Spawning Aggregations and Migration Patterns of Mutton Snapper

Dry Tortugas Florida

M. Feeley, A. Acosta, T. Switzer, J. Hunt, P. Barbera, D. Morley, M. Burton & M. Patterson

Photo credit: C. Parsons
Marine Protected Areas

- Biodiversity
- Ecosystem function
- Fisheries

Connectivity/Reserves

Preserving Reef Connectivity
A Handbook for Marine Protected Area Managers

wwwgefcoralorg
Key West 
Dry Tortugas

Aggregation sites
Snapper species

(Lindeman et al., 1999; Schmidt et al., 1999)
Florida Keys National Marine Sanctuary
Dry Tortugas National Park
Riley’s Hump
TSER
TNER
DRTO
RNA
Acoustic Tagging

Mutton snapper (54)
TSER (28) DRTO/RNA (26)
\( \bar{T}_L = 62.8 \text{ cm} \)
15 tracking

Photo credit: C. Parsons
Dry Tortugas

- Tortugas Bank
- Riley’s Hump
- Loggerhead Key
- Garden Key
- Pulaski Shoal

Tagging sites:

Distance:
- 45 kms
- 30 kms
- 50 kms
TL 64.5 cm (2177)
5/30/08 tagged
Migration
Depart: 7/5/09
5:06:35 to travel reef
26:00:21 to migrate to RH

7 days at RH

Return: 7/13/09
7:28:17 to travel reef
27:00:28 to migrate from RH

Sustained swimming
~ 1.15 km/hr (0.63 BL/sec)

64.5 TL home (2177)
Credit: USF; Burton et al.
Riley’s Hump
Mutton snapper
Aggregations
Fish Spawning Aggregations (FSAs)

Credit: C. Parsons
Conclusions

- Marine reserve network
  - TSER established 2001
  - RNA established 2007

- Species capacity to rebound
  - Burton et al. 2005
  - Spawning documented 2009
  - Population indices?

- Connectivity patterns: better understanding.
  - Population w/in DRTO/RNA & FSA site w/in TSER
Thanks!

FWC/FIM
National Park Service
USGS
NOAA Fisheries - Beaufort, NC
NOAA Fisheries – Miami, FL
Mote Marine Laboratory
M/V SPREE
M/V Ft. Jefferson
Future Work

- Acoustic tagging TSER funded in 2010.
- Expand efforts on black grouper.
- Continue tracking through 2011.
- Other RH FSA sites....Yellowtail? Gray? Cubera? Dog? Deeper habitat?
- Migratory ability of reef fish?