NATIVE HABITAT AND CONNECTIVITY

One of the most unique aspects of Vermejo is the size of the property being managed for native habitat and species at a landscape scale. To put Vermejo's size into perspective, Vermejo manages roughly 558,000 acres. National Parks with similar ecosystems are Rocky Mountain National Park comprising roughly 266,000 acres, Grand Tetons National Park is approximately 310,000 acres and Sequoia National Park 404,000 acres. Vermejo is working to make an impact on a large scale.

Corridors and Migration

Vermejo borders other privately held conservation focused large properties as well as the Valle Vidal Unit of the Carson National Forest. These large areas allow for regional wildlife corridors that are mostly uninterrupted by major roads and have very low human populations. Large ungulates and large predators utilize migration corridors to move through the landscape which can aid in migration dependent genetic diversity. An example of a species that clearly benefits from these corridors is the Rocky Mountain bighorn sheep that move along the peaks of the southern Sangre de Cristo mountains.

Large predators also require large areas of habitat to hunt. American black bear, mountain lion, bobcat, golden and bald eagles all need larger territories to hunt and raise offspring. Elk herds migrate up and down in elevation with the seasons and do not care about crossing property boundaries. The Castle Rock Bison herd travels throughout the property during spring, summer and fall but when winter comes, the herd moves down in elevation to the shortgrass prairie.

Even small birds migrate within Vermejo including the dark-eyed junco that summer in the high elevations and winter in the mid-elevation Ponderosa pine. Sandhill cranes stop in on their migration to and from the San Luis Valley of Colorado. Wildlife corridors provide critical resting stops along very long bird migration routes. This also is true of migrating insects including butterflies that require patches of native plants along their migration routes.

Bird and large mammal migrations are well known, but migration corridors are also critical to native fish populations. The fish need access to move up and down stream systems without human made barriers such as dams and road culverts. Drops from culverts often preclude fish from migrating upstream if the culverts are placed too high above the stream.

Landscape Mosaic

A landscape mosaic is an ecological area that is composed of heterogeneous or differing mosaic pieces or patches that form the landscape. A forested area may contain an adjacent riparian area or small area of montane grassland as well as patches of different age class or density of trees. These different patches within a large landscape affect how wildlife use the area for shelter and finding food. The patches also affect water and nutrient cycling as well as wildland fire characteristics. The natural mosaic can also influence weather patterns and create micro-climates. Conservation of natural and heterogeneous landscape patches protects the biodiversity of native species and overall health of all organisms in a landscape. Transition areas between ecosystem types are important for species like the piñon jay and gray fox that utilize more than one habitat

type. The transition zones may become very critical areas with plant and associated animal species migrating up in elevation with climate warming.

Headwaters

Managing the headwaters of large hydrologic or river systems is also critical to the overall function of a watershed. Vermejo includes the headwaters of Costilla and Casias creeks in the Taos County portion of the property. These headwater systems are vital to the health of the downstream systems, in this case the Rio Grande River. The large headwater sloped wetlands that provide the source for the creeks, when intact, can aid in consistent water delivery and improved water quality. Vermejo also includes the upper most reaches of the Canadian River and most of the headwaters of the Vermejo River.

Areas of Low Human Impact

Conservation of large properties can provide areas of low human density. Although many animal species have adapted to live around humans, other species need space away from humans to thrive. Species like badgers, yellow-bellied marmots, American pine martin, and mountain lions prefer to live away from human populations. Bats and other nocturnal species need areas of darkness to navigate and hunt. And songbirds in their natural and quiet habitat, who communicate with calls and songs, do not have to try and compete with anthropogenic noise. Areas of minimal human disturbance are precious and very rare with 8 billion people on planet earth.

Frequently Asked Questions:

1. **What are some of the large neighboring properties that provide wildlife corridors that connect with Vermejo?** Not having room to list all, the Valle Vidal Unit of the Carson National Forest, Philmont Scout Ranch, Chase Ranch, Tercio Ranch, CS Ranch, Rio Costilla Livestock Assoc., Hill Ranch, Dawson Ranch and the Alce Toro Ranch are some of Vermejo's neighbors that help provide regional wildlife corridors.
2. **Does Vermejo work with state or federal agencies?** Yes, Vermejo partners with many government agencies including US Fish and Wildlife Service, New Mexico Game and Fish, Colorado Parks and Wildlife, the US Forest Service, New Mexico State Forestry, New Mexico Surface Water Quality – Wetlands Bureau, New Mexico Natural Heritage, the Army Corp of Engineers and the EPA on various projects that help conserve native habitat and species.
3. **What is a landscape mosaic and why is it important?** Perhaps the best way to envision a landscape mosaic is a puzzle made up of small puzzle pieces. Each puzzle piece may be a different ecosystem or seral stage (or age) of a forest. The more different type of 'pieces' in your puzzle, the better chance of increased biodiversity and resiliency in your landscape. If you have all the same type of 'piece' or a landscape that is all 125 year old ponderosa pine forest, you are lacking different age stands, wet areas of mixed conifer forest, oak shrublands to feed wildlife, open grasslands for bison, and wetlands or riparian areas that are biodiversity hotspots and likely have a landscape that would have higher risk of catastrophic wildland fire or widespread disease caused tree mortality.