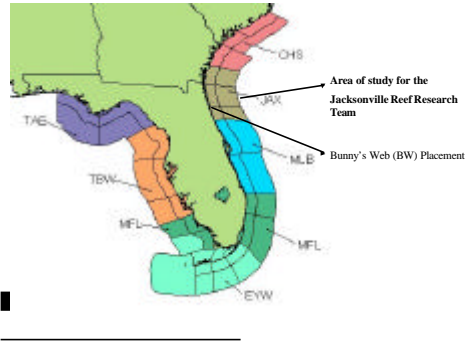


Jacksonville Reef Research Team

Part 1 - 2001 Monitoring Grant Efforts on the Bunny's Web Placement Offshore, Jacksonville, Florida

Part 2 - Challenges facing a volunteer Dive Team in supporting "quality" grant work

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Part 1 - Jacksonville Reef Research Team 2001 "BW" Monitoring Grant Update

- Background on Bunny's Web (BW) Placements:
- 14.7 NM from Mayport Jetties
- 5.6 NM off the beach, directly East of Ponte Vedra Beach, FL
- 50 - 55 feet of depth (at low tide)
- Hard sand/shell bottom with little variation
- 3 primary placements
 - 1992 Concrete rubble
 - 1998 Concrete rubble
 - June 2000 placement of 500 Reef Balls
 - 1998 concrete sailboat drop (no longer present, appears to be destroyed)
- All placements within 1/4 mile of each other

Jacksonville Reef Research Team 2001 "BW" Monitoring Grant Update

Background on Reef Balls:

- Funded by a Grant provided by the Kirbo Foundation
- Reef Balls constructed Winter/Spring 2000
- Placed June 2000
- Attempted to place in grid/cluster by crane (attempt could not be completed, 90% dropped randomly)
- Most Reef Balls randomly dropped and 10-20% broke on impact (Less than 5% is normal amount of breakage)
- Approximately 500 Reef Balls
- Reef Balls vary in size from 3 feet in diameter / 290 lbs. (Bay Balls), to 4 feet in diameter / 2,000 lbs. (Pallet Balls), up to 6 ft. in diameter / 3,800 lbs. (Ultra Balls)
- Balls not uniformly placed

Jacksonville Reef Research Team 2001 "BW" Monitoring Grant Update

Methods Used:

1. Radial strip mapping
 - Mapped all 3 sites
 - (6) 100-meter compass radials per site
 - documented each piece of material
 - documented max. depth and max. profile per compass radial
2. SOCA/Relative Abundance Fish Counting Method
 - Attempted at least 8 counts/monitoring event
 - At least 3 fish counting events per placement
 - Attempted to do multiple locations (placements) on same day/drive trips to better compare "similarity" indices

Jacksonville Reef Research Team 2001 "BW" Monitoring Grant Update

- Species Diversity increased at Reef Balls through survey period while consistent at other sites within same timeframe.
- Number of fish counted increased at Reef Balls and at other sites through survey period (from Spring through Summer 2001 . . . May through September 2001).
- "Similarity Index" increased through survey period.

**Jacksonville Reef Research Team
2001 “BW” Monitoring Grant Update**

Subjective Findings:

- Higher percentage of small fish juveniles on Reef Balls vs. other sites ... particularly Black Sea Bass and Atlantic Spadefish
- Few very large fish on Reef Balls ... but not in other sites: Goliath Grouper and Black Drum
- Multiple sightings of octopus on almost every event at Reef Balls... None spotted at other sites

Key Questions Raised by Findings:

- Did the type of reef (i.e., Reef Ball vs. concrete), the maturity of the reef (Reef Balls being more recent placements) and/or the “season” drive the following?
 - Species diversity
 - Species size and number of juveniles
 - Changes in the “similarity” indexes

**Jacksonville Reef Research Team
2001 “BW” Monitoring Grant Update**

Suggested Modification to Study Design:

- Add a size component to SOCA/Relative Abundance method
- Attempt to do more monitoring events at multiple locations at same time/day allowing for similarity index to be calculated with less variability due to time/water quality or condition factors.

Part 2 – Challenges facing a Volunteer Dive Team in supporting “quality” grant work

Top “S” Key Issues facing the Jacksonville Reef Research Team in supporting quality data collection and grant work

- Clear Team vision, leadership and direction
- Methodology fit to study objectives
- Team skills variability and methods variability
- Team membership base and project engagement with members
- Data input and reporting

Part 2 – Challenges facing a Volunteer Dive Team in supporting “quality” grant work

- **Clear Team vision, leadership and direction**
 - ✓ Strong desire to do something purposeful for the environment and the community ... And do it on a volunteer basis.
 - ✓ Unclear vision/purpose of what RRT should do.
 - ✓ No strong “connection” to academic/scientific community or state officials.
 - ✓ No clear common or shared “agenda” across all RRTs.
 - ✓ Lack any sponsorship from a central organizing group/function.
 - ✓ Direction often set only by the periodic projects we undertake.

Part 2 – Challenges facing a Volunteer Dive Team in supporting “quality” grant work

- **Methodology fit to study objectives**
 - ✓ Methods have been defined long ago with little update and/or enhancement.
 - ✓ Methods seem to drive study objectives.
 - ✓ Methods seem to limit data quality and/or quality of study.
 - ✓ Few examples of how data is used to better support or enhance methodology to meet project objectives.

Part 2 – Challenges facing a Volunteer Dive Team in supporting “quality” grant work

- **Team skills variability and methods variability**
 - ✓ Methods testing is only done at time of training module completion.
 - ✓ No continuing education around methods
 - ✓ No annual skills test around methods
 - ✓ Significant variability in fish identification quality (particularly on “uncommon” species).
 - ✓ Little “quality control” follow-up from data users.
 - ✓ Active research diver turnover is high except for a few core team members ... All members doing limited research dives each year (2-3 dives per year).

Part 2 – Challenges facing a Volunteer Dive Team in supporting “quality” grant work

- **Team membership base and project engagement with members**
- ✓ Team wants to know the goal(s) behind the work and the goals for the Team.
- ✓ Struggle to expand member base often due to the amount of training requirements for entry.
- ✓ Inability to engage members in regular diving activity . . . Often feel little connection to the study objective . . . Do not see the benefit for their efforts.
- ✓ Members looking for “connections” to leaders in Environmental Resource/Marine Science community.

Part 2 – Challenges facing a Volunteer Dive Team in supporting “quality” grant work

- **Data input, reporting and reduction**
- ✓ Very limited desire on part of RRT members to do the back-end (data reduction) support of the project.
- ✓ Little “quality control” after the log sheet is completed.
- ✓ Would like ability to “skip” this step by feeding log sheets directly to end users.

Part 2 – Challenges facing a Volunteer Dive Team in supporting “quality” grant work

How do we drive better RRT research so that we provide higher quality data and better support key research projects.

Top 3 Key Areas of Enhancement (The Recommendations):

- Stronger Connections to the Scientific/Academic/State communities.
- Methods Enhancement and guidelines on skills, usage/testing, and continuous education.
- Streamline the data reduction and delivery process.

Part 2 – Challenges facing a Volunteer Dive Team in supporting “quality” grant work

- **Stronger Connections to Scientific/Academic/State Officials/Groups**
- Tie in academic or State “sponsor” to each RRT that desires one.
- More formally include RRT leadership groups, on mailing/distribution lists that identify trends in industry, key findings and/or key events.
- Better leverage RRTs for data collection work against projects already underway by sponsors.
- Fund usage of RRTs as a “subset” of a larger project or initiative (i.e. pay per dive event).

Part 2 – Challenges facing a Volunteer Dive Team in supporting “quality” grant work

- **Methods Enhancement and guidelines on skills, usage/testing**
- Begin methods evaluation relative to key research project objectives.
- Designate and find a group to update and standardize a methods manual.
- Outline a “continuing education” process and/or annual testing/usage process on all methods (particularly Fish ID and Fish Counting).

Part 2 – Challenges facing a Volunteer Dive Team in supporting “quality” grant work

- **Streamline the data reduction and delivery process.**
- Develop data transmission process that allows for input directly from the log sheets to the end user database.
- Establish a Quality Control “check point” at the point where the data comes to the end user.
- Standardize data format for all studies of a similar nature.