

Where do federal logs go? Characterizing forest products and timber flow

A novel methodology for leveraging FIA's national mill survey to identify the communities where USFS timber is processed.

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Providing critical information for:

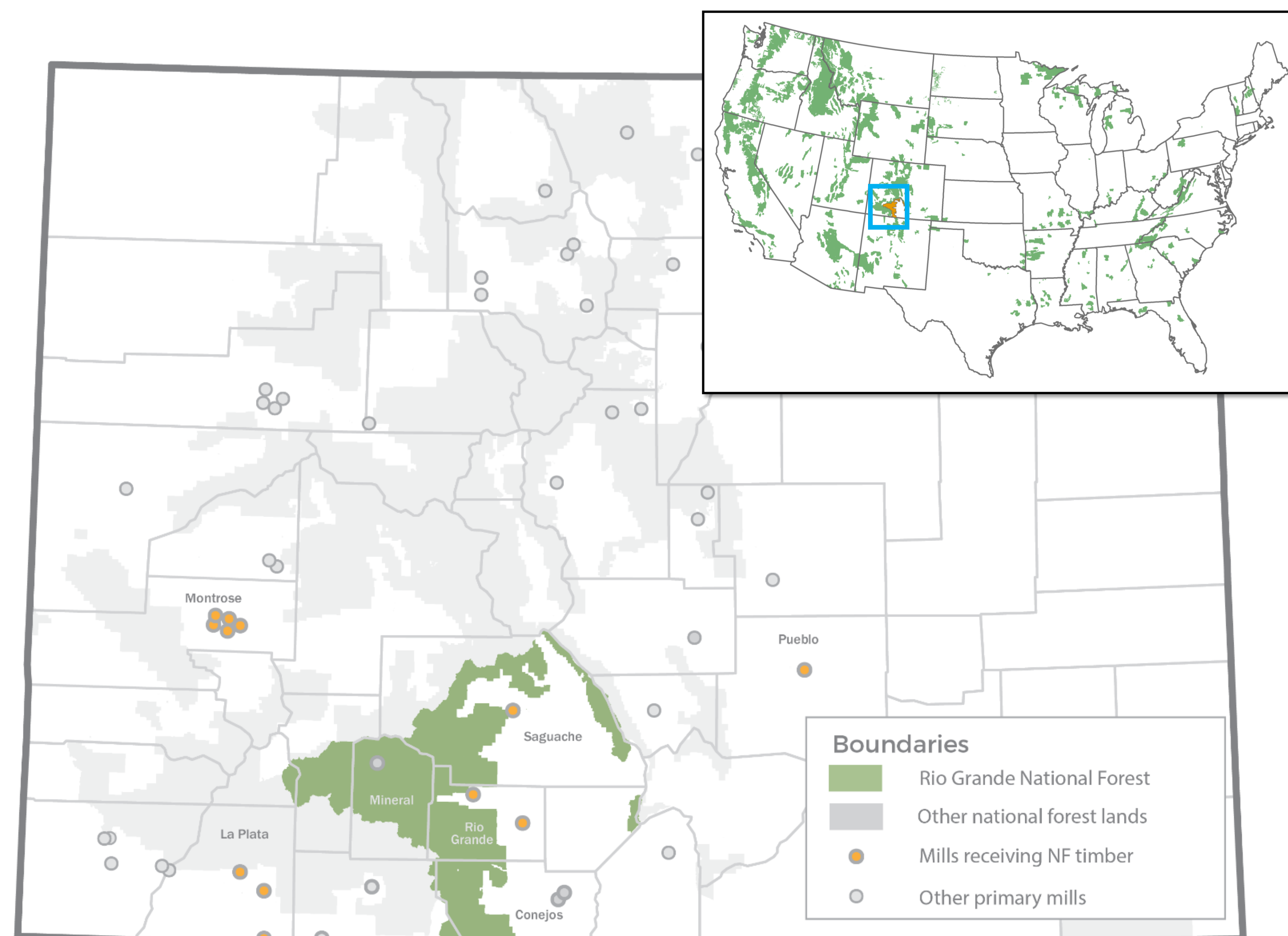
Potential enhancement of decision support tools

Inform transaction evidence appraisal systems

Carbon life cycle analyses and industry research

Non-USFS economic impact analysis

BBER's data crosswalk methodology has applications beyond calibrating USFS economic models



Current challenges

1. The predicted uses of USFS timber sold are not always a good indicator of how the timber is actually utilized by timber processors.
2. Relying solely on Cut & Sold Reports makes it difficult to attach desired information such as location and type of receiving mill to the timber harvested from national forests.

Timber Sale Accounting (TSA)

- USFS Cut & Sold Reports
- volume of timber harvested
- predicted product categories
- national forest level
- compatible with econ models
- price-driven categories
- no receiving mill type or mill location information

Timber Product Output (TPO)

- nationally available, FIA
- mill-level product categories
- county level resolution
- tracks USFS harvest
- easily updated with new mill survey data
- linked to DRC categories

Direct Response Coefficient (DRC)

- input for USFS econ models
- number of jobs per unit of timber harvested
- specific to mill type/product
- based on TPO and federal employment data
- calculate economic impacts

Table 1. Employment Direct Response Coefficients by Industry Sector and Region
(number of jobs per MMBF of timber harvested, excluding fuelwood)

Industry Sector	Alaska	CA/NV	WA/OR	MT/ID	Four Corners	WY/SD	North Central	West Southeast	East Southeast	Hardwood	Northeast	
Forestry & logging	14	18	11	12	32	14	15	9	8	18	22	
Softwood sawmills	20	15	12	14	17	12	14	9	11	15	12	
Hardwood sawmills	a	a	a	a	a	a	28	30	28	25	25	
Residue (sawmills)	2	3	5	5	6	4	4	4	4	4	4	
Softwood plywood/veneer	a	a	31	32	a	a	a	17	22	a	a	
Hardwood plywood/veneer	a	a	a	a	a	a	80	80	80	80	80	
Residue (plywood/veneer)	a	a	4	4	a	a	4	4	4	4	4	
OSB and other structural composite panels	a	a	a	a	a	a	8	8	8	8	8	
Roundwood for pulp and paper	a	9	9	9	9	a	9	9	9	9	9	
Energy - large	a	2	2	2	2	a	2	2	2	2	2	
Energy - small	10	10	10	10	10	10	10	10	10	10	10	
Other mills												
Post and pole	a	15	15	14	15	15	a	30	30	a	a	
Utility pole	a	14	14	14	14	14	a	11	11	a	a	
House log / log home	100	100	100	100	100	100	75	75	75	75	75	
Log furniture	125	125	125	125	125	125	125	125	125	125	125	
Residue (other mills)	2	2	2	2	2	2	2	2	2	2	2	
States in each region	Alaska	California Nevada	Oregon Washington	Idaho Montana	Arizona Colorado New Mexico Utah	Wyoming	Michigan Minnesota Wisconsin	Arkansas Louisiana Oklahoma Texas	Alabama Florida Georgia Mississippi North Carolina South Carolina Virginia	Illinois Indiana Iowa Kentucky Maryland Missouri Ohio Pennsylvania Tennessee West Virginia	Connecticut Delaware Maine Massachusetts New Hampshire New Jersey New York Rhode Island Vermont	

Sorenson, C.B., C.E. Keegan, T.A. Morgan, C.P. McIver, and M.J. Niccolucci. 2016. Employment and wage impacts of timber harvesting and processing in the United States. *Journal of Forestry* 114(4): 474-482. doi:10.5849/jof.14-082.

*Value not reported either due to lack of industry in the region, or to maintain confidentiality of existing operations.

Data crosswalk table of proportional USFS timber harvest volume by product for the Rio Grande National Forest, 2012

AdminUnit	County Name	State	State FIPS	County FIPS	Sawtimber			Misc.-Conv.			Fuelwood	
					Sawlog	Firewood	House log	Sawlog	House log	Post or pole	Not utilized	n/a
					Sawmill-soft	Post/pole	Log home	Sawmill-soft	Log furniture	Post/pole		
Rio Grande	La Plata	CO	41	011	0%	0%	1%	0%	0%	0%		
Rio Grande	Montrose	CO	41	015	2%	0%	0%	3%	0%	0%		
Rio Grande	Pueblo	CO	41	019	14%	0%	0%	16%	0%	0%		
Rio Grande	Rio Grande	CO	41	029	55%	0%	19%	64%	9%	0%		
Rio Grande	Saguache	CO	41	039	5%	0%	5%	6%	2%	0%		
					76%	0%	24%	89%	11%	0%		100%

Methods

This study improves timber product estimation methods by using mill-level timber product output (TPO) data to characterize national forest timber flow and utilization by county. TPO data provides a bridge between USFS Cut & Sold (TSA) product categories and direct response coefficients (DRCs) estimated for various sectors of the forest products industry. Leveraging mill-level TPO data results in unique information based upon primary data collected directly from timber processors and ensures accurate product type information, thus providing critical inputs for current Forest Service economic impact models.

Processing of federal timber results in **jobs**, generated **labor income** and additional economic benefits for **rural communities**.

Broader research implications span from **carbon life cycle** analyses to improving **planning tools** and supporting **policy development**.

The **flow** of USFS timber and utilization as various **wood products** is critical knowledge for **agency managers** as well as **society at large**.

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