

# *Brassica tournefortii*

## *In Arizona*

- **Documented in Coachella Valley 1938**
- **Imperial Valley 1947**
- **Arrived in Yuma County 1957**
  - **Likely via traffic from California**
- **Common on ORPI-CPNWR mid-1980's**
- **Moving Northward 1990's**

# Distribution in Arizona



# *Brassica tournefortii*

## Major Management Concerns

- **Competition/Impact Sand Dune Endemics**
  - Pinta Sands, Mohawk Dunes, Gran Desierto
- **Grand Canyon, Lake Mead, Lake Powell**
- **Lower Colorado River (BWNWR)**
  - Rainfall Above Average 2003-2004

**Brassica localized**

# *Brassica tournefortii*

## Major Management Concerns

- **Maricopa County (into Surrounding Mountain Ranges)**
- **Fire**
- **Competition**

# *Brassica tournefortii*

## Major Management Actions

- **Study Cabeza Prieta NWR**
  - **Brassica Removed From Study Plots 1995**
    - **Found only in *Unweeded* Plots 1999**
  - **Monitored 2002-2003**
    - **No Brassica Observed in 25 plots**
  - **2004-2005 Brassica Abundant**
    - Not like distribution to the North**  
**(e.g., Malpais Area Interstate 8, Highway 95)**

# *Brassica tournefortii*

## Major Management Actions

- **Study KOFA NWR**
  - Pulling Plants vs Inflorescence,
  - 1200 lbs removed
- **Spraying AZ DOT**
- **Photographic Monitoring Plots**
  - Determine Efficacy of Spraying and Pulling
- **Hand Pulling GCRA**

# *Brassica tournefortii*

## Some Thoughts

- **CPNWR**
  - **Brassica found throughout wash systems in Central, and Eastern portion of the Refuge**
  - **Local Infestations common but isolated**
  - **Found uniformly but diffusely**
  - **Distributed throughout LATR, and/or LATR-AMDE Flats (especially with sandy soils)**
- **Note this distribution makes control very difficult in 803,000 acre wilderness area**







# *Brassica tournefortii*

## Some Thoughts

- Southwest AZ north of I-8,
  - Some areas became dense monoculture
    - Malpais, mountains, other areas
  - Local Infestations common
  - Infestations observed this year strongly related to unknown occurrences throughout deserts north of I-8 (e.g., consistent but diffuse distribution observed for years on CPNWR) *My Opinion*







*Brassica tournefortii*  
**Some Thoughts**

- **Dispersal potential is great**
  - **Dust devils**
  - **Tumble weeds**
  - **Border Activities**









Photo copied from: M. Dimmett

[http://www.desertmuseum.org/invaders/invaders\\_saharamustard.htm](http://www.desertmuseum.org/invaders/invaders_saharamustard.htm)

# *Brassica tournefortii*

## **Future Management Actions**

- **Initiate Roadside Treatment of Major Infestations**
  - (Local CWMA's partnering with ADOT)
  - seek funding
- **Take advantage of dry years or cold years**
  - Mobilize crews to eradicate

# *Brassica tournefortii*

## Arizona Ranking

- Top 6 plants to control in GRCA
- In Top 4 of Management Priorities KOFA  
CWMA
- “Need for Immediate Action”
- “Worst Invasive Plant in the Sonoran Desert”
- Cautious to Rank, May Be Artifact of Wet  
Year

*Brassica tournefortii*  
**Theoretical Implications**

- **2004-2005 Distribution Product Of Abnormal Rainfall Year**
  - **Distribution Returns To Usual Pattern**
- **Quantity Of Seeds Result In Population Outbreak Throughout Western Arizona Regardless Of Precipitation**
- **Drought Where Very Little Emerges**
- **Subsequent Years**



