March 11, 2021

Re: Mountain View Strategic Planning and Vision

Dear Mayor Kamei and Council members,

During the City's retreat on the City's Goal Setting and Strategic Plan process, council members expressed their appreciation of "hearing birds" and there was a suggestion that "Livability", including aspects of green infrastructure, lighting, the urban forest, pollinator corridors and biodiversity, could be set as a stand alone goal with associated priorities. Here is why Santa Clara Valley Audubon Society, the Sierra Club Loma Prieta Chapter, the Santa Clara Valley Chapter of the California Native Plant Society, and Green Foothills support this idea.

Worldwide, the loss of biodiversity has been devastating and scientists believe that we are in the midst of a mass extinction event similar to the Cretaceous-Tertiary Extinction 65 million years ago, when 75% of all plant and animal species on earth were wiped out. In Mountain View (mostly in North Bayshore/Shoreline) there are breeding populations of 20 plant and wildlife species that are listed as endangered, threatened, or species of special concern, including Burrowing owls, San Francisco common yellowthroat, Black skimmer, White-shouldered kite and Congdon's tar plant. Sadly, some species have been extirpated from Shoreline Park in the past 20 years (California Quail, Ring-necked pheasant), and some migratory birds are suffering population decline. Some local species are at the brink of extirpation, including burrowing owls and the migratory monarch butterflies. For many species, population trends are not recorded.

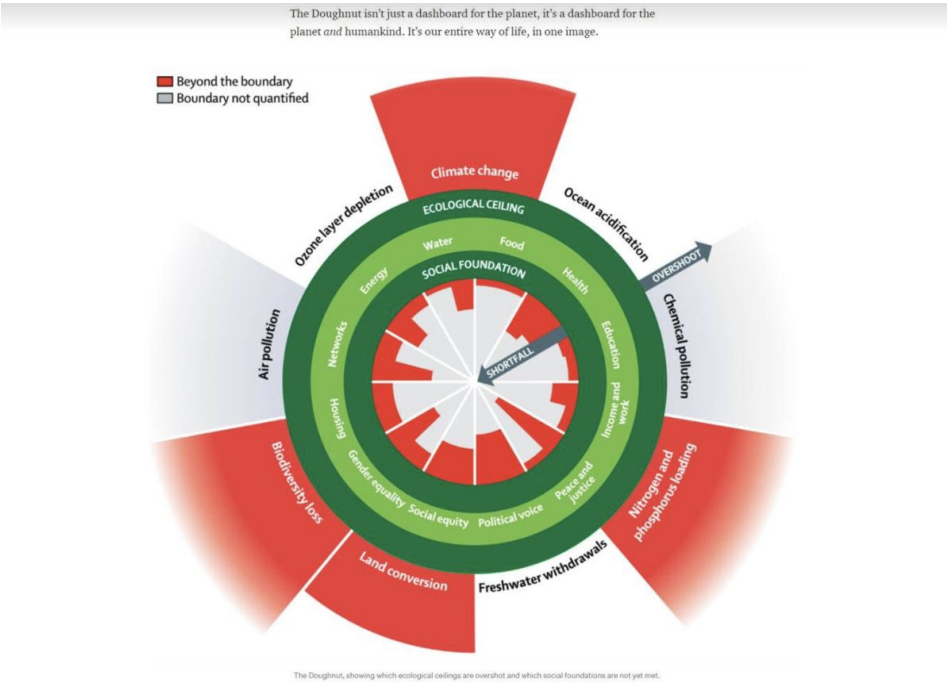
The importance of wildlife in cities (Urban Ecology/Urban Nature) to people and in sustaining biodiversity has been highlighted in many books and studies, and methodologies and some best practices have been developed. Win-win Ecology and Biophilic Cities were among the first books to highlight the integration of nature into human civilizations. Recently, the San Francisco Estuary Institute published a study titled, 'The Biological Deserts Fallacy: Cities in Their Landscapes Contribute More than We Think to Regional Biodiversity'.

We find it unfortunate that Stanford's Natural Capital Project and similar Urban Greening efforts look at Nature-Based Solutions and Ecosystem Services from an anthropocentric lens that does not prioritize local biodiversity. They recommend looking at specific benefits that are associated with greenhouse gas reduction, better stormwater management, improved air quality, increased groundwater recharge,

more or larger parks, and recreation opportunities. Support for local pollinators, birds and biodiversity per-se is generally not included as a goal of these efforts. Instead, the underlying assumption is that planting any vegetation, or some drought tolerant native vegetation in the urban landscape should support local biodiversity. This assumption undoubtedly has merit, but we need to recognize that without specific attention to the needs of local fauna - it is simply not enough.

Biodiversity has been shown to be important to people's happiness. Using data from the "2012 European quality of Life Survey" to study the connection between the species diversity in their surroundings and the life satisfaction in more than 26,000 adults from 26 European countries, researchers showed that an additional 10% of bird species increases life satisfaction as much as a comparable increase in income. Other studies also linked happiness and life satisfaction to biodiversity in nature preserves, parks, open space, and people's everyday lives.

Biodiversity is important not only to our happiness, but to our survival on the planet. Figure 1 shows the planetary boundaries diagram — a data visualization that acts as a dashboard for the health of Earth's bio- and geophysical processes. The illustrated boundaries define a "safe operating space" for humanity, beyond which there would be severe repercussions for human wellbeing.



Mountain View is investing in the conservation of nature and species at Shoreline park, and can do more in the urban/suburban landscape. The recent publication of Integrating Planning with Nature highlights the importance for a shift in the existing city-scape paradigm.

To include biodiversity in the urban wildlife, we must recognize:

- There are exclusive host-plant - herbivore relations between most locally native pollinators and their specific and often exclusive local native plant species. Thus, using locally native plants, including trees, is important.
- Birds depend on caterpillars to feed their young. Since most local butterfly species require locally native specific plants for their caterpillars, locally native plants are critical to provide for birds.
- Connectivity and canopy structure are important - distance between native oaks, for example, should be planned to allow birds to move among the trees, and distance between other habitat patches should allow pollinators to migrate between the patches.
- Sustainability goals, especially the new focus on using drought tolerant plants, means that much of our local biodiversity is excluded. We must allow patches of some "thirsty" plants, like willows, which are a high habitat value plant.
- Vegetation structure is important - multi-layered plantings (trees, shrubs, groundcover) support biodiversity. Leaf litter is needed for many pupae of beetles, moths, butterflies and other insects, and thus provides habitat value.
- Maintenance is key. Today's "mow and blow" methods (use of herbicides, pruning, weeding, over-mulching with wood chips, shearing and leaf blowing) do not create a landscape that mimics nature, and thus do not support habitat for a diversity of birds and pollinators.

So what can we do?

Mountain View has a good foundation for implementing an ecologically robust urban forest and habitat. The North Bayshore Precise Plan includes a Plant Palette that emphasizes native trees and shrubs, yet includes some non-native species that provide special habitat value (for example, fruits in fall, flowers in winter). These species fill a critically missing element in our urban forest and without them, our biodiversity will continue to plummet. Indeed, native plantings at the Google Green Loop, along Shorebird Way, Charleston Rd., along Plymouth St. and on Google's Property in North Bayshore demonstrate that butterflies and native bees may return if the plants they require for a full life cycle are available to them.

In North Bayshore and at Shoreline Park, new best practices and protocols are being developed to allow collaboration among departments with the goals of protecting species, enhancing their habitat, and provide them with nesting sites. **City-wide, a Biodiversity goal could build on the this model to break departmental silos to substantially increase livability in the city:**

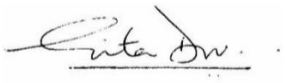
- Open Space and Parks:
    - Expand parks. All new plantings in parks should include planting locally native trees (80%), mid-story and ground cover shrubs (100%).

    - Develop best practices for landscaping maintenance to reduce overall “manicure” activities and time maintenance activities to provide benefits to pollinators and birds.
    - Stormwater infrastructure: Plant small native trees and shrubs in bioswales and bioretention areas (not necessarily drought tolerant).
- Streets and mobility corridors:
    - Create a connected network of Green Safe Slow Streets integrated with shade trees and native shrubs, green stormwater infrastructure, with Vision Zero safety plan for pedestrians, bicycles, micro mobility and slow auto traffic and that will create ecology corridors through the city.
    - Increase use of native trees and use only native plants for shrubs and ground cover plantings.
    - Reduce use of artificial light at night. Eliminate light pollution and use light fixtures and light bulbs of maximum Correlated Heat Temperature of 2700 Kelvin.
- See Integrating Planning with Nature for additional recommendations.

We recognize that this is a shift in a long-standing paradigm, but perhaps this is the time to recognize that Biodiversity is the biological fabric on which we all depend. When biodiversity is the goal, then climate action, sustainability and the urban forest all fall well within the paradigm. But if the goals of climate action and sustainability assume that biodiversity is an end result, and nature is viewed as a “service” to our anthropocentric universe, we will continue to hemorrhage species. This is why it is so important to include Biodiversity goals, and metrics.

Thank you,

Shani Kleinhaus
Environmental Advocate
Santa Clara Valley Audubon Society



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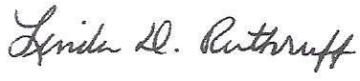

Linda Ruthruff,
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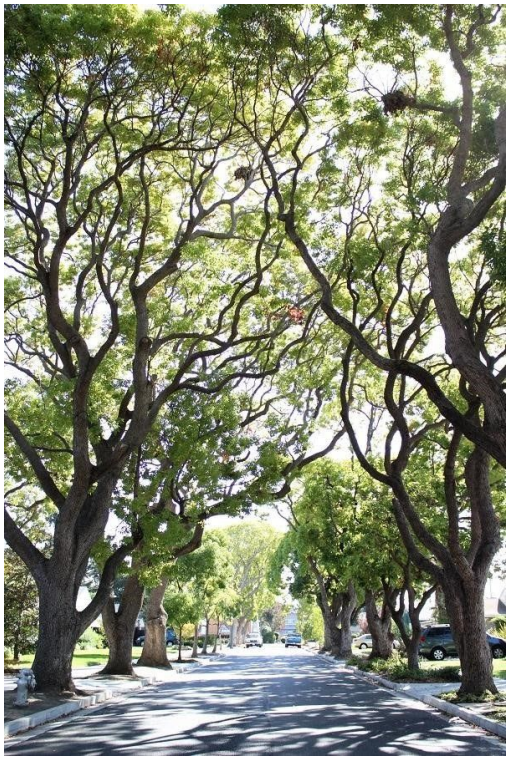
Greenway through a Google campus with native plants for pollinators

Native Planting at a corporate campus - Google



Connected Tree Canopy enhances Habitat - Velarde St., Mountain View