



**SKY  
ISLAND  
ALLIANCE**

Newsletter of Sky Island Alliance

# RESTORING CONNECTIONS



Winter 2015 | Volume 18 Issue 2



## Winter Wings

The Quest for Sonoran Monarchs

Status of Monarch butterflies in Arizona

Adapt to Thrive

Milkweed

Meet the Veined Ctenucha

## Jan's Campfire Chat

As we bring in the New Year for 2016 we will be celebrating Sky Island Alliance's 25th year anniversary. Thank you for your continuing donations, time and partnership for the past 25 years. You inspire us and energize our commitment to our mission.

This June, our staff and Board of Directors crafted a new Strategic Plan to guide us through the next four years. Through the process, we worked together to review our past achievements, identify the current threats and most compelling conservation needs in the Sky Island region, and determine the strategic outcomes we want to achieve.

It's going to be a big task, but we know that through science and analysis, and partnership and innovation, we can protect clean water, build resilient habitats and linkages, and develop and promote conservation policy to protect and restore the Sky Islands. We are lucky to have support from donors, members and volunteers like you as we embark on the next 25 years.



*Jan Holder*  
Jan Holder  
Executive Director



C. Treadway

# The Quest for Sonoran Monarchs

by Mirna Manteca



That “the monarch butterfly population in Sonora is irrelevant” is something I have had to listen to ever since I can remember. This is something that was also said about Arizona monarchs until Gail Morris published her findings. Her “Status of *Danaus plexippus* population in Arizona,” published this year in the *Journal of the Lepidopterists’ Society*, enlightens us about when and where we can find monarchs in the state, how they move, when they reproduce and where they go to overwinter. When I read this article my immediate thought was, if this goes on in Arizona, there must be something similar going on in Sonora.

The problem is we know nothing about Sonoran monarchs because no one has taken the time and effort to look.

Sky Island Alliance and volunteer students from the University of Sonora have tackled this information gap by creating the group *Alianza de Conservación de Mariposa Monarca*, for citizen science monarch monitoring, community education, and milkweed plant propagation. We are motivated to find out what’s happening with our Sonoran monarch butterfly populations and help them thrive. 🦋

# Standard Operating Procedure: MILKWEED

By Carianne Campbell

Planting native nectar and larval host plants for monarchs (and many other pollinators) is standard operating procedure for nearly every restoration project at Sky Island Alliance. Over the past year, SIA volunteers have planted 134 milkweeds and 4,658 other native plants at nine different sites. Our restoration sites are often located in riparian areas and near springs and seeps - strategic locations to increase floral resources for all pollinators, but especially monarchs.

The Southwest Monarch Study showed that monarchs often migrate along riparian corridors. The plants we install have been grown from seeds collected locally to the project area, and raised without the use of pesticides at local nurseries that understand how to grow tough restoration plants. The Sky Islands are a hotspot of milkweed diversity, with almost 30 species of native *Asclepias* – and our partners endeavor to grow every single one! So far, we have planted eight species on our recent projects (*Asclepias angustifolia*, *A. elata*, *A. latifolia*, *A. lemmoni*, *A. linaria*, *A. nyctaginifolia*, *A. subverticillata*, *A. subulata*), and we are looking forward to expanding this exponentially in 2016 as a member of the Arizona Monarch Conservation Partnership, a new effort of the Arizona-Sonora Desert Museum.

At Hermitage Seep, we preserved a wet meadow AND provided open water habitat for many species of bats as well as Chiricahua leopard frogs – a threatened species that will soon be released there. We have a healthy population of horsetail milkweed (*Asclepias subverticillata*) thriving in the wet meadow, so we augmented the pollinator plants there this April with additional milkweeds and other nectar plants. We planted some southwest chokecherry (*Prunus serotina*) that had been grown from seeds picked out of bear scat at the site.

**This fall, when we returned to Hermitage Seep to check on the plants and excavate another pond, we found a monarch chrysalis**



Above: Sky Island Alliance is planting new Monarch and pollinator waystations at restoration sites across the region. Map by Sami Hammer.

**hanging from one of the protection cages surrounding a milkweed plant!**

Sky Island monarchs are at a crossroads. They can follow their migratory pathways to either Mexico or California, or they can overwinter right here by staying at lower elevations. We are working to ensure that they find the food resources they need along the way. Looking forward, we hope to better understand the role that Sky Island ecosystems will play in the recovery of this iconic species, and how our work can increase the chances that monarchs and other important wildlife will find the resources they need to survive a changing climate. 🦋

# Adapt to Thrive:

## How we are discovering new solutions to climate change

By Louise Misztal

When working in a large region with many special places, species and ecosystems, it is important to prioritize. Choosing the most valuable, most threatened sites for protection and restoration isn't easy. Today the conservation challenges we face are complex, and everyone has a stake in the results.

This fall we hosted workshops in Tucson, Arizona and in Aguascalientes, Mexico to answer some of these big questions and develop strategies together as a community. In the face of such large and widespread challenges as climate change and the spread of invasive species, we need to find innovative ways to work across boundaries with

new partners to protect our water, wildlife, and ecosystems. And people are eager to take part: 150 participants representing over 40 different agencies and organizations from both the U.S. and Mexico attended the workshops.

Sky Island Alliance is one of the lead organizations working with the Desert Landscape Conservation Cooperative (Desert LCC) on a new climate-smart landscape conservation planning and design project. The Desert LCC covers an area that extends far beyond the Sky Islands to reach Texas, California and deep into Mexico.

We are gathering and mapping data and information about our springs, streams

and grasslands. Through this effort, we are creating a tool to better understand the effects of climate change and other looming threats to these places, while also integrating social and economic information to understand what the future might look like.

The project will develop new ways to help the landscape adapt and thrive. 🌱

*Louise spent July on sabbatical in South Australia, visiting national parks and protected areas, learning about new approaches for climate change adaptation, conserving water for the environment, managing and restoring springs, and incorporating indigenous perspectives and values into the management of natural resources. You can get an overview of Louise's travels and research here: <https://springsdownunder.wordpress.com/>.*

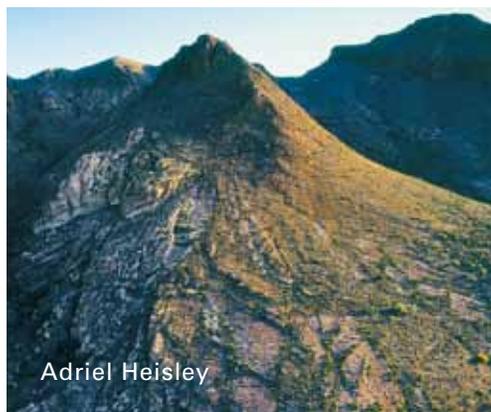
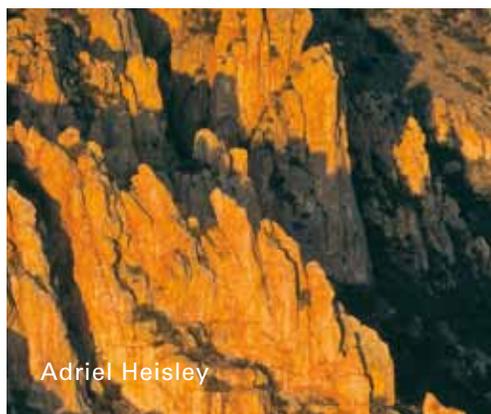
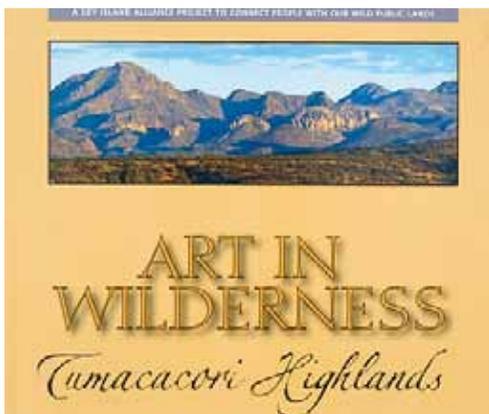


*“I interned with SIA as a senior in college and was provided with many great networking opportunities and field experiences. I would recommend any student looking for an internship to apply with Sky Island Alliance; they are true to their mission and do such an amazing amount of work for the number of staff working there. So get out there, you will have a great time!” ~Allie Kutcher*

## Celebrating the Tumacacori Highlands,

jaguars and singing canyons, our limited edition publication of *Art in Wilderness* is full of breathtaking photography, paintings, essays, poetry and music by well-known and award-winning authors and artists. The book includes two CD soundtracks with readings and music from the book. *Art in Wilderness* is specially priced at \$35 and supports wilderness protection.

Also available in hardback (\$45). **Contact Jessica at [jessica@skyislandalliance.org](mailto:jessica@skyislandalliance.org) to order.**



# We moved!



## Come visit our new office

406 S. 4th Avenue  
Tucson, AZ 85701

## Become a Sky Island GEM

Have you considered automatic monthly giving? Our Sky Island GEM (Giving Every Month) members receive our quarterly “Understory” with special invites for meet ups and trips. Your membership stays current and your dollars go further for our mission. Get started today at [www.skyislandalliance.org](http://www.skyislandalliance.org) or call us at 520-624-7080 x21.

# Status of Monarch Butterflies (*Danaus plexippus*) in Arizona

by Gail Morris, Southwest Monarch Study Coordinator

There used to be a time when many people believed Arizona was not a favorable place for monarch butterflies to flourish. But over 300 citizen-scientists tagging over 12,000 monarchs over the last twelve years gave us the opportunity to learn to the contrary, monarchs were abundant! This summer we published a paper summarizing an overview of our findings, “Status of *Danaus plexippus* in Arizona” by Gail Morris, Christopher Kline and Scott Morris. Here is a quick overview of our findings.

Monarch butterflies are present in Arizona year round. Where they are found depends on the time of year and elevation. There are several varieties of milkweeds, a monarch’s only hostplant, that they favor but they will use others to a lesser degree. In the middle and high elevations they visit *Asclepias subverticillata*, Horsetail Milkweed, the most. In the lower deserts they favor Rush (Desert) Milkweed, *Asclepias subulata*. Tropical Milkweed, *Asclepias curassavica*, was not found in any collections or any monitoring sites and remains an irrigated garden specialty.

The monarch breeding season in Arizona is complicated. Unlike the eastern population, we frequently see more monarchs breeding in late summer and fall rather than in the spring. Again, this varies by elevation. While milkweed is always a monarch’s favorite nectar as well, they will also turn to other sources when milkweed is not in bloom. They were found visiting dogbane, alfalfa, thistles, seep willow, sunflowers and others.

During the fall migration, monarchs are not breeding so milkweeds are not as crucial. But strong fall nectar plants are critical to build lipid reserves to enable them to survive the winter. While a breeding monarch may live only 3 to 5 weeks, a migrating monarch can live to nine months. Sunflowers, rabbitbrush, thistles, Golden Crownbeard, and Smooth Beggartick are primary nectar preferences.

Peak migration for monarchs in Arizona is long, beginning in early September until mid-October depending on elevation. We have one late sighting in Mexico of a monarch tagged in Chandler in mid-November that was seen on December 14. Monarchs in Arizona migrate mainly to Mexico but some also fly to California. We learned that winds at 1,000 feet was a determining factor in southeast Arizona. This was a statistically significant finding.



Not all monarchs migrate. Every year there are small overwintering aggregations in Phoenix, Lake Havasu, Parker, Tucson and Yuma unless there is a hard freeze decimating the population. Some of these monarchs continue to breed, others are in diapause (non-breeding.)

Arizona monarchs have low levels of *Ophryocystis elektroscirrha* (OE), a protozoan parasite common in the *Danaus* family. Western monarchs typically have a 30% infection rate. In comparison, testing over 460 samples show Arizona has only a 4% highly infected rate.

Monarchs are frequently found seeking water during times of high temperatures and low humidity during the breeding season and migration. They favored riparian areas, streams, creeks, cienegas, and seeps.

The 2015 fall migration is in progress and it appears to be about one week late – although a good north wind can push the monarchs forward to the southern part of the state. Right now the migration seems to have shifted to the west-central part of Arizona from the normally favored southeast corner. Time will tell if this pattern continues. 🦋

Read the details of this study (as well as a list of other *Asclepias* species, breeding nectar and migration nectar plants that Monarch’s favor) published in the *Journal of the Lepidopterist Society* and peer reviewed by Dr. Lincoln Brower and Dr. Robert Pyle in this link: <http://images.peabody.yale.edu/lepsoc/jls/2010s/2015/2015-69-2-091.pdf>

Gail Morris is the Monarch Watch Conservation Specialist for Arizona, the Coordinator of the Southwest Monarch Study and serves on the Board of Directors of the Monarch Butterfly Fund. She is also a trainer for the Monarch Larva Monitoring Project and participates in Monarch Health. Her husband, Bob, enjoys photographing wings and things in the field.

# The OVERSTORY

## Projects at a Glance



- We are creating new pollinator monitoring protocols and hosting workshops on spring conservation for participating U.S. National Park and Sonora, Mexico *Reserva* personnel as part of our Sister Parks project.
- We surveyed eight springs in areas burned by forest fires in the Chiricahua Wilderness (where we spotted bears!). As fires become more widespread in our Sky Islands with climate change, we are monitoring how springs are affected and finding ways to protect and restore them.
- The 2015 Sky Island Restoration Cooperative (SIRC) report is now available, which highlights abstracts from dozens of projects we completed with our partners throughout the region.
- The new wildlife crossings on SR 77 are working! Tortoises, bobcats and other animals are already using them – some before construction was even complete! Habitat restoration near the wildlife bridge is now in place thanks to the help of over 50 volunteers.
- We just reached 1,000 observations of 383 different species on our Sky Island Nature Watch project.
- We installed over 700 *trincheras* and other rock erosion control structures in two different watersheds of the Chiricahua Mountains with the help of students from Douglas, the Coronado National Forest, USGS, Borderlands Restoration, Geosystems Analysis, and an AZ Department of Corrections crew.
- We continued our battle against invasive species along the riparian corridor of Bear Canyon, removing arundo, buffelgrass, oleander, and fountain grass from the creek on both Pima County and Coronado National Forest lands.
- We worked alongside the Southeastern Butterfly Association to survey the pollinators of Tumacacori National Historical Park in order to populate their iNaturalist.org database and get ready to install new pollinator park gardens.
- We are gathering public support for better protection of the Whetstone, Dragoon and Chiricahua mountains, our *Land of Legends*. We are also collecting data that assists protection of the Santa Rita and Patagonia mountains, critical habitat and an important corridor for jaguars and ocelots.



## Meet the Veined Ctenucha (*Ctenucha venosa*)

The veined ctenucha (ten-OOCH-ah), despite its almost beetle-like appearance and tendency to be active during the day, is actually a moth. With its bright red head, iridescent blue body, and yellow/orange striped, black wings, this member of the tiger moth family is sure to stand out if seen feeding at flowers. The larval moth feeds on the lush grasses brought on by our summer rains, which is why adults are most common during the fall months, though there are several generations of these moths born from April through November. I recently found a turpentine bush (*Ericameria laricifolia*) in Madera Canyon, in full bloom, which was covered in nearly one hundred veined ctenuchas, as well as two queen butterflies, a painted lady butterfly, and several bee and fly species. As the season cools, keep a lookout on our late blooming shrubs such as turpentine bush and sweetbush (*Bebbia juncea*), for a chance to see this amazing creature. 🐛



Bryon Lichtenhan

# Want to volunteer?

Sign up for our e-news and check out our calendar of events at [www.skyislandalliance.org](http://www.skyislandalliance.org)



C. Treadway

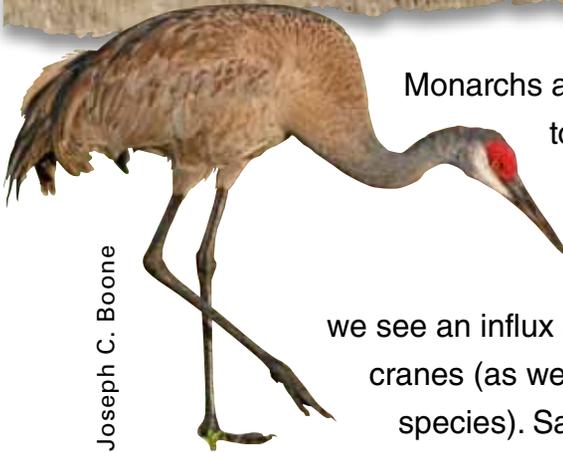
*“Sky Island Alliance is a ‘boots on the ground hands in the dirt’ kind of organization... I really can’t say enough nice things about this terrific group. This is where I spend my volunteer time and make my cash donations. The projects are always fun and deeply satisfying, I honestly feel like I’m making a difference when I work with these guys!”*

Anonymous Volunteer  
GreatNonProfits.org



# These wings of winter are “wildness incarnate”

The sandhill crane (*Grus Canadensis*)

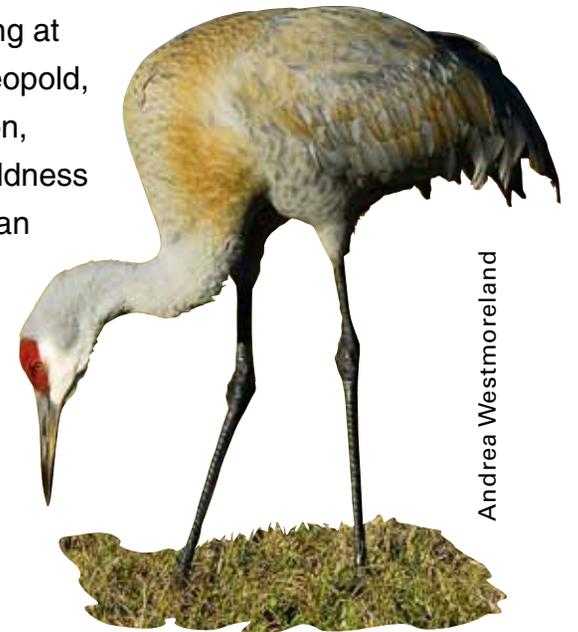


Joseph C. Boone

Monarchs aren't the only animals to migrate to warmer climes in mass for the winter. Here in Southeastern Arizona we see an influx of thousands of sandhill cranes (as well as many other bird species). Sandhill cranes are the most numerous crane species in

the world today, and one of the oldest living bird species as well, with fossil records going back ten million years! In the Sulphur Springs Valley Southeast of Tucson, we can see both the lesser (subspecies *canadensis*) and the greater (subspecies *tabida*) sandhill cranes at Whitewater Draw Wildlife Area. These birds migrate from their breeding

grounds as far away as Canada, Alaska, and Northeastern Russia. In recent years there have been over 30,000 birds wintering at Whitewater Draw. Aldo Leopold, the Father of Conservation, called sandhill cranes “wildness incarnate.” With a wingspan of six to eight feet, and an otherworldly call, they are truly an awe inspiring sight as they leave the wetlands around dawn each day to feed in surrounding agricultural areas.



Andrea Westmoreland

## Celebrating 25 Years in 2016

Your membership means so much to us. Thank you for supporting Sky Island Alliance's mission for 25 years!

**Our mission** is to protect and restore the biodiversity and natural heritage of the Sky Islands. We use science, education and advocacy to connect the binational landscapes, people, and wildlife of the Sky Islands for the benefit of all.

**We envision** the Sky Islands as a place where open space, clean water, and nature thrive, and where people are deeply connected to the region and its innate ability to enrich our lives.



Tim Cook

# Biotaggraphs

*our favorite wildlife camera results*

*Jaguar (c) NCI  
Monte Mojino  
Reserve*



*Coyotes (c) Sky  
Island Alliance/  
Ruby AZ*



*Hog-nosed  
skunk (c) Sky  
Island Alliance/  
El Aribabi*



*Bobcat (c) San  
Pedro Martir  
National Park*



*Black bear  
(c) Sky Island  
Alliance/ El  
Aribabi*



*Mule deer (c)  
Cuenca los  
Ojos Protected  
Area*



*Mountain lion  
and cub (c)  
Sky Island  
Alliance/ El  
Aribabi*



*Ringtail (c) Sky  
Island Alliance/  
El Aribabi*



*Ocelot (c) Sky  
Island Alliance/  
El Aribabi*



*Bighorn sheep  
(c) El Pinacate  
and Gran  
Desierto de  
Altar Biosphere  
Reserve*



# New on Staff



Mirna  
Conservation Coordinator

## Meet Mirna, our New Conservation Coordinator

Hiking and camping through the stunning Sonoran Sky Islands every summer as a child triggered my profound love for open spaces and wildlife. My wild childhood led me to study biology at the University of Sonora. I worked with the Ajos-Bavispe National Forest Reserve and Wildlife Refuge using remote cameras and track identification techniques to monitor the priority species of Sierra Los Ajos. I also worked with Naturalia on beaver and black-tailed prairie dog conservation efforts in the San Pedro Watershed, working with landowners to protect species that can be controversial for ranching, and to preserve the last black-tailed prairie dog colony in the state of Sonora. I'll be working on cross border conservation and wildlife camera and tracking monitoring, and assisting with climate change adaption studies and restoration projects – including pollinator conservation. I have a deep passion for butterflies and am on a constant quest to learn more about the diversity of Sonoran butterflies.



Bryon  
Conservation Assistant

## Meet Bryon, our New Conservation Assistant

I was born and raised in Tucson, and the deserts and mountains have always been my source of inspiration. My background as a homesteader and permaculturalist, ancestral skills instructor, tree service technician, and nature guide and educator, as well as my studies of Biology, Ecology, and Anthropology at institutions such as Carleton and Prescott Colleges, have made me keenly aware of our undeniable connection to the natural world. While my principal duties at SIA involve interacting with our volunteers to implement our restoration and spring assessment work, I am also an instructor with our wildlife tracking workshops. In my free time I might be found birding in our borderlands, in some hidden Sky Island canyon.



C.Treadway

# A Field Guide to Sky Island Alliance

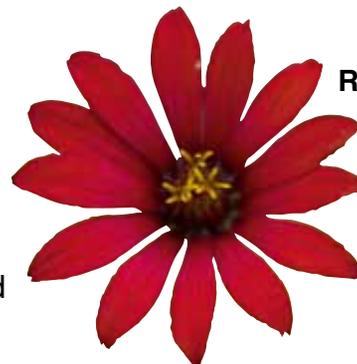
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**Louise Misztal**, Conservation Director  
**Carianne Campbell**, Conservation Director  
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**Bryon Lichtenhan**, Conservation Assistant  
**Mirna Manteca**, Conservation Coordinator  
**Sami Hammer**, Conservation Coordinator

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C.Treadway



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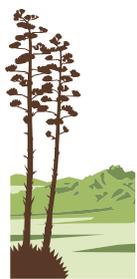
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# RESTORING CONNECTIONS



Photographer Spotlight  
*Caroline Trethewey*



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