

TOWN COUNCIL STAFF REPORT

Title: Update on Biomass Project, Organic Waste Diversion, and Related Solid Waste Programs and Projects.

Meeting Date: August 4, 2021

Prepared by: Daniel C. Holler, Town Manager

RECOMMENDATION:

This is an update report related to Town staff and regional work programs related to Biomass (fuels reduction), organic waste diversion and related solid waste matters and no specific action is requested.

BACKGROUND/OVERVIEW:

In 2018 the Town applied for a Forest Service Wood Innovations Grant to explore options to integrate the use of a biomass facility to assist in addressing forest residual biomass, fuels reduction, clearing of defensible space, and management of other green waste, sewer sludge and organics. The emphasis on planning to address solid waste related material was heightened with the planned closure of the Benton Crossing Landfill as of January 1, 2023. In 2016 the California Legislature passed SB1383 aimed at reducing short-lived climate pollutants and harmful super pollutants as essential parts in achieving California's climate goals.

The legislative process is driving our solid waste program. Examples include:

AB939: Integrated Waste Management Act to address landfill capacity and set the initial diversion targets to reduce landfilling of solid waste by increased recycling.

AB341: Requires business and multi-family dwellings to use recycling services.

AB1826: Requires businesses to arrange for recycling services that divert food waste and organic waste from landfills.

SB1383: Targets a 75% reduction in the level of the statewide disposal of organic waste from the 2014 level in 2025.

SB32: The California Global Warming Solutions Act of 2006 requires greenhouse gas emissions to be reduced to 40% below the 1990 level by 2030.

Several other pieces of legislation also impact the management of solid waste and related materials. The State has recently approved millions of dollars to reduce wildfires, even while we watch our forests burn, creating air quality issues and sending us backwards in addressing climate change with tons of CO₂ released into the atmosphere. The current preferred method of addressing forest slash/residue is to burn it. While prescribed burns have a place on the landscape, the burning of other materials goes directly against the goals expressed in State legislative action.

Forest Biomass

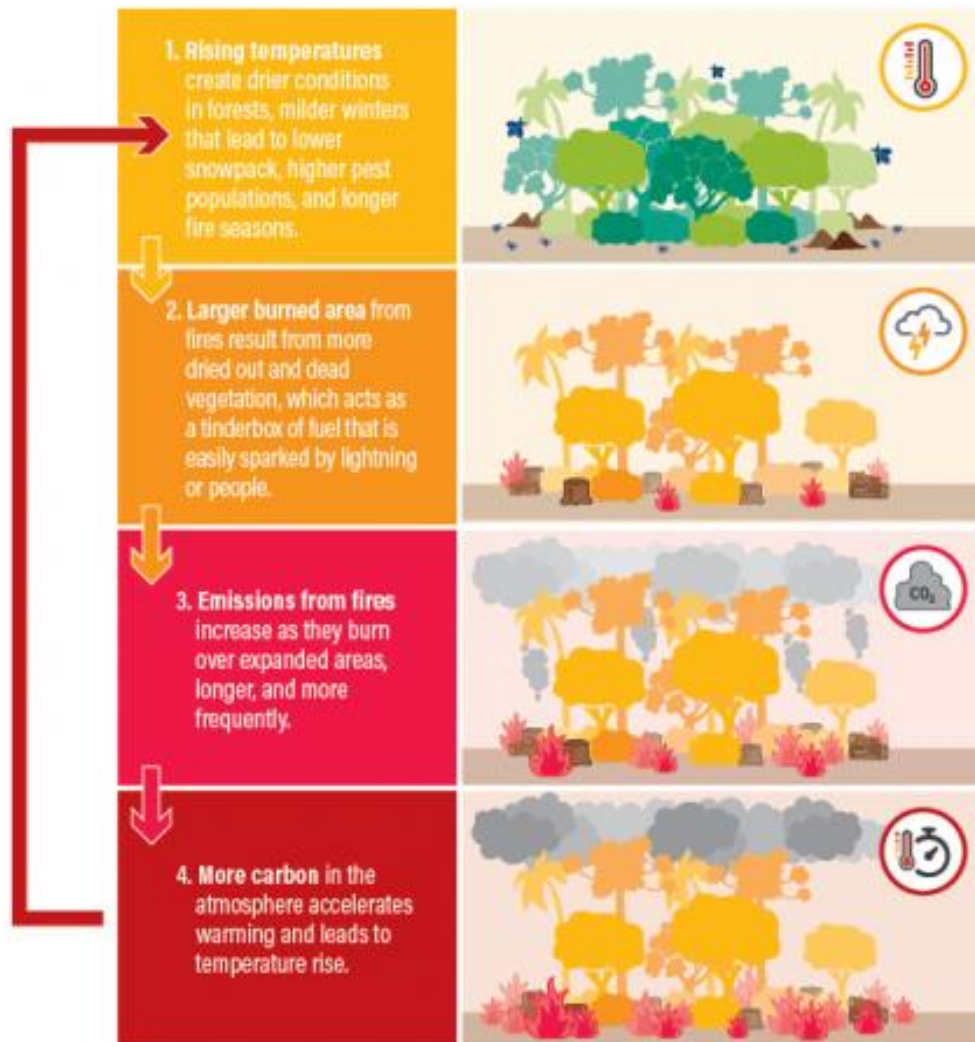
Federal agencies own and manage about 57% of the state forested lands. The USFS Pacific Southwest Region manages 20.8 million acres across 18 national forests in California. The Bureau of Land Management (BLM) owns 1.2 million acres of forest and woodlands, and the National Park Service (NPS) manages approximately 1.6M acres. These federal agencies have significantly increased the scale of their forest fuels reduction projects in recent years. The USFS will seek to expand its use of Good Neighbor Authority and Shared Stewardship Agreements and other mechanisms to partner with state, local, and tribal governments to accomplish fuels reduction projects on federal land. ¹ California's Wildfire and Forest Resilience Action Plan sets the framework for an efficient working partnership to address wildfires and achieve other climate related goals. While these efforts include the use of fire on the landscape in controlled ways, the fuel loading in our forests due to years of limiting fire and healthy forest treatments are now resulting in catastrophic damages.

The Inyo National Forest has also completed NEPA for several fuels reduction projects including work in the Reds Meadow area and further work in the Lakes Basin. One of the larger projects is referred to as "Three Creeks". The Three Creeks Jeffrey Pine Forest Health and Restoration Project (Three Creeks) area is located within the Mono Lake and Mammoth Ranger Districts in Mono County, California. The 130 units totaling about 9,590 acres of Jeffrey pine forest analyzed and proposed for treatment are part of a much larger forested area which exceeds 100,000 acres in size. These projects, plus the efforts discussed below will begin the process of treating 1000s of acres of forest lands.

The importance in addressing forest health and reducing the impacts of catastrophic fires cannot be understated. We have seen the devastation in lives lost and homes, businesses, and communities impacted year after year. We experience the secondary impacts of smoke and poor air quality. Addressing the source of wildfires at the forest level at a pace and scale of 1000s of acres will make a difference. This also supports the State's efforts to address climate change impacts. The goal is to eliminate the relationship of wildfires and the burning of forest materials and climate impacts as expressed in the Fires and Climate Change Feedback Loop as follows:

¹ California's Wildfire and Forest Resilience Action Plan January 2021 p. 13 &14

Fires and the Climate Feedback Loop



Source: Global Forest Watch.



WORLD RESOURCES INSTITUTE

Local Fuels Reduction Work

At the local level the Eastern Sierra Climate & Communities Resilience Project (ESCCRP) is moving forward to secure funding for long-term forest health. The California Department of Fish and Wildlife (CDFW) has awarded the Eastern Sierra Council of Government's (ESCOG) planning grant proposal for just over \$3.3 Million for the Eastern Sierra Pace & Scale Accelerator project. The goal of the grant is to build a local environmental planning team here in the Eastern Sierra to perform NEPA on the Eastern Sierra Climate & Communities Resilience Project. The ESCCRP Project aims to plan for ecological forest restoration on approximately 55,000 acres of Inyo National Forest lands surrounding the Town of Mammoth Lakes. This project is proceeding forward. A grant of approximately

\$5 million in funding for directed on the ground fuels work is also being finalized which includes property in the Town. Updates on these and related projects and fire threat to the community will be forth coming.

The forest fuels reduction work needed in Mammoth Lakes and the surrounding area to reduce the risk of catastrophic wildfire and to establish healthy, sustainable forests is monumental. One element of this work will be the processing of forest residual biomass. The work done to date on biomass management has not produced an economical solution. An updated study will be done as part of the ESCCRP project and will include discussions with Town staff.

Regional Biomass Integrated System Planning

The Town's work is focused on bringing together options to leverage forest biomass with more traditional solid waste organics with technology to process a diverse mix of materials. The goal is to have a system that can produce a mix of value-added products (i.e., small wood products, compost, biochar, and energy). The economic challenge is the most difficult to overcome. A facility needs to generate revenue from 'tipping fee' or charge to accept materials. However, the cost advantage of simply burning forest biomass in the forest is hard to overcome. The concept proposed is to use revenues from other waste streams that are paying to be landfilled to reduce the cost for forest biomass.

The Town has gone through a selection process for a technology provider and selected Earthcare LLC. The process uses a gasification system to convert biomass/organic material to biochar and heat. The system was recently presented to a few cities, sanitation districts, waste haulers, and other waste processors in the Southern California region with positive responses. Similar presentations and responses from agencies and private operations in the Las Vegas area are also interested. The potential to have multiple projects in the region may create some economies of scale for a project in our area but may also slow down construction due to logistics of implementing multiple projects.

Work under the wood innovations grant is proceeding to complete preliminary facility design cost estimates by this fall. The option to locate the facility at the County Pumice Valley Landfill site is still a preferred option. However, a decision on the site will need to be finalized soon, and if not, viable options for an alternative location will be pursued. Staff has reached out to LADWP regarding acquiring land adjacent to the county site. This provides space to further diversify the scope of work to potentially include solar power generation and the site supports expanded recycling and related waste diversion work.

The integration of systems to support the diversion and processing of materials from landfills with a resulting reduction in greenhouse gases and being able to efficiently process woody biomass and capture greater quantities of carbon, reducing the release of CO₂ extends efforts to further reduce climate impacts. Systems that can eliminate PFAS to a level of non-detect is an added benefit. PFAS stands for perfluoroalkyl or polyfluoroalkyl substances. (also known by an older term "PFCs," or perfluorochemicals), which are increasingly showing up in water systems and in other organic treatment systems.

Local Solid Waste Programs

Staff is working closely with Mammoth Disposal on meeting landfill diversion and recycling goals. This includes the construction of the new solid waste transfer station. We are placing additional recycle bins in the community, working to increase multi-family unit and business compliance, and looking at expanded programs. This includes implementation of SB1383 requirements such as requirements for the Town to purchase recycled paper projects, edible food recover program, and diversion plans for organics. There is an ongoing need to address green waste outside of landfilling, sewer sludge, and dirty loads of paper/cardboard. Staff plans to bring forward an update on October 20th related to these programs and the status of the new Solid Waste Transfer Station.

SUMMARY:

There are several programs and projects moving forward in our region related to management of woody biomass related forest fuels reduction and health. The Town and Mammoth Disposal are working on projects and programs to address solid waste related needs and ways to meet state mandates. Other agencies in the state faced with similar challenges are looking at creative solutions, challenging outdated CalRecycle policies and guidelines, and looking at legislative action accordingly. The LA Sanitation District is one of the key agencies engaged in these discussions. There are opportunities for Mammoth Lakes and our region to be a leader in implementation of integrated solutions that achieve mutually compatible goals, long and short-term priorities, and legislative mandates. It will require substantial effort, resources, coordination, and public and private partnerships. The intent of this report is to begin the process of informing Town Council of the breadth of efforts happening in our community and region.