Whale Strike Avoidance in Southeastern Alaska: Charting a Course for the Future

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Glacier Bay Whale Monitoring Program
1985 - present

Describes local whale population trends and life history traits

Provides information on whale distribution for vessel management

38th year in 2022

Data courtesy of Kate Savage DVM, Alaska Marine Mammal Stranding Network

Beluga (n=1)
Fin (n=8)
Gray (n=1)
**Humpback (n=90)**
Sperm (n=2)
Unknown (n=12)

Goal is to comply with Endangered Species Act and MMPA and Organic Act

Vessel traffic limited by summer quotas

¼ mile minimum approach distance to humpback whales

“Whale Waters” Vessel speed (13 kts) and mid-channel course restrictions

Humpback whale population monitoring provides real time distribution data
Glacier Bay
“Whale Waters”

Areas of vessel course and speed restrictions due to the presence of whales, designated by Park Superintendent

Based on whale survey data

STATIC: Lower Bay Whale Waters
Speed limit (13 kts)
Mid-channel course or one mile offshore (vessels >18 ft)

DYNAMIC: anywhere, as needed

No speed limits outside of Whale Waters
Pivotal Events That Changed the Conversation

2001 - Ship-struck whale found dead in Glacier Bay → legal proceedings result in cash settlement in 2007

2006 – Shipboard observer program

2011 – Biologists meet with pilots and cruise officials about whale avoidance → “Advance knowledge of whale locations would be valuable.”

2011 Early August - NPS releases first whale map to cruise ships.

2011 Mid-August - 3 Holland America cruise ships volunteer to map their whale sightings for distribution to all ships. Thanks to Captain Peter Bos.
Glacier Bay Shipboard Observer
Research Program: 2006 - present

Project Lead: Scott Gende

Goal is to understand whale-ship interactions
“How close, how often?”

Voluntary participation by cruise lines

Observers on 3 to 4 ships per week

Observer communicates critical information with bridge on VHF as needed.
Goal:
To facilitate large ship whale avoidance without creating a whale attractant for small boats.

Challenge:
Mobile devices and WiFi not always available on bridge.

Solution:
Adapted Whale Alert mobile app to allow us to reach large ship audience.

Access:
Approved users log in any time for recent sightings
Pilot navigation software can display Whale Alert sightings on their Electronic Chart.
Not yet possible for cruise ship electronic charts.
Weekly Whale Map Email

Distributed to all ships, state ferries, and SEAPA pilots by Cruise Line Agencies of Alaska

Hopefully, starts a conversation on the bridge about whales.

Email provides opportunity for communication between biologists, ships and pilots.

Alaska Marine Highway Ferries iPad on the bridge for W.A.

Cruise ships are required to consult Whale Alert prior to entering Glacier Bay (in 2021 contracts).
Alaska Whale Strike Avoidance Flyer

5 things you can do TO REDUCE THE RISK OF A WHALE STRIKE

1. KNOW BEFORE YOU GO
Anticipate likely whale sightings by communicating with other mariners and subscribing to Whale Alert or other services. Find out about the seasonal movements and behavior of whales.

2. PLAN YOUR PASSAGE
With advance planning, vessels may avoid whale concentrations with a minimal increase to passage time. If travel through whale aggregations cannot be avoided, plan to reduce speed in areas where whales are likely, especially if sighting conditions are poor.

3. DISCUSS WHALE AVOIDANCE
Bridge teams that discuss in advance what actions to take when whales are sighted near the ship’s path can save valuable time when these events occur. Conducting avoidance drills can also be helpful.

4. KEEP A DEDICATED WATCH
Keep a consistent lookout, focusing on whales near the path of the ship. If you see one whale, keep looking, as there are likely more nearby! Specify the information needed (bearing, estimated distance, and direction of travel). Keeping critical distances in mind may help you avoid surprises at close range. For example, if ship speed is 18 knots, the whale with the highest chance of surfacing off your bow was 1.7 miles ahead on its previous surfacing (or 1.4 miles at 15 knots, both assuming a 5 to 6 minute dive time). Detecting whales at a greater distance opens up more options for avoiding a strike.

5. MAKE MODEST ADJUSTMENTS
When a whale comes up in the path of the ship, determine its direction of travel and identify the best course of action. Steering behind the whale is often most effective. A small decrease in speed when you first see the whale can make the difference between a strike and a near miss.

Released in 2017
Thanks to Rich Preston (SEAPA) for the concept and input.
Available online
Spending Time with Pilots at AVTEC Bridge Simulator

2015 AVTEC Crew: Mike Angove (AVTEC), Barry Olver, Larry Vose, Rich Preston (SEAPA), Noble Hendrix, Scott Gende, and Chris Gabriele (NPS)
Develop Whale Avoidance Training Modules Available to All Mariners
Breaking Down Active Whale Avoidance Into Components

Active Whale Avoidance: defined as a mariner making operational decisions to reduce the chance of a collision with a sighted whale.

Each Operational Constraint has a lag time

Not prescribing how to avoid whales, just breaking down the process to acknowledge lag times and find ways to improve response time.

“Nobody wants to hit a whale.” We managers share a common goal with industry and marine pilots – to reduce the risk of whale strikes – for lots of reasons.

Whale Alert and other technology are helpful but there are still hurdles in getting the sightings to the bridge for whale avoidance in real time.

Managers should seek to understand “the view from the bridge”

Need to develop whale avoidance training modules for bridge simulators
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