

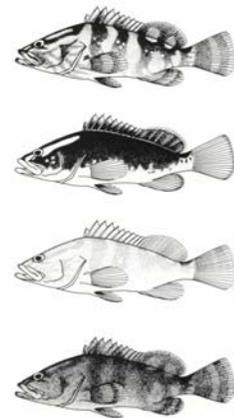
# Information Circular No 6: The Belize Spawning Aggregation Working Group

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Shown at right: Four color-phase changes of the Nassau Grouper, *Epinephelus striatus*.



### Update for the 2008 Nassau Grouper Spawning Season

We had reported in our July 2007 newsletter the alarmingly low numbers of aggregating Nassau groupers for the 2006 – 2007 season at most of the sites that we routinely monitor. The maximum counts for the 2007 – 2008 season are slightly higher for most sites, which is encouraging. The slight increases may be due to stronger enforcement at the spawning banks. For instance, at Northeast Pt., Glover's Reef, special patrols were made during the spawning season of January, February and March 2008, with rangers staying overnight at the site to deter any illegal fishing at night. Nevertheless, these numbers remain much lower than those recorded historically, and cannot be viewed yet as a sign of recovery.

#### Maximum Nassau Grouper Counts for 2003 – 2008

| Site                    | 2003  | 2004             | 2005  | 2006               | 2007             | 2008  |
|-------------------------|-------|------------------|-------|--------------------|------------------|-------|
| Rocky Point             | 0     | 200              | 200   | 0 <sup>1</sup>     | N/A              | 0     |
| Dog Flea Caye, Turneffe | 1,500 | 100 <sup>3</sup> | -     | 2 <sup>2</sup>     | N/A              | N/A   |
| Sandbore, Lighthouse    | 1,800 | 2,500            | 1,800 | 1,205 <sup>4</sup> | 1,495            | 1,250 |
| Caye Glory              | 1,000 | 1,000            | 350   | 7 <sup>5</sup>     | 69               | 405   |
| NE Pt., Glover's        | 2,400 | 1,700            | 2,240 | 3,000              | 800              | 1190  |
| Gladden Spit            | 250   | 450              | 360   | 239 <sup>6</sup>   | 255 <sup>6</sup> | 350   |
| Nicholas Caye           | 52    | ~50              | 80    | 48                 | 80               | 100   |

(<sup>1</sup> Only one dive; <sup>2</sup> Site only monitored in February; <sup>3</sup> Site only monitored in January; <sup>4</sup> Probably missed peak spawning due to bad weather; <sup>5</sup> Different dive team used and precise location in question; <sup>6</sup> One dive, after the last quarter moon)

### Award for Working Group Member

Mito Paz of Green Reef Environmental Institute and George Sedberry of Marine Resources Research Institute in South Carolina, US, received an award for their paper "Spawning Aggregations of Black Grouper in Belize". We had highlighted this paper in our July 2007 newsletter. It won the Best Paper Award at the South Carolina Chapter Meeting of the American Fisheries Society held last year. Congratulations Mito!



Mito Paz (Photo: Carol Foster)

## Management Recommendations of the Working Group

In October 2007, the Working Group formally presented its recommendations to the Fisheries Administrator for additional management measures to protect the Nassau grouper in Belize. These are to:

- Strengthen enforcement
- Reduce fishing effort by limiting access to traditional fishermen only
- Allow no spear fishing in marine reserves
- Introduce minimum (20") and maximum (30") size limits
- Land only whole fish; no filleting permitted at sea
- Introduce moratorium on the take of Nassau groupers, to be reviewed in 5 years
- Continue monitoring of spawning sites.

## Public Awareness Campaign

During its 2007 – 2008 Work Plan period, the Working Group focused its efforts on strengthening its public awareness campaign, specifically to promote its management recommendations for the Nassau grouper. A colourful Nassau grouper poster, in both English and Spanish, was developed and disseminated widely by Group members. A two-part series of articles on the Nassau grouper was published in the *Amandala* newspaper in March and April 2008. A PowerPoint presentation (also in English and Spanish) on the ecology, threats, status and management of the species was prepared, with copies distributed to members to use in their local consultations. The website (<http://collaborations/wcs.org/spag>) was launched earlier this year and includes information about the work of the Group, including copies of the awareness material it has published. Finally, in May 2008, the Group broadcasted its Nassau grouper documentary on public television. Members will also be arranging to show the film on local television networks in their communities. The DVD is also available with Spanish subtitles.

## Nassau grouper tagging project at Lighthouse Reef

The Nature Conservancy (TNC) in collaboration with the Belize Audubon Society (BAS) have been tagging Nassau Groupers at the Sandbore, Lighthouse Reef spawning site to determine sex-specific movement patterns around the atoll and patterns of movement around the spawning site during spawning periods. The receiver array that currently exists at Lighthouse Reef was installed by TNC and the Wildlife Conservation Society and should provide sufficient detail to enable informed management decisions for the species. A reward program for the return of tags and information is being implemented through BAS.

Since January 2006 a total of 58 Nassau groupers, 30 females and 24 males, have been fitted with normal, presence-only transmitters. Additionally, 2 males and 2 females were fitted with pressure-sensing transmitters. Fish were caught with the assistance of Mr. Ivan Young (Mr. Phillip) and Mr. Pete Young, lighthouse keepers at Sandbore Caye and traditional fishers of the Nassau grouper spawning aggregation. Increased collaboration with other acoustic studies will ensue to investigate long-range movements of spawning fish.



*Nassau Grouper after surgical implantation of Vemco V16<sup>®</sup> acoustic transmitter and spaghetti tag. (Photo: Andy Stockbridge)*

If you would like more information about the Nassau Grouper, the Belize Spawning Aggregation Working Group, or anything mentioned in this newsletter, please contact Jocelyn Finch, Chairperson, Spawning Aggregation Working Group at Friends of Nature, Tel: (501) 523-3377 Fax: (501) 523-3395 E-mail: [scmr.science@gmail.com](mailto:scmr.science@gmail.com).

