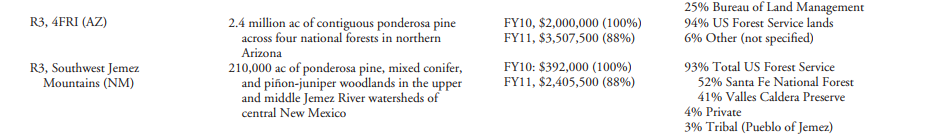
## Study Region Notes



The 4FRI is currently CFLRP contract awarded in May of 2012 and is the largest such contract the US Forest Service has ever offered (US Forest Service 2012a). The Four Forests Restoration Initiative primary goals are to

* restore the ecosystem so that it is more resilient to fire and climate change over time,
* increase native biodiversity,
* reduce the risk to communities of wildfire, and
* promote sustainable wood products industries that can support restoration efforts and strengthen local economies.

Use mechanical thinning on approximately 50,000 acs/year to allow for increased use of both planned and unplanned fires to meet restoration objectives, ultimately mechanically treating roughly 1 million ac over 20 years; ramp up to an additional 30,000 ac of treatment per year, over and above the forests’ current program of work. Analyzing approximately 750,000 ac to identify roughly 300,000 ac of treatment for 10 years of work.

Community Forest Restoration Act of 2000, which created the Community Forest Restoration Program (CFRP) under legislation introduced by Senator Bingaman (D-NM) as part of the Secure Rural Schools and Community Self-Determination Act. In many ways CFRP is a state level version of the CFLRP. It allows for the appropriation of $5,000,000 annually for community-based restoration projects, selected through a competitive process, on any combination of federal, tribal, state, county, or municipal forestland in New Mexico. The CFRP provides federal grants of up to $360,000 over 4 years. Grantees are required to complete a multiparty assessment to report on the positive or negative impact and effectiveness of the project, including improvements in local management skills and on-the-ground results.

What is CFLRP (planning at larger scales and across jurisdictional boundaries, and the use of monitoring and adaptive management to address uncertainty (Grumbine 1994, Yaffee 1999, Butler and Koontz 2005), created to address concerns $40 million and require a 50% match by the region- Competitive funding – awarded based on ability to meet CFLRP Objectives: promote ecological, economic, and social sustainability; leverage local resources to accomplish these goals; reduce fire management costs through the reestablishment of natural fire regimes and reduction of the risk of uncharacteristically severe fires; demonstrate the degree to which restoration activities achieve ecological/watershed objectives and affect fire activity and its associated costs; and show how capturing the value of forest restoration byproducts can reduce treatment costs and support local economies.

The CFLRP requires multiparty monitoring, collaboration, planning and prioritization at landscape scales, and the competitive allocation of funding to a limited number of projects, it represents the beginning of a potential paradigm shift in forest policy in the United States. The Act is meant to encourage landscape-scale projects across multiple land ownerships, in line with the Secretary of Agriculture’s call for an “all lands” approach to land management (US Forest Service 2009), by supporting projects developed and implemented through a collaborative process that leverages local, private, and other federal resources with CFLRP funding awarded for work on National Forest System lands.

The legislation anticipates that fire suppression costs should decrease over time as a result of these projects, as should restoration treatment costs, because of improvements in efficiency and capacity of both industry and local US Forest Service units. The CFLRP also promotes a model of adaptive planning and management based on multiparty monitoring and learning. Act requires all projects to monitor social, ecological, and economic outcomes for at least 15 years after implementation begins, with this information ideally informing future decisions in an adaptive planning cycle. One of the stated purposes of the Act is to encourage a process that shows the degree to which restoration activities successfully achieve ecological objectives, reduce fire activity and management costs, and benefit local economies, while offsetting the costs to the agency of implementing treatments. [5] Thus, knowledge generation and learning are central components of the program.

Historical reference conditions have long been used to guide the restoration of degraded ecosystems. However, a rapidly changing climate and altered disturbance regimes are calling into question the usefulness of this approach. As a consequence, restoration goals are increasingly focused on creating communities that are resilient to novel environmental stressors and emphasis is being placed on defining functional targets through the use of plant traits. While changes in forest structure and composition have received much attention, long-term changes in stand-level functional traits are not well understood. Strahan (2016) argue that a focus on restoring optimal functional trait combinations may be as important as managing ecosystem structure for restoring resilient ecosystems. Silvicultural treatments such as thinning and prescribed burning aim to reduce overall tree densities, \*\*\*.

challenges:

* build trust - as fire suppression costs continued to rise, money that had been allocated to community-supported fuels reduction projects, under both Healthy Forests Restoration Act (HFRA) in 2003 and non-HFRA authorities, was redirected to pay for fire suppression and never replenished, eroding trust with stakeholders and frustrating restoration efforts (Cromley 2005)).
* Multiparty monitoring, a key oversight mechanism for the contracts, was originally required for projects, but under the extended authority, only programmatic monitoring is required. The inclusion of a project-level monitoring requirement in the CFLRP reintroduces this as an oversight mechanism for funded projects, whether or not stewardship contracts are used. Demonstrate forest restoration is conducted with partners at scales that can meaningfully influence fire behavior and accomplish restoration goals.

Restoration treatments are based largely on applying the concept of reference conditions and the natural range of variability, defining targets based on historical forest structure and composition (Roccaforte et al 2015). Synergistic effects of climate change, altered fire regimes, and land use are also likely to alter the regime of other forest disturbances, such as insect and disease outbreaks \cite{Seidl 2017}. Forests are expected to experience conditions outside of their natural range of variability, resulting in the emergence of novel combinations of environmental conditions and disturbances \cite{ Hobbs et al 2006, Hobbs et al 2009}. further \*\* needs for monitoring ecological responses and assessing efficacy of restoration treatments under new processes and \*\* \cite{ Hobbs et al 2006, Hobbs et al 2009}.Need for monitoring to evaluate ecological conditions and guide management prescriptions, assess effectiveness of treatments and adapt restoration treatments and hazardous fuels mitigation strategies, inform land use planning, stakeholder discussions.

In the 10 projects now underway, the most common, and often the most urgent, treatment objective is a reduction of fuel densities through mechanical thinning, prescribed fire, harvesting woody biomass, and managing lightning-caused fire (Schultz). In the 4FRI -- stakeholders, with financial support from the US Forest Service, completed an assessment of small-diameter wood supply in 2008, both to assess volume and to find social agreement around harvesting parameters.