



Seabeach amaranth restoration in South Carolina

Introduction

- Restoration efforts and opportunities
- Ed EuDaly, U.S. Fish and Wildlife Service



Topics of Discussion

- Ecology of seabeach amaranth
- Threats
- Propagation
- Reintroduction
- Monitoring
- Restoration opportunities

Historic Range



Boston

Washington

Charleston

Ecology of seabeach amaranth

- Grows on sparsely vegetated overwash flats and fore dunes
- Accreting areas most suitable
- Intolerant of competition
- Pioneer/Fugitive species
- Seeds transported by wind and water
- Seed bank

Ecological Significance

- Dune builder
- Sand binder
- Prepares substrate for more permanent species (sea oats)
- Component of shorebird habitat
- Sea turtle habitat

Sand binding



Dune Building



Shorebirds



Sea turtle habitat



Threats

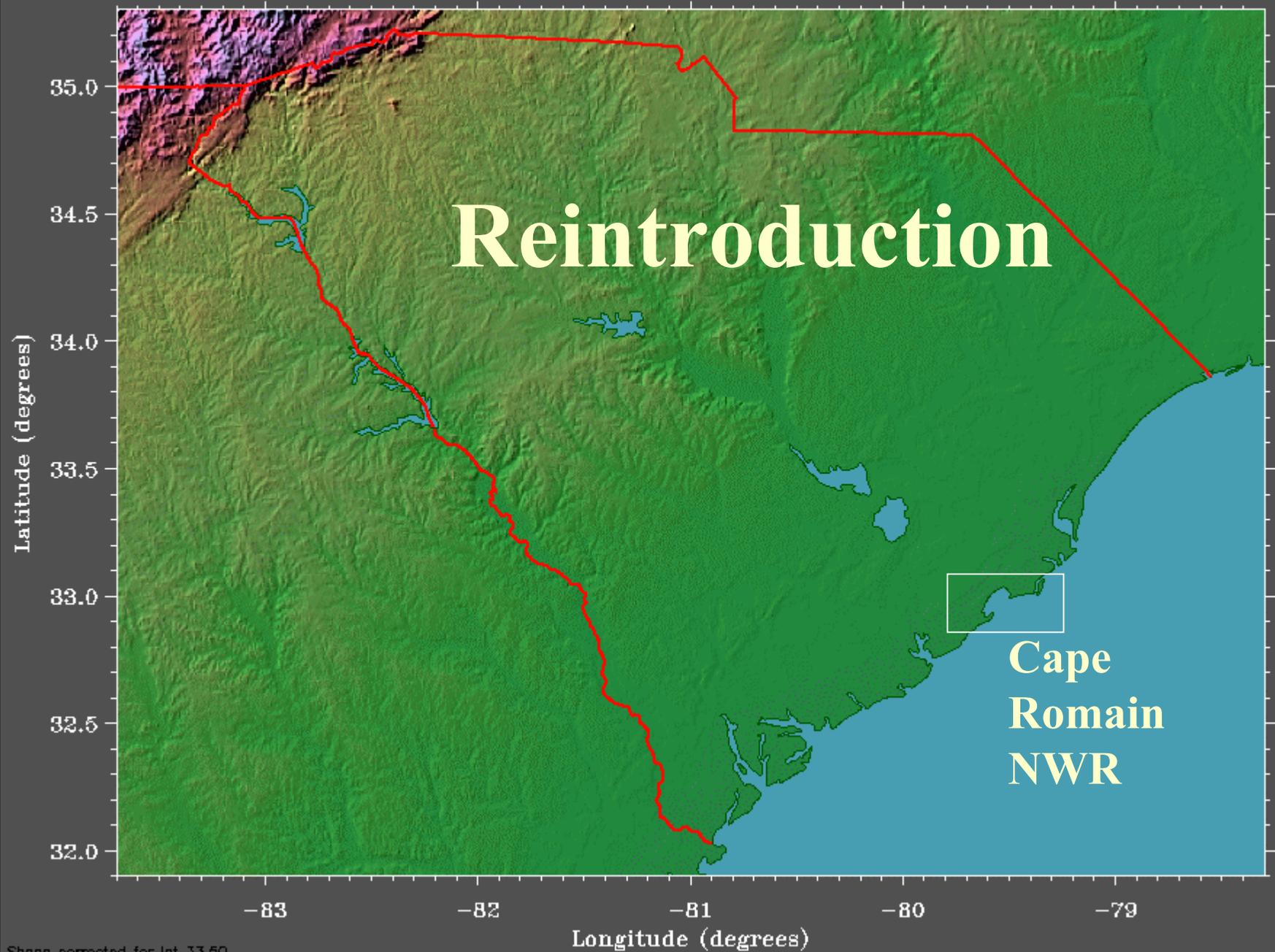
- Habitat loss/fragmentation
 - ◆ Seawalls
 - ◆ Groins
 - ◆ Jetties
 - ◆ Inlet relocation
 - ◆ Loss of multiple populations
- ORV/pedestrian traffic
- Webworm
- White rust
- Hurricanes

Propagation



Seedlings ready to transplant





Shape corrected for lat 33.50

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Cape Island (southwest) transplant site

392 planted 6/01/2000

Planting layout



Peat is added

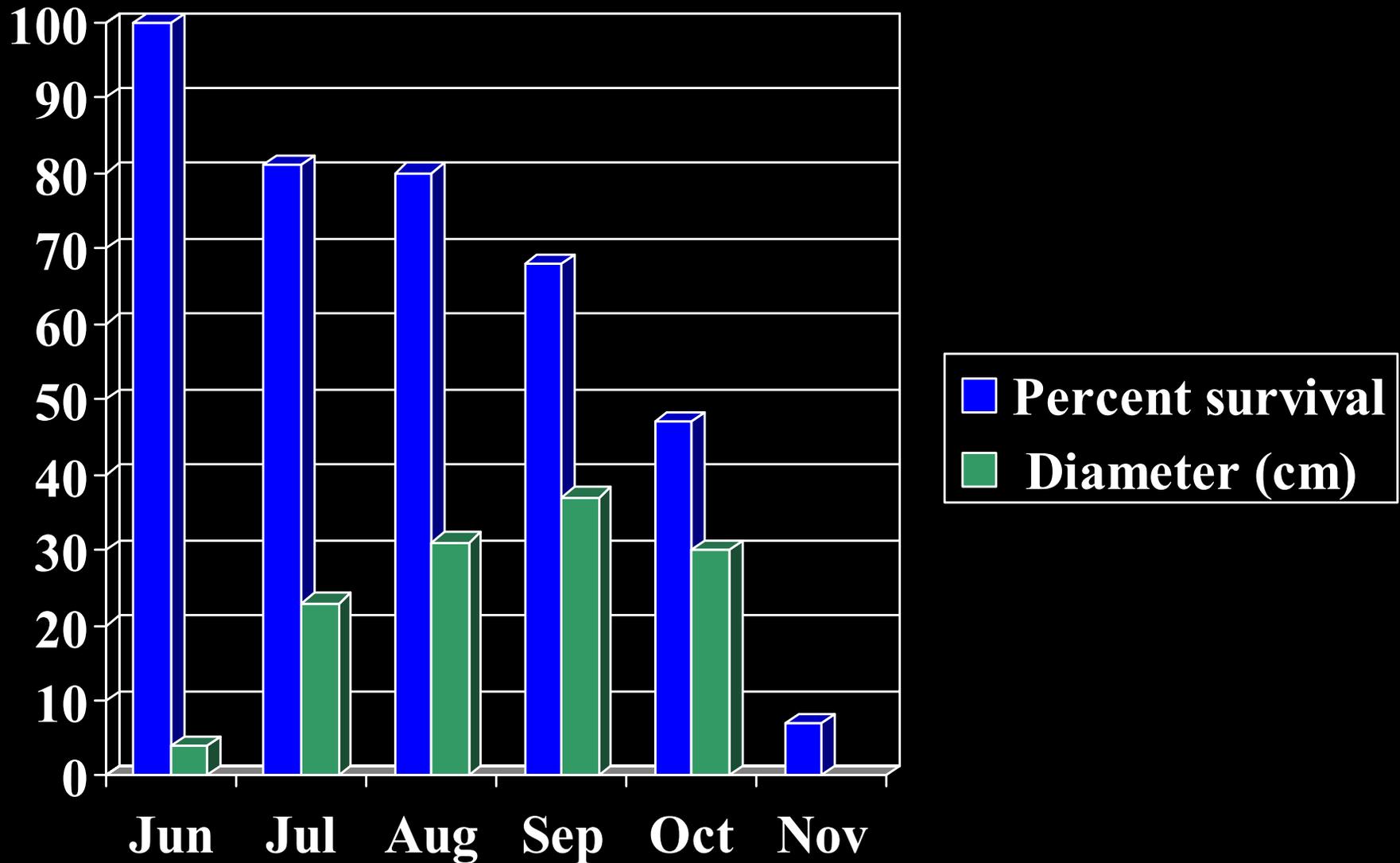




Completed groups



Survival and growth 2000



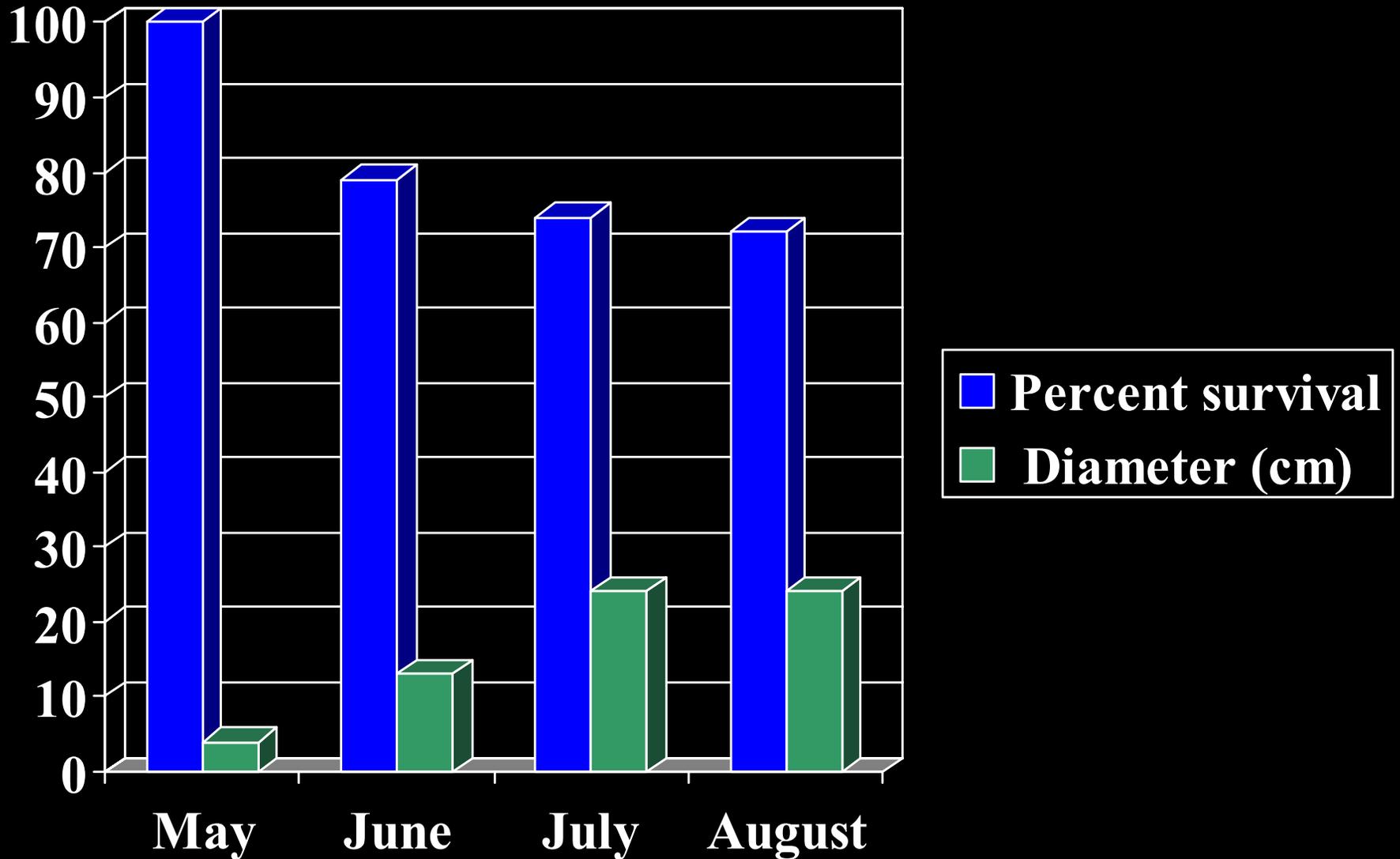
Cape Island (southwest) 2001 transplant site

293 planted
5/17/2001

196 planted
6/7/2001



Survival and growth 2001



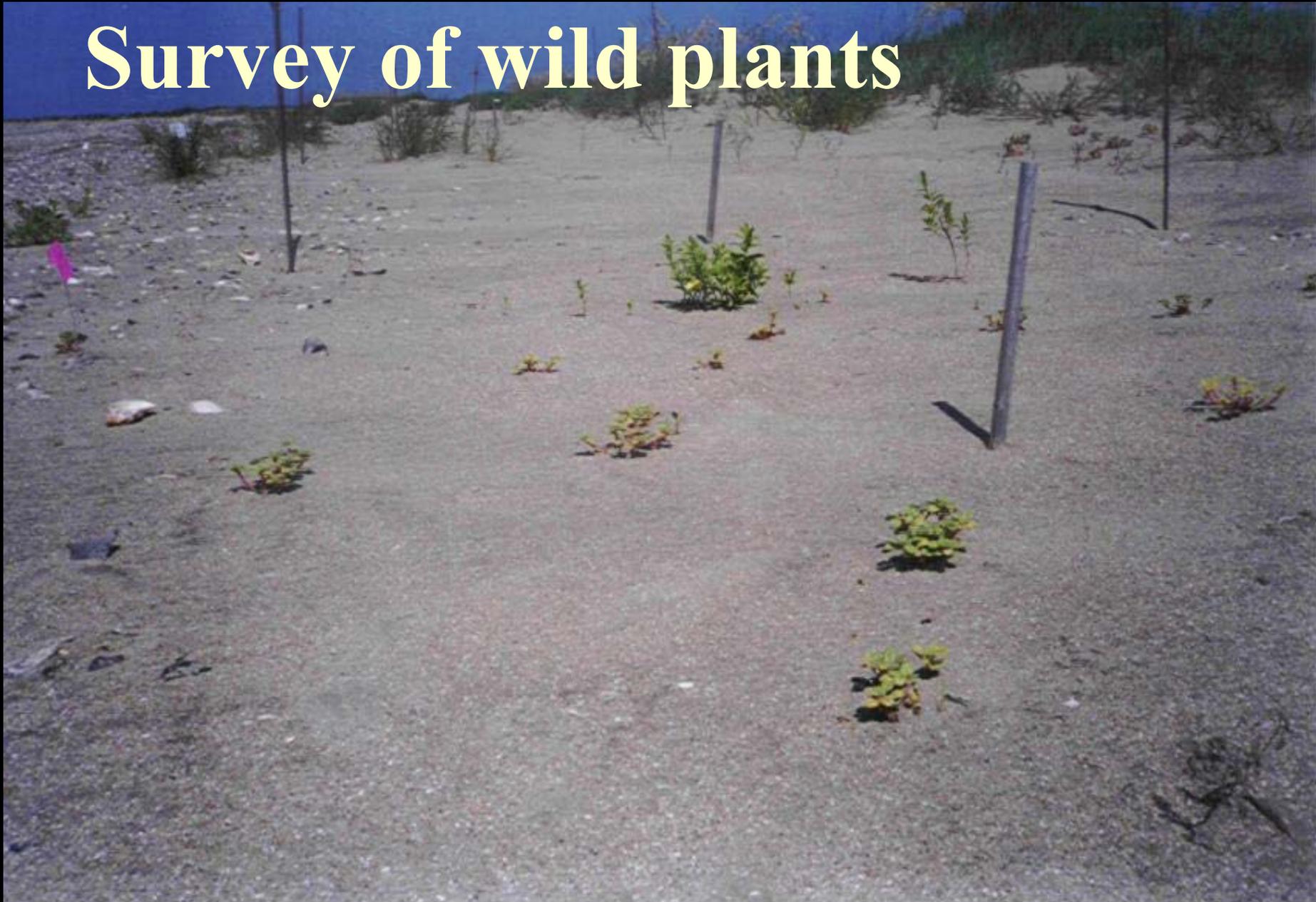
Thriving group 8/7/01



Assembling seed enclosure 7/5/01



Survey of wild plants

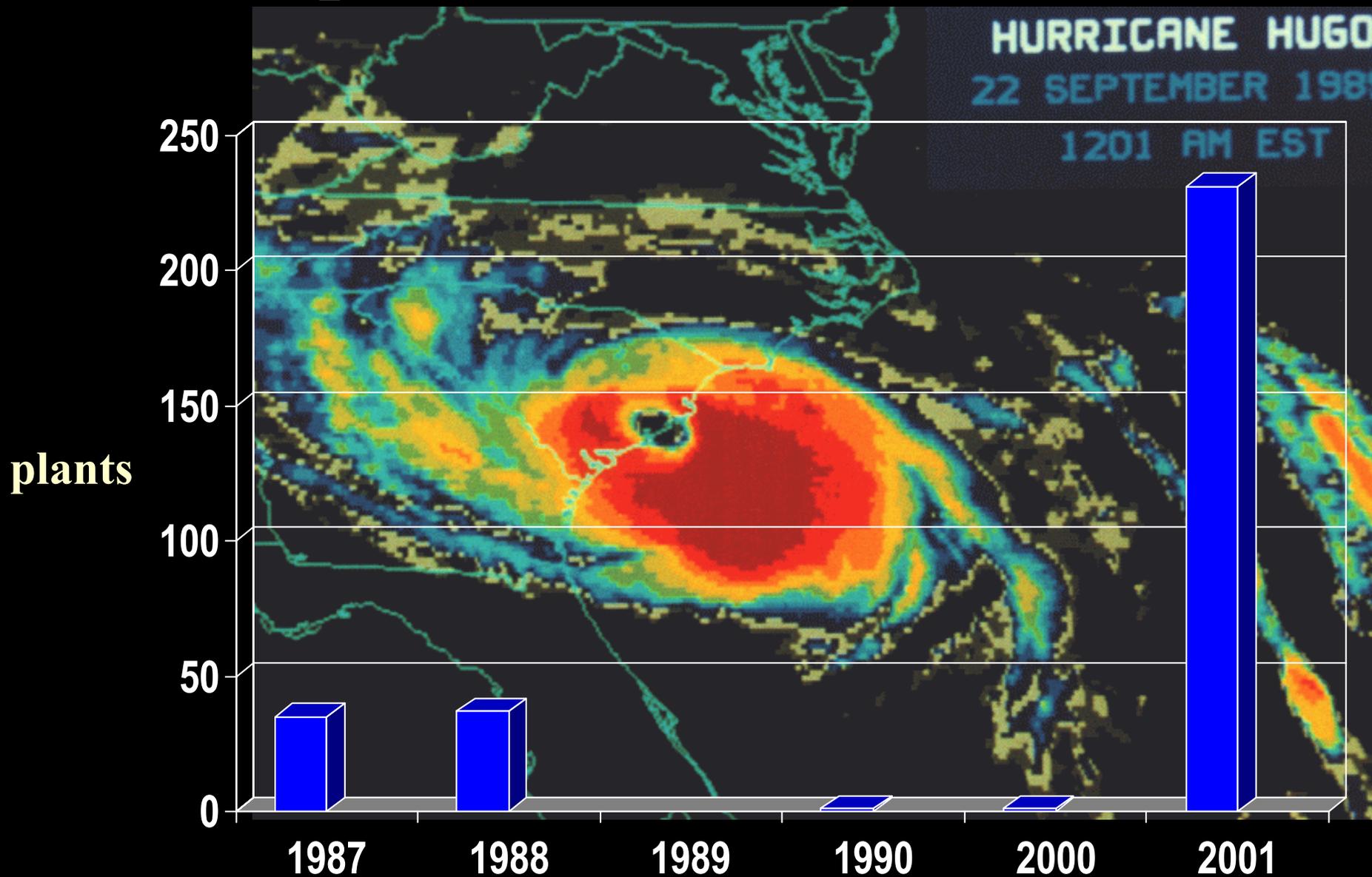


Large wild plant





Wild plant numbers on Cape Romain NWR



NAPP

11221-52

WILD 1674 DAB-S
No. 13390 153.82

02-14-99

Cape Island wild plants site two



75 planted 6/16/2000
301 planted 6/06/2000
45 wild plants
2001

02-14-99
WILD 1674 DAB-S
No. 13390 153.82
02-14-99
WILD 1674 DAB-S
No. 13390 153.82



Cape Island (southwest) wild plants

118 wild plants
2001

392 planted 6/01/2000

Prime habitat on southwest Cape



Summary

- Propagation/transplantation methods are successful
- Populations can be augmented or reestablished
- Continued efforts are needed to restore a sufficient seed bank
- Multiple sites need to be established
- Extirpation in SC quite possible without continued effort
- Monitoring – integral to restoration efforts

Opportunities

- SCDNR can no longer fund propagation
- Seeking Service recovery funding to propagate or use contract grower
- Potential Corps funding
 - ◆ Enhancement of beach nourishment
 - ◆ Mitigation for coastal projects