LEGAL TOOLS FOR GOVERNMENT ENTITIES TO INCENTIVIZE UTILIZATION OF FOREST BIOMASS IN CALIFORNIA

Prepared for:
Placer County Water Agency

Prepared by:
California Law Empowering
Renewable Energy (CLERE) Inc.

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Executive Summary

I. Overview

Despite an excessive number of dead trees, brush, and small-diameter wood that needs to be removed from California's forests, existing and proposed wood waste utilization projects face a close-to-insurmountable challenge when it comes to demonstrating sufficient and long-term access to woody feedstock sources. Without a minimum contract term of ten years, many lenders and investors deem wood products and bioenergy projects as too risky (CLERE, 2020).

In response to this challenge, a new concept was proposed and has since been the subject of several convening workgroups over the last few years to improve forest supply chain logistics. In 2021, the Governor's Office of Planning and Research (OPR) was provided $3 million from the Wildfire and Forest Resilience Early Action Package to address economic development opportunities; $2.5 million was allocated to support new long-term wood feedstock pilot projects (Cal FRAME), which OPR used to fund 5 projects throughout the State. These pilots will develop plans to improve feedstock supply chain logistics within each target region via an institutional arrangement that bears the structure, authority, and resources to aggregate and initiate long-term feedstock contracts. Each project will explore and assess market opportunities to improve biomass feedstock availability in their region. The California Forest Residual Aggregation for Market Enhancement (CAL FRAME) model proposes to create "biomass supply management entities" that could provide a regionally tailored, public process that would administer the flow of biomass between landowners, suppliers and buyers. This report is part of the Tahoe Central Sierra CAL FRAME Pilot Project (TCS Pilot Project), led by Placer County Water Agency, which investigated feasibility of a biomass supply management entity in the TCS Region (Placer, Nevada, and El Dorado Counties).

This paper will review various options to institutionalize a feedstock sourcing model to support forest resilience through improved biomass removal and contracting mechanisms. An aggregation entity could negotiate and support long-term contracts between biomass off-takers and suppliers, advancing the ability of both kinds of businesses to meet lender and investor requirements and to complete facility finance and development. Such entities could also provide other business and community support functions. By satisfying investor requirements, the aggregation entity has the potential to overcome one of the largest barriers restricting infrastructure development from capital markets.

II. Joint Powers Authority, Innovation, and Services

California has a long history of exercising joint powers with more than 1,800 Joint Powers Authorities (JPAs) operating in California, according to a guidebook on JPAs written by the California Senate in 2007. California Government Code Section 6500 *et seq.* allows special districts, cities, counties, as well as state or federal agencies, to agree to either: (1) create another separate legal entity, or (2) jointly exercise overlapping powers common to each participating agency through an Agreement. Member agencies

create JPAs to deliver more cost-effective services, eliminate duplicative efforts and consolidate services into a single entity. Commonly, joint powers are exercised to work on projects like groundwater management, transportation planning, road construction, or habitat restoration to name a few. They can also be used to provide a service, manage energy or goods, and for infrastructure procurement. Overall, JPAs play an extensive role in the local and regional management of California today.

The formation of a JPA is unique in public governance because it is noted created by signatures on petitions or approved by a vote. Rather, a JPA is a voluntary collaboration of multiple public agencies to define mutually held powers to handle a common or complex issue. JPAs operate as a public agency, and as such are subject to the Ralph M. Brown Act, Public Records Act, Political Reform Act, and other public interest laws that ensure political transparency.

It is very important to note that the powers defined within a JPA agreement must be already held by the member agencies. A new agency cannot be established to provide service or take responsibilities for activities that are outside of its members legislative purview. For example, waste treatment agencies cannot form a JPA to provide ambulance services, or a transportation agency cannot form a JPA for firefighting.

The first and most important tenet of JPA law is that the enabling agreement between the entities determines the scope of authority. First, the entities must agree on what they wish to accomplish, determine the breadth of their overlapping authorities, and then decide which member agency's administrative rules will govern the implementation of those goals. After reviewing these factors, they must decide whether to create a separate legal entity (JPA) to handle the effort, or simply share responsibilities within a Joint Powers Agreement by and between the partner agencies.

Sharing Risk: a Primary Driver for JPA Agency Formation

One of the primary functions of JPAs in risk management is the pooling of resources for liability insurance. When Joint Powers Authorities (JPAs) share insurance among their member agencies, it creates a system that offers several benefits over each member securing its own specific insurance. This structure benefits from the cost advantages achieved through larger-scale insurance purchasing, resulting in lower premiums and enhanced coverage terms. By pooling their risks, JPA members can negotiate more favorable rates with insurers, as insurers are more inclined to offer better terms for larger, combined policies due to increased business volume and reduced administrative efforts. This also leads to broader coverage terms that might be too expensive or unavailable for individual members. Additionally, with risks spread across multiple entities, it is unlikely that all members will experience high-cost events at the same time, leading to reduced volatility in insurance costs.

Legal and regulatory compliance is another area where JPAs offer advantages, such as ensuring their insurance policies comply with applicable state and federal regulations, a task that can be complex for individual agencies. Lastly, sharing insurance through a JPA leads to stable financial planning for member agencies, avoiding unexpected spikes in insurance expenses.

Finances of JPA Management

JPA entities have basic costs to "keep the lights on." This includes staff (including benefits), insurance, and other business hard costs like equipment, any brick-and-mortar related expenses, software or online services, insurance, and general fees collected from the JPA by the state and county. These administrative costs should be calculated based on what the members of the JPA are willing to offer from their internal resources, compared to what the services to be offered will require. These costs can be relatively easily calculated and then built into the agreement between the parties that is set up when the JPA is organized. The responsibility for unforeseen costs should also be provided for within foundational documents. In general, administrative costs for the management of a JPA will be shared by member agencies committed to the purpose of the JPA, but unique arrangements can be made.

The costs for the administration of a JPA are generally a small proportion of the overall budget if there is a large capital project, planning effort, or joint property maintenance scheme at the center of the entity's purpose. The primary tools for covering both the administrative costs and project costs are described below:

- **Fees and Assessments:** Local governments (and JPAs who are comprise of such entities) can charge fees for services that they provide. For example, a JPA can provide a fee for service to pay for contract negotiation and ongoing implementation, to develop a forest management planning document, or to provide business or technical support. A JPA could also install special assessments (a tool used for a one-time cost to help offset a specific community improvement or need) by following certain procedures.
- **Bonds:** JPAs have independent authority to arrange capital financing by selling bonds. As used in this context, "bonds" mean revenue bonds, notes, or other evidence of indebtedness. Revenue bond issuance is tied to a revenue stream for repayment of indebtedness, such as fees, assessment, or the expected income from the new project being financed. JPAs can issue revenue bonds without holding an election, as long as member agencies of a JPA adopt a local ordinance that permits the JPA to issue a bond.
- **Tax Increment Financing (TIF):** TIFs pay for infrastructure improvement projects by harvesting the future value of the property taxes associated with the improvement project. An example in this context could be that a new JPA formed to manage biomass buys a brownfield site and converts it to a new biomass business center.
- **Community Measures for Parcel Tax**: Communities can come together and decide that an issue important enough to self-impose a parcel tax. Such an effort requires dedicated community outreach and resources to work with the population about the issue, including things like listening sessions and working groups.
- **Grants, Endowments, and Public Program Support**: Many JPA authorities are supported by action specific grants that are made available through

federal, state, or local governments. Endowments from charitable organization or trade groups could also be established, or more permanent funding can be established by nonprofits, corporate sponsors, foundations, or member entities themselves.

Examples of Functioning Joint Powers Authorities Similar to Our Interests

The following table is a list of JPAs or joint powers agreements working to address watershed health, fuels reduction and vegetation management, and to a lesser extent, biomass utilization, and are relevant to efforts in the Tahoe Central Sierra Region:

Name	Description
Western Placer Waste Management Authority	A JPA agreement between Placer County and the cities of Lincoln, Rockling, and Roseville to own, operate, and maintain a sanitary landfill. WPWMA accepts wood waste which is processed into biomass fuel and sold to Rio Bravo Rocklin. More recently, WPWMA began working with smaller entities to diversity its biomass market outlets. Most notably, in 2018 the WPWMA entered into a limited site use agreement with Biogas Energy, Inc. to study forest-to-bio-oil and bio-char using pyrolysis technology. Additionally, it is exploring conversations with Pioneer Community Energy and Wisewood Energy about siting a small to medium size biomass facility on its property to generate electricity for sale to Pioneer.
Eastern Sierra Council Of Governments	A JPA which seeks to integrate responsible ecosystem management, natural resource conservation, sustainable outdoor recreation, and economic development using best available science. The program is empowered to apply for, pursue and administer grants and other funding to finance and manage projects that accomplish these objectives. This program is currently being implemented in partnership with state and federal agencies to scale up restoration projects in the region including fuels management projects for fire resilience. One outcome includes a local interdisciplinary NEPA team that can accelerate project planning for forest health projects.
Upper Mokelumne River Watershed Authority (UMRWA)	UMRWA's role is to perform water resource planning for the region, facilitate forest fuels reduction and restoration projects, secure grant funding, and leverage federal and state investments for widespread regional benefit. During its 23-year existence, UMRWA has served as a venue for developing constructive, community-supported solutions to water and watershed issues. The agency pursues and secures grant funding, contributes member funds, and leverages federal and state investments for widespread regional benefit. UMRWA has completed

Name	Description
	over $15 million in planning and implementation grants, including numerous DWR and Sierra Nevada Conservancy (SNC) grants.
California State Santa Monica Mountains Conservancy and its Nine JPA Partners	The Santa Monica Mountains Conservancy (SMMC) was established by the State Legislature in 1980, has in preserving over 75,000 acres of parkland in both wilderness and urban settings and improved more than 114 public recreational facilities throughout southern California. It is the overarching planning and public land acquisition entity for two counties, six mountain ranges, and ten southern California cities. The Santa Monica Mountains Conservancy is a member of nine active JPAs, at least two of which deal with vegetation management issues: the Wildlife Corridor Conservation Authority and the Mountains Recreation and Conservation Authority.
Joint Powers Agreement between Sierra Nevada Conservancy and Tahoe Conservancy	In 2017, the Sierra Nevada Conservancy and Tahoe Conservancy established a framework for carrying out forest-related projects in which they jointly handle the application, receipt, and disbursement of public funds through the JPA and from one entity to the other; share resources; and combine services across jurisdictions. The Tahoe Conservancy and SNC use existing staff to administer a JPA consistent with the JPA terms and conditions. The JPA agreement allowed for the sharing of resources for implementation within a region that covers both jurisdictions. At the time of this paper, the two agencies are still using the agreement to share funds on projects that cross one another's boundaries, and expedite the implementation of essential management functions across combined jurisdictions.
Marin Wildfire Prevention Authority	MWPA is a JPA funded through Measure C, a ten-year parcel tax estimated to raise $19 million annually. It was formed as a cross-jurisdictional authority for the Marin County area to advise and administer fire safety and preparedness efforts. It is predominantly made up of fire districts and includes 17 member agencies. Their primary goals are vegetation management; detection, alert, and evacuation; grant management; defensible space and home hardening
Integrated Regional Water Management (IRWM) Groups	IRWM is a collaborative effort to manage all aspects of water resources in a region. The approach aims to deliver high value investments to achieve multiple benefits across jurisdictional boundaries, including improved water quality, better flood management, restored and enhanced ecosystems, and more reliable surface and groundwater supplies. Many IRWM groups function as JPAs, such as the Cosumnes American Bear Yuba (CABY) IRWM, which consists of four major watersheds that form a major drainage area of the western slope of the Sierra Nevada range. The CABY integrated long-term planning and project implementation in an

Name	Description
	adaptive management framework, fostering coordination and communication among the region's diverse stakeholders.

III. Could a JPA Improve Forest Biomass Feedstock Supply Chains?

The goal of the proposed entity is to be financially sound and enable the expansion of biomass outlets to support disposal of excess forest residues and additional acres treated in areas with high wildfire risk. Ultimately, the option for JPAs to effectively improve forest supply chains comes down to properly placed incentives, ensuring long-term risk hedging, and strong participation from various actors along the supply chain, in particular, federal land managers commitment to fuels reduction and biomass removal on federal lands. Above all, this solution has the advantage of government partnerships, like JPA entities, not needing to make profit, having voluntary participation, and not replacing existing businesses.

Typically, biomass removal and fuels reduction projects do not generate enough revenue to cover implementation costs, and therefore a variety of policy incentives have been created over the years to address this issue. These policies and their related funding streams have mostly targeted upstream forest treatment implementation or tail-end wood utilization. Due to effect of the subsidies acting on either side of the supply chain, a natural tension has developed between the buyers and sellers of biomass. For example: Should loggers or landowners pay for the costs of biomass removal when they receive CAL FIRE, NRCS or FEMA-based subsidies to perform treatments? Or should it be end-user facilities that receive an incentivized Power Purchase Agreement (PPA) for utilizing high-hazard feedstock? As most actors in this supply chain are profit-maximizing enterprises, identifying a way to cooperate and share the cost burden will be essential moving forward.

A Publicly Managed Price Mechanism and Contract Management by a JPA

Feedstock aggregation entities could manage the negotiation and ongoing contract management between feedstock suppliers and facilities in order to improve the business climate, and bring about longer agreements. Essentially these entities would match buyers and sellers, based on the amount of feedstock each is interested in selling/buying over time. Many businesses will choose to leave a certain percentage of feedstock available for spot market pricing. This would equate to matching risk tolerance and pairing both sides for potential long-term agreements.

The central concept to helping both sides of a feedstock agreement reach a level of comfort in signing a longer-term contract is price stability. For this contracting to work, the template agreement must combine a formula rate contract with a price collar, which could significantly reduce risk for both parties:

- **Formula rate contract:** a formula rate is an agreed upon financial model—often used by utilities—that updates inputs to calculate a charge or rate for service, such as the electricity charge per kWh. Many of the inputs are fixed but some are variable (cost of capital, depreciation, revenue requirement, interest rate

etc.). These updates may directly tie into real time market data, or if the utility wants to change any fixed inputs, it can be submitted to the regulatory body for review and possible approval. If the inputs are approved, then they get plugged into the previously approved formula rate model and the new charges for the next year are adopted. Note that the formula does not change, just the variable inputs and the resulting charge.

- **Price collar:** a “collar” is a popular financial strategy to limit price variability to within an acceptable range. In business and investments, a collar agreement is a common technique to "hedge" risks or lock-in each range of possible return outcomes. Effectively, a collar sets a ceiling and a floor for a range of values: interest rates, market value adjustments, and risk levels. This can be employed to ensure that off-takers are not taking advantage of suppliers who are subsidized through things like CAL FIRE or FEMA-based grants.
- **Formula rate contract with collar (FRCWC) and indemnification:** Combining these two concepts into one contract provision could reduce and define the amounts of financial risk that both parties would be subject to for the term of the contract, allowing parties to understand the potential for return on investment and business model outcomes. The essential component of this new provision would be an indemnification term associated with an insurance product that is adequately protected against the risk of lack of feedstock availability or disappearance of the biomass offtake business. An important caveat here is that this contract methodology is geared towards Licensed Timber Operators and related businesses, rather than non-commercial timberland owners. Private timberland owners would more likely need to use different factors to negotiate prices if they want to directly sell their biomass to bioenergy or wood products businesses in their area. Local governmental entities who would benefit from this new price contract mechanism are those who might own a facility, and sell biomass directly, lease out equipment, or lease land to offtake facilities. Even an entity that is only planning to connect wood handlers with offtake facilities would benefit from having this stable price available to base negotiations.

The development, execution, and management of the formula rate contract with a collar between private or public entities would be best managed by a public entity, like a JPA, given the public benefit of increased forest health activities, and because agencies can serve as financial backstop for parties that provide assurances to banks and equity suppliers.

Contract Indemnification and Insurance Innovation

Insurance availability and cost can have an impact on biomass price. The reliability and capability of a business to execute ten-year long-term feedstock supply contract is also hampered by indemnification requirements. To support businesses on both the supply and the demand side of wood products, an innovation that could be used to strengthen confidence in contracting is JPA-provided insurance geared at indemnification risk. Potentially a JPA could rely on insurance pooling techniques that have been used in the past by agencies for self-insurance and personnel-associated risks.

More research needs to be done to understand if the JPA would need to be a party to the feedstock contract or could simply facilitate insurance products for third parties. If insurance risk could be reduced through pools held by a JPA, this could significantly improve business outlooks. Other areas for insurance innovation could benefit haulers and loggers who encounter high-costs to start a business, or homeowners insurance in forested areas. With the latter being addressed on at the national level, a JPA could provide private landowner insurance in addition to being a feedstock aggregator.

Environmental Review, Business Support, Equipment Leasing, Owning Infrastructure and Other Services

A JPA could provide one or more of other services for landowners, forestry professionals, wood products businesses, tribes, local agencies, and non-profit organizations to overcome additional challenges these entities face when implementing forest health programs and biomass removal and utilization. This could include conducting environmental review, such as NEPA and CEQA compliance for biomass removal projects; assistance with business plans, financial modeling, or providing technical assistance such as consulting Registered Professional Foresters or legal counsel; owning infrastructure; or making operation equipment available for lease. Another service that could fit the Tahoe Central Sierra region given the abundance of wildland urban interface landscapes is green waste collection, transportation, and processing.

IV. Draft Model Entity Approaches for the TCS Region

After a review of the other JPA models being used in California, and the region, it appears that there are four main approaches that could be taken to start a new JPA in the region to handle biomass aggregation. The Table below reviews these options, how they could be funded, and the advantages/disadvantages of each approach.

Model Entity Option	Overview	Funding	Pros	Cons
A: Watershed Authority JPA	Could consist of counties, cities, and water agencies in the study area, similar to UMRWA's model which has proven successful in this region, including for both planning (NEPA/CEQA compliance) and implementation. Such a JPA could advance planning and implementation for forest health and wildfire risk reduction projects, or hold Master Stewardship Agreements with the USFS.	From the state, through grants, or general fund support/local agency contributions.	Water agencies are already experienced with participating in JPAs, such as via the Department of Water Resources IRWM planning program. Water agencies likely have existing relationships with local governments, the USFS and other relevant forest management stakeholders, and have paid for, or even	Hesitancy among water agencies—need to address funding. Some water agencies have limited capacity for involvement with their own staff or contractors. Lack of financial track record for implementing grants, repaying bonds, etc.

Model Entity Option	Overview	Funding	Pros	Cons
			managed, forest health projects. JPA could have dedicated staff (or contracted staff) to manage and administer the JPA.	
B1: New or Existing State Agency JPA	The state conservancies and public agencies in the pilot area (Sierra Nevada Conservancy and Tahoe Conservancy, counties, cities, and special districts) could work together to establish a new JPA that would have the singular purpose of supporting the utilization of biomass. This JPA could offer support to landowners and businesses through a fee for services model and put state funds to work in the hands of local experienced entities through subgrant programs run by the JPA. This approach would align well with the state's interest in establishing Regional Resilience Hubs, with state conservancies leading such a hub in the TCS Region. The Board of such a JPA could be set up so that the Conservancies are represented by an Ex Officio member, with limited or no voting rights, to facilitate faster processing of Board items, if desired. The JPA could choose which Agency Member's processes for procurement and other processes are handled.	From fees for services from those who use the services at the JPA, the state through grants or general fund support, local agency or private endowment contributions, member entities, and potentially public debt tools like bonds or TIF.	Can be crafted to deliver specific outcomes. Can have dedicated staff funded by multiple sources. Separates risk from member entities from the JPA actions. Can provide independent contract price mechanism and contract management. Proven financial track record of existing JPA/Local Governments Potential to align with the state's interest in establishing resilience hubs. State conservancies are already working in forest health and biomass utilization space and could build from existing partnerships. Involvement with the State Insurance Commissioner's office could be facilitated by the entity and could prove helpful.	May have less buy in from communities in region to have a state run JPA manage contracts, or local biomass pricing for those contracts. There may be heavier bureaucratic challenges. Creating a new authority will take more time than a joint powers agreement. The role of state conservancy could muddle processes.
B2: State Agency Joint Powers Agreement (no entity creation)	Amend existing Joint Powers Agreement (no entity creation) between state conservancies to include more members and services to facilitate biomass aggregation, sale, and utilization. Does not create a new entity, but would most likely involve the amendment of the existing JPA Agreements in place between the Conservancies and could include new members. The Agreements could be amended to include activities to support the	From fees for services from those who use the services at the JPA, the state through grants or general fund support, and local agency or private endowment contributions.	Allows government entities to act in a broader area, beyond jurisdictions. Because there are existing JPA agreements in place, amending these Agreements could be faster than creating a new authority. An agreement would allow state agencies to share financial resources with local agencies.	Without a new entity, there is no dedicated staff to work on the goals. The agreement participants are limited to effectuating goals through their own means. Will not insulate agencies from risk, costs, or liabilities of actions. Could add additional layer of bureaucracy when compared to the other

Model Entity Option	Overview	Funding	Pros	Cons
	goals of biomass utilization. Staff and funding would need to be dedicated to this mission by all members to accomplish appreciable outcomes.		Cost savings by using existing staff and resources. Proven financial track record of existing JPA/Local Governments. Potential to align with the state's interest in establishing resilience hubs. State conservancies are already working in forest health and biomass utilization space and could build from existing partnerships.	models which may act more flexibly.
C: Three County JPA with Select City or Special District Partners	Creating a three county JPA with select other entities is a common approach to providing regional services that could be replicated from other sectors. Could pursue and administer grants and other funding to finance, manage projects that accomplish forest restoration and manage biomass disposal, hold fuel supply contracts with utilization facilities, and create insurance pools of significant size to offer insurance pooling services. Such a JPA could lead to municipal green waste disposal systems, which is often a service that is lacking for rural landowners in California.	Fees for service, member dues, federal or state grants, or private endowment contributions.	TCS Region's counties (Placer, Nevada, and El Dorado) that have sound budgets, competent staff who are currently working on related issues, and are in forested regions concerned about these issues. Placer County has an existing Master Stewardship Agreement with the Tahoe National Forest. All three counties are exploring the development of bioenergy facilities in their jurisdictions. Could lead to more active urban interface fuel reduction work, with the potential development of municipal green waste disposal systems for rural landowners. Streamlined local control without state agencies. Counties are in a good position to explore expanded insurance issues and tools; including pooling.	Getting buy-in from cities or special districts could be challenging, they may not be interested in participating or finding relevance to them. Lack of state partner will make state funding less secure. The three counties have existing programs that will take time to coordinate and will require some level of county staff interaction with new JPA staff.
D: Wildfire Prevention Authority JPA	A Wildfire Prevention Authority (WPA) made up of entities that provide fire protection services could be created with a focus on	A fee, assessment, or parcel tax could pay for such	The Marin WPA has been a promising and productive JPA that has funded many acres of	Marin WPA is more focused on vegetation management and home hardening, and the TCS

Model Entity Option	Overview	Funding	Pros	Cons
	fuel treatment activities and utilization of the associated biomass waste that is created from these projects, so that it is utilized and not open burned or left to decay and exacerbate fire risk. Such a JPA could also facilitate the use of the new contract template using the developed price structure or negotiate other agreements between local businesses. Generally, these JPAs are made up of fire districts. In some cases, counties or cities are involved if they offer fire service in their jurisdictions. The role of CAL FIRE in Placer County is significant and could potentially be advantageous to be a member of this JPA.	activities. Grant programs that support wildfire prevention activities could be used to help pay for vegetation management activities. Must take note of lessons learned from recent ballot measures to fund fire protection services in local areas, including the successful Truckee Fire Protection District Measure T in 2021, and the unsuccessful Nevada County Measure V in 2022.	fuels treatments and supported several home hardening projects. A WPA could offer consolidated vegetation management and home hardening activities in "rural" cities in the study area, therefore more efficiently accomplishing widespread fire-safe work. Insurance tools and a possible insurance pool could also be established within this entity model	Region has substantial forestland in need of forest health treatments. Thus, a WPA structured like the Marin WPA would leave out much of the TCS Region. A new model would need to be identified for this region. A parcel tax would be the best way to fund this type of entity, but that has proven to be difficult. Considerable effort would need to be exerted to successfully run a ballot measure.

V. Relevance and Sociopolitical Considerations of Each Proposed JPA to the TCS Region

The TCS CalFRAME Community Collaboration Report (Community Collaboration Report) confirms stakeholder enthusiasm and need for a biomass aggregation entity in the TCS Region. Stakeholders interviewed identified a number of important considerations for development of a potential JPA entity to support biomass utilization in the TCS Region, such as that 1) additional levels of bureaucracy must be avoided; 2) consider public-private partnership structures; 3) ensure that the entity can contract with buyers and sellers of biomass initially; and 4) consider including SNC and CTC given the agencies existing involvement with the Tahoe Central Sierra Initiative.

Additionally, the top four services identified as a priority for advancing forest restoration that could be offered by a JPA include:

1) Contracting with buyers and sellers of biomass
2) Green waste management: collection, transportation, and processing of material at sort yards close to supply
3) Consolidated environmental review and permitting (NEPA and CEQA compliance)
4) Coordinated grant pursuit and administration

With these considerations in mind, a discussion of each proposed JPA approach and their relevance to the region, which priority services are a best fit for the JPA to offer, and potential sociopolitical success is as follows:

JPA Approach	Relevance to TCS Region	Priority Services that are best fit	Sociopolitical Appeal
A: Watershed Authority JPA	Best for supporting feedstock aggregation from forest health treatments on federal forests and larger "headwaters" forests at higher elevations, rather than the WUI areas around cities and in the foothills for fire risk reduction. May duplicate existing efforts, such as Tahoe Central Sierra Initiative projects.	Consolidated environmental review and permitting for forest health projects. Coordinated grant pursuit and administration.	Strong – given local familiarity with UMRWA and its successes.
B: State Conservancy JPA or Joint Powers Agreement	SNC and CTC are already active in region through TCSI; both conservancies could build from existing partnerships to local contacts to provide services and distribute resources.	Contracting with buyers/sellers of biomass (if members include county/city/special districts) Consolidated environmental review and permitting for forest health projects. Coordinated grant pursuit and administration. Could facilitate insurance tool support from state insurance commissioner, and other insurance tools	Residents of the TCS Region may not support a JPA run by a state entity. Additionally, a state entity JPA may be less efficient in providing tailored services to local area, and it could be weighed down by bureaucratic processes. Lastly, this approach requires convincing state agencies and their boards to take on this role.
C: County-City JPA	Could offer a more tailored, region-specific approach to supporting feedstock aggregation and forest restoration work, and could advance a desirable public-private partnership model in terms of functionality and transparency. A county-city JPA would also likely be the best option for providing municipal green waste services.	Contracting with buyers and sellers of biomass Green waste management Consolidated environmental review and permitting: CEQA compliance (including permitting for facility development) Coordinated grant pursuit and administration	This Approach could most effectively advance a public-private partnership approach to feedstock aggregation services in that counties and cities are already set up for providing transparent decision making and are experienced in managing and dispersing public funds. However, this Approach may be viewed unfavorably by residents who do not have trust in local government to address forest restoration and biomass utilization challenges.
D: Wildfire Prevention Authority JPA	A Wildfire Prevention Authority would likely be made up of fire districts, making this fit a good approach for supporting fuels reduction work in the high fire risk areas of the foothills where local fire districts or CAL FIRE have prominent jurisdiction.	Contracting with buyers and sellers of biomass Green waste management could be a focus of entity Consolidated environmental review and permitting: CEQA compliance for fuels reduction work on private lands in the WUI.	As WPAs are generally funded through a sales or parcel tax, special consideration needs to be taken for how it would be taxed and how an associated measure would be marketed to voters. Additionally, the local fire agencies would clearly need to

		Coordinated grant pursuit and administration	be a significant player in this option.

VI. Discussion and Next Steps

The residents and leaders in the TCS Region have many options for a JPA entity model to choose from to adequately support enhanced biomass aggregation and increased pace and scale of forest health and fuels reduction activities. Given the TCS Region's large population base and variation among subregion in forest health goals (ie forest health focus in headwaters vs fire risk reduction and defensible space work in WUI population centers), it may be found that multiple approaches are needed.

The next steps should center on whether it is in the best interests of the residents of the study area to take on this challenge together through a regional tool, or whether each county area would prefer to consider JPA options within the county boundaries. Factors for this consideration include whether involvement of the state conservancies is warranted, and if other special districts, like fire districts or water agencies would want to participate in the entity, as well as federal agencies and state conservancy partners, as well as CAL FIRE, if a Wildfire Prevention Authority is pursued.