Habitat and Open Space

What are Habitat and Open Spaces?

Natural areas and open spaces provide habitat for wildlife as well as a range of benefits for humans. These areas encompass everything from permanent habitat in preserves to temporary habitat found in and around farm fields. Habitat and open space can also range in size from thousands of acres to small strips and hedgerows. Open spaces can also function as buffers between agriculture and rural communities that reduce human health risks and create socioeconomic benefits for growers and communities. It can also help local Tribes protect historical resources and provide access to native plants of cultural value.

Potential Water Benefits

Habitat and open space can be compatible with both reduced water demand and increased supply (i.e., recharge) solutions.. Restoring native arid habitat on previously irrigated lands nearly eliminates consumptive water use on those properties once native plants are established. On-farm habitat practices like wildlife-friendly cover crops, pollinator strips, and hedgerows can reduce water demand and provide other water benefits like improved water infiltration or taking on flood waters in wet years. Wildlife-friendly recharge basins replenish aquifers while providing wetland habitat.

Benefits to Grower/Landowner

The benefits to growers and landowners depend on the type of habitat and how it is managed, yet multiple benefits are common, increasing their collective value.

Reducing consumptive water use: Many arid ag land types, once restored to habitat, require no applied water and can, contribute to demand reduction goals for farms or water districts. Landowners/growers may be able to transfer the groundwater and surface water allocations from habitat areas to other portions of their property.

Improving soil health and water retention: Cover crops, hedgerows, pollinator strips, and edge-of-field-buffer strips can attract beneficial insects, provide pollination services, improve water infiltration and retention, reduce soil erosion, and reduce agricultural water run-off with low or no applied water.

Enhancing groundwater supply: Wildlife-friendly recharge basins combine habitat conservation with recharge in areas with moderate to low percolation rates. However, to manage recharge basins for habitat, the basins need to receive water regularly, at a minimum, in 3 out of every 10 years.

Managing flood risk: Restoring natural floodplains near riparian areas to take on floodwaters can prevent flood damage to crops and communities. Many habitat types are compatible with seasonal flooding. Having natural areas designated to take on floodwaters can help prevent flood damage to crops, fields and communities. Wildlife-friendly recharge basins can also provide on-farm water storage in wet years, provided landowners have permits to do so.

Benefits to Other Stakeholders

Improving air and water quality: Restored habitat can contribute to improving air and water quality by reducing or eliminating fertilizer and pesticide use by incorporating natural predators of pests, preventing

further leaching into groundwater. Habitat often also reduces air pollution from soil erosion and dust compared to bare fallow lands or irrigated farmland.

Protecting community water supplies: Habitat buffers around communities can help protect communities and schools by reducing draw down of the water table near community wells, reducing contamination of the aquifer near or upgradient from wells, and by limiting pesticide drift or dust from nearby agricultural fields.

Recreation, aesthetic, and Tribal cultural values: Habitat and open space can provide areas for people to see wildlife and enjoy nature, which can improve health and wellbeing. Tribes can benefit from access to and stewardship of culturally-important crops like salt grass, dear grass, tule and others. It is recommended to have local Tribal guidance for this.

Examples of Habitat and Open Spaces

The following are some examples, for illustration purposes, but do not reflect all possible options.

Permanently protected areas: Because some habitat supports threatened and endangered species, paying for restoration on private land and protecting it can be seen as a good investment by agencies and private funders in the form of an easement. Some types of upland or riparian habitat are likely most valuable and therefore appropriate for landowners who are considering selling property to a conservation organization who can manage the habitat in perpetuity.

On-farm and edge-of-farm habitat: Cover crops, hedgerows, pollinator strips, and edge-of-field-buffer strips are all types of habitat that can provide benefits for growers and stakeholders. Some state and federal agencies offer financial assistance for implementing on-farm habitat and conservation practices.

Intersections with Other Solutions

Intersections With Other Solutions: In some cases, it may make sense to combine solutions in order to generate more benefits and funding on the same property. Combining land use alternatives may also allow landowners/growers and communities to take advantage of different features and qualities of a property.

- Wildlife-friendly cover cropping, pollinator strips, and hedgerows can be readily combined with permanent and annual crops.
- Grazing is often compatible with habitat restoration, particularly for managing weeds and non-native vegetation so that native plants can compete for space.
- Temporary habitat solutions, like cover cropping, can be integrated into low-water-use crop rotations or into an annual fallowing cycle to reduce erosion, halt pathogens, or provide alternate income.
- Solar farmscan be designed to allow movement and residence of wildlife. Sites can function as habitat themselves, as well as provide connectivity between other habitat areas when wildlife-friendly fencing is used.

Resources

- For more information on upland and arid habitat restoration, contact Abby Hart, abigail.hart@tnc.org
- For more information on wildlife-friendly recharge basins, check out EDF's "Building Multi-Benefit Recharge Basins Guide" (Link Here) or contact Taylor Broadhead, taylor.broadhead@audubon.org
- For more information on Permanent Conservation refer to that Solution Summary.

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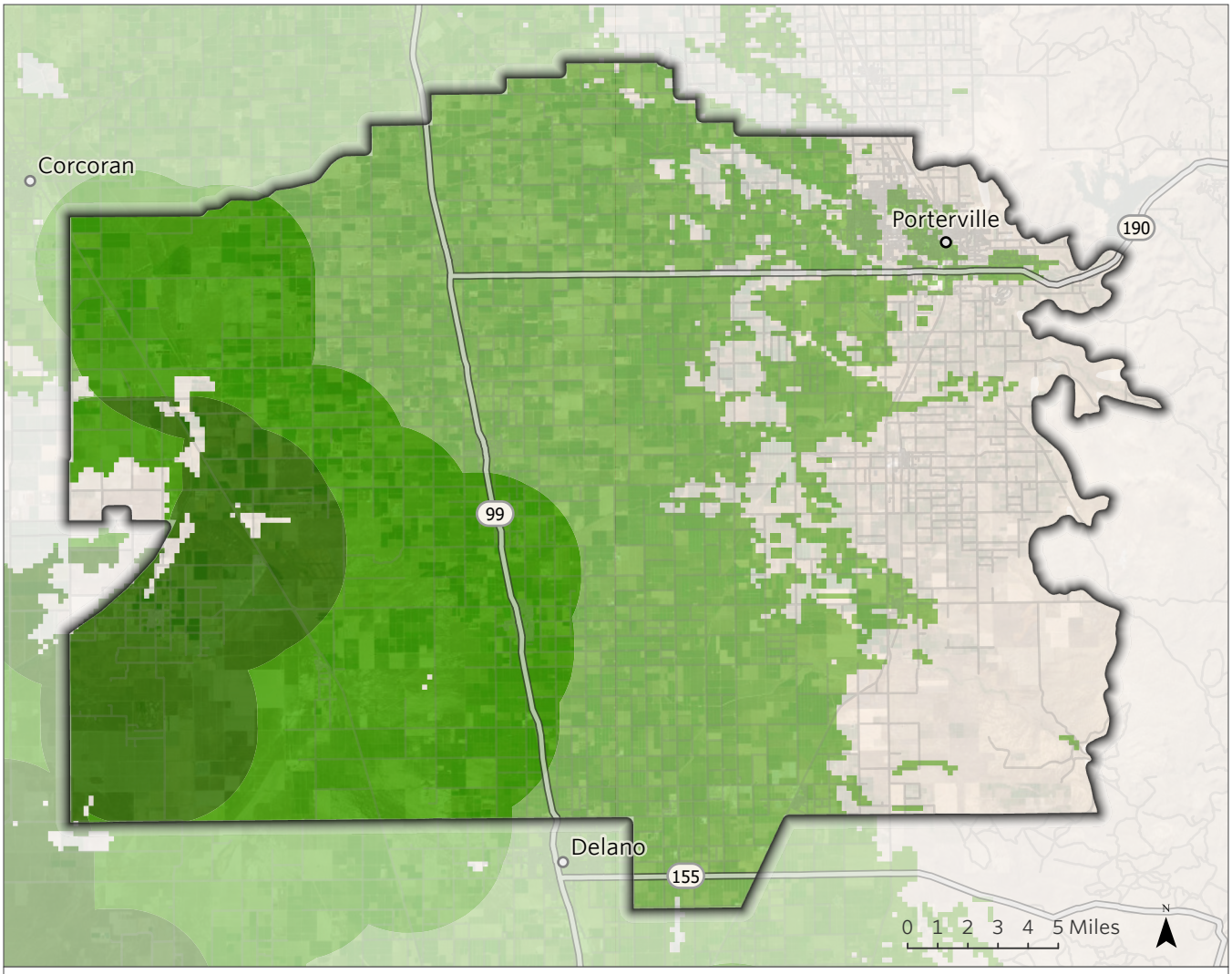
Habitat Restoration



Aggregate potential habitat quality for 2 or more focal species, selected based on representative habitat needs. (Bryant BP, et al. 2020) Suitability scaled by proximity to areas managed for conservation.

Habitat Restoration for Upland Species

- Very Highly Suitable
- Highly Suitable
- Suitable

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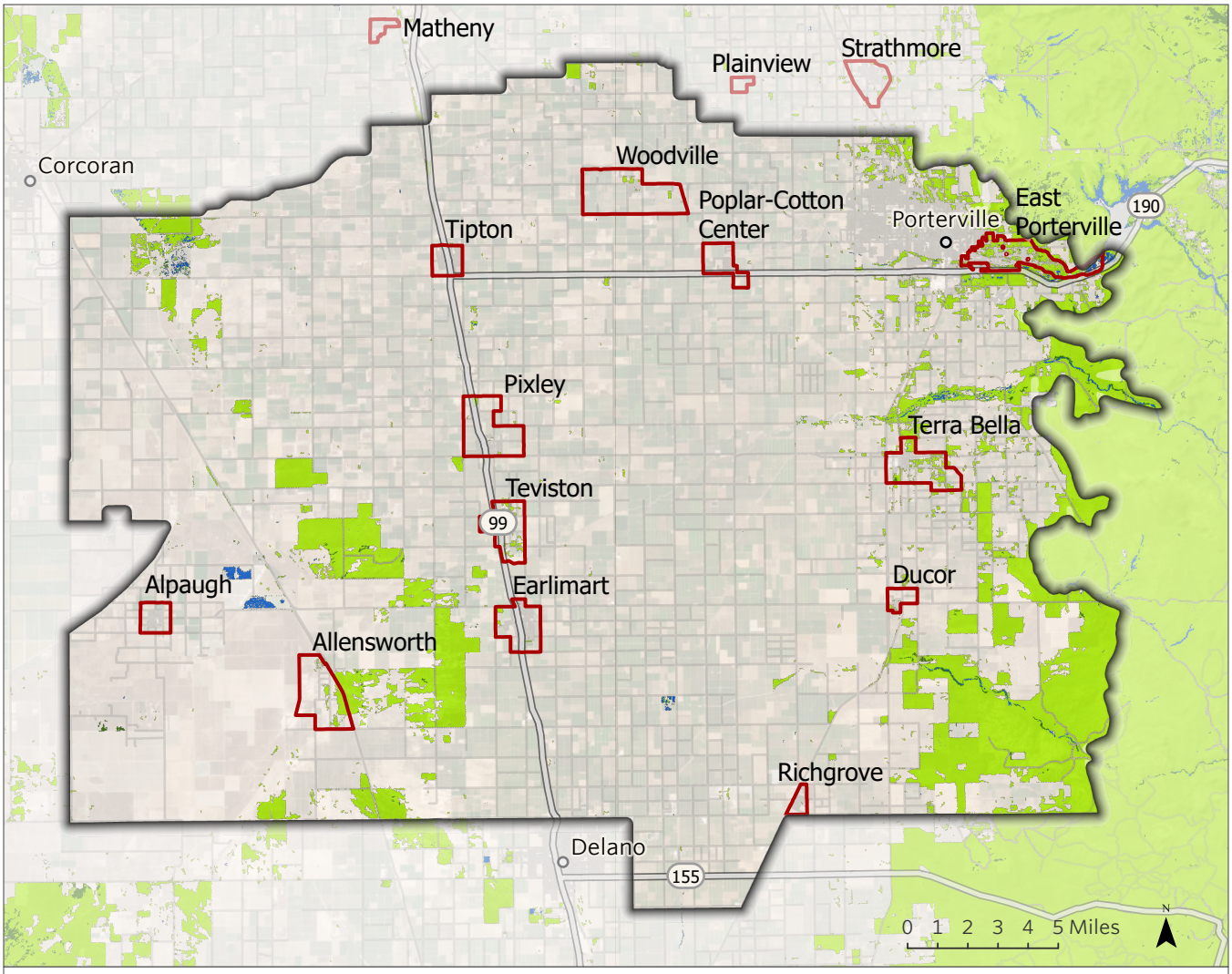
Rural Communities and Greenspace



Low-income, rural frontline communities <15 km2 in California's Central Valley identified in Fernandez-Bou, Angel Santiago et al. (2022)

Rural Disadvantaged Community

Herbaceous

Trees / Shrubs

Wetlands