
JPA FUNDING STRATEGIES

Vance Russell

3point.xyz, Forest Business Alliance

16th May, 2025

created in  Curvenote

Abstract

Abstract: We introduce an analysis and strategy to secure sustainable funding for the proposed Northeast California biomass supply management joint powers authority (JPA) created to improve forest product supply chain bottlenecks. Developing and creating the JPA is part of the Land Use and Climate Innovation (formerly OPR) funded California Forest Residual Aggregation for Market Enhancement (CAL FRAME) pilot in the state's northeast corner. An estimated \$1.5 mn is needed to start up and run the Northeast California JPA over three years.

Keywords f, o, r, e, s, t, , h, a, l, ,, J, P, A, i, n, c

1 Takeaways

1. Joint Power Authorities (JPAs) have been proposed as a solution to aggregate woody feedstock from forest health projects in California.
2. Startup funding for the JPAs for each of the pilots is being funded by the California Governor's Office for Land Use and Climate Innovation (LUCI).
3. Long-term sustainable funding for each JPA will be challenging, especially in rural areas without the tax base to pay for wildfire mitigation authorities like Marin or JPAs that help make it easier to utilize the wood from thinning projects.
4. This paper is adapted from a funding analysis for the North Eastern California pilot.
5. The analysis made a conservative estimate of \$1.5 million over three years to run the JPA

2 Background

The JPA finance chapter is a strategy to secure sustainable funding for the proposed Northeast California biomass supply management joint powers authority (JPA) created to improve forest product supply chain bottlenecks. Developing and creating the JPA is part of the Office of Planning and Research (OPR) funded California Forest Residual Aggregation for Market Enhancement (CAL FRAME) pilot in the state's northeast corner. See the Introduction for more information on CAL FRAME and Chapter 2 for a summary of the CLERE Inc. [JPA Report](#) report to the Fall River Resource Conservation District.

Partners developing the JPA are clear in the role of the organization acting as a critical wood utilization entity, but that it would not compete for funds with other organizations, especially RCDs or markets with private entities such as sawmills and licensed timber operators (LTOs). The approach outlined in this chapter takes a realistic, feasible revenue assessment appropriate for the region. It provides a hypothetical operating budget for running the JPA during the startup's first five years. Creating a stably funded JPA will be challenging with widely fluctuating changes in private and public funds.

Reference citation example from ?

2.1 Recommendations

1. Distinguish between start-up vs. operational funds.
2. Consider budget ramping
3. Tie expenses to realistic revenues
4. Consider temporal addition of non-traditional or higher risk revenue sources, but pilot them at a small scale first, then ramp up with success.

2.2 Feasible Options

The JPA steering committee identified the following options as the most promising to provide a steady income stream to run the JPA:

1. **Endowment.** Create an endowment from the OPR funding tranche (plus other contributions) and invest it conservatively. Interest/gains from the principal would partially fund the JPA. We have assumed the seed funding for the JPA is \$2 mn from OPR with an additional \$500,000 from foundation, corporate, and individual contributions.
2. **Contributions/gifts.** Although the McConnell Foundation is an eventual, not immediate donor, casting a wider net at the state or Western Region level for foundations, corporations, and individuals that could give to the JPA is warranted. We suggest that rather than considering the contributions as grants to support the JPA, the Pilot Project Team should consider creating a campaign with a specific fundraising amount to start. This approach will make it easier to approach each donor with a specific amount to ask, make donors part of the overall campaign, and make smaller contributions from individuals meaningful and possible. We also recommend that initial contributions go to endowment creation.
3. **Federal and State Grants.** It is unlikely that the JPA will get operational funding from state and fed grants, but any proposals that it leads or participates in could charge overhead (~10%) plus directly bill salaries to cover some operating costs. Negotiating a higher indirect, or NICRA, to increase this value by a grant could be another long-term strategy to increase operating cost revenues.
4. **Member Contributions.** RCD and other feedstock aggregation members pay \$5k/yr to participate in the program. This would be unrestricted funding for the JPA.
5. **Fee for Service.** Western Shasta RCD, for example, works with nonindustrial forest owners and provides services for forest management plans with small forested LOs (The State funds the development of FMPs, but landowners cannot secure funds to implement the plans). JPA could create a similar service offering. However, it must ensure it does not compete with the region's RCDs.
6. **Sort yards.** Managing a sort yard for aggregated feedstock would be a strategic revenue source in line with the JPA mission. This would require substantial investment in equipment and a site to start. See the budget for a cost breakdown. A feasibility study would be helpful to understand total costs, potential revenue, and risk reduction associated with the yard.

2.3 Temporal Adoption

In general, the feasible options identified are traditional and similar to funding approaches for an RCD or nonprofit.

1. New finance options, such as environmental impact bonds, could be introduced over a longer time period and trialed at a small scale, then scale up when successful. These could also be other finance mechanisms, such as revolving loan funds (with low-interest loans), public-private partnerships, or bonds.
2. Other revenue-generating options could be tested in the same manner to ensure their effectiveness and introduce them to skeptical participants, financial managers, or government entities that are not used to working with alternative finance options.

3. The GANTT chart timeline includes testing, adopting, and implementing temporal finance mechanisms (Figure 2).

2.4 Budget

CAL FRAME partners estimated an approximate annual budget averaging \$400,000 during the 1st three years of operation and based on similar operating expenses for RCDs in the region Figure 1.

ITEM	YR1	YR2	YR3	TOTAL
REVENUE				
Contributions	60,000	60,000	60,000	180,000
Grants	60,000	120,000	150,000	330,000
Fee-for-Service	145,000	220,000	330,000	695,000
TOTAL REVENUE	525,050	467,972	487,403	1,480,425
EXPENSES				
Labor	344,450	377,788	411,580	1,133,818
Operations	65,100	43,864	33,251	142,215
Outreach	2,500	2,600	2,704	7,804
TOTAL EXPENSES	525,050	467,972	487,403	1,480,425

Figure 1: Three-year draft JPA budget showing revenue, expenses, and net. Note these are all estimated values. Contributions include passive income based on a \$1 mn seed-funded endowment. Figures include a 4% inflationary increase year-on-year to adjust for inflation and salary increases.

2.4.1 Revenue

The revenue estimates are based on a startup endowment of \$1 million, regular indirect costs to cover operating from grants, and significant fee-for-service to forest landowners and possibly fees charged for use of wood from a sort yard. Ideally, the goal would be a stable revenue source to cover staff salaries and operational costs. It may be that a multi-year campaign is needed to get to a minimum level (\$2 million is suggested since that could generate ~\$100,000 annually as an endowment). We've made a conservative estimate for the start-up endowment, but the number may be higher but not substantially, e.g., \$2 mn.

Contributions include endowment, passive income, gifts, and member contributions. Contributions and gifts may come from local to regional foundations and corporations interested in the forest health world. Individual contributions always have the potential to add up to more than foundation and corporate gifts but take more time to manage. Creating a time-bound campaign with a specific fundraising goal replete with a thermometer to show progress could be a great way to involve communities in the region through giving and creating outreach or communications opportunities at the same time to explain the need for the JPA and the importance of sustainable funding from the community to protect homes, infrastructure, and forests.

Revenue may also be derived from the feedstock supply insurance product currently being developed by members of the CAL FRAME team and Ecostrat. Approximately half the startup funding could fund this mechanism or a parametric insurance model. These are in process, so more details will be provided once ready.

Grants in the budget will not compete with the RCDs. RCDs rely on various sources' grants to carry out their work, cover staff salaries, and keep the lights on at the office. Grant resources are limited, so a new entity such as the JPA cannot compete for those funds in any way.

New Funding Options

New Finance Options Conservation finance options include environmental impact bonds like Blue Forest's

Forest Resilience Bond, which leverages private investment from impact investors to support forest health projects, with repayment to investors over time supported by beneficiaries based on the savings and benefits from reduced wildfire risks and improved ecosystem services. The JPA could utilize environmental impact bonds on a trial basis at a small scale, then expand as successfully as desired by the JPA over an extended period. Identifying potential payor entities interested in paying for the avoided costs of wildfire with proactive measures, such as thinning and prescribed fire, is worth pursuing immediately or as soon as the JPA hires an executive director. We do not recommend solely relying on impact bonds since they take a lengthy time to develop and rely on a payor to provide avoided-cost funding. However, a bond could be a valuable complementary funding resource to other secured revenues.

Collaborative Finance Collaborative finance is a conservation finance strategy that involves cooperative interaction between individual project developers, stakeholders, and finance providers. This process may or may not include traditional financial institutions (collaborativefinance.org). The term can be broadened to include finance developed by fair and equitable participation of stakeholders in a region, landscape, or watershed to address natural resource and infrastructure management needs, utilizing multiple forms of funding from public grants to private investment. Finance approaches may include outcomes-based finance models such as environmental impact bonds. For a deeper discussion of collaborative finance approaches to financing water infrastructure in California, see *Because It's Worth It*. The CALFRAME project has many aspects of collaboration that can be directed toward developing suitable public-private financing for restoration projects.

Carbon Markets Carbon markets offer an opportunity for the JPA, its members, and Implementing Entities to secure gap or stack funding for on-the-ground forest management activities, such as thinning, pruning, mastication, mechanical treatment, and even prescribed burning. Revenue realized through the carbon market could help the JPA to treat more forest land than otherwise possible and generate additional biomass that could be put under supply contracts to support existing and emerging infrastructure. Market prices for carbon credits vary depending on a given project's size and location, treatment type, and the carbon market or registry used. Carbon credits can be realized for projects of any size and located on federal, state, and private lands. See the Avoided Wildfire Emissions Protocol section as another approach that is easier to implement than carbon sequestration credits or markets since the avoided costs are already calculated, and proponents do not have to seek an entity to purchase the credits. National Forest Foundation implemented several voluntary carbon projects in California and the West following wildfires. Funded by corporate donors, the projects created carbon based on growth trajectories of planted trees. The credits were registered with the American Carbon Registry but immediately retired upon creation since trading carbon on public lands is disallowed.

Avoided Wildfire Emissions Spatial Informatics Group and Element Markets developed a forecast methodology under the Climate Forward program to recognize the climate benefits associated with fuel treatment activities that lower the risk of catastrophic forest fires and their emissions. Known as the Avoided Wildfire Emissions Forecast Methodology, the Climate Action Reserve protocol could provide complementary funding for thinning and prescribed fire projects to grants and private investments. The Protocol differs from carbon offsets in that forecasted mitigation units (FMUs) are issued for forecasted greenhouse gas reductions or removals. FMUs are used to mitigate anticipated future emissions, such as wildfires.

Embodied Carbon Although it may be several years from implementation, developing and marketing low-carbon building materials is another new opportunity. Buildings are a major source of greenhouse gas emissions, so building decarbonization is a California state priority. Embodied carbon is the lifecycle of greenhouse gas emissions from creating, transporting, and disposing of building materials (Carbon Leadership Forum, 2022). In other words, embodied carbon is any building's carbon footprint contained in its building materials. It differs from operational carbon, the carbon produced by a building's energy, heat, and lighting. The California Air Resources Board is developing a comprehensive strategy for embodied carbon and is seeking comments following the signing of ABs 2446 and 43 (CARB, 2024). More details on embodied carbon can be found in this slide deck from a recent California Air Resources Board workshop held on September 19, 2024.

Revolving Loan Funds Pooled funding sources such as impact bonds or revolving loan funds can help make a greater amount of funds available to more projects across a landscape. Typically offered at lower than market interest rates, revolving loan funds are self-replenishing pools of money utilizing principal and interest payments on existing loans to issue new loans. They have been used effectively on small to large scale to develop businesses, assist healthcare, and improve environmental outcomes. Revolving loan funds also provide much needed up front capital for project startup. They are flexible and can be used with more conventional funds such as grants and loans. For example, through a coalition of public and private partners, the Southwest Wildfire Impact Fund intends to utilize resources from private investors and revenues from biomass generated from forest thinning to offset the financial burden for wildfire mitigation in the San Juan National Forest wildland-urban interface. The project fosters regional collaboration through shared project financing and implementation. It also creates the opportunity for scaling up forest treatments and fire reduction by creating a revolving loan fund that reinvests proceeds into additional projects, ensuring that capital is available for long-term re-treatment and expansion of forest health interventions. Blue Forest is operating a revolving loan fund called the California Wildfire Innovation Fund that could expand into broader support of other forest health entities.

Parametric Insurance Parametric or index-based insurance covers the probability of a predefined event instead of indemnifying actual loss incurred (Swissre, 2018). These so-called trigger events are typically disaster (e.g., wildfire, flooding, hurricane, earthquake) related and measured through triggers such as wind speed, quake magnitude, acres burned/burn severity, or rainfall amount. Insurable triggers are modeled and must happen by chance. When the triggers are reached, a predetermined pay-out is made regardless of the sustained physical losses. Parametric insurance is meant to complement existing indemnity insurance but is increasingly used for post-disaster restoration funding in the natural world. One of the earliest examples of parametric insurance use for nature recovery is the Mesoamerican Reef parametric insurance that provided \$800,000 for reef restoration following Hurricane Delta. The trigger was windspeed with a parameter greater than 100 knots. The funds came from the Coastal Zone Management Trust (Winters, 2020). Using insurance to protect forests and communities, likely through wildfire risk mitigation, could be a novel way to fund the JPA's activities throughout the region and provide complementary funds that could be particularly valuable post fire.

Tech-based Solutions Technology could help finance the JPA, connect payors to the JPA, and provide digital platforms that connect funders to implementers. Blockchain and digital solutions have mostly been applied to reforestation and carbon sequestration projects. It could be possible to just set up a digital marketplace, where funders and implementers connect to implement forest health restoration and infrastructure projects.

Add project platform example.

On the other hand, the JPA may help administer a large grant across multiple RCDs to leverage more funds across a region. With the devolution of some state funding sources, this could be a great option to manage those funds and reduce the competition for funding resources since the grants solely go to local organizations. The fee-for-service section includes an item for grant administration. It also includes an option for implementing landowner forest plans since this may be a viable revenue source and may help source wood for the JPA. A sort yard that the JPA manages to source, centralize, and sell woody biomass is another revenue option but will require investment to be successful. Expenses for the sort yard are included in the expenses section.

Caution

It is critical to incorporate into the JPA's bylaws and revenue-generating practices that grant fundraising does not compete with the RCDs in the region. It is possible the JPA may collaborate on a grant with one or more RCDs but should never submit grants for which an RCD qualifies.

A contingency fund is written into the budget expense sheet as any annual surplus is invested into a contingency pool. Adding 10-15% contingency line items to any secured grant would supplement that funding, although most

grant funding contingencies are to be applied to implementation budget shortfalls. Other contingency funding sources could come from unrestricted funding (contributions/gifts) and a higher indirect rate.

2.4.2 Expenses

JPA partners originally estimated an average annual expense budget of ~\$ \$400,000. The total expenses/year slowly ramp up each year of the budget with the idea that with additional secured revenue, the JPA would bring on more staff capacity and increase offerings, reach, or fee-for-service activities such as additional sort yards.

The bulk of the expenses are for labor/staff, including an executive director, contracted feedstock manager, administrative bookkeeper, and various contracted services. Briefly, the staff responsibilities are the following:

- **Executive Director.** Manage board of directors, lead program development/outreach/education/fundraising/communications, develop an annual budget, manage contracts, recruit and manage staff.
- **Administrative Bookkeeper.** Track/invoice budget, develop cost allocation plan, manage grant reporting, administer payroll, manage AP/AR accounts, prepare 1099s and tax docs, develop grant budgets, and ensure financial compliance.
- **Feedstock Manager.** Source and sell feedstock from public and private lands, arrange transport to sort yard(s), manage sort yards, develop outreach materials, manage compliance documents for sort yard and aggregation, and maintain records.

Other expenses include operations and maintenance, audit/legal fees, insurance, equipment, software, travel, and bank fees. Expenses include communications, website, outreach and equipment, insurance, and land lease costs for a sort yard.

2.5 Timeline

An approximate timeline for key activities to fund and operationalize the JPA is shown in Figure 2. Endowment seed funding and a capital campaign will be critical to initiate the endowment. Staffing is described under expenses and shows the approximate start time for each staff member. The development of the JPA bylaws will define governance, and the JPA will be created when the LAFCO filing is completed.

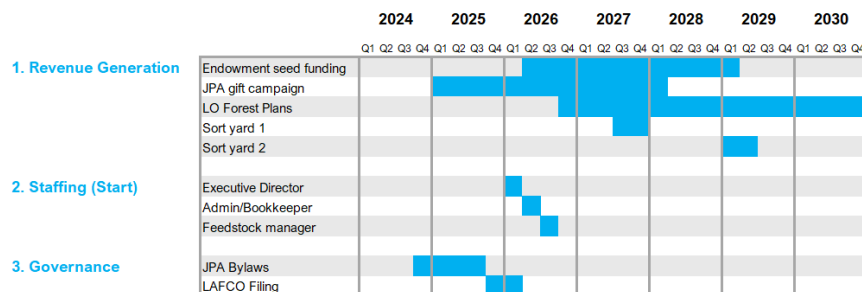


Figure 2: GANTT timeline for the JPA startup period.

2.6 Next steps

1. Fund a sort yard feasibility study.
2. Consider a feasibility study to determine revenue from realistic to moon-shot possibilities.
3. Examine insurance requirements and costs.
4. As revenue is secured, refine the budget and create a more detailed operating budget

2.7 Plumas County

```
import leafmap.foliummap as leafmap

m = leafmap.Map(center=[39.9371, -120.9566], zoom=10)
m.add_basemap("TERRAIN")
# plumas = '/plumas/plumas.shp'
# m.add_shp(plumas, layer_name='Plumas County')
m
```