THE IMMINENT EXPLOSION OF STINKNET

(ONCOSIPHON PILULIFERUM) IN CENTRAL AND SOUTHERN ARIZONA

Southwest Vegetative Management Association Meeting Flagstaff
22 October 2019 updated April 2021

John Scheuring and Ed Taylor Conservation Director. Arizona Native Plant Society President, EST Enterprises



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 Novemberthru 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 vertical equinox—peak flower in early March
- Seed ripening and dispersion starts in April
- Seed dispersion continues to late May in wet years



THE GROWTH HABIT UNDERLIES THE CONTROL CHALLENGE

- Staggered germination from November thru April
- Flowering is triggered by lengthening days following th equinox— peak flower in early March
- Seed ripening and dispersion starts in April
- Seed dispersion continues to late May in wet 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 16oz/acre is effective pre emergence but with strict label compliance.
- 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 2019-20 and 2020-21 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

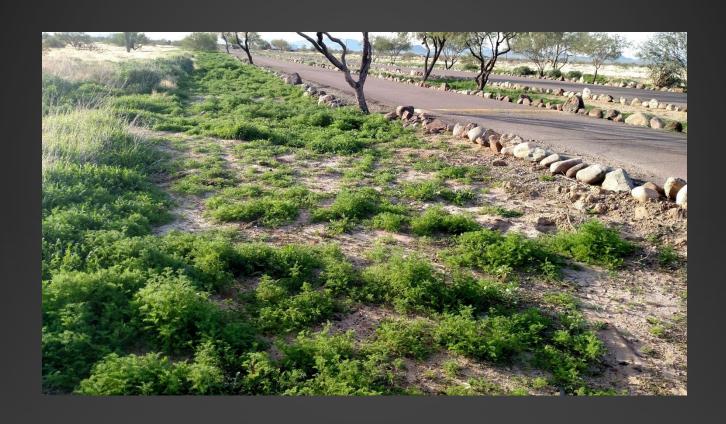
THE SPREAD OF STINKNET IN ARIZONA

- 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



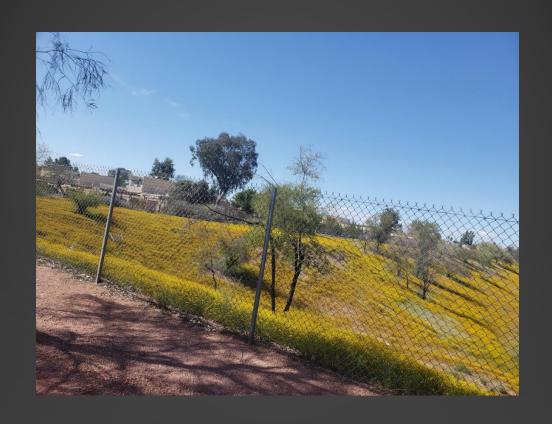
> SEEDS DROP FROM VEHICLES WHEN THEY DECELERATE AND ACCELERATE > I 17 ON AND OFF-RAMPS RAMPS CAREFREE TO -NEW RIVER BECOME RIFE WITH STINKNET



FROM ROADWAYS STINKNET SPREADS INTO THE OPEN DESERT



CENTRAL PHOENIX IN FLOWER BY MARCH 2019



WHAT WENT WRONG IN PHOENIX?

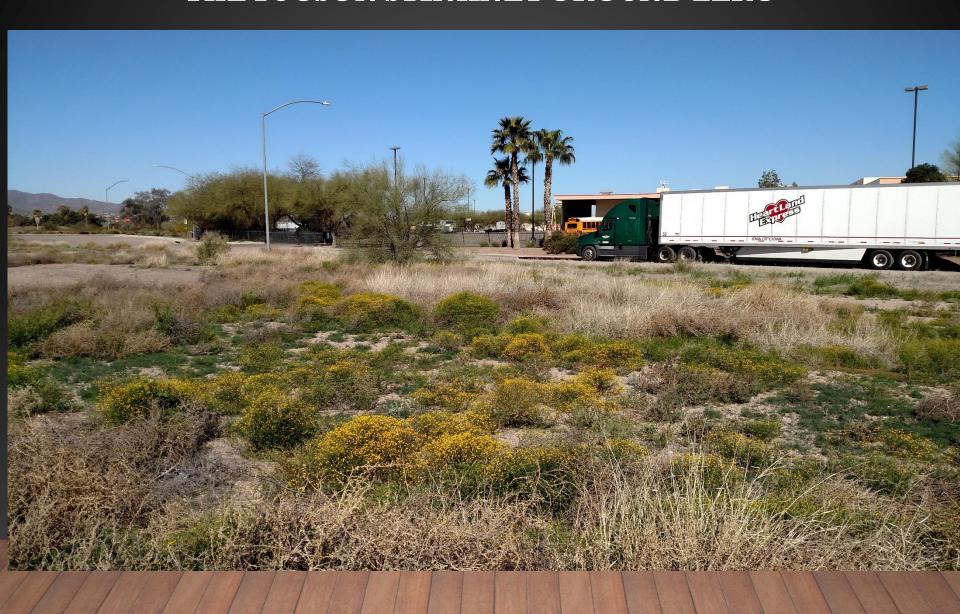
• No one knew about Stinknet until it was way too late!

 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

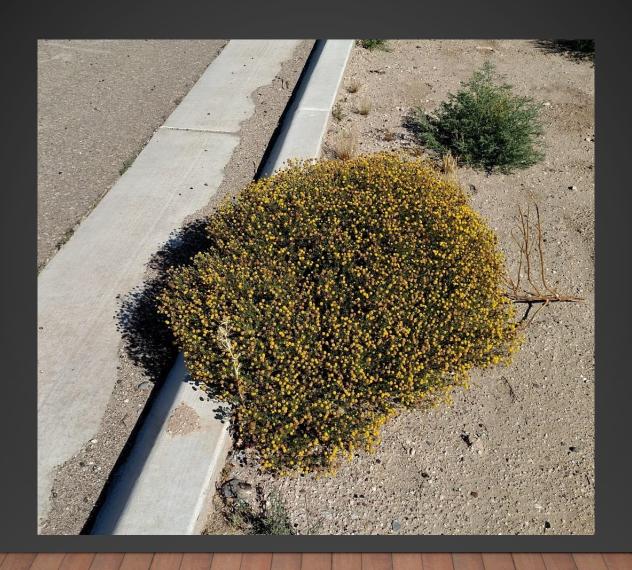
THE TUCSON STINKNET GROUND ZERO



THE 2019 INFESTATION OF THE PIMA COUNTY BIKE LOOP EMBANKMENT

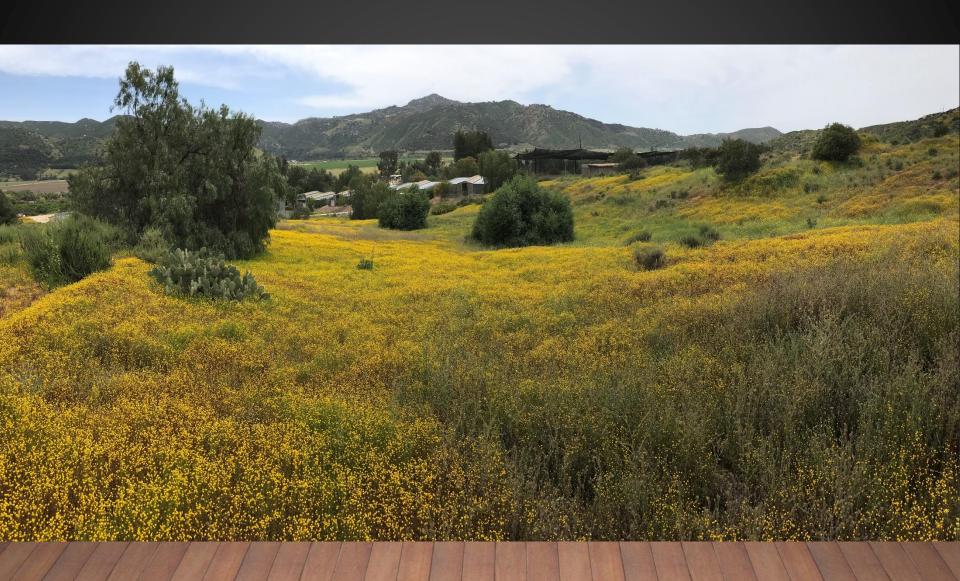


2019 SPORADIC OCCURRENCES ALL OVER TUCSON BELOW IS A ROGUE PLANT AT TANGERINE AND LACHOLLA



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