Greetings from the **Earth Discovery Institute** (EDI) and **Crestridge Ecological Reserve** (CER). With our conservation partners, EDI brings people together to learn about and support our local habitat. Celebrate what you have helped us accomplish, be inspired by the contributions of others and consider your options for involvement in the future.

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Why Have the Butterflies Gone?

Insect pollinators such as butterflies, bees, beetles and moths are in crisis worldwide, suffering from the effects of climate change, pesticide exposure, and habitat loss, fragmentation and degradation. Pollinators make fertilization possible for many plants; without them, some foods would not exist. To produce fruits, vegetables, nuts, peanuts and chocolate, plants depend on pollinators.

Delicate butterflies are important pollinators in Crest's native chaparral and sage scrub plant communities. **Monarch butterflies** have been in the spotlight lately due to a drastic decline in their numbers, they are down 90 percent from the 20-year average--an historical low since their migration was discovered in the 1970s. Lack of available host plants has been identified as a key factor in this decline. Local monarch's plant of choice is narrowleaf milkweed, a plant that once grew prolifically in dry, rolling hills that were also perfect for human development.

The **Quino checkerspot** was once one of the most common butterflies in Southern California. At the beginning of the 20th century, millions of the orange-and-black butterflies could be seen each year from the Santa Monica Mountains to Baja California. Rapid development quickly eliminated much of the butterflies' native habitat and the Quino checkerspot butterfly was federally listed as an endangered species in 1997. The 2003 and 2007 wildfires destroyed what was left of their critical habitat and the butterflies have yet to recover.

Fortunately, the Quino checkerspot's host plants are making a comeback on protected lands such as Crestridge Ecological Reserve. Quino prefer to lay their eggs on dwarf plantain, a tiny, inconspicuous annual that grows in dry, open areas and is easily trampled by off trail users.

By staying on trails and protecting habitat, we also improve habitat for **Hermes copper**, a butterfly found only in San Diego County and northern Baja. It is also on the brink of extinction.

The species inhabits sage scrub and chaparral and is dependent on its larval host plant, spiny redberry, to complete its lifecycle. Crestridge Ecological Reserve's redberry population has made a healthy comeback since the Cedar Fire, providing habitat for adult necturing and egg-laying.

Harbison's dun skipper—a butterfly that sits with its wings folded over its back--is another Crest native that's numbers have greatly declined. They are found in chaparral or oak riparian areas with drainages that support their host plant, San Diego sedge. Dun skipper larvae bend and "sew" the long sedge leaves together to

create a hibernaculum, a place to shelter while over wintering or feeding. EDI volunteers and students have been supplementing the sedge population in the creek bed that runs through the riparian oak woodland at CER. But drought is causing loss of habitat for the dun skipper, as creeks, wetlands and springs dry up.

Urban sprawl, wildfires and climate change are a triple threat to butterflies and other pollinators, but you can make a difference by protecting habitat, planting natives and limiting the use of pesticides. Join EDI on the Crestridge Ecological Reserve and help protect habitat for all pollinators and their host plants.