

**2023 RANGE MANAGEMENT
ADVISORY COMMITTEE**

**ANNUAL REPORT
AND WORKPLAN**



**STATE BOARD OF FORESTRY AND FIRE
PROTECTION**

Approved: **MONTH XX**, 2024

Chair: Dr. Marc Horney

Vice-Chair: Dr. Stephanie Larson

MONTH XX, 2024

EXECUTIVE SUMMARY

The Range Management Advisory Committee (RMAC) Annual Report and Workplan (Report) is updated and approved by the Board of Forestry and Fire Protection (Board) annually and is intended to catalogue the yearly accomplishments and status of ongoing RMAC efforts. The Report provides an update of current RMAC membership and staffing, summarizes RMAC activities and progress toward Annual Priorities and Objectives for the previous calendar year, details the Annual Priorities and Objectives for the upcoming calendar year, and highlights constraints and challenges for the committee in completing its Annual Priorities.

I. RMAC PROCESS SUMMARY

The Range Management Advisory Committee (RMAC) is an advisory body to the Board of Forestry & Fire Protection (Board), statutorily authorized by Public Resources Code (PRC) § 741. A California range policy advisory body has existed in some form since 1945, when the Board of Forestry and Fire Protection requested the appointment of the Range Improvement Advisory Committee (RIAC). The RIAC was established in 1946 to advise the Board on rangeland matters. In 1967 the RIAC was reconstructed and chartered with 11 voting members and nine non-voting technical consultants. The RIAC slipped into a period of dormancy and was reactivated and re-chartered as the RMAC in 1975. Legislation was introduced in 1984 to make the RMAC a statutory advisory body of the Board and the California Natural Resources Agency (CNRA). Additional legislation in 1996 expanded the advisory role to include the California Environmental Protection Agency (CalEPA) and the California Department of Food and Agriculture (CDFA). The Secretaries of the CNRA, CalEPA, and CDFA are required to notify, and encouraged to consult with, the RMAC on rangeland issues.

The RMAC envisions a resilient rangeland landscape in California that provides a diversity of ecosystem services to support the state's ecological and human health. To do so, the RMAC may consider issues related to California's rangeland resources, provide recommendations on addressing them, facilitate strong relationships with local, state, and federal agencies and develop solutions that are based on environmental, social, and economic information that is current, data-driven, and considers diverse perspectives.

The RMAC reports on its activities in a variety of ways. The RMAC Strategic Plan (RMAC 2020) is a formal document that guides the activities and longer-term (5-year) goals of the RMAC and is revised on a 5-year cycle. The RMAC conducts open meetings a minimum of four times per year (quarterly) to conduct RMAC business, although meetings generally occur 6 to 8 times per year. Meetings are utilized to transparently conduct RMAC business and may include reports on progress toward goals and objectives of the RMAC, final reports on RMAC endeavors or other range-related efforts, and other presentations or discussions on range-related issues or other research. The RMAC Chair or Board staff also report on the RMAC's activities via verbal updates at Board meetings throughout the year and will begin providing longer informational presentations on range-related issues under the purview of the Board in the coming 2024 year.

This report provides information on RMAC membership, documents progress towards the Committee's 2023 annual priorities, lays out the Committee's 2024 annual priorities, and details other annual accomplishments and ongoing RMAC efforts.

II. CURRENT APPOINTED RMAC MEMBERS and STAFF

In 2023, the Committee had one Chair, one Vice-Chair, and an additional 9 members, including three members of the public, one member from the California Resource Conservation District, seven members appointed from organizations representing rangeland owners, and one Board-appointed, non-voting, ex-officio member (see **Table 1**).

Table 1. Current RMAC Membership and Support Staff

Name	Seat Type	Affiliation	Term End
Marc Horney, Ph.D., Chair	General Public	California Polytechnic State University, San Luis Obispo	04/2025†
Stephanie Larson, Ph.D., Vice-Chair	Range Organization	University of California Cooperative Extension	01/2026†
Billie Roney	Range Organization	California Cattlemen’s Association	01/2024
Taylor Hagata	Range Organization	California Farm Bureau	06/2024
Bart Cremers	Range Organization	Wildlands	05/2027
Rich Ross	Range Organization	California Cattlemen’s Association	01/2024
Cole Bush	Range Organization	California Wool Growers Association	01/2026
Andrée Soares	Range Organization	California Wool Growers Association	01/2026
Paul Starrs, Ph.D.	General Public	Professor Emeritus, University of Nevada, Reno	01/2026
Lance Criley	General Public	United States Forest Service	11/2025
Joel Kramer	California Resource Conservation Districts	San Diego Resource Conservation District	01/2026
Katie Delbar	Board-appointed ex-officio member*	Industry Representative, Board of Forestry & Fire Protection	n/a
Support Staff			
Edith Hannigan	Executive Officer	Board of Forestry and Fire Protection	n/a
Deniele Casarubbia	Staff Services Analyst	Board of Forestry and Fire Protection	n/a
Mazonika Kemp	Office Technician	Board of Forestry and Fire Protection	n/a
Kristina Wolf, Ph.D.	Environmental Scientist	Board of Forestry and Fire Protection	n/a

* The Board member shall have no vote in Committee actions except in the case of a tie.

† The Chair and Vice-Chair are appointed for one year terms extending the calendar year at the first meeting of the year.

All RMAC seats and positions were filled in 2023. The Chair and Vice-Chair are appointed on an annual basis: Chair Dr. Marc Horney and Vice-Chair Dr. Stephanie Larson were appointed to those positions for a year through January 2024. Member Bart Cremers was reappointed to a four-year term representing rangeland owners in May 2023. Terms expiring in early 2024 will be assessed at the first meeting of the new year to determine if current members will continue in their seats. If so, reappointment votes will be cast at the first

meeting of the new year if a quorum is present; if not, nominations for new members will be accepted and reviewed as submitted.

III. RMAC ACCOMPLISHMENTS

In 2023, the RMAC accomplished the following:

- The RMAC **met six times** in open, virtual or hybrid public webcast meetings to conduct business, and a quorum was reached at five of these meetings. Meeting activities included approval of meeting minutes; membership updates, recruitment, and seat appointments; legislative and partner organization updates; workshop planning; and public education and outreach presentations by rangeland and natural resource representatives, professionals, and practitioners.
- **Re-appointed** Dr. Marc Horney as Chair and Member Dr. Stephanie Larson as vice chair to one-year appointments and Member Bart Cremers to a four-year term.
- The **State Lands Grazing License and Land Management (SLGLLM) subcommittee** was dissolved after completing the first stage of documents to support grazing agreements, planning, and implementation. In late 2023, the RMAC began planning for finalization of deliverables around summer 2024, which will include:
 - Grazing License Agreement outline and template, with support and approval from the Department of General Services, and an example of a completed Grazing License Agreement;
 - Grazing Management Plan outline and template to assist in creating a Grazing Management Plan as a stand-alone document or as an attachment to Grazing License Agreements, and an example of a completed Grazing Management Plan; and,
 - Guidance Booklet to accompany the templates and assist users in the development, planning, and implementation of grazing agreements and management plans, with a focus on state-managed lands. Applications to other land types will be addressed.
- The Department of Forestry & Fire Protection (CAL FIRE) and the Wildfire Prevention Grants Program partnered with RMAC to put on a January 18, 2023 workshop, **Applying for a Wildfire Prevention Grant**, with a focus on prescribed grazing projects. The grant application opened December 14th, and representatives from UCCE/UC ANR and CAL FIRE spoke at this virtual workshop to assist graziers interested in applying for this grant funding to support grazing projects for fuel reduction. This virtual workshop was attended by 198 registrants from regional, state, and federal agencies, academia, non-governmental organizations, private industry, and the community.
- The RMAC continued to plan and implement an **Annual Educational Workshop Series**, with four field tours, two virtual workshops, and one hybrid workshop in 2023. The RMAC partnered with and leveraged resources from allied range organizations to attract speakers and attendees. All speakers and attendees received contact information (if released) and materials from the workshop via email following each event, and workshop materials are also hosted online on the RMAC webpage. The 2023 educational series focused on prescribed grazing for vegetation management and fuels reduction. Speakers, partners, and sponsors of workshops and field days spanned a wide range of private industry, governmental agencies, and non-governmental agencies (**Figure 1**).



Figure 1. Partners, Sponsors, and Speaker Affiliations for RMAC 2023 Annual Educational Series Workshops.

2023 RMAC Annual Educational Series webinars and workshops were implemented as follows:

- February 24, 2023: [Joint Rangeland Management Conference: Rangelands and Fire](#). This conference was co-sponsored with the California Rangeland Conservation Coalition (CRCC) and California Polytechnic State University, San Luis Obispo (CPSLO) Swanton Pacific Ranch (SPR) Fuels and Vegetation Education (FAVE) Program with options to attend in person or [virtually](#). This all-day two-part conference was held at the Robert Cabral Stockton Agricultural Center. Approximately 115 participants joined the virtual platform, along with over 300 in-person registrants for one or both parts of the conference:
 - **Part 1) [Navigating the Application and Permitting Process for Wildfire Fuels Treatment Using Targeted Grazing](#)**. In this no-cost RMAC workshop, CALFIRE, UC Extension advisors, and grazing managers offered general guidelines for developing applications for fuel reduction projects utilizing grazing through the Request for Proposal (RFP) processes and developing successful grazing agreements. Speakers also provided information required for major elements of the funding application process and important considerations for wildfire fuel mitigation using prescribed grazing. Speakers included RMAC Vice-Chair and UCCE Marin and Sonoma County Director and Livestock Range Management Advisor, Dr. Stephanie Larson; CAL FIRE Sonoma-Lake-Napa Unit Battalion Chief Marshall Turbeville; RMAC Chair and professor of Rangeland Ecology & Management in the Animal Science Department at California Polytechnic State University, San Luis Obispo, Dr. Marc Horney; Owner of Walking C Livestock, Principal of Koopmann Rangeland Consulting, and Area Land Manager for the San Francisco Public Utilities Commission, Clayton Koopman; and Ryan Nielsen of TN Cattle.
 - **Part 2) CRCC Summit: Working Rangelands: Graze to Reduce the Blaze**. Speakers in the second half of the program included Robert Irwin, Kaos Sheep; Dr. Felix Ratcliff, LD Ford Consultants in Rangeland Conservation Science; RMAC Member Dr. Stephanie Larson, and Theresa Becchetti, UCCE Livestock and Range Advisor for San Joaquin and Stanislaus counties; Allison Rofe, East Bay Regional Parks District; Liz Reikowski, Reikowski Ranch; Claudio Nunez, Santa Lucia Conservancy; Gareth Fisher, Vaqueros Livestock; Matthew Shapero, UCCE; Roxanne Foss, Vollmar Natural Lands Consulting; and RMAC Chair Dr. Marc Horney.
- March 16, 2023: [Targeted Grazing for Fuel Reduction: Case Studies from East Bay Regional Parks](#). This in-person field tour was co-sponsored with CPSLO SPR's FAVE Program. Approximately 25 attendees joined speakers in the field from East Bay Regional Parks District (EBRPD), Five Dot Cattle Company, and Star Creek Land Stewards to improve their understanding of targeted grazing as part of a vegetation management and fuels reduction strategy. Expert speakers included Fuels Reduction Coordinator at East Bay Regional Park District, Steve Keller, who explained what is required to manage a grazing contract on a day-to-day basis. Rangeland Specialist at EBRPD, Allison Rofe, discussed the goals of the livestock grazing program including treatment, design, permitting pathway, and methodology of partnerships. Star Creek Land Stewards', Bianca Soares, highlighted targeted graziers' ability to adapt methods based on project goals and differences in species' grazing styles.
- May 8, 2023: [Targeted Grazing for Fuel Reduction: Case Studies from the Rancho Jamul Ecological Reserve and Hollenbeck Canyon Wildlife Area](#). This all-day public workshop was an

- opportunity to learn about targeted grazing with cattle as part of a vegetation management and fuels reduction strategy. *Co-sponsored by the California-Pacific Section of the Society for Range Management spring meeting*, almost 50 participants joined the RMAC to learn about targeted grazing as a vegetation management and fuels reduction strategy in the Wildland-Urban Interface while incorporating conservation values into strategic management. This is the furthest south this kind of grazing management for combined fuels management and conservation values is documented to occur in California, about seven miles north of the Mexico border in Jamul, California. Refreshments were provided by the San Diego-Imperial County Cattlemen's Association and San Diego Cattlewomen's Association. Speakers comprised: Tracie Nelson, Department of Fish & Wildlife (CDFW) and Rancho Jamul Ecological Reserve (RJER) biologist, who reviewed the context of the grazing project, including property-wide goals and special-status species, including the Burrowing Owl and rare Otay Tarplant; rancher John Mark Austel of 4J Land & Cattle who described his grazing planning process, working with partners at RJER and HCWA including CAL FIRE, CDFW, and U.S. Border Patrol, and managing multiple often competing factors; Sarah McCutcheon of the US Geological Survey spoke about the San Diego Management and Monitoring Program for the regional conservation of sensitive species and habitats under the Natural Community Conservation Act; Dr. James Bartolome of U.C. Berkeley professor and Dr. Felix Ratcliff of LD Ford Consultants in Rangeland Conservation Science spoke about the collaborative San Diego Association of Governments project in which researchers across a variety of institutions work to understand how grazing and burning affect grasslands and restoration success, and Dr. Bartolome also discussed the development and use of Ecological Site Descriptions; Raul Alvarado of the Natural Resources Conservation Service provided valuable information on NRCS programs, including funding opportunities and technical support for ranchers; CAL FIRE Battalion Chief Pete Scully shared insights into the effectiveness of grazing and other fuels treatments for fire and fuels management; and Matthew Shapero, Livestock and Range Advisor for the U.C. Cooperative Extension in Ventura and Santa Barbara Counties, shared research behind the science of fuels management and fire danger as it relates to livestock grazing and manipulation of fine fuels.
- May 16, 2023: [Ecological Management of Fire-Prone Landscapes: Prescribed Grazing in the Ojai Valley](#). *Co-sponsored with the Ojai Valley Fire Safe Council (OVFSC)*, this all-day public workshop was an opportunity to learn about targeted grazing with goats and sheep within the context of OVFSC's multi-stakeholder approach to community-wide fire-safety and ecological resilience working with graziers, fire fighters, ecologists, natural resource experts, community organizations, and U.C. Cooperative Extension. Site visits and grazing demonstrations occurred at the Besant School of Happy Valley and the Thacher School, where grazing with sheep and goats is being utilized to manage fuel loads and fire risk in these high-risk communities. Chris Danch, Executive Director of the OVFSC shared details about the formation and implementation of the Ojai Valley Community-Supported Grazing Program (CSGP), including relationships with graziers and partners; trade-offs in short- and long-term ecological goals and outcomes; challenges, constraints, and successes; and funding mechanisms. Owner-operator Cole Bush of Shepherdess Land & Livestock spoke about the evolution and intricacies of co-developed goals, grazing planning and management, and monitoring outcomes within an adaptive management framework. Matthew Shapero, Livestock and Range Advisory for the U.C. Cooperative Extension in Ventura and Santa Barbara Counties, shared research behind the science of fuels management and fire danger as it relates to livestock grazing and manipulation

- of fine fuels. Tom Maloney, Executive Director of the Ojai Valley Land Conservancy (OVLC), described local opportunities for prescribed grazing in OVLC's stewardship programming within the context of ecological stewardship and a fire-safe, fire-ready community. Michael Leicht, owner-operator of Ventura Brush Goats, walked participants through the ins and outs of grazing planning in complex wildfire-urban landscapes. Morning refreshments from local women-owned Pinhole Coffee were sponsored by Member Cole Bush of Shepherdess Land & Livestock.
- May 19, 2023: [Prescribed Herbivory for Fuels Reduction: Grazing Planning and Permitting in the State of California](#). *This workshop was produced with support from the SP SLO SPR FAVE Program.* In this workshop, representatives from CALFIRE (Department of Forestry & Fire Protection), CalTrans (Department of Transportation), the CDFW (California Department of Fish & Wildlife), and CP SLO's (California Polytechnic State University, San Luis Obispo) Range Program discussed the steps involved in the development of grazing agreements ('licenses') on State lands and beyond. Len Nielson, CAL FIRE Staff Chief for Prescribed Fire and Environmental Protection, provided an in-depth review of CEQA (California Environmental Quality Act) processes and requirements. Julea Shaw, Environmental Scientist with the CDFW, spoke about CDFW Excess Vegetation Removal (Grazing) Permit Process. Dr. Marc Horney, Associate Professor at CP SLO, discussed requirements for contracting on State lands and general guidelines for developing applications for fuel reduction projects utilizing grazing. Lisa Worthington, CalTrans Chief of the Office of Vegetation and Wildfire Management, described the process of obtaining a CalTrans encroachment permit for prescribed herbivory.
 - May 26, 2023: [Salinas River Vegetation Management Project: Grazing for Fuels Reduction in a Riparian Corridor](#). *Co-sponsored by Althouse & Meade*, this all-day public workshop was an opportunity to learn about targeted grazing with goats in conjunction with mechanical methods to reduce fuel loads in an active riparian area in a first-of-its-kind Lake and Streambed Alteration Agreement that provides the mechanism for a long-term grazing plan. Collaborators from the City of Paso Robles' Fire Department, San Luis Obispo (SLO) Firesafe Council, Althouse & Meade Consulting, and grazing operator The Goat Girls provided insight into this long-term vegetation management project in a California riverbed fuel model. Beth Reynolds, owner-operator of The Goat Girls, discussed logistics of targeted grazing within the scope of the 100-acre project, grazing post-fire and post-mastication, and the use of sheep and/or goats to achieve desired vegetative goals. Participants viewed areas managed by grazing and a goat grazing demonstration and discussed the necessary supporting infrastructure and equipment. City of Paso Robles' Fire Department Battalion Chief, Jay Enns, provided background on the site history and described how fires in the Salinas Riverbed led to a State of Emergency and multi-faceted approach to reduce fuel load in the short-term with plans to transition to a long-term vegetation management plan. Chief Enns reviewed regulatory hurdles and required permits from the Regional Water Quality Control Board and the CA Dept of Fish and Wildlife for fuels management in a riparian area zoned within city limits on a long-term basis. Dan Turner, Director of SLO Firesafe Council, shared information on funding sources and considerations for administrative support to secure funding for the project. Althouse & Meade's owner-founder Lynnedee Althouse discussed goals of the Salinas River Vegetation Management Project including unique environmental constraints and necessary adaptations for grazing management within a watercourse. Biologist and certified arborist Daniel Keeley described identification and prioritization of fuel reduction areas, grazing needs, and compatibility and/or

need for other vegetation management methods (e.g., mechanical treatments). Senior biologist and project manager Valerie Mattos described environmental permitting considerations for this grazing project within riparian areas.

- June 6, 2023: **Prescribed Grazing Planning for Wildland Fuels Reduction.** In this workshop, participants increased their understanding of how to develop an objectives-based, Grazing Management Plan (GMP) that addresses wildland fuels reduction objectives. Representatives from U.C. Cooperative Extension (UCCE), professional rangeland consulting firms, the Natural Resources Conservation Service (NRCS), and academic institutions dove into the many nuanced requirements and needs in the development of a Grazing Management Plan. Dr. Larry Ford, LD Ford Consultants in Rangeland Science, described the similarities, differences, and purposes of GMPs and Resource Management Plans, and Grazing Agreements, and how they interrelate, and described the different kinds of monitoring that may be conducted for different purposes and at different levels of management. Morgan Doran, UC Cooperative Extension Advisor for Livestock and Natural Resources, followed with a summary of objectives and outcome-based grazing planning, trade-offs associated with different goals, and how objectives may vary depending on the institution, environment, and timeline of the grazing project. USDA NRCS Rangeland Management Specialist Alan Bower detailed the information needs and sources for developing a context-based site description to inform the grazing planning, and the role NRCS and Resource Conservation Districts may play in assisting land managers and livestock graziers. Roxanne Foss, Senior Ecologist with Vollmar Natural Lands Consulting, LLC, followed with a presentation on monitoring and adaptive management, including the development of monitoring plans in alignment with the goals and objectives of the GMP, the different types of monitoring and monitoring metrics, and the role of monitoring results in an adaptive management process. Dr. Marc Horney, Associate Professor of Animal Science at Cal Poly, San Luis Obispo, reviewed rangeland resource concerns and constraints, types of GMPs, and permitting. Lastly, UC Cooperative Extension Livestock and Natural Resources Advisor and Santa Clara County Director Dr. Sheila Barry brought the various management pieces together, describing the mechanics of putting the plan into practice.

The 2024 Workshop Series Planning began in late 2023 and the topic will be “Livestock Impacts on Habitats for Native Flora and Fauna in California”. In 2024, the series will likely be condensed back down into three webinars/workshops and one or two field tours, down from the extensive program implemented in 2023. The RMAC does not have an operating budget and relies on volunteers and other organizations to implement any activities, and Board staff are allocated 15% time for the RMAC, so while the need and interest remains for the expanded offerings of the RMAC in 2023, resources are too limited to sustainably implement such a large program without allocated funding and increased staff time. Moreover, recent cutbacks to state travel budgets in late 2023 mean RMAC members and staff can no longer travel through FY 2025/26 except to conduct only essential, statute-mandated business.

- To support the directive of PRC § 741 to advise the Board on rangeland resource matters under its purview, the RMAC conducted a range-focused field tour for the Board’s May 2023 meeting. This field tour was similar in some respects to that at RJER/HCWA on May 8th, but included an additional site of differing ecosystem features, plant communities, and contexts. Fire and forestry professionals joined the field tour which started in Pine Valley, which is located at a higher elevation of ~ 3,700 feet and is characterized by scrub and chaparral plant communities, which are relatively

open shrublands with interspersed perennial and annual grasses. Here ranch manager Jeremy Walker oriented attendees to the Corte Madera Ranch, which is a private living community covering 4,500 acres with an active cow-calf operation where a variety of research activities are ongoing, including studies of Criollo cattle genetics and virtual fencing technologies. Other speakers included RMAC member Lance Criley of the U.S. Forest Service, CAL FIRE Division Chief Rick Johnson, CAL FIRE Battalion Chief John Clays, and Agricultural Specialist and RMAC Member Joel Kramer from the Resource Conservation District of Greater San Diego. Speakers discussed the ranching operation, impacts of the Goldspotted oak Borer (*Agrilus auroguttatus*), USFS grazing permits, wildfire and fuels management at Corte Madera, and CAL FIRE training operations on the ranch.

After the morning sessions, attendees traveled by tour van to RJER for lunch, where they heard from Tracie Nelson, Reserve Manager at RJER; John Mark Austel, the contracted targeted cattle grazer at RJER; and Dr. Lynn Huntsinger, professor of rangeland ecology and management at U.C. Berkeley. Speakers covered the site history, grazing planning and monitoring, on-site grazing research, and burrowing owl (*Athene cunicularia*) habitat management. Participants also visited the Otay Tarplant restoration site, which is a rare and threatened species in California, where Program Coordinator Sarah McCutcheon of the U.S. Geological Service and Dr. James Bartolome spoke about various site considerations for planning and monitoring plant communities and soil health in response to prescribed grazing. The day ended at the HCWA, where CAL FIRE Battalion Chief Pete Scully and others spoke about wildfire-urban interface concerns in this high-risk, high-activity region where managers must creatively and effectively balance fuels management, border security and public safety, production of food and fiber, dense housing communities, high traffic, flora and fauna resources, and ecosystem health.

- The process of revising the 2023 Annual Priorities, Goals, and Objectives began in 2022. In compliance with PRC § 741, the RMAC formally solicited agency priorities in October 2022 from the Board, California Natural Resources Agency (CNRA), the California Environmental Protection Agency (CalEPA), and the California Department of Food and Agriculture (CDFA) for review and integration into the priorities and goals of the RMAC. Board staff Dr. Wolf worked to incorporate these advised agencies' annual priorities into the development of RMAC's current (2022) and 2023 Annual Priorities. The RMAC also solicited stakeholder input during multiple public meetings in 2022. Synergistic priorities from advised agencies and stakeholders were considered during the revision of the Annual Priorities, and sub-Goals and Objectives (i.e., action items) were developed to support the priorities. The final 2023 Annual Priorities, Goals, and Objectives were finalized and approved in the 2022 Annual Report and Workplan.
- Appointed members and support staff to teams working under advised agencies and other organizations with synergistic goals:
 - As a member of the CWGA and the CWGA's Targeted Grazing Committee, Member Bush has spear-headed an action team to liaise with that committee to develop several work products focused on prescribed grazing for fuels reduction. In early 2023 the action team completed an educational information sheet on Prescribed Herbivory to be shared with CAL FIRE, and potentially added to the 2021 CAL FIRE Fuels Reduction Guidance (CAL FIRE 2021) or incorporated into future versions of this guidance. The RMAC awaits the Board and CAL FIRE's direction for next steps in publication and dissemination of this information. This action team will also conduct a comprehensive update of the 2015 Prescribed Herbivory white paper (RMAC

- 2015), and concurrently develop a stand-alone Technical Guide on Prescribed Herbivory in California, and expects to have drafts ready for review in early to mid-2024. Members Paul Starrs, Dr. Stephanie Larson, and Joel Kramer will also contribute to these efforts.
- Board staff Dr. Wolf joined the **Natural Working Lands (NWL) Science Team** under the CNRA in 2022 and has continued to work with and provide input to the team for integration of range-related resource issues into climate-smart strategies. Members of this team work to inform and review modeling and analyses for natural and working lands, advise state agencies on implementation strategies and standardized accounting, and provide recommendations on addressing barriers to efficient implementation of climate action in natural and working lands. Dr. Wolf also attends the related NWL Executive Advisory Committee (EAC)—a committee developed to support the implementation of [AB 1757](#)—and presented to this committee at a public meeting in 2022 to provide information and guidance on range resource needs and concerns in California. In collaboration with the Air Resources Board and Department of Food and Agriculture, the NWL EAC will produce recommendations for nature-based climate solutions that reduce greenhouse gas emissions to support state goals to achieve carbon neutrality and foster climate adaptation and resilience by January 1, 2024.
 - Board staff Dr. Wolf was asked to be an author on the rangelands chapter of the Forest and Resource Assessment Program's report which assesses the amount and extent of California's forests and rangelands, analyzes their conditions, and identifies alternative management and policy guidelines. Members of the RMAC will also be asked to review the chapter draft prior to finalization.
 - The RMAC submitted a letter of guidance and recommendations to the **Management Committee (MC)**, a standing committee of the Board providing input on the **Joint Policy on Hardwoods** as the MC determined the need to revise, update, or otherwise alter this Policy.
 - Several speakers provided **presentations to the RMAC** audience at public meetings to provide information on and discuss potential needs and solutions for rangeland issues in California. Speakers and topics included:
 - Len Nielson, **CAL FIRE Staff Chief for Prescribed Fire and Environmental Protection**, provided an in-depth review of **CEQA processes and requirements** in the context of prescribed grazing.
 - Matthew Shapero, UC Cooperative Extension Livestock & Range Advisor; Len Nielsen, CAL FIRE Prescribed Fire Staff Chief; Rob Hazard, Santa Barbara County Fire Department Division Chief; and Molly Taylor, Community Environmental Council Climate Smart Agriculture led a panel discussion on Grazing Projects and Fulfilling CEQUA Requirements.
 - Roger Ingram, California Wool Growers Association shared a draft pamphlet on Prescribed Herbivory for CAL FIRE Fuel Reduction Guidance to be included either as an addendum to the CAL FIRE Fuels Reduction Guidance or incorporated into revised future versions.
 - Dr. Susan Marshall, **professor of Rangeland Resources and Soils at California Polytechnic State University, Humboldt**, presented on ongoing **workforce development efforts for Certified Rangeland Managers (CRM) in California**, including constraints and challenges.
 - Dr. Ken Tate, **Professor of Cooperative Extension and Russell L. Rustici Endowed Specialist in Cooperative Extension in Rangeland Watershed Science at the University of California, Davis**, gave a presentation on **Current Standards for Riparian Grazing Practices**.

- Jessica Leonard of the **State Water Resources Control Board** provided a detailed presentation on **regulations around livestock and water quality** across the different California regions, providing range managers with information about local considerations in their areas.
- Rich Walker of **CAL FIRE’s Forest and Resource Assessment Program (FRAP)** provided an update on the status of the report, which is produced on an approximately 7-year cycle and is likely to be released in 2024. This report summarizes critical information and tools related to **forest and rangelands in California** for landowners, agencies, fire management organizations, and policy development.
- Danielle Ruiz of the **California Department of Transportation (CalTrans)** summarized the challenges, goals, and potential actions for broadening the use of prescribed grazing along roadsides to reduce fine fuels and mitigate fire risk.

IV. ANNUAL PRIORITIES, GOALS, and OBJECTIVES

Annual priorities are generally reviewed in the fall, developed in the winter, and voted on at the first RMAC meeting of each year to guide the activities of the committee. The 2023 priorities were released in the 2022 Annual Report and Workplan (RMAC 2023). The vision and mission of RMAC are supported by the long-term priorities outlined in the RMAC Strategic Plan (RMAC 2020) and in targeted, shorter-term Goals and Objectives.

The RMAC’s vision and mission guide its overall Priorities (**Table 2**), and annual goals and objectives are developed to fulfill these long-term Priorities. The RMAC’s Priorities are longer-term priorities of the RMAC that require actions on multiple fronts, often over multiple years, to accomplish. The Strategic Plan outlines four main Priorities, but the priority associated with the CDFA Noxious Weeds Program is not included in this Annual report and Workplan as the future of that program is uncertain at this time due to a period of inactivity. The RMAC will follow any changes in the program activity to determine if it should be addressed in future years’ goals and objectives.

Table 2. Range Management Advisory Committee Long-Term Priorities

Priority I.	Consider matters related to California’s rangeland and forested rangeland resources that are under consideration by the Secretaries, the Board, or Federal agencies (as appropriate given the Board’s role in representing State interests in Federal timberlands), offer advice and consultation, and recommend appropriate policy measures or administrative actions
Priority II.	Share information and educational opportunities to Certified Range Managers and government agency rangeland and forestry staff to grow professional knowledge in this field.
Priority III.	Monitor for issues in rangeland science and management and convene groups of relevant professionals to address these issues

The annual goals and objectives of the RMAC are established, as appropriate, on an annual basis to address more time-sensitive, current issues and needs in range resource management in California, and fall under the RMAC Priorities, above. The finalized goals and Objectives for 2024 are as follows (see **Table 3** for information on leads, partners, and proposed completion dates):

GOAL 1: Promote appropriate grazing for fuels management and multiple ecosystem services.

Purpose: To make prescribed grazing a practical option for state land management agencies where it is appropriate and suitable for accomplishing ecological, environmental, and cultural objectives and can be managed to produce results consistent with requirements of environmental regulatory agencies.

Objectives:

- a. Develop standard template/form(s) with a guidance document for constructing grazing license agreements for use by state agencies. Template(s)/form(s) must:
 - i. meet requirements of state agencies that may potentially use them, including Dept. Fish & Wildlife, State Parks, State Forests, with provision for allowing modification subject to review to accommodate special requirements of any others which may request them;
 - ii. be approved for this use by General Services; and,
 - iii. follow standards of good practice recommended by UCCE/UC ANR and CRMs.
- b. Develop or approve informational publications which agencies can use for:
 - i. conducting site inventories and assessments specific to the ecological site(s) on the management unit and their management objectives,
 - ii. developing adaptive management plans detailing the general use and specific objectives for the management unit, and
 - iii. producing detailed grazing plans that will form the basis for grazing licenses. These will be developed from general management unit plans and should be consistent with the content and purpose of the UCCE/UC ANR Ranch Water Quality Planning Curriculum.
- c. Coordinate with state agencies and major public landowners to facilitate an inventory of existing land management plans to assess which elements required for the grazing plan are already available.

GOAL 2: Support workforce development for CRMs, and increase collaboration and joint educational opportunities for RPFs and CRMs

Purpose: There are less than 80 CRMs left in the State. RMAC needs to promote using that expertise where appropriate or required, including within CAL FIRE for developing burn plans and conducting prescribed burns. There is a need to integrate and coordinate Registered Professional Foresters (RPFs) with Certified Rangeland Managers (CRMs) for the purpose of developing effective fuels management treatments from their different but complementary professional backgrounds, for example, via combined training programs with both RPFs and CRMs to develop burn plans.

Objectives:

- a. Establish an RMAC subcommittee to develop ongoing, working relationships with the California Licensed Foresters Association and the Certified Rangeland Managers Panel with the purpose of establishing annual fuels management trainings for both CRMs and RPFs to participate in together.
- b. Initiate a public demonstration project for a group of CRMs and RPFs to collaborate on a project where multiple, integrated fuels treatments requiring application of both forest and rangeland ecology practices are required.

- c. Work with Professional Foresters Registration to explore points within the registration/licensing processes where CRM and RPF requirements and exam contents could be intentionally coordinated.
- d. Promote existing efforts to develop a statewide training program for potential CRMs.
- e. Invite CAL FIRE representatives to discuss state requirements for planning and conducting prescribed burns as a CAL FIRE employee or private “burn boss” at RMAC meetings.
- f. Meet with CRM Panel and CalPac-SRM leadership to discuss other methods of promoting CRM utilization and/or further development of the program.

GOAL 3: Develop educational opportunities and outreach for prescribed herbivory, fuel reduction methods integrating prescribed herbivory, and rangeland resource management in general.

Purpose: Establish appropriate guidance for grazing following wildfire on California rangelands. Ensure that livestock policies required by state lands managers are consistent with the best available science identified by UCCE/UC ANR and in state efforts to mitigate the effects of climate change in the Natural and Working Lands Climate Smart Strategy. Grazing is also a fuel reduction method in the State’s Wildfire Resilience Action Plan, but few professionals in the state have the necessary experience to develop feasible grazing plans for this purpose. State-wide training and demonstrations in methods of reducing fine fuels using grazing is necessary to implement this practice at scale. Educational efforts should include recommendations for evaluating and mitigating site-specific rangeland resource management and grazing treatment impacts on wildlife habitats, water quality, and fuel bed characteristics, and could include trainings on developing carbon farm plans for grazing lands to increase soil health and forage production while assisting the state with meeting its climate goals on natural and working lands.

Objectives:

- a. Establish appropriate guidance for grazing following wildfire on California rangelands, with an emphasis on state-managed lands. Produce an authoritative peer-reviewed publication explaining what is known about requirements for post-burn “rest” from defoliation and its application to the major grassland ecotypes in California (annual grasslands, blue oak savannas, coastal perennial prairie grasslands, Great Basin sagebrush-steppe). This review must consider not only impacts on forage production, but also potential impacts on wildlife habitats, water quality, and fuel bed characteristics - and recommendations for evaluating and mitigating them on a site-by-site basis.

Potential Alternatives:

- Request publication from UCCE/UC ANR
 - Facilitate production of publication from faculty/students at CSUs (Cal Poly SLO, Chico, Humboldt) and/or UCs (Berkeley or Davis).
 - Organize an RMAC subcommittee to produce publication.
- b. Continue to conduct and promote annual educational workshop series on the use of grazing for fine fuel reduction in collaboration with CAL FIRE, UCCE/UC ANR, USDA-NRCS, and others.

- c. Work with UCCE/UC ANR to identify needs for technical and training information and establish a plan for producing them.

GOAL 4: Increase collaborations with advised and related agencies, Native American tribes, and other administrative bodies, solicit and prioritize current California rangeland management research priorities, and monitor and develop or promote planning to address rangeland concerns.

Purpose: Broaden RMAC's connections and interactions with organizations involved in large-scale management of rangelands in California that have not historically or recently been part of its formal stakeholders. Circulate and elevate practical needs for rangeland management research from land managers and agency staff to research organizations in California with the technical skill and capacity to properly investigate them. Monitor regulatory initiatives on surface water pollution, ground water management, soil health, and soil carbon sequestration. Remain in position to provide constructive feedback to agencies on the scientific merit and practicality of regulatory efforts meant to protect water quality and sustain its availability and affordability.

Objectives:

- a. Regularly solicit requests for investigations of rangeland management topics.
- b. Where appropriate, initiate proof-of-concept projects or small-scale collaborative investigations utilizing CDFA mandates.
- c. Extend invitations for periodic public reports on their activities and current issues to the UC California Natural Reserve System, the California Rangeland Trust, the California Rangeland Conservation Coalition, the Central Coast Grazing Coalition, and others.
- d. Extend invitations for input on RMAC priorities, synergistic efforts surrounding shared goals, and periodic public reports on their activities and current issues to advised agencies, including the Board, CalEPA, CNRA, and CDFA and their respective departments, as appropriate.
- e. Appoint an RMAC representative to track water quality issues in the State.
- f. Establish an annual schedule for representatives from the State and Regional Water Quality Control (WQCBs) make presentations or submit reports to RMAC on their activities that may impact grazed lands in the state. Coordinate with state and regional board staffs to develop an annual report template to facilitate communication between State and regional Water Quality Control Boards.
- g. Establish an annual schedule for staff from DWR to make presentations or submit reports to RMAC on groundwater management plans under development that may impact grazed lands in the state.
- h. Monitor county-by-county implementations of the Livestock Pass program and inter-county coordination. Agendize topic for future RMAC meeting, and invite CAL FIRE, the Farm Bureau, or UCCE/UC ANR staff who have knowledge of the state-wide implementation of the LPP program.

1 **Table 3. 2024 Annual Goals and Objectives to meet RMAC **P**riorities.**

Goals, Objectives, Leads & Partners, and Proposed Completion Dates				Relationship to RMAC Priorities		
Goal	Objective	<ul style="list-style-type: none"> Lead(s) Proposed Partner(s) 	Completion Date	I – Advise the Board & state agencies	II – Education & Workforce Development	III – Monitor & address range issues
1. Promote appropriate grazing for fuels management and multiple ecosystem services.	a. Develop standard template/form(s) with accompanying guidance document for constructing grazing agreements for use by state agencies.	<ul style="list-style-type: none"> SLGLLM UCCE/UC ANR, USFS, CAL FIRE, DGS, CDFW, JDSF, others 	11/2023	X		X
	b. Develop or approve informational publications and technical guidance for public/agency use.	<ul style="list-style-type: none"> SLGLLM CWGA, CA FSC 	Ongoing, 12/2023	X		X
	c. Coordinate with state agencies and major public landowners to facilitate an inventory of existing land management plans.	<ul style="list-style-type: none"> SLGLLM Various state agencies 	10/2023	X		X
2. Support workforce development for CRMs, and increase collaboration and joint educational opportunities for RPFs and CRMs.	a. Establish an RMAC subcommittee to develop relationships with the CLFA and the CRM Panel to establish joint CRM-RPF annual fuels management training.	<ul style="list-style-type: none"> RMAC CLFA, CRM Panel 	02/2023		X	X
	b. Initiate a public demonstration project for a select group of CRMs and RPFs to collaborate on a project with integrated fuels treatments requiring forest and rangeland ecology practices.	<ul style="list-style-type: none"> RMAC 	09/2023		X	X

Goals, Objectives, Leads & Partners, and Proposed Completion Dates				Relationship to RMAC Priorities		
Goal	Objective	<ul style="list-style-type: none"> Lead(s) Proposed Partner(s) 	Completion Date	I – Advise the Board & state agencies	II – Education & Workforce Development	III – Monitor & address range issues
	c. Coordinate CRM and RPF requirements and exam contents where appropriate.	<ul style="list-style-type: none"> RMAC OPFR, Cal-Pac SRM CRM Panel 	05/2023		X	
	d. Promote existing efforts to develop a statewide training program for potential CRMs.	<ul style="list-style-type: none"> RMAC OPFR, Cal-Pac SRM CRM Panel 	Ongoing, 06/2023		X	
	e. Invite CAL FIRE representatives to discuss state requirements for planning and conducting prescribed burns as a CAL FIRE employee or private “burn boss” at a public RMAC meeting.	<ul style="list-style-type: none"> RMAC CAL FIRE 	01/2023		X	
	f. Meet with CRM Panel and Cal-Pac SRM leadership to discuss other methods of promoting CRM utilization and/or further development of the program.	<ul style="list-style-type: none"> RMAC Cal-Pac SRM CRM Panel 	03/2023		X	
	a. Establish appropriate guidance for grazing following wildfire on California rangelands, with an emphasis on state-managed lands.	<ul style="list-style-type: none"> RMAC UCCE/UC ANR, UCB, UCD, CPSLO 	09/2023	X		X
	b. Conduct and promote a collaborative annual educational workshop series on the use of grazing for fine fuel reduction.	<ul style="list-style-type: none"> RMAC UCCE/UC ANR, NRCS, CAL FIRE 	03/2023	X	X	X

Goals, Objectives, Leads & Partners, and Proposed Completion Dates				Relationship to RMAC Priorities		
Goal	Objective	<ul style="list-style-type: none"> Lead(s) Proposed Partner(s) 	Completion Date	I – Advise the Board & state agencies	II – Education & Workforce Development	III – Monitor & address range issues
3. Develop educational opportunities and outreach for prescribed herbivory, fuel reduction methods integrating prescribed herbivory, and rangeland resource management in general.	c. Identify needs for technical and training information and establish a plan for producing educational workshops.	<ul style="list-style-type: none"> RMAC UCCE/UC ANR 	Ongoing, 12/2023	X		X

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Goals, Objectives, Leads & Partners, and Proposed Completion Dates				Relationship to RMAC Priorities		
Goal	Objective	<ul style="list-style-type: none"> Lead(s) Proposed Partner(s) 	Completion Date	I – Advise the Board & state agencies	II – Education & Workforce Development	III – Monitor & address range issues
4. Increase collaborations with advised and related agencies, Native American tribes, and other administrative bodies, and solicit and prioritize current synergistic California rangeland resource priorities	a. Regularly solicit requests for investigations of rangeland management topics.	<ul style="list-style-type: none"> RMAC Board, advised agencies 	11/2022	X		X
	b. Where appropriate, initiate proof-of-concept projects or small-scale collaborative investigations utilizing CDFA mandates under the FAC 7271 and 7273	<ul style="list-style-type: none"> RMAC CDFA 	05/2023	X		X
	c. Extend invitations for periodic public reports on their activities and current issues to institutions relevant to California rangelands.	<ul style="list-style-type: none"> RMAC UC NRS, CRT, CRCC, CCRC 	Ongoing, 12/2023			X
	d. Extend invitations for input on RMAC priorities, synergistic efforts surrounding shared goals, and periodic public reports on their activities and current issues to advised agencies.	<ul style="list-style-type: none"> RMAC, Board, CalEPA, CNRA, CDFA 	Annually in October	X		X
	e. Appoint an RMAC representative to track water quality issues in the State.	<ul style="list-style-type: none"> RMAC S/RWQCB, DWR 	02/2023	X		X

Goals, Objectives, Leads & Partners, and Proposed Completion Dates				Relationship to RMAC Priorities		
Goal	Objective	<ul style="list-style-type: none"> Lead(s) Proposed Partner(s) 	Completion Date	I – Advise the Board & state agencies	II – Education & Workforce Development	III – Monitor & address range issues
	f. Establish an annual schedule for representatives from the State and Regional WQCBs to report to RMAC on activities that may impact grazed lands in the state. Coordinate with board staffs to facilitate communication.	<ul style="list-style-type: none"> RMAC S/RWQCB 	09/2023			X
	g. Establish an annual schedule DWR present or submit reports to RMAC on groundwater management plans under development that may impact grazed lands in the state.	<ul style="list-style-type: none"> RMAC DWR 	09/2023			X
	h. Monitor county-by-county implementations of the Livestock Pass program and inter-county coordination and agendaize for future meeting.	<ul style="list-style-type: none"> RMAC CAL FIRE, CFBF, UCCE/UC ANR 	11/2023			X

Key: Board = CA State Board of Forestry and Fire Protection; CA = California; FSC = CA Fire Science Consortium; CalEPA = CA Environmental Protection Agency; CAL FIRE = Department of Forestry and Fire Protection; Cal-Pac SRM = CA Pacific Section of the Society for Range Management; CCRC = Central Coast Rangeland Coalition; CRCC = CA Rangeland Conservation Coalition; CDFW = CA Department of Fish & Wildlife; CFBF = CA Farm Bureau; CLFA = CA Licensed Foresters Association; CNRA = CA Natural Resources Agency; CDFA = CA Department of Food & Agriculture; CPSLO = CA Polytechnic State University, San Luis Obispo; CRM = Certified Rangeland Manager; CRT = CA Rangeland Trust; CWGA = CA Wool Growers Association; DWR = CA Department of Water Resources; DGS = CA Department of General Services; JDSF = Jackson Demonstration State Forest; NRCS = Natural Resources Conservation Service; OPRF = Office of the Professional Forester Registration; RPF = Registered Professional Forester; RMAC = Rangeland Management Advisory Committee; SLGLLM = State Lands Grazing License & Land Management, a subcommittee of the RMAC; S/RWQCB = State/Regional Water Quality Control Board; UC ANR = University of CA Division of Agriculture and Natural Resources; UCB = University of CA, Berkeley; UCCE = University of CA Cooperative Extension (UC ANR); UCD = University of CA, Davis; UC NRS = University of CA Natural Reserve System; USFS = United States Forest Service.

V. **RANGELAND RESOURCE CONCERNS AND PROGRESS**

Throughout the course of conducting its annual business at open public meetings, RMAC members, members of the public, and other interested stakeholders may bring issues related to rangelands to the attention of the RMAC. To address issues needing discussion or other actions, Board staff and RMAC members work to secure speakers to bring information to the public, facilitate discussions about issues and potential solutions, and bring these issues to the attention of the Board as appropriate. Topics of concern related to rangeland resources that were discussed at public RMAC meetings, and potential actions taken to address the challenges, are summarized below.

- The **Williamson Act**, also known as the California Land Conservation Act of 1965, helped preserve agricultural and open space lands by providing a mechanism for local governments and landowners enter into voluntary contracts to restrict enrolled lands to agricultural and open space uses, typically for 10-year rolling terms, in exchange for property tax reductions as property tax was assessed on the value of the land as if it was not developable. Prior to this this statute, property taxes were often prohibitively high based on the potential market value of the land, resulting in many agricultural landowners selling land to developers for conversion to urban uses. To compensate local governments for lost property tax revenue, the state would make “subvention payments” to cover a substantial portion of lost revenue. Subvention payments were sharply cut in 2009, and fully removed in 2011. While the state no longer provides subvention payments to reduce property taxes on enrolled lands, 52 counties administer local Williamson Act programs, along with some cities. Today, enrolled owners may see a 20 to 80% reduction in property taxes.

Acres enrolled have trended downward, with over [16 million acres enrolled in 2004, but only around 10 million acres enrolled in 2021](#). In 2022 the Department of Conservation [reported](#) that over 90,000 acres had come out of protection under the Williamson Act, and an additional 317,882 acres were planned for non-renewal in the following decade. Due to the discontinuation of reporting requirements in 2022 (see [SB 574](#)), it is also likely that underreporting of enrollment has occurred, and as the state has given no indication that it will resume subvention payments, reporting rates will likely continue to decline. It is unclear how the discontinuation of state subvention payments in 2011 and reporting requirements in 2022 may or may not impact the number of enrolled acres, the likelihood of conversion of agricultural lands to urban uses, the rates of conversion, or the loss of ecosystem services and values on natural and working lands.

- Policy advocacy efforts are a common behind-the-scenes component of the legislative process. RMAC stakeholders are interested in learning more about upcoming and current legislation and may highlight concerns that potential policy changes may alleviate. To shed light on recent activities in this realm, Brian Shobe, Associate Policy Director at [California Climate and Agriculture Network](#)¹¹ (CalCAN)—a coalition of sustainable and organic farming organizations—spoke at RMAC meetings throughout the year about the organization’s advocacy efforts for state investments in research and assistance for farmers and ranchers in California to become more climate resilient. Specifically, Mr. Shobe provided updates on bills sponsored by CalCAN:

¹¹ <https://calclimateag.org/>

- **SB 143 (Committee on Budget and Fiscal Review. State government)**. This budget trailer bill was passed and signed by the Governor, extending the law that made goat herders eligible for the same monthly wage and labor protections as sheep herders by another two and a half years. This bill also requires the Department of Industrial Relations to consult with sheep and goat herders and their employers and issue a report by 2026.
- **AB 297 (Fong): Wildfires: local assistance grant program: prescribed grazing: advance payments**. This bill passed and was signed by the Governor, thereby amending PRC § 4124 and 4124.5 and adding § 4004.5, relating to fire prevention. Three elements of SB 675 (see below) are now part of California statute:
 - The definition of prescribed grazing, making it easier to reference in future legislation, budgets, and bond measures;
 - the inclusion of training on prescribed grazing as an eligible "outreach/education" activity in the Wildfire Prevention Grants Program; and,
 - the permanent extension of advance payments for equipment and supplies in the Wildfire Prevention Grants Program.
- **SB 675 (Limón): Prescribed grazing: local assistance grant program: Wildfire and Forest Resilience Task Force**. This bill aims to advance prescribed grazing for wildfire reduction and fuels mitigation through a Fire Prevention Grant Program, Regional Forest & Fire Capacity Program, local prescribed grazing plans, guidance on BMPs from RMAC and the UCCE, and a State Wildfire & Forest Resilience Task Force. Due to a last-minute amendment request from CAL FIRE, this was made a 2-year bill and placed on the "inactive file" of the Assembly Floor; it can be taken up again next year with 24 hours notice. Duplicated elements of AB 297 (described above) will be removed, leaving the following elements in SB 675:
 - The requirement for the RMAC to develop guidance for local and regional prescribed grazing plans; and the associated requirement for the Department of Conservation and CAL FIRE to consider and incorporate that guidance, where appropriate, into their respective wildfire programs;
 - the requirement for CAL FIRE, in consultation with the RMAC, to increase outreach for projects that include prescribed grazing in its Wildfire Prevention Grants Program;
 - the requirement for CAL FIRE to make permanent fencing and watering improvements (i.e., prescribed grazing infrastructure) an eligible expense within the Wildfire Prevention Grants Program; and,
 - the requirement for the State's Wildfire Task Force, in consultation with RMAC, to develop a strategic action plan by 2025 to expand the use of prescribed grazing to support the state's efforts to increase the pace and scale of wildfire and forest resilience activities and strengthen the protection of fire-threatened communities.

There continues to be substantial need for new and ongoing support of grazing when and where appropriate, both in terms of increasing understanding within public and agency perceptions, and in terms of resources, including funding for supporting projects.

- Increases in the spread of invasive plant species that are less palatable to livestock are a continuing management challenge. The Food and Agriculture Code (FAC) mandates that the CDFA consult with

the RMAC in regards to their **Noxious Weed Program**. CDFA is charged with managing funds received for the Noxious Weed Management Account, and in Article 1.7. Noxious Weeds Management of the Food and Agriculture Code (FAC), § 7271(c)(2)(A), states “Twenty percent shall be made available toward research on the biology, ecology, or management of noxious and invasive weeds; the mapping, risk assessment, and prioritization of weeds; the prevention of weed introduction and spread; and education and outreach activities. These moneys shall be made available to qualified applicants through a grant program administered by the department. Proposals shall be evaluated in consultation with the Range Management Advisory Committee, established pursuant to Section 741 of the Public Resources Code, with an emphasis placed on funding of needs-based, applied, and practical research.” In addition, FAC § 7273(a), states that the CDFA “... shall designate and provide staff support to an oversight committee to monitor this article and shall consider input from weed management areas, county agricultural commissioners, and the Range Management Advisory Committee.”

The Noxious Weed Program at CDFA has a history of dormancy and revival, although no current funding or program efforts appear to be underway specific to this program. One-time funding of \$10 million was made allocated to the Noxious Weed Grant Program account, and funding of \$2.4 million was made available in FY 2022/23. Fifty-two counties were awarded funding for the survey and/or control of Noxious Weeds defined within the California Code of Regulation 4500 list and or weeds identified by CDFA as being A, B, or Q rated weeds in that county. Projects are slated to run from July 1, 2023 to June 30, 2025. The involvement of the RMAC was not requested in the review of applications for the **2023 Noxious Weed Program**. A new Senior Environmental Scientist was hired to manage the program in 2024, and the RMAC will work to engage with new personnel to investigate potential opportunities and synergies to bolster noxious weeds management, education, and outreach in 2024. Program goals are highly synergistic with the current needs and priorities of RMAC stakeholders and partners, and include increasing the profitability of cropland and rangeland, reducing the fire hazard and fire control costs in the state, protecting the biodiversity of native ecosystems, and increasing water supply and flow. As the CDFA and RMAC have a statutory nexus to address noxious weeds, the RMAC also incorporated new objectives into the 2024 Annual Priorities based on input received from the CDFA.

To further increase engagement with the CDFA, RMAC Members Kramer and Bush were appointed as RMAC representatives to the **Healthy Soils Initiative** under the CDFA in late 2022; however, little to no progress was on the part of the RMAC in furthering efforts to showcase results or case-studies for range-related projects receiving Demonstration Block Grants through the **Healthy Soils Program** (HSP). Discussions around the possibility of developing field tours or workshops highlighting results and implications for management born out of HSP Demonstration Grants have been ongoing, but current budget cuts to travel funding through FY 2025/26 may limit the ability of the RMAC to partner with grantees. Moreover, HSP Demonstration Grants were not funded in FY 2022/23, and the most recent awards (see **2023 HSP Demonstration Grant Awards**) did not include livestock or range-related projects. The **Healthy Soils Program Block Grant Pilot** program awarded 14 block grants in FY 2022/23, and funding may be awarded through those allocations to provide financial assistance to California agricultural operations through regional block grant administrators. For example, just under \$5 million was awarded to **Fibershed** and partner the **Carbon Cycle Institute** for producers in Fresno, Humboldt, Kings, Mendocino, Merced, Modoc, San Luis Obispo, and Solano counties. Moreover, the RMAC promotes and disseminate information about **HSP Incentive Grants**, which fund range-related practices including prescribed grazing, range plantings, and riparian forest

buffer. The most recent HSP Incentive Grants open January 22, 2024, and the RMAC will continue to share information regarding this and other opportunities to improve healthy soils practices on farms and ranches in California.

- **Workforce Development** continues to be a significant challenge in the rangeland management world, with a relatively small number of professionals with rangeland expertise or certification working in the State, and less than 80 currently licensed **Certified Rangeland Managers (CRM)** across California, of which fewer than perhaps 30 CRMs provide rangeland consulting services. The CRM license is required for professional practice of rangeland management on non-federal forested landscapes as a specialty authorized under the Professional Foresters Licensing Act that requires the Registered Professional Forester license for the practice of forestry. While not necessary in many situations, the CRM license assures a level of rangeland expertise necessary to adequately develop suitable rangeland management plans that will sustain and protect range resources in California. A long-term trend in range experts retiring from agencies, alongside a lack of new graduates with adequate range credentials, has continued in California. Current challenges in rangeland resource personnel recruitment include:
 - A resource pool of land owners and managers with sufficient rangeland expertise to act as qualified rangeland consultants, but who are lacking the required coursework for eligibility to sit for the CRM exam.
 - The need for a clear crosswalk of coursework offered at learning institutions in California and beyond to bridge any gaps in requirements for CRM exam eligibility.
 - A need for identification of pathways and programs—including the development of such mechanisms—to fill gaps in rangeland education and skills, particularly those required for CRM exam eligibility.
 - A lack of place-based learning environments or programs on natural and working lands where meaningful learning opportunities may be cultivated, as well as a mechanism for crediting participants with the necessary rangeland management knowledge, skills, and abilities to act as range consultants in California and beyond.
 - The need for a centralized location for student and practitioner resources, particularly as they relate to the passage of the CRM exam.
 - Low pay scales and limited opportunities for advancement in the rangeland field; low recruitment rates due to a lack of qualified candidates at the local, state, and federal level for rangeland job classifications.

Dr. Susan Marshall, professor of Rangeland Resources and Soils at California Polytechnic State University, Humboldt, presented information on the current state of CRMs in California and constraints and challenges in workforce development efforts several times in 2023. Specifically, she covered the National Society for Range Management’s efforts to adapt rangeland curriculums so that graduates qualify for the 0454 classification (federal rangeland management specialist job series number).

- **Aging Operators and Unsure Succession Plans:** The median age of California ranchers continues to rise, and the prospect for younger generations succeeding these operations continue to decrease. The number of farms and ranches also continues to decrease, while the average farm or ranch size is smaller in California than the national average. There are no state-wide initiatives or programs to

assist ranchers in succession planning, although some events occurred in 2023 (e.g., [2023 Ag Legacy Symposium](#)), and the Sustainable Agriculture Research and Education Program developed guidance in the [Pathways for the Next Generation](#) in 2023.

- The **interannual variability** of rangeland quality and productivity can make livestock management highly uncertain. Successful and well-managed grazing requires flexible grazing contracts that allow for a variety of production conditions in any given year, and adaptive frameworks to guide managers to make the best grazing management decisions for the conditions present at any given time. **Rigid grazing agreements** exacerbate these management challenges, particularly those that base agreement renewals on performance criteria and/or compliance constraints, such as contracts that dictate the minimum or maximum amount of vegetation that can or must be removed, the exact number of animals allowed on a parcel, or rigid on/off dates that do not allow for bioclimatic variability. For example, in the heavy rainfall year that was 2023, many graziers could not enter allotments until after May due to saturated soils and the potential for damage, but grazing agreements would not allow animals into allotments after May. This resulted in displaced animals with limited options for feed, overgrown areas that could not be grazed, and organizations on all sides failing to meet their ecological, social, and economic goals, in addition to unmitigated fire risk and public safety concerns due to high fuel loads. Limited grazing contract terms of 1–5 years are also a major impediment to grazing. Graziers may be unable or unwilling to invest time and money into proper management and maintenance of a parcel that they may not be allowed access to over the longer term (e.g., 10+ years). **While the state-mandated limitations on contract duration of five years is unlikely to change in the near future, the efforts of the SLGLLM**
- A variety of fuel management activities are commonly used throughout California, including mechanical and manual treatments, prescribed fire, and herbicide application. While livestock grazing is increasingly at the forefront of vegetation management discussions, it still lags in use across the state for a variety of reasons, including **organizational or community resistance to grazing for fuels reduction**. For example, CAL FIRE published Fuels Reduction Guidance in 2021¹⁹ which included most of these vegetation management activities except for information on prescribed grazing. The RMAC received several inquiries from stakeholders as to why CAL FIRE did not include information on prescribed grazing as a fuels management tool, and in response, the RMAC offered to produce an informational pamphlet addendum and a more in-depth white paper addressing prescribed herbivory as a fuels management tool for use alone or in combination with other tools. While CAL FIRE received the draft copy of the pamphlet addendum and considered including it in the current or future versions of their Fuels Reduction Guidance, ultimately it was decided that the information would not be included. The RMAC has received information that this topic may be reopened for consideration but has not received any guidance regarding potential next steps since summer 2023. To ensure dissemination of the information, the RMAC will pursue independent publication of that pamphlet in 2024.
- **Lack of funding** to support increased use of prescribed grazing for fuel reduction is a substantial hurdle for many agencies and practitioners. While the Wildfire Prevention Grants do fund projects including prescribed grazing, they do not provide funding for **permanent infrastructure**, which is a significant constraint to the successful application of grazing for specific ecological outcomes.

¹⁹ <https://www.fire.ca.gov/media/4jqerfjh/fuels-reduction-guide-final-2021-interactive.pdf>

Temporary infrastructure is expensive, may be prone to breakage and failure, and requires constant repair and replacement, as well as repeated installation and removal which represents a substantial time and money investment on the part of owners. Many grazing allotments or agreements will either not allow for the installation of permanent infrastructure, or where permanent installations are possible, the cost of securing, installing, and maintaining permanent infrastructure is prohibitive to the livestock owner, particularly where grazing agreements limit their tenancy and thereby make such investments prohibitive from an economic perspective. Because grant funding does not cover permanent infrastructure, the grazer is reliant on less effective, and often more expensive (in the long-term) temporary infrastructure.

- **Current state budget constraints and an ongoing lack of program funding** for the RMAC greatly limits its ability to develop, implement, and sustain long-term, effective programs to protect and sustain rangeland resources in California. The RMAC does not have an operating budget and relies on volunteers and partnering organizations to implement any activities. Additionally, one Board staffer is allocated only 15% time to the RMAC. Moreover, recent cutbacks to state travel budgets in late 2023 mean RMAC members and staff can no longer travel through FY 2025/26 except to conduct only essential, statute-mandated business. Thus, while the need and interest remains for the expanded workshops and educational offerings of the RMAC in future years, resources are too limited to sustainably implement such a large program without allocated funding and increased staff time.
- Concerns around **livestock grazing impacts to water quality and riparian resources** have long plagued grazing and environmental protection advocates. To provide additional clarity around the impacts of livestock grazing in and around riparian areas both historically and in recent year, the RMAC has invited experts from the UCCE and the State Water Resources Control Board to provide presentations on BMPs to protect water quality and riparian resources, and to give stakeholders additional clarity on local and regional regulatory mechanisms related to water quality and livestock management on rangelands.
- **Unaffordable or unavailable fire insurance** in high-risk WUI areas of California due to insurer-initiated non-renewals in California may mean landowners go uninsured or relocate to states where fire insurance is more attainable. This is an ongoing issue that has prompted much discussion and failed attempts by the legislature to develop a plan to keep insurance companies in California, and to develop affordable solutions for California residents and businesses. The matter will be raised again in the legislature in 2024. In a related vein, **gaps in prescribed fire insurance** have been bolstered by the allocation of a \$20 million [Prescribed Fire Liability Claims Fund Pilot](#) which will cover losses in the rare instance that a prescribed or cultural burn escapes control, providing up to \$2 million in coverage for prescribed fire projects led by a qualified burn boss or cultural practitioner. The establishment of the recent [State Certified Prescribed-Fire Burn Boss](#) program provides an avenue for the training and certification of private individuals to become Burn Bosses, and limits their liability on prescribed fire projects, which may increase the pace and scale at which prescribed fire may be used as a tool for fuels management across the state. The RMAC will continue to bring issues around these matters, as well as potential resources, to its stakeholders.
- **Compliance with CEQA** may represent a considerable regulatory hurdle and financial investment for projects involving grazing, but often it is unclear when CEQA requirements must be met. The RMAC continues to invite experts from CAL FIRE and beyond to provide detailed information at meetings and workshops to assist managers in navigating this process.

- Other challenges raised over the year during public RMAC meetings included issues related to the **Livestock Pass Program, prohibition of gas engines, and post-fire landscape management**. The RMAC will be working to secure speakers and develop activities to provide additional information to stakeholders, and will investigate avenues to fill these potential needs, including education and outreach, online resources, workshops, and recommendations for policy changes if warranted.
- **Others?**

VI. CONCLUSION

The RMAC has substantially renewed efforts in the past three years to establish or re-invigorate collaborations with related agencies and organizations to better leverage the various resources, expertise, and efforts of these institutions to collectively support improved rangeland resource conditions across the State. The RMAC marked substantial growth in its annual educational program, expanding from three virtual-only webinars in 2022 to four webinars and five in-person field tours in 2023 by capitalizing on its renewed collaborations with state agencies, internal state departments, and task forces, as well as local and state-wide range-related organizations. In 2023 the RMAC partnered with organizations and private ranchers to present these workshops focusing on the applications of prescribed herbivory, wildfire and prescribed fire in rangelands, and the integration of fuels treatments through collaborations with CAL FIRE, University of California and California State universities, CDFW, CalTrans, CalRecycle, CDFA, NRCS, RCDs, and U.C. Cooperative Extension, among many others.

In the coming year, the RMAC will continue to support informational needs and efforts for the successful application of prescribed grazing and will additionally embark on a new educational focus around the impacts of livestock grazing on native flora and fauna and their habitats. The RMAC and Board staff representatives will continue to liaise with advised agencies, departments, related partner organizations, and task forces, although in a reduced capacity and on a virtual basis due to state budget constraints and limited staff support. Where possible, the RMAC will partner with other organizations that can lead in-person workshops focused on contemporary range-related issues and best management practices. In addition, the RMAC will continue to coordinate with outside organizations to support the development of technical guidance, literature reviews/white papers, and pamphlets to support range resource management from the level of the individual to the state and federal agency.

VII. REFERENCES CITED

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