

SWCA

Avian Surveys – AMP Monitoring and Parasitism Control and Evaluation on MSHCP Properties

2023-SWCA-2325B
2019-SWCA-1935A

August 19, 2024 | Presented to

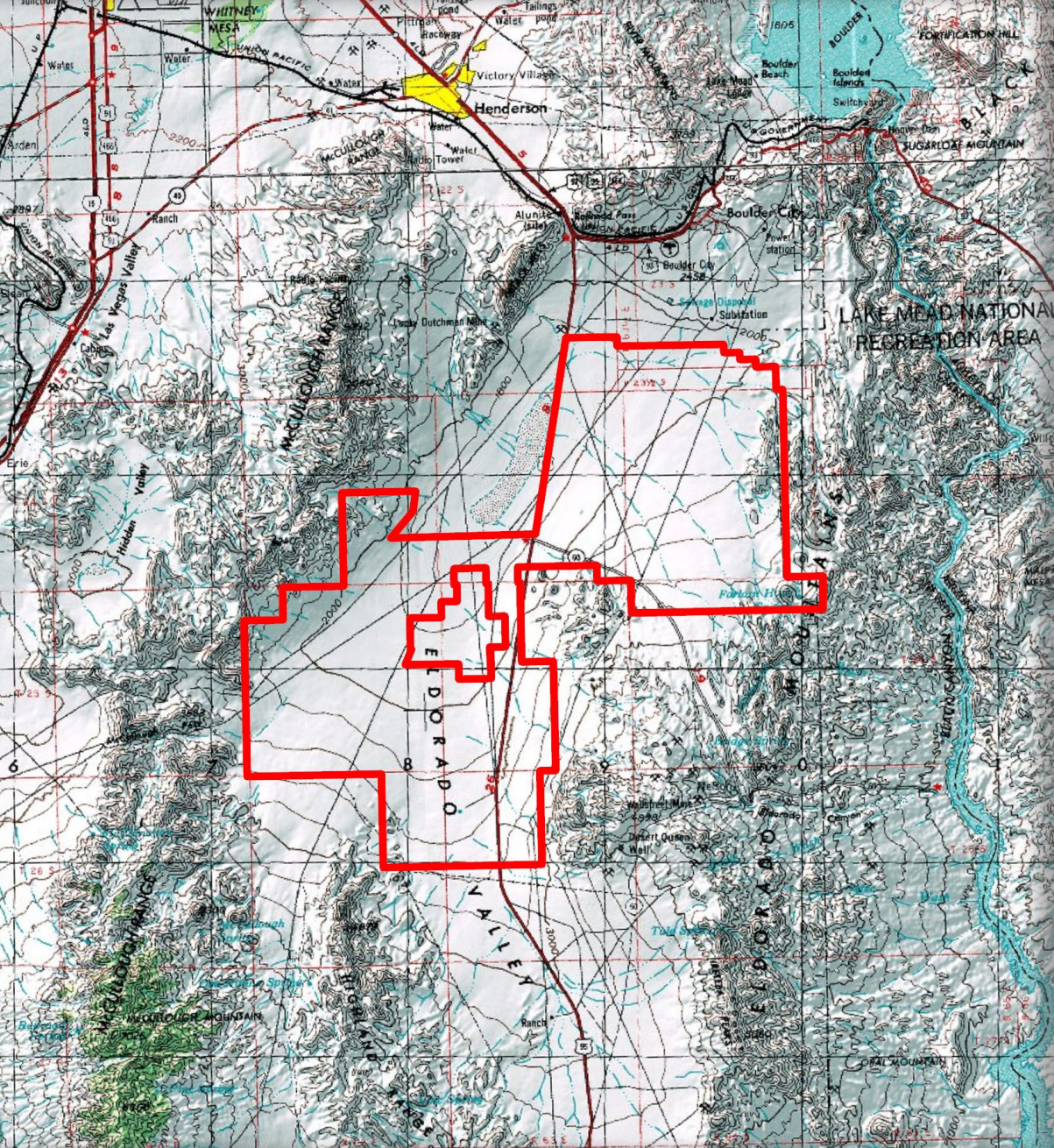


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desert conservation
PROGRAM

2023-SWCA-2325B – Avian Surveys Background and Project Goals



Background – BCCE

Condition P of the Incidental Take Permit (ITP) requires that Desert Conservation Program (DCP) takes measures to ensure maintenance of connectivity for desert tortoise and other covered species within the Boulder City Conservation Easement (BCCE).



Background – BCCE

In 1995, as required by the Clark County Multiple Species Habitat Conservation Plan (MSHCP) and ITP, Boulder City granted the BCCE to the DCP.

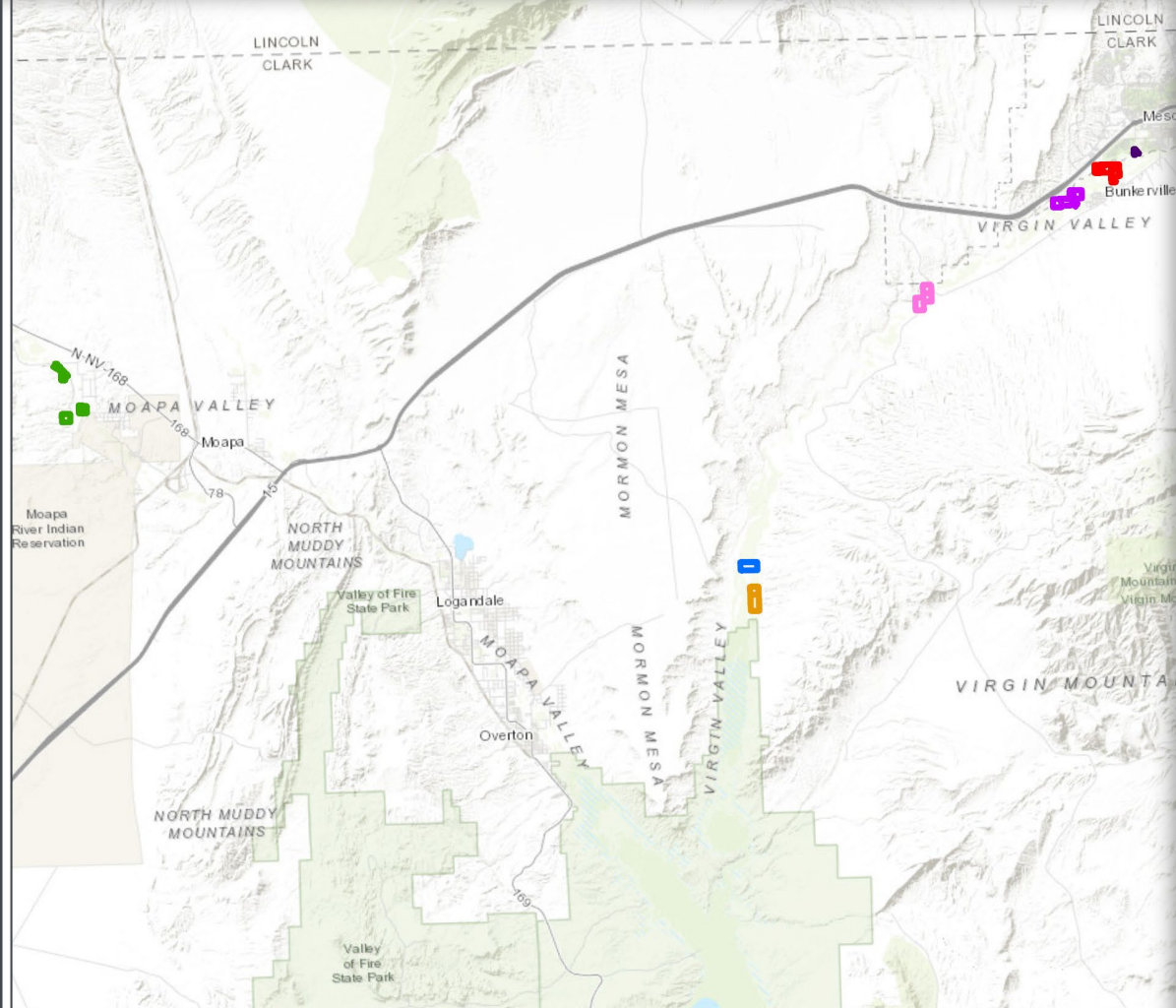
Originally 86,423 acres composed of 97% Mojave desert scrub habitat. Expanded to 87,342 acres.

Potentially includes covered avian species such as the phainopepla.

Background – Riparian Properties

Condition K.1 of the ITP for the MSHCP requires that DCP acquire private land along the Muddy River, Virgin River, and Meadow Valley Wash. These properties are the Riparian Reserve Units (RRUs).

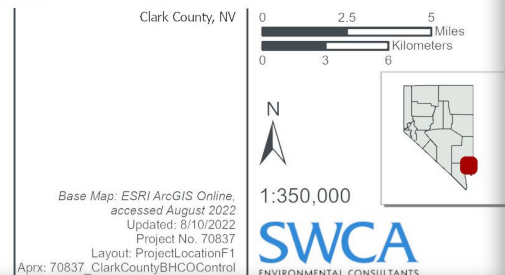
~785 acres



Riparian Reserve Units

Subunit

-  Bunkerville East
-  Bunkerville West
-  Mesquite
-  Mormon Mesa
-  Mormon Mesa South
-  Muddy River
-  Riverside





Background – Riparian Properties

Included to help conserve desert riparian habitat for six covered bird species: Bell's vireo, blue grosbeak, southwestern willow flycatcher, summer tanager, vermilion flycatcher, and western yellow-billed cuckoo.



2023-SWCA-2325B Avian Surveys

Project Goals and Tasks

- Goal: Continue building a record of federally listed and non-listed bird species at the BCCE and the RRUs
- Tasks:
 - Point-count surveys at the BCCE and the RRUs
 - Habitat assessments at the RRUs
 - Species-specific surveys for southwestern willow flycatcher and western yellow-billed cuckoo at the RRUs

Point-Counts

Point Count Surveys – Methods

Standard 10-minute unlimited radius point-count survey protocol (GBBO 2010 and Ralph et al. 1993)

- 20 point-count locations at the BCCE (40 total)
 - Three survey visits between March 15 and May 15
 - In previous seasons, surveys conducted same time frame as RRUs (May 1–June 30)
- 30 point-count locations across RRUs (59 total)
 - Three survey visits between May 1 and June 30

Point-Count Results - BCCE

2024

- 19 species identified
 - Most abundant:
 - Horned lark
 - Black-throated sparrow
 - Tree swallow
- No MSHCP-covered species
- Two MSHCP evaluation species:
 - LeConte's thrasher
 - Loggerhead shrike

All years (2018–2024)

- 49 species identified
 - Most abundant:
 - Black-throated sparrow
 - Horned lark
 - House finch
- One MSHCP-covered species:
 - Phainopepla (2019, 2022)
- Three MSHCP evaluation species:
 - Crissal thrasher (2019 only),
LeConte's thrasher, loggerhead shrike



Phainopepla

Requires mesquite/acacia habitat with mistletoe; this habitat is scant at the BCCE

Recorded once at Point 22 (2019) and once at Point 37 (2022)

Mesquite spring at BCCE Point 22 (left)



Acacia wash at BCCE Point 37 (right)



Evaluation Species

LeConte's thrasher:

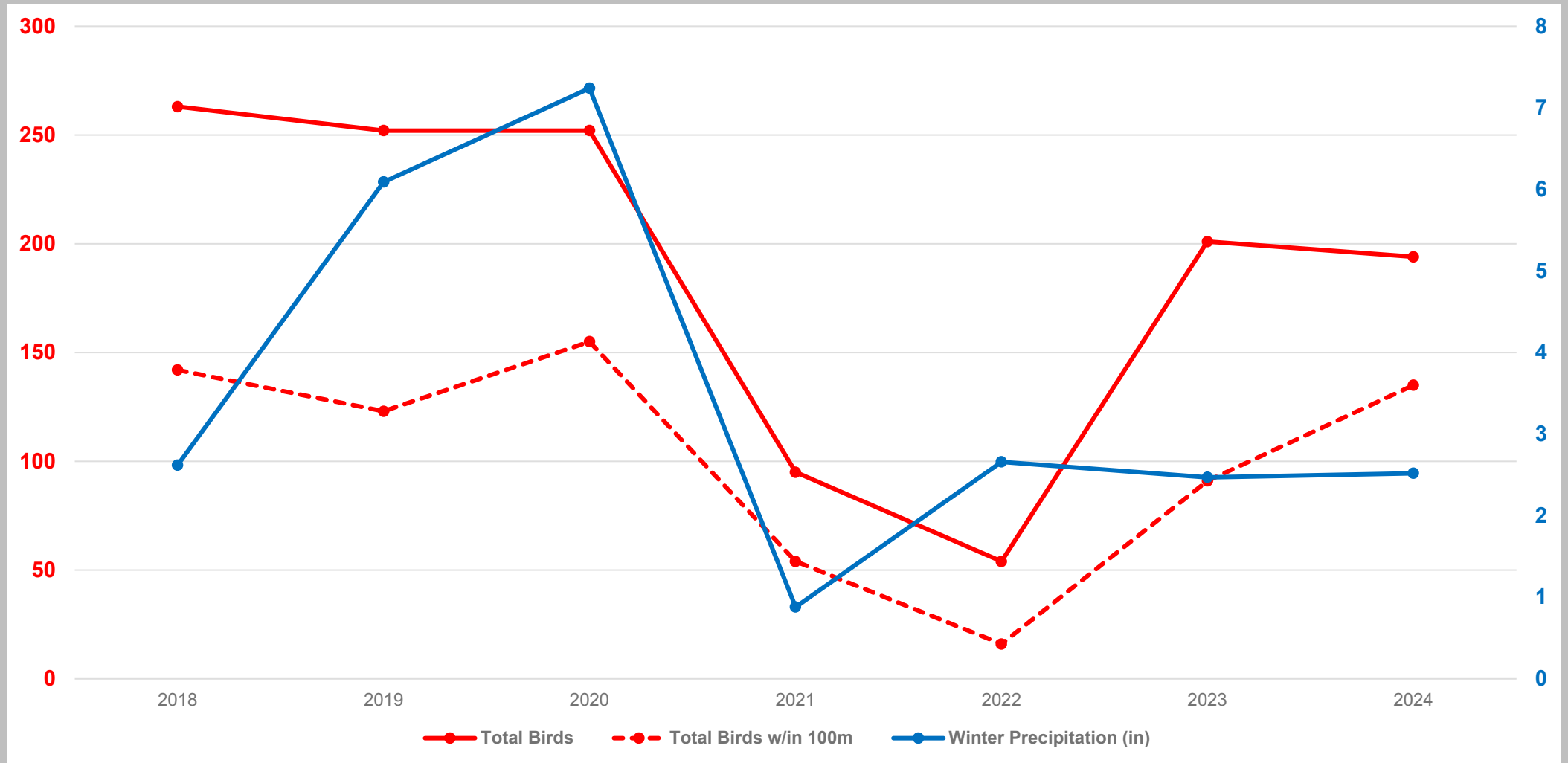
- Recorded at four point-count locations in 2024
- Restricted to desolate, sparsely-vegetated habitats

Loggerhead shrike:

- Recorded at three point-count locations in 2024
- Widespread, but found in low densities in a variety of open, shrubby habitats, wherever perches are available

LeConte's thrasher nest at the BCCE

Winter Precipitation vs Bird Detections



Precipitation Data from Searchlight, NV Source: Western Regional Climate Center (2024)

Point-Count Results – Riparian Reserve Units

2024

- 76 species identified
 - Most abundant:
 - Gambel's quail
 - Abert's towhee
 - Cliff swallow
 - Seven MSHCP-covered species
 - Arizona Bell's vireo
 - Blue grosbeak
 - Phainopepla
 - Southwestern willow flycatcher*
 - Summer tanager*
 - Vermilion flycatcher*
 - Yellow-billed cuckoo*

* Only incidentally detected

- One MSHCP evaluation species:
 - Crissal thrasher

All years (2017–2024)

- 104 species identified
 - Most abundant:
 - Mourning dove
 - Abert's towhee
 - Gambel's quail
 - Eight MSHCP-covered species:
 - Arizona Bell's vireo
 - Blue grosbeak
 - Peregrine falcon
 - Phainopepla
 - Southwestern willow flycatcher
 - Summer tanager
 - Vermilion flycatcher
 - Yellow-billed cuckoo
 - Two MSHCP evaluation species:
 - Crissal thrasher
 - Loggerhead shrike



Covered Species

Phainopepla, southwestern willow flycatcher, summer tanager, vermilion flycatcher, and yellow-billed cuckoo are much less common, each recorded at only two point-counts (phainopepla) or incidentally in 2024

Specific habitat needs, including large, contiguous habitat

Dense willow habitat at Mesquite

Habitat Assessments



Habitat Assessments

Assessed habitat suitability for southwestern willow flycatcher and yellow-billed cuckoo at each RRU

Looked for patches with :

- vegetation 4.5 meters tall, ≥ 10 meters wide
- canopy closure $\geq 85\%$
- mesquite habitat

Habitat Assessment Results

Reduced survey areas at most RRUs:

Mesquite – eliminated dead vegetation

Bunkerville East – reduced survey areas for flycatcher and cuckoo

- Bunkerville West – reduced survey areas for flycatcher and cuckoo
- Riverside – eliminated survey areas for flycatcher, changed survey area for cuckoo
- Mormon Mesa – reduced survey areas for flycatcher and cuckoo
- Mormon Mesa South – eliminated survey areas for flycatcher and cuckoo
- Muddy River – eliminated survey areas for flycatcher, reduced existing survey areas for cuckoo, added new survey area

Species-specific Surveys

Southwestern Willow Flycatcher Surveys – Methods

Conducted at all RRUs where suitable habitat exists

Protocol followed Sogge et al. 2010

- Five survey visits between May 15 and July 17
- Call-playback technique at locations spaced approximately 30 meters apart in appropriate habitat



Southwestern Willow Flycatcher Survey Results 2018–2024

- Resident flycatchers detected at Mesquite and Mormon Mesa every year
- Four migrant willow flycatchers detected in 2024:
 - Bunkerville East – 2
 - Bunkerville West – 2
- Previous migrant willow flycatchers:
 - Bunkerville East – 1 (2022)
 - Bunkerville West – 2 (2020, 2021)
 - Riverside – 4 (2018, 2020, 2021)
 - Muddy River – 2 (2022)

Western Yellow-billed Cuckoo Surveys – Methods

Conducted at all RRUs where suitable habitat exists

Protocol followed Halterman et al. 2015

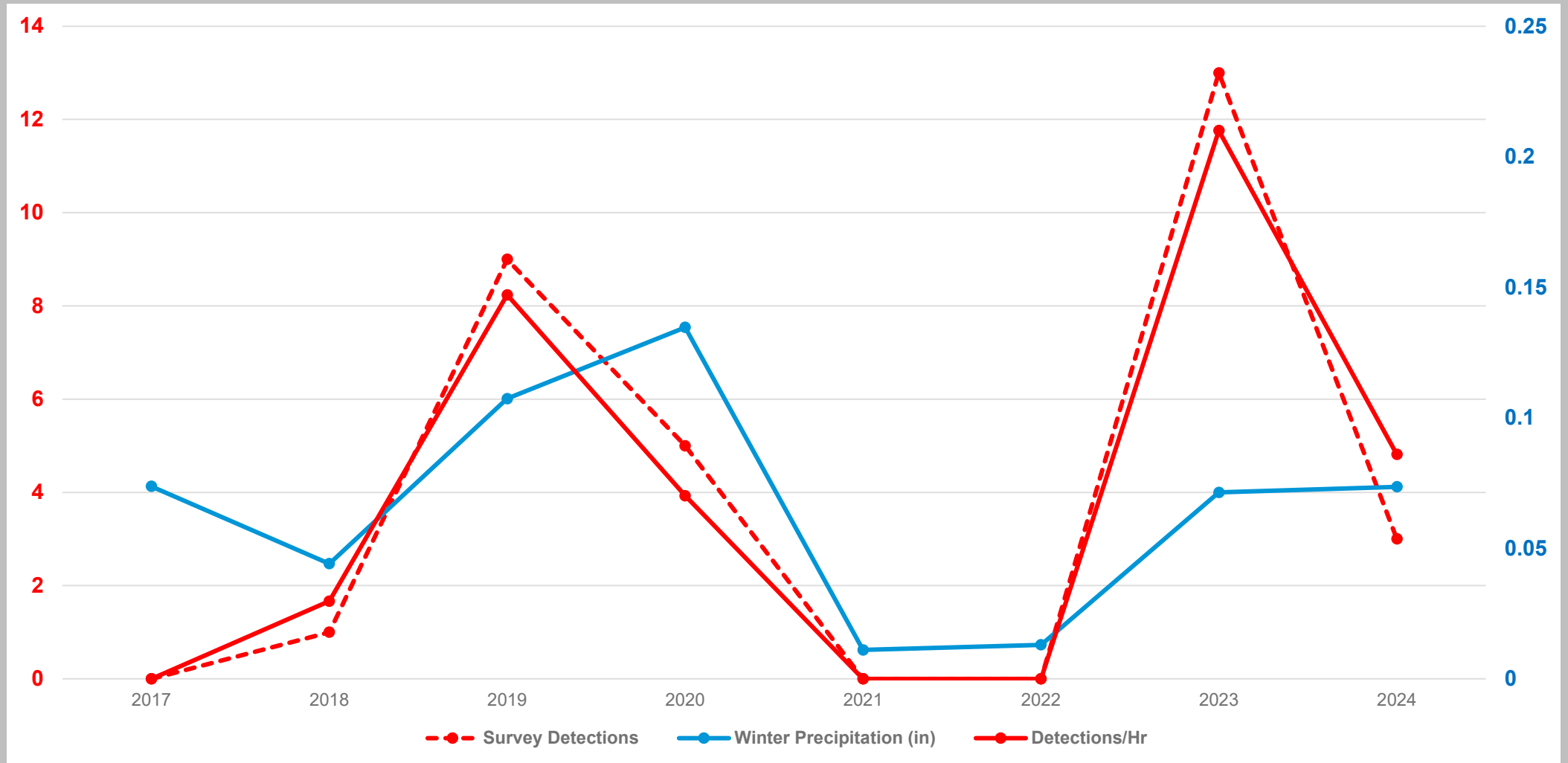
- Four survey visits between June 15 and August 15
- Call-playback technique at locations spaced approximately 100 meters apart in appropriate habitat



Western Yellow-Billed Cuckoo Survey Results 2018–2024

- Three survey detections in 2024:
 - Bunkerville West – 1
 - Riverside – 1
 - Muddy River – 1
- One incidental detection in 2024:
 - Mesquite
- Previous detections:
 - 2018 – 1
 - 2019 – 9
 - 2020 – 5
 - 2021 – 0
 - 2022 – 0
 - 2023 – 13

Winter Precipitation vs Yellow-Billed Cuckoo Detections



Precipitation Data from Overton, NV Source: Western Regional Climate Center (2024)



2023-SWCA-2325B

Questions about general avian surveys or species-specific surveys before moving on?

2019-SWCA-1935A Parasitism Control and Evaluation



2019-SWCA-1935AB Parasitism Control and Evaluation

Project Goals and Tasks

- Goal: Maintain and/or improve habitat for the southwestern willow flycatcher and help identify lands where habitat enhancement may be implemented to expand flycatcher habitat
- Tasks:
 - Brown-headed cowbird control
 - Southwestern willow flycatcher monitoring

Brown-headed Cowbird Control

Brown-headed Cowbird Control – Methods

Conducted at Mesquite West (includes Clark County Parcel 1-A)

Netting for females from early May through the end of July

- 13 net mornings in 2021
- 17 net mornings in 2022
- 15 net mornings in 2023
- 15 net mornings in 2024
- Females euthanized via decapitation
- Also included
 - Cowbird egg addling (2021)
 - Cowbird egg addling or replacement (2022–2024)
 - Cowbird nestling euthanasia





Cowbird Net Setup

Target netting involves use of a female cowbird decoy and two Bluetooth speakers for playing cowbird calls

Relatively short vegetation is ideal



Brown-headed Cowbird Control Results

Target Netting

- 14 females in 2021
- 11 females and 1 juvenile in 2022
- 4 females in 2023
- 10 females in 2024
- Nestling euthanasia
 - 1 in 2022
- Egg addling/replacement
 - 3 in 2021
 - 1 in 2022
 - 1 in 2023
 - 0 in 2024



Southwestern Willow Flycatcher Monitoring

Southwestern Willow Flycatcher Monitoring – Methods

Conducted at Mesquite West (includes Clark County Parcel 1-A) and Mormon Mesa

- Conducted approximately every 4 days once a territorial flycatcher was detected (mid-May to mid-August)
- Includes determining territory status, locating nests, and monitoring known nests
- Color-banding adults and nestlings to aid in determining territory association and confirming nest success

Mesquite West Flycatcher Monitoring Results

- 2020 – 5 nesting attempts; all failed – 0 fledglings
- 2021 – 6 nesting attempts; 2 successful (33%) – 3 fledglings
- 2022 – 9 nesting attempts; 7 successful (78%) – 13 fledglings
- 2023 – 12 nesting attempts; 6 successful (50%) – 11 fledglings
- 2024 – 12 nesting attempts; 7 successful (58%) – 18 fledglings
- 8% cowbird parasitism



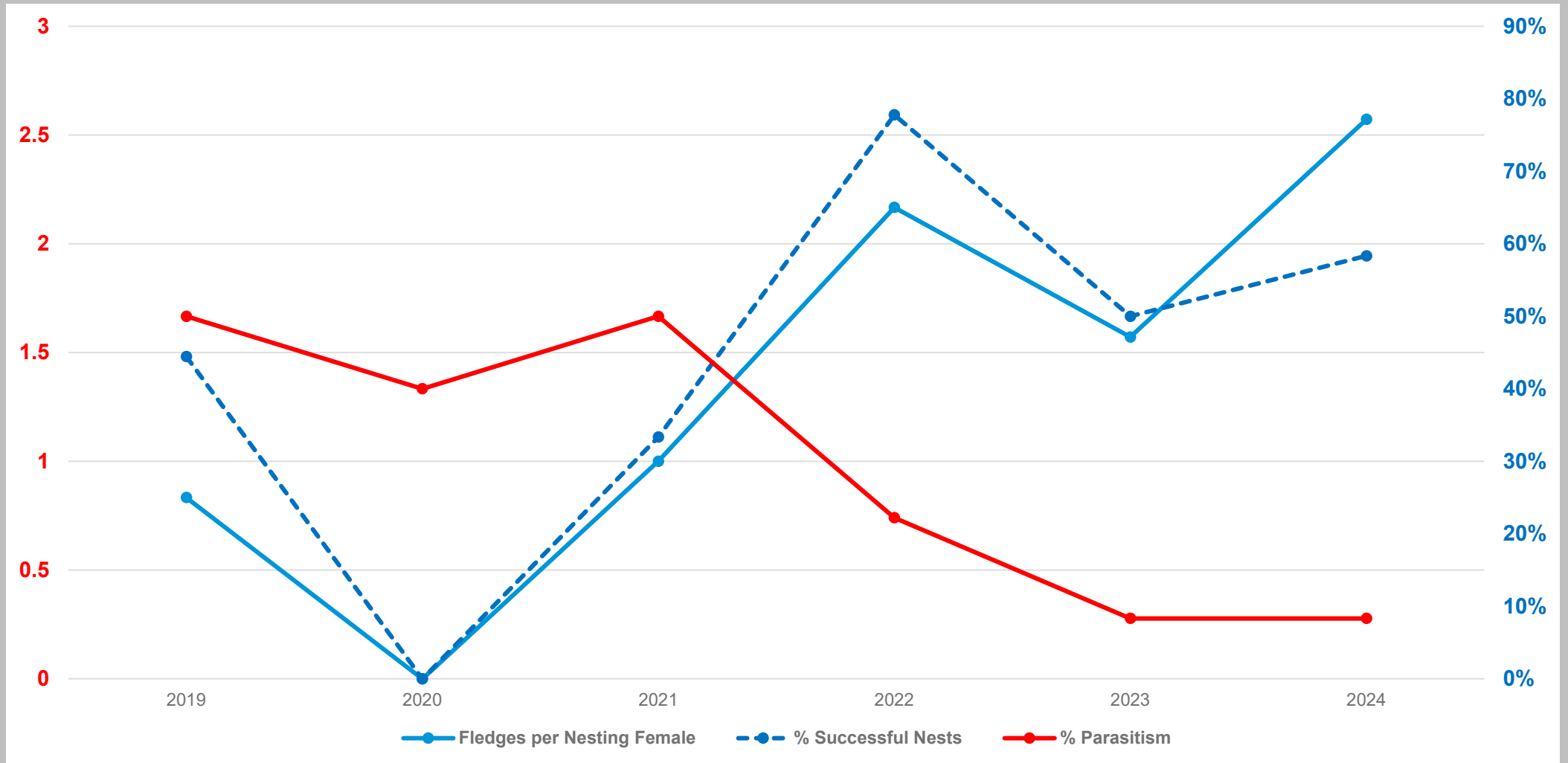
Mesquite West Flycatcher Monitoring Results (continued)

18 fledglings

7 females

Number of fledglings produced per female in 2024 is highest recorded in SWCA's 19 years of monitoring southwestern willow flycatchers at Mesquite West

Flycatcher Nesting at Mesquite West



Mormon Mesa Flycatcher Monitoring Results

Mormon Mesa Parcel 5-A and north

- 2020 – 4 adults, 1 successful nesting attempt – 1 fledgling
 - 2021 – 1 adult
 - 2022 – 2 adult males
 - 2023 – 3 adults, 1 nesting attempt failed due to parasitism
 - North of parcel
 - 2024 – 2 adults, 1 nesting attempt; failed
 - North of parcel
-
- One or two territories annually



Flycatcher Banding Results

4 adult and 19 nestling flycatchers banded in 2024 – second most in the last 5 years of banding

- 19 in 2023
- 24 in 2022
- 10 in 2021
- 8 in 2020



Conclusions



Conclusions – Point-counts

Phainopepla remains the only MSHCP covered species at the BCCE

MSHCP covered bird species are consistently recorded across the RRUs

Bell's vireo is back at the top of the list of most-detected MSHCP species at the RRUs

Property acquisition does result in conservation of habitat for riparian bird species



Conclusions – Cuckoo

Winter rainfall may not be as good a predictor as we thought

Detections highly variable year to year

Adjusting our idea of potentially suitable habitat



Conclusions – Flycatcher

2024 tied the record for lowest parasitism rate (same rate as 2023)

Highest number of fledges produced per female ever recorded at Mesquite West

Cowbird netting still seems to be aiding flycatcher nest success

Questions?



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