

# Marine Mammals

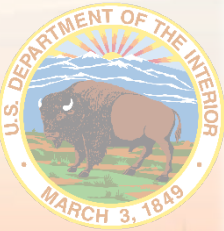
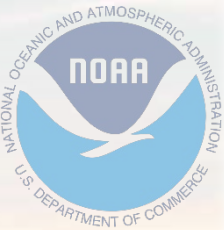
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# Potential Effects or Impacts

## Individual effects

Localized effects  
(skin, eye, wound)

Lung disease

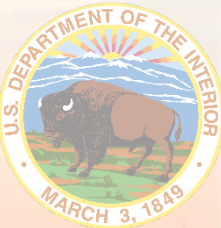
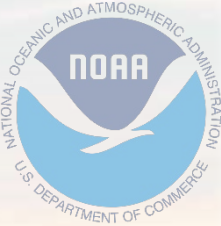
Immune dysfunction  
Poor body condition  
Impaired stress response  
Reproductive loss  
Liver dysfunction

Gastrointestinal injury

Baleen fouling

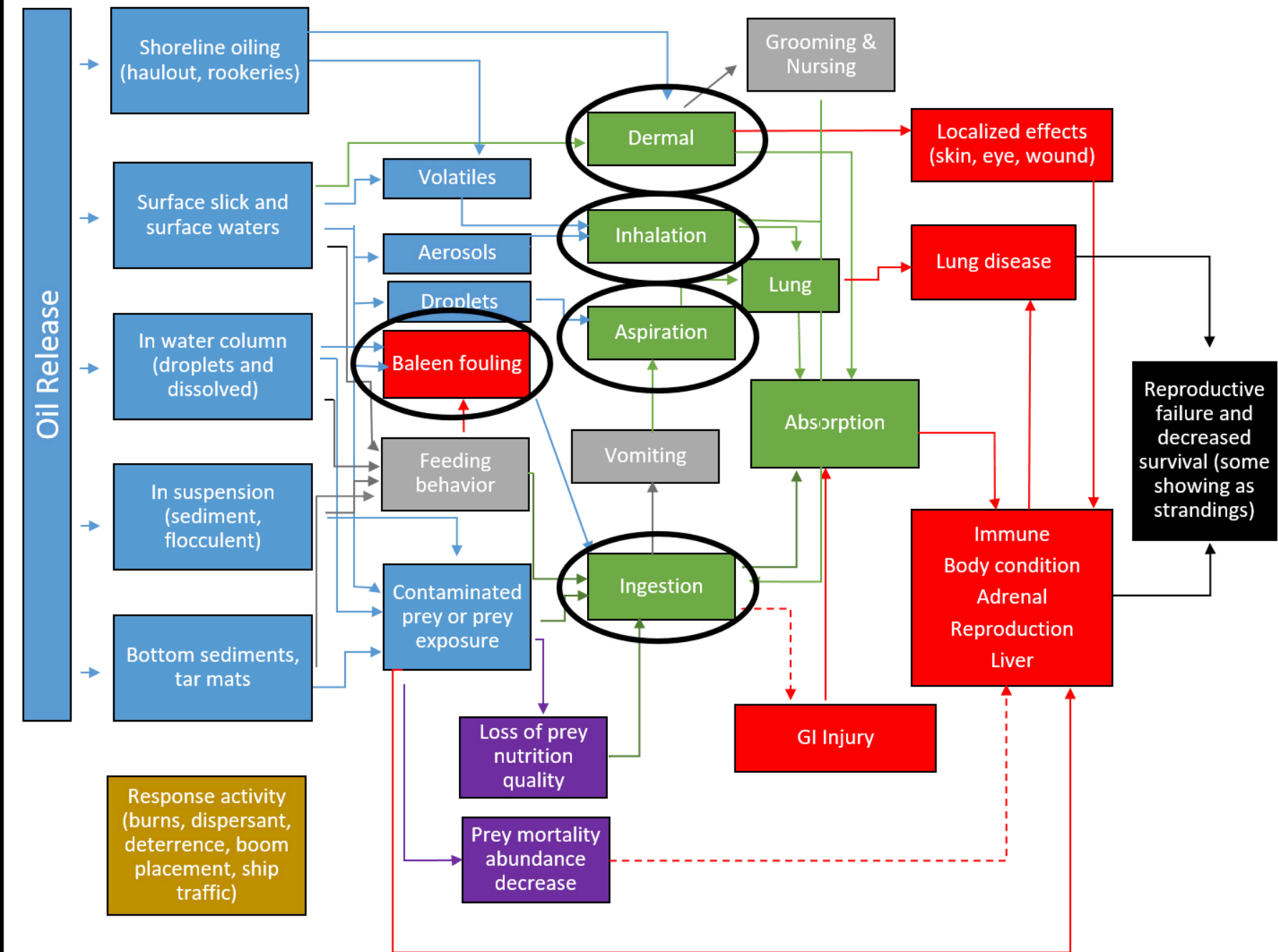
## Individual and population effects

Reproductive failure  
Decreased survival



# Pathway of Injuries

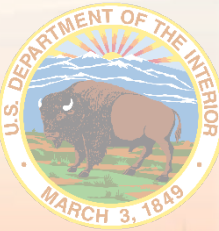
## General Marine Mammal Conceptual Model for Oil Spill Effects





# Preliminary Observations & Findings

- Historical precedent for a variety of marine mammal species in the oil footprint
- Anecdotal reports of individual animals in the oil footprint at time of incident
- From October-December 31, 2021: ~100 animals stranded
  - 86 California sea lions (2/3 alive)
  - 6 were other seals/sea lions
  - 12 cetaceans (all dead)
  - Preliminary necropsies do not implicate oil as COD
  - Samples archived for analysis as needed
- After preliminary analysis: likely no significant increase in stranding frequencies after release, compared to historical stranding rates from 2006 to 2020, due to incident



# Next Steps or Tasks

- Quantify potential abundance of marine mammal species in final oil footprint based on historical density data
- Potentially, analyze tissue samples collected from stranded animals

