Mendocino County Climate Action Advisory Committee
Friday November 19, 3:00 - 5:00
Meeting Agenda

Mendocino County Planning and Building Services is inviting you to a scheduled Zoom meeting.
Topic: Mendocino County Climate Action Committee
Time: Nov 19, 2021 02:00 PM Pacific Time (US and Canada)
Join Zoom Meeting
https://mendocinocounty.zoom.us/j/83815377426
Meeting ID: 838 1537 7426
+1 669 900 9128 US (San Jose)

1. Call to Order and Roll Call
2. Review of Agenda
3. Review and Approval of Minutes from August, September and October of 2021 (Att A, B & C)
4. Public Comment on Non-Agenda Items.
5. Report to the MCCAAC, by Committee Members on Ongoing Activities and Possibilities for Collaboration.
6. Discuss and Consider Approval of Letter re "Coal Train" (Attachment 1)
7. Discuss Mendocino County Energy Audit and Develop Recommendations to the BOS on Same. (Attachment 2)
8. Discuss and consider letter from Dave Anderson regarding the the JDSF Legislative Book entitled *Time to Change the Mission*. Review and discuss Chair Jones' response to Mr. Anderson's letter. (Attachment 3 & 4). Review and Discuss Board of Supervisors' resolution regarding JDSF (Attachment 5)
9. Discuss and consider adoption of a Resolution of the County of Mendocino, Regarding Net Energy Metering 3.0 Proceeding Before The California Public Utilities Commission. (Attachment 6)
10. Discuss and consider adoption of a Resolution of the Mendocino County Climate Action and Advisory Committee Authorizing Remote Teleconference Meetings of the Legislative Bodies of the Mendocino County Climate Action and Advisory Committee Pursuant to the Ralph M. Brown Act. (Attachment 7)
11. Discuss and consider approval of a letter of the Mendocino County Climate Action Advisory Committee to the Board of Supervsiors requesting: 1) development of a County Water Resiliency Plan and 2) for the County to consider re-establishing the Mendocino County Water Agency. (Attachment 8)
12. Discuss follow up activities from previous meetings.
13. Identify a Meeting Date for December.
14. Adjournment

RESOLUTION NO. 21-129

RESOLUTION STATING THE BOARD'S OPPOSITION TO AN APPLICATION TO ALLOW THE TRANSPORTATION OF COAL BY TRAIN THROUGH MENDOCINO COUNTY

WHEREAS, an anonymous corporation based in Wyoming has recently submitted paperwork to the federal Surface Transportation Board objecting to the Railbanking for the Great Redwood Trail and saying they intend to purchase the railroad; and

WHEREAS, it has been widely reported and corroborated that this secret corporation is intending to use the railroad to transport coal mined in the Midwest; and

WHEREAS, this company intends to transport this coal across the state of California to Marin County, and then haul it north through Sonoma, Mendocino, Trinity, and Humboldt counties to the port of Humboldt; and

WHEREAS, coal is the single biggest contributor to climate change; and

WHEREAS, the burning of coal is responsible for nearly 50% of the carbon dioxide emissions worldwide, and accounts for over 70% of the greenhouse has emissions from all electrical generation; and

WHEREAS, coal contributes to a staggering health crisis which experts estimate leads to over 13,000 premature deaths, 200,000 asthma attacks, and more than $100 Billion in health care costs each year in the United States alone; and

WHEREAS, according to railroad studies, somewhere between five hundred to two thousand pounds of coal and coal dust can escape from every single loaded train car; and

WHEREAS, loose coal can cause devastating impacts to our drinking water, watersheds and surrounding environment; and

WHEREAS, coal dust can cause devastating disease in humans and animals, cause spontaneous fires, and degrade and destabilize the rail bed; and

WHEREAS, the Russian and Eel Rivers supply drinking water to nearly one million people of Northern California, and habitat for numerous threatened and endangered species.

NOW, THEREFORE, BE IT RESOLVED that the Mendocino County Board of Supervisors that hereby notifies the Surface Transportation Board of our strong opposition to this application and declare that should be rejected outright; and

IT IS FURTHER RESOLVED that the Mendocino County Board of Supervisors encourages the Surface Transportation Board to grant the request of the North Coast Railroad Authority to railbank their rail line from Willits to Humboldt Bay.

The foregoing Resolution introduced by Supervisor Williams, seconded by Supervisor Haschak, and carried this 14th day of September, 2021, by the following vote:

AYES: Supervisors McGourty, Mulheren, Haschak, Gjerdde, and Williams
NOES: None
ABSENT: None

WHEREUPON, the Chair declared said Resolution adopted and SO ORDERED.

ATTEST: CARMEL J. ANGELO
Clerk of the Board

_____
Deputy

APPROVED AS TO FORM:
CHRISTIAN M. CURTIS, County Counsel

_____
Deputy

_____
DAN GJERDE, Chair
Mendocino County Board of Supervisors

I hereby certify that according to the provisions of Government Code section 25103, delivery of this document has been made.

BY: CARMEL J. ANGELO
Clerk of the Board

_____
Deputy

Energizing the County of Mendocino

Energy & Facility Preliminary Audit

October 2021

Willdan Energy Solutions

Leading the Clean Energy Transition

Energy and resource management for utilities and both public and private agencies.

- Energy efficiency consulting and engineering
- Performance contracting, turnkey project delivery
- Utility program implementation
- New construction consulting
- Smart cities, microgrids, EV transportation, DERs
- Building and electric grid optimization software

Energy+Environmental Economics
A Willdan Company

Integral Analytics, Inc.

SDGE

PG&E

Southern California Edison
Energy for What's Ahead®

Willdan Performance Engineering (WPE) Overview

Pacific Gas and Electric Company

Cities/Counties Willdan has worked for

Willdan offices

80+
Professional Engineers in California

473
Staff within California

STRENGTH

WPE Division Team Strength

- **Energy Master Planning Approach achieves best long-term solution**
- Provides turkey project delivery w/ Guarantees
- **Provides Financial Services w/ Fund Raising, Grant, Incentive, Rebate, Financing, etc. Support**

CAPABILITY

Financial Capability

- **$250M+ of Turnkey Projects** with Universities
- **$100M in Bonding Capacity**
- **$500M+** in Secured Grants & Incentives in CA
- **$2B+** in Secured Financing

Work Completed To Date

June - October 2021

- PG&E GK12 Initial Meeting
- 2-day site walk and staff interviews in June 2021
- Utility bills analyzed for PG&E and Ukiah sites
- Project scopes identified and savings and pricing estimated

Energy Conservation Measure (ECM) Matrix

City	Building Name	Building Area (Square Feet)	Building number	Electricity			Gas			Total Annual Utility Spend	ECMs							
				Annual Electricity Usage (kWh)	Annual Electricity Cost ($)	Blended Rate ($/kWh)	Annual Natural Gas Usage (Therms)	Annual Natural Gas Cost ($)	Blended Rate ($/Therm)		ECM - 1 - Lighting	ECM - 2 - HVAC / Controls / RCx	ECM - 3 - Solar	ECM - 4 - Resiliency	ECM - 5 - EV charging	ECM - 6 - Roofing	ECM - 7 - Windows	ECM - 8 - Electrification Options
Ukiah	Administration Center	70,000	28	813,439	$92,051	$0.11	-	$0.00	$0	$92,051	x	x	x		x		x	x
Ukiah	Planning & Building/Environmental Health	20,000	28PE	-	$0	-	15,125	$25,517	$1.69	$25,517	x	x	x		x		x	x
Ukiah	Social Services	35,554	41	751,518	$89,735	$0.12	10,362	$14,706	$1.42	$104,441	x	x	x		x	x		x
Willits	Library	7,000	21	33,099	$6,436	$0.19	1,444	$1,567	$1.09	$8,004	x	x	x	x	x	x		x
Willits	Museum	9,600	22	-	$0	-	-	$0	$0	$0	x	x			x	x		x
Willits	Justice Center	16,000	44	156,240	$35,766	$0.23	3,251	$5,597	$1.72	$41,363	x	x			x	x		x
Willits	WISC	14,225	61	213,715	$51,504	$0.24	4,120	$6,159	$1.49	$57,664	x	x	x		x	x		x
Fort Bragg	Library	5,500	8	20,159	$3,822	$0.19	-	$0	$0	$3,822	x	x	x	x		x		x
Fort Bragg	Fort Bragg Animal Shelter	8,317	6	11,684	$3,585	$0.31	-	$0	$0	$3,585	x							x
Fort Bragg	Avila Coastal Center (HHSA)	10,982	7	134,144	$33,974	$0.25	-	$0	$0	$33,974	x	x	x		x	x	x	x
Fort Bragg	Pub Health, Planning, Env Health	5,000	24	28,859	$7,504	$0.26	-	$0	$0	$7,504	x		x		x	x		x
Fort Bragg	Veterans Memorial Building	4,000	11	6,371	$1,868	$0.29	-	$0	$0	$1,868	x							x
Fort Bragg	Justice Center	12,586	10	113,511	$24,840	$0.22	-	$0	$0	$24,840	x	x			x	x	x	x
Fort Bragg	DOT Yard	4,000	9	-	$0	-	-	$0	$0	$0	x							x
Totals		**222,764**		**2,282,739**	**$351,086**	**$0.15**	**34,302**	**$53,546**	**$1.56**	**$ 404,632**								

TAKEAWAY **Total of $404,632 total utility spend for gas and electric for 14 sites (missing other fuel $)**

ECM 1 – Countywide LED Lighting Upgrade

EXISTING CONDITIONS

- Existing 28 Watt and 32 Watt T8 fluorescent lighting throughout sites

SCOPE DETAILS

- Upgrade fluorescent tubes and fixtures to LED

BENEFITS

- Significant savings
- Better lighting quality
- Long lasting LEDs reduce maintenance costs

TAKEAWAY **LED lighting reduces lighting consumption by ~50% and has excellent savings payback**

ECM 2 – HVAC, Building Automation System (BAS) Upgrades & Retro-Commissioning

Existing Conditions

- Roof, ground & wall mounted package units
- Roof & ground package units with DX cooling and gas furnace heating
- Forced air furnace units
- Opportunity to retro-commission Justice Center in Willits and Fort Bragg
- Units range in age from a few years to over 20

Sites Evaluated

- ✓ Administration Center + Planning Building, Ukiah
- ✓ Social Services, Ukiah
- ✓ Library, Willits & Fort Bragg
- ✓ Museum, Willits
- ✓ Justice Center, Willits
- ✓ WISC, Willits
- ✓ Animal Shelter, Fort Bragg
- ✓ Avila Coastal Center + Justice Center, Fort Bragg

ECM 2 – HVAC, Building Automation System (BAS) Upgrades & Retro-Commissioning cont.

Scope Details

- Replace unitary HVAC equipment (over 15 years old) including roof top units and wall mounted units with new energy efficient systems, like-for-like, approximately 81 units equaling 356 tons
- Includes (1) 25 ton chiller replacement at Justice Center in Fort Bragg
- Re-commissioning and air balancing

Scope Benefits

- Improve comfort and indoor air quality (IAQ)
- Improve efficiency and extend life of equipment
- Reduce energy and maintenance cost
- Standardize on preferred unit manufacturer
- Planned replacement vs. emergency breakdown
- Quieter units where applicable

TAKEAWAY **HVAC, Controls & Retro-commissioning have longer savings payback**

ECM 3 - Solar PV

Scope Details

- Install solar PV structures (carport & rooftop systems) to generate renewable power
- Total of 704 kW

Benefits

- Provide shade for parking
- Significant reduction in energy consumption and costs
- Reduce greenhouse gas emissions
- Note: NEM 3.0

City	Building Name	Type of System	Estimated kW
Ukiah	Administration Center	Carport	147
Ukiah	Social Services	Carport	272
Willits	Library	Rooftop	18
Willits	Justice Center	Carport	65
Willits	WISC	Carport	84
Fort Bragg	Library	Rooftop	11
Fort Bragg	Avila Coastal Center (HHSA)	Carport	53
Fort Bragg	Pub Health, Planning, Env Health	Rooftop	10
Fort Bragg	Justice Center	Carport	45
Total			704

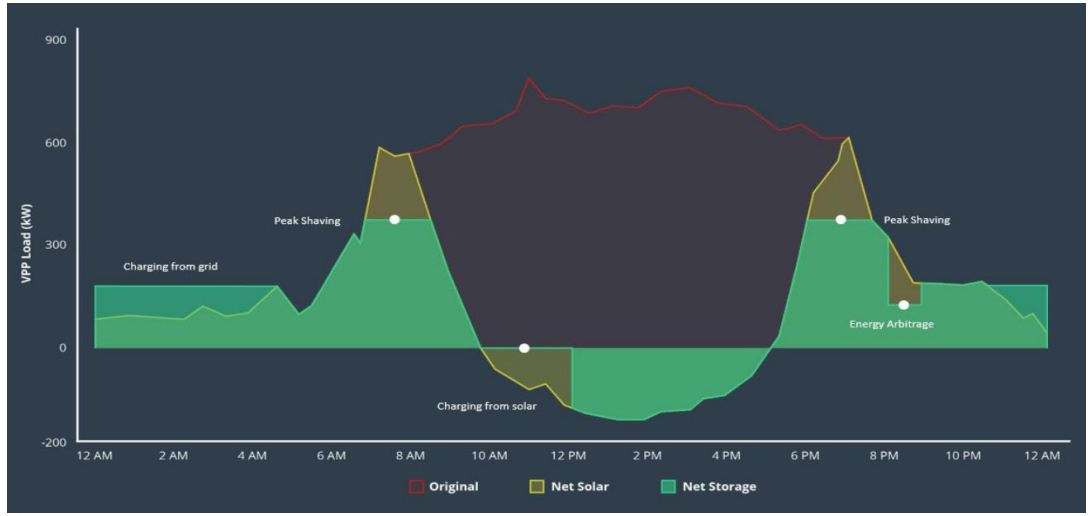
ECM 4 – Microgrid Resiliency: Battery Storage Backup Power

Scope Recommendation

- ***Emergency Center Operation at Libraries*** in Willits & Fort Bragg: Install microgrid battery backup power at sites to provide power in emergencies and reduce peak demand power usage at libraries
- (1) 100 kWh system at Fort Bragg Library and (1) 200 kWh system at Willits Library with genset for redundancy

Benefits

- Provide 24-hour backup power during power outage events
- Battery storage (kW) demand savings
- Reduce peak demand to the utility grid
- Self-Generation Incentive Program (SGIP) Amount = $.35/Wh



ECM 5 - Electric Vehicle Charging Stations

SCOPE RECOMMENDATIONS

- Install 14 dual port EV chargers throughout County sites

EV Chargers – EV Box Business Line Dual Port Level 2 (7.2kW)

BENEFITS

- Provide electric vehicle charging to families, staff and community
- Supports California's goal of getting 1.5 Million electric cars on the road by 2025

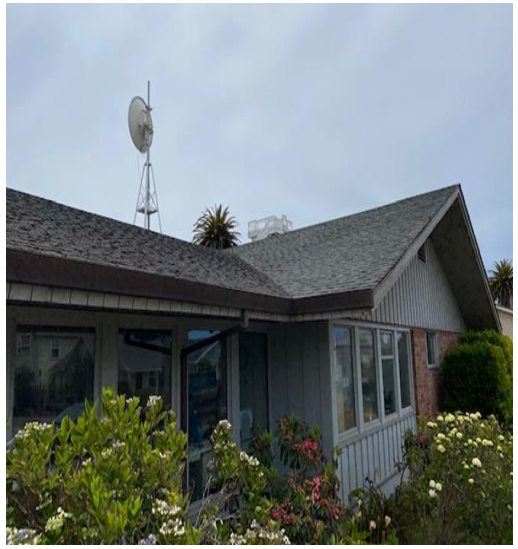
Sites Evaluated

- ✓ Administration Center + Planning Building, Ukiah
- ✓ Social Services, Ukiah
- ✓ Library, Willits
- ✓ Museum, Willits
- ✓ Justice Center, Willits
- ✓ WISC, Willits
- ✓ Public Health & Planning, Fort Bragg
- ✓ Avila Coastal Center + Justice Center, Fort Bragg

ECM 6 - Roof Upgrades

Existing Conditions

- Mix of flat and sloping roofs throughout the County
- Many roofs over 20 years old – past effective useful life
- Older roof materials range from single-ply roofing member, BUR roofing, rolled asphalt and asphalt shingles



Sites Evaluated

- ✓ Administration Center, Ukiah
- ✓ Social Services, Ukiah
- ✓ Library, Willits
- ✓ Museum, Willits
- ✓ Justice Center, Willits
- ✓ WISC, Willits
- ✓ Library, Fort Bragg
- ✓ Public Health & Planning, Fort Bragg
- ✓ Avila Coastal Center + Justice Center, Fort Bragg

ECM 7 - Roof Upgrades cont.

Scope Details

- Approximately 116,447 square feet of roof replacement
- Single-ply membrane replacement includes sweeping of gravel (or other top layer) and install 2 layers of ISO insulation, hard board and membrane
- Full replacement of BUR roof, rolled asphalt and shingles

Scope Benefits

- Eliminate leaks
- Reduce maintenance costs
- Improve insulation resulting in energy efficiency
- Improve building comfort and safety

ECM 8 – Window Replacement

EXISTING CONDITIONS

- Inefficient, single pane windows at the following sites:
  - Avila Center & Justice Center, Fort Bragg
  - Administration Building, Ukiah

SCOPE DETAILS

- Replace all single pane windows with dual pane

BENEFITS

- Increase insulation and building efficiency
- Reduction in noise inside building
- Improve building comfort

ECM 9 – Building Electrification

EXISTING CONDITIONS

- Gas and other fossil fuels used for heating at all sites

SCOPE DETAILS

- Consider proactively transitioning gas heating to electric heating

BENEFITS

- Reduce carbon footprint
- Reduce fuel costs
- Help meet California 2045 Net Zero Carbon goal

Path to Carbon Neutrality ARB Report by E3:
https://ww2.arb.ca.gov/sites/default/files/2020-08/e3_cn_draft_report_aug2020.pdf

Preliminary Energy Savings & Project Cost Estimates

ECM	Description	Savings / generation (kWh)	Savings (kBtus)	Total Energy Savings Cost ($)	Maintenance Savings Cost ($)	Preliminary Project Estimate ($)	Simple Payback
ECM - 1	Lighting	284,852	-	$44,185	$14,151	$707,539	12
ECM - 2	HVAC / Controls / RCx	134,627	431,970	$29,845	$26,486	$1,324,308	24
ECM - 3	Solar	1,162,150	-	$163,215	($14,087)	$2,673,451	18
ECM - 4	Resiliency	-	-	$1,026	-	$570,000	556
ECM - 5	EV charging	-	-	-	-	$280,000	-
ECM - 6	Roofing	11,546	38,290	$3,214	$31,019	$1,550,957	45
ECM - 7	Windows	43,586	356,565	$11,804	$0	$797,648	68
ECM - 8	Electrification Options	-	-	$0	-	-	-
	Total	**1,636,761**	**826,825**	**$253,289**	**$57,569**	**$7,903,901**	**25**

Project Carbon Reduction Calculator

Reduce County's carbon footprint by 275 Metric Tons CO_2 annually

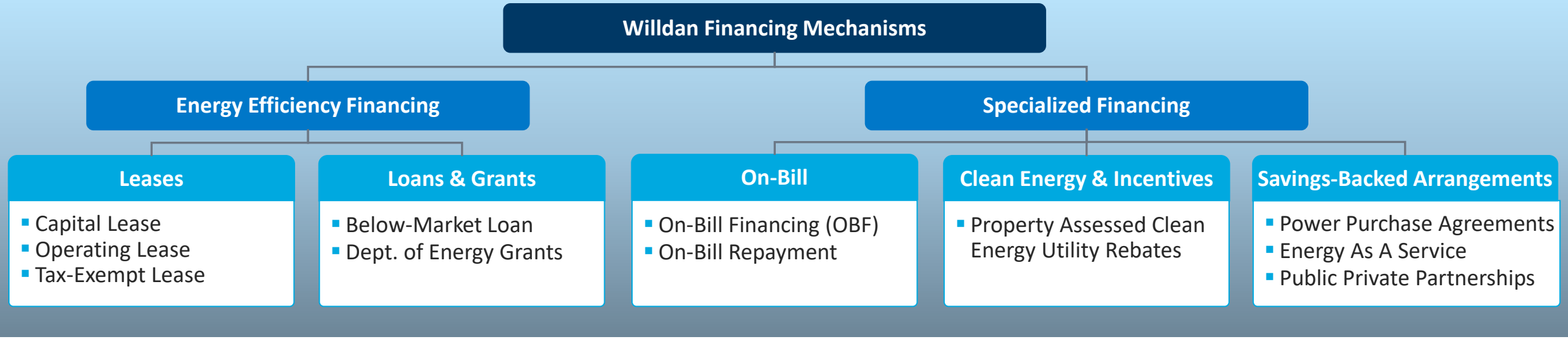
=

Removing 60 passenger vehicles from the road annually

Mendocino County Energy Source Summary				
Location	Elec energy source	% eligible renewable	% eligible renewable + Large Hydro	lbs CO2e / MWh
Fort Bragg	Sonoma Clean Power, CleanStart	48.7%	92.8%	80
Willits	Sonoma Clean Power, CleanStart	48.7%	92.8%	80
Ukiah	City of Ukiah	36.2%	55.3%	454

		Electric Carbon Reduction					Gas Carbon Reduction				
Location	Elec energy source	kWh, baseline	lbs CO2e, baseline	kWh, savings / reduction	lbs CO2e, savings	lbs CO2e, reduction	Therms, baseline	lbs CO2e, baseline	Therms, savings	lbs CO2e, savings	lbs CO2e, reduction
Fort Bragg	Sonoma Clean Power, CleanStart	314,728	25,178	256,799	20,544	82%	0	0	0	0	0%
Willits	Sonoma Clean Power, CleanStart	403,054	32,244	382,545	30,604	95%	8,815	103,312	1,214	14,232	14%
Ukiah	City of Ukiah	1,564,957	710,490	997,418	452,828	64%	25,487	298,708	2,753	32,268	11%
Total =		2,282,739	767,913	1,636,761	503,975	66%	34,302	402,019	3,968	46,500	12%

Funding Solutions



Funding for County of Mendocino:

- Tax Exempt Lease rates of **3.0%**
- **ARPA Funding**
- **Carbon Reduction County Allocation**
- Utility Incentives and On-Bill Financing with PG&E

Preliminary Financial Analysis

Project Cost:
$7,903,901

County Contribution:

$2,000,000

OBF: $295,767

TELP Financed Amount :
$5,608,134

TELP Interest Rate: 3.00%

Energy Escalation: PG&E: 4%

Ukiah Electric: 2%

Project Funding Option 1 - ALL SCOPES

Year	Energy Savings	Deferred Maintenance Savings	Total Incentives	Total Savings	Lease Payments	PG&E On-Bill Financing	Solar Maintenance Cost	Total Program Costs	Net Savings
FY 2022	$ 260,022	$ 71,656	$ 81,000	$ 412,678	$ 359,885	$ 29,577	$ 14,087	$ 403,549	$ 9,130
FY 2023	$ 267,179	$ 73,806	$ 17,500	$ 358,485	$ 305,269	$ 29,577	$ 14,509	$ 349,355	$ 9,130
FY 2024	$ 274,561	$ 76,020	$ 5,833	$ 356,414	$ 302,763	$ 29,577	$ 14,945	$ 347,285	$ 9,130
FY 2025	$ 282,176	$ 78,301	$ 1,944	$ 362,421	$ 308,322	$ 29,577	$ 15,393	$ 353,292	$ 9,130
FY 2026	$ 290,033	$ 80,650	$ -	$ 370,682	$ 316,121	$ 29,577	$ 15,855	$ 361,553	$ 9,130
FY 2027	$ 298,139	$ 83,069	$ -	$ 381,208	$ 326,171	$ 29,577	$ 16,330	$ 372,078	$ 9,130
FY 2028	$ 306,503	$ 85,561	$ -	$ 392,064	$ 336,537	$ 29,577	$ 16,820	$ 382,934	$ 9,130
FY 2029	$ 315,133	$ 88,128	$ -	$ 403,261	$ 347,230	$ 29,577	$ 17,325	$ 394,131	$ 9,130
FY 2030	$ 324,040	$ 90,772	$ -	$ 414,812	$ 358,261	$ 29,577	$ 17,845	$ 405,682	$ 9,130
FY 2031	$ 333,233	$ 93,495	$ -	$ 426,728	$ 369,641	$ 29,577	$ 18,380	$ 417,598	$ 9,130
FY 2032	$ 342,721	$ 96,300	$ -	$ 439,021	$ 381,383	$ -	$ 18,931	$ 400,314	$ 38,707
FY 2033	$ 352,515	$ 99,189	$ -	$ 451,704	$ 393,498	$ -	$ 19,499	$ 412,997	$ 38,707
FY 2034	$ 362,626	$ 102,164	$ -	$ 464,790	$ 405,999	$ -	$ 20,084	$ 426,083	$ 38,707
FY 2035	$ 373,064	$ 105,229	$ -	$ 478,293	$ 418,900	$ -	$ 20,687	$ 439,586	$ 38,707
FY 2036	$ 383,841	$ 108,386	$ -	$ 492,227	$ 432,213	$ -	$ 21,307	$ 453,520	$ 38,707
FY 2037	$ 394,968	$ 111,638	$ -	$ 506,606	$ 445,953	$ -	$ 21,947	$ 467,900	$ 38,707
FY 2038	$ 406,459	$ 114,987	$ -	$ 521,446	$ 460,135	$ -	$ 22,605	$ 482,740	$ 38,707
FY 2039	$ 418,326	$ 118,437	$ -	$ 536,762	$ 474,772	$ -	$ 23,283	$ 498,056	$ 38,707
FY 2040	$ 430,581	$ 121,990	$ -	$ 552,571	$ 489,882	$ -	$ 23,982	$ 513,864	$ 38,707
FY 2041	$ 443,239	$ 125,649	$ -	$ 568,888	$ 505,480	$ -	$ 24,701	$ 530,182	$ 38,707
FY 2042	$ 280,468	$ -	$ -	$ 280,468	$ -	$ -	$ 25,442	$ 25,442	$ 255,026
FY 2043	$ 288,016	$ -	$ -	$ 288,016	$ -	$ -	$ 26,205	$ 26,205	$ 261,810
FY 2044	$ 295,793	$ -	$ -	$ 295,793	$ -	$ -	$ 26,992	$ 26,992	$ 268,801
FY 2045	$ 303,807	$ -	$ -	$ 303,807	$ -	$ -	$ 27,801	$ 27,801	$ 276,006
FY 2046	$ 312,067	$ -	$ -	$ 312,067	$ -	$ -	$ 28,635	$ 28,635	$ 283,431
FY 2047	$ 320,579	$ -	$ -	$ 320,579	$ -	$ -	$ 29,494	$ 29,494	$ 291,084
FY 2048	$ 329,352	$ -	$ -	$ 329,352	$ -	$ -	$ 30,379	$ 30,379	$ 298,973
FY 2049	$ 338,396	$ -	$ -	$ 338,396	$ -	$ -	$ 31,291	$ 31,291	$ 307,105
FY 2050	$ 347,718	$ -	$ -	$ 347,718	$ -	$ -	$ 32,229	$ 32,229	$ 315,488
FY 2051	$ 357,328	$ -	$ -	$ 357,328	$ -	$ -	$ 33,196	$ 33,196	$ 324,131
Total	**$10,032,881**	**$1,925,425**	**$106,278**	**$12,064,584**	**$7,738,416**	**$295,767**	**$670,179**	**$8,704,362**	**$3,360,221**

Preliminary Financial Analysis

Project Cost:
$4,931,946

County Contribution:

$500,000

OBF: $295,767

TELP Financed Amount :
$4,136,179

TELP Interest Rate: 3.00%

Energy Escalation: PG&E: 4%

Ukiah Electric: 2%

Project Funding Option 2: Lighting, Solar and Roofs Only

Year	Energy Savings	Deferred Maintenance Savings	Total Incentives	Total Savings	Lease Payments	PG&E On-Bill Financing	Solar Maintenance Cost	Total Program Costs	Net Savings
FY 2022	$ 215,359	$ 45,170	$ 28,000	$ 288,529	$ 236,565	$ 29,577	$ 14,087	$ 280,228	$ 8,301
FY 2023	$ 221,049	$ 46,525	$ -	$ 267,574	$ 215,187	$ 29,577	$ 14,509	$ 259,273	$ 8,301
FY 2024	$ 226,911	$ 47,921	$ -	$ 274,832	$ 222,010	$ 29,577	$ 14,945	$ 266,531	$ 8,301
FY 2025	$ 232,952	$ 49,358	$ -	$ 282,311	$ 229,040	$ 29,577	$ 15,393	$ 274,009	$ 8,301
FY 2026	$ 239,178	$ 50,839	$ -	$ 290,017	$ 236,284	$ 29,577	$ 15,855	$ 281,716	$ 8,301
FY 2027	$ 245,594	$ 52,364	$ -	$ 297,959	$ 243,750	$ 29,577	$ 16,330	$ 289,657	$ 8,301
FY 2028	$ 252,208	$ 53,935	$ -	$ 306,143	$ 251,445	$ 29,577	$ 16,820	$ 297,842	$ 8,301
FY 2029	$ 259,025	$ 55,553	$ -	$ 314,578	$ 259,375	$ 29,577	$ 17,325	$ 306,277	$ 8,301
FY 2030	$ 266,053	$ 57,220	$ -	$ 323,273	$ 267,550	$ 29,577	$ 17,845	$ 314,971	$ 8,301
FY 2031	$ 273,298	$ 58,936	$ -	$ 332,234	$ 275,977	$ 29,577	$ 18,380	$ 323,933	$ 8,301
FY 2032	$ 280,768	$ 60,705	$ -	$ 341,473	$ 284,664	$ -	$ 18,931	$ 303,595	$ 37,878
FY 2033	$ 288,471	$ 62,526	$ -	$ 350,997	$ 293,620	$ -	$ 19,499	$ 313,119	$ 37,878
FY 2034	$ 296,414	$ 64,401	$ -	$ 360,816	$ 302,853	$ -	$ 20,084	$ 322,938	$ 37,878
FY 2035	$ 304,606	$ 66,334	$ -	$ 370,939	$ 312,375	$ -	$ 20,687	$ 333,061	$ 37,878
FY 2036	$ 313,054	$ 68,324	$ -	$ 381,378	$ 322,192	$ -	$ 21,307	$ 343,500	$ 37,878
FY 2037	$ 321,768	$ 70,373	$ -	$ 392,141	$ 332,317	$ -	$ 21,947	$ 354,263	$ 37,878
FY 2038	$ 330,757	$ 72,484	$ -	$ 403,241	$ 342,758	$ -	$ 22,605	$ 365,363	$ 37,878
FY 2039	$ 340,029	$ 74,659	$ -	$ 414,688	$ 353,527	$ -	$ 23,283	$ 376,810	$ 37,878
FY 2040	$ 349,595	$ 76,899	$ -	$ 426,494	$ 364,634	$ -	$ 23,982	$ 388,616	$ 37,878
FY 2041	$ 359,464	$ 79,206	$ -	$ 438,670	$ 376,091	$ -	$ 24,701	$ 400,792	$ 37,878
FY 2042	$ 278,289	$ -	$ -	$ 278,289	$ -	$ -	$ 25,442	$ 25,442	$ 252,847
FY 2043	$ 285,804	$ -	$ -	$ 285,804	$ -	$ -	$ 26,205	$ 26,205	$ 259,599
FY 2044	$ 293,548	$ -	$ -	$ 293,548	$ -	$ -	$ 26,992	$ 26,992	$ 266,557
FY 2045	$ 301,529	$ -	$ -	$ 301,529	$ -	$ -	$ 27,801	$ 27,801	$ 273,728
FY 2046	$ 309,755	$ -	$ -	$ 309,755	$ -	$ -	$ 28,635	$ 28,635	$ 281,120
FY 2047	$ 318,233	$ -	$ -	$ 318,233	$ -	$ -	$ 29,494	$ 29,494	$ 288,738
FY 2048	$ 326,971	$ -	$ -	$ 326,971	$ -	$ -	$ 30,379	$ 30,379	$ 296,592
FY 2049	$ 335,979	$ -	$ -	$ 335,979	$ -	$ -	$ 31,291	$ 31,291	$ 304,689
FY 2050	$ 345,265	$ -	$ -	$ 345,265	$ -	$ -	$ 32,229	$ 32,229	$ 313,036
FY 2051	$ 354,838	$ -	$ -	$ 354,838	$ -	$ -	$ 33,196	$ 33,196	$ 321,642
Total	**$8,766,765**	**$1,213,732**	**$28,000**	**$10,008,498**	**$5,722,213**	**$295,767**	**$670,179**	**$6,688,159**	**$3,320,338**

Partnership Timeline & Next Steps

Preliminary Assessment
(ASHRAE Level III)

NO COST
NO CONTRACT

- **4-8 Weeks**
- Site walks
- Site interviews
- Identify scopes of work
- **Utility Analysis**
- **Subcontractor engagement & scope cost estimation**
- **Grant, rebate & incentive review**
- Financial and energy saving assessment

Energy Master Planning Agreement
(IGA - Full Design & Engineering)

DEVELOPMENT AGREEMENT

- **5-6 Months**
- **Contingent Contract Fee**
- **Fee is negotiated and based on project size & complexity**
- Complete Investment Grade Audit (IGA)
- Finalize Scope Options
- **Full Construction Plans and Competitively Bid Scopes of Work**
- **Develop Project Local Hiring Plan & Start Outreach**
- Complete M&V Plan
- **Detailed Open Book Pricing**

Project Implementation

TRANSPARENT CONSTRUCTION

- **12-18 Months**
- Guaranteed No Change Orders
- **Detailed Schedules**
- On-Site Willdan Management
- **Engineering Team Visits**
- Comprehensive Site-Specific Safety Plans
- **Community Outreach & Engagement**
- Extensive commissioning of systems
- **Detailed Training**

Performance Maximization

ONGOING M&V & Maintenance

- **Enhanced Engineering & Energy Modeling Upfront**
- **No Risk M&V Plan**
  - IPMVP Option “C”
  - Solidifying Long Term Savings for EUSD
- Finalize Incentives & Rebates

Questions?

Contact:

Carolyn Kiesner, CEM
Senior Project Director
ckiesner@willdan.com
916-541-2068

Eddie Sladek, PE
Senior Project Developer
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Appendix Files

Procurement Process & CA Government Code 4217

CA Government Code 4217

- ✓ Allows County to directly contract with a company to reduce costs and implement projects faster
- ✓ Expedites project development – streamlined, proven design/build process
- ✓ Minimizes County staff's time
- ✓ Faster realization of energy savings and other program benefits

California
LEGISLATIVE INFORMATION

Willdan and Code 4217

- ✓ Willdan runs a transparent, competitive procurement process for entire program including:
  - Equipment
  - Installations
  - Financing or Equity Partner
- ✓ County can help evaluate bids and select subcontractors
- ✓ No change orders except for explicit scope changes
- ✓ Prevailing wage and local subcontractors hired when possible or necessary

Willdan Difference – Experts in Energy

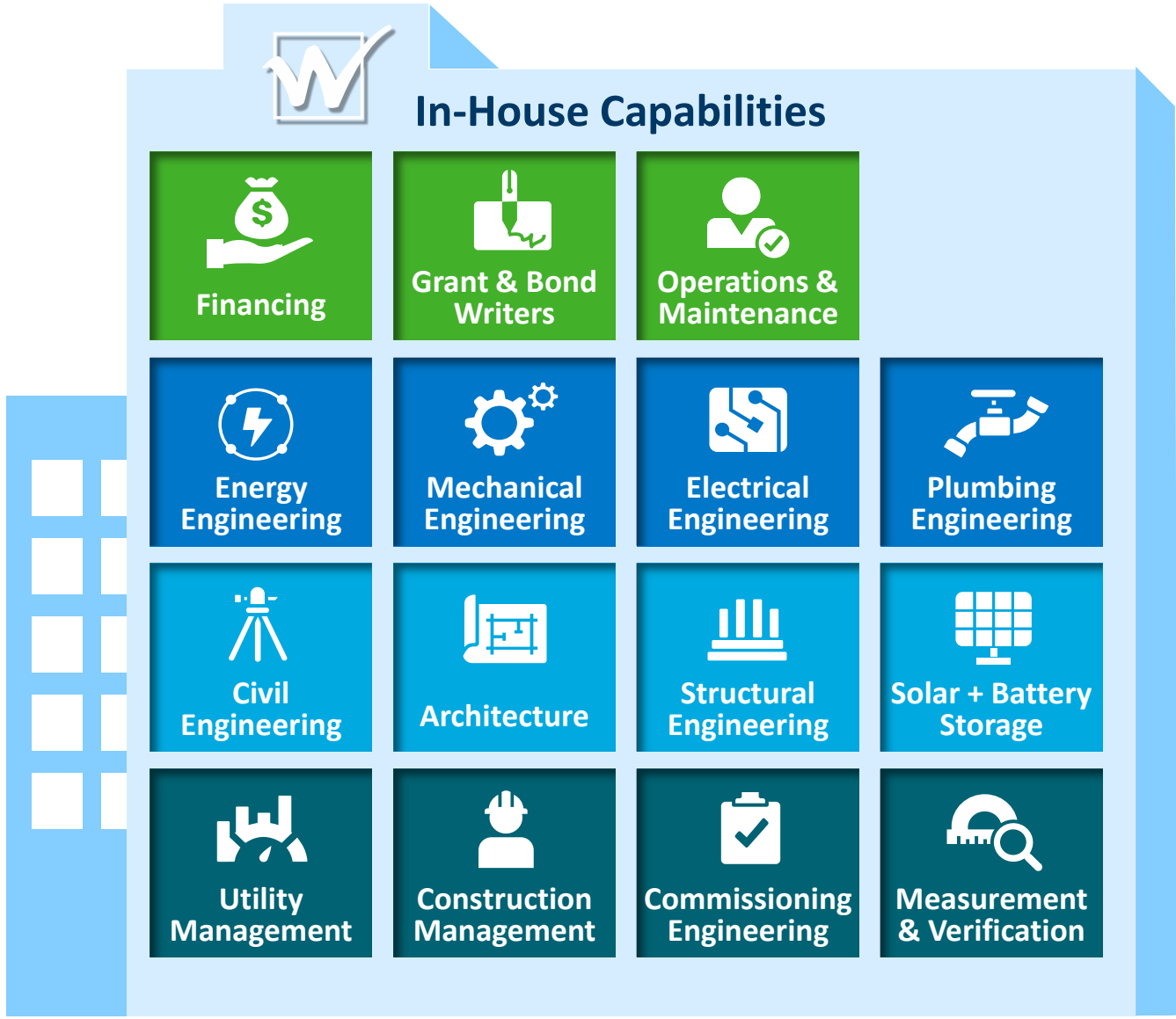
CAPABILITY

Core Differentiators

- **Revolutionary In-House Design & Energy Master Planning Approach**
- **Financial Expertise & Flexibility**
- **Regional Energy Partnerships**
- **Community Engagement**

Energy Program Expertise

- **$550M of turnkey projects** with state and local governments
- **$100M in bonding capacity**
- **$500M+** in Secured Grants & Incentives in CA
- **$2B+** in Secured Municipal Financing



November 9, 2021

Mendocino County Climate Action Advisory Committee
501 Low Gap Road
Ukiah, CA 95482

Re: Mendocino County Climate Action Advisory Committee Discussions Regarding Jackson Demonstration State Forest

Dear Climate Action Advisory Committee,

In a review of the agenda for your October 15, 2021 meeting, we found a draft document titled *Save Jackson State Forest, 2021*. We found a number of statements in this document that would benefit from additional correction, clarification or commentary.

Jackson Demonstration State Forest (JDSF) has been a leader in demonstrating sustainable forest management since the state took ownership of the forest in 1947. When the state purchased these forestlands, they were largely cutover due to management activities by previous owners. The JDSF forests of today are a testament to the sound and sustainable management employed for many decades. The forest management research conducted at JDSF has been valuable to forest landowners throughout the state by demonstrating sustainable forestry, fuel reduction techniques, and forest restoration, to name a few.

Misconceptions in *Save Jackson State Forest*

One of the statements in *Save Jackson State Forest* mentions the wood products industry has dwindled to only 350 jobs in Mendocino County. Mendocino Redwood Company and Mendocino Forest Products employ about these many employees alone. Two other sawmills exist in the county and when coupled with numerous logging companies, log truck drivers, road contractors, reforestation companies, foresters, biologists, and overhead, woods product jobs in the county account for thousands of jobs in the county.

There is a misconception in this document that forest management activities will increase the risk of wildfires when the opposite has proven true in real world examples, including the recent Caldor Fire that

threatened South Lake Tahoe. Kyle Jacobson, a USDA Forest Service Fire Management Officer in the Lake Tahoe Basin, helped plan and conduct many of the prescribed burns and mechanical thinning projects in the area that would later interact with the Caldor Fire. "We noticed that when the fire moved into those areas that were treated around neighborhoods in Christmas Valley, the fire intensity greatly diminished," said Jacobson. "That gave firefighters the room they needed to safely suppress the flames potentially saving around 600 homes in that community."[1]

In another example of forest management activities reducing wildfire intensity, the Goat Fire quickly grew to a crown fire in untreated portions of a forest in Lassen County. When the intense wildfire reached a portion of the forest that had been thinned, the wildfire quickly dropped to the ground. When the wildfire exited the thinned portion of the forest, it became a crown fire again.

Goat Fire: Thinned forest in red polygon shows green tree crowns where wildfire dropped to the ground

If we create wildfire-resilient forests then we maintain wildlife habitat, water quality, and recreational activities. The Timber Harvest Plans conducted at JDSF similarly thin the forest, reducing tree density and the potential for stand replacing crown fires, creating wildfire-resilient forests.

We reviewed a few of the research papers quoted in the document that presumably supported statements that forest management increases the risk of wildfires. Page 22 of the document states "Logging intensity is the second most important predictor of wildfire intensity, surpassed only by

[1] USDA Forest Service, https://www.fs.usda.gov/features/caldor-fire-defending-lake-tahoe-basin

weather and drought conditions (Zald and Dunn, 2018).". This research focused on plantation forests created by clearcuts in Oregon and concluded "Our findings suggest intensive plantation forestry characterized by young forests and spatially homogenized fuels, rather than pre-fire biomass, were significant drivers of wildfire severity.". As *Save Jackson State Forests* states in many locations, selection thinning is by far the dominant silvicultural method used in JDSF with only 50 acres using even-aged clearcutting from 1997-2018.

On Page 23 Weatherspoon, 1996 is referenced with this statement: "Logging large trees opens the forest canopy allowing more sunlight to reach the forest floor and dry out the underbrush and soils, and create a hotter, drier, and more flammable under-story microclimate.". We could not find any discussion in this research paper which makes this claim. Instead, we found this statement: "Aggressive, strategically logical fuel-management programs, compatible with overall desired conditions for sustainable ecosystems, are necessary to address the basic problem of excessive fuel accumulation.".

On page 24 Banerjee, 2020 is referenced with this statement: "Logging the largest trees thins the canopy allowing for greater in-canopy and in-stand wind speeds that fuel higher intensity fires". While Banerjee states there are several factors to consider, he also states "A high degree of thinning was effective in reducing fire intensity.".

We did not look at all the research quoted in *Save Jackson State Forests* for accuracy but it stands to reason additional research they mention is misquoted and misrepresented to back their false claim that timber harvesting increases wildfire impacts. Most recent research finds the opposite is true and the following research paper by twenty prominent forestry and wildfire experts actually directly contradicts the conclusions of *Save Jackson State Forest* (Prichard et al, 2021. Adapting western North American forests to climate change and wildfires: 10 common questions). See attached.

The State of California Supports Forest Management as a Fuel Reduction Tool

Prior to European settlement, the state of California averaged 50 trees per acre in forestlands. Due to a century of fire suppression and a lack of forest management, California forests now average 300 to 400 trees per acre[2]. All of these trees are essentially straws in the ground, competing for ground water and soil nutrients. Introduce a drought into this scenario and 150 million trees have died in the Sierra Nevada range. All of this alive and dead fuel feeds the megafires we witness each summer. Redwood forests are not immune to this as witnessed during the CZU Complex Fire in 2020 in the Santa Cruz Mountains and the 2020 wildfires in Sonoma County in the Cazadero area, which burned to the ocean.

In 2020 the state lost 1.25 million acres of forestland in stand-replacing wildfires. In 2021 the number thus far is 1.15 million acres. In a state with only 33 million acres of forestland it is clear we cannot

[2] California Forest Inventory Data, USDA Forest Service, https://www.fs.fed.us/pnw/rma/fia-topics/state-stats/California/visualization/index.php

treat the forests as reserves and watch them burn. This is why the state is moving to thin forests, increase prescribed burning, and reduce fuel loading in other vegetation types.

California Forest Carbon Plan – May, 2018

The Forest Carbon Plan[3] describes forest conditions across California based on the best available information and provides a projection of future conditions given the ongoing and expected impacts of climate change. It also describes goals and related specific actions to improve overall forest health, enhance carbon storage resilience, increase sequestration, and reduce GHG emissions, and provides principles and policies to guide and support those actions. These principles and policies, which are grounded in existing laws and regulations, elevate enhancement of carbon sequestration and storage and reduction of black carbon and GHG emissions alongside the broader range of public benefits California's forests provide. This plan strongly supports forest management to reduce fire hazards.

The California Forest Carbon Plan was prepared by the Forest Climate Action Team. Members of the Forest Climate Action Team are:

- Office of Governor Edmund G. Brown Jr.
- California Natural Resources Agency
- California Environmental Protection Agency
- California Department of Forestry and Fire Protection
- California Air Resources Board
- State Board of Forestry and Fire Protection
- Sierra Nevada Conservancy
- California Tahoe Conservancy
- California Department of Parks and Recreation
- California Department of Fish and Wildlife
- California Department of Conservation
- California Department of Water Resources
- State Lands Commission
- California Department of Public Health
- USDA Forest Service
- Bureau of Land Management
- National Park Service
- Rural Counties Representatives of California
- California State Association of Counties

Targets found in this plan for nonfederal forest lands, including state lands, include:

[3] https://resources.ca.gov/CNRALegacyFiles/wp-content/uploads/2018/05/California-Forest-Carbon-Plan-Final-Draft-for-Public-Release-May-2018.pdf

• By 2020, double the current rate of forest restoration and fuels reduction treatments, including prescribed fire, through the CAL FIRE Vegetation Treatment Program from the recent average of 17,500 acres per year to 35,000 acres per year.

• By 2030, increase forest restoration and fuels treatments, including mechanical thinning and prescribed burning, from the current rate of approximately 17,500 acres per year to 60,000 acres per year.

• In order to address forest health and resiliency needs identified statewide on nonfederal lands, CAL FIRE has estimated that the rate of treatment of all types would need to be increased to approximately 500,000 acres per year to make an ecologically meaningful difference at a landscape scale.

California's Wildfire and Forest Resilience Action Plan – January, 2021

The Wildfire and Forest Resilience Action Plan[4], prepared by Governor Newsom's Forest Management Task Force, is designed to strategically accelerate efforts to restore the health and resilience of California forests, grasslands and natural places, to improve the fire safety of our communities, and to sustain the economic vitality of rural forested areas. The plan has the following goals:

- Scale-up forest management to meet the state and federal 1 million-acre annual restoration target by 2025.
- Significantly expand the use of prescribed fire across the state.
- Create economic opportunities for the use of forest materials that store carbon, reduce emissions, and contribute to sustainable local economies.
- Develop a comprehensive program to assist private forest landowners, who own more than 40 percent of the state's forested lands.

Under this plan, land managers will identify and implement advanced on-the-ground projects to facilitate the subsequent use of prescribed natural fire, such as strategically placed fuel breaks and other mechanical thinning. Land managers will engage California Native American Tribes, local communities, and other stakeholders in this work. This plan includes continued and increased pace and scale of management to reduce tree density and increase forest resiliency on working forests such as JDSF.

California's Strategic Plan for Prescribed Fire, Cultural Burning, and Prescribed Natural Fire – October, 2021

Building on California's Wildfire and Forest Resilience Action Plan, this Strategic Plan for Prescribed Fire, Cultural Burning, and Prescribed Natural Fire[5] establishes how the state and its partners will significantly increase the pace and scale of these forest management activities through 2025. The Strategic Plan establishes acreage targets for a broad spectrum of state and federal agencies, tribes, and nongovernmental partners; taken together, these entities have committed to expand beneficial fire use to 440,000 acres annually by 2025.

[4] https://www.fire.ca.gov/media/ps4p2vck/californiawildfireandforestresilienceactionplan.pdf
[5] https://fmtf.fire.ca.gov/media/vuahweso/ca-rx-fire-strategic-plan-2021_10-17-21draft.pdf

This plan will identify two to three landscape-scale prescribed fire projects on which to focus strategic attention. Pilot projects may involve programmatic environmental review, cross-jurisdictional agreements, advanced smoke mitigation strategies, preparatory site work (including implementation of pyrosilvicultural techniques to pair prescribed fire with mechanical thinning), more flexible permitting, maintenance burning, and the sharing of crews, resources, and liability coverage.

Land managers will identify and implement advanced on-the-ground projects to facilitate the subsequent use of prescribed natural fire, such as strategically placed fuel breaks and other mechanical thinning. Land managers will engage California Native American Tribes, local communities, and other stakeholders in this work.

In conclusion, those who are against sustainable forest management at JDSF, such as the Save Jackson State Forest campaign, should look at the track record of JDSF staff who have created the very forests many find enjoyable to recreate in. They should also look at the forest management practices that have proven forests can be wildfire resilient with management. And they should also look at the efforts of the state to restore forests to a wildfire-resilient condition so they can continue to sequester carbon, provide for clean water, maintain wildlife habitats, and provide recreational opportunities. Preservation of forests does not make them resilient, and active management is necessary if we are to maintain JDSF for its recreational, spiritual, timber and jobs, and wildlife and fisheries values.

We ask the Mendocino County Climate Action Advisory Committee to take these facts into consideration when discussing forest management in the county. We also invite the committee to join us on a tour of fuel reduction projects completed in the forests of Mendocino County, some of which have been tested by wildfire events with positive results to show that forest resilience requires ongoing forest management in this time of rapid climate change.

Sincerely,

John Andersen
Director, Forest Policy
Humboldt and Mendocino Redwood Company

Nick Kent
Resource Manager
Redwood Empire Sawmills

Zachary Jones
General Manager
Lyme Redwood Forest Company

Todd McMahon
Vice President
NCRM Inc.

Cc: Senator Mike McGuire
Assembly Member Jim Wood
CNRA Secretary Wade Crowfoot
CNRA Deputy Secretary Jessica Morse
Cal Fire Director Thom Porter
Cal Fire Deputy Director Matthew Reischman
Supervisor Maureen Mulheren

Supervisor Glenn McGourty
Supervisor Dan Gjerde
Supervisor John Haschak
Supervisor Ted Williams

November 12, 2021

John Andersen
Director, Forest Policy
Humboldt and Mendocino Redwood Company Sawmills

Nick Kent
Resource Manager
Redwood Empire

Zachary Jones
General Manager
Lyme Redwood Forest Company

Todd McMahon
Vice President
NCRM Inc.

Re: Mendocino County Climate Action Advisory Committee Discussions Regarding JacksonDemonstration State Forest

Dear Private Sector Forest Mangers,

Thank you for submitting your letter to the Mendocino Climate Action Committee regarding our recent vote to support a new management plan for JDSF. While your letter was addressed to me, it was obviously intended for the important legislative and state officials listed on the cc line. Here are some summary thoughts with regards to your letter:

- I understand why you want the management of Jackson to stay the way it is, as you benefit directly, indirectly, and financially from continued industrial logging on the publicly owned 50,000-acre Jackson Demonstration State Forest.
- Our coalition is composed of numerous organizations and countless individuals who are galvanized by the need to respond to climate change and change the mission of Jackson from commercial logging to forest restoration, carbon sequestration, and recreation.
- Our document "Time to Change the Mission: Jackson Demonstration State Forest" includes a thorough analysis of the role that Jackson could play in climate resiliency, recreation opportunities, our economy, the preservation of biological diversity and to reduce fire risk. The document also includes 30 references to scientific articles and reports. However, you take issue with only three supposed "misconceptions" in the reduce fire risk section. I want to state clearly for the record that every one of the supposed "misconceptions" is a factual statement supported by the scientific literature, while your "corrections" are problematic. I have carefully documented the misleading nature of your letter below. I have also excerpted the sections of each scientific paper that supports our findings rather than the odd cherry-picked statement which you used in your rebuttal.
- An honest dialogue requires an honest critique.

To begin, unfortunately you commented on a draft document that was outdated two months ago. You have put me in an awkward position of responding to comments on a draft document that has not been circulated to any of the people in this CC list. Perhaps a fool's errand as many may not read this reply. However, we feel that a public response is necessary because you have directly attacked my credibility, the science, and by extension, our effort to re-envision the mission of Jackson in response to the accelerating climate crisis. I have therefore responded to each of your major assertions in the following pages.

Your Statement: One of the statements in *Save Jackson State Forest* mentions the wood products industry has dwindled to only 350 jobs in Mendocino County. Mendocino Redwood Company and Mendocino Forest Products employ about these many employees alone. Two other sawmills exist in the county and when coupled with numerous logging companies, log truck drivers, road contractors, reforestation companies, foresters, biologists, and overhead, woods product jobs in the county account for thousands of jobs in the county.

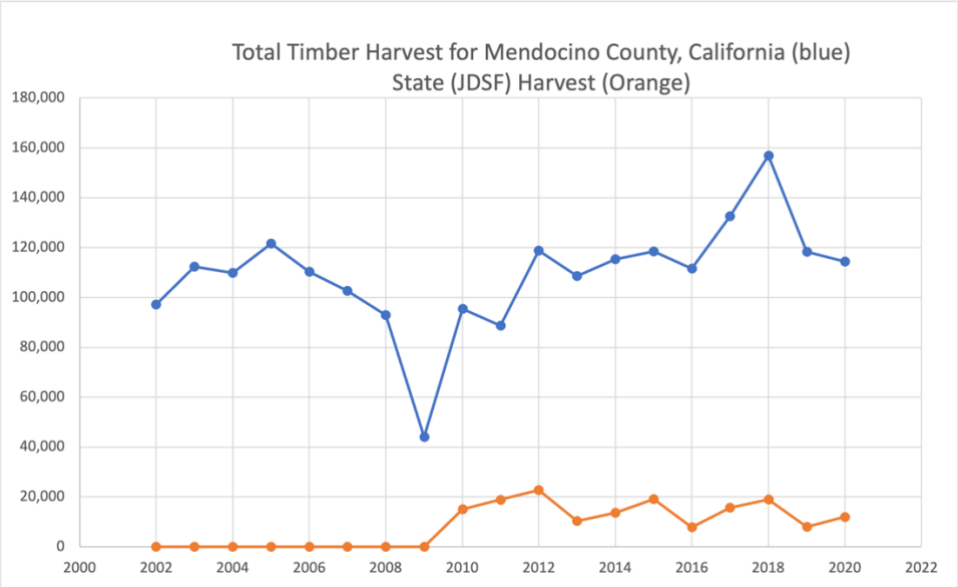
Response: The 394 jobs identified are Forestry and Logging jobs not "wood products" jobs. The reality is that JDSF actually supports a rather small number of jobs in Mendocino County relative to the much larger and rapidly growing tourism economy, despite the unrealized eco-recreational economic potential possible at JDSF. The table below backs this (see "Economic Contribution of Timber Harvesting and Manufacturing to North Coast Redwood Region" James E. Henderson, Richard B. Standiford, and Samuel G. Evans [Link]). The total direct jobs from wood products is 973 jobs, compared with 6,900 tourism jobs in our economy.

Table 6—Mendocino forest products industry's economic contribution indicating direct effect values for forestry-related sectors and resulting indirect and induced effects on all other sectors (the total effect is indicated along with the total county economy size, the total effect expressed as a percentage of the total county economy, and the multiplier value of the forest products industry)

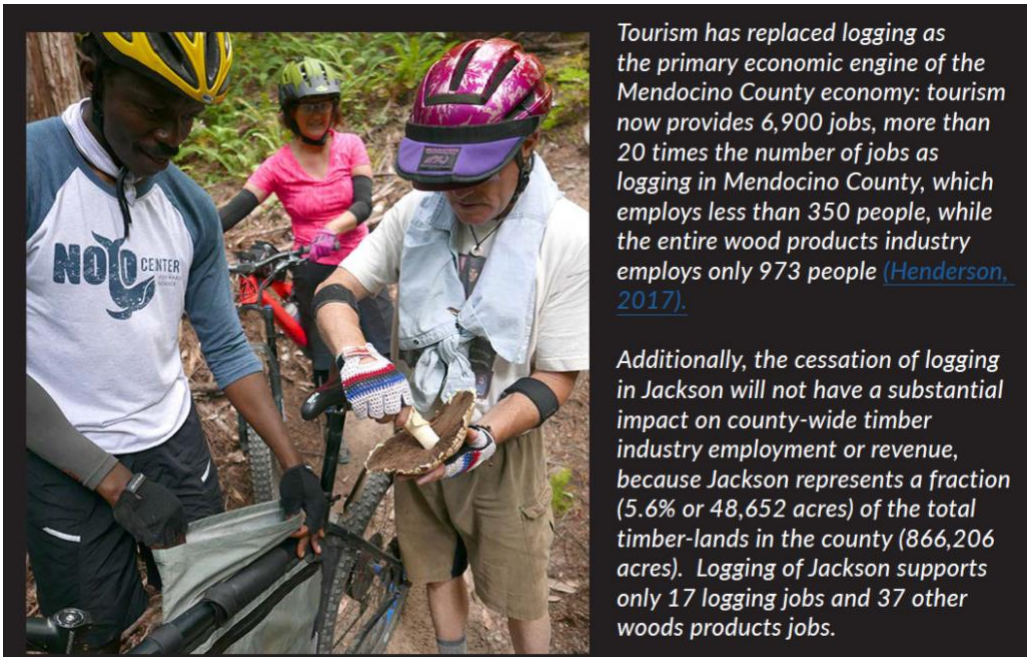
	Employment	Labor income ($M)	Output ($M)	Value added ($M)
Forestry and logging	394.6	38,409	57,597	40,696
Wood biomass	0.0	0	0	0
Solid wood	566.9	27,080	136,184	30,099
Wood furniture	12.0	474	1,476	492
Subtotal of direct effects	973.4	65,962	195,257	71,287
Subtotal (indirect & induced effects)	1,203.1	44,961	134,427	80,285
Total (total effect)	2,176.5	110,923	329,684	151,572
Total county economy	49,115.6	2,975,548	5,968,931	3,329,705
Total effect as % of county	4.4%	3.7%	5.5%	4.6%
Multiplier effect	2.24	1.68	1.69	2.13

Monetary values in 2013 dollars and expressed in thousands ($M).

Moreover, JDSF at approximately 50,000 acres, only represents a mere 5.5% of the ~866,206 acres of total area zoned TPZ in Mendocino County. On top of that, on any given year, timber harvest in JDSF only accounts for on average about 10% of the total timber production in Mendocino County (see the following Figure). Accordingly, re-envisioning Jackson's mandate from "managed as commercial timberlands" to a restoration- and recreation-focused forest will only minimally impact the County's timber industry. On the other hand, according to the 2018-2019 Mendocino Economic Report [Link], Mendocino's tourism economy has been steadily growing, and a recreation-focused Jackson stands to bring in far more revenue, that would be distributed across Mendocino's economic sectors, rather than being concentrated in only one. The report estimates that timber production generates ~$80 Million annually compared to the nearly $500 Million multisector economic impact, and growing, tourism currently brings to the County.



To be clear, here is the exact language of our document.



Your Statement: There is a misconception in this document that forest management activities will increase the risk of wildfires when the opposite has proven true in real world examples, including the recent Caldor Fire that threatened South Lake Tahoe. Kyle Jacobson, a USDA Forest Service Fire Management Officer in the Lake Tahoe Basin, helped plan and conduct many of the prescribed burns and mechanical thinning projects in the area that would later interact with

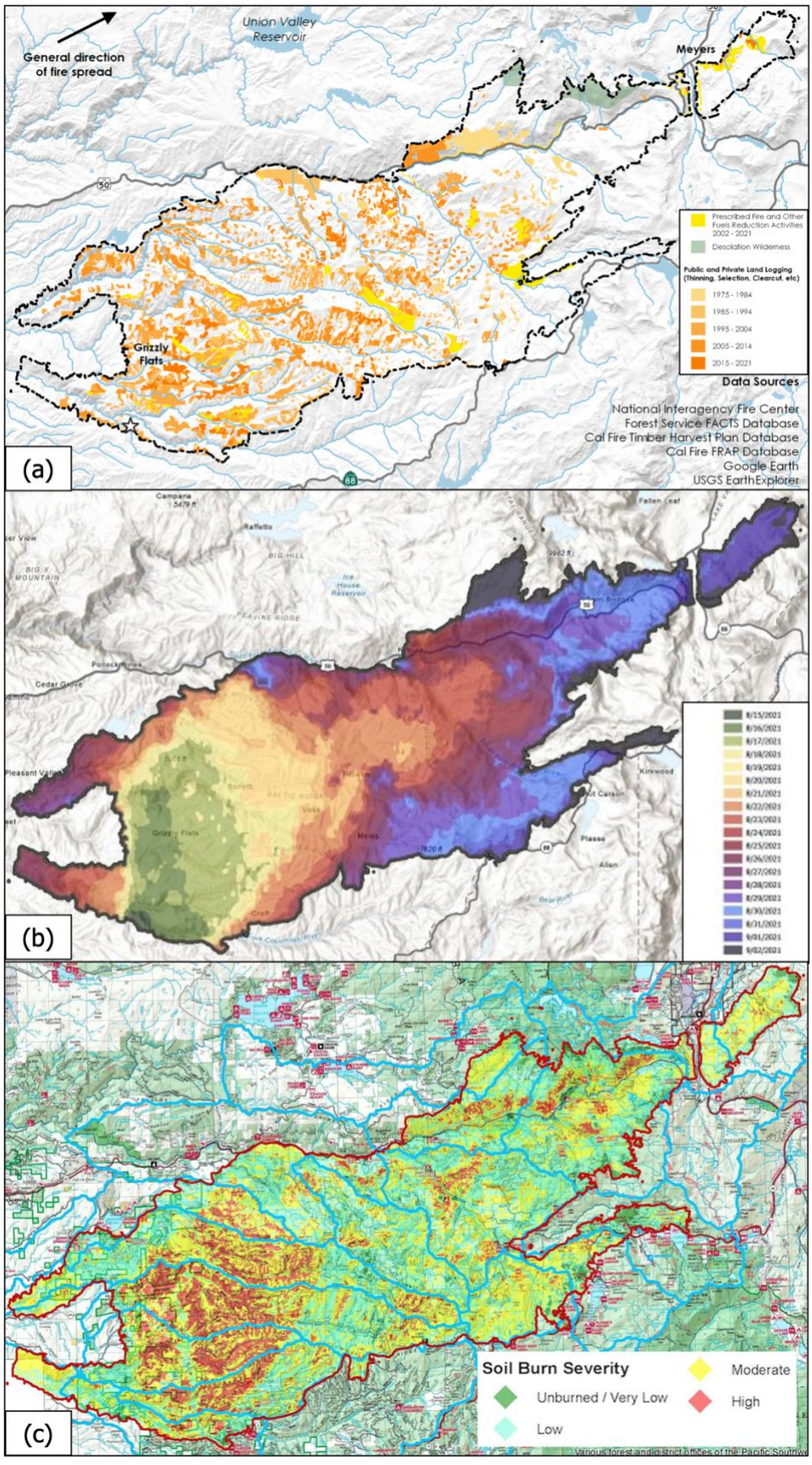
the Caldor Fire. “We noticed that when the fire moved into those areas that were treated around neighborhoods in Christmas Valley, the fire intensity greatly diminished,” said Jacobson. “That gave firefighters the room they needed to safely suppress the flames potentially saving around 600 homes in that community.

Response: It is interesting that you cite the Caldor fire as an example of forest management that works. The area you are specifically referring to is the Caples Project, conducted by the Sierra Nevada Conservancy and the USFS, which "treated" approximately 3500 acres of forest land consisting of understory (small tree diameter) thinning and about 1000 acres as controlled prescribed fire and about 2500 acres as uncontrolled (mostly low intensity) fire (note that the Caldor Fire totaled 214,000 acres). That you reference this is notable because this is NOT the type of management that occurs in JDSF. In the 75 years JDSF has been under State management there has been only ONE prescribed fire, which incidentally consisted mostly of burning slash piles, a far cry from a true landscape-scale prescribed fire or a cultural burn practiced by the indigenous Pomo and Coast Yuki before they were brutally and forcibly displaced from their homelands by a State-sponsored genocide campaign.

What is more striking about the Caldor Fire is the intensity of commercial timber harvest (extractive forest management) that has occurred throughout and within the fire perimeter. The Figure on the following page shows the larger picture of forest management within the Caldor Fire. Panel (a) shows both State (CalFire) and Federal (USFS) timber harvest activity, Panel (b) shows the rate of fire spread, and Panel (c) shows the burn severity. It is little coincidence that the Caldor Fire spread the fastest and burned the most intensely in the regions that were the most heavily managed for commercial timber production, **just as JDSF is**. This is the same scenario that played out in the Camp Fire that destroyed Paradise killing 88 people, and again this year in Dixie Fire resulting in the loss of Greenville.

The factors that contribute to rapid and intense fire spread within commercially logged areas are well documented:

1. Commercial timber harvest increases surface fuel loads and fine woody fuels that rapidly dry and easily combust when exposed to fire (Weatherspoon 1996; Dicus 2003; Stone et al 2004).
    a. To be *crystal* clear, Weatherspoon writes, “*Thinnings, insect sanitation and salvage cuts, and other partial cuttings add slash, or activity-generated fuels, to the stand unless all parts of the tree above the stump are removed from the forest. Small trees damaged by harvest activities but not removed from the forest often add to the fuel load. To the extent that it is not treated adequately, this component of the total fuel complex tends to increase the probability of a more intense, more damaging, and perhaps more extensive wildfire.”*


General direction of fire spread
Union Valley Reservoir
Meyers
Grizzly Flats
Prescribed Fire and Other Fuels Reduction Activities 2002 - 2021
Desolation Wilderness
Public and Private Land Logging (Thinning, Selection, Clearcut, etc)
1975 - 1984
1985 - 1994
1995 - 2004
2005 - 2014
2015 - 2021
Data Sources
National Interagency Fire Center
Forest Service FACTS Database
Cal Fire Timber Harvest Plan Database
Cal Fire FRAP Database
Google Earth
USGS EarthExplorer
(a)
Campana 5479 ft
Raffetto
BIG HILL
Ice House Reservoir
FAWNE RIDGE
Cedar Grove
Pleasant Valley
Fallen Leaf
Kirkwood
Meeks
Plasse
Allen
(b)
Soil Burn Severity
Unburned / Very Low
Low
Moderate
High
(c)

b. Dicus writes, "*Fuel loading of the 1-hour, 10-hour, and 100-hour timelag fuel classes, as well as litter loading and fuel depth were all significantly higher after the selective harvest (Table 1). […] As expected, higher fuel loadings and fuel depths after harvest led to a greater fire behavior in the post-harvest stand.*"

c. Stone writes, "*Logging geared only towards large tree removal, since it does not manage surface fuels, will increase fire hazard and subsequent fire severity."*

2. Canopy openings created by either partial or complete timber harvest increase the amount of downwelling solar radiation that reaches the forest floor accelerating surface fuel drying, lowering near surface humidity levels, and fostering the growth of xeric pyrogenic invasive and native grasses and brushes all which facilitate and exacerbate wildfire behavior (Weatherspoon 1996; Bradley et al 2016).

   a. Weatherspoon writes, "*Thinning or otherwise opening a stand allows more solar radiation and wind to reach the forest floor. The net effect, at least during periods of significant fire danger, is usually reduced fuel moisture and increased flammability (Countryman 1955). The greater the stand opening, the more pronounced the change in microclimate is likely to be. […] For example, removing most of the large trees from a stand, leaving most of the understory in place, and doing little or no slash treatment—a situation all too familiar in the past—will certainly increase the overall hazard and expected damage to the stand in the event of a wildfire. Everything points in the same direction: removing most of the fire-tolerant large trees; retaining most of the easily damaged small trees; increasing the loading (quantity) and depth of the surface fuel bed; and creating a warmer, drier, windier environment near the forest floor during times of significant fire danger*."

   b. Bradley et al writes, "*In these ecoregions, the most long-unburned forests experienced mostly low/moderate-severity fire (Odion et al. 2004, Odion and Hanson 2006, Miller et al. 2012, van Wagtendonk et al. 2012). Some of these researchers have hypothesized that as forests mature, the overstory canopy results in cooling shade that allows surface fuels to stay moister longer into fire season (Odion and Hanson 2006, 2008). This effect may also lead to a reduction in pyrogenic native shrubs and other understory vegetation that can carry fire, due to insufficient sunlight reaching the understory (Odion et al. 2004, 2010)."*

3. Finally, it is well-known that trees make highly effective windbreaks (farmers have leveraged this property for centuries), thus removing trees, in particular the largest, highest market value trees with the largest canopies, either in a partial or complete

harvest scenario, will increase in-stand and near-surface windspeeds which exacerbates fire behavior (Green et al 1995; Russell et al 2018)

a. Green et al states, "Tree spacing played a major role in modifying canopy turbulence. As tree spacing was increased, ventilation rates and turbulent exchange were enhanced and momentum penetrated deeper into the canopy"

b. Russell et al states, "*As the forest was thinned, turbulence and wind speed near the surface (0.13 h) increased and became more connected with above the canopy (1.13 h). […] Thinning the whole canopy reduced the overstory, leading to increased mixing and a better coupling between the canopy layers and the atmosphere as larger eddies could penetrate through the canopy*."

Taken together, the combined effects of commercial timber harvest on forest structure by (1) selectively removing the largest most fire resilient trees as these are also the trees with the highest market value, (2) substantially increasing surface fuel loads, (3) creating hotter, drier understory microclimates exposed to more solar radiation, and (4) thinning the forest structure (either partially or completely) allowing for greater in-stand and near-surface wind speeds, all combine to exacerbate wildfire risk and severity in previously commercially logged areas.

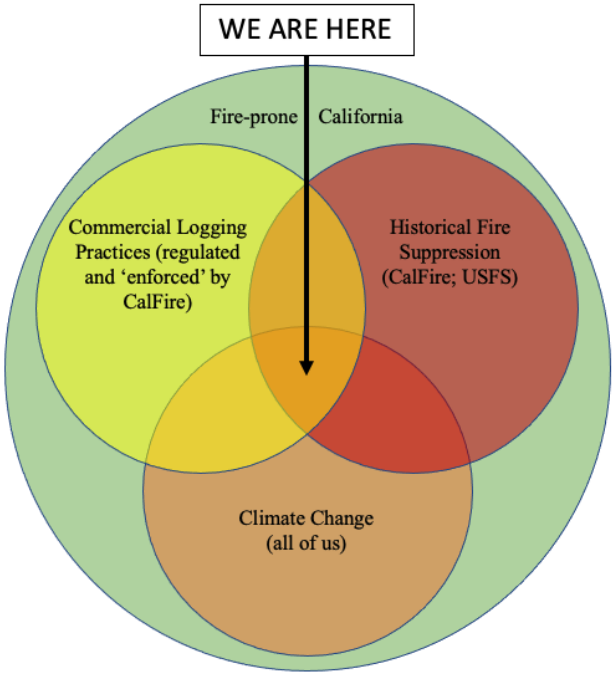
Incidentally, a CalFire official just recently explicitly stated that fires on previously logged lands burn hotter and more intensely.

Lastly, you cite the management in the Goat Fire to backup your case. What you conveniently fail to mention is that in the thinning unit you point to, surface fuels and small ladder fuels were treated. In fact, every single example in that report treated under story surface and ladder fuels by removing small diameter trees from the thinning units (Nakamura 2004). The report further notes, "*Forest surface fuels comprised of needles, leaves, branches, logging slash are the most important fuel to treat, as they drive overall fire behavior. Ladder fuels comprised of small trees, large brush, and lower branches of overstory trees will carry surface fires into the crowns of trees under some conditions. In California, crown fires are usually supported by the surface and ladder fuel complex, not crown fuel levels.*" Once again reinforcing that commercial timber harvest does not reduce wildfire behavior or intensity in the absence of subsequent surface and ladder fuel treatment. And further, as Weatherspoon 1996 points out, "*It is assumed that, to the extent practicable, fuels are removed from the site to promote utilization as well as to reduce wildfire hazard. In the case of partial cuttings (cuttings other than clear-cuts), this includes the removal of small understory trees that form hazardous fuel ladders. Historically, effective fuel management has not always been a strong emphasis, due largely to short-term economic considerations. However, it is becoming an increasingly important concern in treatments prescribed today*." Clearly BOTH studies point to the critical importance of treating slash and ladder fuels that promote vertical continuity between the forest floor and the canopy as fires are buoyancy driven and burn from the surface up, thus they critically rely on these fuels to sustain them. However, due to the profit-driven mindset of commercial timber companies, it is

widely recognized that slash is routinely left on the forest floor and that in partial cut stands, ladder fuels are not removed. Regrettably the case is no different in JDSF where THPs across the forest are characterized by an abundance of slash strewn across the forest floor and small diameter trees, which choke the forest understory.

It is also notable that timber industry spokespersons come back to this Goat Fire figure time and time again despite it showing the effects of management of that is NOT employed by the vast majority of the commercial timber industry due to the prioritizing of profits over human and environmental well-being. Furthermore, the fact that "success" stories are so few on commercial timberlands should be telling as to the efficacy of commercial timber harvest on reducing wildfire behavior… It doesn't. This can easily be seen by the literal hundreds of commercial THPs the Caldor, Dixie, and Camp Fires raged though just to name a few. One can cherry-pick an example of where fire intensity reduced on commercial timberlands and recycle that over and over again with the same talking points while omitting the critical information as WHY that happened, but the facts remain that by and large commercial timber harvest increases fire risk.

All this said, we would agree that understory (small diameter (2-15in DBH) trees) thinning, woody brush removal, and surface fuel removal/treatment (by prescribed fire) does indeed positively affect fire behavior and offer forest and community protection- this is widely supported by the scientific literature (e.g. Prichard et al 2021; Stephens et al 2009; and refs therein). However again, and we reiterate, **this is NOT the type of management practiced in Jackson**, and contrary to the outcomes of understory thinning combined with prescribed fire, the preponderance of scientific evidence indicates that commercial logging practices increase wildfire risk. On top of our fire-prone California climate, the facts are abundant and *crystal* clear,



Your Statement: Page 22 of the document states "Logging intensity is the second most important predictor of wildfire intensity, surpassed only by weather and drought conditions (Zald and Dunn, 2018)." This research focused on plantation forests created by clearcuts in Oregon and concluded "Our findings suggest intensive plantation forestry characterized by young forests and spatially homogenized fuels, rather than pre-fire biomass, were significant drivers of wildfire severity." As *Save Jackson State Forests* states in many locations, selectionthinning is by far the dominant silvicultural method used in JDSF with only 50 acres using even-aged clearcutting from 1997-2018.

Response: First, the actual paragraph from our report follows:

> *Logging intensity is the second most important predictor of wildfire intensity, surpassed only by weather and drought conditions (Zald and Dunn, 2018). Across the entire western U.S., fires burn with less intensity on lands that have the highest protections from logging (Bradley et al., 2016).*

Second, prior to 1997 even-aged management by the State was a common practice. In CalFire's 2015 report on JDSF management, the report states that, "*After acquiring the forest, the state continued partial cutting on the east end during the 1950s and 1960s. This first round of partial harvest was an individual marked tree cut that removed about 70% of the coniferous volume. As a result, most of the large old-growth trees were removed. This initial cut was followed by a diameter-limit harvest that removed most remaining coniferous trees greater than 22 inches (in) (56 centimeters (cm)) in diameter*." Management prior to 1997 and subsequent continued timber harvest has ensured that the forest in JDSF has remained exceedingly young and a fraction of its potential age and biomass. Indeed, the average stand age in Jackson is only 30-60 years old, just a fraction of this forests potential age. Additionally, as stated in Zald and Dunn, 2018, harvest rotation in the commercial units studied were 30-50 years. Contrast that with the 20-25 year rotations JDSF employs in their THPs and its clear to see that Jackson is managed largely as a plantation.

You are correct that the JDSF harvest data indicate that there have only been 50 acres of clearcuts since 1997, however this statement is also disingenuous as you of all people should know this is only one form of even-aged management, as it conveniently says on your website. Even-aged management in Jackson totals closer to 855 acres since 1997 with 3177 acres of group selection, which on paper is labeled uneven-aged, however is clearly even-aged within the group being selected.

Your Statement: On Page 23 Weatherspoon, 1996 is referenced with this statement: "Logging large trees opens the forest canopy allowing more sunlight to reach the forest floor and dry out the underbrush and soils, and create a hotter, drier, and more flammable under-story

microclimate." We could not find any discussion in this research paper which makes this claim. Instead, we found this statement: "Aggressive, strategically logical fuel-management programs, compatible with overall desired conditions for sustainable ecosystems, are necessary to address the basic problem of excessive fuel accumulation."

Response: It is clear you did not read the article carefully or the conclusions. Please re-read the report, linked above, with greater care. We will place the exact quotes here for your convenience, which you will see clearly support the conclusions in our report. In addition, your statement, "*Aggressive, strategically logical fuel-management programs, compatible with overall desired conditions for sustainable ecosystems, are necessary to address the basic problem of excessive fuel accumulation*" appears nowhere in Weatherspoon 1996.

Effects of Partial Cuttings on Microclimate

A related but separate kind of concern has to do with changes in microclimate brought about by stand opening. Thinning or otherwise opening a stand allows more solar radiation and wind to reach the forest floor. The net effect, at least during periods of significant fire danger, is usually reduced fuel moisture and increased flammability (Countryman 1955). The greater the stand opening, the more pronounced the change in microclimate is likely to be.

Interactions of Changed Fuels and Microclimate

The ways in which changes in these two sets of factors—fuels and microclimate—as a result of a management activity interact to affect wildfire hazard can be quite complex. The net effect, in terms of the direction of change in hazard, may be obvious in many cases, however. For example, removing most of the large trees from a stand, leaving most of the understory in place, and doing little or no slash treatment—a situation all too familiar in the past—will certainly increase the overall hazard and expected damage to the stand in the event of a wildfire. Everything points in the same direction: removing most of the fire-tolerant large trees; retaining most of the easily damaged small trees; increasing the loading (quantity) and depth of the surface fuel bed; and creating a warmer, drier, windier environment near the forest floor during times of significant fire danger. In contrast, heavily thinning an over-

An example of a more complex relationship was reported by Weatherspoon and Skinner (1995) as part of a large retrospective study of factors—including prior management activities—that affected the degree of tree damage resulting from the extensive 1987 wildfires in northern California. Among three categories of uncut or partial-cut stands, they found that uncut stands (with no treatment of natural fuels) suffered the least fire damage, followed by partial-cut stands with some fuel treatment; partial-cut stands with no treatment had the most damage. The fact that partial-cut stands with no fuel treatment experienced more damage than partial-cut stands with some fuel treatment is no surprise. One might wonder, however, why the uncut stands experienced less damage than the partial-cut and treated stands. The explanation probably lies in a combination of the following factors:

- The partial cuttings created a warmer, drier microclimate compared with that of the uncut stands—an inevitable effect of cuttings, as was explained earlier.
- The partial cuttings were typical of many past cuttings that removed big trees and left small ones. The more readily scorched small trees thus constituted a higher percentage of the residual stand. Furthermore, the live fuel ladder component of fire hazard in the uncut stand was not reduced in the partial-cut stand.

Your Statement: On page 24 Banerjee, 2020 is referenced with this statement: “Logging the largest trees thins the canopyallowing for greater in-canopy and in-stand wind speeds that fuel higher intensity fires”. While Banerjeestates there are several factors to consider, he also states “A high degree of thinning was effective in reducing fire intensity.”

Response: To be clear, here are Banerjee’s [Link] exact words:

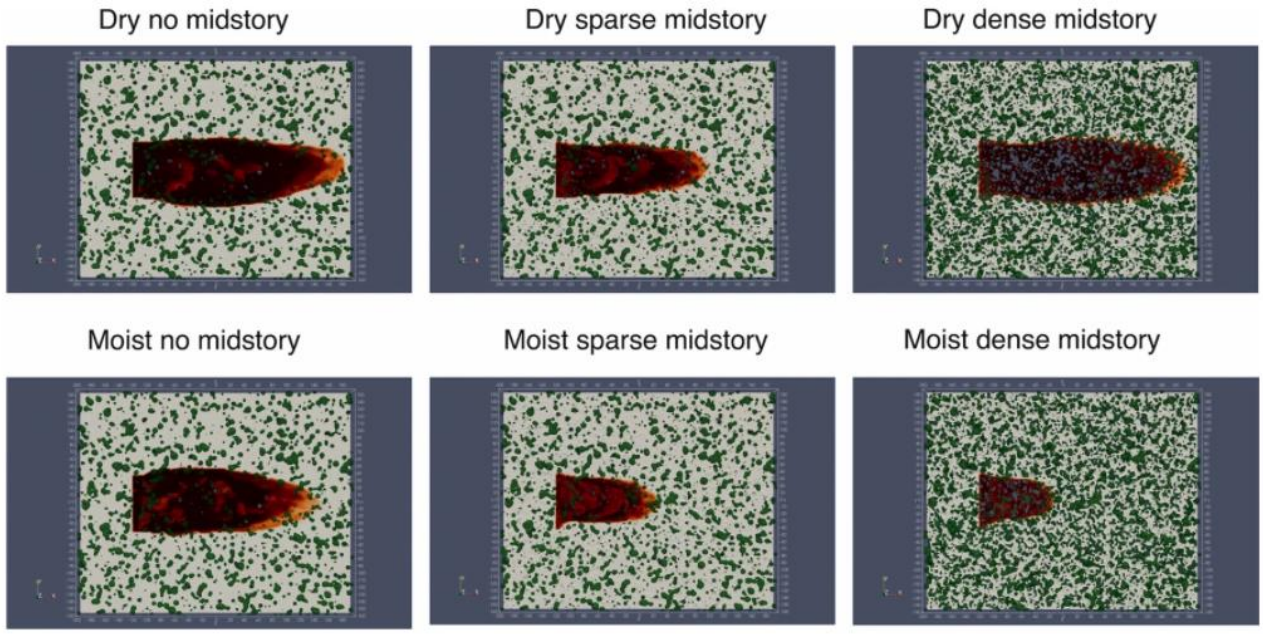
> The objective of thinning operations is primarily to reduce the potential of high intensity crown fires, by reducing fuel amount and connectivity. However, there are several short and long term consequences to forest thinning. As a discernible first order effect, thinning changes the stand structure and connectivity pattern of the fuel bed immediately after the operation. This alters the micrometeorology of the forest canopy. The opening of the canopy can entrain more wind [8] and solar radiation which might result in the reduction of fine fuel and canopy fuel moisture. Moreover, if the resultant additional surface fuel accumulation is not removed, it might increase surface loading of fuel. All of these effects could result in enhanced surface fire behavior and increase in crowning potential [1,9]. There could also be long term consequences such as altered regimes of carbon storage [10] which changes the future fuel loading and altered hydrologic regimes [11] which changes future water stress and fuel moisture. Moreover, the effectiveness of thinning treatments start to reduce with time [12] and therefore the timing of such operations is also crucial. The age and composition of the forest stand are important as well because older fine canopy fuels usually contain less moisture than newer fuel elements. Consequently, whether a thinning operation will lead to a reduction of high intensity crown fire is not a trivial questions and depending on the fuel and micrometeorological conditions, it is possible to have a range of outcomes.

Once again, this is consistent with everything above so we are unclear what your point is. Additionally, for context Banerjee is specifically considering crown fire propagation, and does not account for vertical ladder or surface fuels. Additionally, thinning (in this computer simulation) is done by randomized drawing, thus there is no discrimination for the selective removal of large or small trees on fire behavior. The fire in this framework is a priori in the canopy and stays there.

Further, your quote above that, "*A high degree of thinning was effective in reducing fire intensity*." was clearly "cherry-picked" and does not represent the conclusions of the scientific article. Please see the entirety of the quote below for clarity.

> thinning. Both of these scenarios are reported in the literature. **Results**: We found out that a low degree of thinning can indeed increase fire intensity, especially if the canopy fuel moisture is low. A high degree of thinning was effective in reducing fire intensity. However, thinning also increased rate of spread under some conditions. Interestingly, both intensity and rate of spread were dependent on the competing effects of increased wind speed, fuel loading and canopy fuel moisture. **Conclusion**: We were able to find the limits of fire behavior post thinning and actual fire behavior is likely to be somewhere in the middle of the theoretical extremes explored in this work. The actual fire behavior post thinning should depend on the site specific conditions which would determine the outcome of the interplay among the aforementioned conditions. The work also highlights that policymakers should be careful about fine scale canopy architectural attributes and micrometeorological aspects when planning fuel treatment operations.

In the follow up work to this study, Banerjee et al 2020 considered mid canopy thinning intensity and fuel moisture on fire spread. In this framework dense, moist forests showed the slowest rate of fire spread, consistent with the results of Bradley et al 2020, while fire spread the fastest in the heavily thinned, dry forest.



Your Statement: "We did not look at all the research quoted in *Save Jackson State Forests* for accuracy, but it stands to reason additional research they mention is misquoted and misrepresented to back their false claim that timber harvesting increases wildfire impacts. Most recent research finds the opposite is true and the following research paper by twenty prominent forestry and wildfire experts actually directly contradicts the conclusions of *Save Jackson State Forest* (Prichard et al, 2021. Adapting western North American forests to climate change and wildfires: 10 common questions). See attached."

Response: In a recent SacBee article discussing forest management and wildfire, lead fire researcher Crystal Kolden made the most poignant statement of the entire story, "*the term 'thinning' has been co-opted by the logging industry*", and that is exactly what we see happening here. Private timber industry executive John Anderson is attempting to co-opt the term 'thinning' to justify and advance continued extractive commercial logging across both private and public lands to the detriment ecosystems, biodiversity, and Public Trust resources. By and large, wildfire researchers and ecologists alike are calling for an increase of small diameter understory tree removal combined with prescribed fire for surface fuel treatment. This is NOT what MRC/HRC does on their lands and it is NOT what CalFire does in Jackson. The contrast between the effects of understory thinning combined with prescribed fire and commercial timber harvest could not be more stark. The former is capable of offering both forest and community protection while the latter offers forest loss and increased wildfire severity.

Indeed, nowhere in Prichard et al 2021 do they advocate for the increase in the scale of commercial timber harvest. The study correctly points out that,

1. While “thin the forest to reduce wildfire threat” is commonly cited in the popular media, the capacity for thinning alone to mitigate wildfire hazard and severity is not well supported in the scientific literature. Thinning treatments require strategic selection of trees to target fuel ladders and fire-susceptible trees, along with a subsequent fuel reduction treatment. When thinning is conducted without accompanied surface fuel reduction, short and long-term goals may not be realized.

2. Thinning from below reduces ladder fuels and canopy bulk density concurrently, which can reduce the potential for both passive and active crown fire behavior.

3. Large-diameter trees and snags that provide essential wildlife habitat and other ecosystem values can be retained and fuels can be deliberately removed around these structures using this approach.

4. On most sites, thinning alone achieves a reduction of canopy fuels but contributes to higher surface fuel loads. If burned in a wildfire, these fuels can contribute to high-intensity surface fires and elevated levels of associated tree mortality.

5. When trees are felled and limbed, fine fuels from tree tops and branches (termed activity fuels) are re-distributed over the treatment area, thereby increasing surface fuel loads.

6. Other unintended consequences of thinning without concomitant reduction in surface fuels can occur. For instance, decreasing canopy bulk density can change site climatic conditions. Wildfire ignition potential is largely driven by fuel moisture, which can decrease on drier sites when canopy bulk density is reduced through commercial thinning.

7. Reduced canopy bulk density can lead to increased surface wind speed and fuel heating, which allows for increased rates of fire spread in thinned forests.

8. In summary, although the efficacy of thinning alone as a fuel reduction treatment is questionable and site dependent, there exists widespread agreement that *combined* effects of thinning plus prescribed burning consistently reduces the potential for severe wildfire across a broad range of forest types and conditions

All of the statements above from Prichard et al 2021 are consistent with everything we’ve said and are inconsistent with the management practices of both MRC and JDSF. Moreover, Anderson fails to be forthcoming that Prichard et al 2021 primarily focuses on the management of the dry Sierra Nevada forests, which have unique fire dynamics compared to our moist coast

mesic forests. That said, Prichard et al 2021 note that, "*In some mesic forests, for instance, mechanical treatments may increase the risk of fire by increasing sunlight exposure to the forest floor, drying surface fuels, promoting understory growth, and increasing wind speeds that leave residual trees vulnerable to wind throw*." Active management (in terms of mechanical understory thinning) should be proportional to how safe the carbon is in any given forest. The carbon in our coast redwood forests is relatively safe (compared to the Sierra Nevada forests) thus management should be relatively light in order to maximize carbon storage and facilitate forest and watershed recovery following from over 150 years of continued commercial logging. Both CalFire and the CNRA have tried to use the Big Basin (SCZ Complex) Fire as an example that our coast forests need to be logged to protect them. Following the 2020 fire season, former Resources Director at CalFire Helge Eng stated at a Board of Forestry meeting, "we have a social license to log because of the fires." However, this is factually unfounded. In the first postfire study of redwood survival in Big Basin, the authors found that 95% of the coast redwoods survived and are rapidly recovering (Mahdizadeh and Russell 2021). The carbon stored within them (upwards of ~2000 Mg/ha) is largely still sequestered and continuing to accumulate with forest regrowth.

Finally, it must be kept in mind that fire is as natural to our forests as a mushroom or a fern. Fire is not some external agent descending on our forests to kill them. The increase in the fires we are seeing IS our forest's response to a rapidly changing climate. Fire acts as either an agent of maintenance or change, and we are seeing our forests convert to shorter, sparser vegetation characterized by a species composition of more xeric, drought-tolerant species such as oaks and short woody brushes. We should not be aiding in that conversion by cutting down the largest trees, thereby facilitating the climate change induced conversion to shorter, sparser, oak-dominated woodlands. A study published just last week from UCLA found that upwards of 70% of the increase in Western US wildfires can be directly attributed to anthropogenic climate change (Zhuang et al 2021). As such, the only way we can truly preserve the forests we have come to know and love is to stop climate change and bring atmospheric CO2 concentrations back down to preindustrial levels. Short of that, all other management strategies are just damage control and should be aimed wholly at slowing their conversion. Cutting down the largest healthiest specimens for short term profit unequivocally does not do that.

Unfortunately, your cursory (perhaps biased) reading of the supporting research opens you to the exact criticisms that you have inaccurately leveled at us. We have not misquoted or misrepresented the research, nor have we made false claims. We have prepared a thoroughly researched and valid critique of the common myth that cutting down large redwood trees in a mature redwood forest is somehow good for the forest or for fire reduction. It is not. The scientific research and common-sense support this understanding. Instead of providing an innuendo that we have misquoted or misrepresented the research, please provide evidence of

this. The “evidence” that you did provide in your letter was incorrect and misleading. I don’t use the word lie unless someone intentionally misspeaks; in this case it is appropriate.

One more important clarification is required. We are looking for a new Management Strategy for Jackson Demonstration State Forest, as we clearly state in our document, not an end to management as you incorrectly stated. We are seeking a focus on carbon sequestration and recreation benefits for this publicly owned forest. We understand why you want the management plan to stay the way it is, as you benefit directly and financially from continued industrial logging in Jackson.

John, we take our credibility very seriously and it would behoove you to do the same before sending out unfounded and baseless attacks citing studies which you clearly haven’t even read, or unskillfully cherry-pick quotes from them that superficially bolster your bottom line: for-profit commercial timber harvest of Public Trust resources.

Lastly, I have attached the final version of the draft document which you critiqued, so you and all the other people who have read to the end of this letter, can have the pleasure of reading the report in its entirety.

Sincerely,

Marie Jones
Chair, Mendocino County Climate Action Advisory Committee
Executive Director, Jug Handle Creek Farm
Mendocino County Planning Commissioner

John P. O’Brien, Ph.D.
Climate Scientist
National Center for Atmospheric Research

Cc: Senator Mike McGuire
Assemblymember Jim Wood
CNRA Secretary Wade Crowfoot
CNRA Deputy Secretary Jessica Morse
Cal Fire Director Thom Porter
Cal Fire Deputy Director, Resource Management, Matthew Reischman
Supervisor Maureen Mulheren
Supervisor Glenn McGourty
Supervisor Dan Gjerde
Supervisor John Haschak
Supervisor Ted Williams

RESOLUTION NO. 21-

RESOLUTION OF THE MENDOCINO COUNTY BOARD OF SUPERVISORS REQUESTING SCIENTIFIC REVIEW OF JACKSON DEMONSTRATION STATE FOREST

WHEREAS, the science is convincing that our existential fight against climate change demands expanded effort to store carbon in the State's natural and working lands to remove it from the atmosphere; and

WHEREAS, the Mendocino County Board of Supervisors embraces the responsibility to mitigate the systemic risks climate change poses to humans and natural systems; and

WHEREAS, on October 7, 2020, Governor Gavin Newsom, through an executive order, committed the State of California to a goal of protecting 30% of California's land and coastal waters by 2030; and

WHEREAS, in November of 2021, leaders of more than 100 countries, including the United States, held climate talks in Glasgow and President Biden pledged to end deforestation by 2030; and

WHEREAS, the Governor's executive order directs the State's Natural Resources Agency to draw up a plan by February 1, 2022; and

WHEREAS, the County of Mendocino has an integral role to play in helping the State achieve its 30 by 30 climate goal encouraged by California's Climate Change Scoping Plan for local governments to adopt goals to reduce greenhouse gas emissions by 15% below 1990's levels by 2020, 40% below 1990’s levels by 2030 and 80% below 1990’s levels by 2050; and

WHEREAS, the California Department of Forestry and Fire Protection has adopted commercial Timber Harvest Plans for Jackson Demonstration State Forest based on goals not yet refreshed to reflect the State's recent climate commitments and has commenced logging; and

WHEREAS, science-based forest management is vital to bolstering long term forest health, improving forest resiliency from wildfire, protecting wildlife habitat and riparian corridors; and

WHEREAS, the County of Mendocino respects the guidance of Mendocino’s indigenous people, many of whom are calling to prioritize carbon sequestration and in-forest storage, preservation and protection of Native American cultural heritage, equitable access to public lands, and the protection of California's rare and endangered species; and

WHEREAS, the State of California should ensure there is not inconsistency between Jackson Demonstration State Forest management goals and the adopted State of California climate change commitments.

NOW, THEREFORE BE IT RESOLVED, the Mendocino County Board of Supervisors urges Governor Newsom and the State's Natural Resources Agency to include any climate impacts of commercial logging on State lands in drawing up the plan to protect 30% of California's land use and coastal waters by 2030, and to publish a science-based report that evaluates carbon sequestration capacity and wildfire resiliency of current management practices, as well as alternate management scenarios, of Jackson Demonstration State Forest; and

BE IT FURTHER RESOLVED, the Mendocino County Board of Supervisors strongly urges Governor Newsom to align Jackson Demonstration State Forest management goals with the adopted State of California climate change commitments, and to do so in a way that enhances the wide-ranging scientific, recreational and economic opportunities offered by Jackson Demonstration State Forest.

The foregoing Resolution introduced by Supervisor , seconded by Supervisor , and carried this day of , 2021, by the following vote:

AYES:
NOES:
ABSENT:

WHEREUPON, the Chair declared said Resolution adopted and SO ORDERED.

ATTEST:CARMEL J. ANGELO
Clerk of the Board

_____
Deputy

APPROVED AS TO FORM:
CHRISTIAN M. CURTIS, County Counsel

_____
Deputy

_____
DAN GJERDE, Chair
Mendocino County Board of Supervisors

I hereby certify that according to the provisions of Government Code section 25103, delivery of this document has been made.

BY: CARMEL J. ANGELO
Clerk of the Board

_____
Deputy

RESOLUTION

A RESOLUTION OF THE MENDOCINO COUNTY CLIMATE ACTION ADVISORY AND ACTION COMMITTEE, REGARDING NET ENERGY METERING 3.0 PROCEEDING BEFORE THE CALIFORNIA PUBLIC UTILITIES COMMISSION

1. **WHEREAS**, Net Energy Metering (NEM) is designed to support the installation of customer-sited renewable energy generation; and
2. **WHEREAS**, NEM allows customers to receive bill credits for power generated by their solar system and shared with the power grid and ultimately save money on their utility bills; and
3. **WHEREAS**, NEM is what has allowed solar to become increasingly accessible to low and moderate income households; and
4. **WHEREAS**, the California Public Utilities Commission (CPUC) has launched a formal proceeding to update the current NEM structure to be introduced in 2022 as NEM 3.0 and a number of parties have submitted their proposal for what they believe NEM 3.0 should look like; and
5. **WHEREAS**, the California Investor Owned Utilities (IOUs), Pacific Gas and Electric, San Diego Gas & Electric and Southern California Edison, have submitted a joint proposal (the "IOU Proposal") that calls for drastic changes to NEM that would make customer sited renewable energy more expensive, increase the amount of time it takes for customers to pay off their systems, and ground to a halt the installation of distributed solar in California; and
6. **WHEREAS**, The IOU Proposal would make it impossible for customer-sited renewables to continue to grow sustainably as mandated by law as a result of high monthly fixed fees for all solar installations, and slashing credits customers receive for sharing their excess electricity with the power grid; and
7. **WHEREAS**, proposals submitted to CPUC by Protect Our Communities Foundation, California Solar & Storage Association, Vote Solar, GRID Alternatives, Solar Energy Industries Association, and others not only would encourage new solar adoption but also include additional subsidies for low income customers; and
8. **WHEREAS**, California cannot meet its clean energy targets in time with utility scale solar alone and needs to triple the amount of rooftop solar, as reported by the California Energy Commission 2021 SB 100 Joint Agency Report Summary; and
9. **WHEREAS**, protecting rooftop solar and expanding access to rooftop solar in communities of concern will help California move toward 100 percent clean energy, lessen the impacts of the climate crisis, and reduce climate injustices from dirty energy; and

10. **WHEREAS**, we are in a climate crisis and need to make the transition to clean energy more accessible.

THEREFORE, the Mendocino County Climate Action Advisory Committee does resolve as follows:

1) The Climate Action Advisory Committee supports protecting and expanding rooftop solar and increasing solar electrical generation and energy storage in order to meet California's ambitious clean energy targets by deploying solar in all communities and households, particularly those struggling to afford clean low or non emission generated electricity; and
2) The Climate Action Advisory Committee opposes the Investor Owned Utilities (IOU) proposed Net Energy Metering (NEM3) revisions, because the IOU proposed revisions hinder the deployment of solar electrical generation by public entities, businesses and consumers at all levels, and
3) The Climate Action Advisory Committee urges the California Public Utilities Commission to reject the Investor Owned Utilities NEM3 proposal, and
4) The Climate Action Advisory Committee further urges the CPUC to:
    a) strengthen NEM to expand access to all households, particularly of low-and-moderate income;
    b) expand access to other clean energy technologies that pair with solar, such as batteries;
    c) ensure that the solar installations continue to grow in order to meet State and County climate goals; and
    d) reject proposals to increase solar generation fees, and reduce or eliminate credits for sharing electricity with the power grid.
5) The Climate Action Advisory Committee directs the Chair to share this resolution with Governor Gavin Newsom, the California Public Utilities Commission, the California Senate Committee on Energy, Utilities and Communications, the California Assembly Committee on Utilities and Energy, and Sonoma Clean Power.

The foregoing Resolution introduced by_____, seconded by _____, and carried this _____ of _____ 2021, by the Mendocino County Climate Action Advisory Committee, by the following vote:

AYES:

NO:

ABSENT:

ABSTAIN:

RESOLUTION OF THE MENDOCINO COUNTY CLIMATE ACTION ADVISORY COMMITTEE AUTHORIZING REMOTE TELECONFERENCE MEETINGS OF THE LEGISLATIVE BODIES OF THE MENDOCINO COUNTY CLIMATE ACTION ADVISORY COMMITTEE PURSUANT TO THE RALPH M. BROWN ACT

WHEREAS, all meetings of the Mendocino County Climate Action Advisory Committee and its legislative bodies are open and public, as required by the Ralph M. Brown Act (Cal. Gov. Code §§ 54950 – 54963), so that any member of the public may attend, participate, and view the legislative bodies conduct their business; and

WHEREAS, the Brown Act, Government Code section 54953(e), makes provisions for remote teleconferencing participation in meetings by members of a legislative body, without compliance with the requirements of Government Code section 54953(b)(3), subject to the existence of certain conditions; and

WHEREAS, on March 4, 2020, Governor Newsom issued a Proclamation of a State of Emergency declaring a state of emergency exists due to the outbreak of respiratory illness due to a novel coronavirus (a disease now known as COVID-19), pursuant to the California Emergency Services Act (Government Code section 8625) and that State of Emergency is still in effect in the State of California; and,

WHEREAS, as of the date of this Resolution, neither the Governor nor the state Legislature have exercised their respective powers pursuant to Government Code section 8629 to lift the state of emergency either by proclamation or by concurrent resolution the state Legislature; and,

WHEREAS, the California Department of Industrial Relations has issued regulations related to COVID-19 Prevention for employees and places of employment. Title 8 of the California Code of Regulations, Section 3205(c)(5)(D) specifically recommends physical (social) distancing as one of the measures to decrease the spread of COVID-19 based on the fact that particles containing the virus can travel more than six feet, especially indoors; and,

WHEREAS, the Mendocino County Public Health Officer continues to recommend teleconferencing during public meetings of all legislative bodies to protect the community's health against the spread of COVID-19; and

WHEREAS, the Mendocino County Climate Action Advisory Committee, finds that state or local officials have imposed or recommended measures to promote social distancing based on the Mendocino County Public Health Officer recommendation and the California Department of Industrial Relations' issuance of regulations related to COVID-19 Prevention through Title 8 of the California Code of Regulations, Section 3205(c)(5)(D); and,

WHEREAS, as a consequence, the Mendocino County Climate Action Advisory Committee does hereby find that current conditions meet the circumstances set for in Government Code section 54953(e)(3) to allow this legislative body to conduct its meetings by teleconferencing without compliance with Government Code section 54953 (b)(3), pursuant to Section 54953(e), and that such legislative body shall comply with the requirements to provide the public with access to the meetings as prescribed by Government Code section 54953(e)(2) to ensure the public can safely participate in and observe local government meetings.

NOW, THEREFORE, BE IT RESOLVED BY THE Mendocino County Climate Action Advisory Committee, as follows:

Section 1. Recitals. All of the above recitals are true and correct and are incorporated into this Resolution by this reference.

Section 2. Current Conditions Authorize Teleconference Public Meetings of Legislative Bodies. Based on the California Governor's continued declaration of a State of Emergency, the Mendocino County Public Health Officer's recommendation to continue teleconferencing, and the regulations issued by the California Department of Industrial Relations, the Mendocino County Climate Action Advisory Committee finds that the conditions continue to exist pursuant to Government Code section 54953(e)(3) to allow legislative bodies to use teleconferencing to hold public meetings in accordance with Government Code section 54953(e)(2) to ensure members of the public have continued access to safely observe and participate in local government meetings.

Section 3. Remote Teleconference Meetings. The Mendocino County Climate Action Advisory Committee is hereby authorized to take all actions necessary to carry out the intent and purpose of this Resolution including, conducting open and public meetings in accordance with Government Code section 54953(e)(2) and other applicable provisions of the Brown Act.

Section 4. Effective Date. This Resolution shall take effect immediately upon its adoption.

The foregoing Resolution introduced by_____, seconded by _____, and carried this _____ of _____ 2021, by the Mendocino County Climate Action Advisory Committee, by the following vote:

AYES:

NO:

ABSENT:

ABSTAIN:

WHEREUPON, the Chair declared said Resolution adopted and SO ORDERED.

Mendocino County
Climate Action &
Advisory Committee

November 18, 2021

Mendocino County
Board of Supervisors

Re: Mendocino County Water Leadership is Critical

Dear Members of the Board,

Thank you for your effective and rapid response to our extreme drought conditions and resulting water shortages this Fall. We recognize that the effort was huge and complicated, and we appreciate how quickly the Board stepped up and ensured that our businesses, residents and visitors could continue to thrive and enjoy the coast during the crisis situation. We have since received significant early rainfall and are all breathing a welcome sigh of relief, but we are also not out of this one yet. The state water agency has warned that, without a number of significant rain events this winter, Lake Mendocino may not hold enough water to last through next summer, thereby putting Redwood Valley and many small communities and businesses downstream in serious jeopardy. Additionally, climate change virtually guarantees that droughts will become both more common and more severe in the years ahead.

The Mendocino County Climate Action Citizens Advisory Committee urges the Board to work with County staff to: 1) develop a water resiliency plan for the County and 2) consider re-establishing the Mendocino County Water Agency, as soon as possible. Let us start planning and preparing now. Your leadership is essential to help direct resources, determine effective actions, and provide support where it will be most needed.

Sincerely,

Marie Jones
Chair
Mendocino County Climate Action Advisory Board

Mendocino County Climate Action Advisory Committee
Friday August 20, 3:00 - 5:00
Meeting Minutes

1. Call to Order and Roll Call

Roll call showed the following members also in attendance: Jessica Stull-Otto, Randy MacDonald, Richard Hubacek, Ellen Drell,Cathy Monroe, Susan Sher, Marie Jones, Tess Albin-Smith.
Members not present: Eleos Kostis, Sandy Marshall
Members of the public: Eileen Mitro, Carrie Durkee, James Schoonover, Peter McNamea

Cathy will follow up with a letter to the clerk of the board regarding removal of the following members from the Committee: Javier Silva, Michael Potts and John.

2. Review of Agenda

Cathy will compose a letter to the Governor regarding redistricting for our next meeting

3. Review and Approval of Minutes from July, 2021

The meeting minutes were adopted unanimously.

4. Public Comment on Non-Agenda Items.

No public comment on non agenda items.

5. Discuss Comprehensive Economic Development Strategy and Climate Positive Projects for Funding from Infrastructure Bill (Marie)

The following ideas were generated by the committee for consideration in the CEDS:

- ✓ Install PV on all County buildings
- ✓ Establish new water storage tanks/ponds/etc for community water systems.
- ✓ Install more bicycle routes throughout the County
- ✓ Invest in e-bike rentals in the larger towns.
- ✓ Invest in electrical changing stations for vehicles throughout the County
- ✓ Upgrade the Mendocino Transit Authority
- ✓ Implement the recommendations of the County energy audit.
- ✓ Invest in localized energy generation and storage systems
- ✓ Invest in more affordable housing
- ✓ Expand the capacity of the Covelo Sewer District and the Round Valley Water District
- ✓ Widen fire route escapes and or provide alternative fire escape routes in the following communities: Potter Valley, Booktrails, Redwood Valley, Albion Ridge Road, pudding creek road, Simpson Lain, Gibney Lain.
- ✓ Adopt the MCOG project list as part of the CEDS
- ✓ Develop a program for rainwater catchment

- ✓ Methane flares for the County Dump

6. Discuss and Develop Program for Climate Change Education & Outreach.

The following subcommittee was formed to address education and outreach: Randy, Richard and Ellen and Jessica.

Some ideas for the subcommittee to work on include:

- ✓ Recruit people in education to the MCCAAC
- ✓ Tap into existing youth groups
- ✓ Reach out to supervisors
- ✓ Explore UC Climate Stewards for volunteers
- ✓ Richard will engage in Media Outreach, everyone to forward their media contact list to Richard.
- ✓ Cathy will create displays on climate for the library.

7. Dis**cuss and Develop Recommendations Regarding How to Address Drought and Water Issues in Mendocino County.**

This item was tabled until the next meeting.

8. Discuss and Develop Follow Up Activities with Regard to County's Climate Action Fund.

The Rural Institute asked the MCCAC to undertake the following course of action with regard to the Climate Fund:

- ✓ The MCCAAC (as the BOS's advisory body on climate) to request the energy audit report on county infrastructure be sent to the committee for review as soon as it's available.
- ✓ The MCCAAC should share the document with as many local environmental and community groups as are interested; with a short simple request - to send to the MCCAAC their list of the top three projects identified in the audit that they feel the county should pursue first. The MCCAC may also identify one or more projects not identified in the audit that they feel the county should pursue as a future project.
- ✓ The MCCAAC will hold one public hearing to offer any group or person in the county an opportunity to make a three minute statement about their project choices.
- ✓ Based on the written comments, the hearing and its own deliberations - make a set of recommendations to the Board of Supervisors for which projects should be prioritized. And request, the BOS direct the CEO's office to provide a short written report quarterly to the MCCAAC on the progress of the Carbon Free Mendocino County Government projects approved by the board so that the MCCAAC can monitor and advise the BOS accordingly.
- ✓ The MCCAAC agreed to work towards this action plan.

9. Discuss Options for Mitigation for tree removal from PG&E power lines.

This was tabled for a follow up meeting at a later date.

10. Report back from Sonoma County Climate Mobilization Committee.

The subcommittee recommended the following projects for us to consider:

- ✓ Develop a Mendocino County Strategic Plan for Climate Mobilization

- ✓ Adopt a Mendocino County Climate Neutral Resolution
- ✓ Develop a Long Range Climate Change Plan
- ✓ Complete the Green House Gas Inventory

11. Discuss follow up activities from previous meetings.

No time for this discussion

12. Identify a Meeting Date for September

- ✓ The meeting will be held on Friday September 17th at 3:00.

13. Adjournment

Mendocino County Climate Action Advisory Committee
Friday September 17, 3:00 - 5:00
Meeting Notes

1. **Call to Order and Roll Call**

   Roll call showed the following members also in attendance: Randy MacDonald, Richard Hubacek, Ellen Drell,Cathy Monroe, Susan Sher, Marie Jones, Sandy Marshall
   Members not present: Jessica Stull-Otto, Eleos Kostis, Tess Albin-Smith.
   Members of the public: Mo Eileen Mitro, Carrie Durkee

2. **Review of Agenda & Comments on non-agenda items**

   Marie provided an agenda review. Supervisor Maureen Mulheren provided an overview of the issue around the proposed Coal Train that would run from Montana to Humboldt, Asked for us to write a letter to the BOS and McGuire's office.

3. **Review and Approval of Minutes from August, 2021**

   The meeting minutes were not approved due to an absence of a quorum

4. **Public Comment on Non-Agenda Items.**

   Supervisor Maureen Mulheren provided an overview of the issue around the proposed Coal Train that would run from Montana to Humboldt, Asked for us to write a letter to the BOS and McGuire's office.

5. **Due to a lack of a Quorum the committee briefly discussed a variety of topics including:**

   - The Jackson Demonstration State Forest Legislative Book and cosponsor of the book by various organizations. The need to send letters to Wade Crowfoot and Caltrans about the importance of looking at Climate Change as part of THP review processs.
   - Grass Roots Institute provided an update on their activities.
   - Cathy and Eileen are developing a survey to the public about attitudes about Climate Change.
   - The need to develop a scholarship or interniship to get some help for the MCCAAC.
   - Richard volunteered to write a monthly column on Climate Change for the Ukiah Daily Jouornal. He will ask for guest writers when he needs one.
   - The website needs to be updates to include the final signed resolution to the Natural resources agency re Jackson, final signed reommendations to MCOG, and add a link to Drawdown Climate Solutions 101. Marie to follow up with Michael Potts.

6. **Discuss and Develop Program for Climate Change Education & Outreach.**

   The following subcommittee was formed to address education and outreach: Randy, Richard and Ellen and Jessica.

   Some ideas for the subcommittee to work on include:

- ✓ Recruit people in education to the MCCAAC
- ✓ Tap into existing youth groups
- ✓ Reach out to supervisors
- ✓ Explore UC Climate Stewards for volunteers
- ✓ Richard will engage in Media Outreach, everyone to forward their media contact list to Richard.
- ✓ Cathy will create displays on climate for the library.

7. Dis**cuss and Develop Recommendations Regarding How to Address Drought and Water Issues in Mendocino County.**

This item was tabled until the next meeting.

8. Discuss and Develop Follow Up Activities with Regard to County's Climate Action Fund.

The Rural Institute asked the MCCAC to undertake the following course of action with regard to the Climate Fund:

- ✓ The MCCAAC (as the BOS's advisory body on climate) to request the energy audit report on county infrastructure be sent to the committee for review as soon as it's available.
- ✓ The MCCAAC should share the document with as many local environmental and community groups as are interested; with a short simple request - to send to the MCCAAC their list of the top three projects identified in the audit that they feel the county should pursue first. The MCCAC may also identify one or more projects not identified in the audit that they feel the county should pursue as a future project.
- ✓ The MCCAAC will hold one public hearing to offer any group or person in the county an opportunity to make a three minute statement about their project choices.
- ✓ Based on the written comments, the hearing and its own deliberations - make a set of recommendations to the Board of Supervisors for which projects should be prioritized. And request, the BOS direct the CEO's office to provide a short written report quarterly to the MCCAAC on the progress of the Carbon Free Mendocino County Government projects approved by the board so that the MCCAAC can monitor and advise the BOS accordingly.
- ✓ The MCCAAC agreed to work towards this action plan.

9. Discuss Options for Mitigation for tree removal from PG&E power lines.

This was tabled for a follow up meeting at a later date.

10. Report back from Sonoma County Climate Mobilization Committee.

The subcommittee recommended the following projects for us to consider:

- ✓ Develop a Mendocino County Strategic Plan for Climate Mobilization
- ✓ Adopt a Mendocino County Climate Neutral Resolution
- ✓ Develop a Long Range Climate Change Plan
- ✓ Complete the Green House Gas Inventory

11. Discuss follow up activities from previous meetings.

No time for this discussion

12. Identify a Meeting Date for September

- ✓ The meeting will be held on Friday September 17th at 3:00.

13. Adjournment

Mendocino County Climate Action Advisory Committee
Friday October 15, 3:00 - 5:00
Meeting Minutes

1. **Call to Order and Roll Call**

   Roll call showed the following members in attendance: Jessica Stull-Otto, Richard Hubacek, Ellen Drell, Cathy Monroe, Marie Jones, Mary
   Members not present: Tess Albin-Smith, Sandy Marshall
   Members of the public: George Reinhardt, Peter MacNamera, Carrie Durkee, Elizabeth Solome

2. **Review of Agenda & Comments on non-agenda items**

   - It was noted that Randy passed away and committee members expressed their concern, sadness and remembrances of Randy. The Committee held a moment of silence in recognition of his passing.
   - Elizabeth encouraged everyone to participate in the activities of the Redistricting Commission. Peter provided the feedback that people should look at the redistricting alternative Maps 1 and 2 and provide input to the commission about if the maps fit our various communities effectively. Look at the maps on the County's website under the CEO's portal.
   - Cathy provided a quick intro to the Salk program baseline analysis.
   - George discussed some issues at the GP Mill Site and will compose a draft letter regarding the Skunk Train and the Mill Site for the Committee to consider at our next meeting.

3. **Review and Approval of Minutes from August 2021**

   The meeting minutes of August 2021 and September 2021 were corrected and adopted unanimously. Richard moved for the adoption and Ellen seconded.

4. **Report to the MCCAAC, by Committee Members on Ongoing Activities and Possibilities for Collaboration.**

   - No reports

5. **Discuss and Consider Approval of letter re "Coal Train"**

   - Marie will use the Huffman letter as a base for the committee letter regarding the Coal Train. Marie will bring this back to the committee at our next meeting.

6. **Discuss Mendocino County Energy Audit and Develop Recommendations to the BOS.**

   - Audit is not complete. This item will be brought back once the audit is completed.

7. **Discuss and consider approval of JDSF Legislative Book endorsement.**

   - Marie provided an overview of the purpose and content of the Legislative book. Richard moved that the Committee endorse the book and the policy recommendations within the book. Cathy seconded and the motion passed unanimously.

8. Discuss and Develop Program for Climate Change Education & Outreach.

- Richard noted that he has started his column in the Ukiah Daily Journal. After some discussion the committee recommended that the column be called Climate Action Now (CAN).
- Various other nature education programs were discussed including: Climate Core, ACORN, Wild Mendo (at Ukiah High) and Noyo Center for Science and Education. Richard will follow up with Noyo Center to ensure their curriculum covers the Climate Crisis. Eileen will work with Wild Mendo and Marie will work with Jug Handle Nature Center.

9. Discuss and Develop Recommendations Regarding How to Address Drought and Water Issues in Mendocino County.

10. Elizabeth provided an overview of the drought situation in Mendocino County especially as it relates to Lake Mendocino. At issue is the possibility that water diverted from the Eel River to the East Fork Russian River and stored in Lake Mendocino (via PG&E's power station) may be greatly reduced or discontinued due to a power bank failure at the power station. There are many implications for the environment and water supply for human health and safety to the communities and agriculture dependent on stored water from Lake Mendocino. These include Redwood Valley and the corridor of the Russian River south of Lake Mendocino to the County line.

- The Committee will write a letter and press the County to complete a water resiliency plan and to re-establish the Mendocino County Water Agency. Cathy will compose a draft of this letter for the Committee to consider at our next meeting.
- Committee Members will reach out to ask for demand reduction and increased conservation efforts across the County

11. Report back from Sonoma County Climate Mobilization Committee.

- This item was tabled as Randy has passed on and is not able to report on Sonoma County activities.

12. Discuss follow up activities from previous meetings.

- None

13. Identify a Meeting Date for November

- Our next meeting will take place November 19th.