

The Lower Piru Rangelands Project

A Southern California Climate Change Adaptation Case Study



Overview

Climate change may affect the ability to achieve on-the-ground project goals and objectives. The following case study demonstrates how climate change vulnerability and adaptation information can be integrated into existing and future regional grazing management projects to increase overall project resilience. For this example, resource managers and regional stakeholders worked together to evaluate: 1) how climate and non-climate vulnerabilities could impact the ability to achieve project goals, 2) what current project actions help to address or minimize vulnerabilities, and 3) what new actions could be added to the project to address remaining vulnerabilities. While this specific project has already been completed, developing and revising grazing management plans is a common activity in southern California, and this type of process could easily be replicated in future projects.

Lower Piru Rangelands Project Goals & Actions

The Ojai Ranger District within the Los Padres National Forest revised a grazing management plan for three allotments within the coastal scrub and annual grassland-dominated Lower Piru Rangelands. The goals of this project were to:

1. Ensure that livestock grazing is managed in a manner that moves toward desired resource conditions consistent with multiple use goals;
2. Mitigate livestock grazing impacts to threatened and endangered species' habitats at specific locations;
3. Determine the suitability of roads in Wilderness and Inventoried Roadless Area that provide management access within allotments;
4. Make forage available to qualified livestock operators that are suitable for livestock grazing; and
5. Prevent livestock from impacting recreation in the Lake Piru Recreation Area.

Primary project actions included:

- Graze Piru, Pothole, and Temescal allotments
- Eliminate 0.1 miles of road and convert 0.7 miles to trail (maintain 10 total road miles)
- Reinstall and repair fencing to prevent livestock from impacting riparian species and habitats
- Consider adjusting season of use, stocking rate, and/or temporary improvements (install water trough, salting) to influence livestock distribution and promote progress toward desired resource conditions

Step 1: Identify Climate & Non-Climate Vulnerabilities

How may climate change and non-climate stressors affect the ability to meet goals or implement project actions?

Increased drought/precipitation changes

- Impacts forage availability by decreasing forage productivity, altering plant composition, and reducing water sources

Altered wildfire regimes

- Reduces forage availability by temporarily increasing bare ground, altering planting composition, and promoting conversion to annual grassland
- Impacts ability to mitigate grazing impacts by damaging fencing

Increased extreme precipitation events

- Impacts ability to mitigate grazing impacts by increasing erosion in riparian areas and damaging/destroying fencing

Increased invasive plants (e.g., bromes, mustards)

- Undermines progress toward desired resource conditions and may decrease forage availability/productivity



Step 2: Reducing Vulnerabilities Through Existing Project Actions

Which existing project actions help address potential vulnerabilities?

Action: Graze Piru, Pothole, and Temescal allotments

- ✓ Increases regional rangeland productivity and forage available to livestock operators
- ✓ Increases total available water sources by accessing additional riparian/water source areas
- ✓ Reduces fire risk by reducing fine fuel loads

Action: Eliminate 0.1 miles of road and convert 0.7 miles to trail (maintain 10 total road miles)

- ✓ Reduces riparian erosion (if road is adjacent to riparian areas)
- ✓ Reduces fire risk by reducing vehicular ignitions

Action: Reinstall and repair fencing to eliminate livestock from impacting riparian species and habitats

- ✓ Reduces riparian erosion

Action: Consider adjusting season of use, stocking rate, and/or installing temporary improvements

- ✓ Increases regional rangeland productivity by distributing grazing pressure temporally and spatially
- ✓ Increases total available water sources
- ✓ Promotes desired plant species composition (depending on management and grazing intensity)



Step 3: Integrating New Project Actions to Address Remaining Vulnerabilities

What additional actions could be implemented in the future to further reduce identified vulnerabilities?

Action: Practice invasive species management (e.g., early detection/rapid response, treat/remove invasives)

- ✓ Reduces invasive species risk in rangeland and riparian areas
- ✓ Increases forage productivity
- ✓ Promotes desired plant species composition

Action: Seed/Plant palatable and climate-resilient native species (e.g., drought-tolerant species; perennials)

- ✓ Increases forage productivity
- ✓ Promotes water infiltration and reduces riparian erosion by stabilizing soil
- ✓ Reduces invasive species risk and promotes desired plant species composition

Action: Incorporate climate conditions, trends, and triggers into adaptive grazing management

- ✓ Utilizing planned grazing rotations during drought periods helps maintain long-term forage production

Action: Plan for and implement water development based on projected future water conditions

- ✓ Identifying proper areas for and installing stock ponds to capture runoff helps ensure water for cattle