



UPLAND GAME BIRD ACCOUNT

Fund review for Fiscal Years 2024-2025 and 2025-2026

California Department of Fish and Wildlife – Upland Game Unit

Presented to The Upland Game Bird Account Advisory Committee

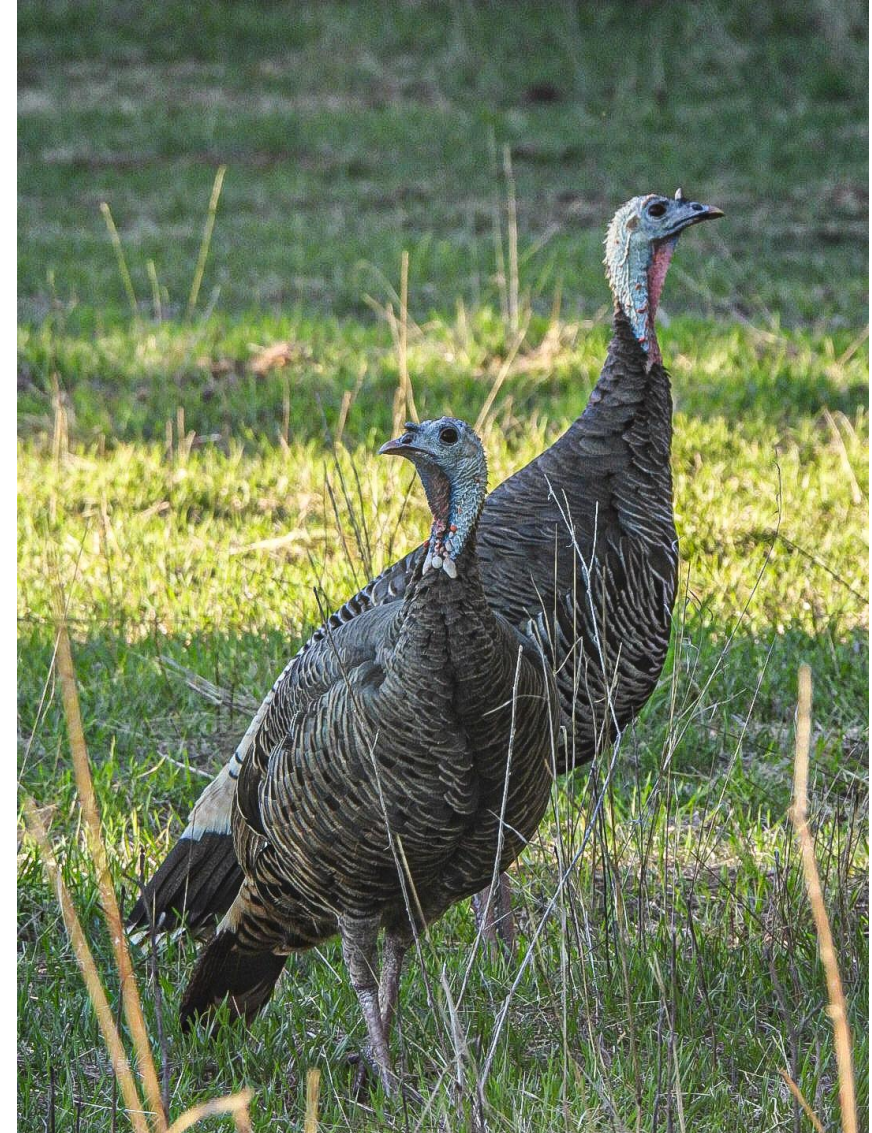
Upland Game Bird Advisory Committee Members

- Bill Gaines and Associates – *Bill Gaines, Principal*
- California Bowmen Hunters – *Chriss Bowles, President*
- California Rifle & Pistol Association – *Rick Travis, Legislative Director*
- Safari Club International – *Keely M. Hopkins, Western State and Local Liaison*
- California Waterfowl Association – *Mark Hennelly, VP Advocacy*
- National Wild Turkey Federation – *Krista Modlin, District Biologist, CA Chapter*
- Pheasants and Quail Forever – *Al Eiden, West Region Director of Conservation Delivery*
- San Diego County Wildlife Federation – *Gary Brennan, President*



Presentation Overview

- Fiscal year 2024-2025 expenditures
- Fiscal year 2025-2026 forecast
- Projects completed in 2024-2025
- PR projects supported with UGBA match
- Projects underway or planned for 2025-2026 and 2026-2027



Species Overview – Upland Game Birds

Resident

- Mountain, California, and Gambel's Quail
- Sooty and Ruffed Grouse, Greater Sage-grouse

Non-natives

- Chukar
- Ring-necked pheasant
- White-tailed ptarmigan
- Wild turkey
- Eurasian collared dove

Migratory

- White-winged, mourning dove
- Band-tailed pigeon
- Wilson's snipe

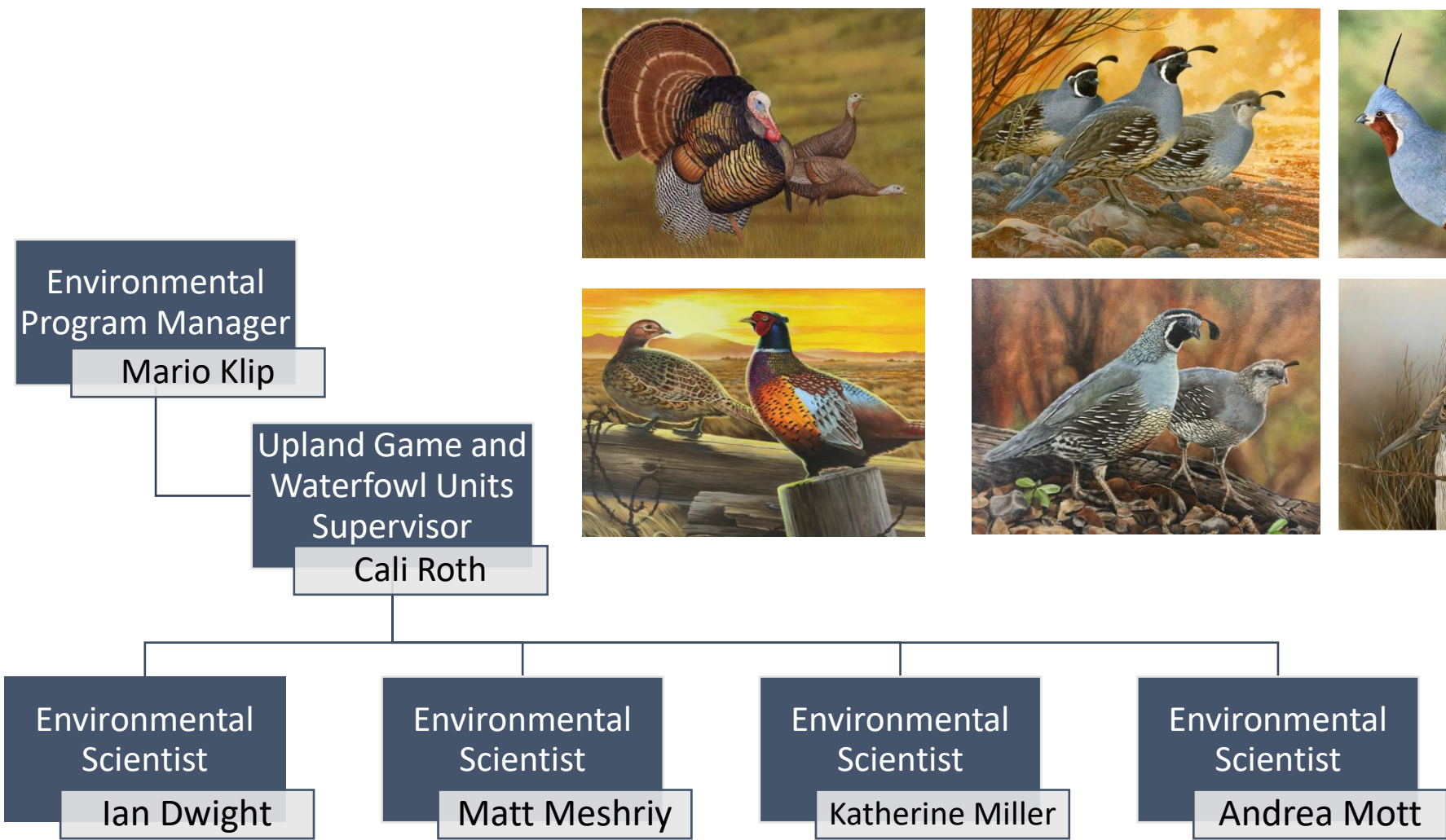


CDFW Upland Game Unit

- Resource assessment
- Harvest assessment
- Management planning
- Habitat enhancement
- Regulation development
- Program funds administration
- Hunting and wildlife viewing opportunities



CDFW Upland Game Unit



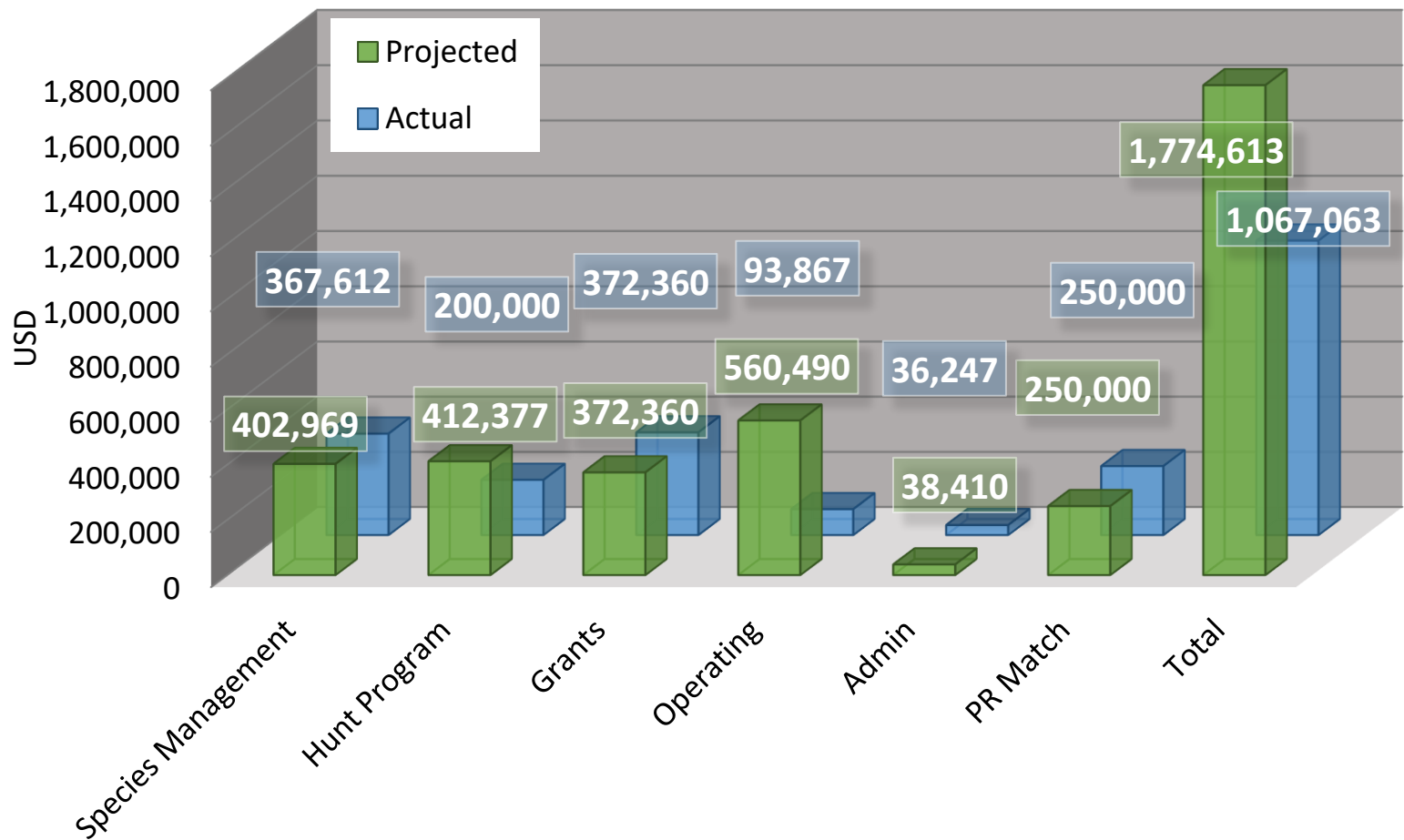
Fiscal Year 2024-2025

Upland Game Funding

1. Upland Game Bird Account
 - Funded by tag fees
 - Allocations to WLB and Regions
2. Pittman-Robertson Act
 - Federal Assistance
 - Individual Grants

2024-2025 UGBA

Total Allocation and Spending for Wildlife Branch and Regions



\$1.7 million allotment across wildlife branch and regions

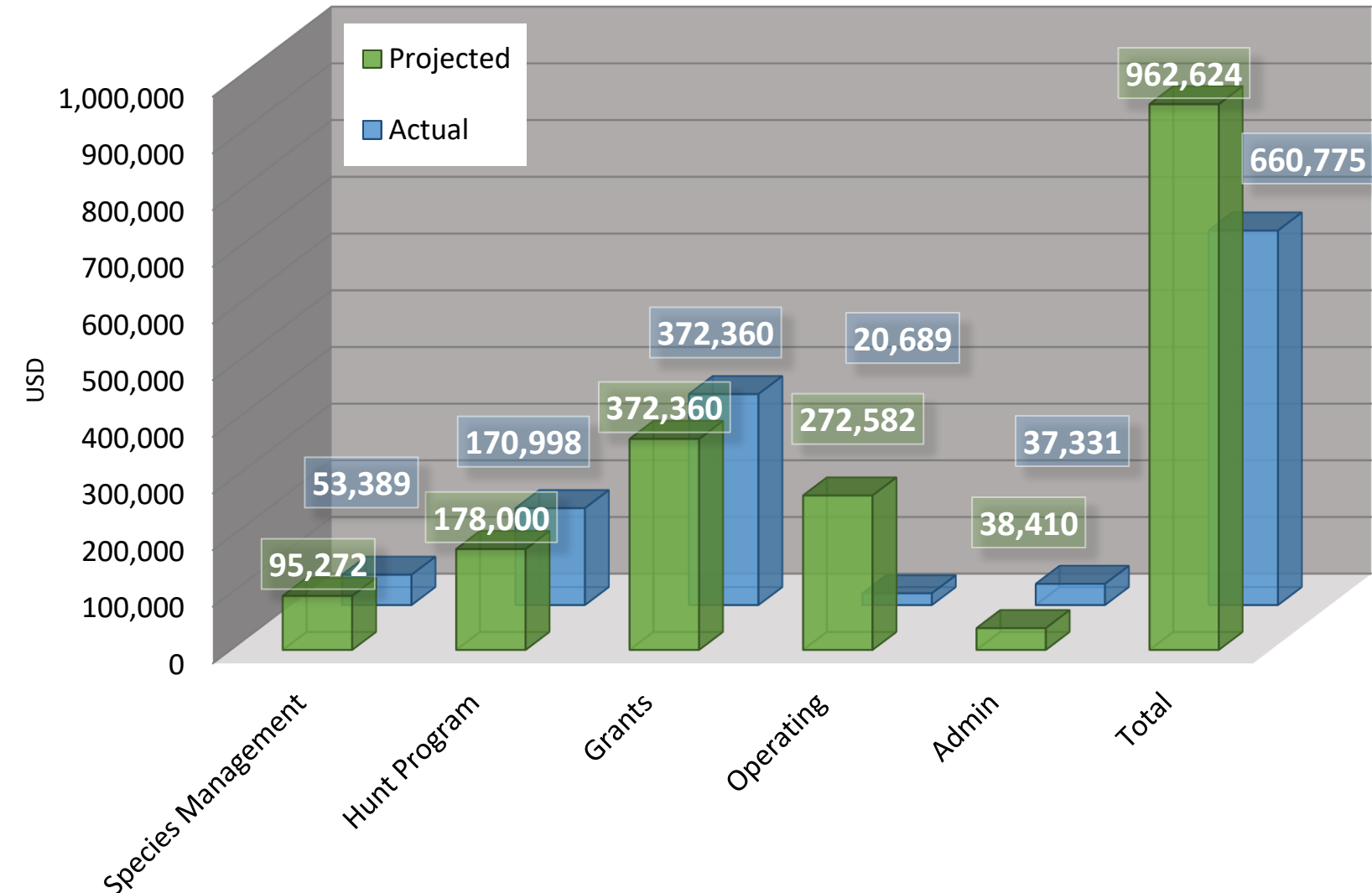
\$250K PR match for an additional \$900K for upland game projects

\$700,00 balance at end of FY24

- Reduced wages due to vacancies
- Lower than expected operation and admin costs
- Fewer grants awarded

2024-2025 UGBA

Wildlife Branch Allocation and Spending

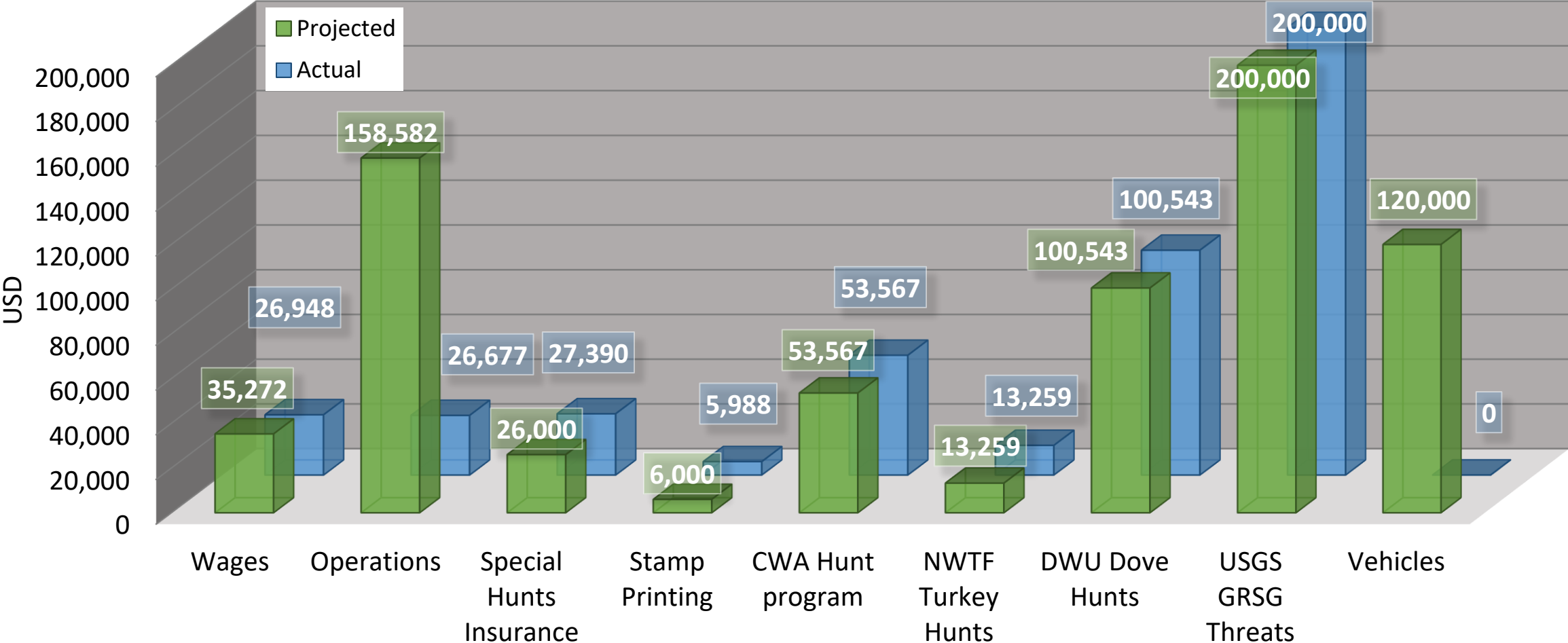


\$300,000 balance at end of FY24

- Fewer grants awarded than previous years
- Reduced operations cost due to delayed/reduced purchases, stemming from vacancies

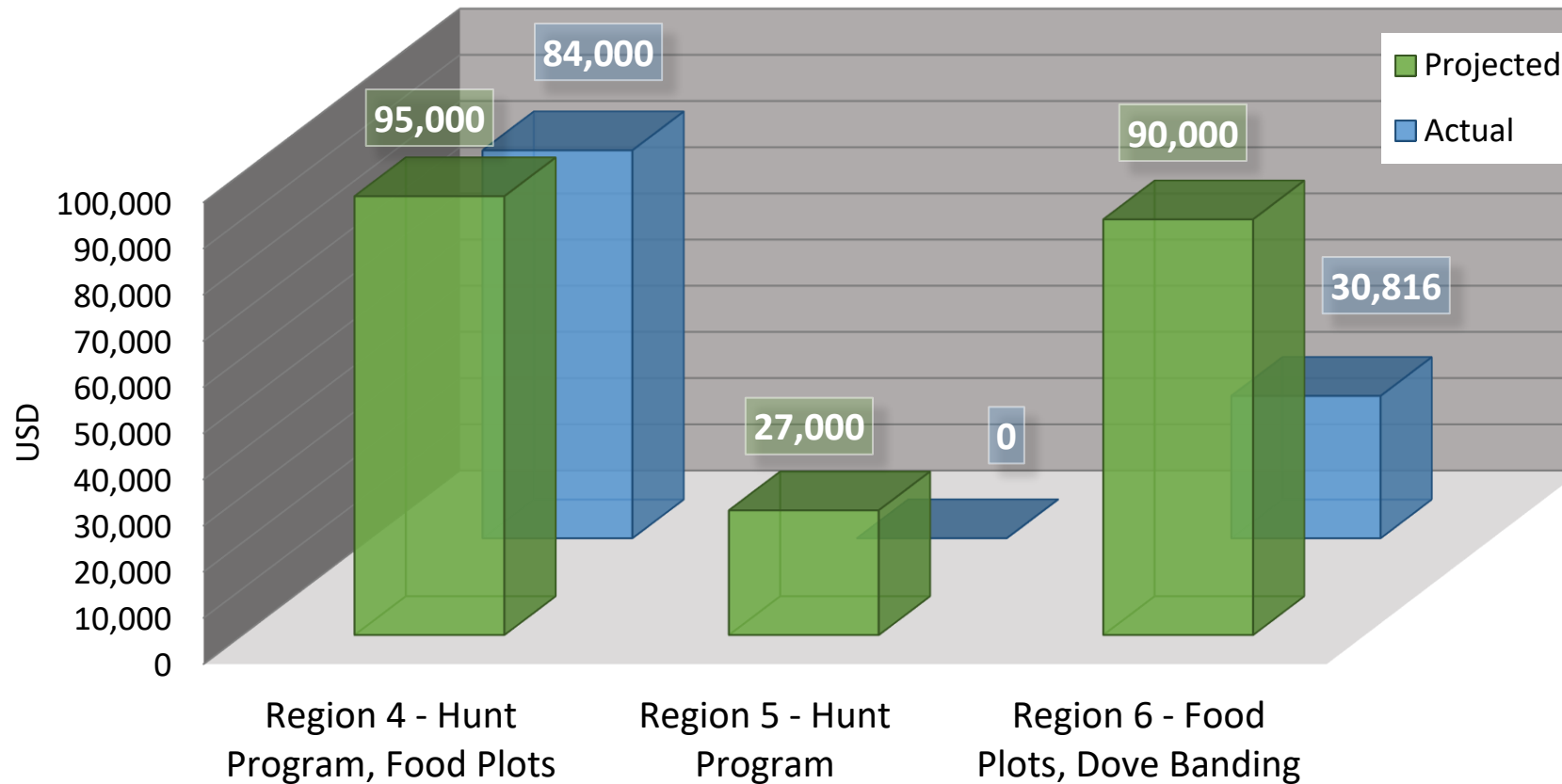
2024-2025 UGBA

Wildlife Branch – Headquarters Allocation and Spending



2024-2025 UGBA

Wildlife Branch – Regional Suballocations and Spending



Region 4

- >900 hunters served
- 180 acres food plots

Region 5

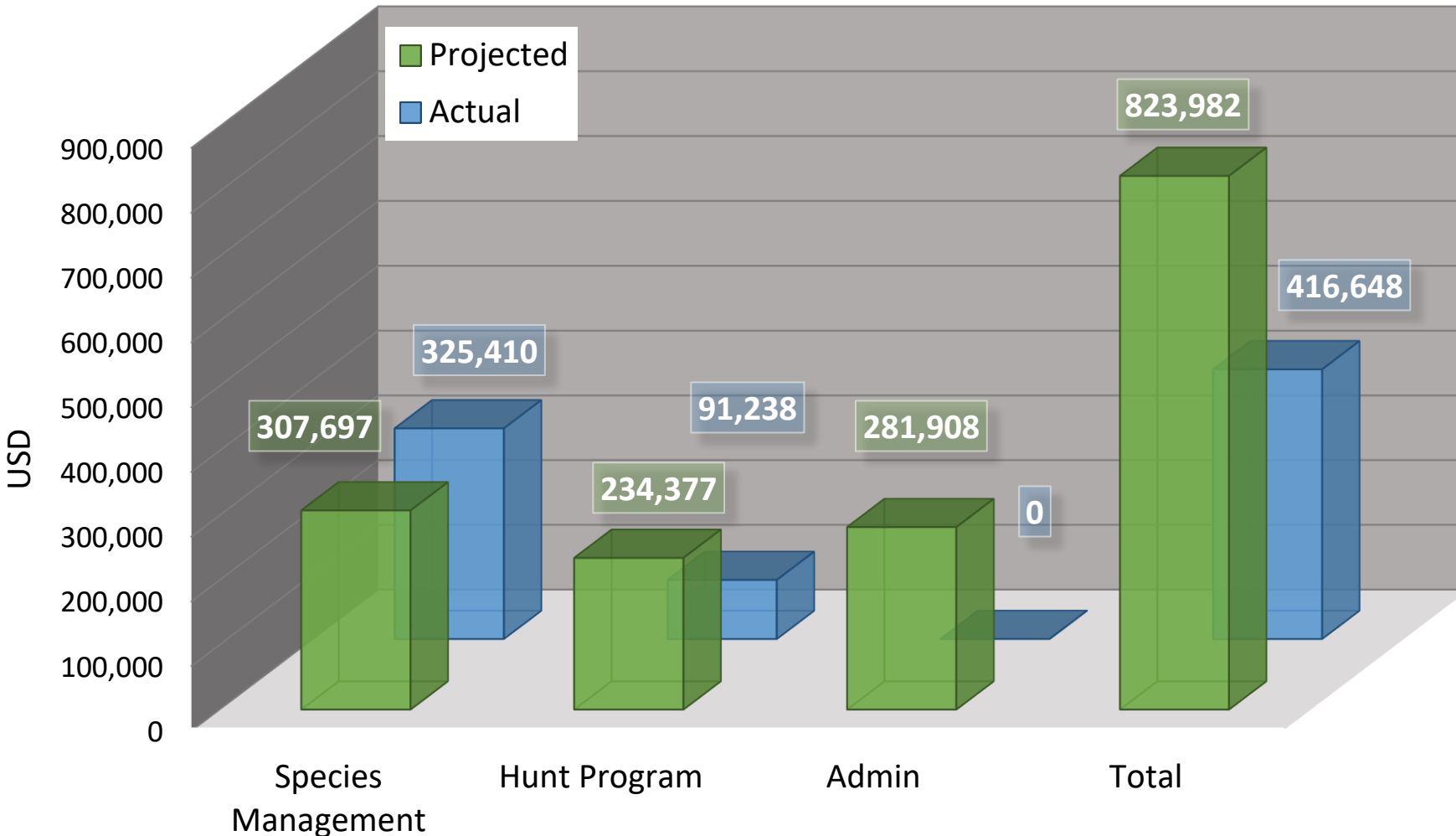
- Wages not drawn

Region 6

- 12 surveys conducted
- 270 doves banded
- 262 acres food plots

2024-2025 UGBA

Direct Allocations to Regions



\$400,00 balance
at end of FY24

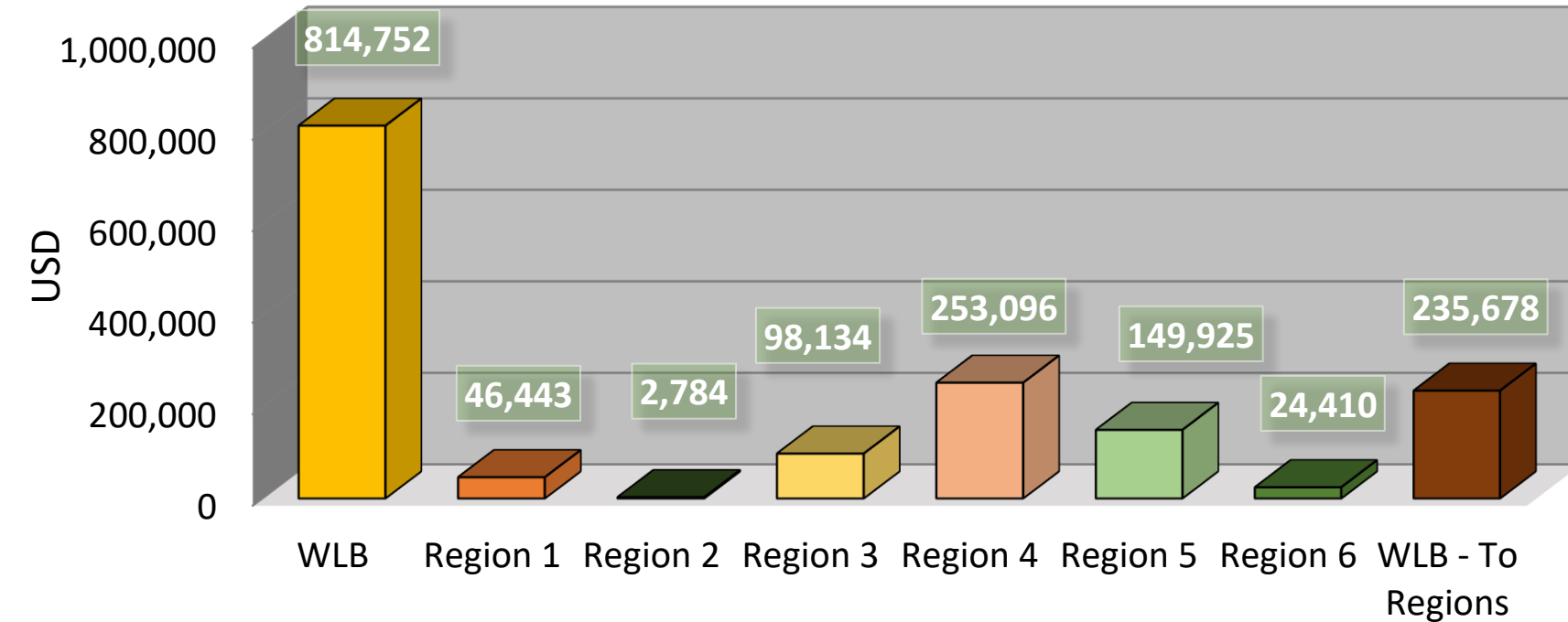
- Reduced expenditures in hunt programs due to vacancies
- No distributed admin expenses

Fiscal Year 2025-2026 UGBA

Funding Projections

2025-2026 UGBA

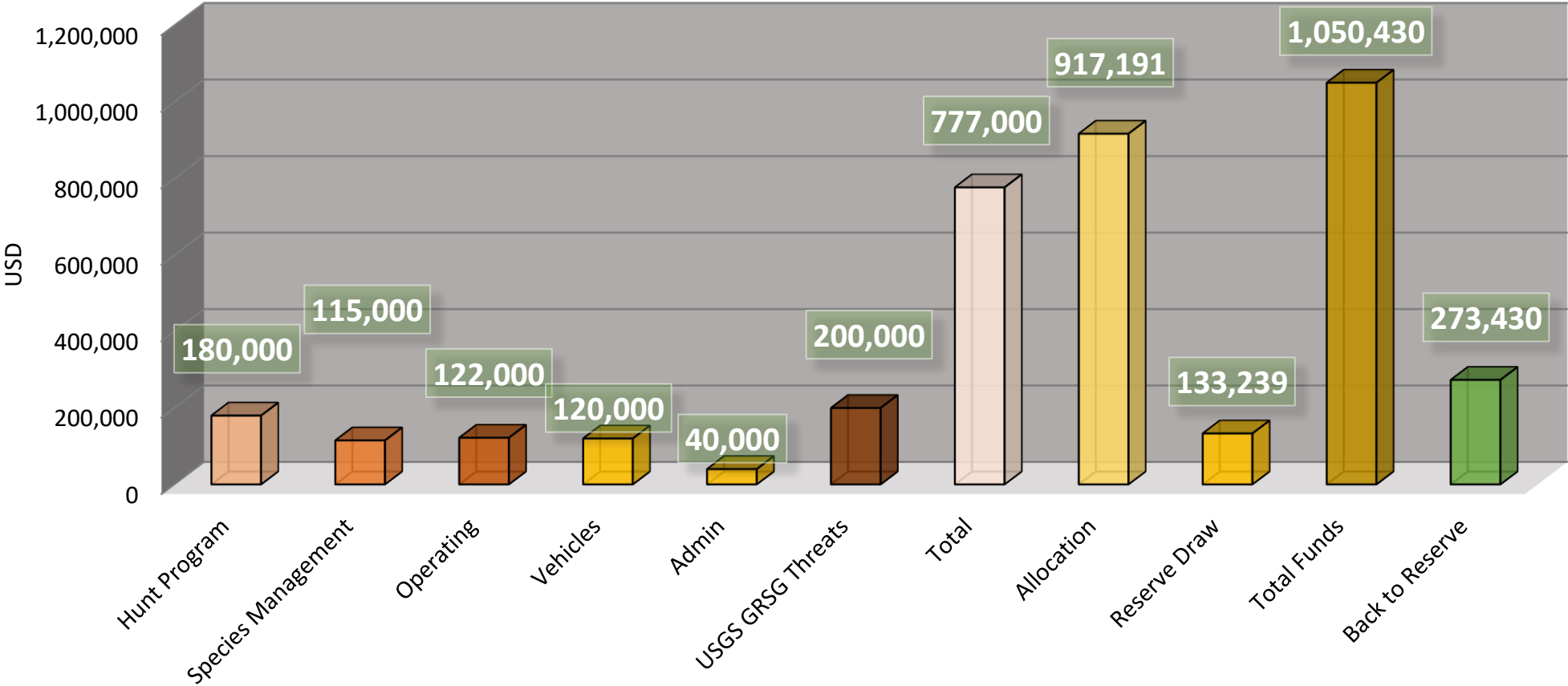
Allocations



- Total allocation: \$1,624,111
- PR match: ~200K for an additional \$940,000

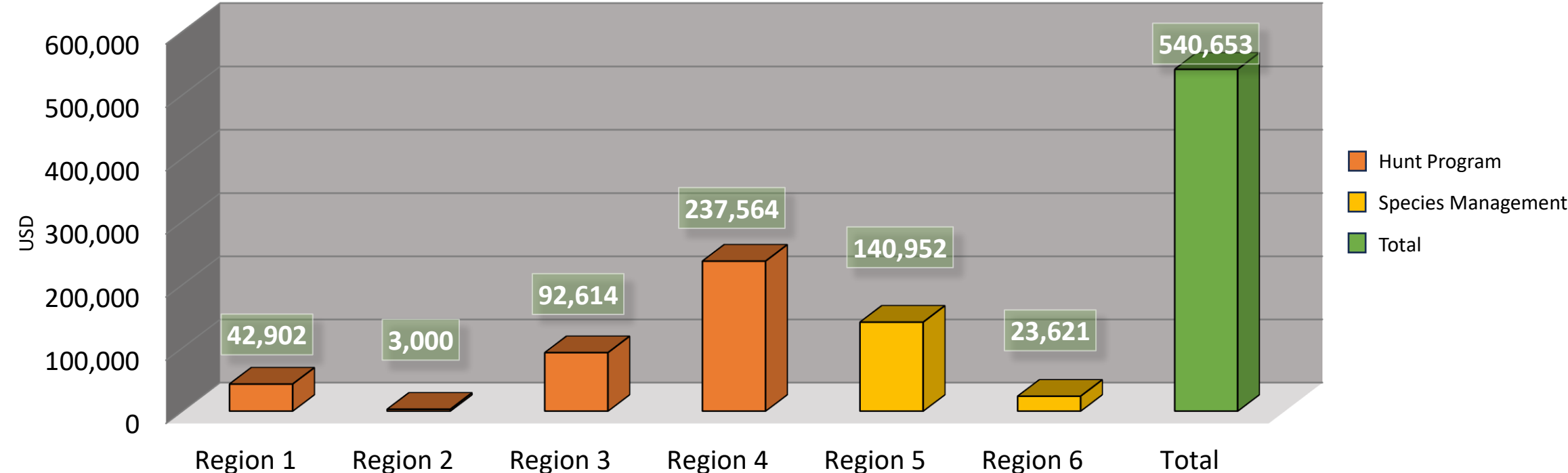
2025-2026 UGBA

Wildlife Branch – Headquarters Allocation



2025-2026 UGBA

Regional Allocations



Pre Fiscal Year 2024-2025 UGBA Projects

Completed in Fiscal Year 2024-2025

Mountain Quail Response to Land Cover, Wildfire, and Climate (Grant)



Sierra, Cascades, Klamath counties



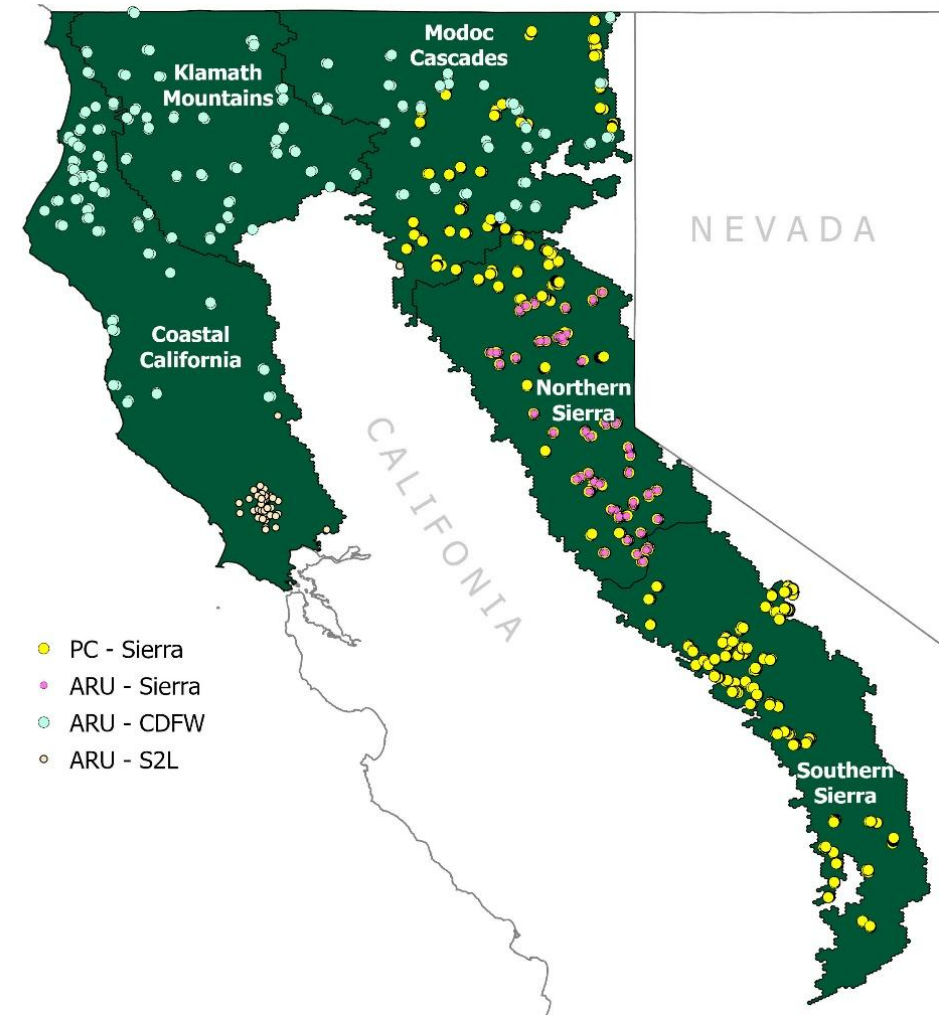
\$150,000



Identify fire, climate change, and habitat effects

Mountain Quail Response to Land Cover, Wildfire and Climate

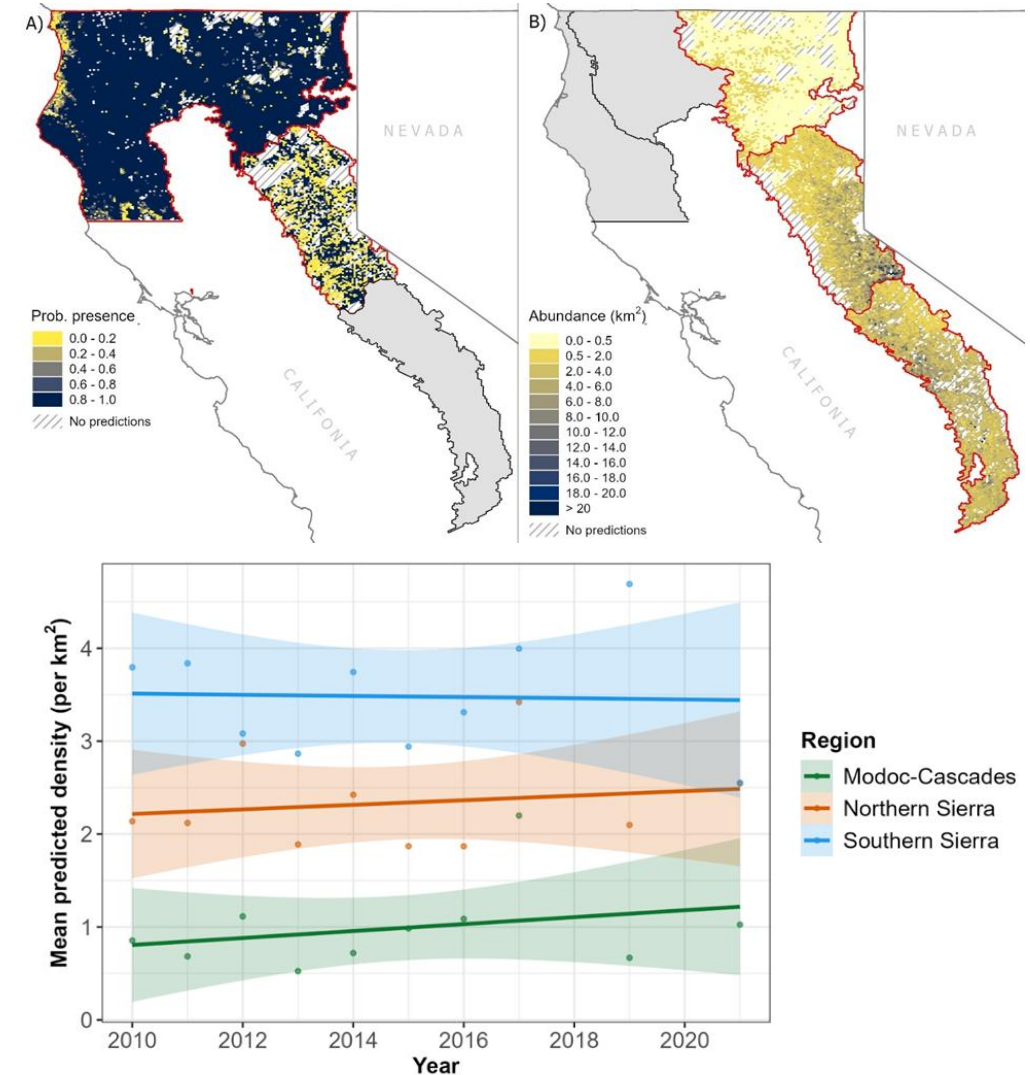
- Awarded in 2022
- Study period 2010-2021
- ARUs to model presence/absence
- Point count surveys to model abundance
- Final report in review



This information is preliminary or provisional and is subject to revision. It is being provided to meet the need for timely best science.

Mountain Quail Response to Land Cover and Climate

- Presence (A) influenced by landscape covariates
- Abundance (B) influenced by local covariates
- Trends in abundance were stable across all regions
- High winter snowpack beneficial in southern Sierra but not in northern Sierra
- Management implications: winter refugia in northern populations, habitat management to best promote presence and abundance



Mountain Quail Response to Wildfire

- Patchy fire positively impact abundance at multiple scales
- High severity fires support higher abundance > 11 years after burn
- High severity fires reduce presence immediately following burn (1-5 years)
- Management implications:
 - restore/conserv habitat islands following wildfire
 - Assess vegetation community in 11+ year old burn scars and implement in unburned, low abundance areas



Mountain Quail Population Structure (Grant)



Statewide



\$142,000



Identify population structure in California mountain quail through genetic analysis

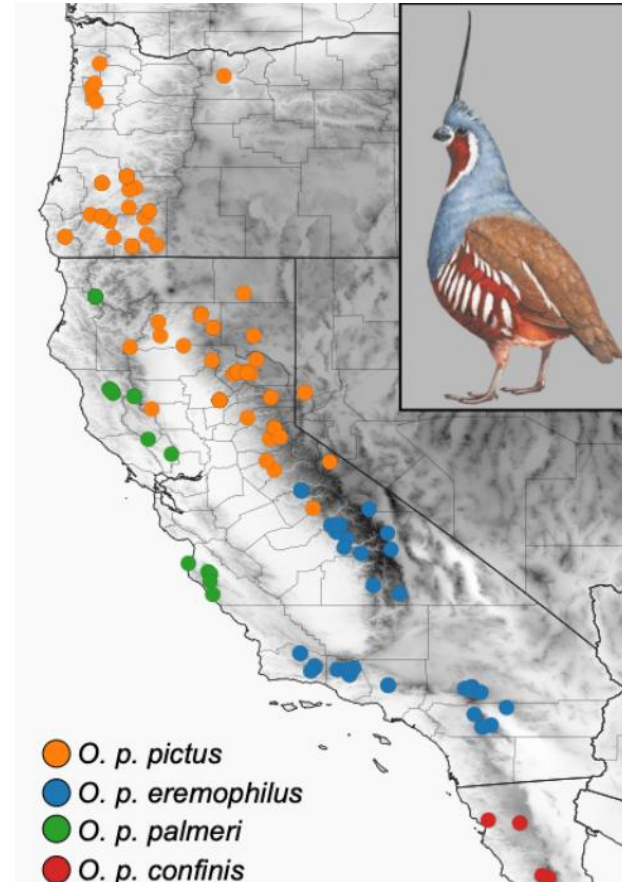
Mountain Quail Population Structure



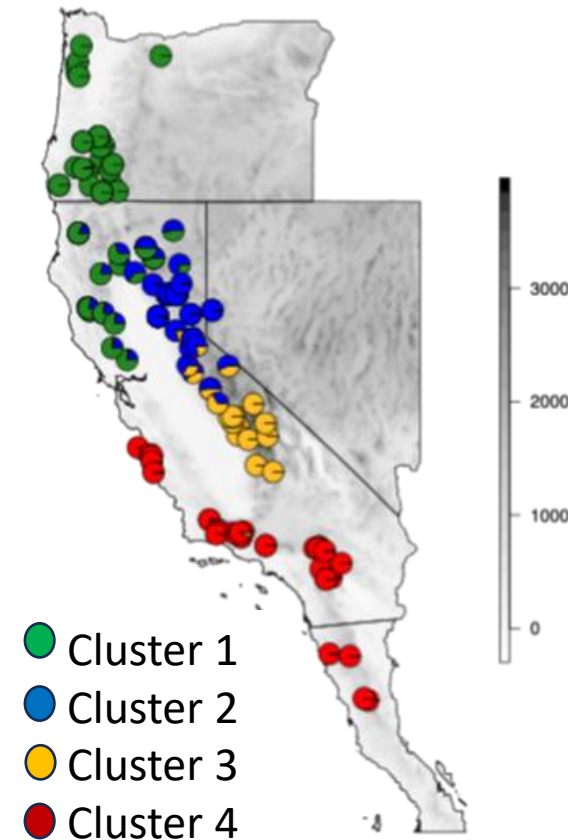
- Sept. 2025 publication on climate and landscape changes on quail diversity in Molecular Ecology
- Draft report of mountain quail population structure
- 153 genetic samples from four previously described subspecies
- Four distinct population clusters with relatively high connectivity in the Sierra



Birds of the World
Taxonomy



Population Clusters



This information is preliminary or provisional and is subject to revision. It is being provided to meet the need for timely best science.

Quail Habitat Assessment (Grant)



Caesar Kleberg Wildlife Research
Institute – Texas A&M



\$114,820



Model quail abundance, effects of land
use, urban sprawl

Quail Habitat Assessment



- Ended June 30th, 2023
- Analysis complete, submitted manuscript to journal
- Declining populations correlated with higher urban population, more roads
- Mountain quail correlated with more tree and litter cover
- California quail correlated with more shrub and litter cover, less tree cover
- Gambel's quail correlated with less bare ground
- Management implications: use results to guide habitat improvement projects

Fiscal Year 2024-2025 UGBA Projects

Completed and Ongoing

Special Hunts



Statewide

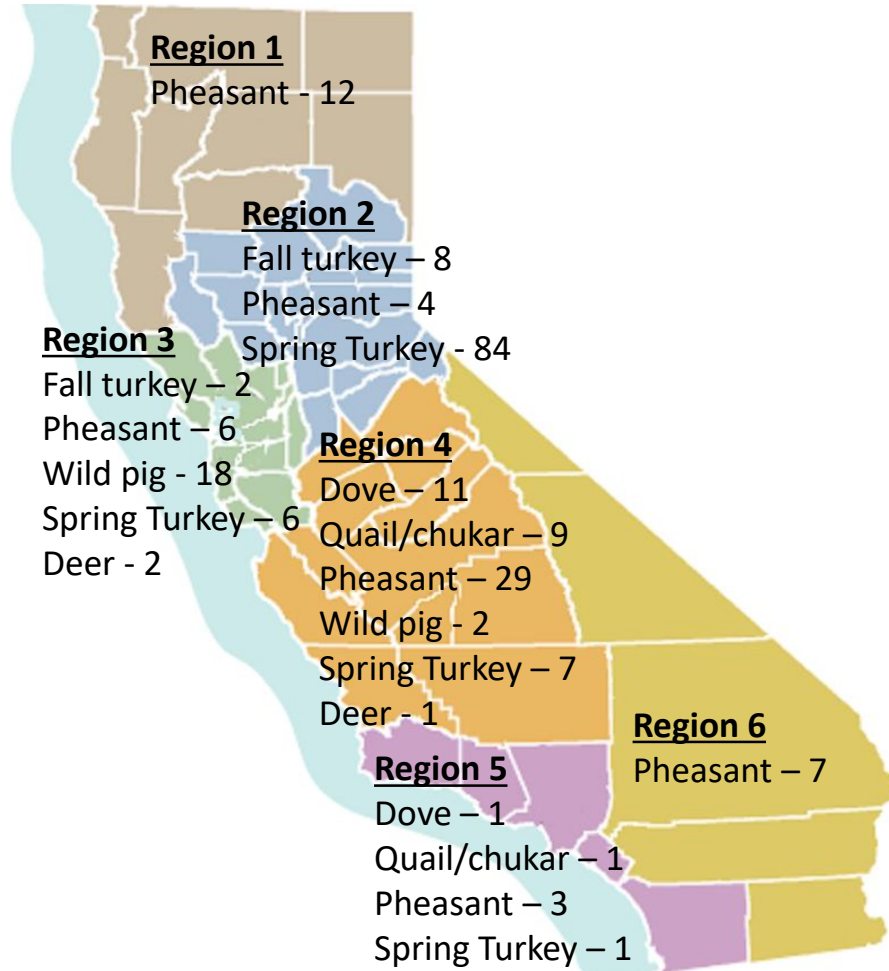


\$27,000



Provide access to specially managed hunting opportunities on public and private lands for upland game birds and game mammals to anyone with a valid annual California hunting license and any required validations or applicant statuses

Special Hunts



- Managed through Automated Licensing Data System (ALDS)
- 214 special hunts across all regions
- 35,626 applicants
- 10% average chance of draw

Apprentice Turkey Hunts (Grant)



Sacramento and Delvan
National Wildlife Refuges



\$13,250



Target novice turkey hunter to promote
improved participation in turkey hunts

Apprentice Turkey Hunts

- Hired seasonal technician to coordinate spring turkey hunt program
- Fielded 19 hunters and 10 non-hunters, paired with mentor
- Harvested 13 turkeys
 - 3 exceeding 20lbs



Dove Fields (Contract)



Imperial County

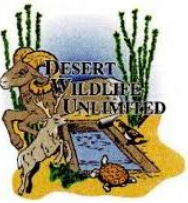


\$100,000

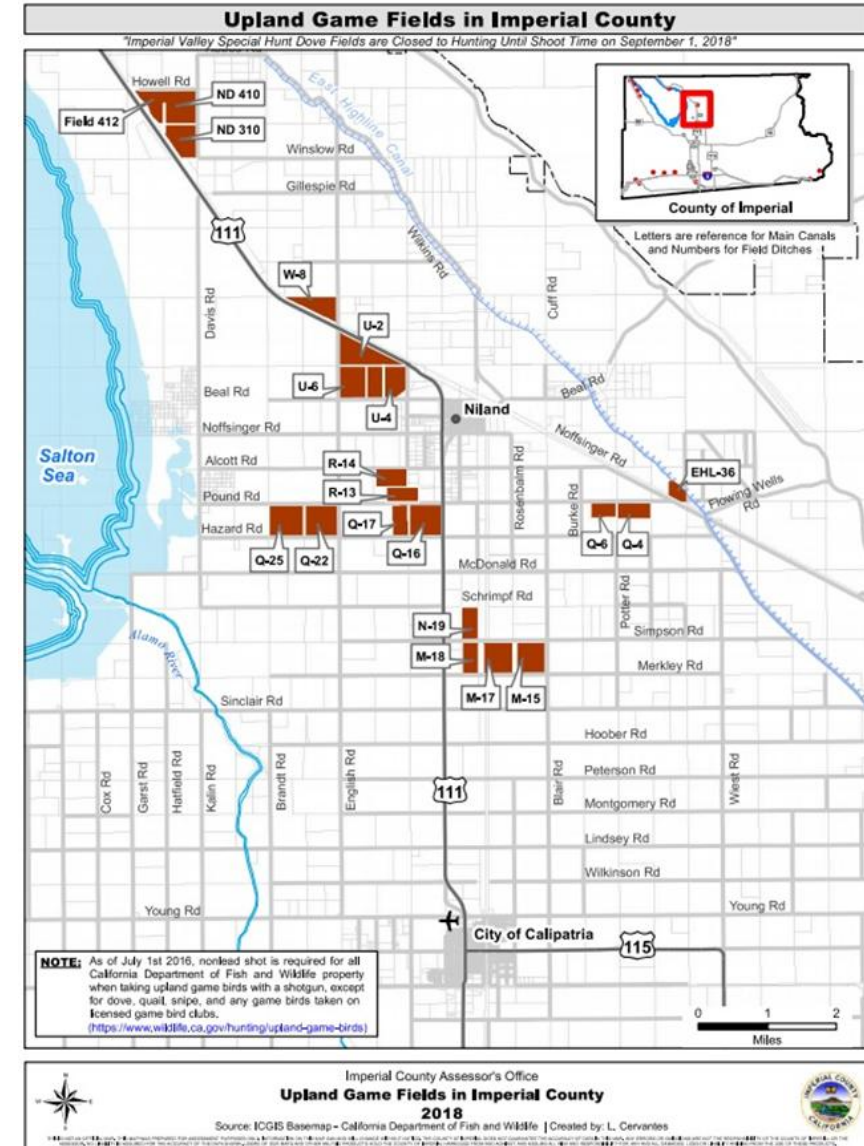


Improve access to and opportunity for dove hunts in the imperial valley through lease agreements with landowners and upland game bird crops

Dove Fields – Fiscal Year 2024-2025



- 1,800 acres of open access dove hunting
- 260 acres of harvested grain
- Serves >1,400 hunters annually
- September 1st – 15th and November 8th – December 22nd
- Wet weather restricted lot access
 - Accessed 6 of 10 lots
- 199 total cars
- ~ 800 hunters



CWA Hunts (Grant)



Kern and Butte counties



\$53,000



Improve access to and opportunity for upland hunts through the California Waterfowl Hunts Program

CWA Hunts



- Dove hunting permits, improving opportunity for ~100 hunters
- 800 pheasants released at Goose Lake, improving opportunity for ~480 hunters
- 20 hunt dates
- 480 veterans and youth hunters



Greater Sage-Grouse Threats Analysis (Contract)



GRSG range in CA



\$200,000



Assess relative threats to sage-grouse populations to inform CESA listing decision

Greater Sage-Grouse Threats Analysis



Wildfire



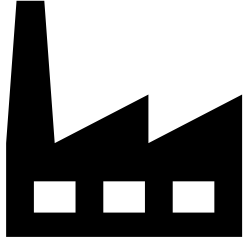
Invasive annual
grasses



Conifer expansion



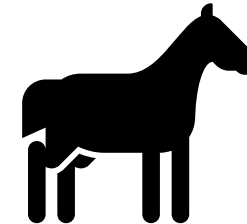
Agriculture



Infrastructure



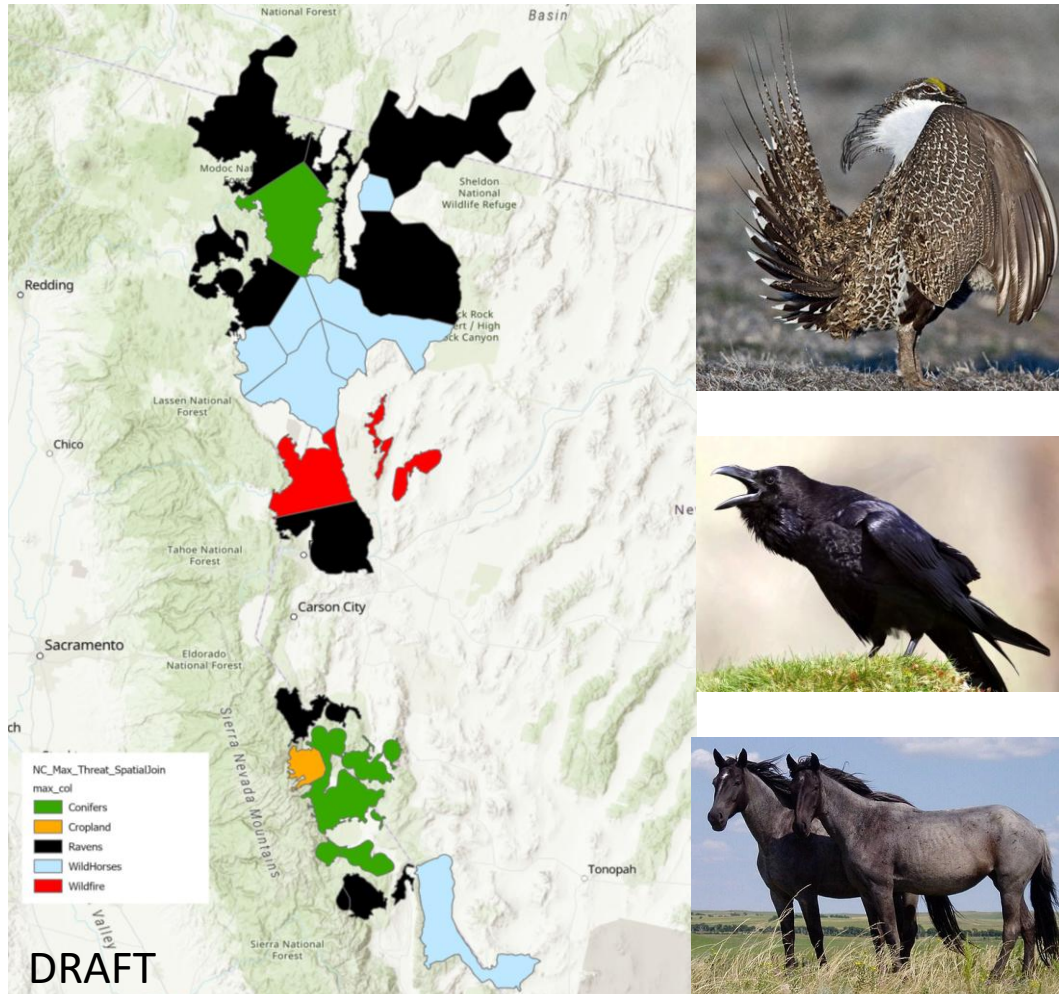
Subsidized avian
predators



Free roaming
horses

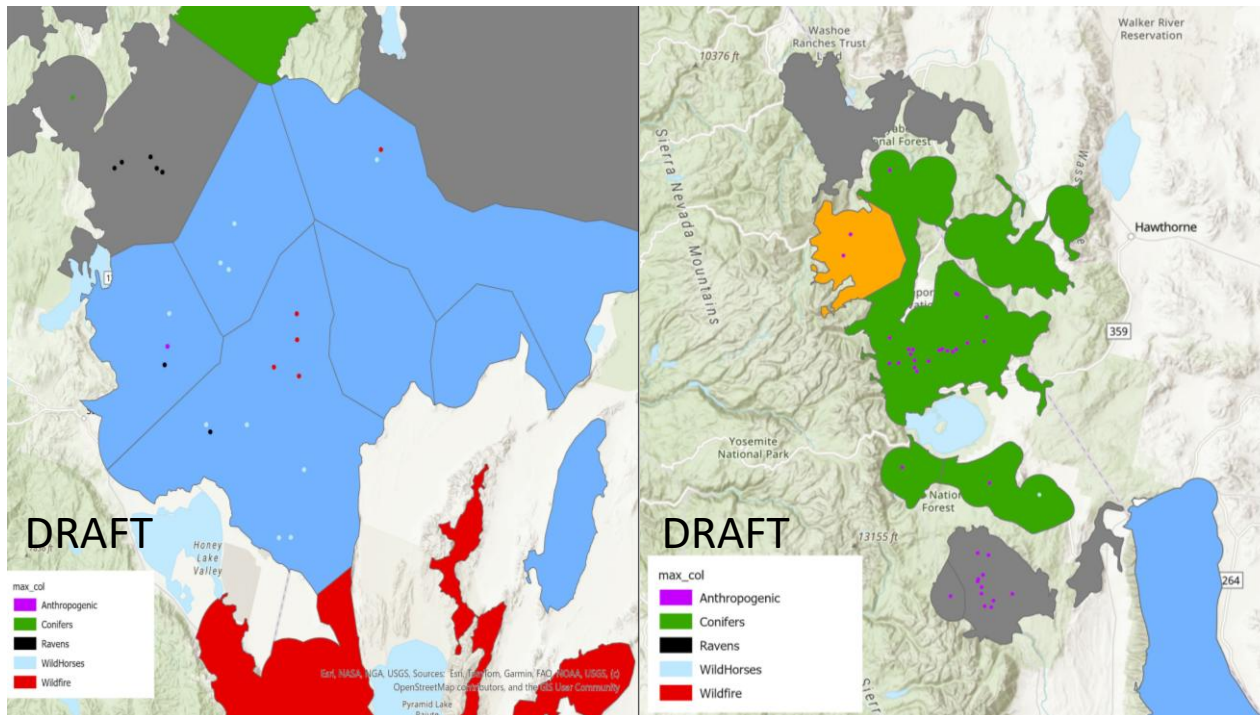
Application: Help CDFW assess population longevity and improve population performance

Greater Sage-Grouse Threats Analysis



- Acute threats – capture immediate impacts with a state-space model
- Ravens and free roaming horses are the most significant threat facing CA GRSG populations

Greater Sage-Grouse Threats Analysis



- In NorCal – primary threats vary by lek and include ravens, free roaming horses, wildfire, and conifer
- In Bi-State – primary threat at the lek level is anthropogenic development

Fiscal Year 2024-2025 PR Projects

Secured with \$250K UGBA Match

Quail Wing Barrels



Regions 2-6



\$5,000



Evaluate the impact of drought conditions on age class for multiple quail species

Quail Wing Barrels

- California quail: average recruitment across the state due to increased winter rainfall (1.83 Hatch Year: After Hatch Year; n = 555 wings)
- Gambel's quail: low recruitment across the state in 2024 (0.44 HY:AHY; n = 31 wings) but varied by region
- Expand this project to more sites, creating a long-term monitoring project for productivity.
- Explore regional differences in effects of timing and amount of rain



Audio Recording Units



Regions 1-4



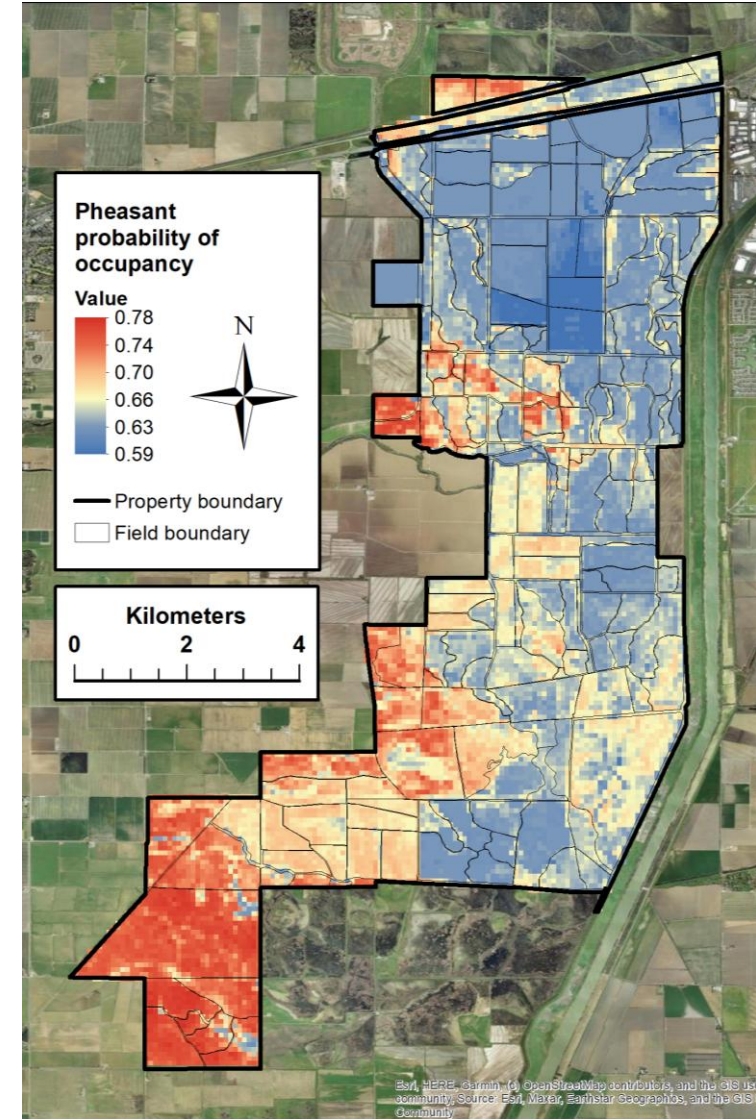
\$115,000



Assess upland game bird occupancy and abundance and pilot a standardized and passive protocol for any vocalizing species

Audio Recording Units

- Standardized monitoring of any vocalizing species
- Deployments coordinated with regional staff
- Currently monitoring in Regions 1-4 with plans to expand statewide
- 2025 deployment sites
 - 15 State Wildlife Areas
 - 3 Nat. Wildlife Refuges
 - 1 undesignated state property
 - Eldorado National Forest
- Occupancy modeling underway for turkey, quail, and pheasant



Pheasant Genetics



Statewide



\$132,000 (\$99,000 PR,
\$33,000 Upland Stamp)



Assess genetic diversity to inform
translocations to bolster local pheasant
populations

Pheasant Genetics



- 408 samples from 12 sites sampled
 - 2023 and 2024 pheasant seasons
- Assess 3 objectives
 - Measure heterozygosity
 - Elucidate mixing with pen-reared and released pheasants
 - Evaluate potential environmental factors and historical patterns of dispersal

Band-Tailed Pigeon Mineral Sites



Calaveras, El Dorado, Butte, Plumas, Shasta, Siskiyou, and Humboldt counties



\$42,000
(2024-2025)



Identify new mineral sites and populations to inform monitoring and conservation efforts

Band-Tailed Pigeon Mineral Sites

Completed:

- 19 Motus tags deployed in 3 locations

Upcoming:

- Deploy 30 GPS-GSM transmitters on band-tailed pigeon
- Sample 2 subpopulation locations
- Identify mineral sites



Fiscal Year 2025-2026 UGBA Projects

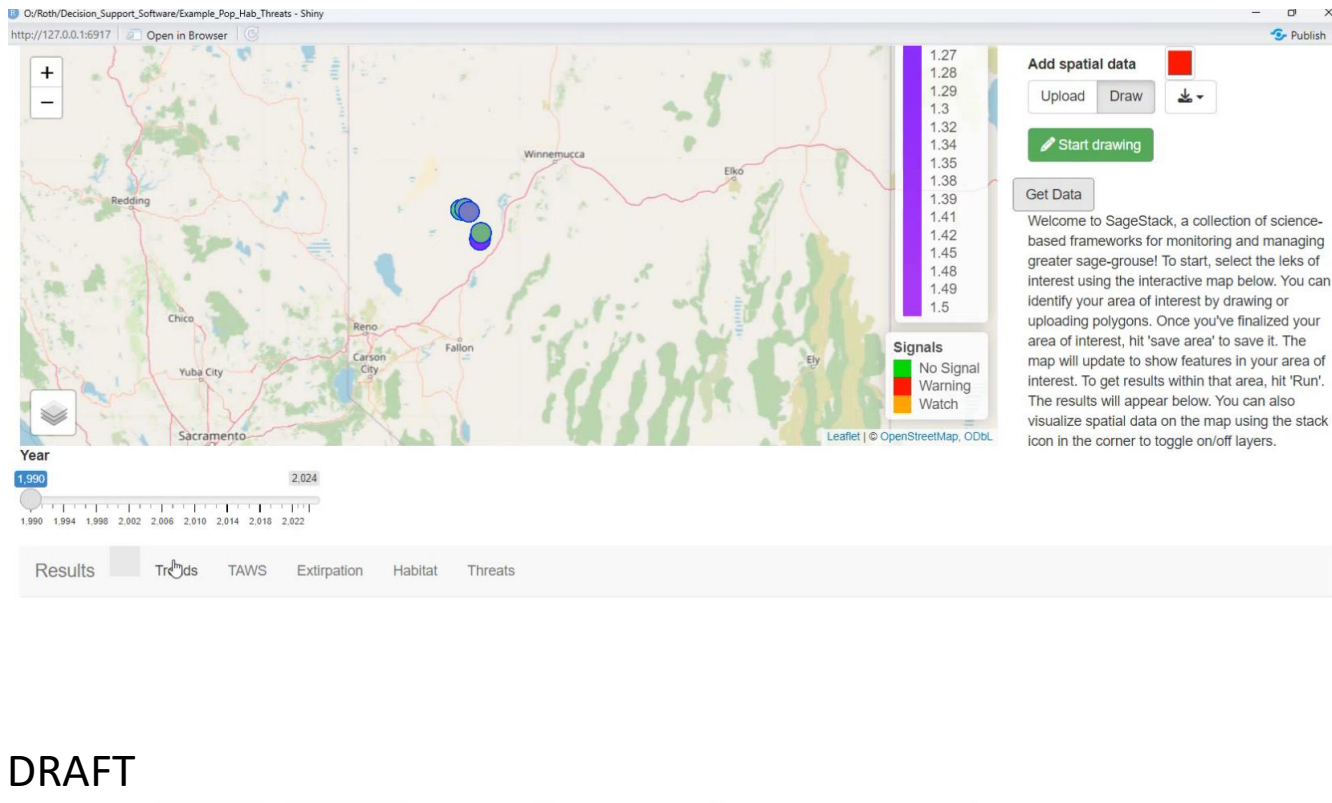
Continuing and Proposed

Continued Efforts

- ARUs
- Wing Barrels
- BBS
- GRSG lek data compilation
- Dove banding
- Special hunts



Greater Sage-Grouse Threats Analysis



- Chronic threats – long-term population impacts and interactions between threats
- Web application – allow users to explore trends, habitat, and threats to CA birds

DRAFT

Gambel's Quail Habitat Use and Home Range



Mojave National Park



\$60,000

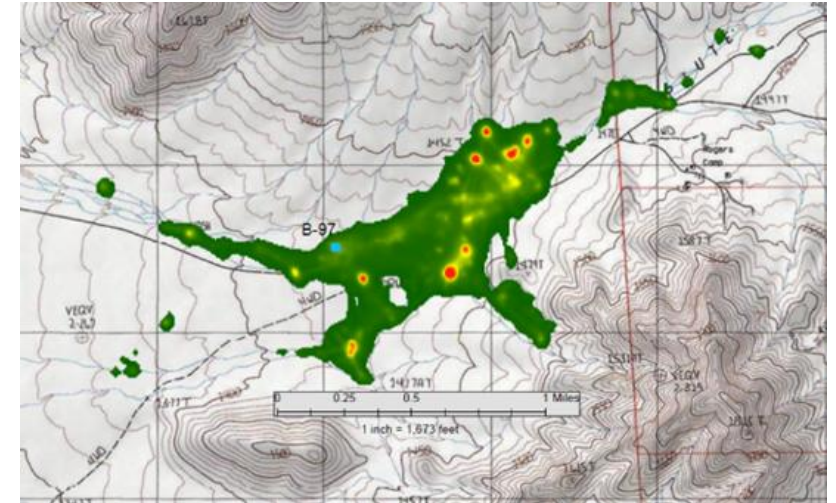
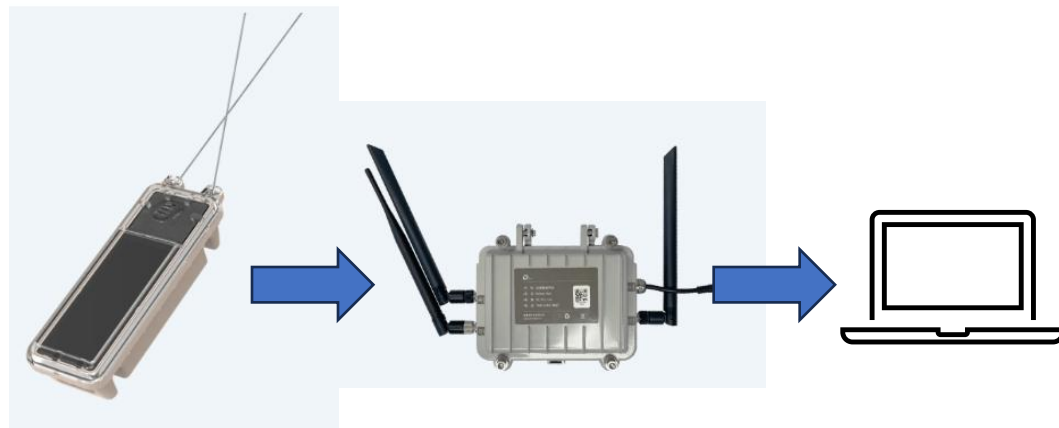


Assess habitat selection and home range

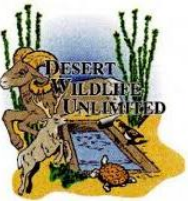
Gambel's Quail Habitat Selection

Druid transmitters:

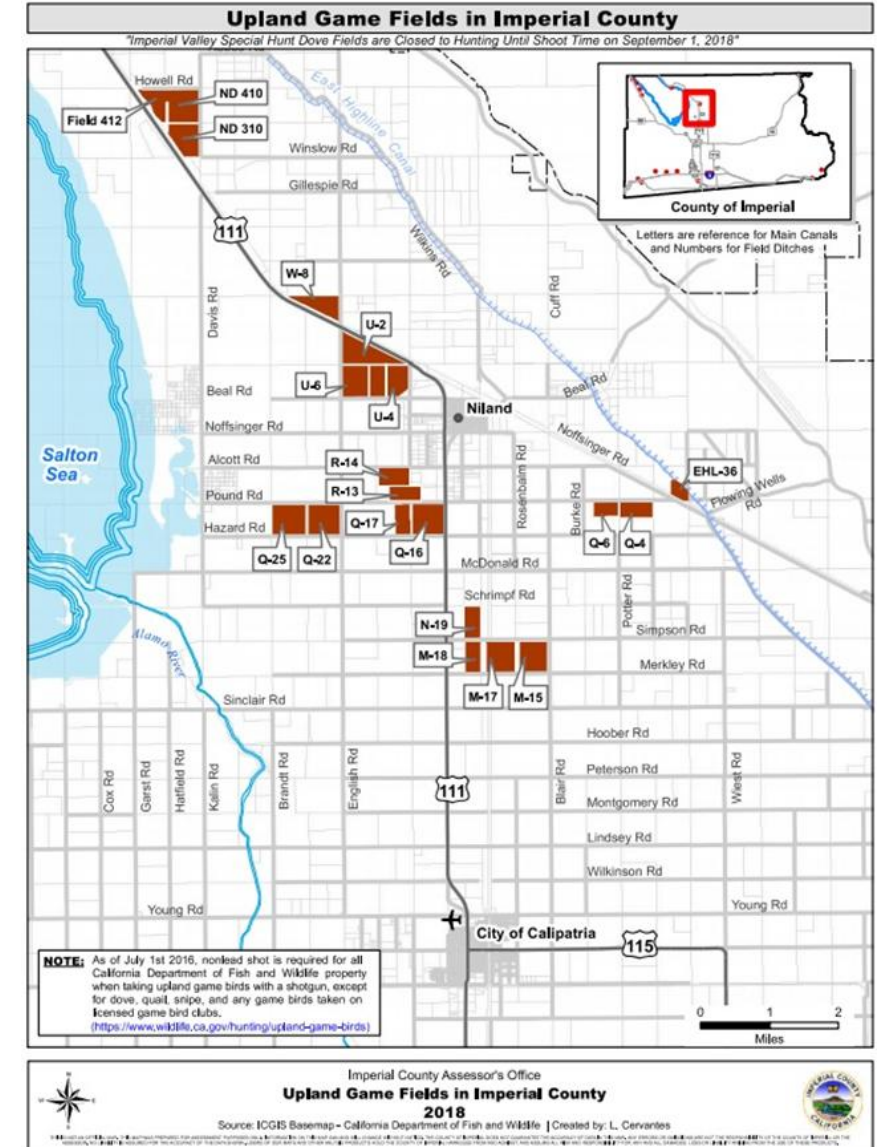
- Transmitters (3.6 g) submit data to hubs via Bluetooth
- Hubs submit data to Cloud via cell towers
- 50 transmitters, 4 hubs
- IT staff working on contract



Dove Fields – Fiscal Year 2025-2026



- First season: September 1st – 15th
- Second season: November 8th – December 22nd
- Same 10 lots as 2024-2025
- Drier weather should improve access



Fiscal Year 2026-2027 UGBA Projects

Continued and Future Directions

Inform CESA Status Review for GRSG

- Technical transfer efforts to identify and incorporate best available science
- GRSG trends and extirpation probabilities
 - Which populations are at risk?
 - Which populations are source populations?
- Habitat quality and source/sink habitat
 - Where can we target habitat improvements to offset population declines and improve population longevity?
- Threats analysis results
 - How should we prioritize threat avoidance/minimization/mitigation to improve or conserve population performance?



Model Abundance from ARU Data

- Perform point counts/distance sampling to improve abundance estimates
- Use Royle-Nichols models to estimate abundance for upland game bird species
- Presence/absence for forest grouse
- Biodiversity across WAs
- Expand spatial scale by aggregating ARU data from other projects through SoundHub



Habitat Enhancement Opportunities

- Continue supporting Dove Fields in Regions 4 and 6
- Currently funding food plots
- Design a more comprehensive approach to supporting dove populations across all seasons
- Avoid discing winter habitat
- Plant/improve nesting habitat



Automated Harvest Reporting

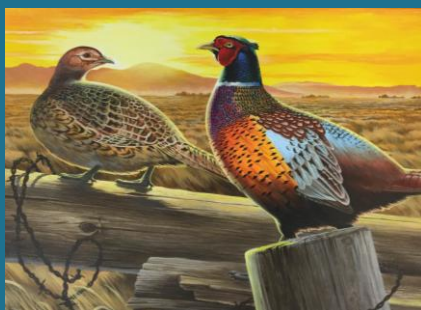
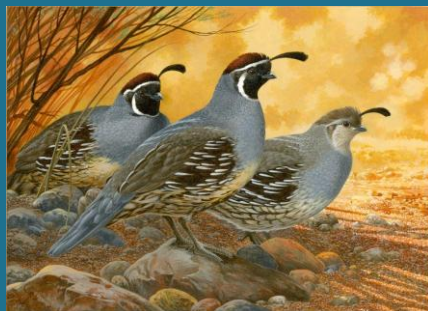
- Explore harvest reporting for upland game birds and small mammals in ALDS
- Reduce cost and effort of surveying hunters separately
- Improve response rate
- Engage with upland game hunters to coproduce a personalized harvest summary dashboard
- Greater engagement will provide necessary data to inform hunter opportunity and upland game conservation



Proposal Solicitation Notice

- Open November 2025
- Close December 2025
- Up to \$300,000
- Themes:
 - Quantify multi-species habitat areas
 - Integrative models for statewide occupancy and abundance
 - Multi-site telemetry studies for regional habitat selection and vital rates
 - Improve collection and summarization of harvest data
 - Improve hunter opportunity
 - Quantify management outcomes

Thank You



Mario Klip – Environmental Program Manager
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Ian Dwight – Environmental Scientist
Matt Meshriy – Upland Game and Small Mammal Biologist
Katherine Miller – Upland Game Bird Biologist
Andrea Mott – Migratory Bird Biologist