

## Current Methods for Determining Serious Injury

### NORTHEAST (Tim Cole)

#### **Nature of interactions**

From 2001 – 2005, 133 large whale entanglement events occurred along the Gulf of Mexico, U.S. East coast and adjacent Canadian Maritimes (Nelson *et al.* 2007). Of these, 11 were determined to be serious injuries. In many cases there is insufficient information to make a determination. Live whales have been observed with ship strike injuries, but despite ship strikes being implicated as a leading anthropogenic cause of death for right, humpback, fin and sei whales, we have rarely assigned a serious injury to a ship strike event. Blunt trauma injuries show little or no external evidence (bodily or behaviorally), and are likely to be missed by our visual, external examination of living whales.

#### **Cause of injuries**

*Traps/pots:* When entangling gear could be attributed to a particular fisheries, lobster pot warp was involved in 10 of 14 right whale entanglements between 1993 and 2002 (Johnson *et al.* 2005). One or two reports of humpback and/or minke whales anchored by trap gear are received by the Northeast Regional Office each year.

*Sink gillnet:* Johnson *et al.* (2005) identified sink gillnet gear in 12 of 22 events involving humpbacks and identifiable gear between 1997 and 2002. Sink gillnet gear was identified in 2 of 14 events involving right whales.

*Trawls:* Since 1989, five pilot whales, 5 white-sided and 3 common dolphins were reported to have been released alive or of unknown condition within the Northeast Sea Sampling data.

*Ship strikes:* Ship strike injuries and deaths have been documented for several cetacean species, including right, humpback, blue, and fin whales. Relatively intensive survey effort for right whales each year discovers one or two individuals with lacerations from propellers of small (<65') vessels. We currently do not have a means of identifying living whales that have sustained blunt trauma.

#### **Methods of determining serious injury**

All cetaceans recorded as released alive or of unknown condition by the Northeast Sea Sampling program are counted as serious injuries. Large whale entanglement or ship strike events are evaluated using criteria outlined in Cole *et al.* 2005 (see also Cole *et al.* 2006 and Nelson *et al.* 2007).

#### **Key issues/questions**

- Great disparity in report/data quality
- Lack of external evidence in cases of blunt trauma
- Accounting for an animal's health prior to injury (already sick? pre- or postpartum?)
- What behaviors, in conjunction with an entanglement, are likely to cause serious injury?
- Should the size of an injury be used as an indication of its seriousness?
- Should constricting line always trigger a serious injury determination?
- How does the duration of an injury (short, repeated or chronic) affect the affect of its size or location?
- Can anecdotal reports provide a means for estimating actual rates of serious injury for a population/stock?

#### **REFERENCES**

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