## THE IMMINENT EXPLOSION OF STINKNET

(ONCOSIPHON PILULIFERUM)
IN CENTRAL AND SOUTHERN ARIZONA

Southwest Vegetative Management Association Meeting Flagstaff
22 October 2019 updated 15 February 2020

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### THE BEAUTIFUL BEAST



## Stinknet also known as Globe Chamomile Oncosiphon piluliferum

# DISTINCT "CARROT LIKE" STINKY LEAVES



Plants emerge continuously from November to April

## DISTINCTIVE ROUND FLOWERS APPEARING IN MARCH



### STINKNET: A FOREIGNER

- Native to South Africa
- As of January 2020 classified as an <u>Arizona</u> <u>Noxious Weed</u>

### **GROWTH**

- A winter annual
- Germination, growth, and seed dispersal <u>favored by</u> wet years
- Staggered germination from November thru April
- Flowering is triggered by lengthening days following the winter equinox–peak flower in mid March
- Seed ripening and dispersal starts in April and continues to late May in wet years

### HARM TO HUMANS

- For people with sensitive skin, skin rashes and burns can occur when handling vegetation
- For asthmatics, severe wheezing from even walking through fields
- Smoke from burning stinkinet can cause eye irritation and breathing problems
- Not even cattle or goats will eat it!

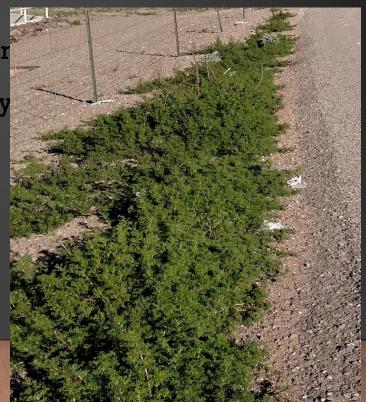
## THE GROWTH HABIT UNDERLIES THE CONTROL CHALLENGE

Staggered germination from November thru April

 Flowering is triggered by lengthening days following the winter equinox— peak flower in early March

Seed ripening and dispersion starts in

Seed dispersion continues to late May



## THE GROWTH HABIT UNDERLIES THE CONTROL CHALLENGE

Staggered germination from November thru April

Flowering is tried
 equinox—peak

Seed ripening a

Seed dispersion



following the winter

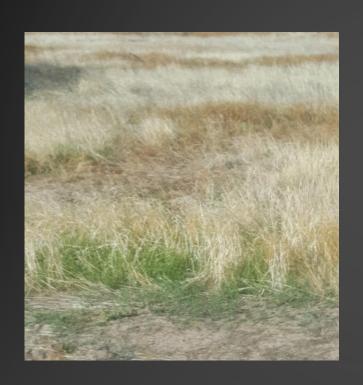
et years

#### **CONTROLS**

#### Control knowledge is still incomplete but we do know:

- Manual removal is only effective on initial infestations
- Cattle and even goats do not eat stinknet
- Simazine at 16az/acre or Milestone at 4 ounces/acre is effective pre emergence but with strict label compliance for both herbicides.
- Glyphosate with MSO or Hasten surfactant is effective post emergence up to flowering. Glyphosate alone is not effective.
- After flowering, half rate diquat should be added
- Herbicide testing is ongoing in winter 2019-2020 sponsored by the Southwest Vegetation Management Association

### WILDLAND FIRE DANGER





Appears to have trouble competing with natural vegetation

But fills in open areas and extends fire faster to bushes and trees accelerating spread.

### THE PHOENIX METRO AREA

- In Arizona first reported in Maricopa County in 1990s
- By 2005 it had infested the Ben Avery Az Game and Fish shooting facility, Cave Creek USFS Ranger station, and parts of the Tonto National Forest
- By 2015 it had heavily infested lower I-17
- With wet years 2016 and 2018 there were explosions throughout the Phoenix Metro area and I 10 to Casa Grande

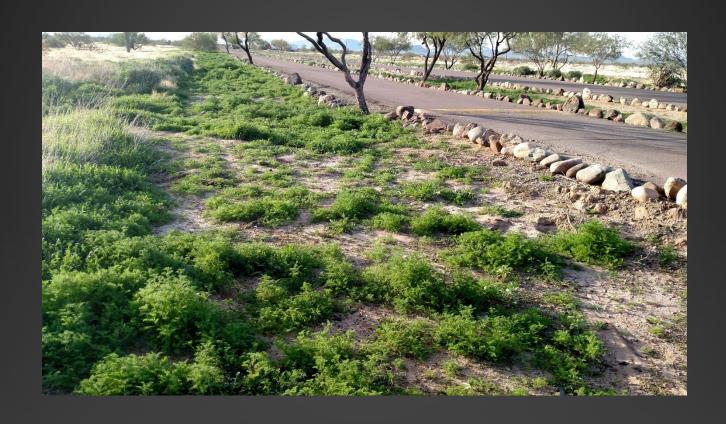
## THE SPREAD OF STINKNET IN ARIZONA

- The infestation of the Ben Avery Az Game and Fish facility provided a perfect storm for infestation in Maricopa County
- It was allowed to bulk up unimpeded for over 15 years
- Seed ripening coincides with the annual Arizona
   Outdoors Exposition in late March-Early April
- Seed has been dispersed by thousands of visitors over many years and continues today

# THE BEN AVERY FACILITY IS THE STINKNET GROUND ZERO FOR PHOENIX AND ARIZONA



## BEN AVERY EARLY EMERGENCE BY NOVEMBER 2018



### BEN AVERY STINKNET IN FLOWER BY MARCH 2019



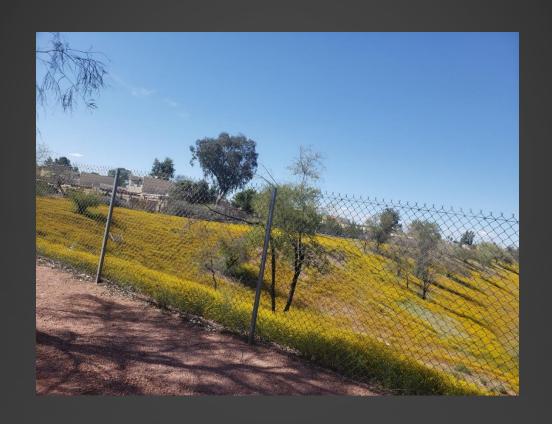
# > SEEDS DROP FROM VEHICLES WHEN THEY DECELERATE AND ACCELERATE > I 17 ON AND OFF-RAMPS RAMPS CAREFREE TO -NEW RIVER BECOME RIFE WITH STINKNET



# FROM ROADWAYS STINKNET SPREADS INTO THE OPEN DESERT



### **CENTRAL PHOENIX IN FLOWER BY MARCH 2019**



#### WHAT WENT WRONG IN PHOENIX?

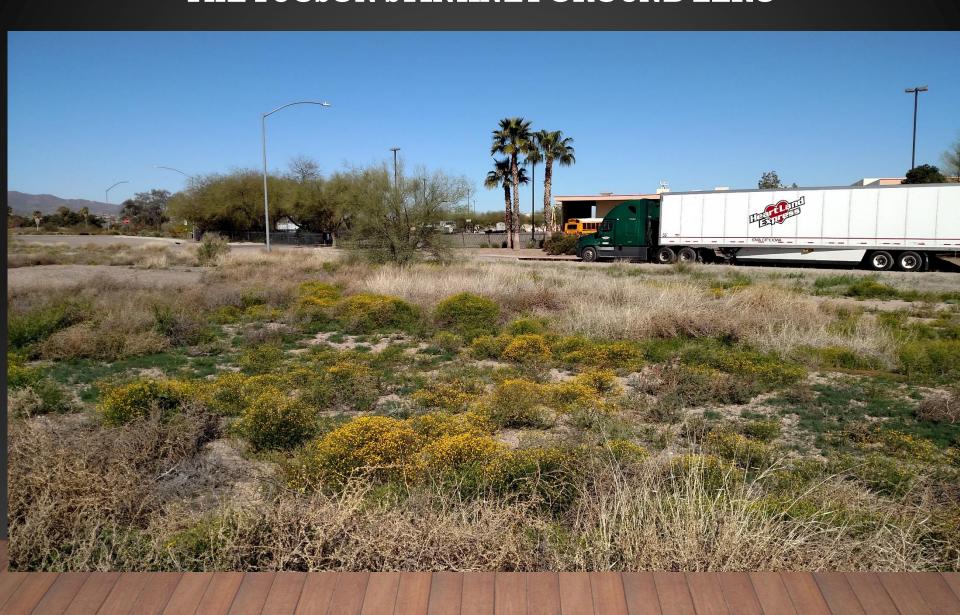
• No one knew about Stinknet until it was way too late!

 No one knew how to control it until 2019---and we still have a lot to learn!

### STINKNET IN TUCSON

- 2012-2014 ADOT equipment yard for I-10 widening was located on 20 acres at I 10/Prince and became heavily infested with stinknet
- 2015 collected and vouchered by AnaLilia Reina at the west end of Prince Road (the Tucson stinknet "ground zero")
- 2015-2019 gradually bulked up at "ground zero"
- 2018-2019 spread across the road to the embankment of the county bike loop and south to the UA farm
- Tucson's epicenter at I-10/Prince were contract sprayed in February 2020

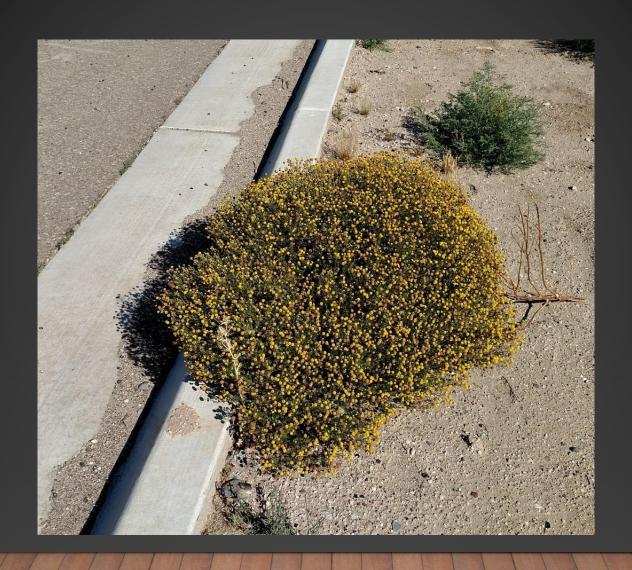
### THE TUCSON STINKNET GROUND ZERO



### THE 2019 INFESTATION OF THE PIMA COUNTY BIKE LOOP EMBANKMENT

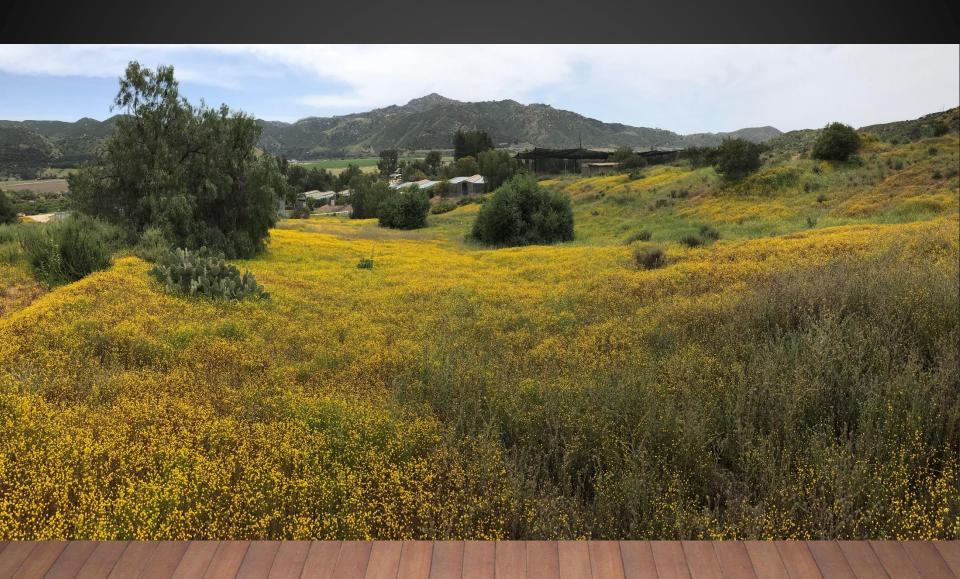


### 2019 SPORADIC OCCURRENCES ALL OVER TUCSON BELOW IS A ROGUE PLANT AT TANGERINE AND LACHOLLA



### OUR CALIFORNIA NEIGHBORS HAVE THEIR OWN STINKNET PROBLEMS

ESPECIALLY SAN DIEGO AND RIVERSIDE COUNTIES



### CONCLUSION

- "The cat is out of the bag" in Maricopa County and control will be challenging
- Control measures will require timely applications of both pre emerge and post emerge herbicides
- Education must be targeted to both applicators and the public

### **QUESTIONS ??**



Contact aznps.stinknet@gmail.com for questions and comments