



Southeast Fishery Bulletin

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Fishermen Are Reminded of the Importance of Complying With All TED Regulations Under New Fleet-wide TED Performance Standard for Shrimp Otter Trawls

The Impact of TED Violations on Sea Turtles

By installing TEDs in your nets it may seem as though you have done your part to protect sea turtles, but, there is more to it than that. TEDs must be constructed, installed, and operating in compliance with federal TED requirements in order for them to be effective in reducing the bycatch of different sizes and species of sea turtles in otter trawls. When legally-constructed TEDs are installed and operating correctly in shrimp trawl nets, a small percentage of the sea turtles entering the nets (i.e., 3 percent) still do not escape by means of the TED and are captured. For example, some sea turtles are caught in the trawl body or wings and do not make it to the TED to escape. However, when the TED in your net is not constructed, installed, or operating legally, TED effectiveness can be reduced (i.e., have more than 3 percent sea turtle capture rate) and, in severe cases, completely compromised (i.e., have a 100 percent sea turtle capture rate). Because individual otter trawls interact with a large number of sea turtles, poor TED compliance, even by a relatively small portion of the fleet, has the potential to increase sea turtle mortality levels substantially.

Not all TED violations have the same impact on sea turtles capture rates. Two important factors are the angle at which your TED hangs in your net and the escape opening size. For example, when a TED is sewn into your net at too steep of an angle, it can result in most or all sea turtles being captured, particularly smaller sea turtles. Similarly, if TED escape openings in your net are too small, at least some sea turtles will not be able to escape, particularly larger, adult sea turtles.

Managing the Effectiveness of TEDs via a Fleet-Wide Compliance and TED Performance Standard for Shrimp Otter Trawls

On May 9, 2012, NOAA Fisheries issued a [Biological Opinion](#) under the Endangered Species Act, which established a new management approach and new agency requirements for minimizing sea turtle captures in shrimp otter trawl fisheries. The most important of these new requirements is a system to measure and monitor the actual performance of shrimp otter trawls in releasing sea turtles, which became effective June 1, 2012. Under these new requirements, NOAA Fisheries is using detailed data on the type and severity of TED violations collected by the NOAA Office of Law Enforcement when they board shrimp trawl vessels to estimate sea turtle capture rates. NOAA Fisheries has established a new fleet wide TED performance standard which limits otter trawls to an overall 12 percent sea turtle capture rate. This rate is based on the average capture rate estimated by NOAA Fisheries that was achieved by the shrimp otter trawl fleet during the four-month period of August - November 2011. It is the responsibility of fisherman to comply with the regulations so the shrimp otter trawl fleet can keep its sea turtle capture rate at or below 12 percent. NOAA Fisheries will aid in this effort with continued outreach and enforcement.

Monitoring the New TED Performance Standard

The biological opinion requires NOAA Fisheries to monitor TED compliance to determine if the shrimp otter trawl fleet is performing on average at or below the 12 percent sea turtle capture rate performance standard every 6 months. Therefore, every six months NOAA Fisheries is reviewing NOAA Office of Law Enforcement TED inspection boarding records to estimate fleet-wide compliance

with the shrimp otter trawl TED regulations and associated sea turtle capture rates. If NOAA Fisheries estimates during one of these 6-month reviews that the shrimp otter trawl fleet on average exceeded the 12 percent standard, then a number of initial actions are required including—

- Identification of any discrete areas where non-compliance is occurring.
- Targeted outreach by the NOAA Fisheries Gear Monitoring Team in problem areas including training and courtesy inspections.
- Targeted Law Enforcement in problem areas.
- Monitoring capture rates on a monthly basis.

If, after monitoring shrimp otter trawl fisheries (i.e., via vessel boardings) each month for an additional 6 months, NOAA Fisheries finds that these initial actions have not been sufficient to reduce the fleet-wide sea turtle capture rate below the 12 percent, NOAA Fisheries will then consider closing areas where shrimpers are not following the law to shrimp fishing for up to one year. NOAA Fisheries can lessen this time only if it can demonstrate that continued outreach will improve compliance in the area such that the capture rate will be at acceptable levels within less than one year.

In estimating the percent of sea turtles entering your net that would be captured, NOAA Fisheries evaluates the various types and degrees of severity of TED violations and their corresponding effects on both small and large sea turtles. Types of violations which are evaluated include (but are not limited to):

- Excessive TED angles.
- Excessive flap overlap on double cover escape openings.
- Insufficient cut measurements on both single- and double-cover escape openings.
- Other miscellaneous violations (e.g., floatation problems (too few or improper placing), missing TED bars).

How are sea turtle capture rates for the otter trawl fleet estimated?

NOAA Fisheries estimates sea turtle capture rates for the otter trawl fleet using the following 3-step process:

Step 1 - Of the total number of vessels boarded for TED inspection by NOAA Office of Law Enforcement, NOAA Fisheries calculates the percentage that were found to be fully compliant and the percentage that were found to be in violation.

Step 2- NOAA Fisheries assigns sea turtle capture rates (i.e., TED effectiveness) to each vessel boarded. NOAA Fisheries assigns a 3 percent sea turtle capture rate if TEDs were in compliance because TEDs are 97 percent effective when properly constructed, installed, and maintained. For vessel boardings where violations were documented, NOAA Fisheries assigns an estimated sea turtle capture rate (ranging from 3 percent to 100 percent) to the most severe violation found on a vessel based on the results of TED testing observations and expert opinion of NOAA Fisheries, Southeast Fisheries Science Center gear technicians. Capture rates are assigned to two size-groups of turtles which are encountered in shrimp fisheries –juveniles of loggerhead and green sea turtles, and all Kemp’s ridley sea turtles (i.e., small-size group), and adult loggerhead and green sea turtles, and all leatherback sea turtles (i.e., large-size group).

Step 3 - NOAA Fisheries applies the following formula to calculate fleet-wide sea turtle capture rates: (percent of boarded vessels fully compliant) x (3% capture rate of fully compliant TEDs) + (percent of boarded vessels with violation) x (weighted average capture rate associated with the most severe violations).

The First Six-Month Review and NOAA Fisheries' Next Steps

NOAA Fisheries has completed its first 6-month review (June 1 through November 30, 2012) under the new requirement. The results indicate that the June through November 2012 average fleet-wide sea turtle capture rate in otter trawls was approximately 13 percent. Although this capture rate level is only slightly higher than the established maximum sea turtle capture rate standard, NOAA Fisheries is now taking specific actions as required by the biological opinion to reduce the sea turtle capture to 12 percent or below. TED violations were documented through NOAA Office of Law Enforcement vessel boardings in multiple locations in both the Atlantic and Gulf and did not appear to be concentrated in certain fishing areas. Therefore, NOAA Fisheries is holding informal training and courtesy dockside inspections throughout each region to assist fishermen in complying with the TED regulations. A listing of currently scheduled training dates and locations is maintained on the Southeast Regional office's website. NMFS is now monitoring NOAA Office of Law Enforcement boardings data on a monthly basis to help ensure the shrimp otter trawl fleet achieves the capture rate performance standard in the next 6-month review (December 1, 2012, through May 31, 2013). For more detailed results of this and future 6-month reviews and monthly sea turtle capture rate estimates, visit the Southeast Regional Office website at: <http://sero.nmfs.noaa.gov/>

Ways You Can Help Avoid Additional Regulatory Action

- Know and comply with all of your [TED regulations!](#)
- Don't leave the dock unless you are sure your TEDs are in compliance.
- Review available [TED compliance guidance](#).
- Attend TED trainings when available in your area.
- Ask the NOAA Fisheries Gear Monitoring Team (GMT) to inspect your TEDs and work with you to get them into compliance BEFORE you leave the dock—rather than wait for a law enforcement officer to board you and give you a ticket. To make arrangements for a courtesy TED inspection or if you have any questions, just call the GMT at their Pascagoula, MS, office. Contact the GMT coordinator, Dale Stevens, by phone at 228-549-1773 or by email at robert.d.stevens@noaa.gov.
- Conduct regular TED tune-ups. TEDs must be regularly maintained like other fishing gear in order to benefit sea turtles, as well as maintain shrimp catch. The grid angle must be checked on a regular basis to assure the TED has maintained the proper angle.
- Share this information with other shrimp otter trawl fishermen. Improper and illegal TEDs on any vessel can now affect you.

For More Information:

NOAA Fisheries is developing a web page that will include links to all TED regulations, rulemaking documents, and compliance data and resources for shrimp fishermen. This web page will be your "Go-TO" for everything you need to know about how to reduce sea turtle mortality in shrimp fisheries. Look for this new page coming soon under "Information for Fishermen" on the left-hand side of the Southeast Regional Office home page at: <http://sero.nmfs.noaa.gov/>.