

Clark County Rare Plant and Milkweed Surveys

Spring 2023



Project Objectives

- Find new populations of rare plants
 - 10 target plants
 - Other rare plants tracked by NDNH/BLM
- Ground-truth habitat suitability models
- Record locality for incidental milkweeds (*Asclepias* spp.)

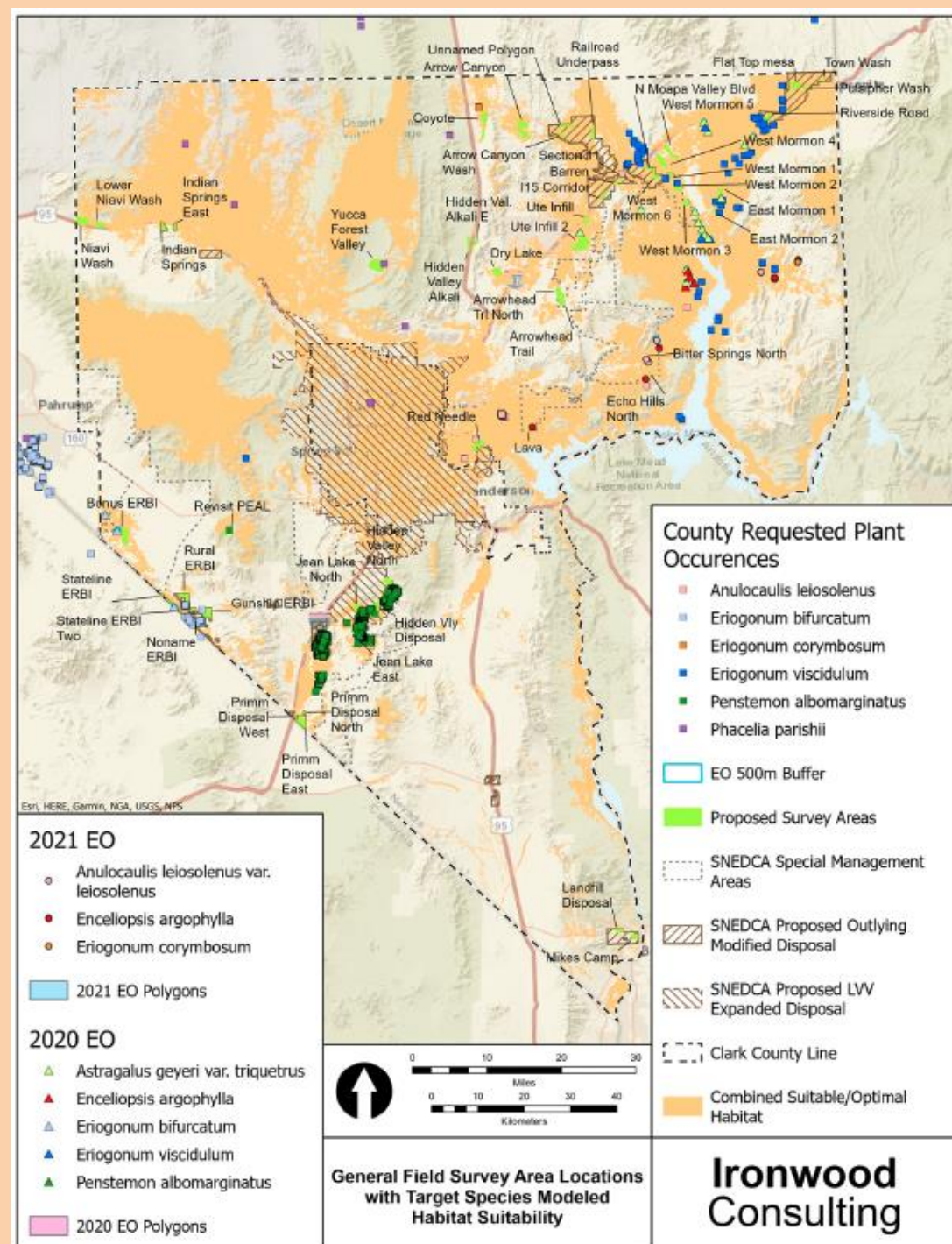
Target Species	Upland or Wetland Habitat
Sticky ringstem (<i>Anulocaulis leiosolenus</i>)	Upland
Threecorner milkvetch (<i>Astragalus geyeri</i> var. <i>triquetrus</i>)	Upland
Alkali mariposa lily (<i>Calochortus striatus</i>)	Wetland (spring, seep, and wet meadow)
Silverleaf sunray (<i>Enceliopsis argophylla</i>)	Upland
Pahrump valley buckwheat (<i>Eriogonum bifurcatum</i>)	Upland
Las Vegas buckwheat (<i>Eriogonum corymbosum</i> var. <i>nilesii</i>)	Upland
Sticky buckwheat (<i>Eriogonum viscidulum</i>)	Upland
White margined beardtongue (<i>Penstemon albomarginatus</i>)	Upland
Parish phacelia (<i>Phacelia parishii</i>)	Upland
St. George blue eyed grass (<i>Sisyrinchium radicum</i>)	Wetland (spring, seep, and wet meadow)



Results

Clark County Survey Sites

- 46 Upland Sites
 - 12,386 ac
- 38 Wetland Sites
 - 110+ ac



Results

Rare Plants

- 7 of 10 target plants found
 - 18 EOs at 12 sites
- 8 other rare plants found
 - 18 EOs at 15 sites



Anulocaulis leiosolenus



Astragalus geyeri var. *triquetrus*



Enceliopsis argophylla

	EO Records	Occupied Acres	No. Individuals
Primary Target Plants (7)			
<i>Anulocaulis leiosolenus</i>	2	0.2	11
<i>Astragalus geyeri</i> var. <i>triquetrus</i>	2	0.1	14
<i>Enceliopsis argophylla</i>	4	21.8	614
<i>Eriogonum bifurcatum</i>	4	246.8	92,064
<i>Eriogonum viscidulum</i>	3	4.5	1,733
<i>Penstemon albomarginatus</i>	2	0.3	11
<i>Sisyrinchium radicatium</i>	1	2.3	1,578
Other Rare Plants (8)			
<i>Arctomecon californica</i>	2	0.1	7
<i>Astragalus nyensis</i>	2	296.0	62
<i>Cirsium mohavense</i> (<i>C. virginense</i>)	4	13.7	2,431
<i>Ivesia jaegeri</i>	1	0.1	90
<i>Penstemon bicolor</i>	2	0.1	34
<i>Pediomelum castoreum</i>	5	3.2	145
<i>Sisyrinchium funereum</i>	1	3.0	12,113
<i>Sisyrinchium</i> sp.	1	0.002	2
Total	36	592.2	110,909



Eriogonum bifurcatum



Sisyrinchium radicatium



Penstemon albomarginatus

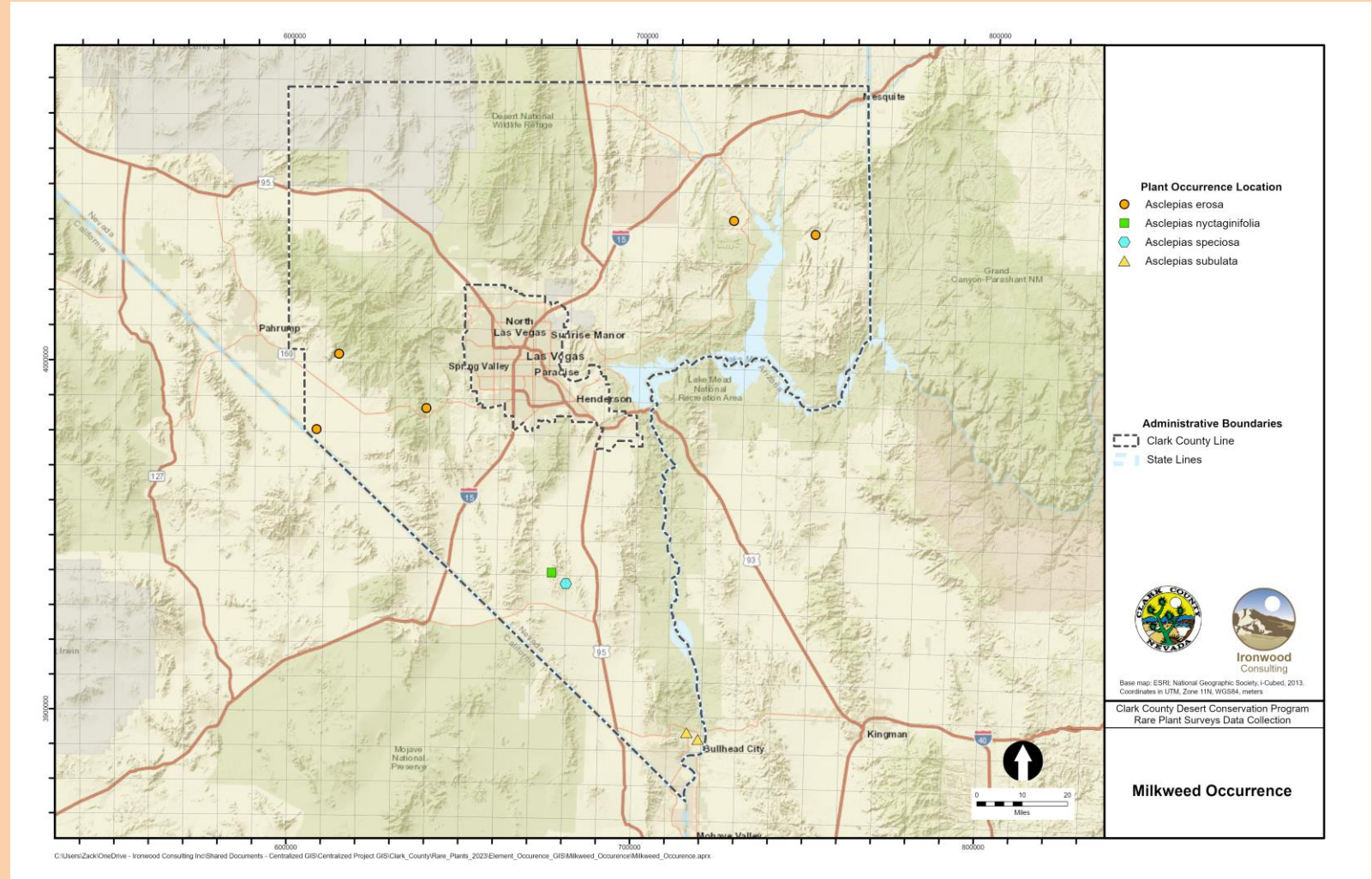


Eriogonum viscidulum

Results

Incidental Milkweed (*Asclepias*) Finds

- 9 records
- 4 species
 - *Asclepias erosa* (5)
 - *Asclepias nyctaginifolia* (1)
 - *Asclepias speciosa* (1)
 - *Asclepias subulata* (2)
- Most occurrences at wetland sites

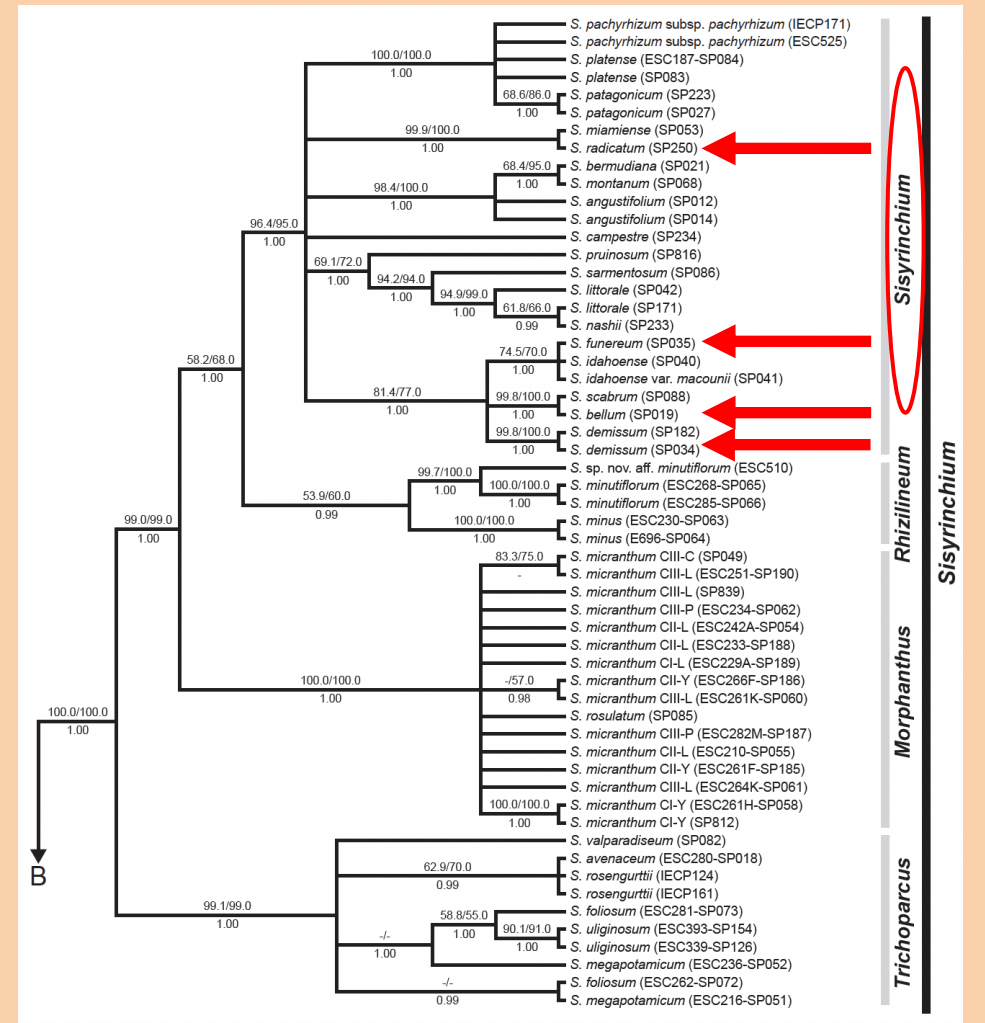
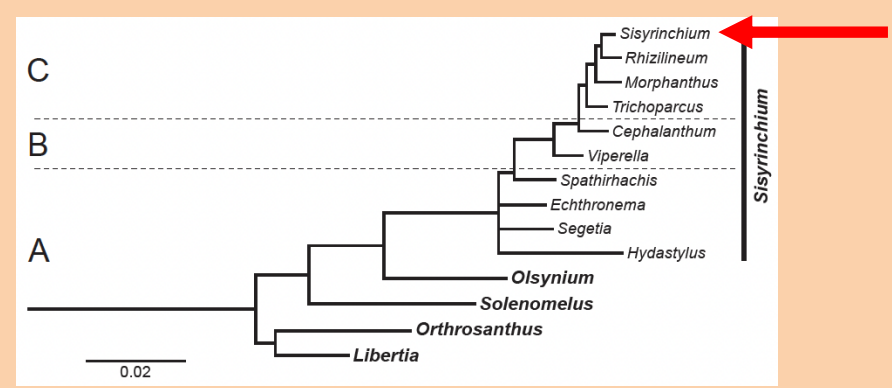


Discussion

Unresolved Taxonomy in *Sisyrinchium*

(Inácio et al. 2017)

- Section *Sisyrinchium*
- Taxonomy is unresolved
- Delimitation of taxa with low levels of genetic divergence is difficult and unclear
 - Likely because diversification too recent or too rapid
- More research needed
 - Are the taxa in Section *Sisyrinchium* truly distinct species?
 - Impacts to rarity status?
 - Improved keys for field ID



Discussion

Astragalus geyeri var. *triquetrus*

Germination Patterns

2020: 250 plants / 14 sites

2021: 0 plants

2022: 0 plants

2023: 14 plants / 2 sites

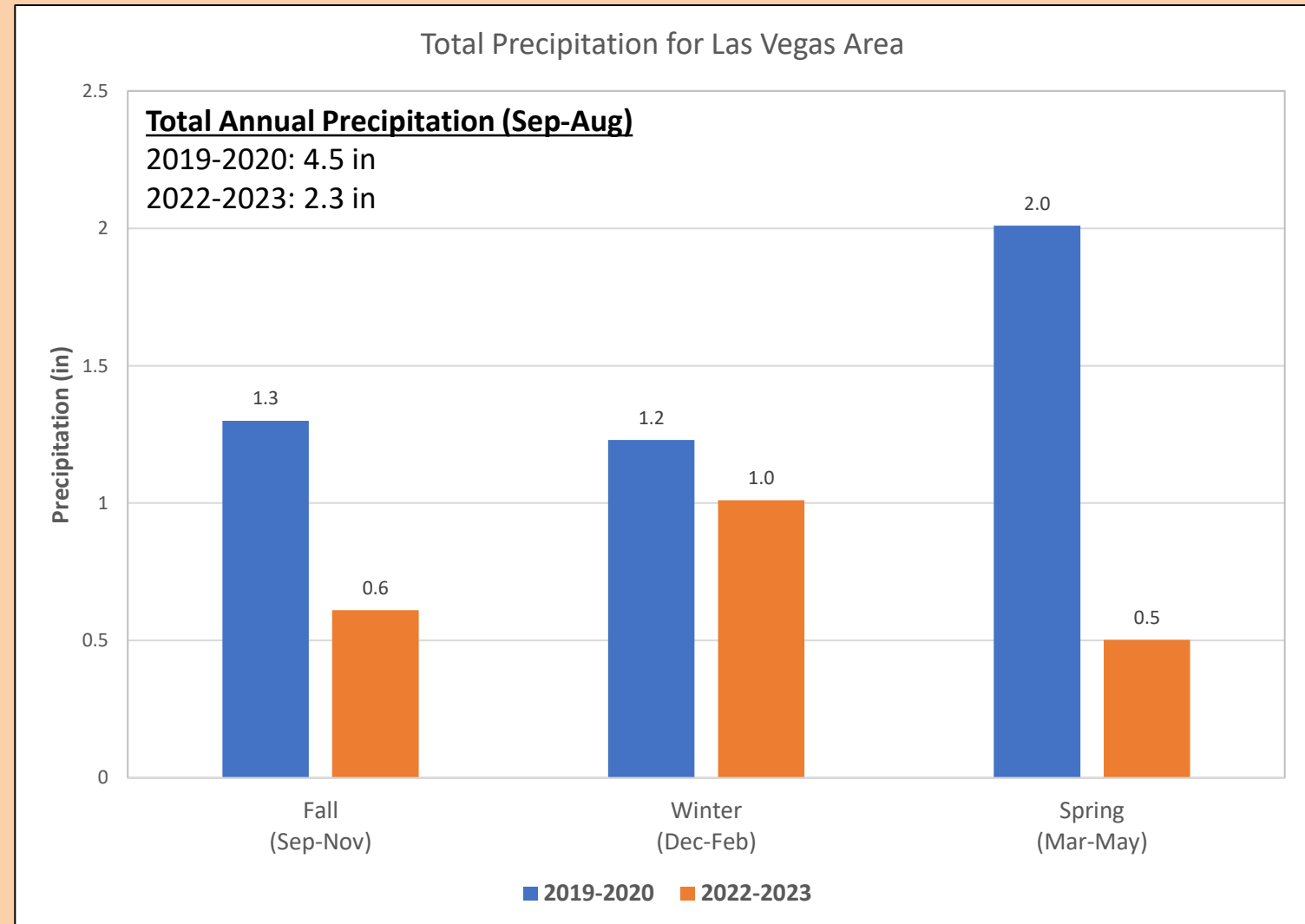


Discussion

Astragalus geyeri var. *triquetrus* Germination Patterns

2019-2020

- ↑ seasonal precip
- ↑ total annual precip



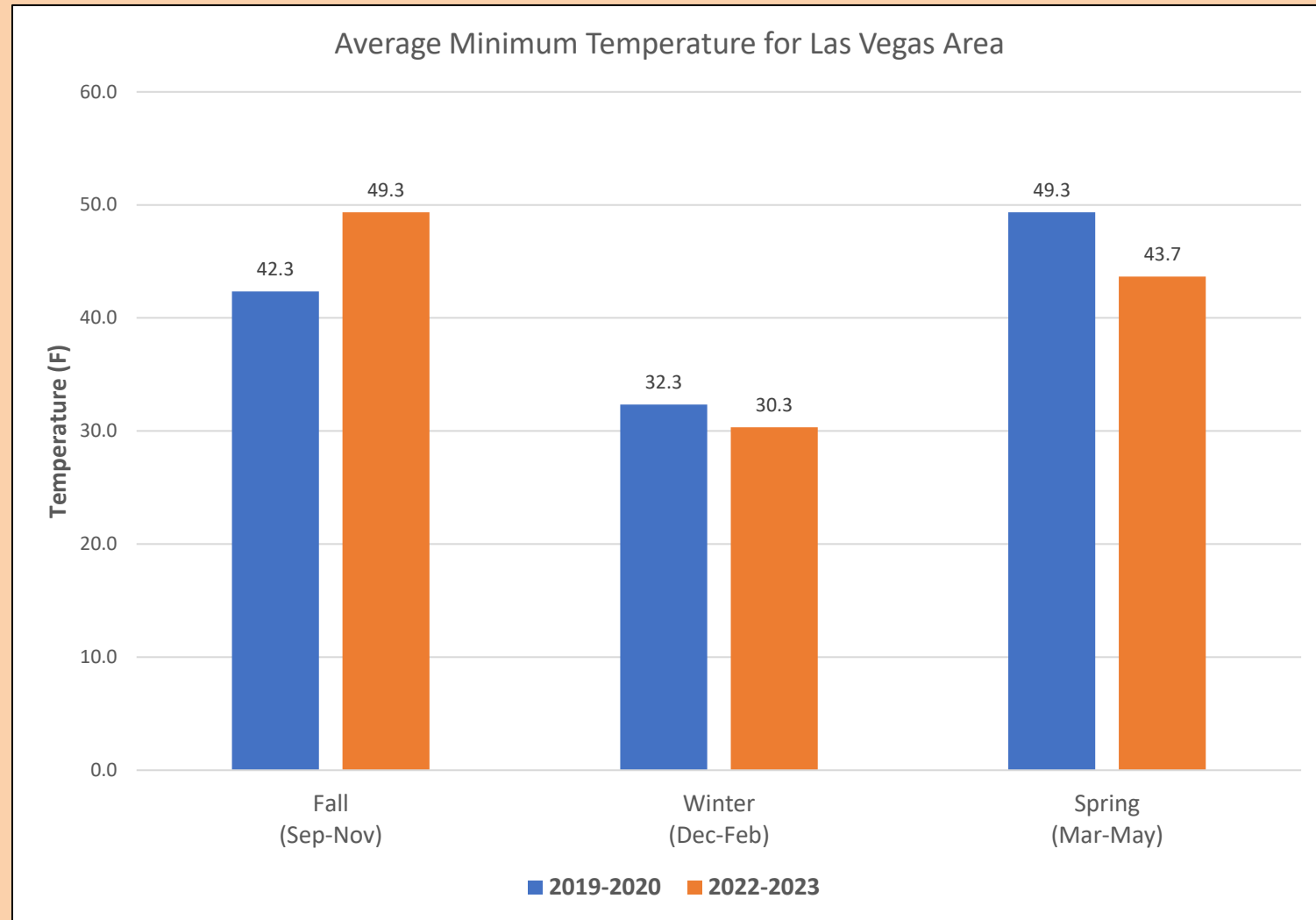
Discussion

Astragalus geyeri var. *triquetrus*

Germination Patterns

2019-2020

- ↑ average min monthly temps in winter/spring

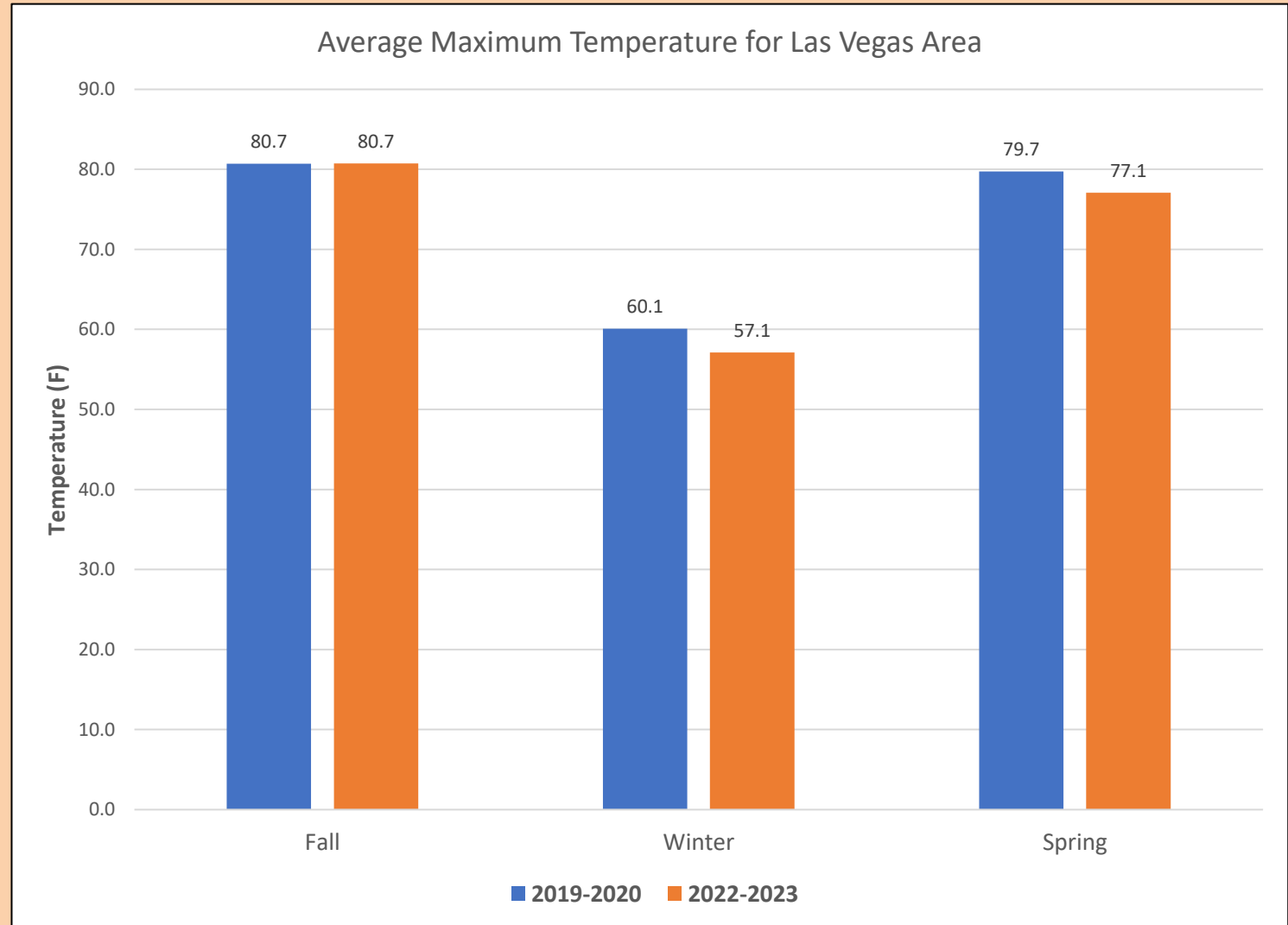


Discussion

Astragalus geyeri var. *triquetrus* Germination Patterns

2019-2020

- ↑ average max temps for winter/spring



Discussion

Astragalus geyeri var. *triquetrus*

Opportunity to Study Germination Patterns & Population Trends

- Long-term monitoring plots (6+ years)
- Monitor plots annually:
 - Complete plot census
 - Distribution across plot (sub-meter point data for each plant)
 - Phenology
 - Weed cover and distribution
 - Annual weather data
- Potential benefits:
 - Track population dynamics over time
 - Identify patterns between weather + germination
 - Explore how local disturbance (e.g., invasive weeds) impact germination and reproductive success



Ongoing

Cylindropuntia multigeniculata (Blue Diamond Cholla) Surveys

- Surveys from Fall 2022 – Fall 2023
- Large, extensive occurrence found
 - Additional surveys this fall



Thank You!

Stefanie Ferrazzano & Desert Conservation Program

Ironwood Rare Plant Botany Team

