 Notes from Nancy Anderson for April 22, 2016 meeting

REDUCING BOAT SPEED

Reply to comments regarding studies supporting slow speed:

Comment: "*The committee has been inundated by Committee Members with studies supporting slow speed…"These studies do not take into account different types of vessels at these different speeds, and fail to take into account the fact that a vessel fully settled in the water has a much greater risk of a collision with a manatee, regardless of how fast it is moving."*

The review that was **provided to the committee on April 8th,** *Slower boat speeds reduce risks to manatees* Calleson & Frohlich, addresses these arguments:

- Sizes of boats that injure and kill manatees, p. 300
- Increased draft of boats operating at slow speeds, p. 302: *"The argument is essentially that requiring boats to be operated at or below Slow Speed (which requires planing-hull boats to be operated off-plane and completely settled in the water) increases the risk of collisions because manatees have to be deeper in the water to avoid the boat.*
- *Although the underlying premise of this argument is true for planing-hull boats (i.e. the draft of a planing-hull boat is less when it is operated on-plane), the difference in draft does not necessarily reduce the risk of collision. Any potential reductions in certain aspects of risks are also countered by the* ***reduced reaction times*** *and* ***increased impact energy*** *that come with higher speeds.*
- Authors conclusion: *"Slower speeds unquestionably provide boat operators with more time to see manatees and take avoidance actions, and blunt force injuries that do occur will be less severe, and likely less lethal, when boats are traveling at slower speeds."* They also mention that with slower boat speeds there is "greater reaction time for the manatee".
- April 8, 2016

FWCC website: The faster a boat goes, the more force is applied to a "strike". For instance, the force of a strike at 30 mph is four times that of a strike at 15 mph, all other things being equal.

ROOKERY BAY WATERSHED ENGINEERING PROJECT:

Final report & map (Provided to LRRC & on website)

Benthic habitat maps. Preliminary data until they can do an accuracy assessment. The consultants did ground truth, (collecting data on location) around 150 locations where they got in the water and snorkeled. About 85%

Seagrass Beds: Important to manatees, important to our commercial and sport fish species, among other marine animals

- Assessment challenges
- Terminology: Patchy seagrass (more than 25% un-vegetated bottom visible) vs. Continuous seagrass (less than 25% un-vegetated bottom visible)
- Algae

Area of Study: C 4-10, S1-5, T1 and Ten Thousand Islands

LRRC Maps Figure 66, 67, pages 14,15 (LRRC Notebook & on website)

Manatees/ generalist feeders / algae

FIGURE BY RACHEL HENRIQUES AND U. S. GEOLOGICAL SURVEY.

Detailed movements between feeding areas and freshwater sites for two manatees in TTI. (Provided to LRRC & on website)

HYDROLOGY / Southern Golden Gate Estates / Picayune Strand Restoration Project

Journal of Wildlife Management 75(2):399–412; 2011 New Aerial Survey and Hierarchical Model to Estimate Manatee Abundance (Provided to LRRC & on website)

p. 400

1. "The manatee population is likely to be affected by hydrologic resources in response to changes in water temperature, salinity, and tide.

2. Because manatees are primary consumers of submerged aquatic vegetation, hydrologic changes that affect seagrass quality, abundance, and distribution also may induce changes in manatee distributions, fecundity, and population growth rates.

p. 401

3. Manatee aerial surveys flown in the early 1990s and again in the 2000s documented that manatees in the region frequented the inland tidal creeks, inshore bays, inter-island waterways and near-shore seagrass beds. A telemetry study further documented individual manatees making regular distant movements from the near-shore seagrass beds to inland tidal creeks to drink freshwater and in winter to find thermal refuge in deep water basins and canals.

4. Picayune Strand Restoration Project - designed to restore the hydrology altered by the Southern Golden Gate Estates project north of Port of the Islands. (See RBRR boundaries maps - need to provide to LRRC)

After construction of drainage canals for the Southern Golden Gates housing project, water was diverted from western bays which became hyper saline in the dry season, while Faka Union Bay received unnaturally high pulses of fresh water. The restoration project/ fill or plug canals, divert water toward the western bays with the objective to restore the historic quantity and duration of sheet flow through Picayune Strand State Forest and to the coastal estuaries.