

Chihuahuan Desert Research Institute
Strategic Plan 2012 – 2016

*Connecting People to Nature
for 40 Years*

**Adopted by the CDRI Board of Directors
November, 2012**

Section I. **Mission, Vision and Values of CDRI**

Mission

The mission of the Chihuahuan Desert Research Institute is to promote public awareness, appreciation and concern for the natural diversity of the Chihuahuan Desert region through research and education.

Vision

The Chihuahuan Desert Research Institute (CDRI) is a leader in scientific research and conservation, an innovative attraction that engages diverse audiences, and an exemplary practitioner of environmental sustainability. CDRI is an indispensable resource to help people study and learn about the Chihuahuan Desert region's plants, animals and ecosystems.

Values

Two core values guide our work and decisions at CDRI:

- *Interdependence* – Beautiful natural environments are vital to the physical and mental well-being of all people. We are healthier and more satisfied when we create and care for elements of nature. Our future quality of life depends on people who understand, value and establish healthy, interdependent habitats for plants, animals and humans. This requires creative collaboration with a wide range of audiences to continually reinforce the links between people and nature.
- *Sustainability* – CDRI demonstrates environmental stewardship and strives to inspire others to act accordingly through such means as research, conservation, restoration and responsible use of natural resources. We stand for excellence, ethical conduct, sound management and fiscal responsibility so that CDRI is organizationally sustainable into the future.

Section II.

History of the Chihuahuan Desert Research Institute

The Chihuahuan Desert Research Institute was founded in 1974 as a research organization dedicated to gathering and disseminating knowledge about the Chihuahuan Desert region. Although the largest of the North American deserts, very little was known about the natural history of the Chihuahuan Desert region. An enthusiastic, small and mostly volunteer Institute staff began an aggressive research and education program that involved everything from studying the nesting behavior of golden eagles to taking teachers on rafting trips down the Rio Grande.

In the late 1970s, the Board and staff achieved a major goal with the purchase of 507 acres of grassland and volcanic rock outcrops near Fort Davis, Texas. Destined to become the headquarters of CDRI, staff and volunteers worked diligently to turn the landsite into a facility that would support scientific research and serve as an educational tool. Over the next two decades, an arboretum featuring trees and shrubs of the Chihuahuan Desert region was planted, a 1400 sq. ft. greenhouse containing one of the world's largest collections of Chihuahuan Desert cacti and succulents was established, and a Visitors' Center with rotating exhibit space, offices and a nature gift shop was built. The landsite, known as the Chihuahuan Desert Nature Center and Botanical Gardens, is open to the public six days a week.

The Nature Center and Botanical Gardens offers an intimate setting to experience and enjoy the Chihuahuan Desert region: over 500 acres of oak-juniper grasslands with igneous rock outcrops. Two miles of hiking trails wind through two distinct volcanic events into Modesta Canyon, passing by stately madrone trees and perennial springs, to an overlook with panoramic views of the area. A self-guided walk leads visitors through the Pollinator and Botanical Gardens to a treasure of over 200 Chihuahuan Desert species of cacti and succulents in the greenhouse. Outdoor exhibits focus on the minerals and mining heritage of the region; a geological interpretation with 360 degree views of the area; a geologic timeline with rocks from 20 different geologic periods; the importance of arid-lands plant and pollinator relationships; and the diversity of grasslands in the Chihuahuan Desert.

Over the past ten years, CDRI has achieved some major accomplishments including:

- Collaboration with noted researchers, visiting scientists, university professors and students to develop new information related to grassland restoration, cacti, birds, butterflies, pollinators, juniper mortality and the impact of wildfire/drought in the region. Over 40 lectures and workshops on various research projects were presented in 2010-11 alone.
- Research findings are disseminated through various means, including a “Nature Notes” program aired on Marfa Public Radio and the semi-annual publication of “*Chihuahuan Desert Discovery*” which features articles about CDRI-supported research and a bibliography of research throughout the Chihuahuan Desert region.
- Development of science-based education programs that include adult learning opportunities, an extensive youth science program and workshops for science teachers.
- Research, development and installation of three permanent interpretive exhibits dealing with the geology of the Chihuahuan Desert region and the mining heritage of the region.
- Continued development of a Permanent Endowment Fund currently valued at nearly \$2 million.
- CDRI is funded entirely by private donations, grants and memberships, without any tax support or government appropriations. Operating funds have increased from approximately \$70,000 annually to \$350,000 per year.
- There were 502 CDRI members in 2012, with nearly 3500 volunteer hours dedicated to CDRI programs and services each year.
- CDRI has been the catalyst for initiatives and programs now being carried on by other organizations. For example, CDRI was instrumental in founding the Tierra Grande Chapter of the Texas Master Naturalists and the Big Bend Chapter of the Texas Native Plant Society.

“Founded as a research organization by a handful of scientists dedicated to studying the Desert, CDRI has grown significantly over the past several years especially in its focus on using informal science programs to educate the general public about the Desert environment and its conservation.”

MAP Report. 2010

Section III. Organizational Strengths and Emerging Trends

CDRI owns the 507-acre landsite and the facilities on it. The landsite, known as the Chihuahuan Desert Nature Center, offers public access six days a week to a large natural area for research, hiking, education and enjoyment. This availability is critical in a region where less than 0.1% of the land is publicly owned and publicly accessible.

Among CDRI's Living Plant collections, the cactus collection is perhaps the most significant. According to Botanical Garden Conservation International, 39% of the cacti in the collection are found in fewer than 10 botanical gardens worldwide. Five species are found nowhere but at the CDRI and 30% of the collection is ranked rare, vulnerable, or endangered. This collection is a treasure for those research scientists studying cacti and succulents.

CDRI has cultivated a network of over 100 professionals and organizations interested in collaborating on scientific research initiatives in the Chihuahuan Desert region. This network helps create new scientific data as well as disseminate and apply research findings for a wide range of audiences.

"CDRI should be proud of its many accomplishments made in an area with such low population and scarcity of industry and business. CDRI should consider becoming the worldwide focus of the Chihuahuan Desert." MAP Report 2009

The Institute has an impressive history of providing high-quality, science-based education programs for teachers, students and adults. Last year over 2000 people participated in education programs presented by CDRI.

CDRI is privately funded, with no tax dollars supporting operations. Income from the Permanent Endowment Fund pays for administrative expenses, thus allowing all donations to be used for program and research support.

The paid staff is augmented by a dynamic, talented, and enthusiastic group of volunteers who help with all aspects of operations.

“A learning experience like no other! CAB 2010 provided me not only with classroom resources, but real insight on the cutting edge of conservation education from those doing the work in the field. The hands-on opportunities allowed us to fully understand the concepts and enabled us to bring it back to our students in an exciting and meaningful way.” From a 2010 ‘Conservation Across Borders’ high school science teacher.

CDRI’s Board and staff are aware of several trends which impact the organization and give great urgency to its future plans. For example, Americans are primarily a nation of urban dwellers, spending the vast majority of our time indoors and using electronic media for both work and enjoyment. When participation in the out-of-doors goes down, natural resources illiteracy increases among most children and adults.

A second serious challenge is posed by the rapid destruction of natural habitats and the alarming loss of plants and animals including those in the Chihuahuan Desert region. Many organizations, including CDRI, need to effectively communicate with scholars and lay audiences, especially science teachers and young people, so they can apply knowledge to help build a more sustainable world.

Finally, CDRI has outgrown its current funding model and facilities. Because of this, there has been a sustained effort to build a strong, professional Board that is committed to raising the funds necessary to create the next 40 years of CDRI’s programs and services. To this end, the Board has launched a Capital Campaign for the construction of a new research and education complex on the current landsite. An architectural firm has been retained to create a model of the new complex, as well as a master plan for the overall property. The CDRI Board and executive team are committed to being active and diligent in the development of resources and support necessary to achieve the expanded vision presented in this Strategic Plan.

Section IV. Statement of Planning Need And The Process of Creating CDRI's Strategic Plan

John Muir observed that all things are connected. However, they are not always connected in an obvious manner. It is only through planning that the sum of the parts can be made greater than the whole and the connections that define institutional progress can be made clear. The Chihuahuan Desert Research Institute, serving multiple constituencies and educational and research needs, is dedicated to planning for the future.

CDRI serves an immediate area of over 12,500 square miles (the tri-county region of Jeff Davis, Brewster and Presidio counties) but in reality also serves a statewide, national and even international constituency as the primary museum, research and educational facility solely dedicated to the Chihuahuan Desert. To address this significant mandate, planning is imperative and the staff and Board of CDRI are dedicated to this task. Our programs will not be successful without the thought and planning that must go into each step.

Yogi Berra once observed that, “If you don’t know where you’re going, you are likely to end up somewhere else.” The essence of our planning is to not end up somewhere else, but arrive at our destination stronger for the journey. We see planning as an integral component to institutional success.

Over the past two years, CDRI’s Board of Directors and Executive Director have engaged in a planning process to involve diverse stakeholders. We consulted with more than 400 people through such processes as professional and self-assessments about internal and external conditions that may affect CDRI’s future growth; in-depth interviews with staff and volunteers; surveys of members and visitors; a focus group of area tourism professionals; an extensive survey of regional educators; and a one-day Board retreat focused solely on strategic planning as well as follow-up Board work sessions on specific goals.

We also conducted environmental scans and customer research; reviewed organizational successes and disappointments, acknowledged our strengths and weaknesses, and identified the most important obstacles to CDRI's future viability and vitality.

Several stakeholder assessments yielded particularly significant findings, including:

- The Museum Assessment Program (MAP) Public Dimension Report which was completed in 2009.
- The MAP Governance Assessment which was completed in 2010. Both MAP assessments emphasized the importance of a Board-developed Strategic Plan and served to motivate the CDRI Board to reach consensus on the Institute's vision and priorities.
- A 2011 survey of elementary and secondary science educators from eleven area school districts yielded a 95% return rate, with all educators commending the value of CDRI's science programs for their students.

Our customers told us important things, such as:

The 5th annual “The Earth Rocks!!” theme for 2011 was ‘Exploring Energy’ and over 270 children from 5 school districts attended. One teacher commented that all her children passed the state-mandated science test, and she attributes much of that success to their coming to “The Earth Rocks!!” Based on the results from pre- and post-tests, the children who attended Exploring Energy improved their test scores by 20% -- even when the post-tests were given a week or more after the event.

This process has helped sharpen CDRI's mission, vision and values and has led to the development of the Institute's four major goals with related initiatives for the next 5 years:

Education: *Provide exemplary science-based education programs dealing with the plants, animals, environment and research on the Chihuahuan Desert region and their contributions to interdependent*

sustainability; develop interpretations that promote understanding of the connections between people and the environment.

Research: *Expand the current research program focused on the Chihuahuan Desert region, disseminate research findings for diverse purposes, and serve as a resource for the science and conservation communities.*

Visitor Experience: *Operate a Nature Center which is a major destination in the southwest United States, offering outstanding science-based nature experiences to visitors of all ages and abilities; continually develop educationally-appealing exhibits and programs, and provide excellent examples of sustainable development.*

Capital Campaign and Organizational Sustainability: *Create and implement a plan for organization expansion, sustainability and vitality including comprehensive capitalization, marketing and development, volunteer recruitment and workforce development/retention strategies.*

Prior to finalization by the Board of Directors, a draft of this Strategic Plan was circulated for review and comment by CDRI's members and key stakeholders, and their input was incorporated into the final document.

Section V. Goals, Initiatives and Timeline

Education

Provide exemplary science-based education programs dealing with the plants, animals, environment and research on the Chihuahuan Desert region and their contributions to interdependent sustainability; develop interpretations that promote understanding of the connections between people and the environment.

Vision for Our Future

CDRI will deepen its impact across all program areas and audiences, helping those we serve to grow and mature regardless of their age, background or ability.

We will disseminate valuable science-based information to educators, students and the general public, providing formal and informal education programs which emphasize conservation, sustainability and science literacy.

We will creatively involve volunteers, students and researchers to expand access to educational programs and exhibits.

Education initiatives for 2012-2016 include the following:

Design and deliver highly effective early childhood, youth, teacher and adult science education programs that are recognized for their innovation and best practices.

Provide year-round programming so that the Nature Center is a four-season destination for learning and enjoyment.

Serve as a major resource for homeowners, architects and builders on ways to create an inspiring and sustainable desert landscape and building program through energy-saving, environmentally sensitive design.

Publish a variety of educational and scientific research materials to advance public awareness of the diversity of the Chihuahuan Desert and promote future research in the region.

Research

Expand the current research program focused on the Chihuahuan Desert region, disseminate research findings for diverse purposes, and serve as a resource for the science and conservation communities.

Vision for Our Future

CDRI will make important contributions to the conservation of the Chihuahuan Desert region through its scientific research, unique collections and strong international partnerships.

We will serve the scientific community by curating relevant collections of plants, books and specimens and disseminating that information.

We will expand understanding and appreciation of the Chihuahuan Desert region through the scientific exploration of plants, animals and sustainable practices.

Research initiatives for 2012-2016 include the following:

Strengthen CDRI's collections for scientific and academic research purposes; ensure that current and future collections are appropriately documented, and that access is provided both physically and virtually.

Facilitate and support active research by developing strong relationships with academic institutions and organizations dealing with the Chihuahuan Desert region.

Develop a model for a Board of Scientists to help guide future research agendas and hosting of periodic symposia to highlight major research initiatives.

Provide training for volunteer citizen scientists and encourage their participation in research projects at the Nature Center and throughout the Chihuahuan Desert region.

Increase the Scuddy Scholarship Fund to a minimum of \$10,000 in order to provide financial support for students conducting research in the Chihuahuan Desert region.

Develop and communicate clear information about research findings and sustainability to diverse audiences through published media.

Visitor Experience

Operate a Nature Center which is a major destination in the southwest United States, offering outstanding science-based nature experiences to visitors of all ages and abilities; continually develop educationally-appealing exhibits and programs, and provide excellent examples of sustainable development.

Vision for Our Future

The Nature Center will feature a Botanical Garden, exhibits, trails and informed staff and volunteers to provide an inspiring onsite experience for visitors of all ages.

We will create an enjoyable and relevant environment that encourages visitors to return many times, thereby increasing attendance, revenues and motivation to protect the Chihuahuan Desert.

We will offer education, enjoyment, and safe accessibility to all.

Visitor Experience initiatives include the following:

Develop a Master Site Plan to guide future use of the Nature Center as well as the development of new buildings and exhibits to support visitor learning, enjoyment, comfort and safety.

Design a multi-function research and education building (LEED-certified, ADA compliant) with state-of-the-art facilities. Enhance entrance, gate and signage.

Address needs for parking and transportation, accessibility and safety issues, pathways and lighting.

Plan and develop new exhibits; create new programs, garden areas, amenities and services to continually improve the visitor experience.

Capital Campaign Organizational Sustainability

Create and implement a plan for organization expansion, sustainability and vitality including comprehensive capitalization, marketing and development, volunteer recruitment and workforce development/ retention strategies.

Vision for Our Future

We will insure that the highest standards of integrity are observed in budgeting, accounting, financial reporting and donor stewardship.

We will actively engage volunteers in all aspects of CDRI's operations, taking special care to continually develop the Board of Directors as dynamic leaders of the Institute.

CDRI's reputation will be broadened both regionally and internationally as we serve new audiences and current audiences in new ways.

Capital Campaign and Organization Sustainability initiatives include the following:

Plan and conduct a multi-million dollar Capital Campaign for construction of the research and education building.

Create a resource development team of staff and volunteers to identify and cultivate donors, ensure effective donor stewardship by adhering to the Donor Bill of Rights, and develop a full list of donor opportunities, including naming opportunities, in support of the Capital Campaign.

Secure substantial funding for capital improvements, personnel, critical maintenance projects and communication technology.

Build an operating reserve equal to 10% of the annual budget.

Implement a planned giving program to increase the number of bequests.

Increase memberships, admissions and gift shop sales.

Establish a comprehensive program to increase the number and impact of volunteers.

Implement a compensation policy so that CDRI is competitive with similar institutions and can attract/retain a high quality workforce.

Provide meaningful professional development opportunities for staff.

These goals are ambitious and are driven in large part by the planning and conduct of the Capital Campaign to fund the construction of a research and education building at the Nature Center. CDRI's programming and vision has outgrown its infrastructure, so the timeframe covered by this Strategic Plan will be one of significant fundraising and development to insure that the next 40 years of CDRI's operation are even better than the first.

Section VI.

Timeline for Major Initiatives related to Goals

Goal	2012-2013	2014-2016	Beyond 2016
Education	<p>Plan/conduct programs for K-12, teachers and adults</p> <p>Recruit/train volunteers to expand education programming</p> <p>Establish creative partnerships to expand educational opportunities</p>	<p>Disseminate information about education programs</p> <p>Increase student and teacher participation as staff/volunteer capacity expands</p> <p>Strengthen volunteer training and coordination</p>	<p>Make programs accessible to more people by using distance learning techniques, virtual field trips etc.</p>
Research	<p>Document existing CDRI collections</p> <p>Promote citizen scientist projects</p> <p>Facilitate research at CDRI site and in the region</p> <p>Publish Symposium Proceedings on-line</p>	<p>Cactus collection recognized by NA Plant Collections Consortium</p> <p>Virtual/physical access to collections</p> <p>Compile baseline flora/fauna of landsite</p> <p>Develop model for Board of Scientists and recruit members</p> <p>Retain Research Director</p>	<p>Develop research agenda</p> <p>Secure support: greenhouse/ garden/ office space, technology, interns, storage for seed collections, computerized plant and animal records, IT/ graphics staff etc</p> <p>Enhance the collections and support active research</p>

Visitor Experience	Determine the visitor capacity of the landsite's infrastructure Expand use of volunteers at the Nature Center Make site "child and family" friendly	Utilize Master Site Plan to guide future development at the landsite Develop/ enhance interpretations and exhibits	Provide access for people of all abilities
Capital Campaign and Organizational Sustainability	Design research and education building and master plan for landsite Develop strategy for Capital Campaign Increase operations funding via major gifts, bequests, more visitors and members Increase staffing to support operations: IT, education assistant, interns Apply for capacity building grants	Launch multi-million dollar Capital Campaign for construction of research and education building Increase visitation at the Nature Center in accordance with the site's capacity Implement planned giving program	Continue fundraising for the research and education building Continue growth in membership, visitors, volunteers Increase staff, interns and volunteers

CDRI's Strategic Plan for 2012-2016 is a blueprint, a living document developed and adopted by the Board of Directors in 2012. It serves as the basis for operational planning, annual budget development, and the Executive Director's quarterly reporting to the Board. Most importantly it is the foundation for CDRI's Capital Campaign, which will help create the future for many more people to value and understand the Chihuahuan Desert region for years to come.