

Single Treatment, 30 years after juniper establishment

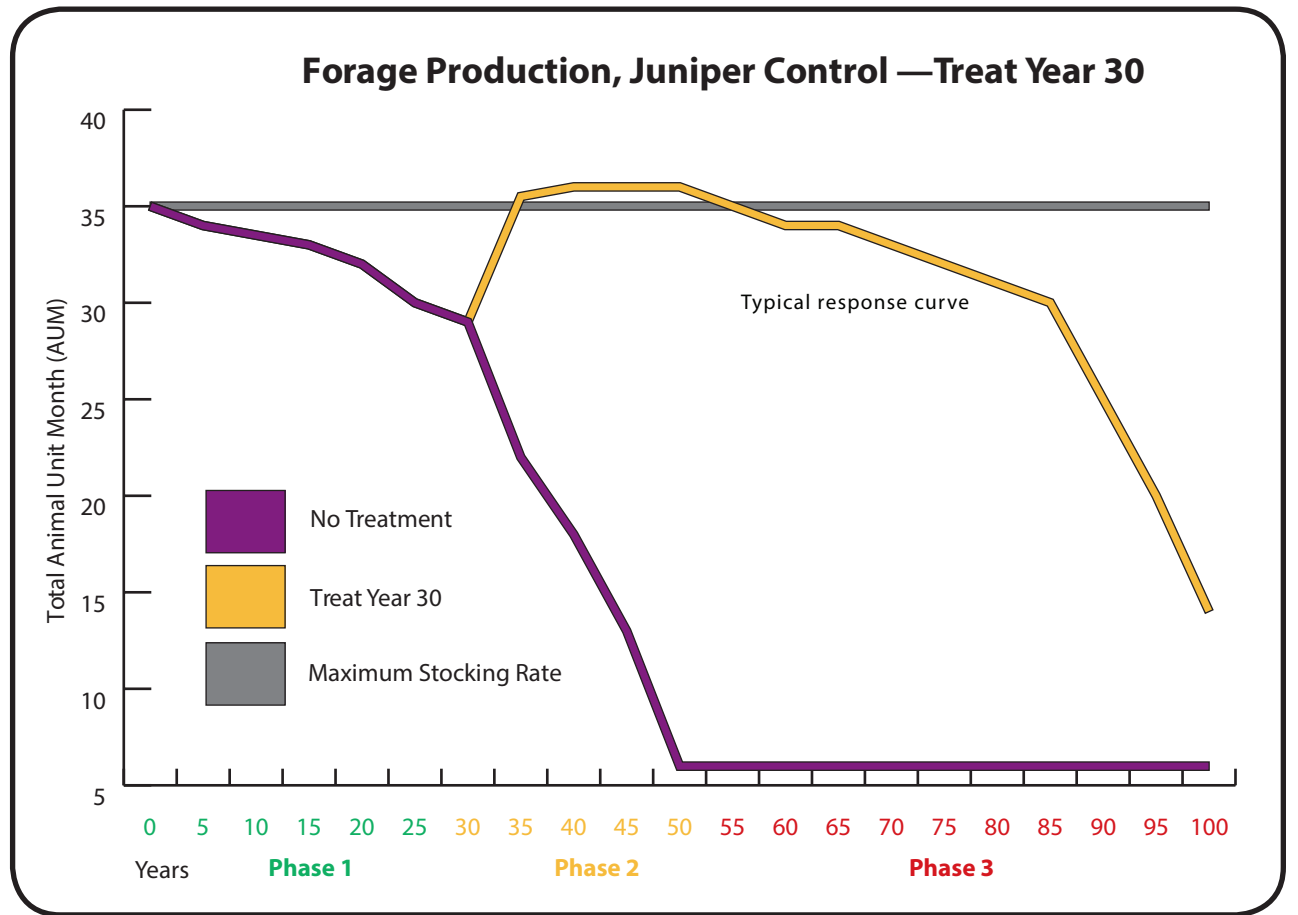
- Total Treatment Cost (\$/acre): \$80
- Evaluation Period: 75 years
- Increased Carrying Capacity (average AUMs/acre/year): 0.200
- Cost per AUM (\$/AUM): \$24
- Annual Net Benefits (\$/acre/year): \$2.11

Phase II Juniper:

Trees are codominant with shrubs and grasses at beginning of Phase II and exert more dominance as tree density increases. As tree densities increase, shrub and grass production can decline rapidly.

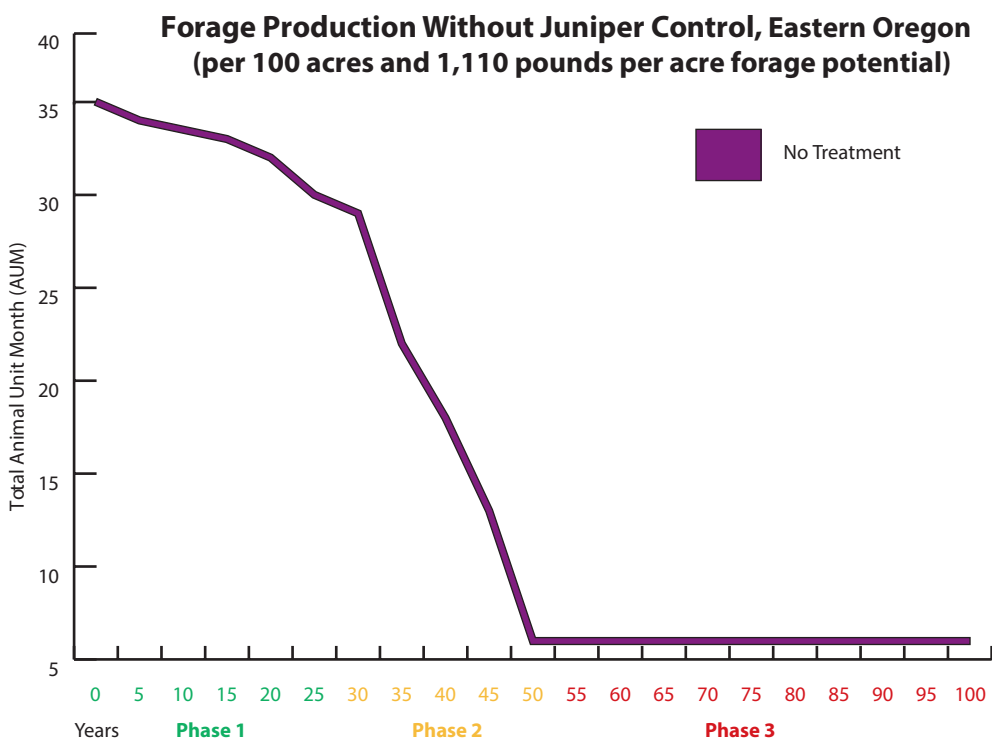
Treat During Year 30:

- Treat established juniper
- Mechanical treatment or heavy equipment
- Forage production has potential to return to pre-juniper encroachment levels if desired plant communities are still intact.
- Forage has the ability to return to site potential
- Net forage benefits are about \$2.11 per acre per year



Graph: On JD Clayey ecosite per 100 acre and 1,100 pound/acre forage potential "Year 0" represents juniper establishment.

PHASE II JUNIPER



Not Treating Juniper

Evaluation Period:
75 Years

Decreased Carrying Capacity (Avg. AUMs/Ac/Yr):
-0.17

Annual Net Lost Benefits (\$/Ac/Yr):
-\$2.27

Phase II Treatment Benefits:

- Potential increase in forage quality and quantity
- Reduced erosion
- Improved soil health
- Potential to increase in-stream water
- Increase water infiltration
- Potential to reduce wildfire hazard
- Reduced probability of damaging fire
- Increased real estate value
- Increased recreation/hunting
- Improved wildlife habitat
- Harvested wood products

Phase II Treatment Risks:

- Short term costs of treatment
- Labor and time commitment
- Fire treatment and liability
- Potential for annual grass invasion
- Potential for higher fire severity
- Loss of forage production

Recommendations (Phase II): The optimal treatment period for juniper control in Phase II to maintain or enhance forage production is to remove the trees before the grasses and shrubs die out, due to competition from juniper. Typically, it will take a relatively juniper-free range site about 30 years to enter Phase II. If treated at the beginning of Phase II, it will take about 55 years to return to pre-treatment forage production levels. The closer the juniper treatment occurs to Phase III, the greater the risk of stand conversion to annual grasses, or losing the native desirable species and crossing a threshold. Note: Juniper treatment costs, forage response, timelines and actual numbers will vary with specific site conditions.