Introducing
Hummingbird Conservation Networks

Dedicated to maintaining hummingbird diversity
and abundance throughout the Americas

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Mission and Vision: For several years, the Hummingbird Monitoring Network (HMN) focused its efforts on monitoring and studying hummingbird populations to obtain important information that supports conservation of these magnificent creatures. Hummingbird Conservation Networks (HCNs) result from integrating community-based conservation ideas into HMN's science-based beginning. HCNs' mission, virtually unchanged from HMN's original mission, is to help hummingbirds survive, reproduce, and thrive while engaging human communities to demonstrate how they can benefit economically, socially, and ecologically through their hummingbird conservation activities. Maintaining hummingbird diversity and abundance throughout the Americas is still a primary focus of the organization. Hummingbirds are unique in their ability to reconnect people, instantly with awe, for nature. They are bearers of light and might be the messengers we need for restoring viability to our world's living systems.

The **Hummingbird Monitoring Network (HMN)**, founded in 2002 with 501(C)(3) nonprofit status by 2004 began because hummingbird conservation had limited focus from the conservation world, and population trend data for hummingbirds were lacking. It started as a science-based, project-driven organization dedicated to maintaining hummingbird diversity and abundance throughout the Americas. It combines collaborative research with community involvement and training to understand and appreciate hummingbirds' importance and their conservation issues in a changing world.

HMN's original objectives are to: maintain long-term monitoring sites that represent the region's hummingbird diversity across each species range; collect detailed demographic information on hummingbird populations so trends in their populations can be detected; encourage and support research projects that promote hummingbird conservation; support efforts that preserve and restore hummingbird habitats; educate by disseminating information about hummingbirds to land managers, the scientific community, and the general public. Ultimately, improve hummingbird conservation with these actions.

To address the lack of trend/status data, HMN began a coordinated trend monitoring program, mainly with volunteers trained as citizen scientists. It partners with federal and state agencies, nonprofit organizations, universities, citizen scientists, and volunteers. It is a systematic banding program with constant effort, robust design protocol, stratified by geographic factors such as elevation, longitude, latitude, and vegetation type. Its sampling and experimental design are based upon the MAPS (Monitoring Avian Productivity and Survivorship) program, which has effectively answered questions about population trends in passerines and near-passerines. Capture protocols, banding techniques, and tools have been developed and explicitly employed for hummingbirds' specialized ecology and constrained physiology.

HMN's program has generated data with large sample sizes and high recapture rates that allow using Capture Mark Recapture models to estimate survivorship and other demographic estimates. It also provides information about which areas support a high diversity and abundance of hummingbirds, which areas are important breeding sites, the timing of hummingbird occurrence, and their seasonal movement patterns. Additionally, HMN has collaborated on numerous research projects; helped begin Borderlands Restoration and the Western Hummingbird Partnership; developed an internship program for Latin American young professionals to learn and practice hummingbird field techniques; and ran an after-school employment program for high school students.

Our next initiative, **Hummingbird Conservation Communities and Reserves (HCCRs)**, engages people and communities to participate in and benefit from hummingbird conservation activities. Partners in these communities and regions are interested in developing mutually beneficial activities that help address critical conservation issues for hummingbirds, such as: discovering and addressing conservation needs of threatened hummingbird species; restoring habitats to mitigate adverse effects of habitat loss and fragmentation on hummingbird diversity; improving floral resources to mitigate pollination disruption and strengthen food sovereignty of crops pollinated by hummingbirds. The first communities joining HCCRs are La Bajada and El Cuarenteño —both in Nayarit, Mexico. Soon, communities in Ecuador and Guatemala will join as well.

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HCCRs' ultimate goals are to develop a conservation economy by promoting beneficial activities within communities and creating revenue streams for funding conservation jobs and activities. Below, five initial programs for accomplishing the goals mentioned above are defined:

1. Monitoring programs to identify habitat and nectar resources used throughout the year
2. Field research programs to determine ecological and social threats
3. Community Restoration activities including support for local nurseries to incorporate native nectar plants in their business, so there is a source of native plants available for use in land recovery
4. Outreach and educational activities that promote the care and respect for nature
5. Partner engagement for creating community-based natural businesses

In the Nayarit communities, we began with a key group of partners including a community liaison, a regional researcher, HCNs Research and Restoration Coordinators and colleagues, and a local bird guide. Our first activity, hosted by La Bajada, was a training workshop in field study techniques for community members, researchers, and students. In a subsequent meeting at El Cuarenteño, we presented results of the subsequent field work and began planning for our next activity. Ultimately, we plan to hire community members to monitor and quantify hummingbird responses and floral resources use, and develop activities, such as a hummingbird art and crafts program, pollinator gardens, and visitor centers, to create a revenue stream for conservation activities. We're making connections, building relationships, and integrating research with culture and arts in our conservation and economic activities to create and sustain hummingbird conservation networks in urban, rural, indigenous, and natural communities.

Hummingbird Conservations Networks (HCNs) is the result of integrating community-based conservation ideas into HMN's science-based beginning. It endeavors to offer services, resources, and opportunities that will help communities across the hemisphere participate in and benefit from hummingbird conservation activities. Success depends upon the definition and development of programs that generate enough feedback loops for sustaining these conservation networks. We are making connections, building relationships, and creating partnerships to support resulting Science- and Community-based networks. In the table below, we have defined the programs vital to HCNs' mission. They are listed by section (Monitoring, Research, Restoration, Outreach, and Organization) and initiative (HMN, HCCRs, HCNs).

	HMN **Science & hummingbirds** **Science Advisory Council** **Natural**	**HCCRs** **People & communities** **Community Advisory Council** **Social**	**HCNs** **Partners & networks** **Board of Directors** **Economic**
Monitoring	Effectiveness Monitoring	Community Monitors	Tools & Kits
Gaby Samaniego	Trend Monitoring	Site Relationships	Workshops
Research	Field Research	Internships	Grants & Scholarships
Sergio Díaz-Infante	Publish the Science	Resource Library	Science Meetings
Restoration	Species Needs	Community Restoration	Plants & Nursery Support
Rocio Meneses	Nectar Landscape Restoration	Nurseries and Gardens	Resorts and Reserves
Outreach	STEAM Learning	Community Outreach	Events
	Online Outreach	Art & Stories	Fair Trade Crafts
Organization	Data Management	Organization Development	Partner Engagement
Susan Wethington	Data Systems	Accountability	Funding / Sustainability

Perhaps, the greatest strength of HMN, HCCRs, and HCNs will be to help fill a gap in conservation practice. Today, conservation is often accomplished either with large organizations *or* at the community level. In contrast, we aim to provide resources, services, and opportunities that connect communities on a single conservation issue *and* support activities in communities across the hemisphere. We're filling the gap by creating ecosystem conservation networks of partners, service providers, organizations, and reserves that will allow for landscape impact through community-level conservation.