TREAT
Treatments for Restoration
Economic Analysis Tool
User Guide

Estimating Jobs and Labor Income Associated with
CFLR Funds and Full Project Funds
For Use in Project Proposals, Work Plans,
And Annual or Five Year Reports

Revised September, 2021

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NOTE:

1) *TREAT was developed to provide a standardized approach to estimating jobs and income for CFLRP proposals, work plans, annual and five year reports. Having a single modeling approach allows for easier comparison across teams and over time. For help in conducting project-, landscape- , or forest-level ecosystem restoration economic impact analysis outside of the CFLRP program, please contact your Regional Economist or Social Science coordinator, if available in your region, or contact one of the WO EMC economists listed in the section of this User Guide entitled "[Where to Get Help](#)".*

2) *Throughout this User Guide the term "impact" is used. This is actually only partially correct; estimates for annual and five year reports describe current restoration activities and are therefore more correctly termed "contribution" analyses. In contrast, analysis of proposed projects is predictive and is therefore termed an "impact" analysis. However, only "impact" is used in the User Guide for simplicity and because people are generally more familiar with that term.*

Introduction

The Omnibus Public Land Management Act of 2009 includes Title IV: Forest Landscape Restoration. The purpose of this title is to conduct ecosystem restoration that encourages economic and social sustainability, leverages local resources with national and private resources, reduces wildfire management costs, and addresses the utilization of forest restoration byproducts to offset treatment costs and benefit local economies (https://www.fs.fed.us/restoration/CFLRP/index.shtml). Title IV established the Collaborative Forest Landscape Restoration Program (CFLRP), which provides funding to cover up to 50 percent of ecological restoration treatments on National Forest System (NFS) lands. The Act requires that projects "… benefit local economies by providing local employment or training opportunities through contracts, grants, or agreements for restoration planning, design, implementation, or monitoring…" The proposal requirements sent to Regional Foresters on February 24, 2010 identified multiple topics to be addressed. The investments section specifically asks "Will jobs be created? If so, what kind, how many, and for how long?" The teams selected to receive funding are required to complete a work plan and annual reports that also require teams to estimate jobs created/maintained.

Given the varying degrees of economic capacity among teams preparing CFLRP proposals, a tool was developed by NFS economists[1] to standardize the approach to estimating the number of jobs that would be supported by restoration efforts. Having a standardized approach allows for a basis of comparison across teams and for consistent reporting of CFLR program accomplishments. If teams were to use different methodologies to estimate the number of jobs created, it would be difficult to compare the economic impacts, roll up the results for reporting at the national level or make comparisons over time. The Treatments for Restoration Economic Analysis Tool (TREAT) was developed to address this problem. TREAT provides teams with a standard interface to estimate employment and labor income[2] impacts from current and/or proposed restoration activities. This User Guide explains the methodology and functionality of TREAT as applied to CFLRP projects.

Methodology

TREAT is a modeling tool used to assist in the estimation of the economic effects (jobs and labor income) of restoration activities tied to the CFLRP. TREAT was designed to provide a standardized approach for impact estimation and to streamline data entry and preparation for the generation of economic impact tables to be used in CFLRP proposals, work plans, and reports. It consists of: 1) a data entry spreadsheet to be filled out by the teams, and 2) a calculation spreadsheet used by FS economists to combine the data entry spreadsheet information and the coefficients (multipliers) from an economic impact model for each project area.

The economic impact analysis estimates in TREAT illustrate the effects of restoration activities on local employment and labor income levels. The relative size of the modeled economy plays an important role in the estimate of impacts on jobs and income and should ideally be customized based on data defining a functioning economy such as where the wood products are likely to be

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[1] Principally, economists with Ecosystem Management Coordination, Region 1 and Enterprise.

[2] Labor income is the value of wages, salaries and benefits for wage earners plus income to sole business proprietors and partnerships. Labor Income is directly associated with local jobs and local business owners. Other measures of income such as Household Income and Total Income include such things as investments, rents, and transfer payments that are not tied to Forest Service management decisions so they are not included in the TREAT calculations.

processed (log flows), where restoration contracting firms are based and commuting data. All CFLRP projects have unique, individualized models specified for them which are comprised of groups of counties that represent the areas where the estimated impacts are likely to occur[3]. A commercial economic impact analysis program, "IMPLAN"[4], is used to build a model for each unique CFLRP project county grouping and the results are imported into TREAT as "response coefficients". Response coefficients estimate the impacts to jobs and income per a specified unit of a restoration treatment activity. When combined with the user data from the data entry sheet, these response coefficients estimate how that activity would cause ripples through the local economy, impacting employment and income levels.[5] TREAT models estimate the economic contribution of 1) the harvest and primary processing of commercial forest products, 2) spending on restoration and monitoring related activities and 3) FS administration and monitoring.

1) Commercial Forest Products: Economic models are built annually using direct employment and labor income response coefficients from the University of Montana's Bureau of Business and Economic Research (BBER)[6], and the IMPLAN software and economic data package. IMPLAN is an input-output model that represents the activity within an economy. Changes in one or more economic components ripple through the economy and can affect employment and income levels in a variety of sectors. For example, an increase in the level of wood product harvesting in an area would likely require logging companies to hire more labor to perform the additional harvesting and transportation associated with the increased extraction levels. Thus, in this example, firms within the logging industry are reacting directly to the increased extraction of the timber resource. Similarly, with more wood product volume on the market, local sawmills would likely have to compensate by increasing employment to handle the added volume. Thus, both logging and sawmill businesses must react to the increase in local timber harvesting, increasing both employment and income for employees and business owners. Such impacts to industries occurring from a change in local production are referred to as "direct effects." In other words, these are the impacts (i.e., change in employment) resulting from the changes in expenditures and/or production values caused by an increase in the timber harvested in the area. The direct response coefficients for commercial timber harvest and processing provided by the BBER are unique to specific regions of the country and are considered more accurate than the multipliers available from IMPLAN[7]. The BBER's data are drawn from periodic mill surveys carried out on a 4- or 5-year cycle as part of FIA's Timber Product Output (TPO) program. BBER leverages the mill survey data to relate volume harvested and processed to employment and labor income for a given region. The national TPO program is transitioning to an annual sampling methodology, but it remains unclear if this annual data will be sufficient for developing direct response

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[3] County groupings were defined by each CFLR Team with input from EMC economists.

[4] IMPLAN was developed by the Forest Service for the first round of forest planning and later given away to a private firm from which the FS purchases a county by county national dataset every year.

[5] It is important to note that IMPLAN is a static model. In other words it represents a snapshot in time. The most recent data used in the IMPLAN models underlying TREAT are for the year 2016 (2017 due out in January, 2019). The models represent the state of the economy in that year; therefore any changes in the economy since that time are not reflected in the model. It also important to note the employment impacts are reported simply as jobs, not full time equivalents (FTE's). The impacts include both full time and part time employment; therefore, a person with more than one job could show up more than once in the data. This inhibits comparisons to population data and inferences about the effect on unemployment rates.

[6] Sorenson, C.B., C.E. Keegan, T.A. Morgan, C.P. McIver, M.J. Niccolucci. 2016. Employment and wage impacts of timber harvesting and processing in the United States. J. For. 114(4):474-482.

[7] IMPLAN relates employment and income to total sales value, which can be volatile, whereas the BBER mill flow survey data relate jobs and income to volume which tends to be a more stable relationship.

coefficients. After using the data provided by BBER to determine direct effects, IMPLAN is then used to model the indirect and induced effects (defined below).

In addition to direct effects such as hiring more labor, industries must meet production requirements by purchasing more equipment, supplies, and other inputs. Some of these purchases might be made from other local industries; for example, additional fuel purchased by the logging companies at local gas stations increases the demand for the products of the oil and gas industry. The local gas stations may respond to the increased demand for fuel by hiring additional labor, which also affects total income in the study area; such impacts are called the "indirect effects". The indirect effects are the changes in inter-industry purchases as they respond to the new demands of the directly affected industries. Another type of effect is referred to as "induced effects." The induced effects reflect changes in the spending ability of individual households as income increases or decreases due to changes in production. For example, an increase in temporary, part-time or full-time employment in the sawmill sector or the local gas station would be filled by individuals in the area and/or the in-migration of new households and the increased income to those individuals would stimulate an increase in their demand for goods and services in the local area, which in turn may cause firms to respond by increasing employment and output.

2) Restoration activities funded through contracts, grants, and agreements: An infusion of new money into an area comes when contracts are let by the Forest Service for ecosystem restoration projects and can be a boost to local employment and income. In previous versions of TREAT, broad or generic sectors were used to model the effects of contracting but the results weren't particularly satisfactory. To solve this, WO EMC entered into an Agreement with the University of Oregon's Ecosystem Workforce Program (U of OR EWP) to use their survey data to develop expenditure profiles of restoration firms for use in IMPLAN/TREAT models. The firms surveyed were ones that had restoration contracts with the Forest Service (as documented in the [Federal Procurement Data System](#)). The U of OR's EWP is a recognized leader in the economics of ecosystem restoration. Information on their methods can be found at [Home | Ecosystem Workforce Program](#). The survey process for the broader set of businesses across multiple federal agencies is described in [Kooistra and Moseley 2019](#) [8] (but does not describe the smaller set of FS businesses used by TREAT). Given these new data, TREAT was completely revised in 2015. Teams are now asked to characterize contracted activities in terms of the percentage of total expenditures spent in the following categories; Labor-intensive, equipment-intensive, material-intensive, technical and professional services, and contracted monitoring.

Just as with the commercial timber analysis, the estimated results from TREAT (job and income impacts) are broken down into direct, indirect and induced effects for employment and labor income. For example, for a watershed restoration project, direct employment effects could come from hiring a heavy equipment operator to install culverts and technical services to plan the project. The new work might cause them to purchase inputs from other local firms (indirect effects) such as gasoline, office supplies, etc. Induced effects would be the re-spending of any income enjoyed by employees of the firms contracted by the Forest Service for this work plus employees in firms supplying them.

Since the different types of restoration firms have different business models (different labor cost, business inputs, etc.) the economic contributions to the local economy will be different depending on what type of business is given a contract. This new specificity greatly enhances our modeling capability. Note: If you have local information on how many people are

employed by the businesses used for restoration treatments, please contact the economists (Where to Get Help) and see the section What if you have local economic data? There are options for modifying the economic model to include that information.

Similar to impacts on employment, the income in the study area will be affected according to the activities associated with each restoration project. "Labor income" is the sum of wages, plus the value of benefits, plus the income of sole proprietors and partnerships. Labor income changes along with local employment levels. As described in the case of employment impacts, labor income is generated through direct, indirect, and induced effects. Direct, indirect and induced effects are summed up in order to estimate a total effect. The employment and labor income reported in TREAT's final results are direct and total effects. The magnitude of the results will depend upon whether you are modeling only CFLR (CFLR/N or CFLN to denote the CFLRP budget line item which can cover up to 50% of all CFLRP costs) funds or all funds (both are required in the annual report, requiring the teams to fill in two data entry sheets). More detail regarding filling in the data entry sheets is provided in the "Using TREAT" section below.

Using TREAT

This section explains how to fill out the TREAT data entry spreadsheet ("TREAT_Data_Entry_2021.xlsx"). TREAT has been set up so that each CFLR team fills out an Excel worksheet and sends it to the economists supporting the CFLRP teams for analysis (see the section "Where to Get Help").

The TREAT data entry spreadsheet provided to the CFLR teams contains four tabs titled, "CFLR-CFLN Project Details", "Full Project Details", "CFLR-CFLN Fund Impacts," and "Full Fund Impacts." The "Project Details" worksheets are the data entry sheets where the teams will input all the CFLR/N fund and full project data associated with restoration activities. **Note**: the "CFLR-CFLN Fund Impacts" and "Full Fund Impacts" are empty during data entry but are where the results will be reported after the analysis is completed by the economists. The summary tables on these sheets may be cut and pasted directly into proposal and reporting documents.

Step 1: Visit the Restoration Economics SharePoint Site and Download TREAT

TREAT is available on the Restoration Economics SharePoint site at (new url as of October, 2018):
https://usdagcc.sharepoint.com/sites/fs-emc-secf/RestorationEconomics/SitePages/Home.aspx.

There is a "TREAT Quick Start" section on the home page. In addition, this detailed User Guide is available at the "User Guide, PowerPoints" link in the list on the left hand side of the window. The TREAT data entry Excel file is available in the "TREAT Download" library (link on the left of the window). There are "FAQs" that have been built up as questions have come in and a "Questions, Answers and Discussion" section.

In the "User Guide, PowerPoints" section is a document with instructions how to set an alert. It can be useful to set an alert on the "FAQ" and "Questions, Answers and Discussion" sections to be alerted when new questions come in, questions are answered, or when a new conversation is started or added to.

Step 2: Enter project details

The first task is to enter information about the project. Data requirements are broken down into four categories: Funding and Employment, Contract, Grant, and Agreement Funding Distributions, Commercial Harvest Volumes, and Product Distributions (harvest processed by firms in the impact area). These categories are described in further detail below. Data are entered in the cells shaded in <mark>bright green</mark>. The remaining cells are for information or calculation purposes only.

Tab 1: (CFLR/N Project Details)

Select Project

TREAT is pre-populated with some of the requisite information for each CFLRP project. Select Project by clicking in the green box and then clicking the down arrow for a picklist.

Once the project has been selected, the Region and Forest where the project is located are displayed along with the counties that make up the project's area of economic influence (also called the impact area). The county lists are reviewed in September of each year by the CFLR project teams and adjusted if necessary.

What list of counties should be chosen for your economic area of influence? We like to call this the 'local area' as it comprises a functioning economy where the wood products are likely to be processed (log flows) and where restoration contracting firms and grant/agreement funding recipients are based. In addition counties should be included where project funding will be spent or 'where CFLRP dollars will hit the ground' and where employees of these firms will spend their income; so it's important to consider where the labor force lives. This set of counties needs to be

contiguous or adjacent to each other. If you need information on the counties where wood products are likely to be processed, see the BBER timber flow tables on the Restoration Economics SharePoint under "Documents to Share" characterizing the flow of logs from each national forest. In addition to details on product type and subsequent processing facility used to complete Table 4 (below), the BBER timber flow data characterizes which counties NFS timber from each national forest has historically flowed to for processing.

Funding and Employment (CFLR/N Funds Only) – Table 1

IMPORTANT NOTE: If you are entering information for a ==‘sunset’==, or ==non-active project== (after your 10 years of CFLR funding) you need to be entering this same information in Tab 2 (FULL Project Details tab). The tables are identical however data sources are different. Projects will need to provide an estimate of the work done within the previous CFLRP area. Refer to any ongoing contracts/agreements that may be in place for work in the previous CFLRP area and your knowledge of work that may have be done in the area. Please document how you arrived at your estimate so you can replicate it in future years. In some cases there may be CFLRN funds that were let in a funded year however not spent until after the 10 years were up. They will show up in the funding sources outlined below. This is a rare case and these funds should also be included in the FULL Project Details tab.

This section is where the Team enters the expenditure for the fiscal year of interest, length of the project, contracted work and monitoring. For multiple year projects or proposals, TREAT averages this data so that impacts are based on annual expenditures[8].

- Enter expenditure (expenditure for the fiscal year of interest). Enter **only the CFLR Funds** requested in your proposal. For annual reports, include only funding for the year for which you are reporting. **Do not include matching funds here**.[9] For example, for the annual report, if the project received $4 million of CFLR funds with another $2 million dollars of matching funds, then the amount entered into the green box would be $4,000,000. The other

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[8] This is important as the IMPLAN models and datasets are annual.
[9] Matching funds consist of: Forest Service appropriated funds, Forest Service permanent trust funds, partnership funds, etc.

$2 million would be included in the data entry on the Full Project Details worksheet for a total of $6,000,000.

- **Enter number of years for project implementation**. For annual reports, enter "1" EVEN IF the project will run for multiple years. For 5 year reports, enter "5".

- **Enter the percent of this funding that is going to contracts with business located within the impact area**. Only firms located within the impact area should be included (see the list of counties in cell B6). Firms based outside the impact area will contribute to "leakage". Leakage is money leaving the economy due to the import of goods and services[10]. Purchasing a service from a partner or contractor based outside of the region is the same as importing those services. Once that money leaves the economy it is no longer available for circulation and will not support additional jobs and income locally.

- **Enter percent of project funding that was used for Force Account (agency funding) expenditure on non-salary related Implementation & Monitoring.**
  Do not include salary paid by non-CFLR/N funds (Salary and Expense Budget Line Items).

Contract, Grant, and Agreement Funding Distributions (CFLR/N Funds Only) – Table 2

In this section, CFLR Project Teams enter data specifying the distribution of restoration project dollars (CFLR/N funds only) to the various activities listed in Table 2. The distribution needs to be reported as a percentage and should <u>normally</u> sum to 100 percent because leakage has already been taken care of in Table 1, cell D13. However, the <u>option</u> exists to enter full funding in Table 2 and account for any leakage in the percents entered in this table.

Bottom line – both D15 and D27 will not equal 100% unless all contracts are with firms within the impact area (see B6). In past years, most TREATs showed <100% in D15 and 100% in D27.

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[10] One thing that is automatically accounted for in the modeling process is the "leakage" of commuters who may earn income from restoration projects but live and spend their income outside of the impact area.

The "Description" and "Types of Products" fields help make it clear what type of work is handled in each category. Each type of Restoration firm has a different business expenditure profile in the economic model. If you have any questions on these categories, please contact Henry Eichman (henry.eichman@usda.gov), Stefan Anderes (stefan.anderes@usda.gov) or Kate Marcille (kate.marcille@usda.gov) and consult the Restoration Economics SharePoint "FAQ" and "Discussion" sections to see if others have suggestions that might be helpful.

This Table takes quite a bit of professional judgement to fill out. It is conceivable that one contract to one firm could fit in more than one type of work. In that case, the percent can be allocated to more than one Project Percent. For example, if 50% of the CFLRN funds are put into a contract consisting of a large amount of earth moving – Equipment intensive – plus a large amount of road building material and culverts – Material intensive – the funds can be split between the two categories, adding to any percent entries that are already there while making sure the total is still less than or equal to 100%.

For contracts that also produce some commercial forest products volume, enter the contract cost in Table 1 and the volume in Table 3, D31 - D34. In that case, there would be no associated value in Table 3, F31 - F34. Cells F31 - F34 are to account for volume harvested by local commercial logging companies.

NOTE If the commercial component is not large, don't worry about it. It takes a lot of volume to make any difference in the job estimates so if an activity only produces a relatively small amount of commercial material there is no need to split it up between commercial / non-commercial.

Commercial Harvest Volume (CFLR/N Funds Only) – Table 3

In this section, only report the volume of commercial wood products that would be removed (**actually harvested not just sold. See the Appendix**) during the reporting year as a result of CFLR/N funding. If you are preparing data for an annual report, provide the volume that was harvested that fiscal year (checking that "years for project implementation" in table 1 is set to 1).

The first column of green cells is where total volumes can be reported in CCF, MBF, Dry Tons and/or Cords. TREAT will do any necessary unit conversions, however, since conversion factors can vary dramatically by region **it is better if the CFLR Teams do any necessary conversions to CCFs themselves**. TREAT uses national average conversion factors.

In the second column of green cells, specify what percent of the volume is harvested by logging firms based in the local impact area. The total in F35 will be less than or equal to 100% to account for leakage. Make sure not to double count impacts – don't include logging by contractors. For example: let's say 20 CCF of commercial volume came off a contracted project. The 20 CCF would be included in the CCF cell D31, but since it was not harvested by a commercial logging company, nothing would be entered in F31. Now let's look at a mixed situation- CCFs produced by both a timber sale harvested by commercial loggers and volume produced under a contract. Let's say that in addition to the 20 CCF coming off a contracted project, there's a timber sale producing 40 CCF - half of which was harvested by local loggers, and half of which was harvested by loggers from outside of the impact area (counties listed in B6). 60 CCF would be entered in D31. In this example, only 20 CCF of the 60 CCF was harvested by local loggers so the percentage entered in F31 would be 33%.

There are, of course, other permutations and mixtures of contractors and logging companies that could occur. Tables 2 and 3 in TREAT are simply trying to separate clearly contracting from timber sales so that the correct economic contribution can be calculated. Do the best you can and don't sweat the small stuff – small volumes don't factor strongly into the calculation of jobs and income.

Primary Processing Product Distributions – Table 4

This table is designed to show where timber removed during restoration activities is processed. "Primary" processors are the industries that process raw logs and chips ground in the woods.

- <u>Only primary processors in the impact area</u> should be counted.

  - o TREAT only tracks volume as far as primary processors as it is impossible to track NFS volume all the way to the end user (i.e., for home construction).

  - o If logs/chips are processed outside the impact area that volume is treated as leakage since the processing does not support local jobs and income.

Table 4 shows a variety of manufacturers and the types of products they make. Report the percent of volume harvested that would be processed in each of these categories (zero is a valid entry). The percentages will sum to less than 100% if some of the volume harvested is shipped out of the impact area for processing (leakage).

Note that "Other Timber Products – not elsewhere classified" is grayed out. This is a valid data entry line that works for small volumes, but if you have a significant volume that can't be put elsewhere please consult with one of the economists to determine the best place to put it. "Not elsewhere classified" is such a catchall category that it might not be a good way to model the impact of processing that volume.

If you need information about the flow of timber and where wood products are likely to be processed for a given area, see the data from BBER posted on the Restoration Economics SharePoint under "Documents to Share"; detailing timber harvest flow to various primary processing mill types. Flow of logs is characterized for each national forest with an active CFLRP project.

<table>
<tr><th colspan="4">Product Distributions</th></tr>
<tr><td>38</td><td colspan="4">Enter % of Harvest Volume (Table 3, cell D36) Processed by Firms Based in Impact Area (cell B6)</td></tr>
<tr><td>39</td><td>Table 4</td><td></td><td>Types of</td><td>Volume</td></tr>
<tr><td>40</td><td></td><td>Description</td><td>Products Manufactured</td><td>Percent</td></tr>
<tr><td>41</td><td colspan="2">Softwood Sawmill</td><td>lumber, bolts, woodchips, pallets,, pressure and</td><td></td></tr>
<tr><td>42</td><td colspan="2">Hardwood Sawmills</td><td>creosote treated lumber</td><td></td></tr>
<tr><td>43</td><td colspan="2">Plywood and Veneer Softwood</td><td rowspan="2">veneer, plywood</td><td></td></tr>
<tr><td>44</td><td colspan="2">Plywood and Veneer Hardwood</td><td></td></tr>
<tr><td>45</td><td colspan="2">Oriented Strand Board (OSB)</td><td>particleboard, fiberboard, hardboard, OSB</td><td></td></tr>
<tr><td>46</td><td colspan="2">Roundwood for pulp, paper, paperboard, paperboard container mills</td><td>pulp, paper, paperboard,paper boxes, containers, cartons,tubes</td><td></td></tr>
<tr><td>47</td><td colspan="2">Roundwood for Biomass Energy Plant Small (under 5 MMCF annual input)</td><td>Energy</td><td></td></tr>
<tr><td>48</td><td colspan="2">Roundwood for Biomass Energy Plant Large (over 5 MMCF annual input)</td><td>Energy</td><td></td></tr>
<tr><td>49</td><td colspan="2">Other Timber Products - Post and Pole</td><td>posts and poles</td><td></td></tr>
<tr><td>50</td><td colspan="2">Other Timber Products - not elsewhere classified (see Note below)</td><td>Other commercial forest products</td><td></td></tr>
<tr><td>51</td><td colspan="2">Other Timber Products -Miscellaneous</td><td>Log Furniture and Other timber products:
Wood windows and door manufacturing
Cut stock, resawing lumber, and planing
Other millwork, including flooring
Wood container and pallet manufacturing</td><td></td></tr>
<tr><td>52</td><td colspan="2">Other Timber Products -Engineered</td><td>Log Homes:
House log and log home manufacturers
Engineered wood member and truss manufacturing</td><td></td></tr>
<tr><td>53</td><td colspan="2">Firewood (Commercial, not for energy production (see above))</td><td>Commercial firewood</td><td></td></tr>
<tr><td>54</td><td colspan="2">Firewood (Home Use)</td><td>Firewood for home use (assumes no commercial value)</td><td></td></tr>
<tr><td>55</td><td colspan="3">Totals -- must be less than or equal to 100%</td><td>0%</td></tr>
<tr><td>56</td><td colspan="4">Note: Try not to use "Other Timber Products - not elsewhere classified". This can be such a diverse catchall that the economic effects are difficult to capture.</td></tr>
</table>

Tab 2: Full Project Details (All Funds)

Fill out these tables in the same way as done for Tab 1, but for activities supported by both CFLR/N funds AND matching funds such as Forest Service appropriated funds, Forest Service permanent trust funds, partnership funds, and other funding (if applicable). While fully recognizing the critical value of in-kind partner goods and services to meeting project goals and contributing to matching requirements, due to the fact that no actual transfer of funds takes place, these in-kind contributions should not be included in full-fund totals.

In cell D16 Enter Annual Force Account FTEs (Agency funding and personnel – Salary and Expense Budget Line Items) for Implementation & Monitoring. This is the number of Forest Service employees per year that will be used for implementation and monitoring. Again, this should reflect the CFLR/N Funds only, or the portion of total attributable to the fund. Fractional employees may be reported. For example if one-half of an FTE's time will be spent on implementation and monitoring then 0.5 should be entered. For seasonal employees, estimate the percentage of the year that each employee will be involved in implementation and monitoring and multiply times the number of seasonal employees performing this work. For example, if you have 3 seasonal employees performing monitoring work for 4 months out of the year, this would equate to 1 FTE (1/3 year x 3 employees).

Step 3: Submit for Analysis

Once data entry is completed,

1. Save the spreadsheet with the **Project name in the title** from cell B3 of the Data Entry spreadsheet.

2. Submit the data entry TREAT to Henry Eichman, with a cc to Stefan Anderes and Lindsay Buchanan.

After processing by the economists, the completed TREAT data entry spreadsheets will be posted on the "Restoration Economics" TREAT SharePoint site. In the finished spreadsheets, Table 5 will be filled out twice – once on the "CFLR-CFLN Fund Impacts" tab and again on the "Full Fund Impacts" tab. Table 5 can be cut and pasted directly into the proposal, work plan or annual report template.

		Jobs - Full and part-time		Labor Income (2018 Dolllars)	
Table 5					
	Project Type	Direct	Total	Direct	Total
	Timber harvesting component	0	0	0	0
	Forest and watershed restoration component	0	0	0	0
	Mill processing component	0	0	0	0
	FS Implementation and monitoring	0	0	0	0
	Commercial firewood and contracted monitoring	0	0	0	0
	TOTALS:	0	0	0	0

NOTE: What is a "job"? **One "job" does not always equal one person**. The job estimates reported here represent the average annual SUM of portions of jobs - part time, full time, seasonal and temporary – that are supported by management of Forest Service lands.

What if you have local economic data?

TREAT uses data from a nation-wide survey carried out by the University of Oregon's Ecosystem Workforce Center of businesses that have contracted with the Forest Service to do restoration work. From that dataset, we have estimates of the direct number of employees used by each type of business. However, since this information is drawn from a national survey, it is only an estimate of the number of people employed by these firms locally. If you have local information on how many people are employed by the contractors used for restoration treatments, please contact the economists (Where to Get Help). There are options for modifying the economic model to include that information.

Where to Get Help

- Henry Eichman WO EMC henry.eichman@usda.gov
- Stefan Anderes WO EMC stefan.anderes@usda.gov
- Kate Marcille WO EMC kate.marcille@usda.gov
- Lindsay Buchanan WO FM lindsay.buchanan@usda.gov

Appendix

Should we be using timber volume sold or harvested?
HARVESTED. We're trying to get at what's going on in the economy that year and a harvest actually gets the money ball rolling. A sale can be an injection of money many years in the future when it's actually harvested.

How do I run a timber volume harvested report in the Corporate Data Warehouse (CDW)?[11]
- Go to NRM
- Click Login to NRM link on the left panel of the page.
- Once in the Welcome to NRM page, click Default CDW Dashboard link.
- On the left panel under Select a topic, click on the plus sign next to CDW.
- On the upper right ribbon select 'Default CDW' under the 'Go to:' dropdown.
- Then click on the plus sign next to Year-End Reports.
- Now click on Timber (TIM) link.
- The left panel of the page will show two tabs, Reports and User Views). You need to stay on Reports.
- Scroll down and click on Cut and Sold (2005-current). A new window will open.
- Click on region and forest. It also allows you to click on district. Note that you can select multiple forests as long as you click the "forests" box.

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[11] This is an internal Agency database, so you will need Agency access to pull this report.

- On the lower right corner under Filter Data click on the down arrow on Character. That will open a new small window.
- Select CFLRP and click OK.
- Then click Finish.
- The report will show the total volume in MBF and CCF that is both cut and sold (we will use the volume cut or harvested). It will also give you the volume for sawtimber hardwood or pine and pulpwood.