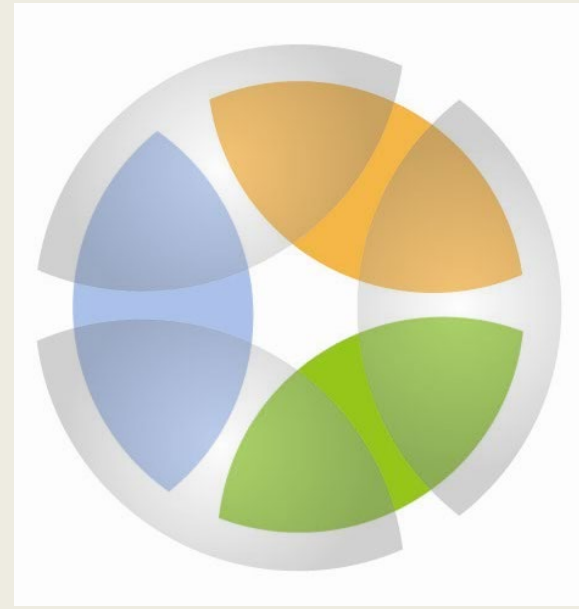


# DESERT TORTOISE MONITORING



**BCCE TELEMETRY and HEALTH ASSESSMENTS**  
**PROJECT #: 2013-GBI-2030A**  
**RANGE-WIDE MONITORING**  
**PROJECT #: 2021-GBI-2025A**

# AGENCY PARTICIPANTS



# BCCE Desert Tortoise Telemetry and Health Assessments



**PROJECT #: 2013-GBI-2030A**

- **Part of a larger population augmentation study**
- **Determine survivorship and movement patterns of translocated and resident desert tortoise**
- **Began monitoring in Oct 2014**
- **Monthly observations Nov-Feb**
- **Weekly observations Mar-Oct**
- **Monitored 4 years post translocation**





- **Continue with monitoring for an additional 5 years**
- **Repeat health assessments in year 4**



**Ongoing drought  
and another dry  
spring**



# Spring 2022



# High Predation



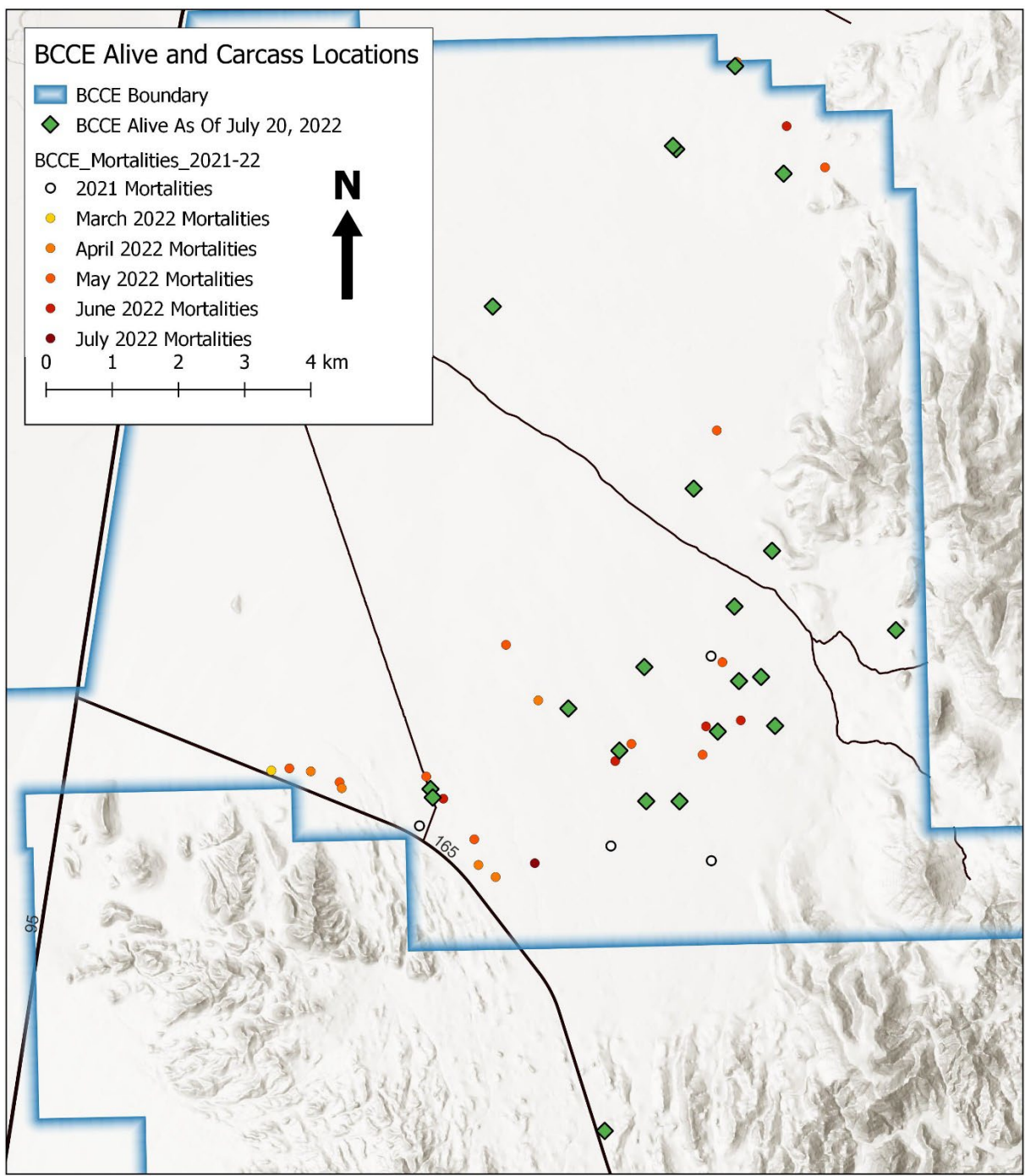


# Spring 2022 monitoring - 43

- 23 Resident
- 20 Translocated

# Spring 2022 mortality - 21

- 11 Resident
- 10 Translocated



# BCCE Desert Tortoise Health Assessments



## Health Assessments April 22 – May 16, 2022

- 33 completed, 1 inaccessible

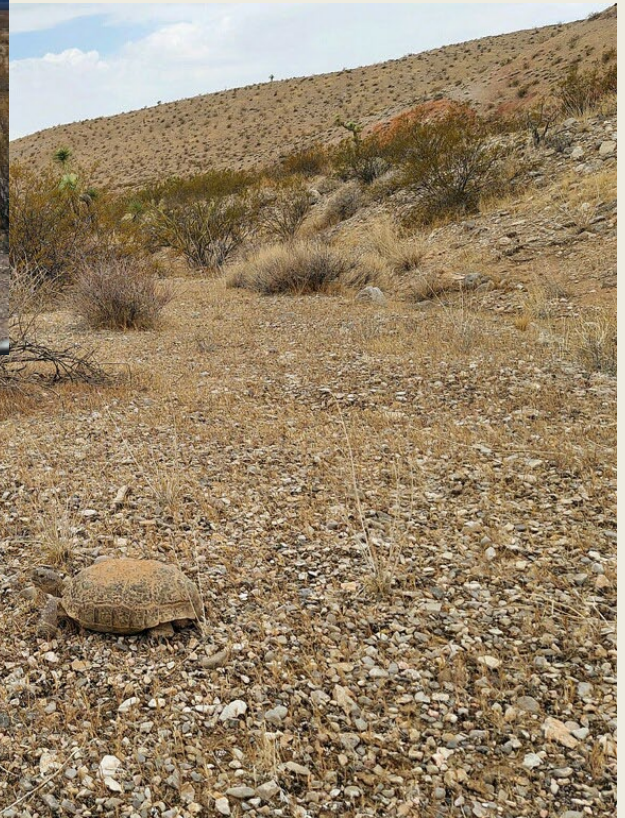
### Low Body Condition Scores

- 23 - BCS 4
- 10 - BCS 3

### ELISA results

- *Mycoplasma agassizii*
  - 12 Negative
  - 15 Suspect
  - 6 Positive
- *Mycoplasma testudineum*
  - 27 Negative
  - 6 Suspect
  - 0 Positive





**Optimistic**



**Year 5**

# Range-Wide Desert Tortoise Monitoring



**PROJECT #: 2021-GBI-2025A**

# PROJECT OVERVIEW



- **2022 continue monitoring efforts to obtain yearly estimates of population density**
- **Support recovery program efforts for the desert tortoise through range-wide monitoring using Line Distance Sampling**
- **Monitored all 6 strata**

# PRESEASON





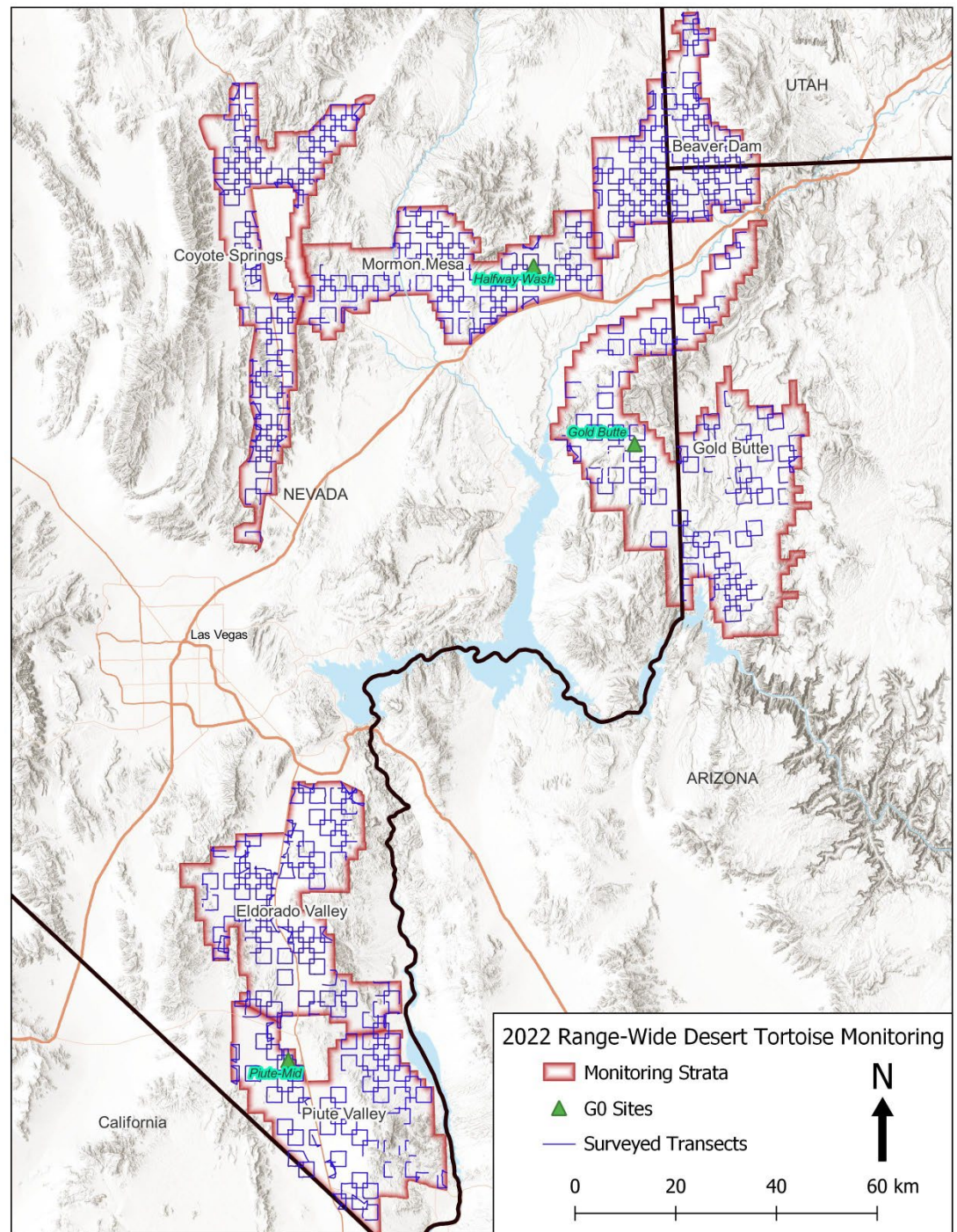
# PRESEASON



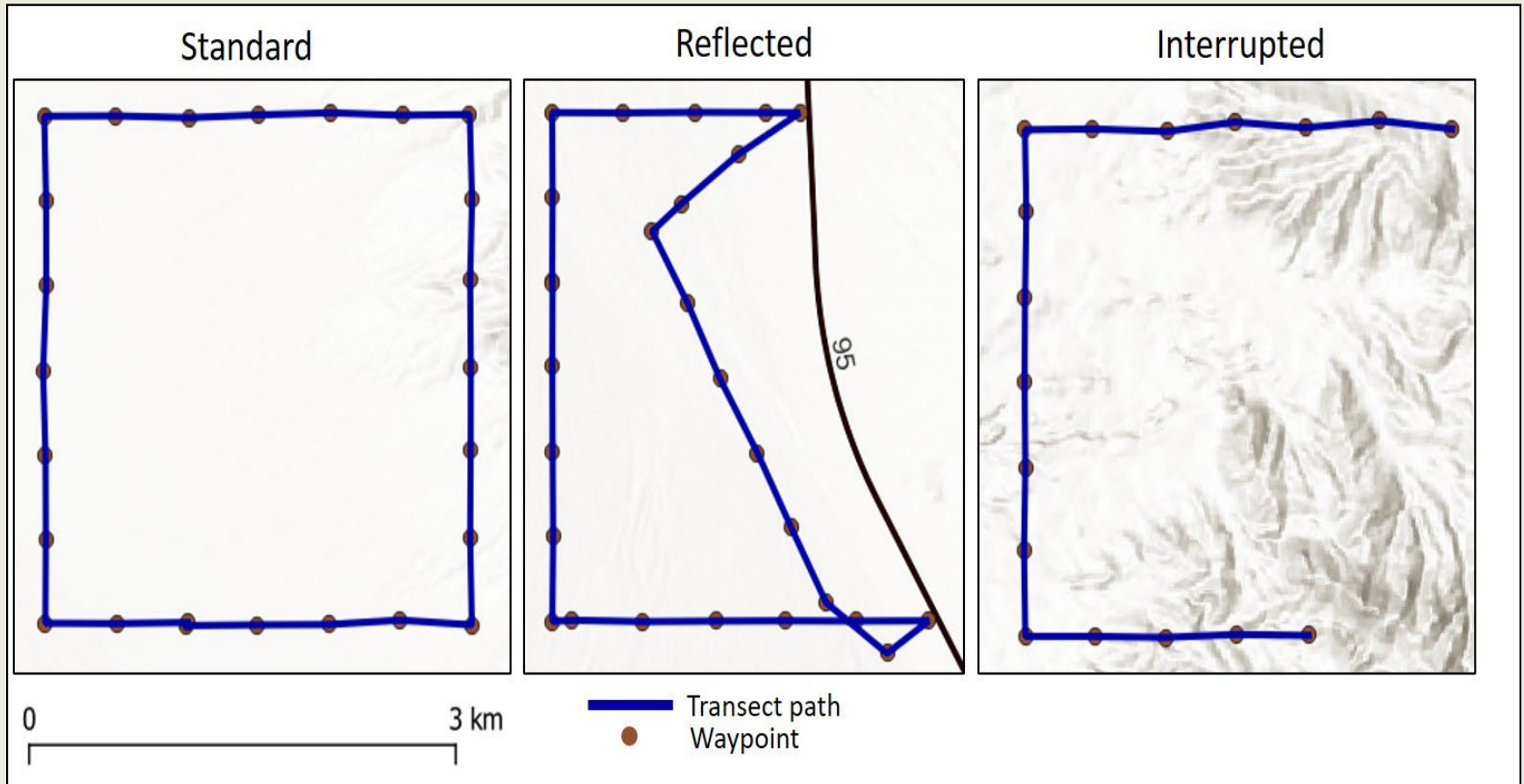
# PRESEASON



**385 Transects**  
**All 6 Strata**  
**24 Teams of 2**  
**2 Telemetry**



# TRANSECTS



- 12 km square transects, teams of 2 (25 meters apart)
- Randomly assigned walk order
- Transects are not perfect squares
- Reflected for stratum boundaries and man-made obstacles
- Interrupted for non surveyed terrain

# LIVE OBSERVATIONS



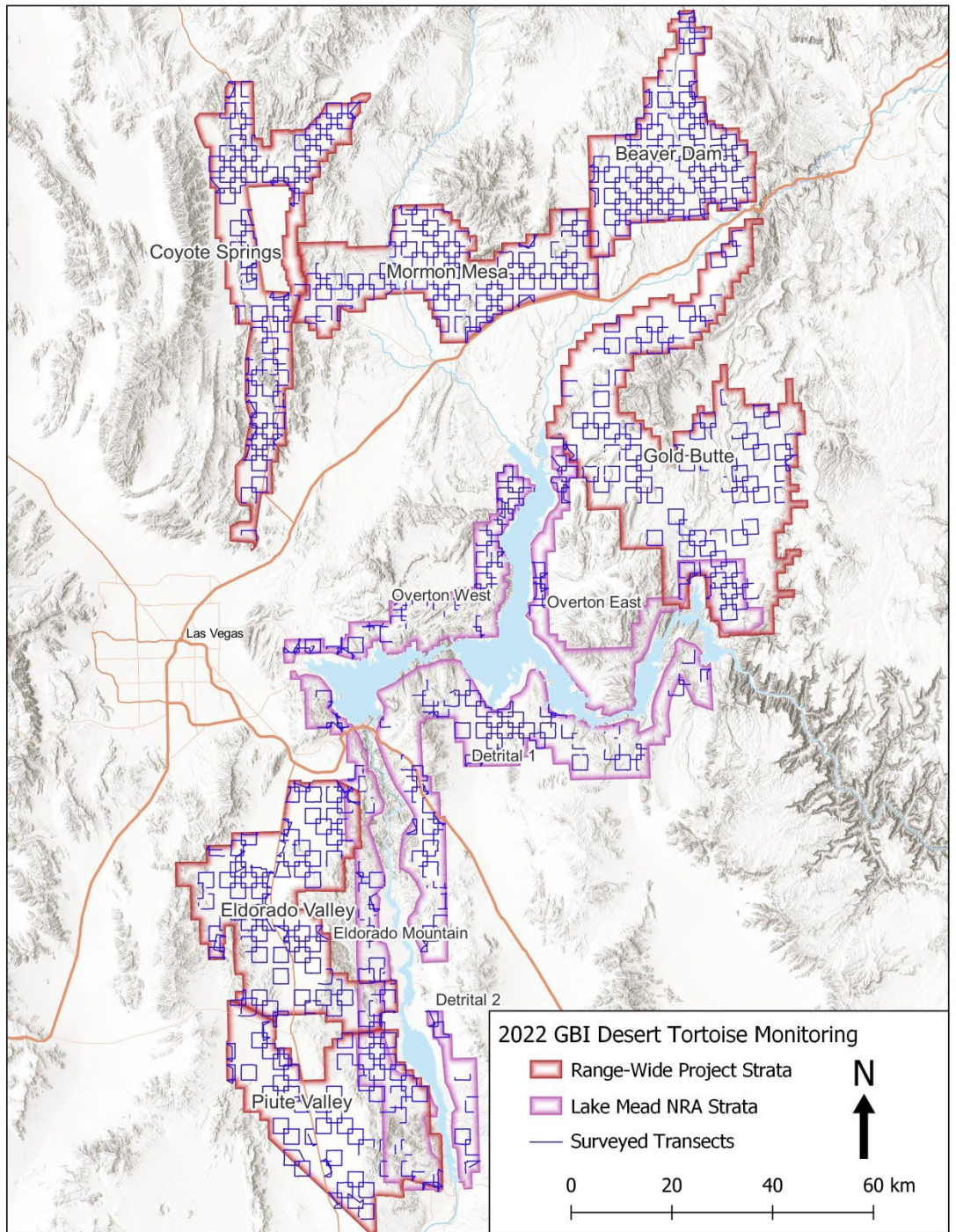
- Tortoise data collected - location, sex, MCL, BCS and tags
- Unmarked tortoises were tagged when possible
- Minimum handling
- 2022 – Water offered to all tortoises

# CARCASSES



- **Carcass data collected**
  - Intact or disarticulated
  - ID
  - sex and MCL when possible

**2022**  
**Field Season**  
**April 5-May 16**  
**424 Transects**



# 424 Transects

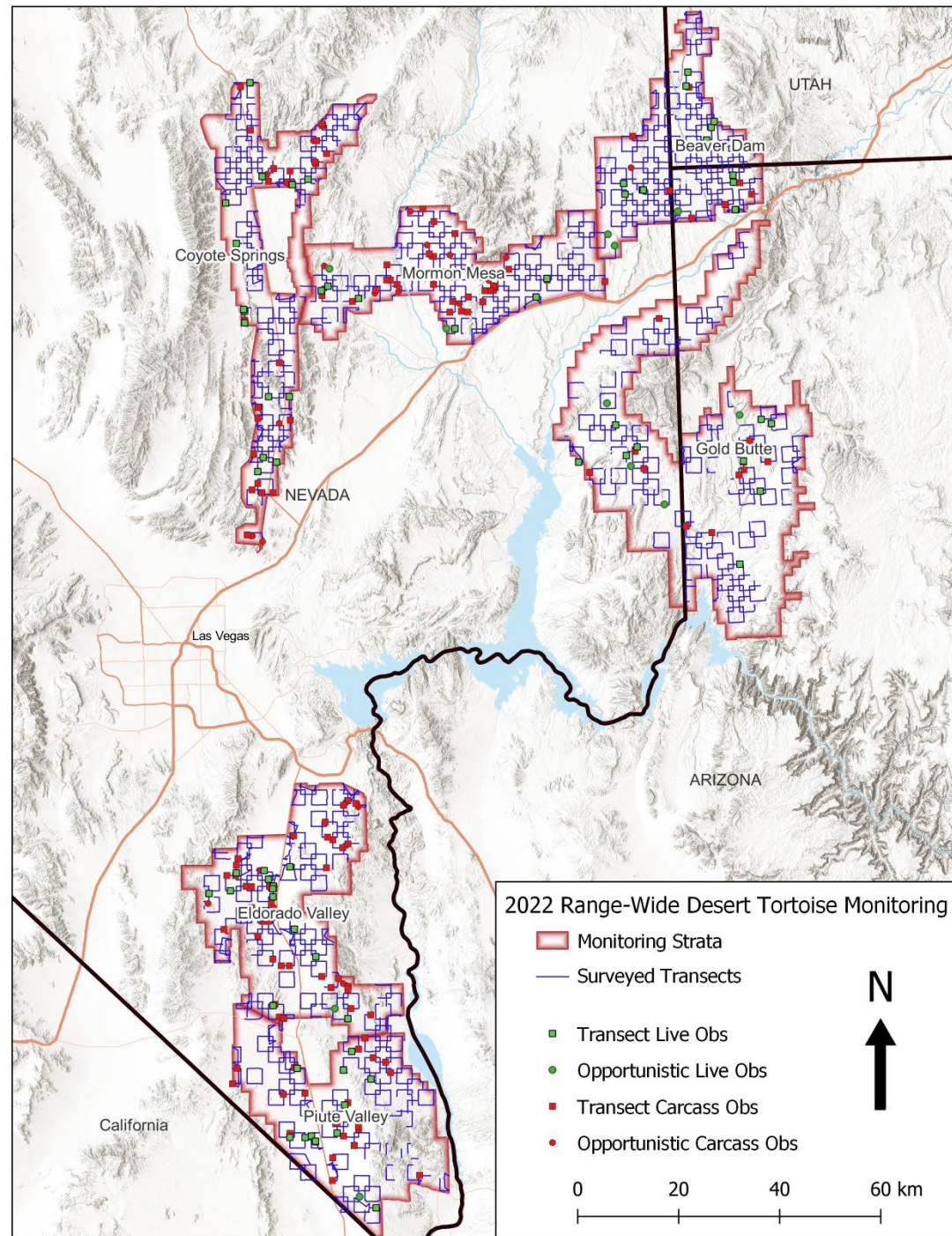
Piute Valley 59 (619.8km)  
Eldorado Valley 75 (790.1km)  
Gold Butte 83 (809.8km)  
Mormon Mesa 65 (67807km)  
Coyote Springs 72 (764.7km)  
Beaver Dam 70 (764.7km)

# 83 Tortoises

71 transect  
12 opportunistic

# 165 Carcasses

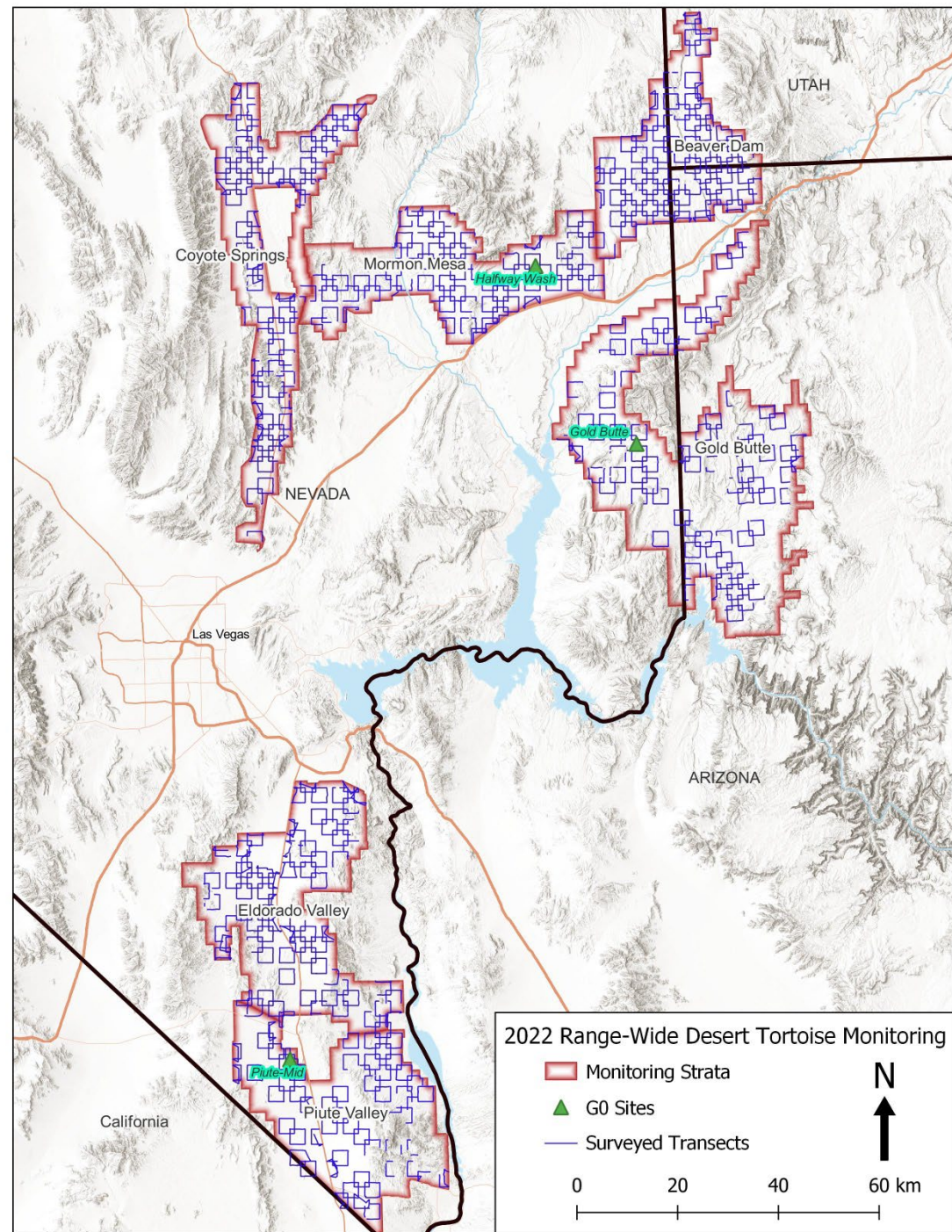
141 transect  
24 opportunistic





# TELEMETRY

- Conducted at 3 sites:
  - Piute-Mid
  - Gold Butte
  - Halfway Wash sites
- To estimate the proportion of tortoises active or visible during transect surveys
- Data was used to calibrate the results of transect surveys



# TELEMETRY

Stratum	Transmitter Equipped Tortoises	Days Surveyed	Observations	Average Observations per Day
Piute-Mid	14	11	440	40.0
Gold Butte	11	7	297	42.4
Halfway Wash	10	9	355	39.4



# Low visibility



# 2022 SUMMARY



- Crew members were provided training prior to the season
- Practice transect conducted to ensure adherence to protocols
- Low activity and visibility of tortoises
- Surveys completed with additional transects in Eldorado Valley and Gold Butte
- Data and reports have been submitted to DCP















# Questions?

