and regional office staff were more positive about the overall effectiveness of IRR compared to other staff.
- Staff on average was somewhat positive about the value of IRR for complementing other res-

toration authorities. Responses indicated that staff believed IRR was most valuable for complementing, in order: the Collaborative Forest Landscape Restoration Program, Watershed Condition Framework, Stewardship Contracting, and Good Neighbor Authority. Regional office staff and line officers rated this aspect of IRR more positively than staff overall.

- Staff members on average did not feel IRR has improved prioritization; however, line officers and regional staff on average indicated there was some improvement to prioritization at the national forest and regional levels.
- Staff, on average, was on the fence as to whether integration across programs had improved; however, line officers and regional office staff indicated on average that there has been some improvement to integration, with over half of line officers saying integration had improved on their national forests.
- In general, no group of respondents felt that IRR was increasing efficiency in any area.

- Staff was somewhat positive about the value of IRR for increasing flexibility to focus on high priority restoration work, move dollars between programs, address unexpected challenges, conduct larger projects, and enter into multi-year contracts. A majority of line officers and regional staff had positive views about this aspect of IRR.
- A majority of line officers said IRR was the right direction for the Forest Service to achieve its restoration goals, while staff as a whole was on the fence or neutral on this.
- Overall, line officers and regional office staff tended to believe IRR was improving their ability to implement projects with multi-stakeholder collaborative groups.

Outcomes, challenges, and staff recommendations

Performance measures, targets, and impacts to programs

- On average, staff was neutral with regard to whether the IRR performance measures supported the prioritization of restoration work. Staff said, on average, that sometimes the performance measures detract from priority work and said this was most true of the timber-volume-sold target.
- Overall, respondents said that hard targets influenced the allocation of IRR funds most, followed by funding key projects in priority landscapes. Other factors influencing the allocation of IRR funds included priority areas or projects important to regional or national forest leadership, fixed costs and salary requirements, and partnership priorities or local political factors.
- In general, staff felt that some program areas had been negatively impacted by IRR. This varied by region, and all program areas were mentioned at least once. Line officers said the programs most significantly impacted included range management, noxious weeds/invasive species management, wildlife, and the legacy roads and trails programs.

Internal and external communication

- Thirty-eight percent of non-line staff said they knew very little or nothing about the IRR. This is in addition to the 23 percent of staff who indicated they had never heard of IRR and were consequently released from taking the survey. Increased internal communication would be valuable.
- Staff on average said external stakeholders do not understand or support IRR.

- IRR began at the same time that budgets took a significant decline. Consequently, staff said it is difficult to evaluate the impacts of IRR independent of budget declines, which required units to spend much of their funding paying for base programs and salaries.
- Some staff would like increased clarity about the goals of IRR, sideboards for prioritization, and information about strategies to effectively accomplish prioritization and integration.
- Regional office communication and guidance could be improved under IRR, specifically with regard to processes for prioritizing projects. It also appears that districts could benefit from additional communication from supervisor's offices.
- Staff felt that efforts of forest-level staff working across program areas were most important for IRR's success, followed by leadership from the forest supervisors' offices. Staff felt that leadership from the RO or the Washington Office and prior integration at the regional or forest level were somewhat less important.

Issues to address going forward

- IRR's primary value at this time is in increasing flexibility, complementing other authorities, and improving prioritization/integration.
- Investing in and supporting forest leadership and effective forest-level processes is essential.
- It would be valuable to explore impacts to programs and the differences in these impacts across regions; some of these impacts could be due to declining budgets.
- Communication could be improved internally and externally, particularly when line officers say IRR supports collaborative projects.
- Half of line officers feel IRR is the right direction for the agency; however, achieving the full potential of the IRR will take time.



Introduction

The Integrated Resource Restoration (IRR) budgeting tool, which combines “legacy” budget line items (BLIs) into a combined restoration BLI, is meant to provide increased flexibility to conduct integrated restoration work, facilitate the identification and implementation of priority restoration work, support integrated project planning and implementation, and lead to budgetary efficiencies (see Appendix A for more information on the IRR pilot). It is essential to evaluate the impacts and efficacy of the IRR approach early on, both to communicate its effects internally and externally and to learn how the IRR approach can be successfully implemented. The Forest Service asked us to conduct a third-party evaluation of the IRR and its effects to provide information for the Forest Service, Congress, and stakeholders as the pilot comes up for possible extension and expansion. Our evaluation focused on three sets of questions:

- How is strategic planning taking place under the IRR and how has it changed with this new budgetary approach? How are regions and forests identifying their priority restoration work under the new approach and is this changing activities on the ground?

- What are internal agency perceptions of the effects of IRR on efficiency, flexibility, integration, and prioritization? Are the expected benefits of IRR being achieved? What is the level of internal support for the program; what are staff concerns; and what are the perceived opportunities?
- How are targets and performance measurement affecting planning under IRR, do they facilitate identifying priority restoration work, and are they effective for communicating restoration accomplishments? What changes could be made as the pilot moves towards national implementation?

Overview of the third-party evaluation

The third-party evaluation was designed to provide an external review of the IRR pilot for the Forest Service, stakeholders, and Congress before it is considered for nationwide implementation. Our review began in August of 2013 and, to date, has involved two phases:

- Phase 1: Interviews with regional and forest level staff across the pilot regions. Beginning in August of 2013 through December 2013, 56 interviews were conducted across the pilot regions, based on key questions identified from

12 interviews with Forest Service Washington Office personnel and input from key external stakeholder. Findings were analyzed and then presented in a Phase 1 report¹ and in-person briefing in Washington, D.C. in March 2014. These findings are summarized briefly below.

- Phase 2: Web-based survey, which is the subject of this report, of over 2,500 staff in the pilot regions to determine widespread perspectives on the IRR. This phase took place between March and October of 2014.

Key findings from Phase 1

In Phase 1, we found that the IRR pilot had: 1) changed regional and forest level strategic planning approaches; 2) resulted in greater emphasis and time spent on program integration and project prioritization at the regional and forest levels; 3) allowed regional staff to spend less time budgeting, while increasing flexibility; 4) allowed forests to focus on the highest priority work in any given year; and 5) concentrated decision making power with line officers, making these personnel central to IRR's success.

The primary concerns regarding IRR revolved around the role of performance measurement and targets. Staff indicated that the combined impact of integrated funding and declining budgets might result in IRR funding being used primarily to reach hard targets, at the expense of higher priority restoration work. Specifically, staff was concerned that: 1) activities not associated with hard targets, that are hard to measure, or are relatively more expensive might be under-prioritized over time. Although this has always been an issue for the Forest Service, under IRR, impacts on entire program areas could be more severe; and 2) the focus on priority landscapes and large projects may lead to less attention on smaller or less integrated projects, even when these may be high priority projects for particular resources. In essence, targets and performance measures significantly drive the work done under IRR, leading to concerns as to whether these measurements may work counter to the goals of IRR, particularly over time.

Main objectives and approach for Phase 2

Phase 2 took place between March-October 2014 and involved a confidential, web-based survey of Forest Service staff across the pilot regions. The purpose was to determine whether the Phase 1 findings were consistent across staff in the pilot regions, and to investigate whether people in different program areas or regions, at different levels of the organization (i.e. regional staff versus those at supervisor or district offices), or line officers vs. other employees, had different perceptions of the successes, challenges, and outcomes of the IRR pilot.

Our objectives for Phase 2 were to address the following questions:

1. What are staff levels of knowledge and experience with IRR across the pilot regions?
2. What is the level of internal support for IRR and does staff believe it has been effective in improving efficiency, flexibility, integration, and prioritization associated with restoration efforts? What factors have influenced integration across programs and the prioritization of restoration efforts?
3. What are the primary challenges associated with IRR implementation and are particular program areas or regions having relatively more challenges? How can these challenges be addressed to increase the benefits of the IRR?
4. Do the IRR performance measures and associated targets effectively communicate the results of the IRR? To what extent do the performance measures and associated targets influence the implementation of restoration activities and how can they be improved?
5. Does staff feel internal and external communication has been adequate and does IRR support work with external stakeholders?
6. Have on-the-ground restoration outcomes been affected by the IRR pilot?

General approach and sampling methods

To address these questions, we sought information from Forest Service line officers and other staff members within program areas associated with IRR at the regional, supervisor, and ranger district offices in the IRR pilot regions. This included the following program areas: Acquisition Management; Air Management; Budget, Finance, and Accounting; Ecosystem Assessment, Planning, and Management; Engineering; Forest Management; Fire and Aviation; Lands and Minerals Management; Planning, Appeals, and Litigation Team; Public, Governmental, and Tribal Relations; Rangeland Management; Recreation, Heritage, and Wilderness Resources; Wildlife, Fisheries and Rare Plants; and Watershed Management. We obtained employee lists from the 35 national forests in the three pilot regions and used the Forest Service organizational directory to obtain their contact information. A total of 196 line officers and 4,121 staff members were identified as people who potentially had knowledge and experience with IRR; this was our population of interest. The survey was sent to a sample of this population, totaling 2,596 people. We assumed that as key decision-makers the line officers would be

most likely to have knowledge and experience with the IRR, and, therefore, we included all 196 line officers in the sample. The remainder of the sample included 2,400 staff members randomly chosen from within the pilot regions.

Overall, we received 1,210 surveys, (a 47 percent response rate), representing a high response rate for external online evaluation surveys. We received 114 responses from line officers, a 58 percent response rate for this sub-population. We received surveys in close proportion to the number of people across administrative levels (i.e. regional, supervisor, and ranger district offices) and across the pilot regions, indicating the responses represented our population of interest. There were no statistical differences observed for participation rates by region or units within regions, suggesting limited threat of response bias.

We sampled equally across the population in the pilot regions. Therefore, the majority of our respondents are district staff, because they are the most populous group in the Forest Service, followed by supervisor's office (SO) staff, regional office (RO) staff, and line officers, who are present at all levels

Table 1 Completed surveys by region and administrative level

	Northern Region (R1)	Southwestern Region (R3)	Intermountain Region (R4)	Total
Regional office				136
Non-line officer staff	48	47	40	135 (12.3%)
Line officers	-	-	-	1 (1%)
Supervisors office				443
Non-line officer staff	149	148	120	417 (38%)
Line officers	7	8	11	26 (23%)
Ranger district				631
Non-line officer staff	199	171	174	544 (50%)
Line officers	25	31	31	87 (76%)
Total				1,210
Non-line officer staff	396 (100%)	366 (100%)	334 (100%)	1,096
Line officers	33 (100%)	39 (100%)	42 (100%)	114

Note: Region identification for the regional office line officer excluded to maintain confidentiality.

of the organization (see Table 1, page 6). In general, we found that line officers and RO staff were more positive about IRR than SO and district staff. Therefore, means are usually lower or less positive for staff overall, as compared to means for line officers or RO staff.

Data reduction and analytic strategy

Throughout the report we examine differences across regions, levels of the organization, region-by-level differences, line officers vs. non-line officer staff, and across different program areas. We refer to these various groups throughout this report as “sub-populations.” Most of our questions asked respondents whether they agreed or disagreed with a particular statement. For example, participants responded to the item “IRR is the right direction for the Forest Service” using a 5-point rating scale, where 1=strongly disagree, 2=disagree, 3=neither agree nor disagree, 4=agree, and 5 =strongly agree. Note that a response of 3 is “on the fence,” indicating neither agreement nor disagreement. Respondents also could select a “don’t know” option.

Prior to formal analyses, data were inspected for out-of-range values, missing data, and distributional properties. Where possible, we employed standard data reduction techniques to compute composite “scale scores.” When sets of similar items are asked together on a topic (e.g., IRR impact on flexibility in a number of different areas), are highly correlated, and “hang together” in factor analyses, they can be averaged to create an index score to provide an overall evaluation of flexibility. Scale scores provide greater variation and better index responses from low to high because they are more reliable and valid measures of a topic than any individual item assessed alone. All scale scores were required to consist of a single factor solution (meaning the items do not substantively measure two different topics) and were required to have high internal consistency assessed by Cronbach’s alpha reliability.

To address each of the evaluation research questions, we examined descriptive information including frequencies and means for the sample as a whole as well as for subpopulations. More formal-

ly, we conducted statistical “mean comparisons” across subpopulations using standard, normal theory approaches, including multivariate analysis of variance models (MANOVA) and independent sample t-tests among program area comparisons. In some cases, nonparametric tests were conducted for frequency counts or percentages compared across subpopulations. Multivariate analyses provide the advantage of statistical control for other variables and provide results using “adjusted means.” For example, when comparing opinions on the IRR effectiveness, scores across groups are adjusted using statistical controls (e.g. years of experience in the Forest Service, levels of knowledge of the IRR, or Forest Service Region). Any observed differences by region, therefore, hold constant or control for differences in years of experience; when looking at responses for line staff, potential differences attributed to a greater proportion of line officers in a given region are held constant. These approaches control for potential confounds among variables. The adjusted means provide more statistically reliable comparisons among groups than would be accomplished by comparing regions only, which, for example, could mask important findings that should be attributed to organizational level. **For multivariate analyses throughout the report (unless noted otherwise), all adjusted means controlled for region, supervisory office level, line officer status, years with the Forest Service, and GS-level.**

The “adjusted means” differ from what are called “unadjusted means,” which provide an overall mean without accounting for differences across sub-populations. The standard deviation (SD) associated with unadjusted means identifies the level of variation the responses have from the mean; 68 percent of responses lie within plus or minus one standard deviation. Adjusted means do not include standard deviations, but rather, standard errors (SE), which provide an approximation of error and confidence intervals associated with the mean (SEs are available upon request). Frequency counts and their percentages are also reported for individual items for descriptive purposes. Even when means are between 3 and 4, a majority of respondents might have said they agreed with a particular state-

ment. Frequencies provide this kind of important perspective. Frequencies do not include controls for potential confounding factors as do the adjusted mean analyses. Unless otherwise noted, when we discuss a percentage of people who said they agreed/strongly agreed with an item or disagreed/strongly disagreed, we are referring to scores ≥ 4 or ≤ 2 .

Multivariate and sensitivity analyses were conducted separately for levels of knowledge on the IRR pilot; we found that the level of experience respondents had with IRR did not influence our findings. In other words, responses were not statistically or substantively different if we considered results from those who said they had a great deal of knowledge about the IRR, compared to analyses including less knowledgeable groups as well. Similarly, people who said they knew nothing about IRR answered very few questions. Sensitivity analyses confirmed that responses from these individuals did not bias our results.

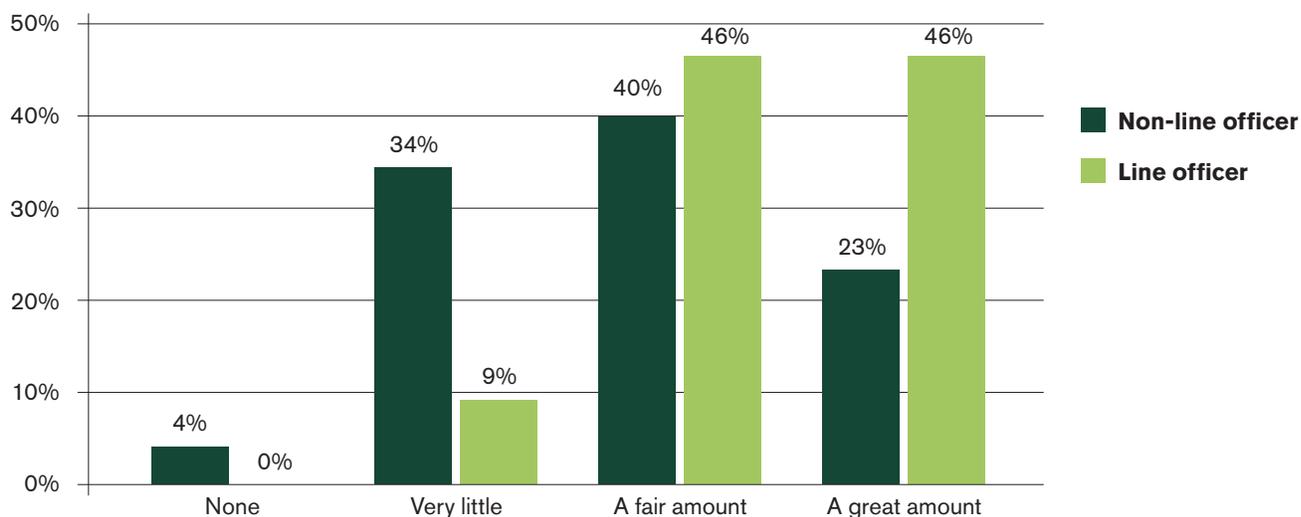
For determining “statistically significant” differences among groups, we used two-tailed probability tests with $p < .05$ (i.e., 95 percent confidence that results are not due to random chance). In the results

that follow, **we only report differences across sub-populations where the findings were statistically significant; any exceptions to this are noted in the text or table legends as appropriate.**

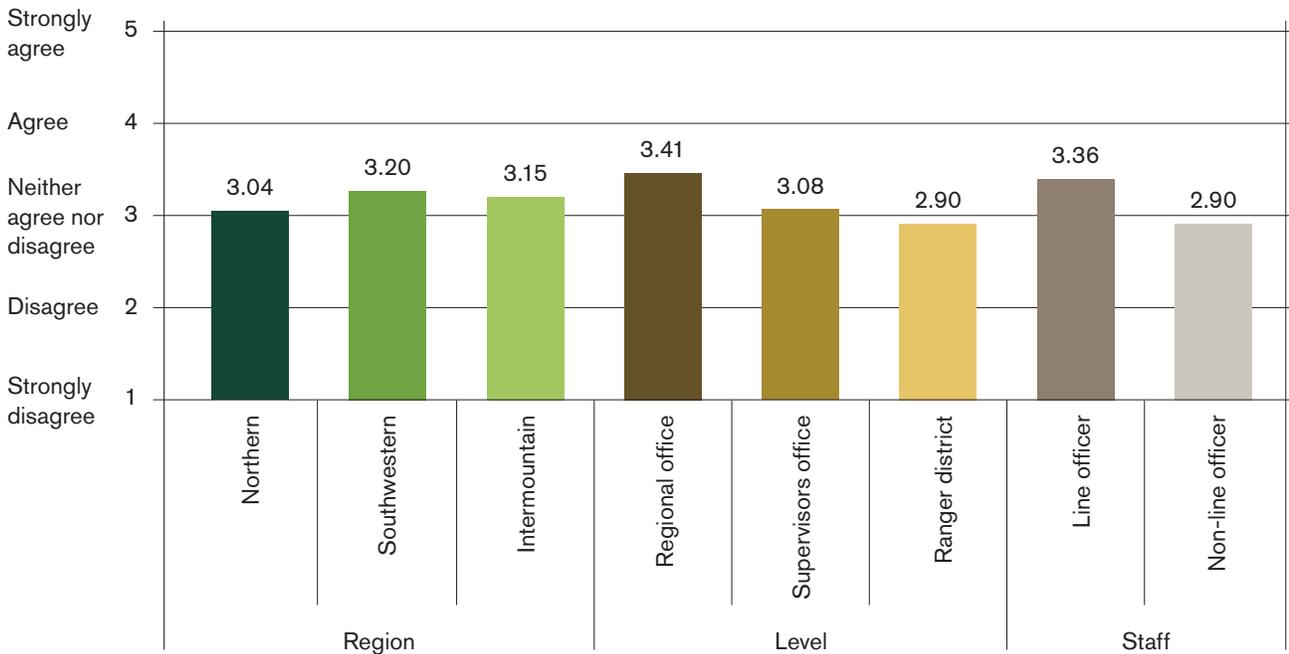
Results

Our first question asked whether the respondent had previously heard of IRR, and the majority (78 percent) of all respondents had. Those who had not were released from answering the remaining survey questions. Respondents were then asked to identify their levels of knowledge or experience with IRR, with four options: none, very little, a fair amount, or a great amount. Ninety-one percent of line officers said they knew a fair or great amount about IRR, while 62 percent of non-line officer staff members said they knew a fair or great amount; 34 percent said they knew very little about IRR (see Figure 1, below). In addition to the 22 percent who had never heard of IRR and did not take the rest of the survey, another 4 percent of staff members who had heard of the IRR said they had no knowledge of it. These people were allowed to take the survey, but many responded to most questions by selecting the “don’t know” option.

Figure 1 Levels of knowledge or experience with IRR



Note: Frequencies are reported for respondents who had previously heard of IRR.

Figure 2 Mean perceived effectiveness by region, administrative level, and staff level

Note: The responses across regions did not differ significantly; these are adjusted means.

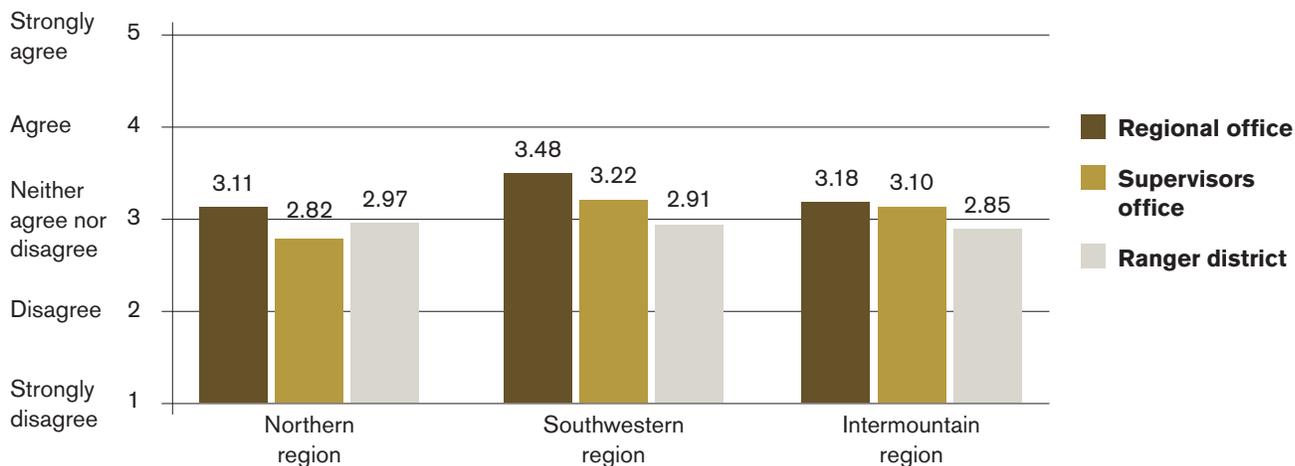
Effectiveness of the IRR

A primary objective of the survey was to determine the overall perceived effectiveness of the IRR and if these perceptions differed across regions, administrative levels, line officer versus non-line officer staff, or program areas. We assessed perceived effectiveness based on responses regarding improvements to integration, prioritization, efficiency, and flexibility; whether the IRR overall is the right direction for the Forest Service and supports improved outcomes; and whether IRR complements other restoration authorities. The responses to these items factored together to create an index of overall perceived effectiveness.

The overall unadjusted mean on a scale of 1 to 5, was 2.85, indicating that staff on average were slightly negative about IRR's overall effectiveness. Based on the standard deviation (SD=0.75), approximately 68 percent of staff responses fell between 2.10 and 3.60, although responses ranged from 1 to 5; in other words, most people were on the fence

about IRR's effectiveness, but there were some who were very positive and others who were very negative.

RO staff members were more likely than SO and district staff to say that IRR has increased effectiveness; line officers were also more positive about IRR than non-line staff (see adjusted means in Figure 2, above). About 6 percent of RO staff members had scores ≤ 2 on a scale of 1-5 for overall effectiveness, indicating they disagreed/strongly disagreed with statements indicating that IRR had been effective, while 13 and 17 percent of SO and district staff members, respectively, had scores ≤ 2 . Approximately 7 percent of each of the RO, SO, and district staff populations agreed/strongly agreed IRR had improved overall effectiveness (with scores ≥ 4 on a scale of 1-5). Line officers were more positive about IRR's effectiveness than non-line officer staff members (see Figure 2, above). Twelve percent of line officers, compared to only 6 percent of non-line staff, had composite scores of ≥ 4 regarding IRR's overall

Figure 3 Mean perceived effectiveness by administrative level and region

Note: These are adjusted means.

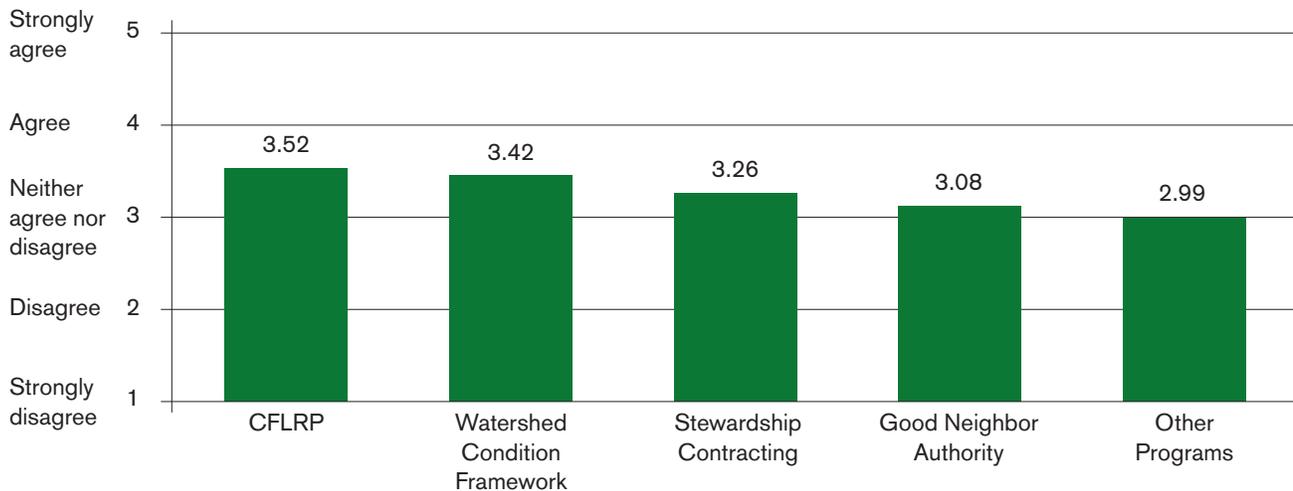
effectiveness; 9 percent of line officers, compared to 15 percent of non-line staff, were negative about IRR's overall effectiveness, with scores ≤ 2 . Importantly, with composite scores, it can be appropriate to consider anything >3 a positive score for the index, because it is a continuous and combined score. In this case, if we look at the number of line officers with scores >3 , 53% scored overall effectiveness >3 compared to the only 12% who scored it ≥ 4 . Note, throughout the remainder of this report we do not include this level of detail on the subpopulation response percentages, included here to provide a sense of the range of responses distributed around the means.

In addition, budget staff members were more positive about IRR's effectiveness than staff members in other program areas, while personnel in the forest management, rangeland, watershed, and wildlife programs were less positive about IRR's effectiveness than staff outside their program areas. Simultaneously taking into account regions and levels, we found the Southwestern Regional Office staff was more positive than staff in other regions and administrative levels, while staff from the Northern Region supervisor's offices was the least positive

about IRR's effectiveness. The Northern Region district offices were significantly more positive than district offices in other regions (see Figure 3, above).

Does IRR complement other authorities?

It was also valuable to look at responses to some of the individual questions that contributed to the overall indicator of effectiveness. We asked staff if they thought the IRR complements the Collaborative Forest Landscape Restoration Program (CFLRP), the Good Neighbor Authority, the Stewardship Contracting Authority, and the Watershed Condition Framework. As a whole, staff tended to be somewhat positive about the value of IRR in complementing other Forest Service restoration programs and authorities (unadjusted $M=3.37$, $SD=0.82$; see Figure 4, page 11). Line officers, RO staff, and budget staff on average rated this aspect of IRR more favorably than other respondents. For instance, the adjusted mean for line officers on this item was 3.80, where 44 percent of line officers agreed/strongly agreed with the statement that IRR complements these other authorities and only 4 percent disagreed/strongly disagreed. On average, staff in the fire and aviation, forest management, range, and watershed programs was less positive than staff outside their programs about IRR's value in complementing other restoration authorities.

Figure 4 Mean agreement that IRR complements other authorities

Note: These are adjusted means.

Has IRR led to improved prioritization?

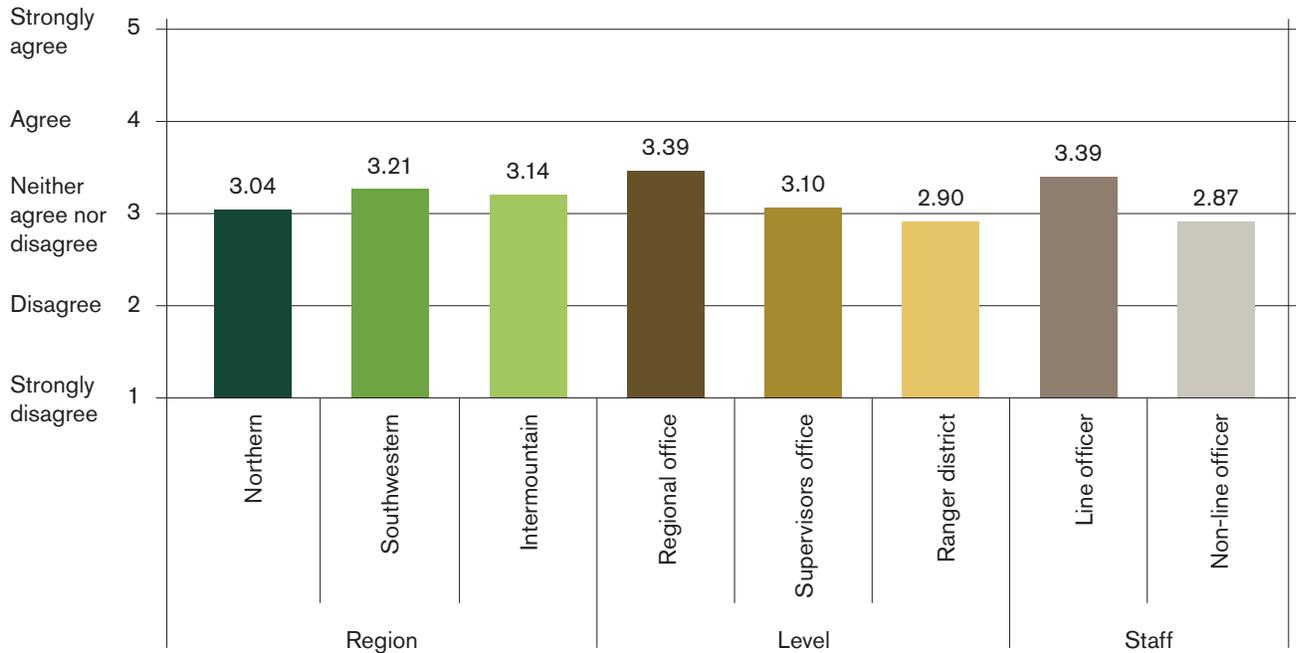
Overall, most respondents did not agree with the statement that IRR had resulted in better processes to prioritize restoration activities (unadjusted $M=2.86$, $SD=1.05$). Twenty-five percent of staff agreed/strongly agreed with this statement while 36 percent disagreed/strongly disagreed. Note that national forest staff was asked to rate improvements to prioritization processes on both national forests and regional offices (we averaged these two scores to get an overall score for improvements to prioritization), while RO staff was only asked to rate regional processes because of potential variation across forests within a region. Line officers and RO and SO staff were more positive about IRR's impact on prioritization processes than non-line officer staff and ranger district respondents (see Figure 5, page 12).

We then looked at responses to understand whether prioritization improvements were happening at the forest or regional level. National forest staff on average said they neither agreed nor disagreed with the statement that IRR has led to improved prioritization on national forests (unadjusted $M=2.89$). Similar responses were provided when asked if IRR

had improved prioritization at their regional office with adjusted means of 2.98 for SO staff respondents and 2.82 for ranger district staff respondents. However, RO staff indicated, on average, that IRR has improved prioritization processes at the regional office (adjusted $M=3.58$), where 44 percent of RO staff agreed/strongly agreed with the statement that prioritization at the ROs has improved as a result of IRR. Line officers were more positive than others about both levels and said, on average, that prioritization has improved on both their national forests (adjusted $M=3.43$) and at the regional level (adjusted $M=3.39$) as a result of IRR. Of the line officers, 51 and 36 percent agreed/strongly agreed with the statement that prioritization had improved on their national forests and at the regional offices, respectively.

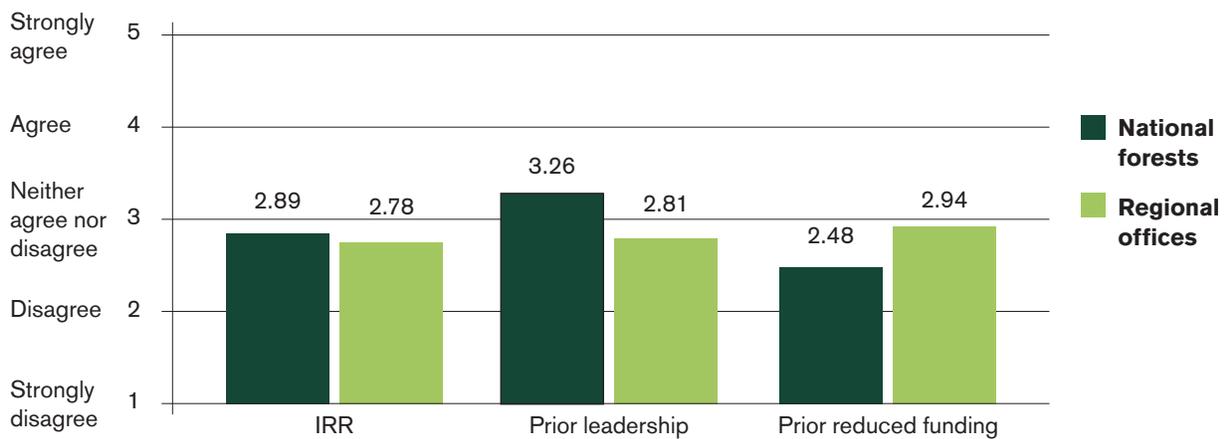
The survey asked respondents to identify other factors they think have led to improved prioritization, including leadership prior to IRR from the regional office or national forest and decreased funding at either level (see Figure 6, page 12). Among these factors, staff felt that national forest leadership prior to IRR was most likely to have led to improved prioritization processes. Overall, staff did not indicate

Figure 5 Mean agreement that IRR has improved overall prioritization processes by region, administrative level, and staff level



Note: Responses across regions did not differ significantly; these are adjusted means.

Figure 6 Factors influencing prioritization at the national forests and regional offices



Note: These are adjusted means.

that decreased funding over the past five years had led to improved prioritization processes at either level, although line officers indicated this was more of a factor compared to non-line officer staff (adjusted $M=2.97$ and 2.60 , respectively).

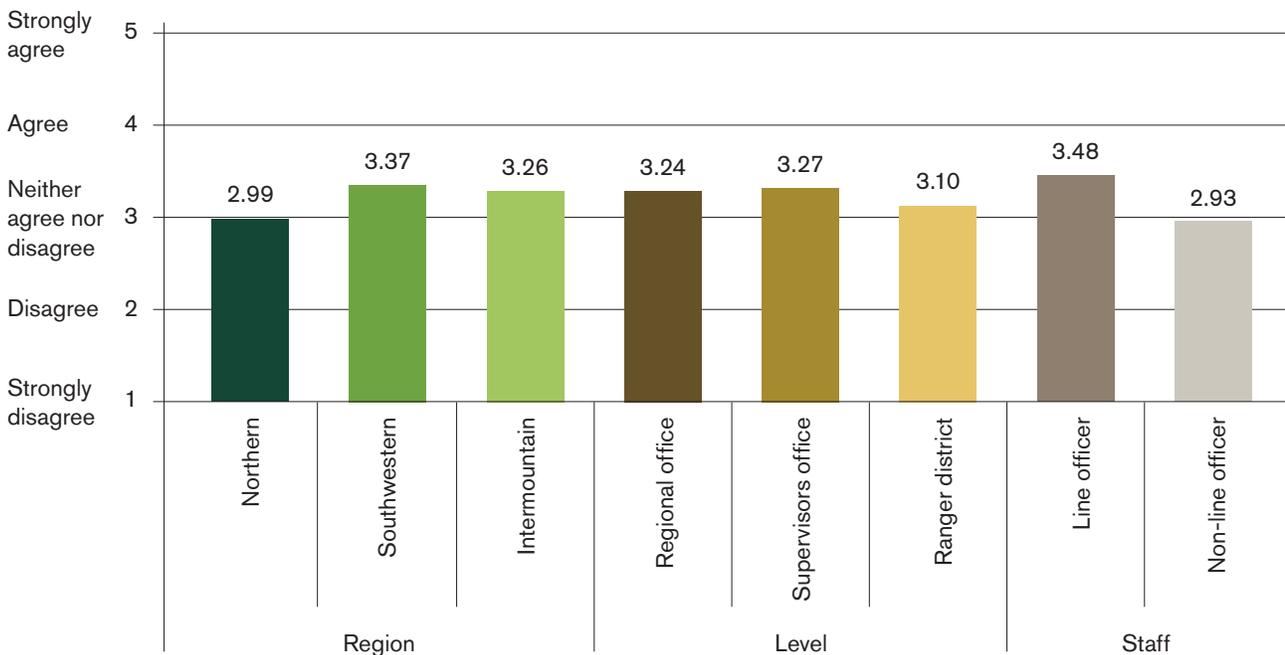
We also asked respondents if IRR had resulted in program managers at the regional and supervisors' offices having less power to influence which projects are prioritized. Respondents at both the regional and forest levels were on the fence as to whether the IRR has resulted in program managers having less power to influence project prioritization with an overall unadjusted mean of 3.25 ($SD=1.21$), indicating slight agreement with the statement that program managers had less power under IRR. However, line officers were less likely to say that decision-making power of national forest program managers had been affected by IRR when compared to answers from non-line officer staff (adjusted $M=2.82$ and 3.34 , respectively; note here that a score of 5 would indicate strong agreement with the statement

that program managers have less power to influence project prioritization as a result of IRR).

Has IRR led to improved integration across program areas?

Overall, respondents are undecided as to whether IRR has increased the level of integration across program areas with an unadjusted mean of 3.03 ($SD=1.12$). Forty-two percent of staff said they agreed/strongly agreed with the statement that integration had improved as a result of IRR while 36 percent disagreed/strongly disagreed. Staff from the Southwestern Region was more likely to agree with the statement that IRR has led to increased levels of integration than staff in the Intermountain or Northern Regions (see Figure 7, below). As with our other findings, line officers were more likely to agree with the statement that IRR has increased integration across program areas, with 56 percent who agreed/strongly agreed, compared to 39 percent of non-line officer staff who agreed/strongly agreed with this statement (see Figure 7, below).

Figure 7 Mean agreement that IRR has improved integration by region, administrative level, and staff level



Note: Responses across levels did not differ significantly; these are adjusted means.

We also asked respondents what has led to improved integration. Fifty-eight percent of respondents agreed/strongly agreed with the statement that integration had been occurring before IRR was implemented (unadjusted $M=3.52$, $SD=1.02$). Respondents were more likely to agree with the statement that prior improvements to integration could be attributed to leadership efforts on the national forests, as compared to statements attributing prior integration to leadership efforts at the RO or decreased funding at either level (unadjusted $M=3.28$, 2.81 , and 2.67 , respectively; see Figure 8, below). Note that for the integration questions, we only asked RO respondents to provide answers about RO integration and only national forest respondents to provide answers about national forest integration.

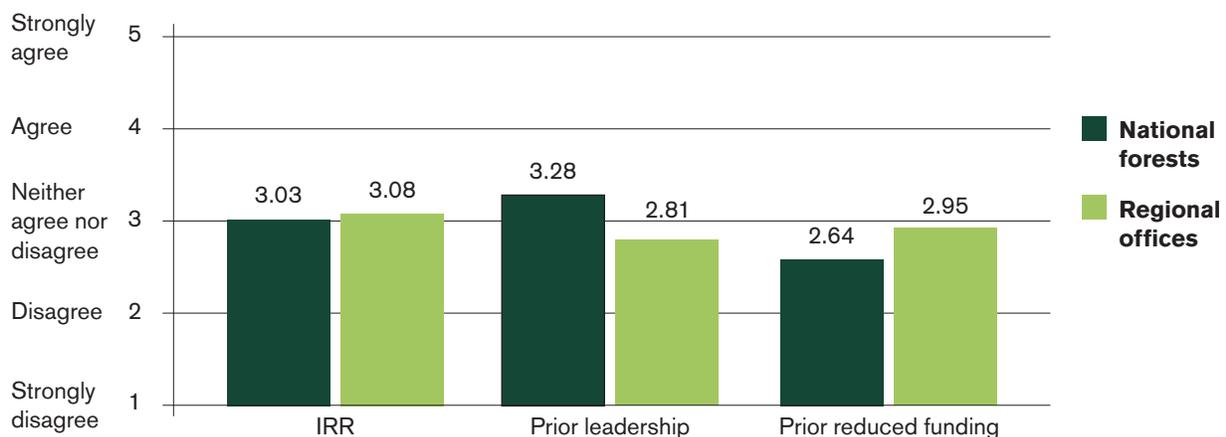
Has IRR led to increased efficiency?

The survey asked whether IRR has decreased the amount of time staff was spending in five areas: budgeting, prioritizing projects, planning, implementing projects, and recording accomplishments. Unadjusted means on all items were less than 3, with respondents rating budgetary efficiency the lowest (unadjusted $M = 2.19$). We combined these items into a single index, and respondents tended to disagree with statements indicating that IRR had led to increased efficiency overall (unadjusted $M=2.39$, $SD=0.80$). Line officers and RO staff were

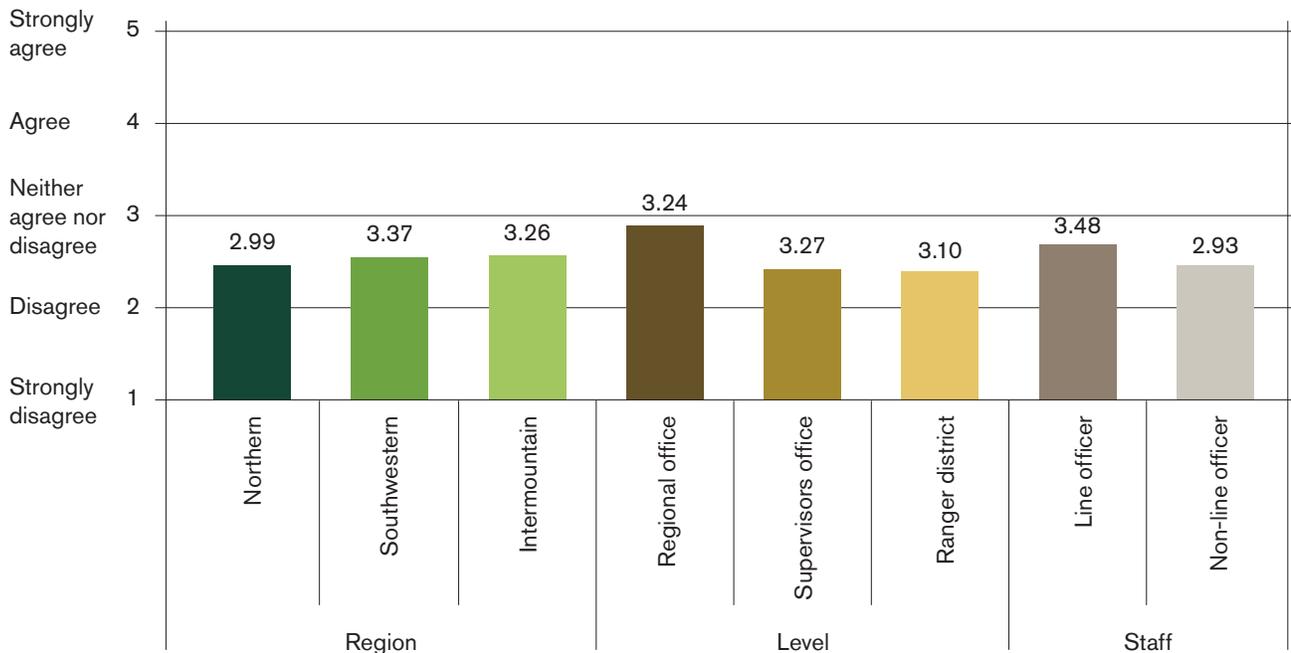
more positive about this compared to non-line officer staff or staff from SO and district offices; however, all responses had means less than 3 (see Figure 9, page 15). Supervisor offices in the Northern Region were least likely to agree with statements that IRR had led to increased efficiency, while the Southwestern Regional Office was more likely to agree with statements that IRR had increased efficiency in these areas (adjusted $M=2.17$ and 2.66 , respectively).

When we looked at time saved on budgeting, specifically, we found that staff overall tended to disagree with the statements that IRR had decreased the amount of time being spent on budgetary planning (unadjusted $M=2.19$, $SD=1.04$). RO staff was less negative about this, as compared to SO staff and ranger district staff (adjusted $M=2.97$, 2.34 , and 2.22 , respectively). Staff from the Northern Regional Office had the most favorable response while staff at the Northern Region Supervisors' Offices had the least favorable responses when compared to other regions and levels (adjusted $M=3.04$ and 2.00 , respectively). We found budget program staff views toward time saved on budgeting were slightly more positive than non-budget program staff (unadjusted $M=2.30$ and 2.19 , respectively) but this difference was not statistically significant and did not vary significantly across administrative levels.

Figure 8 Factors influencing integration at the national forests and regional offices



Note: These are adjusted means.

Figure 9 Mean agreement that IRR has increased efficiency by region, administrative level, and staff level

Note: Responses across regions did not differ significantly; these are adjusted means.

Has IRR increased flexibility?

We asked staff whether IRR has increased their flexibility to: focus on the most important work in any given year, move dollars between programs, enter into multi-year contracts, focus on priority landscapes, fund larger scale projects, prioritize restoration activities, develop integrated projects, and address unexpected challenges in any given year. Staff most strongly agreed with statements that IRR has increased the flexibility to move dollars between programs (unadjusted $M=3.46$, $SD=1.11$), followed by the ability to focus on priority landscapes (unadjusted $M=3.24$, $SD=1.03$), and fund larger-scale projects (unadjusted $M=3.16$, $SD=1.08$).

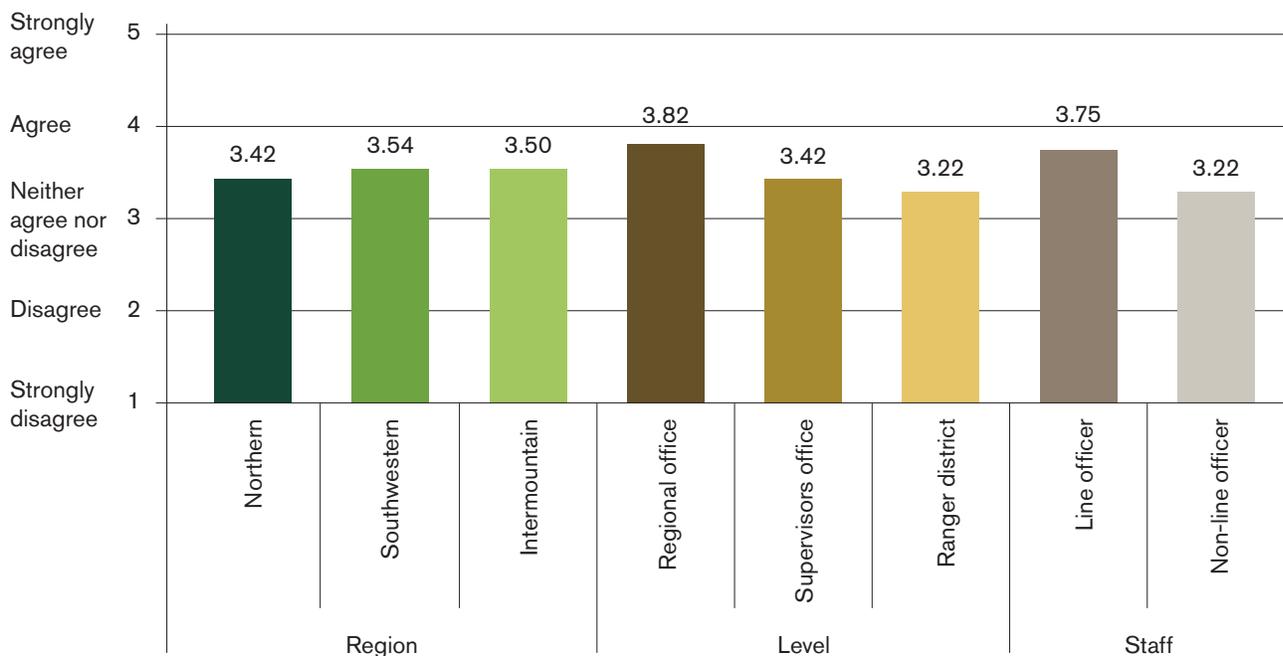
These items factored together to create an index of flexibility. Overall, 19 percent of respondents agreed/strongly agreed and 13 percent disagreed/strongly disagreed that IRR has improved flexibility across all of these areas (unadjusted $M=3.13$, $SD=0.83$). Line officers and RO staff were more positive than other respondents about improvements

to flexibility (see Figure 10, page 16). The Southwestern Regional Office staff was most likely to say IRR had increased flexibility, while staff from the Northern Region SOs was least likely to believe it had increased flexibility (adjusted $M=4.10$ and 3.13 , respectively).

Is IRR the 'right direction' for the Forest Service?

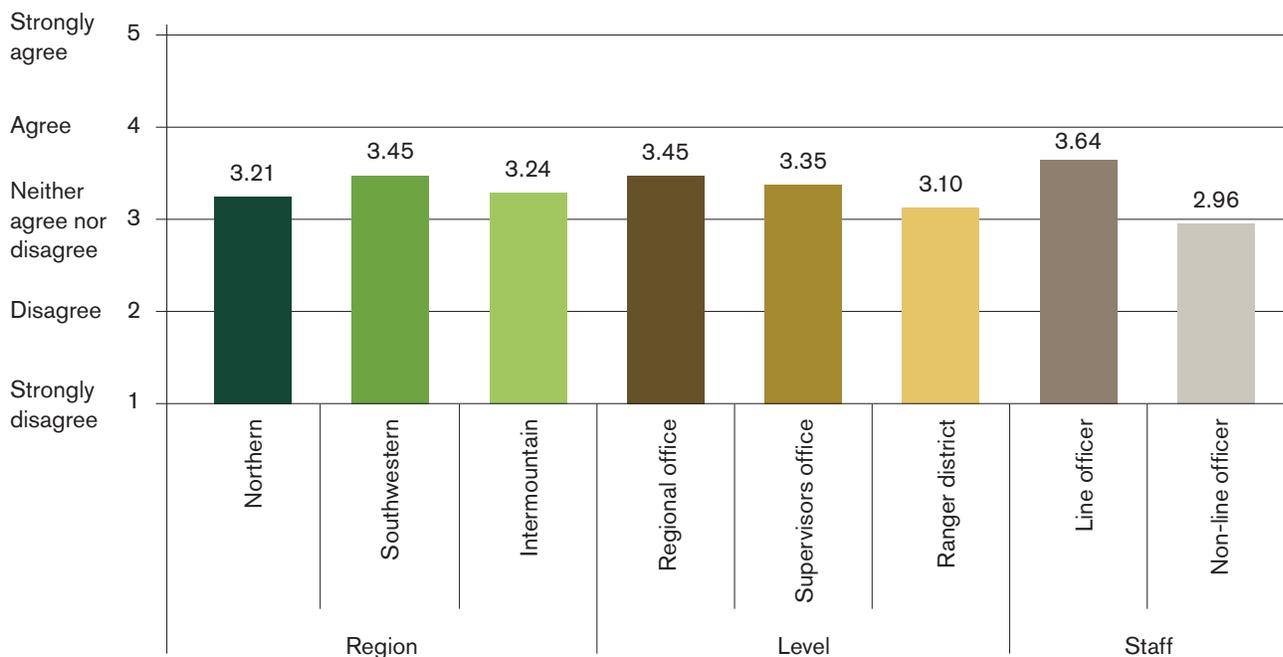
When asked if IRR was the right direction for the Forest Service to achieve its restoration goals, staff as a whole was on the fence or neutral (unadjusted $M=3.00$, $SD=1.09$). Thirty-three percent of staff agreed/strongly agreed with the statement that IRR is the right direction, while 28 percent disagreed/strongly disagreed. Fifty-four percent of line officers agreed/strongly agreed with this statement and 18 percent disagreed/strongly disagreed. Line officers, Region 3 staff, and RO staff were more likely to agree with this statement when compared to others (see Figure 11, page 16).

Figure 10 Mean agreement that IRR has increased flexibility by region, administrative level, and staff level



Note: Responses across regions did not differ significantly; these are adjusted means.

Figure 11 Mean agreement that IRR is the right direction for the Forest Service to achieve its restoration goals



Note: These are adjusted means.

What is driving the allocation of IRR funds at the regional and national forest levels?

The survey asked respondents to identify to what extent the following factors influence the allocation of IRR funds: hard targets, key projects in priority landscapes, pre-IRR budget line item allocations, integrated discussions of project priorities, or “other factors” (see Figure 12, below). Seventy-four percent of respondents agreed/strongly agreed with the statement that hard targets influenced the allocation of IRR funds; this was rated as the most influential factor. Line officers rated the influence of hard targets higher than other respondents, with 83 percent of line officers agreeing/strongly agreeing with this statement (adjusted M=4.18).

Sixty-eight percent of respondents said they agreed/strongly agreed with the statement that key projects in priority landscapes influenced the allocation of IRR funds. Line officers and RO staff were more likely to agree with the statement that the allocation of IRR funds was influenced by key projects in priority landscapes (adjusted M=4.28 and 4.20, respectively) compared to non-line officer and national forest staff (adjusted M=3.65 and 3.85, respectively). Respondents from the Southwestern Region

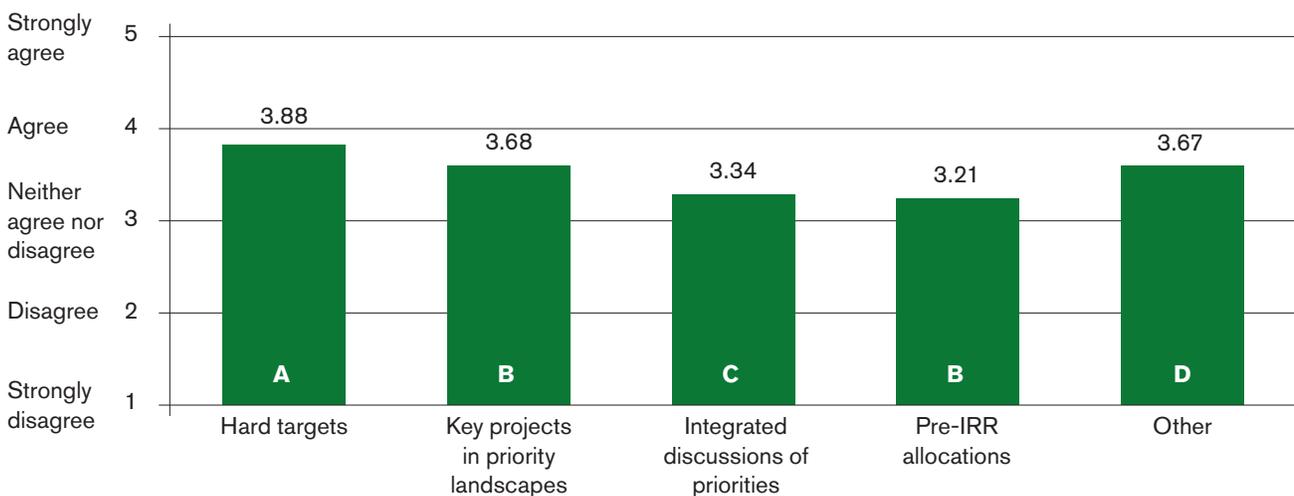
were also more likely to agree the allocation was influenced by projects in priority landscapes when compared to those in the Northern or Intermountain Regions (adjusted M=4.12, 3.83 and 3.95, respectively).

About a third of respondents provided an answer as to whether “other factors” were influencing the allocation of IRR funds. Of these people, 49 percent said they agreed/strongly agreed with the statement that “other factors” were influencing the allocation of funds under IRR. We asked respondents to describe “other factors” in written-in responses, and though not statistically representative of the sample, common answers from roughly 200 responses included: priority areas or projects important to regional and/or national forest leadership, fixed costs and salary requirements, and partnership priorities or local political factors.

Performance measures and targets

The IRR pilot uses five performance measures: The number of watersheds moved to an improved condition class, the number of acres treated annually to sustain or restore watershed function and resilience, the miles of roads decommissioned, the

Figure 12 Mean agreement of factors influencing IRR funding allocations



Note: These are adjusted means.

miles of stream habitat restored or enhanced, and the volume of timber sold.

Are the performance measures and targets effective?

We asked respondents whether they agreed with the statement that the five IRR performance measures helped them to prioritize the most important restoration work; overall staff said they neither agreed nor disagreed with this statement (unadjusted $M=3.16$, $SD=0.87$). Respondents believed the number of acres treated to restore watershed function performance measure was most likely to help prioritize important restoration work, while the volume of timber sold was considered least likely, with no differences across sub-groups (see Figure 13, below).

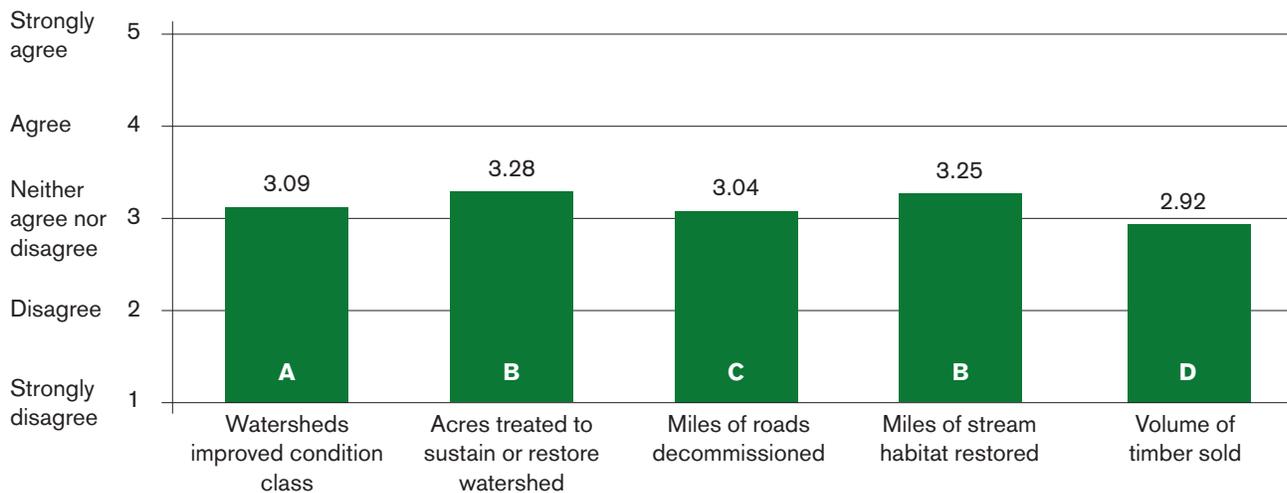
When asked how often the five performance measures detracted from their highest priority work the overall unadjusted mean for this item was 2.75 ($SD=0.84$) on a scale of 1 to 5, where 1=never, 2=rarely, 3=sometimes, 4=most of the time, and 5=always. The miles of stream habitat restored was considered least likely to detract from priority work, while the volume of timber sold was considered slightly more

likely to detract (see Figure 14, page 19). Responses were consistent across regions, administrative levels, and line- vs. non-line officer staff.

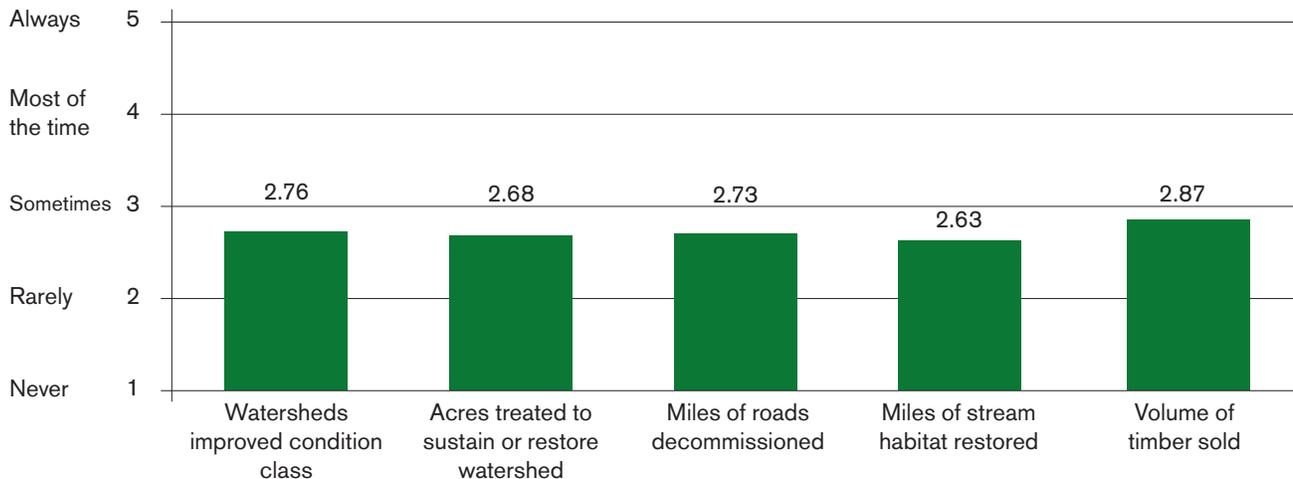
Internal and external communication

Respondents were asked if they had heard of IRR prior to receiving the survey and 78 percent of the respondents had. We then asked respondents to identify their levels of knowledge or experience with IRR, with four options: none, very little, a fair amount, or a great amount. Over half of the respondents said they knew a fair amount (40 percent) or a great amount (26 percent) about IRR, while 34 percent said they knew very little and 4 percent of staff members said they had no knowledge of IRR. We tested for differences in levels of knowledge or experience across sub-populations, looking at different regions, program areas, and levels of the organization. Ninety-one percent of line officers said they knew a fair or great amount about IRR, while 62 percent of non-line officer staff members felt they knew a fair or great amount and 34 percent said they knew very little about IRR. Across the three pilot regions, respondents from the Intermountain Region (57 percent) said they had higher levels of knowledge or experience than those in the North-

Figure 13 Mean agreement the IRR performance measures help prioritize restoration work



Note: Significant differences between performance measures are indicated by differing letters on the columns; these are unadjusted means.

Figure 14 Mean frequency the performance measures are perceived to detract from priority work

Note: Significant differences between performance measures are indicated by differing letters on the columns; these are unadjusted means.

ern or Southwestern Regions (48 and 49 percent, respectively). Respondents at the national forest level (58 percent from the SO and 48 percent from ranger district offices) said they had a greater amount of knowledge or experience with IRR than those at the RO (43 percent). Respondents from three program areas—the budget, finance, and accounting; wildlife, fisheries, and rare plants; and watershed management program areas—reported relatively higher levels of knowledge or experience with IRR than staff outside their program areas, whereas staff in two program areas—lands and minerals; and recreation, heritage, and wilderness—reported having less knowledge or experience with IRR than staff outside these programs. As one might expect, the higher the GS-level, the more knowledge or experience people had with IRR.

Has internal communication from the regional offices and supervisors' offices been clear and adequate?

The survey asked several questions about the levels of communication about IRR from the regional and supervisors' offices, including if they have: provided clear direction on the purposes of IRR, a trans-

parent process for allocating IRR dollars to forests or projects, and provided adequate guidance to implement IRR (these three items factored together to create an index for both the regional and forest levels). We only asked national forest employees to respond to questions regarding national forest processes, given the potential variation across forests. Staff was on the fence with regard to whether regions have provided clear guidance, direction, and a transparent process for implementing IRR (these three items were combined to make a composite index; unadjusted $M=2.83$, $SD=0.88$). Moving down the hierarchical levels of the organization, staff opinions on the clarity of RO communication became less favorable, with RO staff rating their own communication more positively, compared to SO staff and ranger district staff (adjusted $M=3.38$, 2.98 , and 2.72 , respectively). Range, wildlife, and watershed program staff rated RO communication less favorably compared to staff in other program areas, while budget staff rated RO communication higher than staff from other program areas. However, when asked if their forests needed more guidance from the regional office to successfully prioritize restoration activities, 46 percent of national

forest staff disagreed/strongly disagreed with the statement that more regional guidance was needed (unadjusted $M=2.81$, $SD=1.16$).

Staff at the SO and line officers on national forests (adjusted $M=3.36$ and 3.50 , respectively) was more likely to believe communication about IRR on their forest had been adequate, but district offices and non-line officer staff (adjusted $M=3.09$ and 2.95 , respectively) were less satisfied. Notably, the district offices in the Northern Region were most positive on this matter compared to district offices in other regions, indicating the communication about IRR between the SO and the district offices was better in the Northern Region as compared to other regions.

Has external communication associated with IRR been effective?

Overall, respondents did not believe stakeholders understand IRR, with no differences across sub-populations (unadjusted $M=2.24$, $SD=0.86$). Only 7 percent of respondents said they agreed/strongly agreed with the statement that stakeholders understand IRR, while 64 percent disagreed/strongly disagreed with this statement. Similarly, respondents tended not to believe stakeholders support IRR (unadjusted $M=2.76$, $SD=0.79$). Only 11 percent of respondents agreed/strongly agreed that stakeholders support IRR. However, 15 percent of line officers said they agreed/strongly agreed with the statement that stakeholders support IRR when compared to 10 percent of non-line officer staff (adjusted $M=3.11$ and 2.70 , respectively).

We also asked staff if it had become more difficult to implement resource-specific projects with partners under IRR and found that respondents were generally neutral about this issue (unadjusted $M=3.12$, $SD=1.03$). Line officers were less likely to think implementing these projects had become more difficult than non-line officer staff (adjusted $M=3.28$ and 3.14 , respectively).

We then asked if IRR has improved the ability to implement projects associated with multi-stakeholder collaborative processes and found that the mean response on this item was neutral (un-

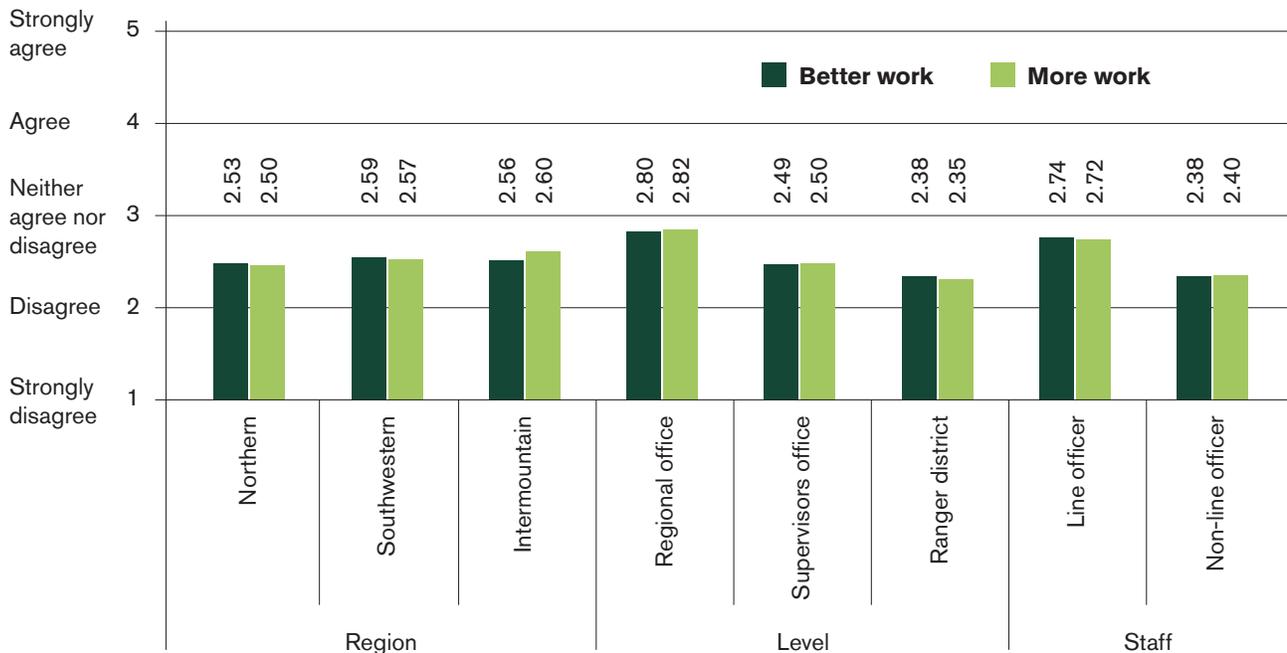
adjusted $M=3.03$, $SD=0.92$). Overall, 30 percent of respondents agreed/strongly agreed with the statement that IRR has improved these processes. Again, line officers were more positive about this than non-line officer staff (adjusted $M=3.59$ and 2.70 , respectively). Forty-four percent of line officers agreed/strongly agreed with the statement that IRR has improved multi-stakeholder collaborative processes compared to 20 percent of line officers who disagreed/strongly disagreed with this statement. Forty-five percent of staff at the RO agreed/strongly agreed with this statement, compared to 29 percent at the SO and 27 percent at the ranger districts (adjusted $M=3.66$, 3.27 , and 3.05 , respectively).

Outcomes, challenges, and recommendations

We asked respondents if the region or national forests were able to accomplish better work with less funding as a result of IRR. Overall, respondents tended to disagree with the statement that the IRR has allowed better restoration work to be accomplished with less funding (unadjusted $M=2.35$, $SD=0.99$). Line officers responded more favorably on this issue than non-line officers, as did RO staff members when compared to national forest staff (see Figure 15, page 21). Nineteen percent of line officers agreed/strongly agreed and 51 percent disagreed/strongly disagreed with the statement that IRR is allowing them to get better work done with less funding, while 24 percent of RO staff agreed/strongly agreed and 48 percent disagreed/strongly disagreed. Budget program staff was more likely than those outside their program area to agree with the statement that IRR allowed them to accomplish better work with less funding. However, respondents from fire and aviation, forest management, rangeland management, and ecosystem assessment, planning and management were more negative about this statement than those outside these program areas.

Respondents also disagreed with the statement that IRR has allowed the Forest Service to get more restoration work done with less funding (unadjusted $M=2.36$, $SD=0.97$; see Figure 15, page 20). Line officers, staff at the RO, and staff from the budget program were less likely to disagree that more res-

Figure 15 Mean agreement that IRR leads to better or more restoration work with less funding by region, administrative level, and staff level



Note: Responses across regions did not differ significantly among subpopulations for either of these items; these are adjusted means.

toration work has been accomplished, while staff in the fire and aviation, forest management, and ecosystem assessment, planning and management programs were more likely to disagree than staff outside their program. It is worth noting that 18 percent of line officers and 16 percent of RO staff agreed/strongly agreed with the statement that IRR is allowing them to get more work done with less funding.

The survey provided respondents with the opportunity to write in responses to the following prompt: “Please describe specific examples you have of improved outcomes occurring on the ground as a result of IRR.” It is important to note that, as open comments, these responses are not statistically representative of the sample population. We only received 165 responses, of which approximately 45 provided examples of improved outcomes. Specific examples included the following:

- In the Northern Region, one respondent explained, “(The) Chapel Slide Restoration Project up the Vermilion River would not have happened without IRR input. This was a very successful project, both economically and visibly. It was well received by the public and by those partnerships, [e.g.] Avista and other federal organizations.”
- Another respondent stated, “I think the flexibility of IRR has enabled smaller, focused projects (such as site specific stream restoration) to be implemented with partners such as Trout Unlimited.”
- A respondent in the Southwestern Region summarized, “We’ve been able to use our NFRR [IRR] to jointly fund a project that occurs on the Isleta Pueblo, Chilili land Grant, and Cibola National Forest. The outcomes are accelerated restoration acres, improved relationships, hiring of local, Native American crews, and moving toward a

sustainable firewood program for subsistence and commercial markets. NFRR [IRR] funding has enabled us to apply and receive additional funds under the Chief's Joint-Landscape Restoration Partnership. As a result, additional landowners are able to receive funds to implement restoration activities. Combined funding under NFRR [IRR] takes away the focus on the type of money and limitations in program areas; and allowed for a focus on integrated landscapes and partnerships.”

- In the Intermountain Region, a respondent stated, “(IRR) has and will help on several large landscape projects like Lackey fan, North Elks Forest Health, Maverick Point, and Mormon Pasture.”
- Another respondent explained, “There was a fire salvage sale that was implemented faster than in the past. It was a result of the specialists’ input being sought without having to provide a multitude of pay codes and negotiating budget requests.”
- One person said IRR resulted in “three aquatic organism passage culvert replacements in two targeted restoration drainages that would otherwise not been funded.”

Some of the respondents also identified general outcomes that have occurred because of IRR, including the implementation of: watershed and stream restoration projects; road and culvert restoration projects; fuels management; noxious weed treatments; habitat improvement projects; and post-fire restoration efforts. In addition, a few respondents found the IRR has improved the levels of collaboration and relations with partners, and has increased the number of projects with multiple objectives using a more integrated approach. However, it is important to note that the majority of the 165 written responses were from staff members who said they were unable to provide examples of improved outcomes occurring because of IRR.

What are key challenges and opportunities for improvement?

When asked to provide examples of improved outcomes resulting from IRR, many respondents instead outlined the challenge of achieving improved

restoration work with reduced funding. Some indicated that the IRR has increased the time spent on planning and communication across program staff, and that the pilot has not been in place long enough for restoration projects to be implemented. As one line officer explained, “IRR hasn’t been around long enough to truly affect any of the on-going projects.”

We asked respondents to describe through written comments specific examples of challenges associated with IRR and received approximately 150 responses. Although not statistically representative of the sample population, respondents indicated that the decrease in Forest Service funding has been one of the primary challenges to the IRR pilot and national forest management overall. Some staff indicated the implementation of IRR projects has been prevented by lack of funding or delayed budget approval. Others said implementation has been delayed because the majority of funding went to planning processes. Several staff from the Northern Region indicated there has been decreased accountability due to the IRR tracking system being composed of several separate databases or a lack of transparency in the allocation of IRR funds. Several respondents said that smaller national forests or forests with smaller-size projects are at a disadvantage for receiving IRR funds because larger forested landscape projects are being prioritized. A few respondents identified that the IRR requires a paradigm shift away from current program-specific implementation processes because it will take time to transition from the previous system to a more integrated approach.

Are certain programs areas affected negatively by IRR?

When respondents were asked to identify if IRR had a negative impact on Forest Service programs they tended to agree with the statement that some program areas had been negatively impacted by IRR (unadjusted $M=3.93$, $SD=1.00$). Line officers were less likely to think programs had been negatively affected than non-line officer staff (adjusted $M=3.78$ and 4.04 , respectively; note that a score of 5 indicated programs had been negatively impacted). Seventy percent of non-line officer staff said they agreed/strongly agreed with the statement

Table 2 Number of times program was identified as negatively impacted by IRR by line officers

Program	Region 1	Region 3	Region 4	Total count
Range	4	9	10	23
Noxious weed/invasive species control	3	2	8	13
Wildlife	3	4	3	10
Timber; silviculture	3	2	3	8
Watershed restoration; aquatics	3	3	1	7
Legacy roads and trails	4	1	1	6
Fisheries	2	1	1	4
Fuels	0	4	0	4

that some programs had been negatively affected by IRR compared to 64 percent of line officer staff. Respondents were asked to provide written comments describing the programs they believed had been negatively impacted, and across all responses (there were 398 written-in responses) every program area was identified at least once. Line officers most commonly indicated that rangeland management, followed by the noxious weeds/invasive species management, wildlife, and the legacy roads and trails programs were being negatively impacted by the IRR (see Table 2, above). Line officers in Region 1 most commonly identified rangeland management and the legacy roads and trails program as the programs impacted by IRR, followed by the invasive species management, timber, watershed restoration, and wildlife programs. In Region 3, the line officers most frequently identified the rangeland management program, followed by the wildlife and fuels programs. Region 4 line officers identified the rangeland management, invasive species, wildlife, and timber programs as being negatively impacted by the IRR.

We also asked respondents whether they agreed with two statements: one indicating that they were concerned that important work outside of priority areas would be neglected and a second statement that relatively more expensive would be neglected because of IRR. Overall, we found that staff are

concerned about both, but there was slightly more concern that work outside of the priority areas would be neglected (unadjusted $M=3.78$, $SD=1.08$) than concern about more expensive work being neglected (unadjusted $M=3.37$, $SD=1.10$). Line officers were less concerned about important work outside priority areas being neglected than non-line officer staff (adjusted $M=3.43$ and 3.83). Line officers were also less concerned about relatively expensive work being neglected than non-line officer staff (adjusted $M=2.78$ and 3.47 ; Note that a score of 5 indicated a high level of concern).

What factors influence IRR's success?

The survey asked respondents if IRR's level of success overall was dependent on leadership from the forest supervisors, the regional office, the Washington office; efforts of forest-level and regional staff to work across program areas; or the level of integration across program areas the forests or regional office had prior to the IRR. Ninety percent of staff agreed/strongly agreed with the statement that the efforts of forest-level staff working across program areas was important for IRR's success (unadjusted $M=4.33$, $SD=0.83$). Ninety percent also agreed/strongly agreed with the statement that leadership from the forest supervisors' offices was important (unadjusted $M=4.23$, $SD=0.82$). Respondents also thought regional staff working across program areas was important, with 77 percent agreeing/strong-

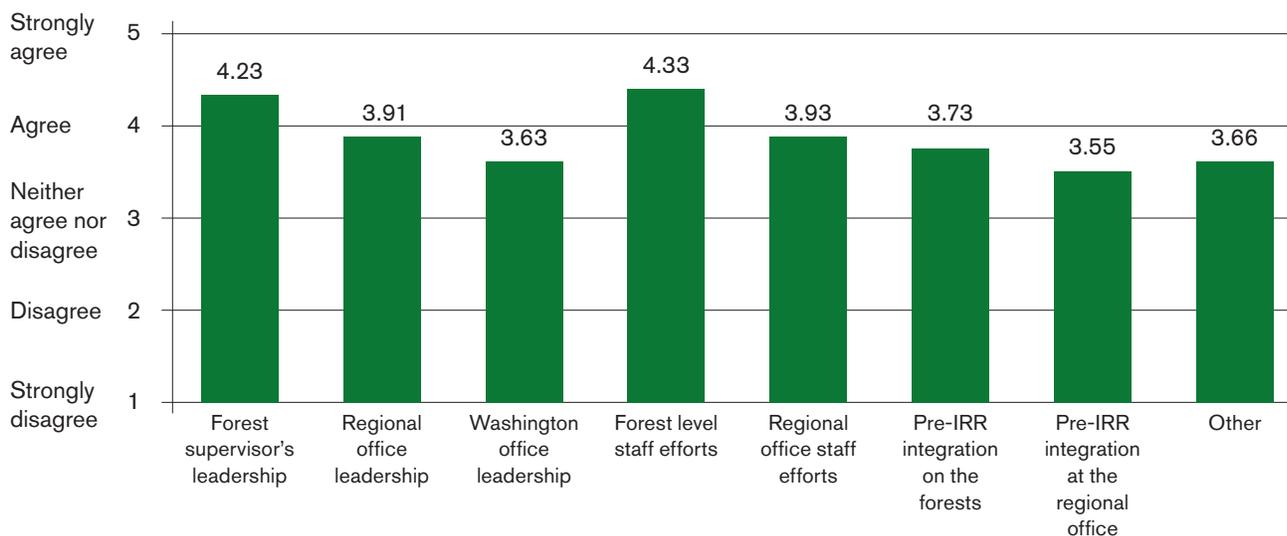
ly agreeing with this statement (unadjusted $M=3.93$, $SD=0.99$; see Figure 16, below). These were ranked as the three most important factors.

What are staff recommendations for improving IRR?

The survey concluded by asking respondents if they had any recommendations for how to improve the implementation of IRR. From the approximately 350 written-in responses, which again we note are not statistically representative of the entire sample, we identified the following recommendations for improving implementation of IRR:

- Clarify the direction and priorities of the IRR by outlining specific tasks, purposes, and end goals, as well as sideboards, at all administrative levels.
- Increase the amount of communication across all levels to clarify the direction and priorities of IRR and address challenges that arise.
- Provide guidelines or templates of processes for units to use for prioritization and integration.
- Consider revising targets and performance measures to better reflect landscape-scale restoration outcomes, while also taking into account differences across forests and regions.
- Improve the system for tracking target accomplishments and funding allocations to increase accountability of units and programs.
- Distribute a base amount of funding to forests or programs to ensure fixed costs and mandatory programs are covered first and to then provide competitive funding for priority projects.
- Maintain an increased level of discretion for ground level managers to identify targets, priorities, and associated costs and suggest these to the supervisors' and regional offices (i.e. a ground-up rather than a top-down approach).
- Increase funding to improve implementation of IRR.

Figure 16 Mean agreement of factors leading to IRR's success



Note: These are unadjusted means.



Discussion

These findings build on our findings from phase 1 but provide some important new information. In phase 1, we spoke to roughly equal numbers of regional and forest-level staff, and we made sure to speak with with line officers and budget program staff. This phase surveyed a much wider group of line and non-line staff at multiple levels. A key finding from this survey is that regional staff was more supportive of IRR on almost all points, as were line officers. Budget staff also rated IRR more positively than others in a number of areas. Satisfaction with IRR decreased as we moved down the hierarchical levels of the agency. As a result of this, our findings in phase 2 give a better sense of overall satisfaction with the IRR and its impacts. We found that on average staff does not rate IRR's effectiveness positively, although line officers and regional staff do.

There are some areas where IRR was rated quite positively, particularly by line officers. For example, almost half of line officers say IRR has value in complementing other authorities, half say it has improved prioritization on their forests, and nearly 60 percent of line officers say integration has improved on their forests. Staff rate IRR's value in increasing flexibility positively as well. However, no group on average indicated that IRR has increased efficiency in any area.

Forest leadership and efforts at the forest level to work across program areas were rated as the most important factors for IRR's success. Continuing to ensure that line officers and staff have successful strategies to prioritize and plan integrated projects would be valuable. It may also be important to work with forest-level staff to explore how and why particular program areas are affected by IRR and whether there is a need to put energy into balancing work across program areas. For the regions that identified that particular program areas are negatively impacted by IRR, it would be valuable to follow up and understand what is causing these impacts, whether they are desirable, and whether they need to be countered in some way, potentially through changes to strategic planning approaches. It may also be worth digging more deeply to better understand how much of these challenges are related to declining budgets, as many respondents said that it was difficult to evaluate IRR independently from the larger context of declining budgets.

Internal and external communication regarding IRR could be improved. One may question whether this is important, given that IRR appears at face value to simply be a change in how budget line items are organized. However, it is apparent that IRR increases the emphasis and time staff spend

on prioritization and integration, has led to new strategic planning approaches at regional and forest levels, is having impacts on both program areas and forests, and is concentrating decision-making with line officers. These changes are significant and are likely to cause some stress among staff, making it important that staff understand the purposes, goals, and need for IRR, if it is to remain in place.

Overall satisfaction with IRR was lower in the Northern Region, particularly at the SO level, compared to other regions and levels. For instance, SOs in the Northern Region reported the least increases in efficiency. This is to be expected, as most of the IRR decision-making authority has been left to the supervisor's offices in this region, whereas in other regions, the regional office has retained more decision-making space in identifying priority work. For this reason, we would expect the greatest growing pains at the SO level in the Northern Region as they adjust to the approach. Interestingly, the district offices in the Northern Region were more satisfied with IRR than district staff in other regions. We speculate that because increased decision-making authority rests with the SOs, there may be improved communication with district rangers as part of forest leadership teams or between the SOs and the districts in deciding on priorities. Other regions may want to invest in increased communication with district staff about IRR.

Increased external communication would also be valuable, given that IRR is impacting funding allocations and decisions about priority work across forests. Engaging more stakeholders to help them understand the IRR and involve them in the process of identifying restoration priorities across forest and regions could prove valuable. Additionally, almost half of line officers said IRR improves their ability to implement projects associated with multi-stakeholder collaborative groups. These groups provided early support for the IRR approach, and continuing to explore with them how IRR supports their work could be important to building support for full expansion of the IRR approach.

Conclusion

The IRR BLI and its associated performance measures were meant to do many things: lead to a more holistic approach to restoration, improve prioritization and integration, and lead to greater efficiency. Perhaps relatively greater emphasis has been placed on the notion that IRR would simplify budgeting processes. However, our results show that IRR has more value in leading to improvements to flexibility, prioritization, and integration, particularly according to line officers. Similarly, if programs such as the CFLRP, Watershed Condition Framework, and Stewardship Contracting Authority are to remain as key aspects of the agency's strategic direction, IRR, according to many respondents, complements these authorities. Therefore, if the IRR is to continue, it would be more valuable to highlight its impacts in giving forests flexibility to focus on their priority work and develop integrated projects than to look for measurable examples of increases to efficiency, particularly at this early stage, when forests and regions are still adjusting to the new approach.

Endnotes

- 1 "Evaluating the Integrated Resource Restoration Line Item: Results from Phase 1," at http://ewp.uoregon.edu/sites/ewp.uoregon.edu/files/WP_47.pdf
- 2 The Collaborative Forest Landscape Restoration Program was established under section 4003(a) of Title IV of the Omnibus Public Land Management Act of 2009 (Pub. L. No. 111-11, tit. IV, 123 Stat. 991); See www.fs.fed.us/restoration/CFLRP for additional information.
- 3 The Watershed Restoration Program is a USFS directive established to protect watersheds in the National Forest System by integrating watershed conditions as a primary component of project prioritization (FSM 2521.11b). See www.fs.fed.us/restoration/Watershed_Restoration for additional information.
- 4 The "Number of watersheds moved to an improved condition class" performance measure incorporates 12 watershed condition indicators, including: water quality, water quantity, aquatic habitat, aquatic biota, riparian/wetland vegetation, roads and trails, soils, fire regime or wildfire, forest cover, rangeland vegetation, terrestrial invasive species, and forest health.
- 5 Reported in USDA Forest Service Fiscal Year 2011, 2012, 2013, and 2014 Budget Justifications.
- 6 Reported in USDA Forest Service Fiscal Year 2011 and 2014 Budget Justifications.
- 7 The total funding allocated to the pilot regions was less than the full appropriation to "ensure a balance in the national allocations for restoration, resilience, and maintenance activities on all national forests and grasslands" (USFS 2013b).

Appendix A: Background on the IRR budget approach

Introduction to IRR

The central focus of national forest management today is to promote landscape restoration and ecological resilience. These goals are highlighted in the USDA Forest Service's 2012 report entitled *Increasing the Pact of Restoration and Job Creation on Our National Forests* (USFS, 2012) and in their 2012 planning regulations (36 C.F.R. §219 et seq.), which emphasize the importance of forest planning in stimulating integrated forest restoration, climate resilience, watershed and wildlife protection, and economic opportunities for local communities. System-wide programs such as the Collaborative Forest Landscape Restoration Program² and Watershed Restoration Program³ are designed to support integrated restoration work across functional areas and are key components of the US Forest Service's strategy for accelerating forest and watershed restoration.

To effectively implement integrated restoration projects, the President's budget proposal for fiscal year (FY) 2011 introduced the Integrated Resource Restoration budget line item (IRR BLI), also known as the NFRR BLI. The following year, in FY 12, Congress approved the IRR on a pilot basis for three years (FY 2012–FY 2014) in three Forest Service regions – the Northern Region (Region 1), the Southwestern Region (Region 3), and the Intermountain West Region (Region 4). The IRR consolidates multiple BLIs into a single funding stream to support integrated work across resource areas (see Table A1, page 28). In FY 2013, the NFRR BLI included the following previously independent BLIs (associated codes are in parentheses); these are referred to hereafter as 'legacy BLIs':

1. Wildlife and fisheries habitat management (NFWF)
2. Forest products (NFTM)
3. Vegetation and watershed management (NFVW)
4. The non-wildland urban interface (non-WUI) portion of hazardous fuels (WFHF non-WUI)
5. Legacy roads and trails (CMLG)

6. Road decommissioning associated with restoration objectives from the roads BLI (CIM)
7. National Fire Plan rehabilitation and restoration (WFM)

The FY 2011 Budget Justification initially proposed the IRR to merge only the first three legacy BLIs listed above; in FY 2012 the four additional BLIs were included (see also Table A1, page 28). Through the consolidation of these legacy BLIs, according to the President's 2013 budget justification, the IRR is designed:

“To facilitate a holistic approach to landscape management on National Forest System (NFS) lands. This includes actions to restore or sustain water quality and watershed processes; resilient and disturbance-tolerant landscapes; soil condition, stability and productivity; vegetative composition and condition; fish and wildlife habitat and populations; and aquatic ecosystems connectivity. The program directly funds landscape-scale restoration projects and leverages accomplishment of additional restoration objectives through program integration and partnerships. These investments will help sustain and restore the core components of functioning ecosystems, enhance watershed resilience in the face of climate change, and help meet the increasing demand for water resources” (USFS, 2013a, p. 1-8).

IRR performance measures

Along with the IRR the Forest Service is shifting the focus of its performance measures toward restoration outcomes measures to supplement its traditional output measures. Outcomes are meant to be more meaningful metrics in terms of restoration goals, as opposed to outputs, which only report tasks accomplished. Each pilot region is currently required to monitor the progress of the IRR through five performance measures (see Table A1, page 28). The primary outcome-based performance measure is the “number of watersheds moved to an improved condition class.” This performance measure is based on the Watershed Condition Framework (WCF), an assessment tool used to measure watershed condition improvements based upon the watersheds' “geomorphic, hydrologic, and biotic in-

Table A1 IRR performance measures and merged budget line items by fiscal year

Fiscal year	Performance measures⁵	Merged budget line items⁶
2011 (proposed but not approved)	<ul style="list-style-type: none"> ▪ Number of watersheds in each condition class ▪ Acres treated to sustain or restore watershed function and resilience 	<ul style="list-style-type: none"> ▪ Fish and wildlife habitat management ▪ Forest products ▪ Vegetation and watershed management
2012	<ul style="list-style-type: none"> ▪ Number of watersheds moved to an improved condition class ▪ Acres treated to sustain or restore watershed function and resilience ▪ Volume of timber sold ▪ Miles of road decommissioned ▪ Miles of stream habitat restored or enhanced 	<ul style="list-style-type: none"> ▪ [Three BLIs from 2011, see above] ▪ Three (non-WUI) portion of hazardous fuels ▪ Legacy roads and trails ▪ Road decommissioning associated with restoration objectives (from the roads BLI) ▪ Post-fire restoration and rehabilitation
2013	<ul style="list-style-type: none"> ▪ <i>Same as FY 2012</i> 	<ul style="list-style-type: none"> ▪ <i>Same as FY 2012</i>
2014	<ul style="list-style-type: none"> ▪ <i>Same as FY 2012 and 2013</i> 	<ul style="list-style-type: none"> ▪ <i>Same as FY 2013 but without</i> – post-fire rehabilitation and restoration

tegrity relative to their natural potential condition” (USFS, 2011b, p. 3).⁴

The second new performance measure, “the number of acres treated annually to sustain or restore watershed function and resilience,” is an output-based measure and is a roll-up of nine traditional performance measures:

- Acres of forest lands treated using timber sales (TMBR-SALES-TRT-AC)
- Improved forest vegetation (FOR-VEG-IMP)
- Establish forest vegetation (FOR-VEG-EST)
- Improve rangeland vegetation (RGE-VEG-IMP)
- Acres of water or soil resources protected, maintained or improved to achieve desired watershed conditions. (S&W-RSRC-IMP)
- Manage noxious weeds and invasive plants (INVPLT-NXWD-FED-AC)
- Highest priority acres treated for invasive terrestrial and aquatic species on NFS lands (INVSPE-TERR-FED-AC)
- Acres of terrestrial habitat restored or enhanced (HBT-ENH-TERR)
- Acres of lake habitat restored or enhanced (HBT-ENH-LAK)

A key change with these nine rolled-up measures is that there are no longer hard targets for accomplishments for each of these measures for regions and forests. Instead there is now a single hard target of total acres treated for watershed function and resilience, with the composition of those acres left to the discretion of decision-makers. The remaining three performance measures are output-based measures and include: the “miles of roads decommissioned,” the “miles of stream habitat restored or enhanced,” and “the volume of timber sold.”

When the IRR BLI was initially introduced in the FY 2011 Budget Justification it included 1) the “number of watersheds in each of the three condition classes” and 2) the “number of acres treated annually to sustain or restore watershed function and resilience,” as described above. The former performance measure was transformed into the “number of watersheds moved to an improved condition class” to better communicate progress made toward improving watershed conditions.

Table A2 IRR funding allocation by region and fiscal year (in thousands)

Funding Allocation	Northern Region (R1)	Southwestern Region (R3)	Intermountain Region (R4)	Total IRR Allocation⁷
FY 2012	\$48,959	\$31,876	\$35,433	\$116,268
FY 2013	\$57,399	\$37,359	\$41,584	\$136,342
FY 2014	\$58,949	\$38,754	\$43,824	\$141,527

IRR progress to date

In FY 2013 the Forest Service received approximately \$136 million and in FY2014 received approximately \$141 million to implement the IRR in pilot status across three regions – the Northern Region (R1), the Southwestern Region (R3), and the Intermountain Region (R4) (see Table A2, above). The distribution of funding for each region was calculated using the regions' past performance, capability, and national targets (USFS 2013b).

Each pilot region is required to submit an annual progress report summarizing their experience with the IRR program and their accomplishments for the performance measures outlined above. These reports include three to five case studies to describe how IRR: (1) allows greater integration for landscape-scale activities to occur; (2) increases efficiency and effectiveness of project planning and implementation; (3) increases both internal and external collaboration; (4) impacts project outcomes and outputs; (5) affects the way activities were selected; and (6) suggestions for how IRR could be improved. The results are compiled in annual reports for each fiscal year and include the accomplishments recorded for each performance measure by region (USFS, 2013c; USFS, 2014).

References

- USDA Forest Service (USFS). 2013a. Fiscal Year 2014 President's Budget, Budget Justification. Available from: www.fs.fed.us/aboutus/budget; Accessed 12/27/2013.
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