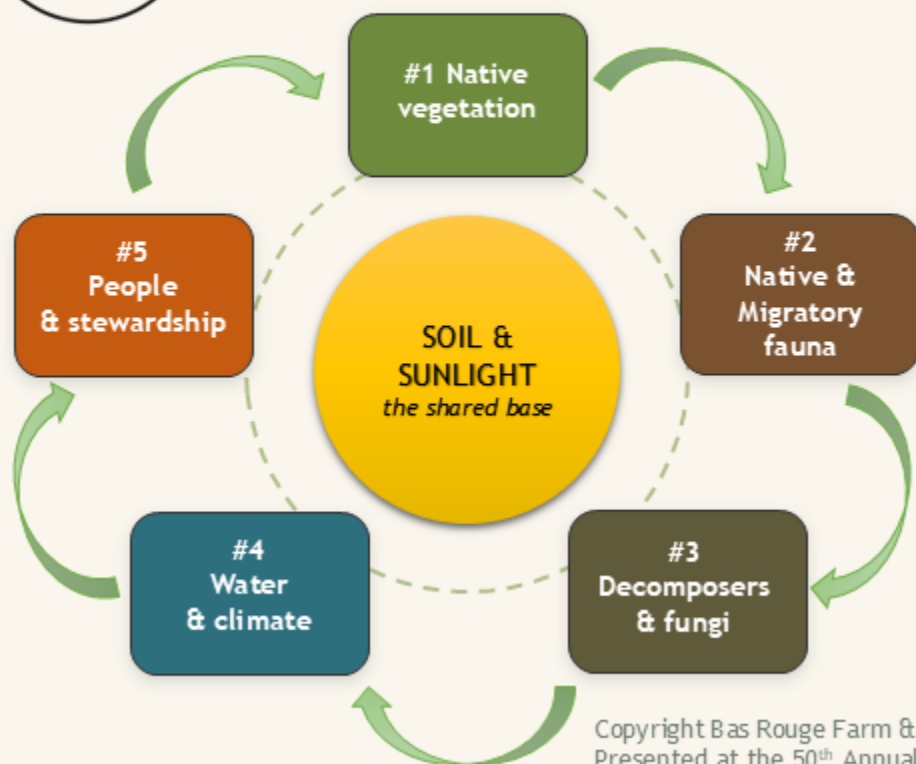




Creating Sustainability with Native Plants - Model

Five living components, bound by four cycles and one feedback loop.



Components

Five interacting parts — nothing stands alone.

Cycles

Water, carbon, nutrients and energy keep moving.

Feedback

Monitoring returns information to stewardship.

Boundaries

Use stays inside each cycle's rate of renewal.

Cycles turn clockwise around the core



Creating Sustainability with Native Plants: The Living System

A regenerative model — five components, four cycles, one feedback loop, patterned on native vegetation and its faunal associations.



FIVE COMPONENTS

#1 Native vegetation

Fixes carbon, hold soil, set structure.

#2 Native & migratory fauna

Moves pollen, seed and nutrients.

#3 Decomposers & fungi

Returns dead matter to nutrients.

#4 Water & climate

Sets the pace the system can work at.

#5 People & stewardship

Plant, burn, harvest within renewal.

FOUR CYCLES — nothing leaves the system, it only changes form

1 Water

Rain to canopy, canopy to soil, soil to stream and back as vapor; native roots slow runoff and recharge groundwater.

2 Carbon

Photosynthesis to biomass, biomass to litter, litter to stable soil carbon; long-lived natives hold carbon for centuries.

3 Nutrients

Leaf fall, dung and carrion to decomposers, then to soluble minerals; fauna redistribute nitrogen and phosphorus.

4 Energy

Sunlight to producers, producers to consumers, waste heat out; short food chains stay efficient.

Boundary: use stays inside each cycle's rate of renewal — together the cycles set how much the system can give without depleting.

FEEDBACK LOOP — how the system self-corrects

The loop closes: regeneration returns the system to observation, not to a finish line.

Observe

Track native species, soil cover, water quality and phenology.



Interpret

Compare against an intact native reference condition; keep records.



Adjust

Change harvest rate, planting mix or timing before a threshold.



Regenerate

Let the cycles rebuild stock — then observe again.

