



Marsh Bird Monitoring

at Guana Tolomato Matanzas NERR

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Marsh Bird Monitoring

- ▣ What are “Marsh Birds?”
- ▣ History
- ▣ Why do we monitor?
- ▣ What have we found?



Photo from USFWS

▣ What are Marsh Birds?

- Birds that are found only within marsh habitat
- Secretive, hard to see, hard to quantify
- Some migrate, others are resident



What...

▣ Primary species

- Clapper Rails
- Least Bitterns
- King Rails



Photo by Daniel Berganza

History

- Concept started in 1998
- Surveys began on National Wildlife Refuge lands
- Participants all over U.S.
- Goal to monitor marsh bird trends



Photo by Donna Bear-Hull

How...

▣ Call-broadcast method

▣ Quantify birds heard

- Estimate distance

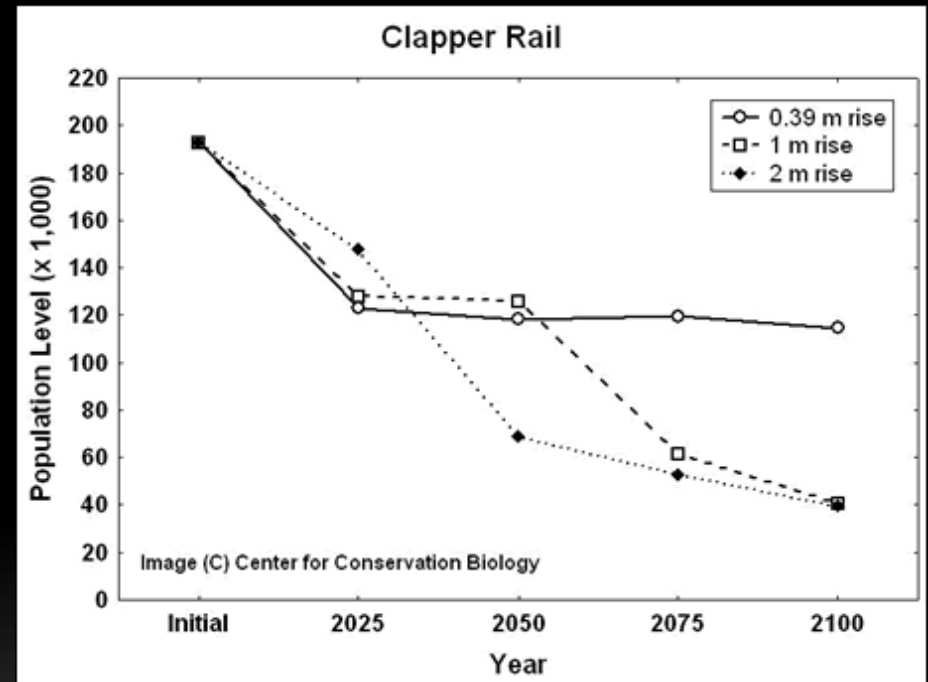
▣ Statistical engine
"DISTANCE"

| Species | Standardized Call Name | Sibley name | BNA name | Possible function |
|---------|---|----------------------------|---|--|
| AMBI | pump-er-lunk | bloon-adoonk | pump-er lunk and dunk-a-doo | mate attraction, territorial signal |
| AMBI | chu-peep | chu-peep | chu-peep | during copulation ceremony when flushed |
| AMBI | kok | kok-kok-kok | kok-kok-kok or haink | |
| CLRA | clatter  | clapper | Clapper or Clatter; chock-chock ; caccac-cac or jupe-jupe-jupe | mate communication |
| CLRA | kek | ket | kek-kek-kek, kik-kik-kik, bup-bup-bup | mate attraction |
| CLRA | kek-burr | ket-ket-karr | kek-burr | |
| CLRA | kek-hurrah | grunting | kek-hurrah | |
| CLRA | hoo | | Hoo; oom-oom-oom | |
| CLRA | squawk | | Screech or Shriek; Chase Squeal or kak | alarm call, territorial disputes |
| CLRA | prrr | | purrr; agitated purrrr; churr | |
| COMO | cackle | pep-pep-pehr-peehr | | cackle – ka-ka-ka-ka-ka-kee-kree-kree kree |
| COMO | keek | kulp, keek | squawk, yelp, cluck | |
| COMO | kr-r-ruk | | | |
| LEBI | coo | poopoopoo | coo or cooing ; tut-tut-tut | mate attraction |
| LEBI | kak | rick-rick-rick | gack-gack | mate communication, alarm call |
| LEBI | ert | kuk | tut-tut-tut; quoh, hah or cackle | alarm call |
| LEBI | ank-ank | 0 | ank-ank | when flushed |
| PBGR | donkey bray | ge ge gadum gadum gwaaaaow | series of wut, whut or kuk notes followed by 4-20 kaow or cow notes | courtship, communication btw pair, territorial |
| PBGR | chatter | chatter | ek-ek-ek, hn-hn-hn | greeting call |
| SORA | whinny | whinny | decending whinny | territorial defense, mate communication |
| SORA | per-weep | kooEE | per-weep; ker-wee; ter-ee | mate attraction? |
| SORA | kee | keek | kee or weep | alarm call |

Why...

▣ Why do we monitor?

- Rallidae is in decline
- Environmental indicator
- At risk habitat



Why...

- Fulfills management plan objective
- Biotic component of NERR System Wide Monitoring Program



Guana Tolomato Matanzas National Estuarine Research Reserve

Management Plan • May 2009 - April 2014



Florida Department of Environmental Protection
Coastal and Aquatic Managed Areas
3900 Commonwealth Blvd., MS #235, Tallahassee, FL 32399
www.FloridaCoasts.org

Why...

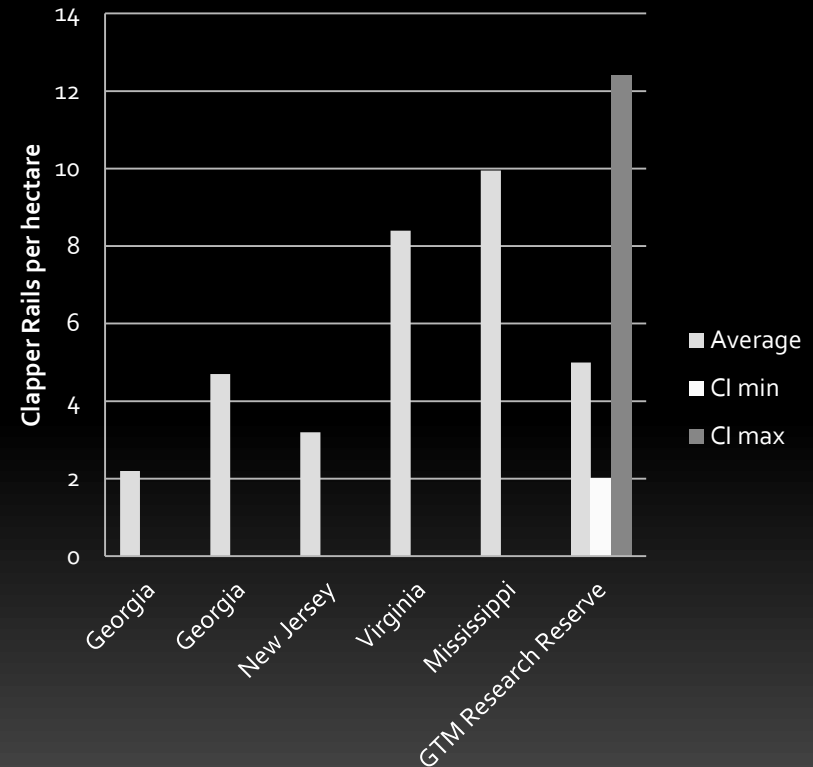
- One of the primary habitat types within GTM



Clapper Rail Results

- Three years of collection data
- Highest density breeder in tidal marshes at GTM
- 5.0 birds per hectare

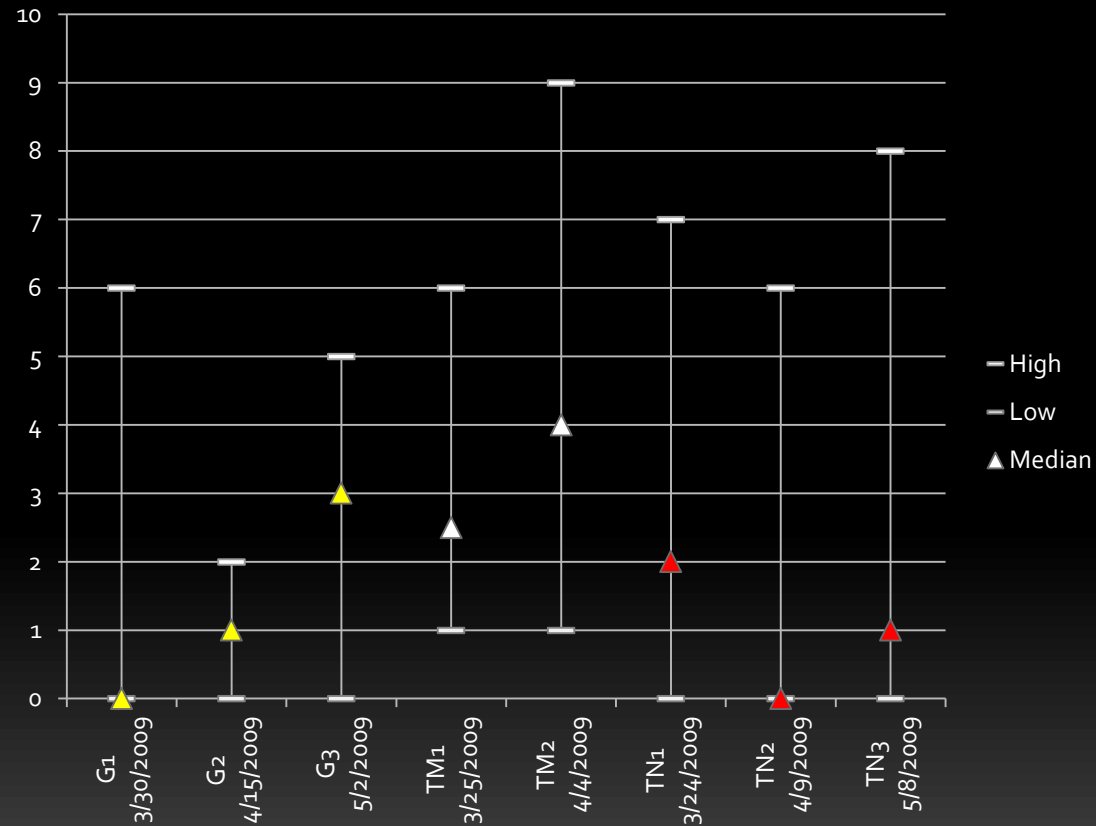
Clapper Rail Population Densities



Clapper Rail Results

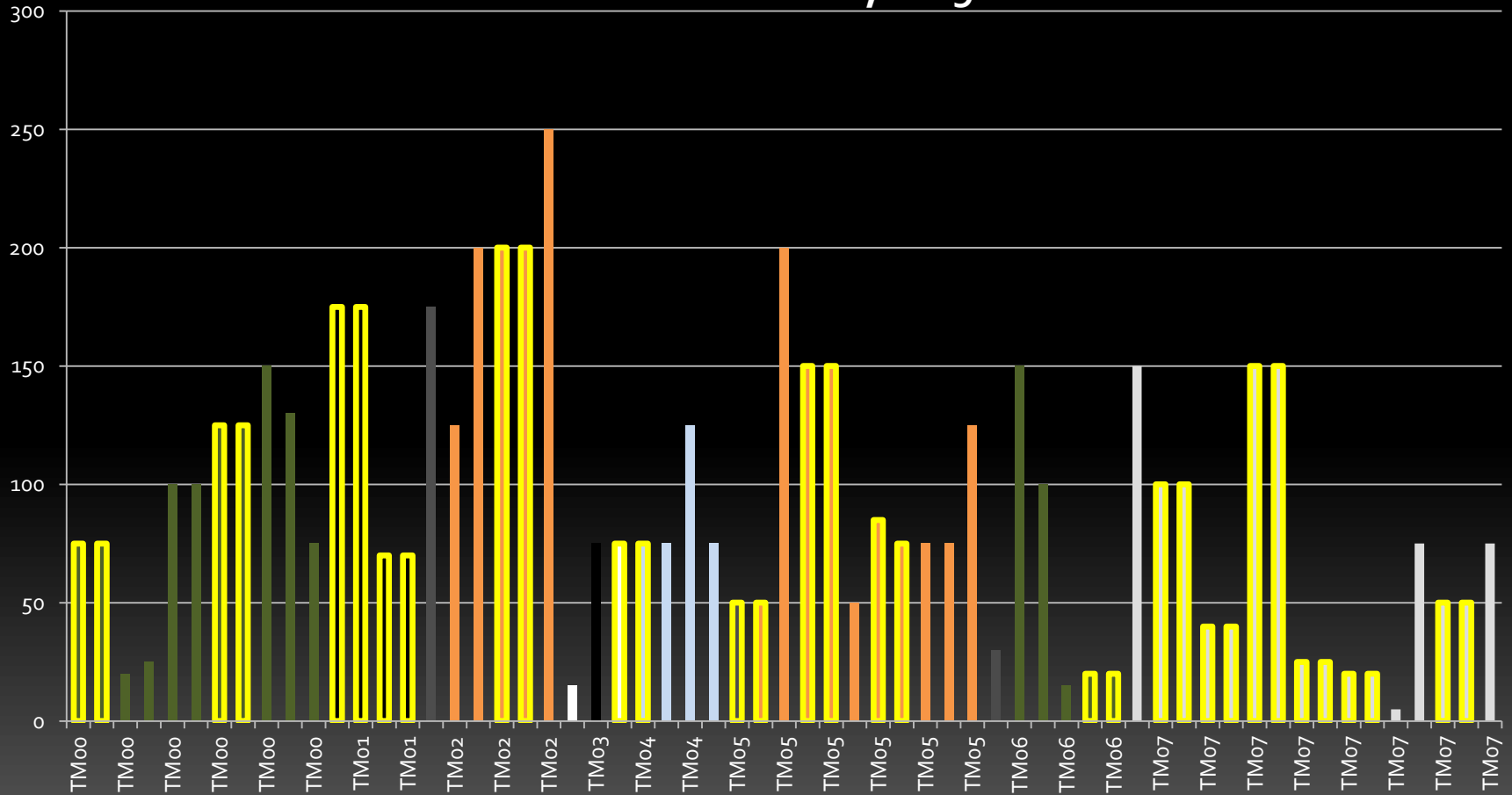
- Variation by site
- Variation by time

Counts per Survey, ordered by Route



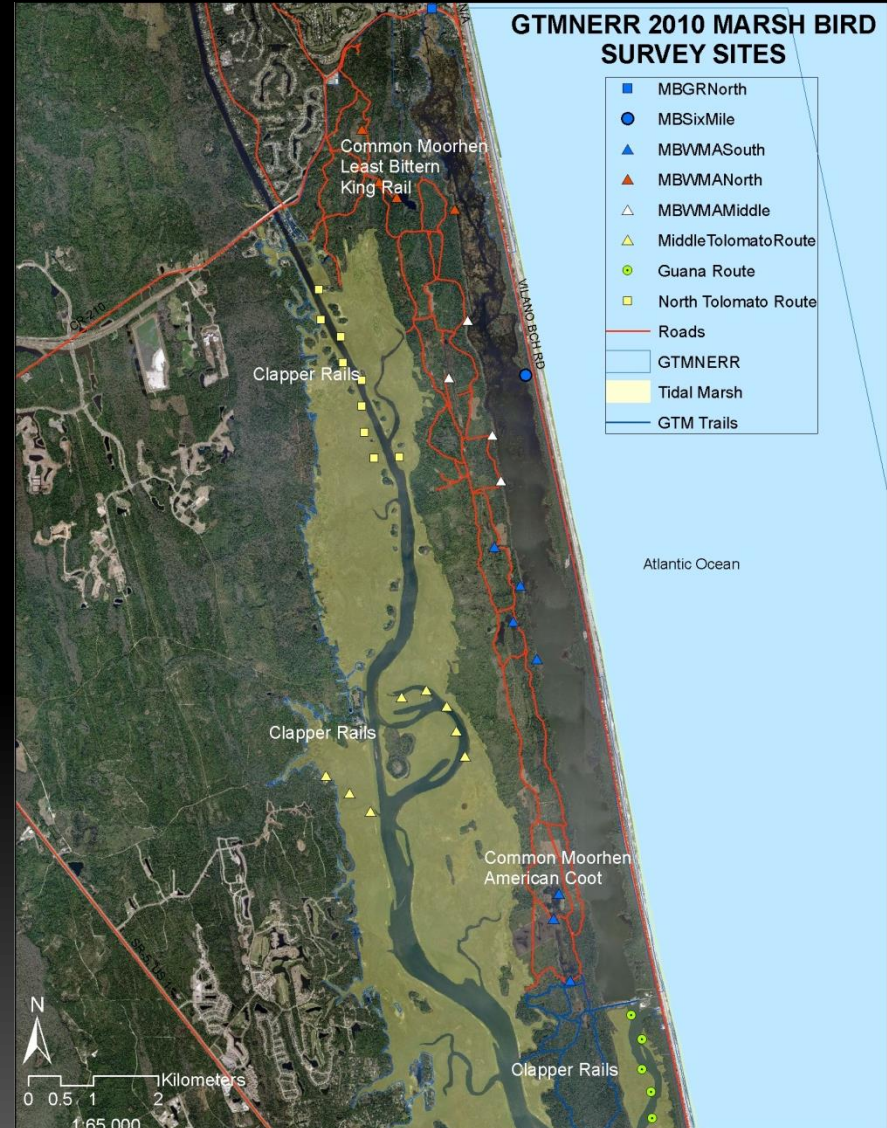
Clapper Rail Results

Distances of Clapper Rail Detections,
Tolomato Middle, 2009



Other Results

- Additional surveys needed
- Least Bitterns are water-level dependent
- King Rails are low-density



Future

- Long-term monitoring
 - ▣ 10+ years
- Habitat assessment
 - ▣ Emergent Marsh Mapping



Acknowledgements

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- ▣ Patuxent Wildlife Research Center



- ▣ Questions?
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