

GRAZING MONITORING PLAN

SAN DIEGO MANAGEMENT & MONITORING PROGRAM

FEBRUARY 24, 2021



MSP ROADMAP OBJECTIVES

- The SDMMMP has objectives in the MSP Roadmap to prepare and implement a grazing monitoring plan that uses livestock for landscape-scale management of degraded coastal sage scrub (COSASC-4, COSASC-5) and grasslands/forblands (GRASSL-4, GRASSL-5).
- Purpose of the MSP Grazing Monitoring Plan:
 - Determine the effectiveness of using grazing as a management tool to enhance ecological integrity of natural habitats on Conserved Lands in western San Diego County.
 - control invasive plants, decrease fire risk, provide suitable habitat for MSP Species, and improve ecosystem functions.





San Diego Management & Monitoring Program

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Track MSP progress

> Narrow the objectives list with the following filters. Leave filters empty to view all results.

Target... ▾	Management or monitoring... ▾	Status... ▾
▾	Timing of fire objective... ▾	Management unit... ▾
Taxon category... ▾	Objective code... ▾	Year prioritized... ▾
Species management category... ▾	Objective modifier... ▾	

> Click on type of results you would like, then hit "Submit".

Short

Long

Submit

coastal sage scrub

Goal: Maintain, enhance and restore coastal sage scrub on Conserved Lands in the MSPA that supports or has the potential to support VF species (i.e., cliff spurge, Palmer's goldenbush, San Diego barrel cactus, snake cholla, Blaineville's horned lizard, California gnatcatcher, San Diego black-tailed jackrabbit) and to incidentally benefit a diverse array of other species (e.g., San Diego thornmint, Hermes copper, Quino checkerspot, coastal cactus wren) so that the vegetation community has high ecological integrity, and these species are resilient to environmental stochasticity, catastrophic disturbances and threats, such as very large wildfires, invasive plants and prolonged drought, and will be likely to persist over the long term (>100 years).

MGT-PRP-BMPPL COSASC-4

regional NFO 2019, 2020

Management units: 3, 4, 5, 6, 8, 9, 10, 11

Beginning in 2019, prepare a plan to test the use of grazing, prescribed fire and other methods of landscape-scale control of invasive grasses and forbs in grassland and coastal sage scrub vegetation communities as BMPs to promote MSP species, native plants and animals, and natural ecosystem processes. The plan should determine the effects of different techniques on natural resources at 200 acre treatment areas at 3 different sites in the MSPA. Development of the study plan's experimental approach should include a review of the literature on the effects of grazing, prescribed fire, and other methods of invasive plant control on coastal sage scrub and grassland ecosystems to develop a conceptual model for management and monitoring. The plan should detail how to test different plant control methods over at least 3 years and should include the specific monitoring questions, objectives, and monitoring targets, a statistically valid experimental design with monitoring methods, sampling locations, and standardized protocols. The plan should include annual monitoring to determine the benefits and impacts of each method on natural resources and to track financial costs, logistics and sustainability of invasive plant control.

[Actions](#) [Success criteria](#) [Associated Threats](#) [Related Objectives](#)

MGT-DEV-BMPPL COSASC-5

regional NFO 2020, 2021

Management units: 3, 4, 5, 6, 8, 9, 10, 11

In 2020-2021, begin implementing and testing the plan for landscape-scale invasive plant control of coastal sage scrub and grassland ecosystems at 3 or more selected sites with extensive (at least 200 acres) coastal sage scrub and grasslands with large nonnative grass component, using livestock that are most suitable and feasible to manage for the grazing study, effective at controlling invasive nonnative annual grasses, and that are least likely to impact native plant and animal species. Test management methods for enhancing coastal sage scrub to reduce invasive plants and to increase native forb, grass and shrub cover and bare ground. Test management techniques for nonnative grassland to improve habitat for MSP species such as Quino checkerspot, burrowing owl, golden eagle, grasshopper sparrow, black-tailed jackrabbit and American badger. Incorporate layered treatments of different control methods in the experimental design.

[Actions](#) [Success criteria](#) [Associated Threats](#) [Related Objectives](#)

grassland

Goal: Enhance and restore native grasslands and forblands and manage nonnative grasslands on Conserved Lands in the MSPA that support or have the potential to support VF species (i.e., grasshopper sparrow and San Diego black-tailed jackrabbit) and to incidentally benefit a diverse array of other species (e.g., Quino checkerspot, burrowing owl, golden eagle, Stephen's kangaroo rat) so that the vegetation communities have high ecological integrity, and these species are resilient to environmental stochasticity and will be likely to persist over the long term (>100 years).

MGT-PRP-BMPPL GRASSL-4

regional NFO 2019, 2020

Management units: 3, 4, 5, 6, 8, 9, 10, 11

Beginning on 2019, prepare a plan to test the use of grazing, prescribed fire and other methods of landscape-scale control of invasive grasses and forbs in grassland and coastal sage scrub vegetation communities as BMPs to promote MSP species, native plants and animals, and natural ecosystem processes. The plan should determine the effects of different techniques on natural resources at less than 200 acre treatment areas at 3 different sites in the MSPA. Development of the study plan's experimental approach should include a review of the literature on the effects of grazing, prescribed fire, and other methods of invasive plant control on coastal sage scrub and grassland ecosystems to develop a conceptual model for management and monitoring. The plan should detail how to test different plant control methods over at least 3 years and should include the specific monitoring questions, objectives, and monitoring targets, a statistically valid experimental design with monitoring methods, sampling locations, and standardized protocols. The plan should include annual monitoring to determine the benefits and impacts of each method on natural resources and to track financial costs, logistics and sustainability of invasive plant control.

[Actions](#) [Success criteria](#) [Associated Threats](#) [Related Objectives](#)

MGT-DEV-BMPPL GRASSL-5

regional NFO 2020, 2021

Management units: 3, 4, 5, 6, 8, 9, 10, 11

In 2020-2021, begin implementing and testing the plan for landscape-scale invasive plant control of coastal sage scrub and grassland ecosystems at 3 or more selected sites with extensive (less than 200 acres) coastal sage scrub and grasslands with large nonnative grass component, using livestock that are most suitable and feasible to manage for the grazing study, effective at controlling invasive nonnative annual grasses, and that are least likely to impact native plant and animal species. Test management methods for enhancing coastal sage scrub to reduce invasive plants and to increase native forb, grass and shrub cover and bare ground. Test management techniques for nonnative grassland to improve habitat for MSP species such as Quino checkerspot, burrowing owl, golden eagle, grasshopper sparrow, black-tailed jackrabbit and American badger. Incorporate layered treatments of different control methods in the experimental design

[Actions](#) [Success criteria](#) [Associated Threats](#) [Related Objectives](#)

GRAZING MONITORING PLAN WORKING GROUP

- Asked for members in 2019
 - 36 people from 22 organizations
- Held four meetings: May 2019, September 2019, October 2019, & February 2020
- Working Group developed the 3 study questions with objectives
- Determined qualifications for Grazing Research Team and suggested potential candidates



Grazing Research Team at Rancho Jamul Site Visit, October 2020

GRAZING MONITORING PLAN OBJECTIVES

- *How effective is grazing at reducing fire risk?*
 - Objective 1: To reduce flammable non-native herbaceous fuels to protect preserve from fire ignitions and spread.
 - Objective 2: To reduce native and non-native fuel loads in a fuel break to protect preserve from fire.
- *Can grazing effectively enhance disturbed native grassland and forbland habitats?*
 - Objective 1: To reduce nonnative annual grasses and forbs in disturbed native grasslands and forblands.
 - Objective 2: To increase native forb, grass and shrub cover, and bare ground.
- *Can grazing enhance disturbed native coastal sage scrub habitat?*
 - Objective 1: To reduce nonnative grass and forb cover in disturbed coastal sage scrub to increase native shrub cover and bare ground and improve habitat for MSP species such as Quino checkerspot, California gnatcatcher, and black-tailed jackrabbit.



NEXT STEPS

- UC Berkley research team
- Pilot monitoring study at RJER & HCWA
- Timeline:
 - Currently – literature review
 - Winter 2021 design plan and pilot study
 - Spring 2021 implement pilot study