



## Future Management of Mosquito Lagoon

### 1997 NWRSA

In 1997, Congress passed the National Wildlife Refuge System Improvement Act that outlined the wildlife first focus of refuges and that required the completion of Comprehensive Conservation Plans (CCPs) for all units of the Refuge System.

### Refuge Purposes

The primary purpose of the Refuge is "...for use as an inviolate sanctuary, or for any other management purpose, for migratory birds" 16 USC §715d (Migratory Bird Conservation Act). Refuge purposes cover migratory birds (e.g., waterfowl, shorebirds, and neotropical migrants), threatened and endangered species, and native wildlife and habitat diversity.

### Public Use Activities on MINWR

Under the 1997 NWRSA, Congress outlined six priority public uses for refuges: **hunting, fishing, participating in environmental education and interpretation, and observing and photographing wildlife**. The Refuge is committed to continuing to provide high quality, compatible opportunities for all of these priority public uses, including hunting and fishing in Mosquito Lagoon. As part of our CCP, the Refuge is required to examine all public use activities that occur and insure they are compatible with the Refuge's purposes. Our preliminary review indicates that most public use activities are compatible or may require only minor changes. However, in Mosquito Lagoon use has expanded rapidly and we are considering implementing changes to minimize wildlife and habitat impacts and improve fishing behavior.

### Overriding Intent

Our overriding intent regarding future management of Mosquito Lagoon is based on public scoping, internal and intergovernmental scoping, and the Wildlife and Habitat Management Review and involves:

- increasing the quality of the Mosquito Lagoon experience for priority public use activities such as fishing;
- decreasing negative behaviors of users such as
  - running the flats,
  - humping/bumping redfish,
  - scarring the seagrass beds with propellers, and
  - dredging the bottom;
- decreasing negative impacts to and disturbance of wildlife and habitats, including addressing
  - decreased waterfowl usage and
  - wildlife behavioral changes (e.g., lesser scaup have shifted to feeding at night);
- restoring rookery island nesting to historic levels;
- protecting seagrass beds and Essential Fish Habitat; and
- minimizing the cumulative impacts on Mosquito Lagoon.

### Components of Any Management Approach

Any management approach developed for Mosquito Lagoon will need to include:

- buy in and self regulation by users,
- increased ethical behavior,
- education/outreach,
- low sign density,
- adaptive management (to respond to changing conditions and information), and
- research and monitoring.



## Mosquito Lagoon Tidbits

- The Refuge's portion of Mosquito Lagoon is roughly 21,000 acres, with about half in shallow water flats with water depths of less than 3 feet.
- Prop scarring has been documented in specified locations and Refuge staff perceives the problem to be extensive in Mosquito Lagoon.
- The Lagoon is billed as the Redfish Capital of the world with numerous line test world records.
- The types of fishing have changed dramatically. New technology and equipment (e.g., flats boats, GPS, fish finders, and aerial photographs) are allowing fisherman to fish shallower portions of the Lagoon. We are not sure what impacts this is having on fish stocks or wildlife.
- Currently, about 50 fishing guides are under permit, and this number has been as high as 79.
- Over the last 10 years fishing has been the fastest growing public use category and has nearly tripled from 1990-2000.
- Over 2 million people live in the two resident and two adjacent counties (i.e., Brevard, Volusia, Orange, and Seminole) of the Refuge. According to long-term forecasts, these four counties are anticipated to reach 2.9 million by 2015.
- The entire Refuge currently hosts over 650,000 annual visitors. This visitation is anticipated to increase, including use in Mosquito Lagoon.
- Bird use of rookeries has declined. We have observed people on and around these islands.
- In the last 25 years we have seen a decline in diving ducks (e.g., scaup, mergansers, redheads, and canvasbacks) using the Lagoon. We are not sure if this decline is related to an increase in public use or to a wider continental decline.
- We do know there has been an increase in nocturnal feeding behavior in lesser scaup. We do not know if this is related to day time boating activity or other factors.
- Studies have established that boating disturbance can negatively impact waterfowl and other water birds.
- Water quality data indicate an elevated level of petroleum hydrocarbon and copper anti-fowling elements, but we can not determine if this higher level of contamination is the result of increased fishing or higher levels of traffic in the Intracoastal Waterway.
- We do know that key fish spawning and settlement sites are located within the Refuge's portion of the Lagoon. We do not know if these sites are impacted by public use activities.
- We do know that the Lagoon serves as a juvenile sea turtle nursery. We do not know if public use activities impact this.
- The Lagoon provides key habitat for a variety of species and has prime seagrass beds, which are similar to those dating back to the 1943 benchmark.