RANCH PRO / FIRE. / POLICY SERIES 01

WORKING LANDS AS WILDFIRE INFRASTRUCTURE

A procurement and infrastructure framework for landscape-scale grazing, rural agricultural capacity, and regional wildfire resilience

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Policy proposal for public discussion. The San Diego County demonstration described herein is prospective. Nothing in this paper states or implies that any grazing permit, agreement, contract or program is in place.

Executive summary

Wildfire resilience is an ongoing land-management problem as well as an emergency-response problem. In suitable vegetation communities, managed livestock can reduce herbaceous fuels, alter fuel continuity, and maintain previously treated landscapes. California's vegetation-treatment framework already includes prescribed herbivory as an available method [1]. The remaining challenge is institutional: how can governments procure this capability at a scale, duration, and price that allow professional livestock operations to sustain it?

Ranch PRO proposes a regional model that joins three functions typically funded and managed separately: multiyear vegetation-treatment services; productive livestock enterprises; and strategically located water infrastructure serving agriculture and emergency response. Rather than treating a herd as short-term equipment mobilized to disconnected sites, public buyers would contract for defined treatment outcomes and verified operational readiness across coordinated territories.

This paper does not argue that grazing replaces prescribed fire, mechanical treatment, or ecological restoration. Grazing effectiveness depends on vegetation, weather, species, season, stocking rate, and site condition. Mature chaparral and sensitive habitats present significant limitations. Nor does the proposal assume that a public fuels contract grants public-land grazing rights: existing BLM permits, preferences, and authorizations remain controlling [2–4].

The policy ask

- Pilot five- to ten-year, competitively awarded regional vegetation-management agreements with annual adaptive work plans.
- Pay separately for verifiable treatment delivery, justified capacity readiness, and maintenance of approved dual-use infrastructure.
- Coordinate existing grazing authorizations and landowner permissions without bypassing preference rights, environmental review, or procurement requirements.
- Measure treatment performance and ecological safeguards independently, and evaluate avoided wildfire loss probabilistically rather than claiming guaranteed suppression savings.
- Use eastern San Diego County as a phased feasibility and demonstration setting, subject to legal, ecological, commercial, and fire-agency approval.

1 The missing market: landscape-scale service procurement

Conventional targeted grazing is often scoped to roadsides, community buffers, utility corridors, and discrete parcels. Those projects can be valuable. But their contracting cadence is not necessarily suited to sustaining commercial herds. Animals require continuous feed, water, husbandry, seasonal movement, and a market destination. Short assignments create

mobilization costs and gaps in utilization that cannot be eliminated simply by storing the herd between jobs. Herds also cannot be scaled up and down like construction equipment; the capability has to exist before the season begins.

Public institutions already pay for readiness in other fields, from standby emergency crews to industrial capacity that must be able to surge on demand. The same logic, applied with discipline, can be tested for rural land management: buy a verified, standing capability to deliver defined vegetation outcomes, rather than a series of unconnected mobilizations.

The proposed Regional Grazing Management Territory is a contracting and operational planning concept—not a new land tenure or property right. It would combine one or more legally authorized pastures or properties into a practical seasonal system, with defined vegetation outcomes, access, infrastructure, monitoring, and an adaptive annual plan. A 5,000–10,000-acre territory is offered as an illustrative commercial design target, and gross acres must never be equated with grazeable acres or animal unit months (AUMs).

2 Biological effectiveness and limits

Prescribed herbivory is best viewed as a selective vegetation-management tool. Cattle primarily serve grass and herbaceous fine-fuel objectives where terrain and forage permit; sheep can address selected herbaceous communities; goats can browse some shrubs and regrowth. Species selection should be driven by plant composition, phenology, animal nutrition, labor, fencing, predation, and habitat constraints. California's Range Management Advisory Committee identifies these considerations and recognizes both benefits and limitations [1].

The evidence supports a bounded role. The Congressional Research Service reports that properly applied targeted grazing can reduce fine surface fuels and low ladder fuels, but is not recommended where woody stems and shrubs dominate, and that livestock are unlikely to limit crown fires under severe wind and low fuel moisture [7]. A study of a Southern California fuel break found that goat grazing cut herbaceous cover by 87 percent but was ineffective at reducing most woody chaparral species [8].

A treatment specification should describe desired residual biomass or fuel continuity, spatial coverage, allowable utilization, soil protection, and timing. Livestock presence or acreage entered is not sufficient evidence of treatment success. For dense mature chaparral, mechanical or other initial treatments may be needed before grazing can contribute to maintenance. No program should promise wildfire prevention or claim that grazing is categorically safer or more effective than prescribed fire.

3 Procurement architecture

A regional buyer could competitively procure three separable services. The contract should preserve transparent unit costs, performance tests, annual appropriation safeguards, ecological stop-work triggers, and clear ownership of infrastructure.

Contract element	What is purchased	How to verify
Capacity readiness	Qualified crew, available herd capacity, logistics and operational plans	Audited readiness, staffing, equipment and access records
Treatment delivery	Authorized vegetation-management work in approved units	Pre/post vegetation transects, remote sensing and field audits
Infrastructure service	Availability of approved emergency water withdrawal capacity	Inspection, usable reserve, access and functional tests

A payment formula can be expressed as: Annual contract payment = verified readiness fee + accepted treatment units × agreed unit price + approved infrastructure availability fee − performance deductions. Readiness payments should be limited to demonstrable standby costs and should not pay twice for livestock production already compensated through market sales.

A five- to ten-year contracting horizon is proposed for pilot evaluation, not asserted as universally permissible. Procurement authority, competition, appropriations, performance periods, and agency-specific restrictions must be reviewed by counsel. Federal law already provides one multi-year pathway, stewardship end-result contracting, with terms that can exceed five years [13]; whether grazing-based capacity services fit within it, or within state, county or Wildland Fire Service procurement rules, is an open question for agency counsel. Where smaller producers cannot bid alone, a cooperative or prime-subcontractor structure could aggregate capacity without excluding them.

4 Grazing rights and institutional feasibility

BLM grazing permits and leases define authorized livestock use, including numbers, seasons and other conditions. Grazing preference is attached to qualifying base property, and a permit or lease conveys no right, title, or interest in the underlying federal land [2–4]. BLM also maintains a framework for flexible, outcome-oriented grazing management [5]. This proposal should work through those authorities, not around them.

A procurement agency might purchase fuels-management outcomes from an existing authorized permittee, a qualified consortium, or a contractor whose access is independently established. If the desired treatment requires changes to grazing use, the relevant land agency must make the necessary decision. Existing permittees, wildlife agencies, Tribal governments, and affected landowners should be involved early. Grazing *authorization* (the right to graze a given area) and fuels-management *procurement* (payment for a vegetation outcome) are legally distinct instruments; they should be coordinated but kept separate so that public money does not pay twice for the same activity.

Federal policy context, 2026

Federal direction is moving toward grazing as a fuels and rangeland-health tool. Items marked *proposed* are not final.

- **USDA directive to the Forest Service (June 12, 2026)** directs the agency to prioritize permitting on vacant and closed allotments, streamline authorizations, and improve wildfire planning and coordination [9].
- **Interior Secretary's Order 3454 (October 27, 2026)** directs Interior bureaus to use well-managed grazing, where appropriate and consistent with law, as a tool for reducing fuel loads and wildfire risk, and calls for the U.S. Wildland Fire Service and each land-management bureau to develop joint annual work plans that include fuels management and targeted grazing [10].
- **U.S. Wildland Fire Service**, established by Interior on January 12, 2026, unifies Interior's wildfire suppression, fuels management and post-fire recovery functions; consolidation is phased [11].
- **Forest Service proposed rule (proposed)**, 36 CFR Part 222, published November 12, 2026 (91 FR 73034), would among other things allow stewardship projects such as outcome-based or targeted grazing under temporary grazing or livestock use permits. It applies to National Forest System lands, not BLM lands. Comments are due December 14, 2026 [12].
- **National herd.** Interior describes the national cattle herd as at a 75-year low [16]. Policies that expand productive grazing may support herd rebuilding, but this paper makes no estimate of that effect.

5 Dual-use livestock and fire water infrastructure

The strongest infrastructure opportunity is a planned network of agricultural water nodes whose location, storage, access and maintenance are designed from the outset for possible fire-service value. A typical node may include a protected source, storage, livestock trough branch, separate engine withdrawal, isolation and backflow controls, water-level telemetry, and a reserved emergency volume. Larger sites may warrant purpose-designed helicopter dip capacity only after aviation review and formal acceptance under applicable interagency standards [15].

Water node	Agricultural function	Potential fire function
A — Stock tank + outlet	Distributed livestock drinking supply	Engine fill / drafting where approved
B — Strategic reservoir	Seasonal agricultural storage	Helicopter dip only if engineered and accepted
C — Pumped network	Multiple troughs and rotational pastures	Several mapped emergency withdrawal points
D — Deployable tank	Seasonal remote grazing support	Temporary incident water support by agreement

The key design variable is reliably usable emergency water—not nominal tank volume. Site plans must account for drought, recharge, livestock welfare, fire exposure, road geometry, access permissions, water rights, environmental impacts, contamination control, inspection and emergency command authority. Water availability cannot be guaranteed merely because a livestock tank exists. Dry-hydrant and drafting connections are addressed by NFPA 1142 and are subject to approval by the authority having jurisdiction [14]. A site suited to engine fill may be unsuited to helicopter dipping; the two must be evaluated separately.

A shared-capital agreement should separate the baseline agricultural asset from incremental public fire-readiness features. Public funding should buy an enforceable public benefit, with provisions for access, inspection, emergency use, ownership, insurance, maintenance, and disposition at contract end. State policy already points in this direction: California's SB 675 (effective January 1, 2025) clarified that CAL FIRE and Department of Conservation grant programs may fund fencing and watering improvements for prescribed grazing [1].

Coordinated planning matters as much as engineering. A joint agricultural–wildfire review, with a standard application package covering grazing demand, fire-response value, water supply, environmental effects and maintenance, would not eliminate separate statutory approvals, but could make them more predictable and reduce duplicated effort.

6 Regional economics and risk accounting

Two business ledgers and one public-benefit ledger should be maintained. The livestock ledger records animal purchases, reproduction or weight gain, feed, forage, transport, labor, veterinary care, sales and processing. The service ledger records readiness, treatment, monitoring, infrastructure service, contract administration and compliance. The public-benefit ledger records changes in vegetation and modeled wildfire exposure, infrastructure readiness and any verified public savings.

The relevant decision metric is incremental net cost per accepted treatment outcome over a multi-year period, not merely dollars per mapped acre. Comparison cases should include mechanical treatment, prescribed fire where appropriate, mixed methods, and no action. Risk reduction should be evaluated using modeled expected annual loss: sum over plausible

fire scenarios of event probability multiplied by consequence. Sensitivity analysis must include extreme weather, treatment decay, drought and uncertain treatment effectiveness. Measured outcomes (acres meeting objectives, water capacity, cost) should be reported separately from modeled benefits (changes in fire behavior, exposure and expected loss).

Insurers, utilities, counties and other beneficiaries may participate in financing where they can document an interest and lawful funding pathway, for example through co-funded research, risk-model development, or regional resilience partnerships. Premium discounts, avoided suppression expenditures and reduced insured losses should be treated as hypotheses until independently substantiated; they are not automatic consequences of a grazing contract, and this paper does not predict them.

7 Rural livestock production and processing

Predictable grazing access and service demand may improve herd economics and encourage capacity retention or expansion, but the effect depends on forage availability, market prices, drought, animal performance and the costs of delivering treatment. A breeding herd, stocker system, and finishing enterprise have different feed and cash-flow requirements; the optimal mix cannot be inferred from acreage alone.

Regional processing capacity is a separate policy question. Where livestock are raised for market, access to nearby inspected slaughter and processing affects whether a producer can retain animals in the region and sell them profitably. Raw meat and poultry sold in interstate or foreign commerce must be federally inspected, and meat sold only within a state may be handled under a state inspection program that is at least equal to the federal standard [6]. Processing capacity, and any mobile or small-plant options, should be evaluated as its own investment and regulatory case. A public fuels program should not subsidize processing assets without independent statutory eligibility and a demonstrable public benefit.

8 San Diego County: demonstration design

Eastern San Diego County combines extensive wildland, sparse road and water infrastructure, difficult terrain, fragmented jurisdictions, and an established ranching community. Ranch PRO is exploring how a demonstration could be designed there. No candidate area has been authorized, and no agency has committed to participate.

Candidate study areas would be drawn from public and private rangeland in the region and screened before any public claim is made. Figures from planning maps are not verified authorized use or available forage, and mapped acres are not grazeable acres. Boundaries, active preferences, permitted AUMs, and environmental overlays must be reconciled against authoritative agency records.

Type of study area	Primary diligence question
Rangeland adjacent to existing ranch operations	Base-property relationship, pasture access, water and habitat constraints
Large seasonal rangeland units	Actual grazeable seasonal capacity, water and terrain
Areas with wilderness designation or critical habitat	Existing rights, protected-resource limits and feasible access; conservative review

Ranch PRO's Morning Star Ranch in Boulevard could serve as an operating base for a demonstration. That is not evidence of rights over any adjacent federal land. A no-go determination should remain a valid outcome of feasibility work.

9 Pilot implementation and evaluation

The phases and periods below are illustrative and would be set with the participating agencies.

Phase	Illustrative period	Go / no-go evidence
I — Authority and baseline	0–6 months	Permits/preferences, GIS, ecology, water inventory, agency engagement
II — Design and procurement	6–12 months	Treatment units, competitive mechanism, engineering concepts, budget
III — Controlled deployment	Years 1–2	Authorized grazing, baseline monitoring, infrastructure inspections
IV — Independent evaluation	Years 2–3	Vegetation outcomes, ecological impacts, livestock margins, unit costs
V — Scale decision	Years 3–5	Repeatability, funding, agency acceptance and risk-model evidence

A third-party evaluator should compare treatment units with matched reference areas where feasible, recording vegetation and ecological outcomes before and after intervention. Annual reporting should disclose treated acreage, acreage meeting objectives, AUMs used, infrastructure uptime, adverse ecological incidents, cost per accepted outcome, and model uncertainty.

10 Recommendations for government and institutional partners

- Recognize prescribed herbivory as an eligible tool where vegetation and site conditions justify its use, consistent with existing California guidance.

- Pilot regional, multiyear service procurement that pays for verified outcomes and justified readiness rather than isolated mobilizations, after confirming the available procurement authority.
- Create an interagency working group for grazing authorization, fuels planning, habitat protection and water infrastructure.
- Publish technical criteria for dual-use stock-water and emergency water nodes, including separate fire-agency acceptance.
- Fund independent monitoring and comparative lifecycle cost analysis; report adverse outcomes as well as successes.
- Enable consortium participation so established ranchers and smaller operators can contribute without surrendering existing rights.
- Support public comment on the proposed Forest Service rule (due December 14, 2026) and on related BLM actions.
- Develop a San Diego County feasibility pilot before promising any specific herd size, treatment acreage, or wildfire savings.

Conclusion

The central policy question is not whether livestock can consume vegetation. It is whether institutions can create a durable market for the specific vegetation-management outcomes that livestock can responsibly deliver. Large coordinated operating territories, multiyear contracting, transparent performance measures and dual-use water infrastructure offer a testable answer. If successful, the result would be more than a sequence of grazing jobs: it would be a sustained rural operating capability serving agriculture and wildfire resilience together.

About Ranch PRO

Ranch PRO LLC is a family-run agricultural business based in Boulevard, California, with roots in hay, forage and agricultural supply, and the owner and operator of Morning Star Ranch. The company is exploring how professional livestock operations and rural infrastructure can contribute to wildfire risk reduction in the Southern California backcountry.

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This document is provided for discussion and policy development. It describes proposals, not existing programs, and is not legal, engineering, aviation, financial or insurance advice. Ranch PRO does not represent that any agency has authorized or approved any activity described.

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