



CCHS Plant Systems+Stillwater National Wildlife Native Seed Farm

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Churchill County High School Plant Systems

Go Greenwave!







Greenhouses
back up and
running in the
fall of 2023



In 2023, we received seeds from
the Foundation Seed Program.
Thank you NDA!



- We were adopted by the Lahontan Conservation District (and Marlee Jenkins). We received grant funding from the Nevada Outdoor Education and Recreation Program.
- We were taken in by the local farmers group, The Green Goddess Collective. The women from the GGC have come to our greenhouses to teach dahlia tuber dividing, herbal teas and botanical dye making classes.
- We were also adopted by the Stillwater NWR staff. They came to our class and gave a presentation on career paths and plant jobs.
- We received a “Get Kids Outdoors” grant from Sierra Club Great Basin Group. We used the funds to purchase hand trowels and transportation to the Stillwater NWR so that Plant Systems students could tour the Refuge and plant the native plants they had grown from seed. Students loved the field trip!





joshuq.enriquez

Stillwater National Wildlife Refuge



Students spent the entire day outside. They got to tour of the Refuge with the Refuge Manager, planted up the pollinator garden, had a picnic in the grass and just be kids for the day. *no cell reception (yeah).



Students are already growing more Nevada Native plants for the Refuge Planting Day '26.





Our Goals

- To grow a variety of native plants successfully in our growing fields
- increase the native seed supply, especially for annuals and biennials
- Determine which plants grow best at the Refuge
- Gather data on plants irrigated with flood and drip irrigation
- Gather information on plants with limited data and different growing requirements for different species
- Experiment with methods of keeping weeds and pests down to a minimum using different tactics
- Produce and harvest viable seed successfully
- Send the harvested seed to the UNR seed cleaning facility to be tested and cleaned
- Expand our growing capacity to the 8 acre field in the spring of 2027
 - Plant the most successful species in the 8 acre field determined from the results of the 1 acre field

Stillwater NWR Native Plants



Plant Code	Scientific name	Common name
ACMI2	<i>Achillea millefolium</i>	Common Yarrow
ARLU	<i>Artemisia ludoviciana</i>	White Sage
ASSP	<i>Asclepias speciosa</i>	Showy Milkweed
CHDO	<i>Chaenactis douglasii</i>	Douglas' Dusty Maiden
ERUM	<i>Eriogonum umbellatum</i>	Sulphur-flower Buckwheat
HEAN3	<i>Helianthus annuus</i>	Common Sunflower
PRAN2	<i>Prunus andersonii</i>	Desert Peach
SADO4	<i>Salvia dorrii</i>	Dorr's Sage
ROWO	<i>Rosa woodsii</i>	Woods' Rose
SPAM2	<i>Sphaeralcea ambigua</i>	Desert Globemallow



Why these plants?

- These plants were selected for many different reasons, we wanted to have a wide variety of native species to determine which plants would be able to do well in Fallons' arid climate and poor soil
- **ASSP, CHDO, ERUM, HEAN3, SPAM2** were selected because the seeds source was in Churchill County
 - **ASSP, HEAN3, and ARLU** : also grow well in the drainage ditches in Fallon
 - **ERUM and SPAM2** : their “predictability” and the available data already collected on the species
 - **CHDO** : it is a biennial - there is a need for biennial and annual species seeds, and there is not much data on the growing requirements.



Why these plants?

continued

- **ACMI2** : it grows well in a wide variety of soils and produces a lot of flower heads
- **HEAN3** : it is an annual and the refuge aims to increase the native seed supply of annual and biennials
- **PRAN2, SADO4, and ROWO** : the lack of information available on the growing needs of these species. We aim to contribute to the overall data available to the public on successfully growing these species on a mass level

Plant Production



- The SWNWR is contracting Walker Basin Conservancy to produce the majority of plants to be planted in the 1 acre field in the spring of 2026 and in the 8 acre field in 2027
 - These plants will be grown to 1 year maturity before they are planted in the ground
- In the spring of 2026, WBC will be planting 2,340 plants in both the flood and drip irrigation sides of the field
- The Refuge will be responsible for growing out:
 - 234 Desert Globemallow (*Sphaeralcea ambigua*) plants
 - 165 Sulphur-flower Buckwheat (*Eriogonum umbellatum*) plants
 - Sowing 267 Common Sunflower (*Helianthus annuus*) plants

Scientific Name	Common name	Spring 2026 Planting
<i>Rosa Woodsii</i>	Woods' Rose	210
<i>Artemisia ludoviciana</i>	White Sage	340
<i>Asclepias speciosa</i>	Showy Milkweed	450
<i>Achillea millefolium</i>	Common Yarrow	340
<i>Salvia dorrii</i>	Doors' Sage	290
<i>Chaenactis douglasii</i>	Dusty Maiden	500
<i>Prunus andersonii</i>	Desert Peach	210
Total		2,340

Table : The plants listed are being contracted by WBC to be grown in the agreed upon quantities.



Field Preparation

- The SWNWR 1 acre planting field has been tilled multiple times and re-leveled
- We have purchased and put in a shed to hold our drip irrigation materials:
 - Water pressure tank, a manifold, and a fertigator
- Over the next few months, a deer fence will be constructed around the perimeter of the 1 acre field, both the drip and irrigation sides
- In the spring of 2026, *Helianthus annuus* will be directly sewn into the field
- The drip irrigation field had compost and perlite tilled in
- The drip irrigation will be constructed shortly before the spring 2026 planting

Flood Irrigation



Plant spacing ft	Plant code	Flood #
2 ft	HEAN3	267
6 ft	ROWO	88
3 ft	ARLU	178
2 ft	ASSP	268
3 ft	ACMI2	178
3 ft	SPAM2	178
3 ft	SADO4	89
1 ft	CHDO	268
3 ft	ERUM	89
5 ft	PRAN2	53
	Total	1656

- There is limited information on using flood irrigation as a method to irrigate native plants
- SWNWR aims to gather useful data on a variety of native species in order to determine whether or not flood irrigation is a possible irrigation method for future native seed farmers
- If the flood irrigation methods are successful in growing different species of native plants, farmers who have relied on flood irrigation for decades will be able to grow different native plants using the infrastructure that they already have



Drip Irrigation

- Our drip irrigation field is smaller than the flood irrigation plot with less plants
- We will be experimenting with intercropping planting to try to control future pest and bacteria problems
- The drip irrigation will be fertilized with liquified seaweed extract
- Our main priorities will be:
 - controlling weeds
 - minimizing pests, fungus's, and other potential problems
 - figuring out a watering schedule

Plant spacing ft	Plant code	Drip #
2 ft	HEAN3	
6 ft	ROWO	
3 ft	ARLU	56
2 ft	ASSP	84
3 ft	ACMI2	56
3 ft	SPAM2	56
3 ft	SADO4	76
1 ft	CHDO	114
3 ft	ERUM	76
5 ft	PRAN2	33
	Total	551

1 acre field

Pollinator
garden

SWNWR
Building

Compost

Pump
house

Drip
irrigation
Water
System shed

tank

Greenhouse
materials
Storage
garage

Green-
house

Shade-
house

8 acre
field



