



Highlights of [GAO-07-881](#), a report to the Ranking Member, Subcommittee on Oceans, Atmosphere, Fisheries and Coast Guard, Committee on Commerce, Science, and Transportation, U.S. Senate

## Why GAO Did This Study

The National Marine Fisheries Service (NMFS) developed the Atlantic Large Whale Take Reduction (ALWTR) plan to protect endangered large whales from entanglements in commercial fishing gear, which can cause injury or death. Because whales continued to die after the ALWTR plan went into effect, NMFS proposed revisions in 2005. GAO was asked to review these proposed revisions, including (1) their scientific basis and uncertainties regarding their effectiveness, (2) NMFS's plans to address concerns about the feasibility of implementing them, (3) the extent to which NMFS fully assessed the costs to the fishing industry and impacts on fishing communities, and (4) the extent to which NMFS developed strategies for fully evaluating their effectiveness. GAO reviewed the proposed changes to the ALWTR plan and obtained the views of NMFS officials, industry representatives, scientists, and conservationists.

## What GAO Recommends

GAO recommends that NMFS revise its economic analysis to present a range of possible costs, expand its proposed gear-marking requirements, and develop a strategy to assess industry compliance. The agency reviewed a draft of this report and did not agree to revise its economic analysis or expand gear markings but did agree to develop a strategy to assess industry compliance.

[www.gao.gov/cgi-bin/getrpt?GAO-07-881](http://www.gao.gov/cgi-bin/getrpt?GAO-07-881).

To view the full product, including the scope and methodology, click on the link above. For more information, contact Anu K. Mittal at (202) 512-3841 or [mittala@gao.gov](mailto:mittala@gao.gov).

# NATIONAL MARINE FISHERIES SERVICE

## Improved Economic Analysis and Evaluation Strategies Needed for Proposed Changes to Atlantic Large Whale Protection Plan

### What GAO Found

NMFS used scientific data on whale entanglements, scarification, and sightings as support for its proposed changes to the ALWTR plan. These data indicate that right and humpback whales are being injured and killed by entanglements in commercial fishing gear at a rate that limits the species' ability to recover. One of the key proposed changes to the ALWTR plan involves replacing floating groundline, which forms arcs in the water that can entangle whales, with sinking groundline that lies on the ocean bottom. While there is a consensus among whale experts that using sinking groundline will reduce risks to whales, uncertainties remain regarding how many fewer serious injuries and mortalities will occur as a result of this requirement.

NMFS has not yet resolved implementation issues associated with using sinking groundline in rocky bottom areas, particularly off the coast of Maine. While NMFS believes that it is operationally feasible to use sinking groundline in all areas, it recognizes that fishermen may have to modify their fishing practices to use this type of gear effectively. Maine lobster industry representatives told GAO that fishermen who operate in rocky bottom areas will not be able to use sinking groundline because it will wear away and create safety hazards if the line snaps when it is hauled.

NMFS's economic assessment of the costs of the proposed gear modifications did not reflect the significant uncertainties associated with the assessment, and the extent to which these costs to the fishing industry could be higher or lower than reported is unclear. Because NMFS lacked verifiable data for some of the key cost variables, it used estimates and assumptions that introduced a significant amount of uncertainty into the cost calculations, which the agency acknowledged. However, instead of presenting a range of costs to account for these uncertainties, NMFS produced a single estimate of compliance costs—about \$14 million annually. Moreover, because it lacked key data on fishermen's ability to absorb these costs without going out of business, NMFS could not fully assess the impacts that the cost of gear modifications would have on fishing communities. For example, without knowing which specific fishermen would go out of business, NMFS could not determine the impact lost jobs would have on the communities in which they lived.

NMFS has not developed strategies for fully evaluating the effectiveness of the proposed regulatory changes. Specifically, NMFS's gear-marking requirements may not be adequate for effectively assessing future whale entanglements because they do not include comprehensive markings that researchers could use to assess the type of rope involved in entanglements. Additionally, NMFS does not yet have a strategy to monitor the level of industry compliance and therefore lacks a means to determine whether any future entanglements are due to industry noncompliance with the regulatory requirements or the ineffectiveness of the gear modifications.