

A Guide to Livestock Leases for Annual Rangelands

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For landowners and managers with little direct experience in livestock grazing, some guidance in developing grazing leases can significantly help with meeting management objectives and avoiding pitfalls (sidebar 1).

Sidebar 1: Grazing Lease versus License

In legal terms, typical grazing leases are more accurately described as licenses, as a lease implies that the lessee holds exclusive rights to occupy the real property for the duration of the lease, while what are typically termed "grazing leases" usually have several restrictions and often do not include exclusive occupancy rights. Licensing also implies more specific uses of the land, cooperation to complete related work products, and expectations for specified management. Grazing licenses are gaining popularity now. However, because "lease" is the term usually used to describe grazing licenses, we will continue to use that term in this publication.

Even for those who have experience administering grazing leases, it is worthwhile to review the lease's terms and conditions. Some lease terms and conditions may hinder the desired management; these should be modified or deleted to foster improved management. The goal of this guide is to provide a reference for people responsible for developing and overseeing grazing leases on public and private lands. This guide will also be useful for livestock producers who are negotiating grazing leases, so they may better understand the goals and constraints of lessors and why they may require certain lease terms and conditions.

A livestock grazing lease on annual grasslands can provide revenue and important stewardship benefits for public or private



Photo: S. Barry

Cattle grazing lease to support native biodiversity.

landowners (lessors). Livestock grazing can improve the land's health through control of invasive plants, enhancement of wildlife habitat, protection of watershed functions, and reduction of hazardous fuel levels. In addition to revenue and resource management, a grazing tenant or rancher (lessee) can also provide resource stewardship (sidebar 2).

Sidebar 2: Incentivising Stewardship

Stewardship, in the context of grazing leases, is a guiding principle and set of activities practiced by ranchers that support conservation and sustainability of the rangeland. Many ranchers conduct management that preserves the integrity, stability, and beauty of the biotic community of the lands, and thus sustains yields and maintains profitability (Leopold 1949). Here we integrate this principle with grazing leases to explicitly incentivize rancher cooperation and sustainability of the rangelands and the livestock operations. Additional stewardship objectives and activities that differ from standard leasing activities primarily focused on livestock production can be added, such as those described in the group of tables 2A through 2E.



Sheep grazing lease to reduce fire fuel loads.

For public agencies or private landowners that manage lands with limited or no staff, the grazing lessee with their frequent visits to check and manage livestock can be a much-needed extra set of eyes on the land, alerting the agency to any number of issues—livestock-related or not—including vandalism, trespass, homeless encampments, illegal growing sites, wildfire ignitions, or natural resource observations. The grazing lessee may also report on infrastructure maintenance needs such as road and fence problems. While not all these benefits will address the goals of a particular landowner, many landowners will find that the benefits of a grazing lease including the stewardship provided by a lessee are important in helping them maintain and improve their property. The benefits from a livestock grazing lease beyond revenue all imply that a relationship between the lessor and lessee is more cooperative than a mere business transaction for forage resources.

The recommendations in this publication should help the landowner (lessor) and the grazing tenant (lessee) develop leases that satisfy a variety of situations and objectives, including sustainability of natural resources, cash flow for property management, viability of the grazing business, and the operational functions of both the lessor and lessee. Both parties should have a clear understanding of the lease parameters before reaching a final agreement, and, to protect both parties, agreements that are only verbal should be avoided. In all cases, the lease should be a written document that helps to prevent misunderstandings and unnecessary legal fees at a later date. It is important to remember that grazing leases are legal documents and all parties should consult with attorneys for legal advice.

SETTING GOALS AND OBJECTIVES

Developing clear and effective management goals and objectives is a critical part of understanding how livestock grazing can be used to meet these goals and objectives; and it may also help determine whether or not alternative or additional management tools are needed. Goals for grazing management should be stated up front, assisting in lease development while increasing cooperation from the lessee. See sidebar 3 for examples of grazing management goals. This will also aid when evaluating compliance and effectiveness.

Sidebar 3: Examples of Grazing Management Goals

Purpose Statements that Support Multiple Use

Example A: Entity or Landowner X provides this lease for the grazing of livestock and to meet management objectives listed below in order of priority:

- Provide visitor access and recreational opportunities.
- Provide for the safety of park users.

- Preserve and enhance natural plant and wildlife communities and protected species and their habitats.
- Minimize fire hazards to the premises and adjacent private property by managing vegetative fuels.
- Manage grazing and livestock to economically sustain livestock production for continued use as a resource management tool.
- Establish cooperative relationships with adjacent property owners.

Example B: It is the intent of Entity or Landowner X that the land be utilized for multiple use, including—but not limited to—utility, grazing, wildlife habitat, recreation, and soil and water conservation. Lessee is required to participate in a conservation and maintenance program as outlined in the resource management plan. The conservation and maintenance measures are intended to provide for the long-term productivity of the grazing area while protecting natural resources and permitting a reasonable economic return to Lessee.

Example Statements for Specific Resource Management Goals

Example A: The purpose of this agreement is to maintain and enhance a remnant stand of purple needlegrass (*Stipa pulchra*), as well as other native perennial grass species and associated native forbs. In order to reduce competition from exotic annual grasses and forbs, livestock grazing in the winter and early spring will be used pursuant to this agreement.

Example B: The purpose of this agreement is to manage a coastal prairie to maximize species richness and cover of native annual forbs and native perennial grass species currently occurring on this site. Livestock grazing as prescribed by the grazing management plan and in accordance with this

agreement will be used to reduce vegetation height and minimize litter depth. Livestock grazing should also help to maintain the “open prairie condition” of this site by impeding the invasion of woody plants from the neighboring coastal scrub community.

Example C: The purpose of this agreement is to provide managed annual grassland as optimal foraging, roosting, and breeding habitat for burrowing owls and aestivation habitat for species of concern. Optimum habitat conditions for species of concern will be provided by reducing grass height and biomass on conservation land, as specified in the grazing management plan. Excess vegetation will be removed by managed livestock grazing pursuant to this agreement and in accordance with the terms and conditions listed below.

Example D: The purpose of this agreement is to manage wildlife habitat by providing cover and browse for deer and increasing recruitment of bitterbrush. Grazing should reduce competition of annual grass and create hoof impact to increase bitterbrush recruitment.

Example E: The purpose of this agreement is to provide shortgrass pasture as forage for wintering geese on selected fields. Excess vegetation will be removed by managed livestock grazing pursuant to this agreement.

Specific management objectives or terms of the monitoring program (such as performance standards) should be included in the lease if there is not an accompanying grazing management plan. If there is a grazing management plan, it should be referenced explicitly in the lease document and may be used as a tool for adapting management to meet changing conditions and needs.

Public and nonprofit land managers may have goals and objectives spelled out in law, regulation, policy, local ordinance, conservation easement, or by a board of directors. A private landowner may have more freedom in developing goals and objectives. For instance, the former may need to provide for recreation opportunities while the latter may need a certain level of cash-flow. However, all landowners

are likely to have areas of common interest, like fuels management and invasive species control.

RESOURCE INVENTORY (Financial, natural resources, infrastructure, and forage)

In conjunction with identifying goals and objectives, critical steps in lease development are understanding the financial resources available to perform management and assessing the location and conditions of both natural resources and grazing infrastructure.

Financial resources may be provided by the landowner or manager, the grazing lessee, or a granting organization such as a nonprofit or government agency. Funds from third parties may be provided to support conservation or

other resource management objectives such as fuels management or carbon sequestration.

An inventory of natural resources should include an assessment of forage, water, sensitive special-resource areas (including the habitat of special-status species and natural communities), erosion sites, and invasive plants. Natural resources including available forage, invasive plants, topography, and water resources may limit or determine the kind (species) and the class (age/sex) of grazing animals that are most suitable to graze the property. Management of the sensitive special-resource areas or invasive plants might require targeted grazing or temporary exclusion, which could require additional fencing and labor costs. To complete this inventory and analysis, the lessor needs to understand the productive capacity of the rangeland and the opportunity for, and cost of, range improvement practices (see Bush et al. 2006 and Vallentine 2001 for additional information on performing a rangeland analysis).

Infrastructure that should be evaluated includes fences and gates, roads, corrals, watering systems, servicing facilities, and barns. Additionally, at the time of the inventory, note deficiencies that should be corrected, maintenance that is required, and opportunities for improvements that would aid in achieving resource management goals. Decide who is responsible for grazing infrastructure improvements and repairs based on the inventory and identified needs. Infrastructure may also limit or determine the kind or class of animals that can most readily graze the property.

Estimating number of livestock. The productivity of forage as well as the availability



Photo S. Barry

Fall calving on private, leased land.

and distribution of water will determine the number of livestock that can be grazed (stocking rate) on the property over the desired period of time. Stocking rate is often expressed in animal unit months (AUM), a standardized unit of forage that can be used to estimate the number of livestock per period of time in a way that allows relatively simple conversion between kinds and classes of livestock, although actual capacity can vary through the year. Table 1 provides an estimate of Animal Unit Month equivalents for selected kinds and classes of livestock.

The stocking rate should be provided as an initial estimate or guideline, recognizing that annual forage production varies from year to year, and flexibility is necessary to meet grazing lease objectives and effectively manage forage resources and support livestock production. An accompanying grazing management plan, if available, would provide more specific information about adjusting stocking rates to meet grazing lease objectives. In general, the stocking rate will be adjusted from year to year based on monitoring of the forage throughout the grazing period. Monitoring forage production, utilization, or residual dry matter (RDM) will inform decisions to reduce stocking rates, provide supplemental feed when forage is short, or increase stocking rates when surplus forage is available. It is also essential for determining when a field supporting special resources (special management areas) is ready for livestock to be moved in or out or to concentrate for targeted grazing. At the end of the grazing period, if the grazing use is too much

Table 1. Animal Unit Month (AUM) equivalents by kind and class of livestock

Kind/class of livestock	AUM equivalent
mature cow with nursing calf	1.00
bull	1.25
bred heifer	0.75
yearling steer or heifer	0.50–0.75
horse	1.20
mature ewe	0.20
mature goat	0.15

Source: Heady and Child 1994. (But see also NRCS 2003 and Vallentine 2001 for similar estimates.)

or too little, adjustments can be made the next period.

There are several methods for determining an initial stocking rate estimate or guideline for an area:

- *Historical Stocking Rate:* Historical data on livestock numbers and time of use can provide an estimate of practical stocking rates. This assumes that past numbers of livestock grazed on the land (or on a similar piece of land), provided acceptable levels of use, and are therefore good estimates of the grazing capacity. The type of livestock to graze is determined by many things, including the landowner's goals, facilities, size of property, soil type, forage composition, etc.
- *Rancher Experience:* Ranchers who have grazed properties for many years have learned the number of cattle or sheep that can graze an area during different weather years and within special resource areas. Obtaining information from ranchers or other knowledgeable people is one of the best starting points for estimating livestock grazing and production capacity of certain rangelands.
- *NRCS Soil Surveys:* In the absence of historical data or local knowledge, estimates of average forage production can be found in soil surveys, soil-vegetation surveys, and USDA Natural Resource Conservation Service (NRCS) ecological site descriptions. The NRCS Web Soil Survey (<https://websoilsurvey.sc.egov.usda.gov/>) has a tool that computes an estimate of forage production under different weather years (good, fair, and poor forage production) for a defined property.
- *Ecological Site Descriptions:* Ecological sites provide a consistent framework for classifying and describing rangeland and forestland soils and vegetation; they thereby delineate land units that share similar capabilities to respond to management activities or disturbance. Ecological Site Descriptions are available from the USDA NRCS (<https://esis.sc.egov.usda.gov/Welcome/pgReportLocation.aspx?type=ESD>), although there are only a few descriptions currently available for sites in California.

- *Monitoring Actual Forage Production:* Sampling actual forage production over the area to be leased through a number of years can provide a good estimate to use for determining stocking rates in the absence of other information. This method takes time, both in terms of labor hours and repeated sampling over years to get a good estimate of forage production variability as well as average production. Annual and seasonal fluctuations in quantity and quality of forage produced per acre (due to weather) can make it difficult to predict numbers of livestock suitable for a management unit. Yearly variation in forage production may vary from twofold to fourfold, but the estimate of grazing capacity is usually stated as a conservative average over a number of years.

Based on goals and objectives and resource inventory, the lease or associated plan should state the following: any limitations on the kind or class of grazing animal, estimates of carrying capacity or how many grazing animals the land can support, and expected grazing season.

FINDING LESSEES

Advertising for lessees may depend on the management goals and objectives as well as the lessor's familiarity with the ranching community. In some cases, word-of-mouth can be sufficient to identify a desirable lessee. This could be done by talking with neighbors or asking the local UC Cooperative Extension livestock advisor or local livestock association. In other cases, it may be desirable to advertise in the newsletter of an organization that may have suitable lessees as members or subscribers, such as the local Cattlemen's Association, Farm Bureau, California Wool Growers Association, California Rangeland Conservation Coalition, or the Central Coast Rangeland Coalition.

When selecting a lessee, consideration should be given toward the applicant's qualifications and past experience to ensure that they have the capacity and ability to meet lease requirements and achieve the lessor's goals and objectives. This may involve asking for

lessors to achieve similar objectives, asking for references from their other current or past lessors, and asking for descriptions of how they would achieve the lessor's specific goals and objectives.

LEASE RATES AND TERMS

There are a number of terms that must be included in order for a lease to function as a legally enforceable contract. In addition, there are provisions that may be desirable to include in the lease to better meet resource goals and objectives or to facilitate management of the property in an efficient and mutually agreeable manner. These may include provisions that incentivize stewardship of the land by the livestock producer or that share risk—such as variability in steer prices—that is inherent in range-based livestock production between the lessee and the lessor.

Often, revenue generation is only one of the goals of a livestock grazing lease for the land-owner or land manager. When other goals are involved, setting the lease rates and terms may be more complex than simply awarding the lease to the producer willing to pay the highest price or a market rate. In these cases, it is worth spending time to consider what payment structure to adopt. Even when the payment structure will be determined by law or policy, it is worthwhile to consider the implications of the given structure so that any unintended consequences could be avoided, such as financial hardship that results in overstocking or deferred maintenance. There are three major considerations in developing a grazing lease:

- the unit to base the lease rate on [animal unit months (AUM), or acres grazed, or a flat rate for a parcel or tract]
- the amount to charge per unit and how this may be set or adjusted
- the length or term of the lease

METHOD OF CHARGING FOR THE LEASE

Local tradition and past experience often influence whether a lease rate is charged

per AUM, per acre, per whole tract, or paid on gain, as described below. The method chosen should best fit the needs of the parties involved. While these illustrate the methods for charging for grazing use, there are often other exchanges, whether explicitly or implicitly made, that occur in the context of the grazing lease.

Per AUM. The most commonly used method by many public landowners is to charge by AUM. An AUM is defined as the amount of forage required by a mature cow and calf for 1 month, and it has a set of equivalents for other kinds and classes of livestock (see table 1). For example, a field rated at 100 AUMs could support 10 cows for 10 months, 50 cows for 2 months, or 125 sheep for 4 months.

The lease rate per AUM may be based on a fixed amount or on an index that accounts for variations in the local livestock market (see the variable income approach below). The advantage of an AUM rate is that lessees pay for what they use. If drought shortens the grazing period or the lessor requires the rancher to reduce the number of head, the total payment is reduced accordingly. Disadvantages include that the lessee may have little incentive to improve the productivity of the land or optimize livestock distribution through range stewardship and that too little grazing might occur (and thus conservation objectives are not met) if the lessee does not keep as many livestock at the property as the owners would prefer. In this arrangement, the lessor is also not guaranteed a specific lease value. Some lessors may require a minimum lease payment regardless of the AUMs used.

Per Head. A simplified version of per AUM is per head for a month or for a grazing period, while specifying the kind and class of livestock (for example, \$120 per cow-calf pair for the grazing period). The rate is based on the type of livestock being grazed—cows and calves, stocker cattle, replacement heifers, sheep, or horses. Similar to the per AUM method, lessees only pay for what they use, so lessors assume some of the risk of variable annual forage production.

Per Acre. Charging a fixed rate per acre, rather than per head, can provide an incentive

to improve productivity and distribution, but it can expose the livestock producer to risks when low forage production years result in lower grazing capacity but not a lower lease rate. A potential remedy to this could be to charge per acre, per month, so that if the grazing period is shortened due to low productivity, the cost to the lessee also goes down. A flat rate approach should be combined with performance standards and a long-term lease. If the lease term is short (less than 3 years or so), the lessee might overutilize the forage resources or otherwise misuse resources of a property and then leave. Negative incentives may be further increased with this method if the lease rate is set through a competitive bid process that awards the lease to the highest bidder without defined performance standards or experience criteria. While this method has apparently led to excessive stocking and overgrazing in the past, it can be implemented with stocking limits, performance standards, and stewardship requirements to minimize such unintended effects.

Per Whole Tract. In some cases, a single fee may be charged for the entire parcel for the specified time period, referred to as a whole tract rent. This may be more common in cases with a lease in the more traditional legal sense (see sidebar 1). This is normally used when leasing an entire ranch for a period of years or when a mixture of land types is leased together (e.g., range, cropland, pasture, forest). This payment method may also be an effective method for leasing small parcels with simple leases. Depending on the goals for the property, it can be important to utilize performance standards and long-term leases with this approach.

Paid on the Gain. This applies to seasonally grazed, weight-gaining livestock such as stocker cattle, replacement heifers, or feeder lambs. This approach can be attractive to landowners who are interested in taking on the extra risk and potential extra return that results from sharing risks of variability in weather, livestock production, and market prices with the livestock producer. The livestock should be weighed at a certified scale, before and after grazing occurs. These rental charges may consist of a preestablished, charge

per pound of gain (e.g., \$0.40) or a share of the total weight gain (40–60%) for the grazing period.

SETTING THE LEASE RATE

Lease or rental rates on agricultural property are typically based on the property's value for agricultural crop production. This value is determined by economic forces of supply and demand for agricultural land and its potential agricultural crop productivity, not on other factors influencing land values such as potential for development. The production value of rangeland is influenced by the relative profitability of the livestock industry in the region, the supply and cost of alternative sources of feed, the feed-producing capacity (quantity and quality) of the grazed property, access to the site's forage (including the availability of livestock water), the local demand for forage resources, and conditions of the lease agreement. However, rangeland leases are unique in that the grazing lessee may pay rent based on the land's agricultural value, while the lessee is also often a vendor for infrastructure construction/maintenance and other conservation services, as well as being a partner who collaborates in planning, stewardship, and public relations. In the final analysis, the agricultural rate should often be discounted based on the "value-added" noncash contributions of the lessee as a cooperating conservation service provider, vendor, or partner.

There are various ways to approach the rental rate to charge in a grazing lease, from referencing local market rates to establishing a formula, incorporating the methods of charging by units and other factors affecting lease value as described above.

Four reasonable approaches to establishing rental rates are the following:

- market value based on what others charge for land of similar quality
- market value based on qualifications or discounted for stewardship services
- variable income index
- flat rate (including the per acre method described in the previous section)

Market Value. The market value approach is based on determining the local rental values for similar rangelands. An estimated average value or a range of values are available in some *Annual Crop Reports* published by each county's Department of Agriculture, and values by county and region are also reported by the American Society of Farm Managers and Rural Appraisers. Such information should be analyzed for its application to a specific site's condition, including considerations for percent nonwoody and grazable or quality of the forage.

Market rates may also be set through a competitive bid. One effective competitive bid approach that also provides for a lessor's desire for rangeland stewardship is to have a double bid, in which applicants bid the amount of rent they will pay and separately submit a proposal with their qualifications and any services they will provide beyond the minimum requirements. Caution: the lessor should not necessarily take the highest bid, since that lessee will have greater pressure to remove as much forage from the land as feasible to compensate for the higher fees or to assure that the lease agreements are kept.

Market Rate Based on Qualifications or Discount for Stewardship Services. Similar to the competitive bid described above, this approach allows applicants to propose a lease rate; however, required stewardship services and minimum qualifications are described by the lessor in a request for proposals (RFP). Responses to the RFP are evaluated based on the entire proposal, including the qualifications and experience of the applicant, proposed management and stewardship services, as well as the proposed lease payment. Like a straight competitive bid, an important consideration when evaluating these kinds of proposals is to consider whether the overall proposal is likely to be financially feasible for the applicant, given the level of effort proposed and the lease payment. This approach to setting a lease rate may be appropriate for leases with multiple or complex management objectives; it can account for the qualifications and willingness of individual applicants to engage in stewardship activities that are related

to—but would otherwise fall outside the scope of—simple livestock production.

Variable Income Index. Some lessors use an annual variable rate based on a livestock price index. Variable rates attempt to approximately reflect potential income of the livestock producer on the property. Livestock prices from nearby sales, video auctions, or market reports may provide a basis for the price index. (For example, see Midpeninsula Regional Open Space District 2018). The index may be developed from a long-term average over fixed months. For example, the average price for 700-pound steer calves in May, June, and July may provide a price for the index. An index used by some public agencies in California provides for a \$0.05 increase in the AUM lease rate for every \$0.50 increase in average calf price.

Setting the Final Rental Rate. After establishing a forage or base rental value, additional items should be considered before the final rental rate and method of payment can be settled. If a property owner requires the lessee to provide vendor or partner services such as infrastructure development or maintenance, extensive monitoring, frequent movement of livestock on and off or between fields, habitat management or other management time, this can be accounted for with rent credits to reduce the lease payment, a common practice on conservation lands. The amount of liability insurance required should also be taken into account when setting the final rental payment. For example, agencies that require over a \$2 million insurance policy may cause a hardship for certain livestock producers. The same would be true for small-acreage leases lacking economy of scale, and any leases with difficult access, if the rate is otherwise set to a standard rate that is used for more easily managed parcels. The lease rate should take into consideration the lessee's role as a partner, access issues, the type and weight gains of livestock, numbers of livestock (stocking rate), and grazing period. The lessor may set the final rental rate either after negotiation with a lessee or after determining the amount of income needed from the property.

Table 2A. Administration and coordination activities in a lease

Management activities	Beneficiaries		Responsible party		
	Stewardship	Livestock production	Landowner	Livestock producer	
			Standard lease term	Potential fee credit or compensation	
Develop goals and objectives, and resource and grazing management plans for incorporation into the grazing lease.	✓	✓	✓		
Manage lease agreement.	✓	✓	✓	✓	
Maintain timely communications between the landowner and lessee.	✓	✓	✓	✓	
Participate in administrative meetings with landowner and lessee to review monitoring results, including compliance with management plans; review and recommend adjustments to management activities as well as adaptations to management plans; plan subsequent year; and complete required reports and other communications.	✓	✓	✓	✓	
Conduct project management and contract administration.	✓	✓	✓		
Consult with landowner as requested on grazing management, operations, infrastructure, planning, monitoring, and conservation issues.	✓	✓		✓	
Maintain appropriate insurance for liability and workers compensation, including any additional coverage needed for working in the vicinity of livestock.	✓	✓	✓	✓	

Table 2B. Infrastructure activities in a lease

Management activities	Beneficiaries		Responsible party		
	Stewardship	Livestock production	Landowner	Livestock producer	
			Standard lease term	Potential fee credit or compensation	
Construct new and replace depreciated infrastructure at the end of its expected lifespan.		✓	✓		✓
Maintain existing essential infrastructure to ensure effective function and ability to last its expected lifespan.		✓		✓	
Maintain stock ponds for both watering and habitat.	✓	✓	✓		✓
Clear blocked culverts and drainage dips on dirt access roads.	✓	✓	✓		✓
Maintain primary and other useful dirt access roads.	✓	✓	✓		✓
Replace or repair infrastructure damaged due to nonlessee vehicle accidents and vandalism.	✓	✓	✓		✓
Replace or repair all damage to infrastructure caused by lessee's livestock.		✓		✓	

Table 2C. Grazing management and livestock care activities in a lease

Management activities	Beneficiaries		Responsible party		
	Stewardship	Livestock production	Landowner	Livestock producer	
				Standard lease term	Potential fee credit or compensation
Gather, handle, and move livestock.		✓		✓	
Move livestock to designated locations or otherwise to achieve the specified grazing objectives.	✓	✓		✓	✓
Manage salt and supplement placement in accordance with the grazing management plan to achieve desired livestock distribution.	✓	✓		✓	
Maintain health of livestock, including administering necessary vaccinations, branding, and health certifications.		✓		✓	
Manage and remove any problem livestock (e.g., aggressive, diseased).		✓		✓	
Remove any livestock carcasses in a timely manner and dispose according to local ordinances.		✓		✓	
Carry out livestock-predator conflict avoidance management.	✓	✓		✓	✓
Patrol to assess and respond to infrastructure and resource conditions and livestock escapes.	✓	✓		✓	
Address nonlessee livestock trespassing on the leased land. The lessee may have special expertise and resources to address this.	✓	✓	✓		✓

Table 2D. Conservation activities in a lease

Management activities	Beneficiaries		Responsible party		
	Stewardship	Livestock production	Landowner	Livestock producer	
				Standard lease term	Potential fee credit or compensation
Remove or clean up abandoned fence, equipment, trash, and debris.	✓		✓		✓
Conduct targeted grazing or exclusion for maintenance and enhancement of special habitats (special-status plants or wildlife, riparian woodland, ponds, wetlands, native grasses, or oaks).	✓		✓	✓	(This may be integrated into the grazing management plan, or it may be additional services that could be provided by the lessee that go beyond the scope of the lease.)
Control invasive plants and fire hazards, and conduct other special resource projects. Activities might include herbicide application, construction, manual work, and specialized equipment work.	✓		✓		✓
Conduct other activities not part of a "normal" grazing lease for regular or one-time purposes (construction, manual work, and specialized equipment work).	✓		✓		✓
Participate in educational events and visitor relations organized by the landowner.	✓		✓		✓

Table 2E. Monitoring activities in a lease

Management activities	Beneficiaries		Responsible party		
	Stewardship	Livestock production	Landowner	Livestock producer	
				Standard lease term	Potential fee credit or compensation
Conduct compliance monitoring for adherence to grazing lease terms and conditions (livestock numbers, season of use, distribution, infrastructure maintenance, RDM or allowable use standards).	✓	✓	✓		
Conduct effectiveness monitoring for assessing whether grazing management is achieving goals and objectives (vegetation composition, soil health, rare plant populations, invasive plant populations).	✓	✓	✓		✓
Implement and comply with Best Management Practices (BMPs) for water quality where appropriate.	✓	✓	✓	✓	
Make general "naturalist" observations of sightings of unusual wildlife, plants, natural events (weather, wildflower displays, wildfires, new pest plant infestations, insect infestations, landslides, tree-falls, high/low streamflow, etc.) or other things of interest, and provide periodic reports.	✓	✓	✓		

OTHER LEASE TERMS AND CONDITIONS

Leases may be as complex or as simple as needed to fit the situation. Depending on the resources available, management goals and objectives, and capabilities of the grazing lessee, there are many potential terms and conditions that may be adopted and responsibilities assigned to the lessor or the lessee, with potential provisions for fee credits or other compensation depending on the situation. The group of tables 2A through 2E lists common management activities by topic (administration and coordination, infrastructure, grazing management and livestock care, monitoring, conservation) that may be addressed (and should be addressed, especially when rent credits will be offered) in the lease terms and conditions. As indicated in the tables, some of these activities have benefits that fall primarily to conservation objectives or livestock production, while others have benefits for both conservation and livestock production goals. Tables 2A through 2E also indicate whether the activity is typically assigned to the lessor or lessee for responsibility and whether, if it is assigned to the lessee, it is reasonable to provide for a fee credit or other compensation. While many circumstances may need to be addressed in a grazing lease

agreement, the following key terms should be defined:

General Terms of the Lease. A lease must include the names of the involved parties; description of the location; number of total and grazable acres involved; vegetation types and conditions; topography, class and number of livestock that are acceptable; type of lease (continuing, annual, or other period); start and end dates of the lease; method of payment; and such legal terms as necessary (reviews, amendments, transfer of property, right of entry, conditions for termination, etc.).

Length of Lease. Long-term leases (minimum 5 years) are generally favored by both landowner and lessee. Long-term leases give the lessee a long-term commitment to the property and encourage proactive and committed stewardship. Multiyear lessees are more likely to make investments in rangeland improvements and to perform stewardship and maintenance activities beyond the lease requirements because of the expected returns over the years. This provides an incentive to maintain sufficient RDM, which protects soil from erosion and enhances the subsequent year's forage production. In addition, livestock that graze a property learn the landscape and retain memory of the locations of forage and

water sources, even on seasonal grazing leases, when the same animals return in subsequent years. This makes management simpler, especially on larger pastures. Short-term leases reduce certainty that efforts to maintain infrastructure or forage resources will be recouped in subsequent years of grazing and thus may result in poor management and overuse. However, a short-term lease may be desirable in specific situations where there is a known change in land use or ownership planned for the near future, but livestock grazing for revenue or stewardship objectives are still desired in the short term.

Long-term leases make lessees eligible for USDA Environmental Quality Incentive Program (EQIP) funding for rangeland improvements, allowing a lessor to leverage federal funds. To qualify for EQIP, lessees must have a lease secured for the length of the EQIP contract, which is generally 3 to 5 or more years.

Leases should include performance standards allowing the lessor to terminate the lease if the lessee fails to meet minimum standards. Leases should also allow the lessor to extend the lease if the tenant has provided excellent stewardship, to be determined at the discretion of the lessor. This encourages high levels of stewardship and allows the lessor to retain a tenant who has been successful and easy to work with. This can be limited to a one-time extension of 5 years, rather than unlimited extensions, if the lessor desires lessee selections to be made periodically on a competitive basis.

Termination of Lease. The lease should address what will happen if things go wrong. The lease should also state what happens in case of emergency, such as drought, wildfire, mass animal health problems, or personal illness. Will lease payments still be due in this situation? The lease should state what would be cause for early termination or discontinuing the lease, such as repeated failure to meet the specified performance standards or complying with other terms of the lease. In the case of an early termination of the lease, there should be a formal time between the notification of the lease termination and when all livestock, equipment, and materials must be removed

from the property, such as 30 days from the notice of termination.

Administration and Coordination. Table 2A addresses several activities that should be included in the lease and grazing operations. Among these is the typical need for the lessee to carry liability insurance. There should also be provisions for communication between the lessor and lessee, including annual meetings or conference calls to discuss management needs, annual plans, and methods for communicating management information and instructions.

Insurance. Business liability insurance that names the lessor as an additional insured party should be required to help protect the lessor from liability arising from the grazing operation. In addition, if the lessee uses employees in the operation on the leased land, proof of workers compensation insurance should also be required.

Infrastructure. Current infrastructure for grazing management, grazing operations, and related stewardship, including structures essential to meeting the grazing goals, are described in table 2B. It is essential to describe in the lease the current conditions of existing infrastructure, what additional structures will be needed, how maintenance will be provided, and how and when any new construction and repairs will be provided. Provisions for maintenance and improvements can be negotiated in a lease so that they benefit both the lessor and lessee. Typically, the lessor is responsible for replacements and repairs, and the lessee is responsible only for maintenance up to the expected lifespan of each type of facility. The more assured a lessee is of lease renewal, the more incentive the lessee will have to manage the long-term productivity of the land and upkeep of facilities. Under a long-term (5 years minimum) lease, the lessee may assume the bulk of responsibility for maintenance and repair on all buildings, interior fences, gates, corrals, and water facilities as well as weed control to the satisfaction of the lessor. For short-term leases the lessor usually assumes major maintenance in addition to repair responsibilities. The cost of improvements, such as extensive weed control projects, fencing, and water developments, requires greater

capital investment and is usually shared by both parties when there is a long-term lease in place. The lessee and lessor will need to share responsibility to apply for federal cost-sharing projects.

Weighing Conditions. When grazing fees are based on weight gain, weighing facilities with proper holding and loading facilities should be provided by the lessor. This may require scales certified by the County Department of Weights and Measures. The conditions of weighing, such as times and preparation of weighing and who will be present, should be spelled out in the agreement.

Watering. Good quality water in good quality watering facilities in proper locations (generally dispersed in a manner that encourages utilization of the entire pasture) improves performance of livestock and use of rangelands. When water supplies dry up or facilities malfunction, provisions must be made to supply water or move livestock. If this occurs through no fault of the lessee, then such costs should be covered by the lessor. Water availability and expectations for facility maintenance should be spelled out in the lease agreement. Long-term structures, such as wells, should be maintained by the lessor.

Livestock Care. Table 2C, covering grazing management and livestock care, outlines responsibilities for the proper care of livestock, ranch employees, and security. Considerations should be given to lessees who have demonstrated good livestock health care practices and are headquartered within the geographic area or a specific regional area of the leased rangeland. Having a lessee who can respond quickly to an emergency is vital.

Diseases and Death Losses and Removal of a Carcass. If there is a death loss, the lessee will be responsible for disposing of the carcass in the manner specified, consistent with law and regulation, as well as consistent with the goals of the lessor. Carcasses can be safely left in place or covered with brush if it is situated away from natural waters or watering facilities and from sight or smell of neighboring residences and recreational facilities. Whether carcass burial would be acceptable (if feasible) should be specified. The burden of costs for

such removal should be specified. The lessor and lessee should decide who assumes the costs resulting from excessive predation on livestock (as well as what means and notifications are acceptable for responding to livestock predation issues) and include this in the lease. If livestock producers are not allowed to use all legal methods to control predators and minimize losses, restrictions should be clearly stated in the lease.

Related to this is consideration of the presence of toxic plants on the leased property, whether currently present or potential for introduction. The lease should state whether management of these species would occur and, if so, who is responsible for management and what treatment approaches should occur. Similar to death-loss from predation, there should be a statement indicating whether the lessor or lessee is responsible for losses from toxic plant poisoning.

Supplemental Feeding. Supplemental feeding may be required to meet seasonal nutritional needs of livestock. For example, forage protein and/or energy levels in fall and winter months may be below maintenance requirements for specific classes of livestock. Hay or commercial supplements provide nutrients when they are deficient and replace forage when lacking. Care should be taken to move the feeding site each year if at all possible. Such locations should be monitored by the lessee for introductions of invasive plants, and the lessee should be responsible for actions to control any infestations. Moving the feeding site reduces localized heavy grazing, trampling, and potential compaction issues. It is reasonable to expect lessees to inspect hay and only use feed that is free of weeds unknown to the property; however, requiring certified weed free may not be reasonable because it is not readily available. The lessee normally pays for any supplemental feed.

Reasonable Use and Performance Standards. Maintaining the health and productivity of the rangeland resources are important considerations in grazing leases. RDM performance standards are often used as a quantifiable and verifiable measure to determine whether grazing achieved vegetation

management goals during the previous grazing period while providing soil protection for the next rainy season. An impartial third party can determine the level of RDM present or expected by fall in order to evaluate grazing utilization.

Performance standards normally are specified in a grazing management plan and referenced in the grazing lease. They should be based on specified management objectives to meet broader goals and should allow for a realistic level of variation both across the landscape and over years. If a lessee fails to meet a performance standard, there should be discussion and assessment with the lessor to understand why. Some performance standards are not realistic at a given site or would require additional infrastructure such as a water trough or fencing. Long-term monitoring should include the evaluation of the goals and objectives themselves; objectives found to be insufficient or overly restrictive in meeting goals should be revised. New goals and objectives may emerge due to invasive plants, climate change, new nearby housing or road developments, and other long-term changes.

Supplementary Conservation Services.

Conservation services (for general land care, support of the land's "ecosystem services," and conservation purposes) are activities that the lessee may be asked to perform primarily for the benefit of land stewardship and specific conservation objectives, rather than livestock production (see table 2D). A lessor may have goals for maintenance and enhancement of special habitats (special-status plants or wildlife, riparian woodland, ponds, wetlands, native grasses, or oaks). These kinds of activities would typically involve reduced rental fees, rent credits, or other forms of compensation. If these activities are identified in the original request for proposals from potential grazing lessees, they may be expected to be performed with a rental fee that reflects the increased costs or reduced revenue for the lessee that would result from these activities.

Rent Credit. One method to support maintenance and improvement activities by the lessee that may be beneficial to both the lessor and lessee is the use of rent credits.

Reimbursement or rent credit is provided to the lessee who conducts major repairs or installs new or replacement infrastructure deemed in advance to be necessary or desirable by the lessor. Options that should be negotiated include full reimbursement, reimbursement of up to a set percentage of the cost, rent credit up to a set percentage of the year's rent due, and rent credit for several years in a multiyear lease for expensive projects. Reimbursement may be preferable to rent credit if the lessor seeks to maximize the "income" side of the lessor's operating ledger, while rent credit may be preferable if the lessor seeks to minimize the "expense" side.

Special Clauses. Each lease should contain a means to modify the terms to address emergency situations, such as wildfire, drought, and flood. There should also be a way to change or terminate the lease when both parties agree. Restrictions on activities by the lessee, such as hunting or fishing, nonlivestock enterprises, recreational access, and tree cutting and selling, should be stated in the lease.

MONITORING (COMPLIANCE AND EFFECTIVENESS)

Monitoring the grazing lease (see table 2E) serves two general purposes: determining whether the lessee is in compliance with the lease terms and conditions (compliance monitoring) and determining whether the goals and objectives of the grazing program are being met (effectiveness monitoring). If compliance monitoring determines that the terms and conditions are not being followed, action might be warranted to correct the management of the lessee. If effectiveness monitoring determines that the grazing program is not meeting its goals and objectives, action might be warranted to revise the grazing management plan, lease terms and conditions, or other management activities if it is really an issue that can be better addressed with other management tools. If not justified by unexpected circumstances, repeated failure to meet performance standards should be cause for termination of the lease.

Ideally, the terms and conditions of the lease include provisions that will effectively

achieve the goals and objectives of land manager or owner. For instance, soil conservation may be a resource goal, so there may be an RDM standard in the grazing lease or grazing management plan (Salls et al. 2018; Heady 1966). Monitoring RDM in the fall will determine whether the lessee is compliant with the RDM standard, and monitoring to detect excessive rilling will determine whether the RDM standard (if it is being met) is effective at achieving the soil conservation goal. Similar monitoring programs may be conducted for invasive plants (compliance monitoring might be to verify whether the lessee is using certified weed-free supplemental feed, and effectiveness monitoring would be surveying for new invasive plant infestations). Other monitoring programs may be conducted for conservation of rare plant populations or management of other habitat parameters.

CONCLUSIONS

A good livestock lease will include the necessary elements to be a legal contract, providing legal protections and clarity for both lessor and lessee and enabling each to cooperatively achieve their goals and objectives. This guide is meant to provide background information for landowners and land managers, as well as livestock producers, who might be interested in entering into a grazing lease to help achieve management objectives.

GLOSSARY

Animal unit month (AUM): The amount of forage required by a mature cow with a nursing calf for 1 month. AUM can serve as the basis for describing pasture carrying capacity or grazing lease rates (see table 1). Estimated to be 790 pounds of air-dry forage per month (NRCS 2003).

Ecosystem services: Goods and services (such as food and fiber production, recreation opportunities, water infiltration, and carbon sequestration) produced by natural habitats.

Grazing Management Plan: A document prepared by a Certified Rangeland Manager (CRM) (licensed by the California Board of Forestry and Fire Protection) that identifies goals and objectives, current conditions and resources, grazing management that will help to achieve the goals and objectives given the current conditions and resources, and a monitoring plan with adaptive management options to be informed by monitoring results to help achieve the goals and objectives.

Residual dry matter (RDM): The amount of dry forage remaining on the range before the onset of fall germinating rains. RDM is typically expressed in pounds per acre (or kilograms per hectare) and measured in September in California. RDM standards can be used to protect soil from the impact of germinating rains and can also affect vegetation composition and forage productivity in the following growing season. Remote sensing methods paired with field verification have proved to be cost effective methods for determining RDM standard compliance when working with large grazing units.

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Publication 8679

ISBN-13: 978-1-62711-126-3

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