

# Synthesis of NMFS Regions' Serious Injury Determinations

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### **Patients**

Mysticetes  
Odontocetes  
Otariids  
Phocids  
Sirenians

### **Primary Data Sources**

Fisheries observer programs  
Opportunistic reports from researchers  
Opportunistic reports from public  
Stranding and disentanglement networks (follow up)

### **Causes of Injury**

Hook (longline, troll, recreational)  
Entanglement (trap/pot, gillnet, monofilament)  
Entrapment (trawl, seine)  
Collision (vessel hull, propeller)

### **Key Variables Contributing to Serious Injury**

Animal size  
Animal age  
Animal health  
Animal behavior  
Injury type (puncture, laceration, blunt trauma, compression)  
Injury location (mouth, head, body, flipper, tail, internal)  
Injury size  
Injury duration (short, repeated or chronic)  
Entanglement type (hooked, constricting line, loose line, anchored, enveloped)  
Entanglement size (size, length and branches of line; number of buoys, traps or anchors; volume of netting)  
Entanglement constriction (tight, loose, multiple wraps)  
Entanglement duration

### **Key Issues/Questions**

- Primary data quality
- Assessing internal injuries on free-swimming animals
- Behavior as an indicator of serious injury
- Susceptibility to other health threats or complications following injury
- Accounting for serious injury in stock assessments (absolute or probabilistic, e.g., 50% chance the animal would die as a result of the injury; anecdotal data for smaller species)
- Estimating populations' actual rate of serious injury from opportunistic data