SESSION 1 – WILD NATURE

• Values – San Diego’s Special Wild Nature
• Threats to San Diego Wild Nature
• Solutions to Preserve San Diego Wild Nature
INTRODUCTION TO GLOBAL & LOCAL BIOLOGICAL DIVERSITY
WHAT IS BIOLOGICAL DIVERSITY ("BIODIVERSITY")?

The total variety of life on Earth.
GLOBAL BIODIVERSITY HOTSPOTS
FIVE MEDITERRANEAN CLIMATE HOTSPOTS
CALIFORNIA FLORISTIC PROVINCE
VALUES – SAN DIEGO’S SPECIAL WILD NATURE

• Michael Wall, Vice President of Science and Conservation and Curator of Entomology, San Diego Natural History Museum

• Pete Bloom, Vice President of Bloom Biological and President of the non-profit Bloom Research
THREATS TO SAN DIEGO
WILD NATURE
GLOBAL & LOCAL BIODIVERSITY CRISIS
CONTEXT FOR GLOBAL & LOCAL BIODIVERSITY CRISIS

• Six major extinction events in history of life on Earth

• Permian-Triassic extinction 252 million years ago was largest with loss of 96% of marine species and 70% of land animals
CONTEXT FOR GLOBAL & LOCAL BIODIVERSITY CRISIS

- United Nations study in May – 20% decline of land-based species, 40% decline of amphibian species, 33% decline of marine mammals and corals

- New study in *Science* – North American Bird population decline by 3 billion
VIDEO –
Global drivers of loss of biodiversity & wild nature
CONTEXT FOR GLOBAL & LOCAL BIODIVERSITY CRISIS

• Most global extinction events have taken place over millions of years

• Current “Anthropocene” extinction event over just 10,000 years with most extinctions in last 100 years is predicted to eliminate at least 50% of all species and has been caused by a single species.
LOCAL DRIVERS OF LOSS OF SAN DIEGO BIODIVERSITY

• Habitat destruction & fragmentation
• Edge effects (overly frequent fire, invasive species, harmful recreation)
• Pollution
• Climate destruction
LOCAL DRIVERS OF LOSS OF SAN DIEGO BIODIVERSITY

- HABITAT DESTRUCTION & FRAGMENTATION
- Edge effects (overly frequent fire, invasive species, harmful recreation)
- Pollution
- Climate destruction
EPICENTER OF SAN DIEGO COUNTY BIODIVERSITY LOSS – VERNAL POOLS
Figure 2. Aerial photograph taken in 1928 of the area now occupied by San Diego State University.
EPICENTER OF SAN DIEGO COUNTY
BIODIVERSITY LOSS – COASTAL SAGE SCRUB
THE ADARA VILLAGE CORE

Elementary School

Village Green Park
LOCAL DRIVERS OF LOSS OF SAN DIEGO BIODIVERSITY

• Habitat destruction & fragmentation
• EDGE EFFECTS (OVERLY FREQUENT FIRE, INVASIVE SPECIES, HARMFUL RECREATION)
• Pollution
• Climate destruction
Fires in Adara at Otay Ranch development area

Since 2003, there have been seven fires that have burned more than 130,000 acres in the area of the proposed Adara at Otay Ranch development, according to Cal Fire. The largest was the Harris fire in 2007 and the most recent was the Gate fire in 2017.

Sources: Nextzen; OpenStreetMap; Esri; Cal Fire; Dudek
EDGE EFFECTS – INVASIVE INSECTS
EDGE EFFECTS – INVASIVE INSECTS
EDGE EFFECTS – INVASIVE PLANTS
EDGE EFFECTS – HARMFUL RECREATION
Del Mar Mesa Preserve
Existing Conditions
MAPPED SEPTEMBER 2008
IT IS UNLAWFUL TO INJURE, DESTROY, CUT OR REMOVE ANY PLANT, SOIL OR ROCK IN ANY CITY-OWNED PARK. VIOLATORS WILL BE CITED.
LOCAL DIVERS OF LOSS OF SAN DIEGO BIODIVERSITY

• Habitat destruction & fragmentation
• Edge effects (invasive species, harmful recreation)
• POLLUTION
• CLIMATE DESTRUCTION
SOLUTIONS TO PRESERVE SAN DIEGO WILD NATURE

• Bill Tippets, Southwest Wetlands Interpretive Association
• Susan Baldwin, Safeguard our San Diego (SOS) Countryside
• Mendel Stewart, San Diego End Extinction Campaign
WHY DOES BIODIVERSITY MATTER?

• Practical
• Spiritual
• Philosophical