

External Watercraft-related Wound Types in the Florida Manatee (*Trichechus manatus latirostris*)



Brandon Bassett

Florida Fish and Wildlife Conservation Commission

Fish and Wildlife Research Institute

Marine Mammal Pathobiology Laboratory



Merriam-Webster Definition

Wound - an injury to the body (as from violence, accident, or surgery) that typically involves laceration or breaking of a membrane (such as the skin) and usually damage to underlying tissues

Trauma - an injury (such as a wound) to living tissue caused by an extrinsic agent



FWC Watercraft Mortality Categories

***Impact** - fatal trauma caused by the impact of a propeller, hull, skeg, rudder, other projection from the hull

***Propeller** - fatal trauma caused by the cutting action of the propeller (i.e. penetrating body cavity, bones, or organ systems, etc) or infection resulting from the wound

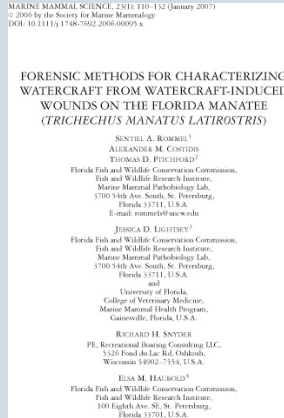
***Impact and Propeller** - fatal trauma resulting from a combination of the previous two categories

***Sharp** - most often a single penetrating linear wound, with fatal acute or chronic trauma caused by cutting action



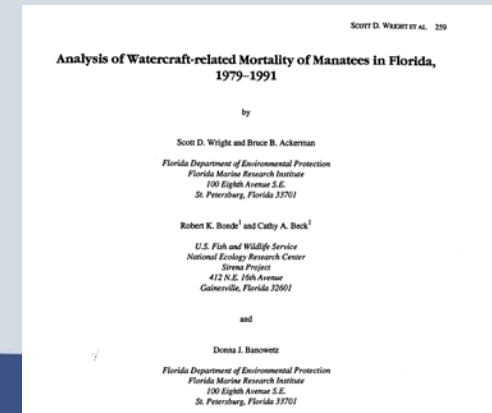
Watercraft-related Wounds

Rommel *et al.* 2007. Forensic Methods for Characterizing Watercraft From Watercraft-Induced Wounds on the Florida Manatee (*Trichechus manatus latirostris*)

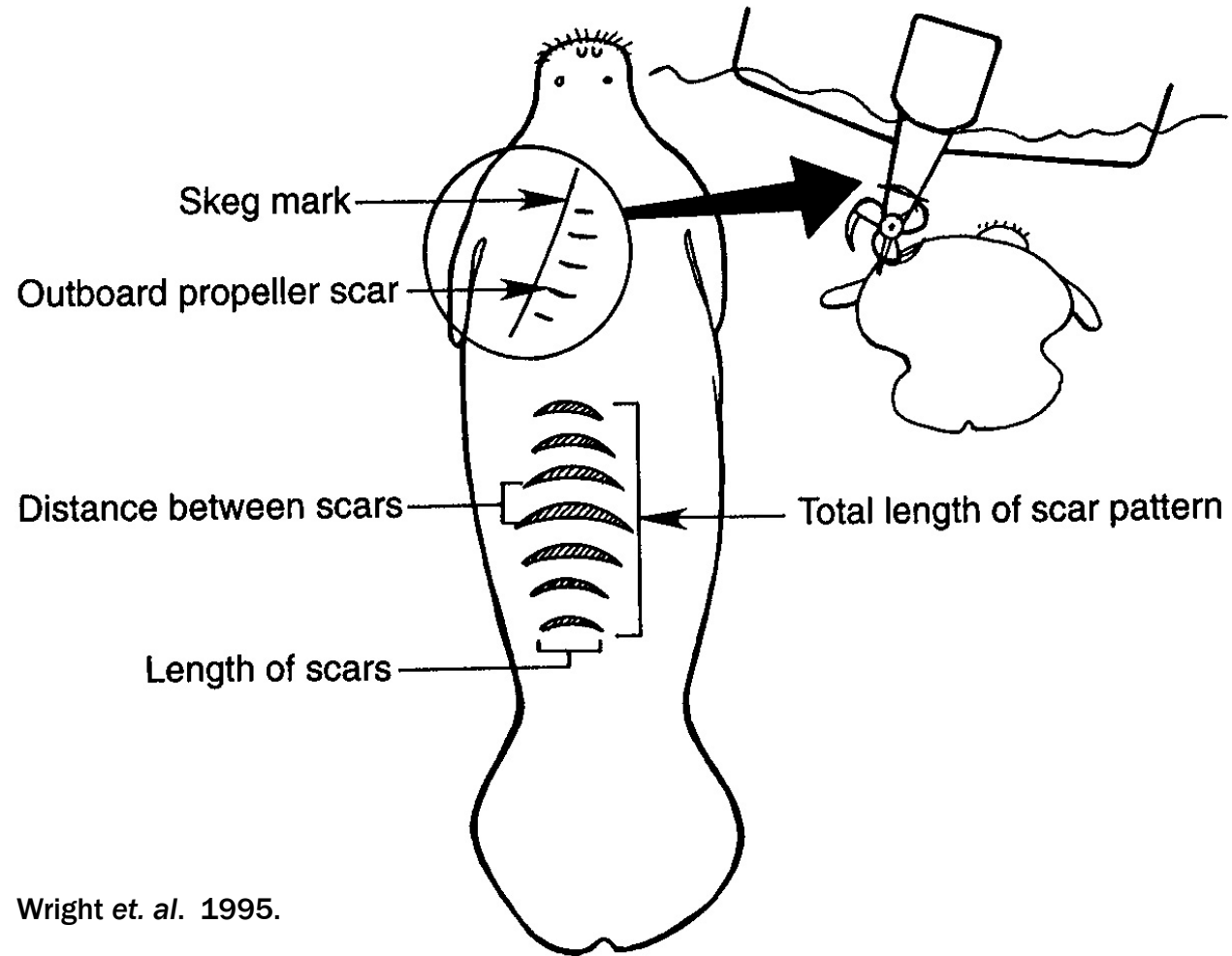


Lightsey *et al.* 2006. Methods Used During Gross Necropsy to Determine Watercraft-Related Mortality in the Florida Manatee (*Trichechus manatus latirostris*)

Wright *et al.* 1995. Analysis of Watercraft-related Mortality of Manatees in Florida, 1979-1991.



Watercraft-related Wounds



Wright et. al. 1995.





Watercraft Mortalities, 2000-2009

All carcasses with acute watercraft trauma from 2000-2009 were examined.

Total of 387 carcasses were included

Placed wound patterns into 8 categories based on external appearance



1. Parallel Wounds



1. Parallel Wounds



1. Parallel Wounds



1. Parallel Wounds



1. Parallel Wounds



2. Single Linear Wounds



2. Single Linear Wounds



2. Single Linear Wounds



2. Single Linear Wounds



2. Single Linear Wounds



3. Parallel Wounds with Perpendicular Wound



3. Parallel Wounds with Perpendicular Wound



3. Parallel Wounds with Perpendicular Wound



3. Parallel Wounds with Perpendicular Wound



3. Parallel Wounds with Perpendicular Wound



3. Parallel Wounds with Perpendicular Wound



3. Parallel Wounds with Perpendicular Wound



3. Parallel Wounds with Perpendicular Wound



4. Two Linear Wounds Perpendicular to Each Other



5. Multiple Apparent Wounds



5. Multiple Apparent Wounds



5. Multiple Apparent Wounds



5. Multiple Apparent Wounds



5. Multiple Apparent Wounds



5. Multiple Apparent Wounds



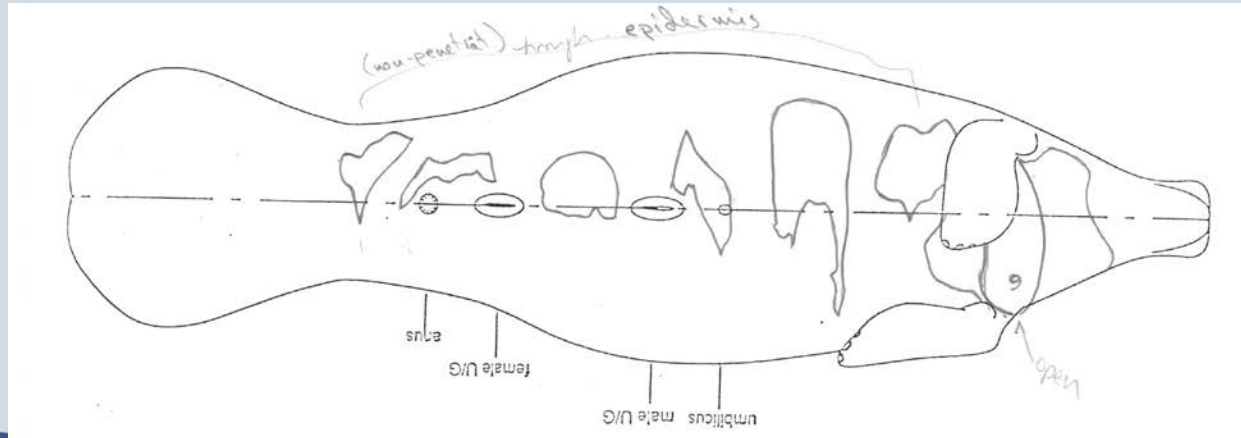
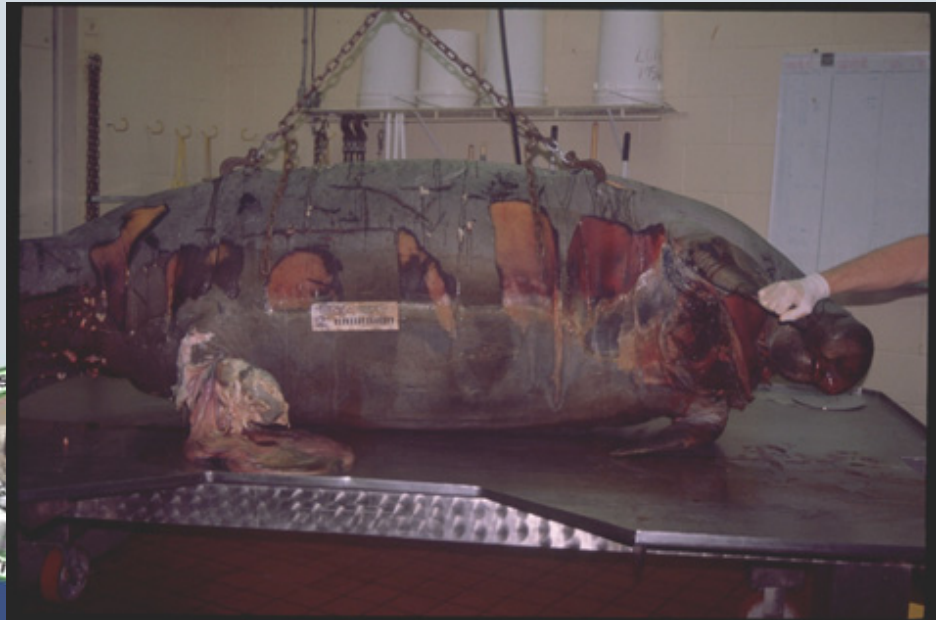
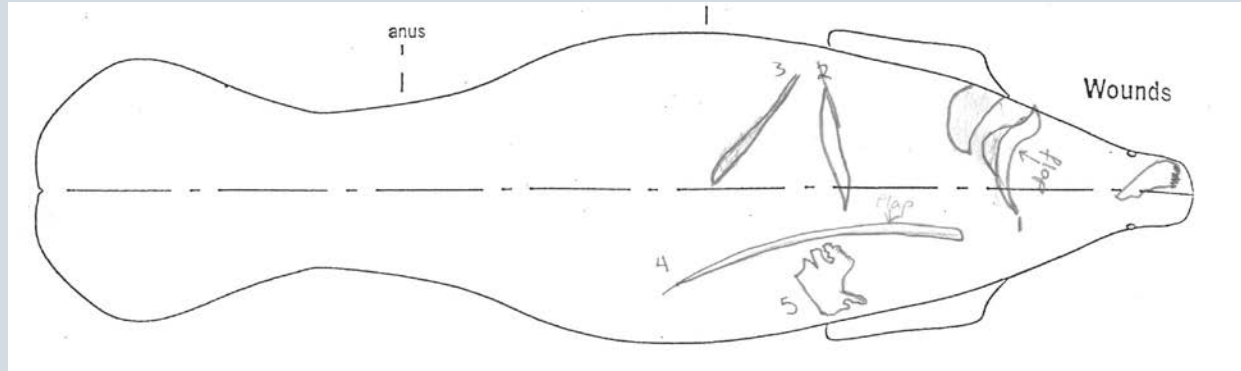
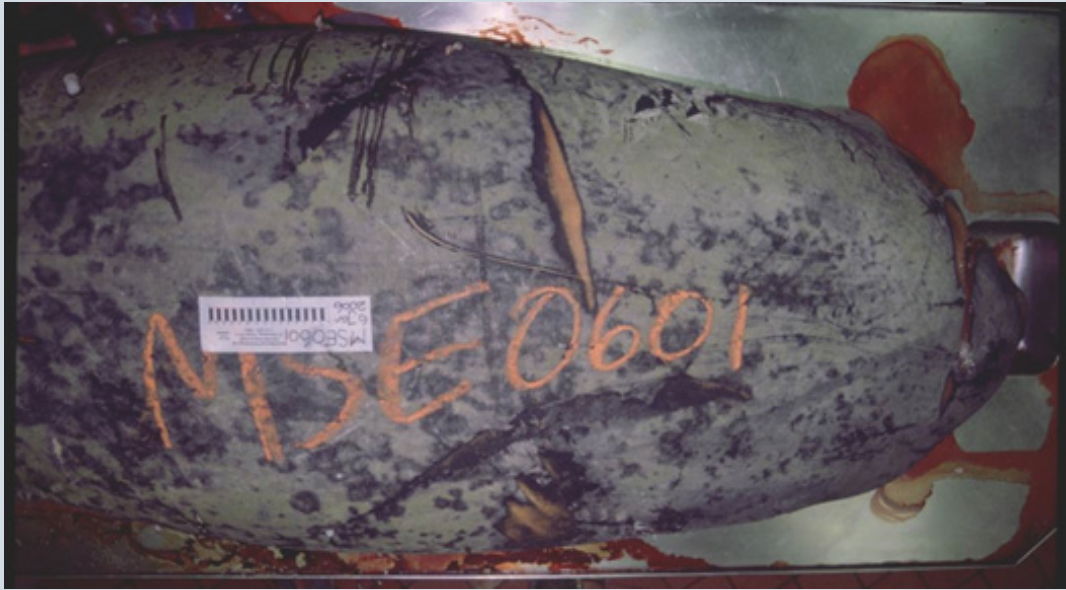
6. Irregular Wounds



6. Irregular Wounds



6. Irregular Wounds



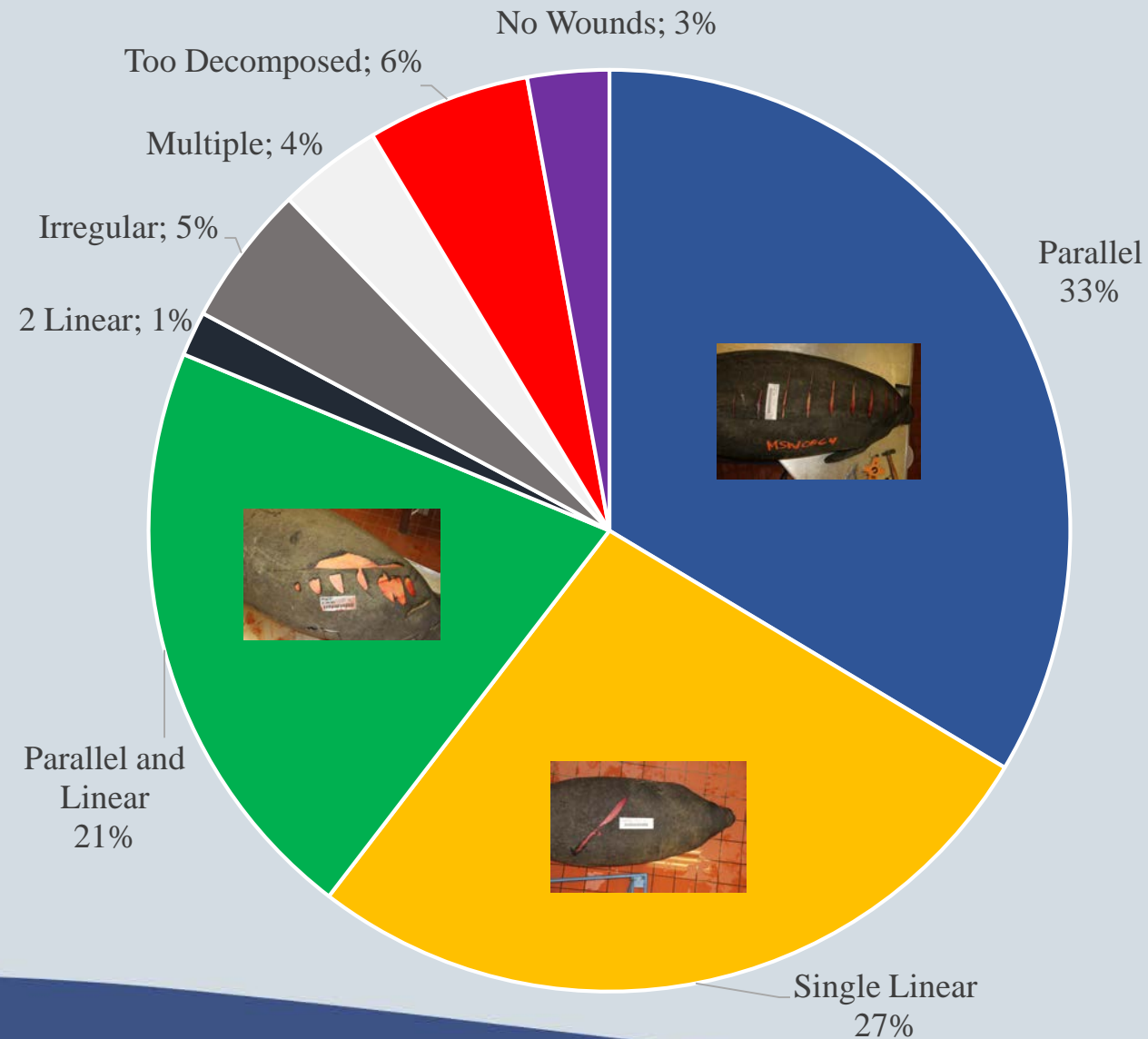
7. Too Decomposed



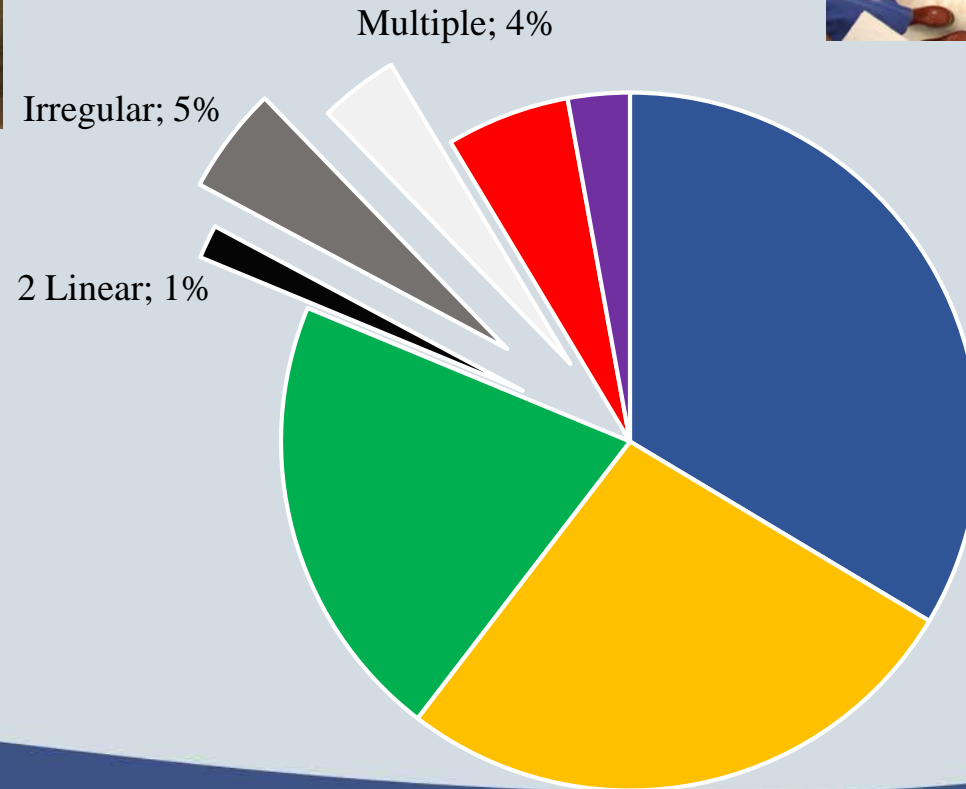
8. No Visible Wounds



Watercraft Wound Patterns, 2000-2009 (n=387)



Watercraft Wound Patterns, 2000-2009 (n=387)



Watercraft Wound Patterns, 2000-2009 (n=387)

