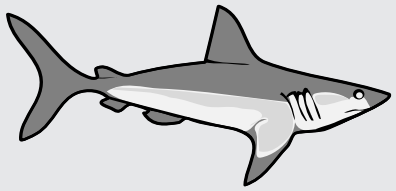
NATIONAL MARINE SANCTUARIES

Tortugas 2000

http://fpac.fsu.edu/tortugas



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Want To Know More?

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Upcoming Working Group Meeting

The next Tortugas 2000 Working Group meeting will take place February 4th and 5th at the Harvey Government Center, 1200 Truman Ave., Key West from 9:00am to 5:00pm each day. Subjects to be discussed will include a review of the scoping process, and criteria and objectives for the Ecological Reserve and the next steps in Tortugas 2000.

At this meeting we will welcome a new member to the Working Group. Capt. John Brownlee has agreed to serve on the working group as the recreational fishing representative. Capt. Brownlee fishes the Tortugas, lives in Islamorada, and is an editor for Saltwater Sportsman magazine. He is also a member of the Coastal Conservation Association of Florida. Welcome Capt. Brownlee!

Recruitment Characterization for the Tortugas Region: A Summary of a Paper by Dr. Tom Lee, University of Miami-RSMAS

In the waters of the Florida Keys, a combination of different ocean currents serve to form a recirculating retention zone for free swimming larvae spawned in the coastal waters of the Florida Keys as well as for foreign larvae transported from remote sources. Having been retained in this zone, these larvae are more likely to settle in the Keys, thereby supporting local adult populations. There are three primary processes (as well as a fourth which will not be discussed here) which drive this system. First is the Florida or Loop Current which forms the rapidly moving offshore leg of this recruitment conveyor belt. Through this current, larvae can be transported great distances from remote upstream spawning areas in the eastern Gulf of Mexico and Caribbean Sea to the Florida Keys and other downstream regions. This current can be of particular importance to slow swimming species with long open water larval stages such as the Florida spiny lobster which can stay in the plankton for 6 to 12 months.

Such slow swimming larvae, which also include many local fish species, tend to be concentrated where ocean currents converge. When these convergence zones move closer to shore, high concentrations of larvae can be transported closer to the coastal zone where they settle. In the past, increased abundances of lobster and conch larvae have been observed near the outer reefs at times when convergence zones associated with the Florida Current have moved nearshore.

Another process which helps to drive the recruitment conveyor belt in the Keys is the Tortugas Gyre. The counterclockwise swirling nature of this current and its evolution into smaller eddies (swirling currents) in the lower Keys provides a way for newly settled larvae to be captured and retained in the gyre for up to several months before escaping in shoreward movements of the current. The local pink shrimp is one species which has been shown to take advantage of this particular pathway. High concentrations of young spiny lobster have also been found in these eddies near their intersection with the Florida Current. This shows that the Tortugas Gyre is effective in retaining both locally spawned and foreign lobster in the Keys' waters.

The third leg which completes the loop of the recruitment conveyor belt is the westward flowing nearshore countercurrent. This current flows opposite from the eastward flowing Florida/Loop Current. This provides the primary return leg of the conveyor and can extend from the middle Keys to the Dry Tortugas. Because of the variable nature and mix of processes associated with the recruitment conveyor, larvae are provided with many opportunities for recruitment into the Tortugas and the Florida Keys on time scales ranging from days to months.

Where We Go From Here: The Next Steps in the Tortugas 2000 Process

The next Working Group meeting will address drafting the reserve boundaries. This meeting is tentatively scheduled to take place in April.

Summary of Issues Raised in Written Comments from the Public Scoping Process for the Tortugas Ecological Reserve

Issues mentioned in support of reserve	Issue raised in the following # of comments
Should be a no-take area	69
Include a portion of the Dry Tortugas National Park	65
Reserve should be large	60
Protect a range of habitats	55
Support protection (single statement)	46
Enhance/protect fisheries	36
Protect biodiversity	24
Protect ecosystem structure/integrity	22
Protect all life stages	16
Important reference/baseline value	15
Provide for monitoring and research	14
Provide for future uses	10
K.I.S.S. (keep regulations simple/consistent to avoid confusion)	10
Provide for adequate enforcement	9
Protect spawning stock/population age structure	7
Maintain wilderness	7
Replenishment of fisheries	6
Protect source of larvae	5
Protect seabirds	5
Provide for adequate education	5

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Include Sherwood Forest	5
Should require reservations to enter area	4
No-entry at all	4
Include Riley's Hump	2
Allow sportfishing/catch and release	2
Protect genetic information	1
No-anchor at Sherwood Forest	1
Provide financial assistance	1
Allow snorkel/diving	1
Rotate reserves	1
Protect 50% of study area	1
Issues mentioned in opposition to reserve	
Don't restrict recreational fishers	8
Don't restrict access to public resource	4
Don't support reserve (single statement)	4
Already have a reserve (Dry Tortugas National Park)	3
PERSONAL WATERCRAFT (neither opposed nor support)	
Don't restrict them	2
DEMOGRAPHICS	
Florida (outside of Monroe)	50%
Monroe County	28%
Out-of-state	22%

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