

**Response of the endangered
San Diego ambrosia
(*Ambrosia pumila*)
to removal of competition
from non-native plants**



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Skunk Hollow Preserve (Barry Jones Wetlands Mitigation Bank)



Barry Jones Wetlands Mitigation Bank



 Preserve Boundary

Skunk Hollow Preserve (Barry Jones Wetlands Mitigation Bank)



- 33-ac vernal pool with a 186-ac watershed
- ~98% of watershed protected
- Supports a number of State and/or Federally listed species
 - Including San Diego ambrosia (*Ambrosia pumila*)



San Diego ambrosia (*Ambrosia pumila*)



- Very limited distribution
- Sexual reproduction never documented
- Spreads vegetatively, forming clonal patches
- Occurs in marginal wetland habitats
- Primary threat is development, but may be outcompeted by non-natives

Questions



- Does competition from non-native plants negatively affect San Diego ambrosia at Skunk Hollow?
- Is mowing or hand-pulling better to reduce competition from non-natives?

Experimental Design



- 1m² treatment areas
- Hand-pull, “Mow”, and Control
 - ▶ replicated 5 times in each patch (15/patch)
- 5 patches

Treatment application & data collection

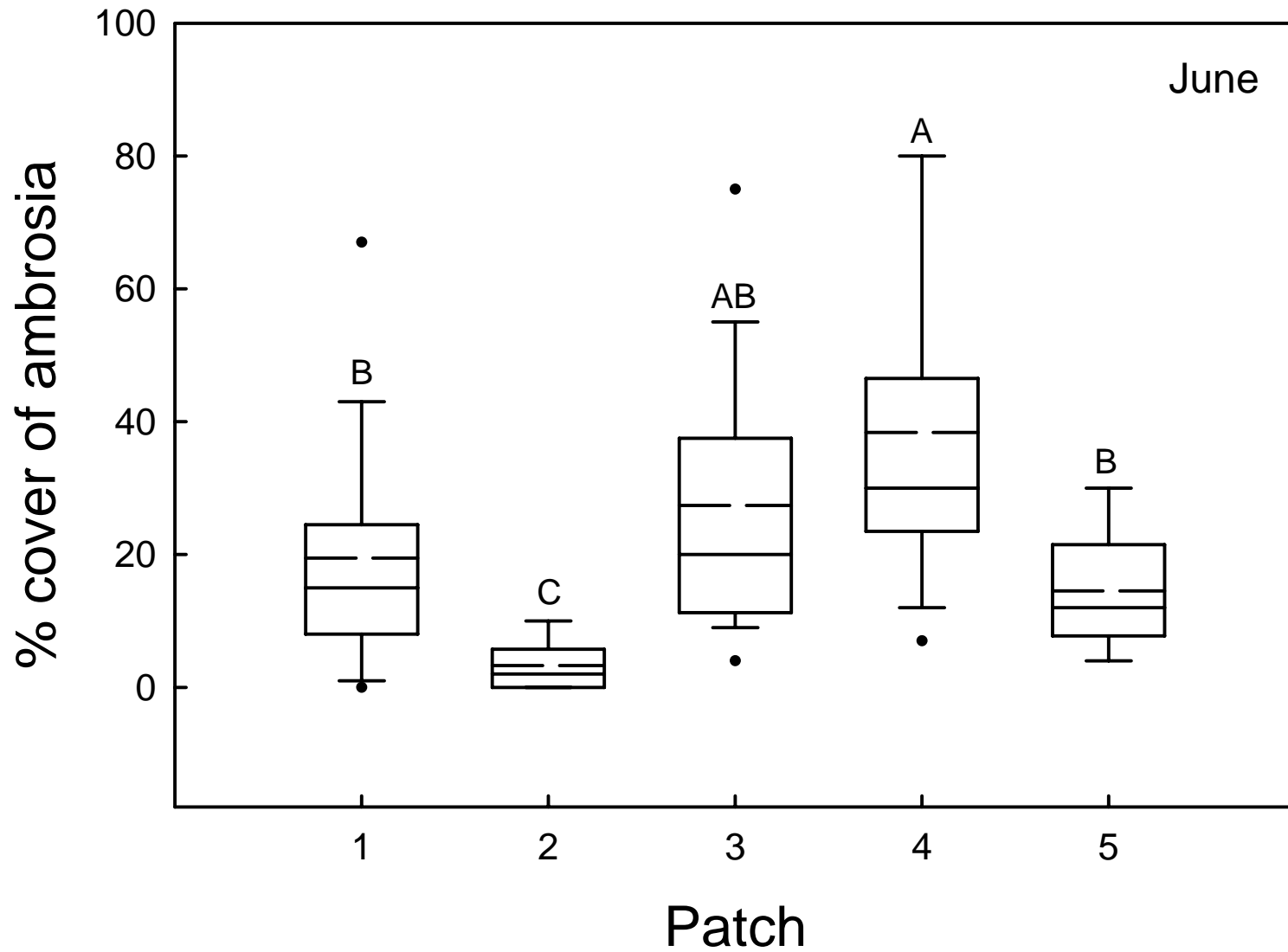


- 1st treatment: late March
- Measurements: late April
 - % cover of all species in 50 x 50 cm quadrat

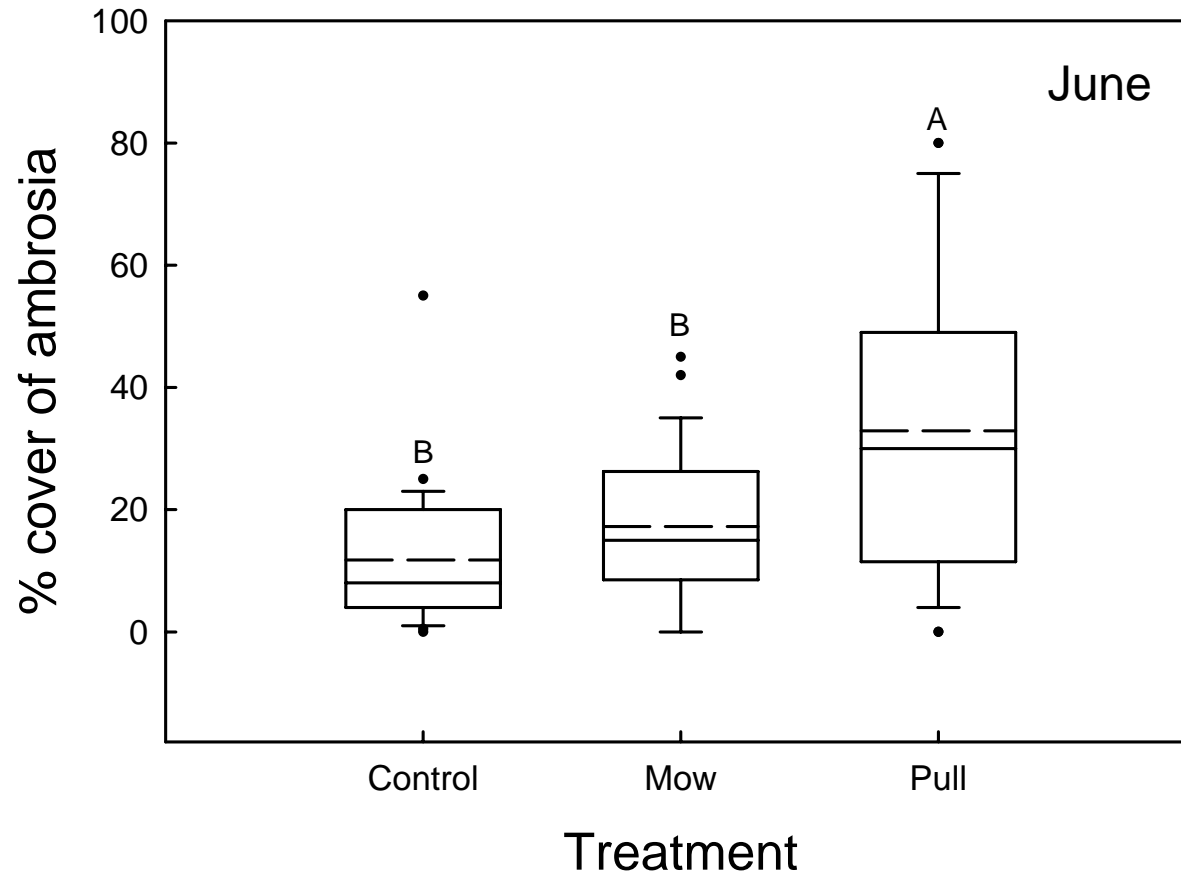


- 2nd treatment: early May
- Measurements: early June
 - %cover of all species
 - # of ambrosia stems
 - # of ambrosia flower stalks

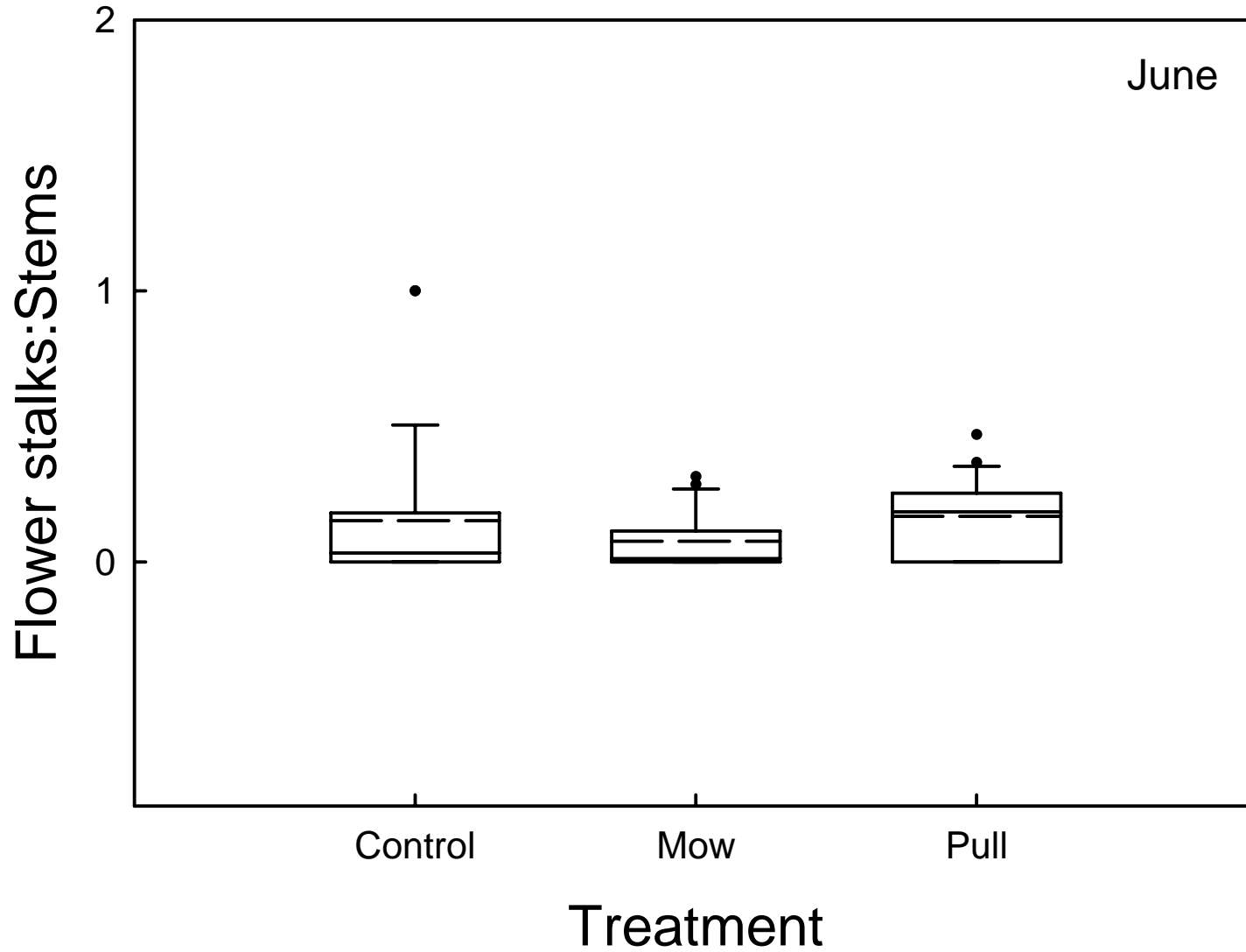
Results



Results



Results



Summary



- Does competition from non-native plants negatively affect San Diego ambrosia at Skunk Hollow?
 - Ambrosia had lower % cover and density when non-natives were present
 - Not able to determine if vigor of plants was affected
- Is mowing or hand-pulling better to reduce competition from non-natives?
 - Hand-pulling non-natives increased percent cover of ambrosia
 - In wetter years, mowing may have a greater effect

Management Implications



- Continue study for one more year
- Implement a larger-scale hand-pulling effort in 2007 in non-study areas
- Coordinate research & management efforts with managers in San Diego County

Questions?



Center for Natural Lands Management