U.S. Fish and Wildlife Service

Carlsbad Fish and Wildlife Office
Fiscal Year 2015 Highlights

Gavilan Hills, Riverside County

Inside

Otay Mesa mint

Message from the Field Supervisor ……. Page 5

Strategic Habitat Conservation …….. Page 6

Species Conservation …….. Page 11

Connecting People With Nature ……. Page 15

Tribal Relations ……. Page 18

Partners ……. Page 19

Programs (GIS, Coastal, etc…) ……. Page 21

Human Capital …….. Page 26

Along Hwy 74 in eastern Riverside County

All images courtesy of FWS unless otherwise noted

Our Vision:

Working with Federal, State, and local agencies; local Tribes and other partners; the media; and the public, while coordinating across our agency to efficiently and effectively leave a legacy of conserved, managed, and enhanced expanses of land with diverse habitats for the Federal trust species of southern California.

Algodones Dunes sunflower

Belding's savannah sparrow

Palos Verdes blue butterfly

The Carlsbad Fish and Wildlife Office supports offices in Carlsbad and Palm Springs, California.

The Carlsbad Fish and Wildlife Office and the Palm Springs Fish and Wildlife Office have responsibility for the conservation of approximately 50,000 square miles and 107 federally listed species in Southern California.

A message from the Field Supervisor

2015 was a rebuilding year. Over the previous three years, declining Federal budgets meant we lost a significant portion of our staff and operational funding. Over those years our ability to deliver wildlife conservation declined along with the budget, hindering our ability to effectively meet the demands of our partners and stakeholders. The 2015 budget gave us the ability to begin to increase our staff in our Palm Springs office to help meet the demands imposed by the huge increase in renewable energy projects and to rebuild staff in the Carlsbad office. In addition, we received some much needed project funding to aid in the recovery of a number of listed species.

Even during the lean years we often did more with less, which is the culture of our agency. Despite our still diminished staff size, we continued to make positive strides toward a variety of wildlife conservation goals at both small and large scales. We worked with local and county jurisdictions, Tribes, State and Federal agencies, and others to help minimize impacts to listed species from their activities. We also worked on long-term regional conservation being implemented with numerous partners through previously established efforts in southern San Diego County, western Riverside County, Orange County and the Coachella Valley, to name a few. Our Palm Springs office continues to cooperate with our partners in the development of the ambitious Desert Renewable Energy Conservation Plan that encompasses almost 11 million acres of the California Desert. These landscape-scale Habitat Conservation Plans represent our agency's business model of working with others across broad landscape scales to achieve conservation that benefits both wildlife and people.

Laguna Mountains skipper habitat on Palomar Mountain

We expect even greater conservation successes in the coming year and look forward to continuing our existing partnerships, and creating new ones to make it possible.

G. Mendel Stewart

Strategic Habitat Conservation

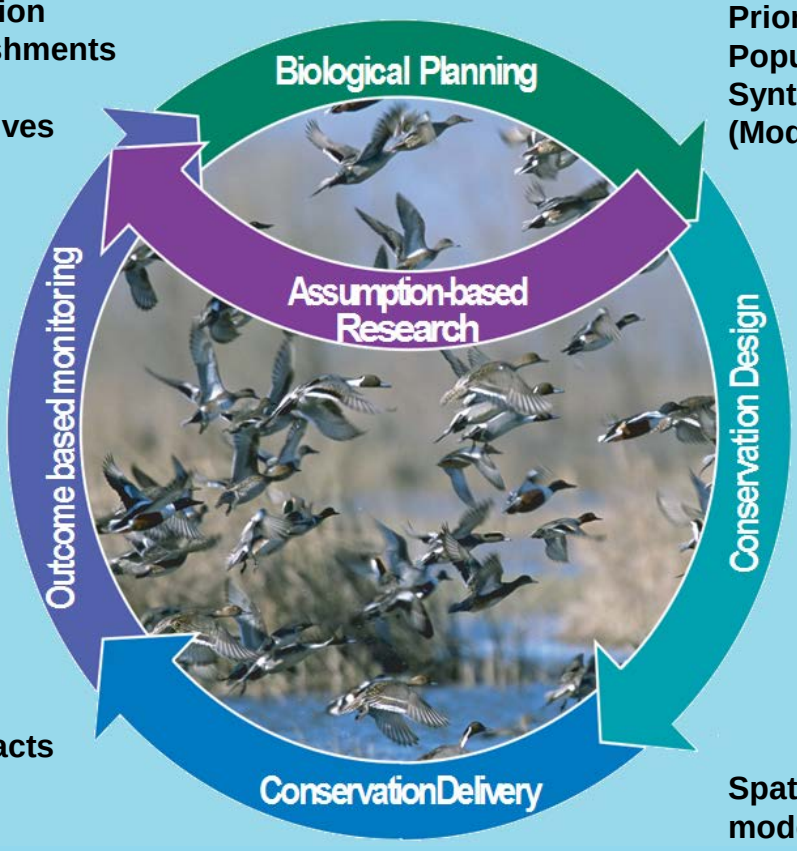
The unprecedented scale and complexity of challenges we face in the 21st century require us to change our approach to conservation and how we design, deliver and evaluate our work.

It starts by working at larger spatial and temporal scales, across programs and with our partners and stakeholders, in a more focused way that links our actions to outcomes, with learning as an explicit objective of our conservation actions.

Our approach, which we call Strategic Habitat Conservation, encompasses a shift to more strategic, accountable and adaptive action driven by science.

Scientific Information
Wildlife Accomplishments
Progress Toward
Population Objectives

Communication Tools
Priority Species
Population Objectives
Synthesis of Science
(Models)



Population Impacts

Spatially-explicit models
Habitat Objectives
Priority Areas

Strategic Habitat Conservation

In southern California, our efforts to implement Strategic Habitat Conservation have been focused on working with local agencies, other scientists, and the public, to develop regional Habitat Conservation Plans (HCP) to safeguard quality habitat for fish, wildlife, and plants across broad landscapes.

By looking across the biological landscape, regional HCPs identify high-value natural resource areas that should be conserved, and other areas where it is most appropriate to focus future economic development.

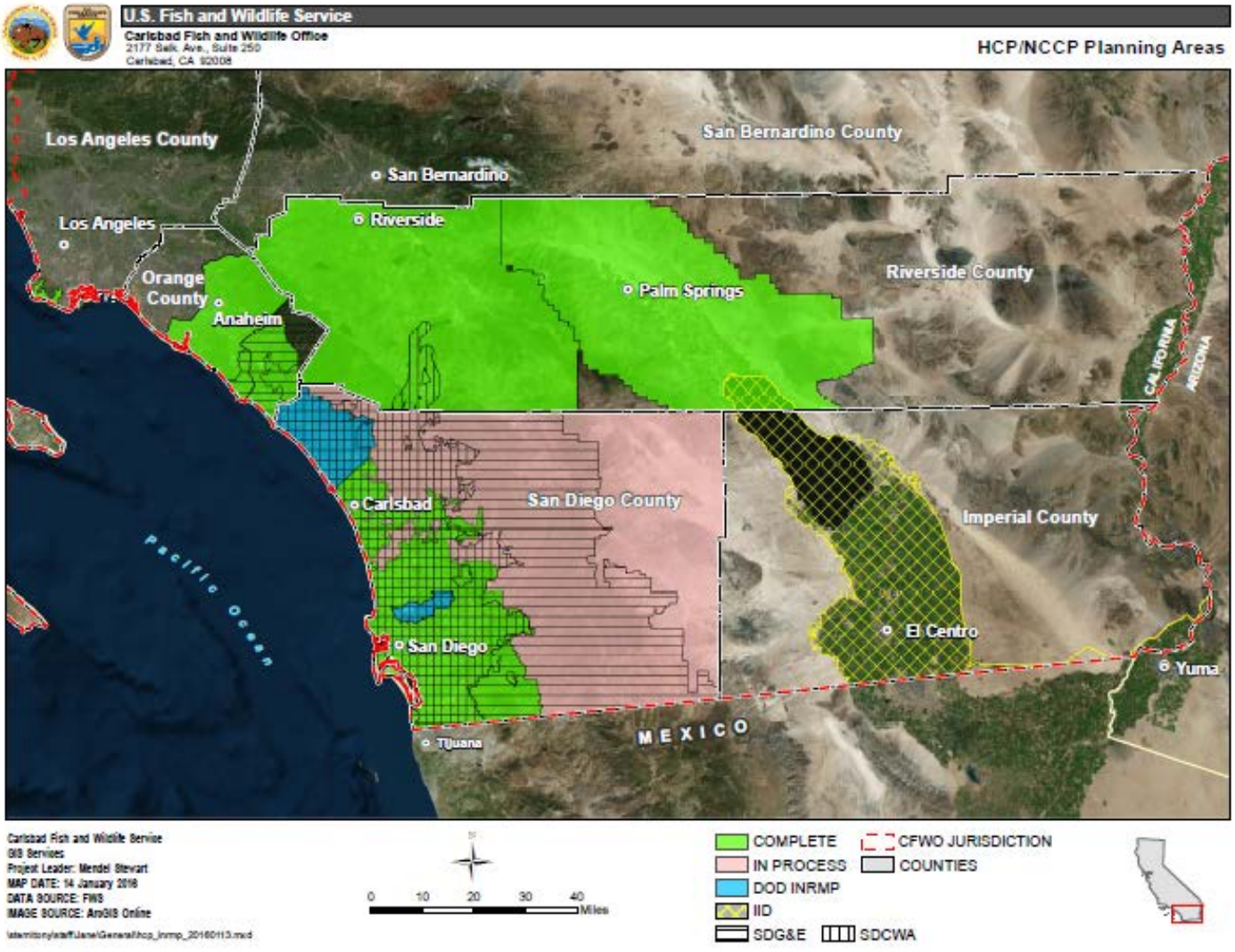
Vernal pool at Carmel Mountain Preserve

Monitoring is conducted to ensure progress is being made towards conservation goals, and to measure how well plants and animals covered by the plans are faring. That information is then used to improve management and future landscape conservation design.

Yearling Peninsular bighorn sheep

Strategic Habitat Conservation

Habitat Conservation Planning Highlights



Completed regional HCPs include:

- **San Diego County Multiple Species Conservation Program**
- **Orange County Central-Coastal NCCP/HCP**
- **Orange County Southern Subregion HCP**
- **Multiple Habitats Conservation Plan (7 cities in north San Diego County)**
- **Western Riverside County Multiple Species HCP**
- **Coachella Valley Multiple Species HCP**

We continue to work with others on developing and implementing conservation plans across southern California

Strategic Habitat Conservation

Quino checkerspot butterfly

Western Distinct Population Segment of Yellow-billed cuckoo

Habitat Conservation Planning Highlights for 2014-2015

Measure M – Acquisition of a 151-acre property in Laguna Beach by the Orange County Transportation Authority. The Aliso Canyon preserve was identified as a priority conservation area because of the diversity of habitat types found there, including chaparral, coastal sage scrub, and native grassland.

Colton West Valley HCP – Conserves 50.4 acres of high and moderate quality habitat (within the important Colton Recovery Unit) for the Delhi Sands flower-loving fly.

Upper Santa Ana River Watershed HCP – Initiated public scoping to prepare a draft Supplemental EIS/EIR for a draft Habitat Conservation Plan (HCP), and amendment to the BLM's South Coast Resource Management Plan. The project area encompasses approximately 4,467 acres in San Bernardino County and addresses conservation of Santa Ana sucker and Santa Ana River woolly star.

Imperial County General Plan Amendment – Worked on an amendment to their General Plan Element for Transmission and Renewable Energy that was proposed in response to a grant from the California Energy Commission. The County amendment scaled back proposed solar and wind development to a significant degree, thereby conserving the vast majority of important agricultural habitats for the benefit of migratory birds and other wildlife.

Strategic Habitat Conservation

Improving wildlife and motorist safety - An additional 1.1 miles of modified wildlife fencing was approved for installation along the **SR-241 Eastern Transportation Corridor,** from Santiago Creek Bridge to the SR-241 / SR-261 intersection in Orange County.

The new wildlife fencing will be 10 to 12-foot high chain link fence with an 18-inch "outrigger" (three strands of barbed wire) angled away from the road. Jump-outs will be constructed at periodic intervals on the roadway side of the fence to allow wildlife to escape in the event that they gain access to the roadway and become trapped. This is in addition to 5.3 miles of modified wildlife fencing currently under construction. These fencing improvements will greatly decrease wildlife mortality along the roadway.

Pictured above is habitat along SR-241 at Windy Ridge in Orange County, California.

Species Conservation

The Carlsbad Office's Listing and Recovery Program is responsible for implementation of Section 4 of the Endangered Species Act. This includes identifying species that may need protection, reclassifying listed species, and working toward recovery of listed species so that they no longer need protection under the ESA.

Endangered California least tern

Threatened Santa Ana sucker

In FY2014, the Listing Branch completed petition findings for the Coastal California gnatcatcher, Stephens' kangaroo rat and Mohave shoulderband snail.

Additionally, 5-year status reviews were completed for Bear Valley sandwort and Southern mountain wild buckwheat.

Recovery Branch

Numerous recovery actions were initiated in FY14. Using funds from State of the Birds, Cooperative Recovery Initiative, National Fish and Wildlife Foundation, Region 8 End-of-Year funds, and funding by the Carlsbad Office, 24 projects, totaling more than $1.5 million are in progress.

Recovery Projects Include:

*Continued captive breeding to support recovery of the endangered Pacific pocket mouse

*Reintroduction of the Amargosa vole in Tecopa Hot Springs

*Investigation of wash areas suitable for release/introduction of the endangered Casey's June beetle; conduct telemetry studies; conduct genetic analyses; investigate subsurface habitat use; and investigate life span and feeding preferences.

*Installation of a fish screen barrier at Haines Creek to reduce predator impacts to the threatened Santa Ana sucker.

Endangered arroyo toad

Additional Recovery highlights include publication of a draft Recovery Plan for the threatened Santa Ana sucker, and coordination with the Ventura office to complete the Final Recovery Plan for Four Subspecies of Island Fox.

Species Conservation

Recovery Permit Program

Under Section 10 (a)(1)(A) of the Endangered Species Act, Recovery Permits are required to allow purposeful take intended to foster the recovery of listed species. These permittees are important partners.

Reporting under recovery permits is a critical source of data that we use daily to inform our decisions. The information obtained (e.g., survey reports, annual research reports, research papers) are used for decisions regarding listing and recovery, habitat conservation planning, and consultations.

Presence data from survey reports are mapped by CFWO GIS staff. The "CFWO GIS Species Database" is used by our staff and distributed to partners, including the California Natural Diversity Database.

This past fiscal year, the Carlsbad Office's Recovery Permit Program completed 141 permit assignments.

Notable examples include permits that advanced recovery goals for the critically endangered Amargosa vole and endangered mountain yellow-legged frog.

In addition, revised survey guidelines were completed for the Quino checkerspot butterfly.

Eureka Valley evening primrose

Brodiaea filifolia

Species Conservation

On June 26, 12 captive-bred Amargosa voles (*Microtus californicus scirpensis*) were released near Tecopa Hot Springs, California as part of an interagency recovery effort.

In 2014, the rangewide population of this species was fewer than 100 individuals. The U.S. Fish & Wildlife Service (USFWS), University of California, Davis (UC-Davis), U.S. Geological Survey, Bureau of Land Management, and California Dept. of Fish and Wildlife (CDFW) partnered to capture 20 voles from marshes near Tecopa Hot Springs to serve as founders for a captive breeding colony. The voles released in June, are the first released from this captive colony.

The interagency recovery group has also worked to stabilize and begin restoration of degraded vole habitat near Tecopa Hot Springs and is working with private landowners to establish additional habitats to support reintroduction of voles to their type locality.

Juvenile captive-bred vole

A vole being outfitted with a transmitter prior to release

Captive reintroduction field team: from L to R: Brian Croft (USFWS), Patrick Donnelly (The Amargosa Conservancy), Chris Otahal (BLM), Risa Pesapane (UC-Davis), Stephanie Castle (UC-Davis), Janet Foley (UC-Davis), Deana Clifford (CDFW), Susan Sorrells (Shoshone), and Nick Shirkey (CDFW).

Interagency site visit with private landowner to discuss habitat restoration project

USGS, CDFW, and USFWS adjusting a water control structure to stabilize water levels at the Marsh 1 restoration site

Species Conservation

Pilot Marsh Restoration Project

The Palm Springs Fish and Wildlife Office and Sonny Bono Salton Sea NWR received funding to test the feasibility of using agricultural waste water to construct a pilot marsh restoration project that would benefit the endangered Yuma clapper rail. In collaboration with the U.S. Geological Survey, the project will monitor the use of agricultural water to determine if suitable habitat can be provided without violating water quality standards for selenium and other select contaminants. The pilot study is important because with increasing water costs due to declining supplies, available funding may not be sufficient to purchase more expensive Colorado River water in sufficient quantities to support enough freshwater marsh habitat to recover the rail. The use of agricultural water at no cost, or a blend of Colorado River water and agricultural water, could potentially support a larger amount of habitat needed for recovery of the species.

Yuma Clapper Rail. USFWS Photo by Jim Rorabaugh

Long Distance Dispersal Study

The National Fish and Wildlife Foundation provided funding in support of the Palm Springs Office's proposal to study the long distance dispersal behavior of the Yuma clapper rail. The project will use satellite radio telemetry to study dispersal movements in an attempt to determine the extent to which solar energy development poses a demographic threat to the species.

To date, two rails have been found dead from collisions at solar energy facilities, and a third was found disoriented but apparently unharmed. The working hypothesis is that clapper rails and other water-associated birds are attracted by an apparent "lake effect" generated by daylight and nightlight reflecting off of solar panels which simulates ponded bodies of water, and are injured or killed when they attempt to land in the solar field.

The distribution of utility scale solar development in the desert southwest corresponds closely with the rangewide distribution of Yuma clapper rail, and the rail may be vulnerable to increased mortality associated with the widespread adoption of this technology.

Connecting People With Nature

Partners for Fish and Wildlife Program

Coast horned lizard

The Partners for Fish and Wildlife Program is a voluntary, citizen and community-based stewardship program for fish and wildlife conservation on private land.

Based on the premise that fish and wildlife conservation is a responsibility shared by citizens and government and that collaboration is a value-added component of on-the-ground delivery, the Service works with private landowners, government agencies, tribes and other partners to support federal and local conservation strategies.

The Program vision is: ***"…to efficiently achieve voluntary habitat restoration on private lands, through financial and technical assistance, for the benefit of federal trust species."***

Coastal Program

The Coastal Program is a voluntary, partnership-based, habitat conservation program. We deliver habitat conservation through technical and financial assistance for habitat conservation planning and design, and implementation of habitat restoration and protection projects. Through these partnerships, we can leverage our technical and financial resources with partner resources to maximize habitat conservation and benefits to federal trust and other priority species, including threatened and endangered species, migratory birds, and inter-jurisdictional fish.

We deliver habitat conservation in coastal watersheds (i.e., headwaters to nearshore) on both public and private lands. Our ability to work on public and private lands and with a diversity of partners is necessary for implementing a coastal habitat conservation strategy, especially in coastal watersheds where land ownership is often a mosaic of private and public entities.

This ability also creates a unique opportunity for us to assist in the delivery of landscape conservation, maintain habitat connectivity and continuity, and to connect and engage partners with the Service's conservation priorities and objectives.

South San Diego Bay
National Wildlife Refuge

Connecting People With Nature

HIGHLIGHTS:

Staff from the Carlsbad and Palm Springs offices continued to lend their time and talents to introduce school children to nature and the agency's conservation mission.

Some of the schools and organizations that benefitted from outreach efforts included:

- Olivenhein Pioneer Elementary
- Boy Scout Troop 2000 - Eagle Scout educational sign project
- Calavera Hills Middle School
- First Lego League Trash Tek Challenge
- Hope Elementary Fourth Grade Science Day
- Ocean Discovery Institute
- Park Dale Lane Elementary School
- Workshop on local Native Plants at Sky Mountain Permaculture Institute

Fish and Wildlife Biologist Jon Avery (on far right) is an active volunteer with the Earth Discovery Institute

Hope Elementary Science Fair

Fish and Wildlife Biologist Jonathan Snapp-Cook worked to install a native plant garden at Hope Elementary School

Connecting People With Nature

Neighbors Helping Neighbors

Service employees worked side by side with the Meadowview Community Association in Temecula, California to install 45 nest boxes for burrowing owls.

A 300-acre open space meadow area owned and maintained by the Community Association has become a source of pride, and residents are taking an active role in being stewards of the native plants and animals.

At least one burrowing owl showed up just a few days after the nest box installation. Now, the Community Association has installed a motion activated camera so they can watch the owls.

Tribal Relations

The federal government has a unique and distinctive political relationship with federally recognized Indian tribes. It is defined by treaties, statutes, executive orders, judicial decisions and agreements and differs from relationships with state and local governments or other entities.

It has given rise to a special federal trust responsibility, involving the legal responsibilities and obligations of the United States toward Indian tribes and the application of fiduciary standards of due care with respect to Indian lands, tribal trust resources and the exercise of tribal rights.

The U.S. Fish and Wildlife Service, as a bureau of the Department of the Interior, has a mandated obligation to ensure that the federal Indian trust responsibility is fulfilled.

We held three Tribal coordination workshops in fiscal year 2015:
February 12
June 11
September 15, 2015.

These workshops provide an opportunity to discuss activities of the Fish and Wildlife Service; hear about specific issues of interest or concern to Tribes; and help strengthen our government-to-government relationship.

Alison Anderson of the Carlsbad Office participated in the Los Coyotes Tribe's Earth Day Event

Prickly pear cactus

Partners

We work with an array of federal, state, and local agencies to achieve species and habitat conservation while furthering important national defense, development and infrastructure projects.

Pacific pocket mouse
Credit: C.Brehme/USGS

Our Department of Defense partners at Marine Corps Base Camp Pendleton are working with San Diego Zoo Global to advance our scientific knowledge of the endangered Pacific pocket mouse.

Cooperative efforts with Twentynine Palms Marine Corps Installation resulted in the successful headstarting and release of 35 threatened desert tortoises to further recovery of the species.

Juvenile female desert tortoise

Los Angeles River
Credit: Army Corps of Engineers

We worked with the Army Corps of Engineers to complete the Coordination Act Report for a $1.3 billion enhancement/restoration project along the Los Angeles River.

Partners

We continued our efforts to recover the endangered Southern California Distinct Population Segment of mountain yellow-legged frog.

In 2015, approximately 700 captive-bred juvenile frogs were released to the wild at Fuller Mill Creek.

Endangered Mountain yellow-legged frog

Captive-bred individuals released in 2013 and 2014 were observed in Hall Canyon and Fuller Mill Creek in FY2015. The captive-released mountain yellow-legged frogs appear to be breeding in Fuller Mill Creek which would mean our multi-agency success criteria for the program had been achieved.

Key Partners

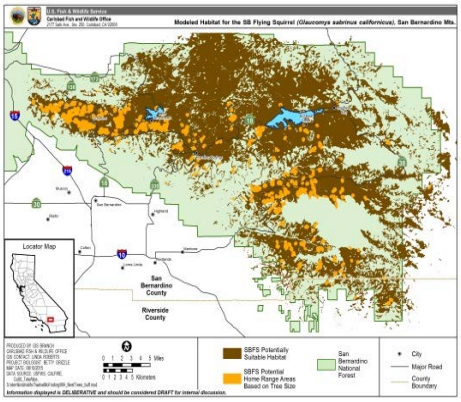
California Department of Fish and Wildlife
U.S. Forest Service
California Department of Transportation
U.S. Geological Survey
California Department of Parks and Recreation
San Diego Zoo Institute for Conservation Research
Los Angeles Zoo.

Programs

GIS DIVISION

The Geographic Information Systems Division captures, stores, manages, analyzes, and presents a diverse array of spatial and geographical data to assist in resource conservation decision-making. This year our GIS team took on several significant projects, including:

Greater Sage Grouse GIS Analysis Team
Western Golden Eagle Team GIS database development
Development Team for Region 8 web mapping gateway
Data Stewards for Data Basin and Science Base
San Bernardino flying squirrel 12-month finding



San Bernardino flying squirrel range map

BUDGET & ADMINISTRATION

No business can run without infrastructure. The Budget and Administrative professionals at the Carlsbad Office are integral to our conservation mission and serving the public.

HIGHLIGHTS INCLUDE:

33 Freedom Of Information Act requests completed

731 files shipped to the National Archives and Records Administration

Managed 28 contracts and agreements to support conservation activities

Coachella Valley milk-vetch

Programs

Monarch Butterfly Conservation

Adult Monarch butterfly

The Fish and Wildlife Service is currently reviewing the status of the monarch butterfly to determine if it needs protection under the Endangered Species Act.

A national effort is underway to improve the conservation status of the butterfly. Working with partners at the federal, state, and local levels; and enlisting the assistance of the public and others, efforts are underway to plant native milkweed throughout the species' range.

Monarch caterpillar

In 2014-2015, the Carlsbad Office worked on several projects to help this iconic butterfly including:

- **Created two pollinator gardens that included native milkweed plants – 1 at Park Dale Lane Elementary in Encinitas, California, funded by the Association of Special Districts and 1 at the San Diego County Fair, funded by volunteer contributions and the support of the County Fair**
- **Worked with Caltrans to add milkweed seed (*Asclepias fasciculatum*) to their seed mixes for restoration projects along the San Luis Rey River**
- **Planting of milkweed in home gardens**

Programs

Environmental Contaminants Division

Working to ensure healthy habitats for wildlife and people. They conduct investigations, prepare for emergencies, and coordinate on projects both on and off National Wildlife Refuges.

San Diego Bay National Wildlife Refuge Otay Floodplain Upland Ecological Risk Assessment.

The Environmental Contaminants Division coordinated with the San Diego Bay NWR, the Service's Cultural Resources experts, and River Partners on a study to assess potential ecological risks posed by contaminants in soils of former agricultural fields on the Otay Floodplain at San Diego Bay NWR.

The Otay floodplain includes about 70 acres of disturbed upland habitat with high levels of organochlorine pesticides in the soil. Approximately 33 acres of this land has been restored to riparian habitat, while the remaining 37 acres are being considered for future restoration to native upland habitat. Using information received on analyses of soil and insect samples, an Ecological Risk Assessment was developed that will help support efforts to remediate, restore, and manage this land as high quality habitat for wildlife, including insectivorous migratory birds.

Fish and Wildlife Biologist Patrick Gower and Contaminant Specialist Katie Zeeman conducting field work on the Otay floodplain

Other highlights:

- Provided technical expertise for a clean-up project on Naval Weapons Station Seal Beach
- Participated in pre-spill planning efforts along the southern California coast
- Provided pest eradication reviews for the California Dept. of Food and Agriculture
- Reviewed more than 3,200 spill reports, of which 55 required more detailed follow-up, and 3 that required lengthy involvement

Programs

SECTION 6 GRANTS

The Cooperative Endangered Species Conservation Fund (CESCF) awards grants to benefit numerous species, ranging from the coastal California gnatcatcher to the Peninsular Ranges Population of bighorn sheep.

Authorized under Section 6 of the Endangered Species Act and partially funded by the Land and Water Conservation Act, these competitive grants enable states to work with private landowners, conservation groups and other government agencies to initiate conservation planning efforts and acquire or protect habitat for the conservation of threatened and endangered species.

In FY2015, the Carlsbad Office provided technical assistance to the State in expending approximately **$13,643,690 on the acquisition of 1,626.63 acres of habitat** through the Section 6 program**. (An increase of about 430 acres from FY2014**)

San Diego Multiple Species Conservation Program

Carlsbad Habitat Management Plan

Programs

Information & Education

SCIENCE EXCELLENCE: Scientific and scholarly information that we consider in our decision making must be of the highest quality, and the result of the most rigorous scientific and scholarly processes as can be achieved.

At the Carlsbad Office we are fortunate to have a top-notch Technical Information Specialist who established, maintains, and retrieves a broad range of scientific and technical materials for staff.

The library houses more than 6,000 books, reports, and other technical documents. We seek out information from a wide variety of institutions including:

Jet Propulsion Laboratory Library and Archives
Roskilde University Library – Denmark
University of California Los Angeles
Ball State University Library
California Academy of Sciences

In FY15, our Technical Information Specialist completed cataloging of 462 new reference items and acquired 27 new books for the library

Public Affairs

Communicating and connecting with the public, and giving voice to our conservation successes.

This year we had some great stories to share. In addition to highlights already mentioned, here are a few more:

Establishment of Lytle Creek Conservation Bank

Olive Ridley sea turtle transferred from Oregon to Sea World San Diego for rehabilitation and later release

Otay Mesa vernal pool restoration

Mohave Tui chub survey at Morningstar Mine pond Photo credit: Marc Williams

Our People Are Our Greatest Resource

We have 48 staff at the Carlsbad Office

We cannot achieve our conservation mission without the dedicated staff and managers of the Carlsbad and Palm Springs Offices.

The Palm Springs Office has 22 employees

Our People Are Our Greatest Resource

Udara Abeysekera

The Carlsbad Fish and Wildlife Office is providing opportunities for college students to learn about our agency while they earn their degrees.

Udara Abeysekera, a senior at the University of California, San Diego, is majoring in Environmental Systems (Ecology, Behavior, and Evolution) and minoring in Sociology. As an intern at the Carlsbad Office, she is working with biologists and GIS staff to compile and map conservation information about the threatened coastal California gnatcatcher for inclusion in a database.

Her work will benefit the Service by making this information readily retrievable for staff. The knowledge and information Udara gathers about the gnatcatcher during her internship will form the basis for her senior project at the University. These internships are a great way for the Service to recruit potential new employees to help us fulfill our conservation mission into the future.

Coastal California gnatcatcher

Citizen Science Project:
Temur Iman is a junior at the University of California San Diego's John Muir College, is majoring in Environmental Systems with an emphasis in Ecology, Behavior and Evolution.

As an intern with the Carlsbad Office, Temur is partnering with the San Diego Natural History Museum, San Diego Zoo Global, the U.S. Forest Service and others to learn more about the San Bernardino flying squirrel. This project is also engaging citizen scientists who will help collect data about the squirrel's occupancy in the San Bernardino and San Jacinto Mountains.

Temur Iman

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