

Definitions for the Manatee Rescue, Rehabilitation and Release Program Database

Definitions used in this database (DB) have been developed and approved by both the U.S. Fish and Wildlife Service and the Florida Fish and Wildlife Conservation Commission. The definitions detail the content of data fields represented in the Manatee Rescue, Rehabilitation and Release Program database.

Rescue

A manatee rescue is:

- (a) Any intervention provided to assist an injured or distressed manatee. This includes, but is not limited to, those instances in which animals are not restrained, but given assistance (e.g., simple entanglements, physically supported while awaiting tide to rise, removing barriers for animals to pass, relocations, etc);
- (b) Any event in which an animal has been accidentally netted and subsequently released (e.g., as a result of a netting operation from another research project or as a result of an animal unknowingly getting into the net during the capture of a focal animal);
- (c) Any event in which an animal is captured to lure another animal during a rescue or health assessment (e.g., an injured female and a calf is lured to capture the cow).

All rescued animals are defined as a “captive manatee” with the U.S. Fish and Wildlife Service and the Florida Fish and Wildlife Conservation Commission and will remain in the Manatee Rescue, Rehabilitation and Release Program database even after release and/or death.

Rescue Type:

- **Brought into Captivity:** Rescue staff directly respond to a manatee in distress or an injury; medical treatment is deemed necessary and the rescued manatee is transported to a critical care facility.
- **Assist and Release:** Rescue staff directly respond to a manatee in distress or an injury (e.g., simple entanglements, kept cool while awaiting tide to rise, removing barriers for animals to pass, relocations, etc.), however, the manatee does not require transport for critical care because the appropriate response is applied in the field.
- **Incidental Capture:** Animals are not injured or in distress, but rather are caught accidentally or on purpose to lure another animal during a rescue or health assessment.
- **Unsuccessful Rescue:** A rescue operation where actual rescue attempts were not successful (e.g., an animal escaping during capture attempt or a transmitter was “clipped on” but never rescued).

Note: If rescue attempts were conducted for multiple days without success, then the original date of the rescue attempt should be entered into the DB for the unsuccessful rescue. (Additional rescue attempts should be entered in the comments section). If an animal is eventually rescued within 30 days then rescue type should be changed in the DB with the actual rescue date and all unsuccessful rescue attempts should be noted in the comments section. In this instance the rescue should be entered by the field station/facility and a DB manager should be notified to delete the unsuccessful rescue record.

Causes of Rescue:

- **Watercraft:** Source of injury is from watercraft (e.g., speed boats, sail boats, barges, jet-skis or any other type of watercraft). Injury may result from propeller wounds, impact, or a combination of the two. Animals with these injuries should be entered into the DB in one of these categories: impact, propeller, both or undetermined.
 - **Impact injury:** the manatee may or may not have noticeable external injuries resulting from the hull, keel, rudder, skeg, or propeller (superficial) of a watercraft; the manatee may have a bump, scrape, abrasion, or depression, be listing to one side, cannot surface properly, have buoyancy issues, or beach itself as a result of internal trauma.
 - **Propeller:** the manatee has wounds resulting from propeller blades that are penetrating and may be fresh or healing; the manatee may be beached, swimming, or floating, bleeding, lethargic; trauma may or may not cause damage to the spinal chord and paralysis.
 - **Both:** the manatee has noticeable characteristics of both external, penetrating injuries, along with internal impact trauma as previously detailed.
 - **Undetermined:** it could not be determined from the injuries if it was due to blunt impact or from a propeller.
- **Entanglement:** Entanglement cases involve any part of a crab trap, monofilament line, net, fishing hook or other fishing debris wrapped around the manatee's body or appendages. Manatees with entanglements should be entered into the DB in the following categories: crab trap + float line, float line only, crab trap only, monofilament, fish hook, fishing net, rope or other.

Note: Multiple entanglements can be listed, however, only one can be chosen as the primary entanglement; other causes of entanglement should also be entered.

 - **Crab trap + float line:** the manatee is entangled in a float line with a crab trap (or some part of one) attached.
 - **Float line only:** the manatee is entangled in a float line only, and the crab trap not present.
 - **Crab trap only:** the manatee is entangled in a crab trap (or some part of one) and the float line is not present
 - **Monofilament:** the manatee is entangled in monofilament (fishing line).

- **Fish hook:** the manatee has a fish hook attached to it (monofilament may or may not be attached).
 - **Fishing net:** the manatee is entangled in some type of fishing net (e.g., cast net).
 - **Rope:** the manatee is entangled in some type of rope (e.g., nylon cotton, polypropylene, etc.)
 - **Other:** the manatee is entangled in something other than one of the mentioned categories such as shrimp trawls, cable lines, canal markers and research nets.
- **Entrapment:** An entrapped manatee is prohibited from its natural movement due to a man-made structure or natural barrier. Entrapped manatees should be entered into the DB in one of these categories: power plant, culvert/pipe, water control structure, natural barrier or other.
 - **Power plant:** the manatee is entrapped in a power plant structure, intake canal, or outflow canal.
 - **Culvert/Pipe:** the manatee is entrapped in a type of culvert or man-made pipe.
 - **Other Water control structure:** the manatee is entrapped in some type of water control structure (e.g., weir, etc).
 - **Flood gate/lock:** the manatee is entrapped in a flood gate or canal lock.
 - **Natural barrier:** the manatee is entrapped behind a natural barrier such as fallen trees or sandbars (*Note: this is different from a tidally stranded animal*)
 - **Other:** the manatee is entrapped in some type of man-made structure not mentioned above (e.g., turbidity curtain or boom).
 - **Human, Other:** This category includes manatees that have encountered some type of human interaction not listed above, which results in injury, disease or distress; this includes ingestion of any man-made material (e.g., plastic bags, balloons, six-pack can holders, etc).
 - **Mother of Rescued Calf:** This category includes a mother of a dependent calf that has been captured because the calf was in need of rescue. In these situations the mother is generally healthy; however, the calf is dependent on her for survival.
 - **Calf of Rescued Mother:** This category includes a dependent calf that has been captured because the mother was in need of rescue. In these situations the calf is generally healthy; however, it is dependent on the mother for survival.
 - **Natural:** This category includes manatees that have been rescued as a result of a natural accident, phenomenon and/or disease. Manatees with these conditions should be entered into the DB in one of these categories:

cold stress, red tide, tidally stranded, orphaned calf, birth complications, buoyancy problems, emaciated, not suitable habitat, other and undetermined.

- **Cold stress:** the manatee is stressed from exposure to cold temperatures; symptoms may include external cold stress lesions, emaciation, lethargy; however, the degree of stress can vary greatly depending on the exposure and size of the animal.
- **Red tide:** the manatee is intoxicated by brevetoxin; symptoms include seizures, tremors, disorientation, paralysis, abnormal position in the water, etc.
- **Tidally stranded:** the manatee has stranded (beached) due to a receding tide.
- **Orphaned calf:** a dependant calf that is too young to survive on its own (generally <175cm).
- **Birth complications:** the female manatee has suffered from complications while giving birth (e.g., dystocia).
- **Buoyancy problems:** the manatee displays buoyancy problems that are not related to watercraft-related injuries.
- **Emaciated:** the manatee is emaciated compared to other animals of a similar size class.
- **Not suitable habitat:** the manatee is not in suitable habitat (e.g., a naïve animal in an area where there is no vegetation or conspecifics).
- **Dehydrated:** the manatee has not had enough water to maintain good health
- **Other:** the manatee is rescued for a natural cause other than one of the mentioned categories (e.g., shark bites, birth defects, natural event, etc.)

- **Undetermined:** The cause of rescue could not be determined.

Note: In circumstances where an animal may be rescued for several reasons the rescue organization should use their best judgment when determining the primary cause of rescue that will be entered into the database; a secondary cause is also available for additional causes of rescue. If opinions differ among individuals conducting a rescue a manatee critical care veterinarian should be consulted to assist in the final decision.

Death

A manatee death is for *any* (type) rescued manatee that has died either during rescue, during transport, prior to treatment, during rehabilitation or after release.

Death Occurred:

- **During rescue:** The manatee died during any part of the actual rescue attempt (i.e., when the animal is not yet on-shore and under control of those doing the rescue). *Note: if the manatee died awaiting transport and assistance or restraint was given to the manatee, a rescue should be entered along with the death in this category. If a rescue was initiated, but the*

manatee died before assistance was provided, then it would not be considered a rescue and a death would also not be entered.

- **During transport:** The manatee died during some part of the actual transport from the water and rescue location (*i.e.*, the animal is on-shore and under control of those doing the rescue), and it did not cross the entrance of a rehabilitation facility. All rescued manatees that die during transport must be entered.
- **Prior to treatment:** The manatee died after it crossed the entrance of the rehabilitation facility; however, no treatment was administered.
- **During rehabilitation:** The manatee died at some point at the facility and treatment was at least initiated. *Note: Once treatment has been initiated all manatees that die during any part of their rehabilitation from that point forward should be entered into this category. In the event a manatee dies during transport from one facility to another it will be included in this category and noted in the comments section.*
- **After release:** The manatee died anytime after it was released from the rehabilitation facility. *Note: Manatees should be entered into this category, even if the manatee dies several months or years later.*
- **Euthanasia:** The manatee was euthanized as a result of a debilitating injury or disease that could not be resolved; this may occur on the rescue site or at a facility. Euthanasia is exercised when it is believed to be the best option/best course of action for the manatee. *Note: All euthanized manatees must be approved by the Service and conducted by a trained veterinarian or under the supervision of a trained veterinarian. The underlying cause of death should also be entered into the DB for all euthanized manatee.*

Causes of Death:

- **Watercraft:** The manatee died as a result of being struck by a speed boat, sail boat, barge, jet-ski or any other type of watercraft. Causes for death may be acute (within the past 24 to 48 hours) or chronic (manatee survived the first few days after the injury). Trauma may result from propeller wounds or impact. Manatees with these injuries should be entered into the DB in one of these categories: impact, propeller, both or undetermined.
 - **Impact trauma:** the manatee may or may not have noticeable external injuries caused by a watercraft, but has significant internal trauma; blunt trauma may be caused by the hull, keel, rudder, skeg, or propeller (superficial) of a watercraft and is determined to be the primary cause of death.
 - **Propeller:** the manatee has wounds resulting from propeller blades that are penetrating and may be fresh or healing; the primary cause of death is attributed to the trauma or complications from the cut(s).
 - **Both:** the animal has noticeable characteristics of both external, penetrating injuries along with internal trauma as described above. .

- **Undetermined:** it could not be determined from the injuries if it was due to blunt impact or from a propeller, due to the healing of wounds or the stage of decomposition at the time of necropsy.
- **Entanglement:** The manatee has died as a result of entangling in any part of a crab trap, monofilament line, net, fishing hook or other fishing debris. Entanglement is typically around the flippers and upper body. Causes of death due to entanglement include: crab trap + float line, float line only, crab trap only, monofilament, fish hook, fishing net, rope or other.
 - **Crab trap + float line:** the manatee is entangled in a float line with a crab trap (or some part of one) attached.
 - **Float line only:** the manatee is entangled in a float line only, and the crab trap not present.
 - **Crab trap only:** the manatee is entangled in a crab trap (or some part of one) and the float line is not present.
 - **Monofilament:** the manatee is entangled in monofilament (fishing line).
 - **Fish hook:** the manatee has a fish hook attached to it (monofilament may or may not be attached).
 - **Fishing net:** the manatee is entangled in some type of fishing net (e.g., cast net).
 - **Rope:** the manatee is entangled in some type of rope (e.g., nylon cotton, polypropylene, etc.)
 - **Other:** the manatee is entangled in something other than one of the mentioned categories such as shrimp trawls, cable lines, canal markers and research nets.
- **Entrapment:** The manatee died as a result of being entrapped in a man-made structure or natural barrier. Causes of death for entrapped manatees include: power plant, culvert/pipe, water control structure, natural barrier or other.
 - **Power plant:** the manatee is entrapped in a power plant structure, intake canal, or outflow canal.
 - **Culvert/Pipe:** the manatee is entrapped in a type of culvert or man-made pipe.
 - **Water control structure:** the manatee is entrapped in some type of water control structure (e.g., weir, etc).
 - **Flood gate/lock:** the manatee is entrapped in flood gate or canal lock.
 - **Natural barrier:** the manatee is entrapped behind a natural barrier such as fallen trees or sandbars (*Note: this is different from a tidally stranded animal*)
 - **Other:** the manatee is entrapped in some type of man-made structure not mentioned above (e.g., turbidity curtain or boom).
- **Human, Other:** The manatee died as a result of human negligence/ activity that is not listed above. Causes of death for the human, other include: ingestion, poaching and other.

- **Ingestion:** the manatee has swallowed some type of man-made debris (e.g., monofilament line, fish hooks, plastic bags, etc.)
- **Poaching:** the manatee was intentionally killed for food or recreation.
- **Other:** the manatee died from a human cause other than what was already mentioned above.
- **Natural:** The manatee died as a result of a natural accident, phenomenon and/or disease. Causes of natural death include: cold stress, red tide, dependent small calf, birth complications and other.
 - **Cold Stress:** the manatee was exposed to cold temperatures.
 - **Red Tide:** the manatee was intoxicated by brevetoxin.
 - **Orphaned Calf:** the manatee was small and dependent and died as a result of not having the necessary care of its mother (generally <175cm).
 - **Birth complications:** the female manatee suffered from birth complications (e.g., dystocia)
 - **Other:** the manatee died from a natural cause other than one of the mentioned categories (e.g., shark bites, birth defects, natural event, etc.).
 - **Tidally stranded:** the manatee died after being stranded (beached) due to a receding tide.
- **Too decomposed:** The manatee died and the carcass was too decomposed to determine a cause of death.
- **Undetermined:** The manatee died and a cause of death could not be determined.

Note: In circumstances where the cause of death is due to several factors, the State of Florida's Pathobiology Lab will determine the primary cause of death; a secondary cause is also available for additional causes of death.

Release

A manatee release is when a manatee has been medically cleared by a qualified manatee veterinarian and is being released into the wild.

Transfer

A manatee transfer is when a manatee is relocated from one facility to another. Reasons include: to make room for critical care facility, serve as a companion animal, for a management decision or for pre-release preparation

Birth

A manatee birth is when a manatee calf has been born in captivity from a pregnant female receiving medical attention. *Note: the Service currently has a no breeding policy for manatees being held in captivity.*