
Browsing Academy
RIPARIAN AREA RESTORATION WITH
KIKO MEAT GOATS



GOATS UNLIMITED started enhancing land productivity in 1985 on the Hawaiian Islands in old, abandoned sugar cane plantations with meat goats. Acres lay idle that had been in production for years but no longer capable of producing cane worth harvesting for profit on the world market. The acreage was eroded, the top soil long gone, and woody species and forbs in abundance - goat food! Our projects eventually expanded into citrus orchards, and macadamia nut farms, as well as overgrazed/underutilized rangelands. After a long search for a permanent home base, re-evaluation of production economics/parameters and quality of life goals - we moved our goats to a multi-ethnic populated community with diverse vegetative species and easily accessible infrastructure (roads and slaughter facilities) in the Sierra Nevada Foothills of Northern California.

Our business has an established overall goal - to produce the highest quality KIKO meat goat for breeding and meat production while enhancing land productivity.

In California, we are pursuing land cleaning, fire breaking, fuel load reduction, weed abatement, creating defensible space and rejuvenation of lands - from agricultural farmland/rangelands and orchards to timber producing forests. It is an all encompassing adventure with lots of challenges - goats, under CONTROL are being used to enhance land productivity. To accomplish this, biodiversity must be maintained, the physiology of plants and soil understood along with the ability of man to make environmental, economical and socially sound decisions.

Before starting a land cleaning project with the goats, a goal for the land is established and the final landscape goal is described by the individual(s) owning the lands. We then do a complete vegetative survey analysis, soil profile data is obtained, and communication with the owner is an "open door" policy. The management goal encompasses the use of all ecosystems - biological and environmental - (ecology, plant physiology, hydrology, climatology, forestry, soils, economics, animal science, sociology and wildlife) with the success of the project centering around flexibility of management plans and the ability to replan.

ENERGY, in pastoral type agriculture is universal and can be used, stored, concentrated, or spread with the primary source being the sun. To use the natural energy flow efficiently - control - the time of grazing/browsing, the area to be grazed/browsed, the season of grazing/browsing, the plant specie to be grazed/browsed and the livestock specie used to graze/browse.

A Riparian Area Restoration CHECK LIST follows. To be successful, you will need to complete this BEFORE starting a land cleaning or land enhancement project.

1. *Site Analysis and Description*

Vegetation composition (site plant list) / succession of plant communities
Poisonous plants identified and plant toxicities noted
Quality assessment of environmentally adapted plants (perennial vs annual)
Browse preference list (1 – least preferred through 7 – most preferred)
Location of streams, ponds, dams, and springs
Water catchment and erosion consequences
Topography – fire ecology and shelter for inclement weather
Time of year for specific plant specie selection by livestock
Soil texture and rainfall infiltration/percolation capabilities
Basal cover and canopy cover; ladder fuels and fuel continuity
Wetlands – State Dept. Fish and Game / EPA regulations
Permits – conservation corridor, established fish and/or bird habitat
Know the perimeter – map it, noting ecological constraints
History of site (livestock, other land uses) – potential for disease or other soil and water contaminants
Monitor sites – management record keeping (Land EKG), photo points, greenline vegetation composition measurements, water quality

2. *Fencing*

Portable electric polywire on reels, electronetting, tread-in UV resistant poly posts
Corner support system supplies
Energizing system - solar energizer, solar panel, deep cycle battery
Grounding system - rods, connectors, wire
Other gear – chainsaw, weedeater, machete, tree saw, pruners, rope
Herding – horse and all pertinent gear

3. *Water*

Potable water supply – mains supply, fixed storage tank, portable tank
Siphons, solar pump
Commercial grade hoses and fire hose
Troughs with automatic floats, or filled daily by hand
Location of water supply for fire suppression

4. *Goats (KIKOs)*

Body condition score (BCS) at least “6” (out of 9) at start of project
Class of goat (wethers, bucks, does) and age are vital considerations
Health maintenance program – vaccinations, hooves, fecal analysis for internal parasite assessment, no known zoonotic diseases or other transmissible diseases

5. *Transportation*

For goats and dogs – truck, trailer, kennels, loading ramp
For gear – truck, trailer, ATV and wagon
For employee(s) – stockman, fence crew

6. *Equipment*

Portable panels (corrals) and posts for support
Portable goat shelters – designed to minimize crowding (severe weather)
Loose mineral and kelpmeal feeders
Mineral block hanging baskets or holders
Feeders for supplemental feed – (severe weather only)
Dog feeders
General tools – hammer, electric drill, shovel, sledgehammer,
post pounder, post puller, and tools for general repair of housing
and transportation vehicles

7. *Dogs*

Livestock guardian dogs and livestock herding dogs
Number required dependant on predator type, size of herd, topography
Age, experience and breed to be selected based upon specific situation
Health maintenance program – spay/neuter, vaccinations (rabies, parvo, leptospirosis, Lyme), clipping, internal parasites, ticks, heartworm, etc.

8. *Feed*

Supplemental feed for goats – protein (alfalfa, cull beans); energy (corn)
or other local byproducts
Balanced loose chelated mineral/vitamin mix, mineral blocks, kelpmeal
Quality dog food that has a high fat and high protein content

9. *Insurance*

Comprehensive General Liability – minimum of \$2M
Broad Form Property Damage coverage
Goats and dogs – replacement value plus time and monetary value of lost
browsing time and Full Mortality insurance
Workers – workmen's compensation, health insurance
Equipment – trucks, trailers, RV, ATV, fencing materials
Consider Third Party Fire Fighting and Fire Suppression Expense Liability
coverage

10. *Labor*

How many people required; hourly, daily wage or salary
Experience of labor needed, the knowledge level of labor needed
Food allowance, cell phone, first aid kit
Transportation – pickup, ATV, horse (and all gear)
Accommodation(s) – travel trailer or RV, portaloos, etc.

11. Legal

Contract with landowner (or government agency)

- where – exact location specified, perimeters located and marked
- specified time period – a beginning and an ending (date may be extended/renewed upon written agreement of both parties)
- how – primarily with goats, body condition score (BCS) in, BCS out
- what – ladder fuel, firebreak, weed abatement, pond restoration, etc.
- upfront charge – setup and delivery fee (non-refundable)
- fee assessment – based on number of goats (mob or per head basis), time, acres or an individual project bid
- payment schedule with explicit dates and details included
- indemnity clause – varies by state but WORK to be accomplished must be defined in the contract

Contract with employee(s)

- location of project(s), time of year or season, for how long, and the exact job requirement(s) detailed
- indemnity clause and a release clause
- specified time period and specified salary
- lawyer should draw-up all legally binding contracts or agreements

The main reason our fuels reduction and weed abatement business has been successful is the KIKO meat goat. The KIKO has been selected for hardiness, durability, and survivability under extreme nutritional and climatic conditions. The KIKO originated on the South Island of New Zealand in the steep mountainous region, under intense inclement weather conditions. They were farmed on steep hill country and managed with minimal inputs. Goats produced under extreme environmental and vegetative constraints are naturally selected for soundness in conformation, structurally correct feet and legs, fertility, milk production (good udder and teat conformation) and temperament.

Environmental and climatic adaptability are very important selection criteria for a meat goat operation. These goats are expected to perform (reproductive efficiency, growth rate of offspring and carcass merit) browsing and grazing native vegetation. If the goat is not adapted to all surroundings (topography, vegetation, climate), then the environmental affect on the goat will be stressful and greatly inhibit successful production.

To help minimize the affects of stress we have initiated three management techniques. The most important is the enhanced immune system of our KIKOs. To do this, we have a loose, chelated mineral/vitamin mix formulated specifically for our soil and vegetation types. Extra calcium, iodine, copper, selenium and zinc are added to the base mix at specific times of year. This product is on offer “free choice” continuously along with seakelp meal. The goats are culled ruthlessly for conformation (body and udder), feet and legs, and carcass merit. The fibre undercoat that originated with our original KIKO bucks purchased from New Zealand has been maintained. Fibre serves as an insulator in the winter, repels spring and fall rain, and is shed before our hot, dry summer begins.

If you are considering getting into the commercial meat goat business, visit farms and ranches using goats under the same constraints you will be placing them on your farm and in your business. The goats not only have to be environmentally and climatically adapted, they have to be economically feasible and successful.

Contract and Services Negotiation Considerations

Contracts and the services offered under those contracts are site specific. There are other important items to be considered when negotiating a contract. Below is a random list of necessary considerations:

- Specify the exact name of the ‘company/landowner’ and the ‘contractor’ with business address and phone number(s) noted.
- Identify all state, federal, local and environmental legislation regulations, guidelines and standards so as to maintain compliance within the law.
- Rules regulating any subcontractors must be detailed.
- Terms relating to possible contract suspension or termination should be determined.
- Fire – Any/All fire fighting costs/expenses incurred to extinguish any fire NOT caused by the contractor is the ‘company/landowners’ responsibility.
- Agreement date and work commencement date should be in writing.
- Security deposit retained or withheld to insure project completion must be noted.
- The contractor does assume risks and dangers based on the nature of the operation but any negligence of the ‘company/landowner’ is their responsibility and liability.
- Suspension and termination of contract(s) can happen for various unforeseen conditions beyond the control of either party. An agreement designating number of days must be in writing.
- If the costs of performing the work increase after the project has commenced, then by mutual consent and in writing, both parties can agree that the additional costs be covered by the ‘company/landowner’ or the contract can be terminated.
- Should the ‘company/landowner’ re-evaluate the acreage to be treated and determines less acreage than originally stated, they are responsible for incurred costs to the ‘contractor’.
- When vacating the browsing area, it has to be left in acceptable condition.
- Working in areas with known predators (bear, mountain lions, wolves, coyotes, domestic pack dogs), protection of human life is of utmost important. Be sure that, if fire arms are used as a means of protection, they are within the limits of the law and the individuals using them are qualified.
- In a commercial forest or re-planted plantation, know the number of trees per acre required to attain a healthy stand as required by the ‘owner’. Monitor the condition of the conifer(s) (seedlings) and manage livestock accordingly.
- All conditions regarding water sources (lakes, streams, buffer strips) must be in writing.
- Indemnity clause, included in the business agreement/contract, should be spelled out by legal council in your state. It is a contract by which one engages to save

another from a legal consequence of the conduct of one of the parties or of some other person. It generally obligates the indemnitor to reimburse the indemnitee for any damages. Remember that a contract is interpreted according to the language and contents of the contract as well as the intention of the parties, so be sure that the 'work' being done is spelled out explicitly in the contract.