

LENFEST OCEAN PROGRAM

RESEARCH SERIES

AUGUST 2010

IMPROVING U.S. FISHERIES ENFORCEMENT

A summary of three new scientific papers shows that current enforcement strategies need to be improved.

ILLEGAL FISHING ACTIVITY, such as exceeding catch limits, misreporting catches, fishing in restricted areas, mishandling by-catch or using prohibited gear, can undermine regulatory efforts to sustain fisheries and healthy oceans. However, measuring the full extent of noncompliance with fishing regulations and the significance of its impact is difficult, and few studies have assessed the effectiveness of various fishery enforcement strategies.

With support from the Lenfest Ocean Program, Dr. Dennis King from the University of Maryland and several colleagues examined the effectiveness of U.S. fisheries enforcement strategies in achieving compliance. Using national fisheries enforcement data and extensive surveys and interviews, the researchers found that: (1) noncompliance is a serious issue in U.S. commercial fisheries; (2) the risk of violators being caught and penalized is low, and the potential illegal gains are high—indicating that current enforcement may not be sufficient to deter illegal fishing; and (3) published U.S. Coast Guard (USCG) compliance rates significantly overstate actual compliance rates. The authors recommend measures to improve the current enforcement system, including targeting frequent offenders, expanding mandatory observer reporting and overhauling the way the USCG estimates and reports compliance rates. This summary synthesizes three peer-reviewed papers published by the research team and highlights the central conclusions of their research.

FISHERY REGULATIONS AND ENFORCEMENT INSTITUTIONS IN THE U.S.

The Magnuson-Stevens Fishery Conservation and Management Act provides the National Oceanic and Atmospheric Administration (NOAA) with enforcement authority to search any fishing vessel or place of business subject to the Act. NOAA Fisheries' Office for Law Enforcement (OLE) oversees fisheries regulation enforcement in the U.S. in cooperation with the USCG and state agencies. NOAA law enforcement agents focus on dockside inspections, the USCG enforcement staff inspect vessels at sea to detect violations, and state fishery enforcement staff tend to do both dockside and at sea inspections. In most cases, NOAA or the USCG issues a warning, but more serious cases are sent to the NOAA Office of the General Counsel for Enforcement and Litigation (GCEL), which settles cases with violators or prosecutes them before an administrative law judge.

ILLEGAL FISHING ACTIVITY

Illegal fishing activity involves violating fisheries regulations, including catching more fish than legally allowed, misreporting amounts or types of catch, fishing in restricted areas, discarding certain fish species, mishandling bycatch and using prohibited gear types.

STUDY DESIGN

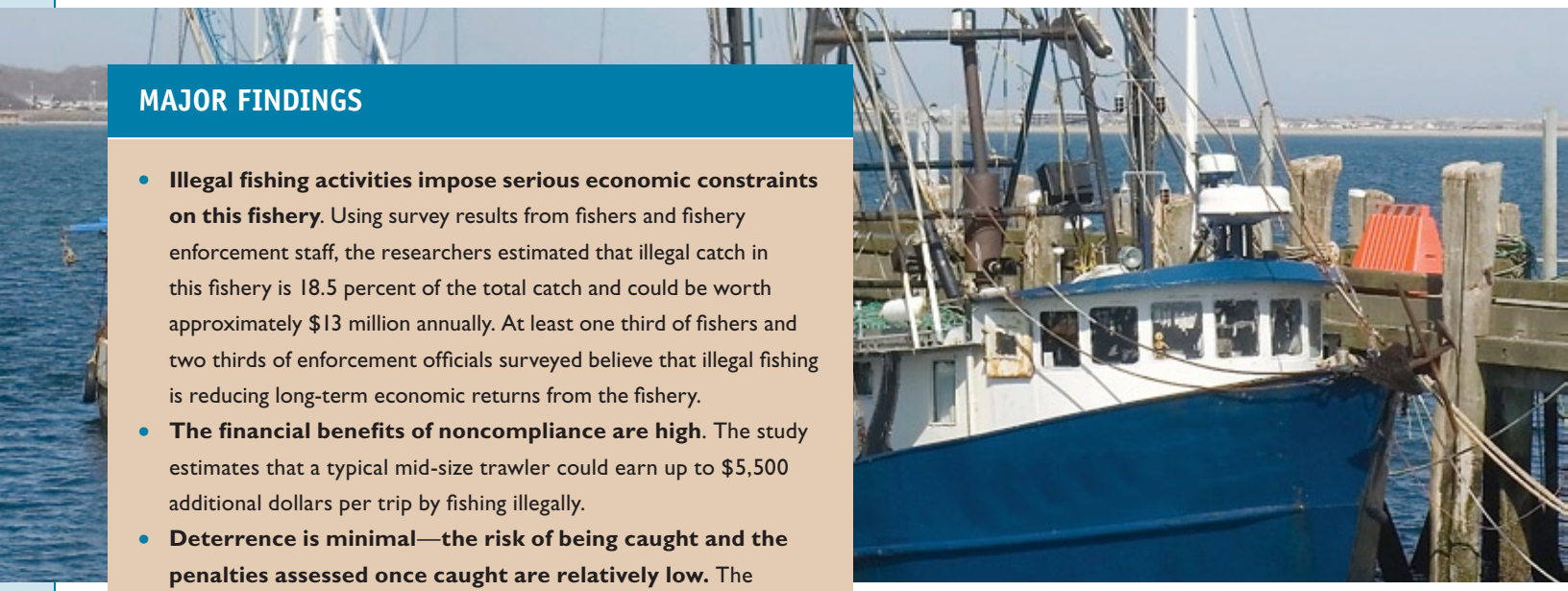
The researchers used national and regional fisheries enforcement data and nationwide surveys and interviews to identify national and regional trends in enforcement and compliance. Dr. King and his colleagues surveyed more than 500 fishing permit holders in several U.S. regions using mail surveys, conducted on-line surveys of more than 100 fishery enforcement staff, fishery managers and fishery scientists, and interviewed a number of enforcement agents in person. The researchers analyzed five years of data from NOAA's Enforcement Management Information System to assess the number and type of reported enforcement incidents in the U.S. and their outcomes. The research team focused on several case studies that represented a range of compliance and enforcement challenges, including enforcement strategies and noncompliance in the New England groundfish fishery, the use of mandatory observer reporting as an enforcement strategy in the North Pacific groundfish fishery and the effectiveness of USCG at-sea enforcement.

I. NEW ENGLAND FISHERIES ENFORCEMENT

A SUMMARY OF NEW SCIENTIFIC ANALYSIS:

King, D. and J. Sutinen. 2009. Rational noncompliance and the liquidation of Northeast groundfish resources. *Marine Policy* 34:7-21.

DRS. DENNIS KING AND JON SUTINEN examined the extent and type of illegal fishing activities and the effectiveness of enforcement in the New England groundfish fishery. Groundfish, or fish that live near or at the bottom of the ocean, constitute a substantial part of New England's fish catch and include species like cod, halibut, Pollock, haddock and yellowtail flounder. Management solutions for overfishing in this fishery have generally involved increasingly restrictive regulations intended to reduce catch and allow fish populations to rebuild. So far, however, most stocks are still heavily depleted.



MAJOR FINDINGS

- **Illegal fishing activities impose serious economic constraints on this fishery**. Using survey results from fishers and fishery enforcement staff, the researchers estimated that illegal catch in this fishery is 18.5 percent of the total catch and could be worth approximately $13 million annually. At least one third of fishers and two thirds of enforcement officials surveyed believe that illegal fishing is reducing long-term economic returns from the fishery.
- **The financial benefits of noncompliance are high**. The study estimates that a typical mid-size trawler could earn up to $5,500 additional dollars per trip by fishing illegally.
- **Deterrence is minimal—the risk of being caught and the penalties assessed once caught are relatively low.** The researchers showed that only 11 percent of violations result in a penalty, and financial gains from illegal fishing are five times greater than any expected penalty.
- **Accidental violators may commit as many as half of the violations but chronic, intentional violators account for the majority of the illegal catch.** This high proportion of accidental violations may be due to increasingly complex fisheries regulations and enforcement policies.
- **Noncompliance may be jeopardizing the health of the fishery and fishers' trust in the regulatory and enforcement system.** At least one third of fishers and two thirds of enforcement officials surveyed believed that illegal fishing activities will prevent law-abiding fishers who are normally motivated by a desire to "do the right thing" from benefiting from fish stock rebuilding programs.

Currently, the conditions are ripe for noncompliance in the New England fishery because the financial gains from illegal fishing are high and the chances of being caught and facing penalties are minimal. A large portion of fishers question whether fisheries management can maintain the sustainability of fish stocks with continued significant and undocumented illegal fishing. To combat growing incentives to violate fishing regulations, the authors recommend implementing a clear and effective compliance strategy focused on the worst offenders. A "smart" compliance policy would aggressively target and penalize chronic violators, require forfeiture of all fishing privileges for major violators, provide sufficient deterrence for occasional intentional violators and involve more collaboration between enforcement officials and law-abiding fishers to rid fisheries of chronic, intentional violators. The ultimate goal of the enforcement strategy is to allow fish stocks to recover well enough that fishers view enforcement policies as having a positive rather than a negative effect on their economic interests.

2. MANDATORY OBSERVER ENFORCEMENT IN THE NORTH PACIFIC GROUNDFISH FISHERY

A SUMMARY OF NEW SCIENTIFIC ANALYSIS:

Porter, R.D. 2009. Fisheries observers as enforcement assets: lessons from the North Pacific. *Marine Policy* 34:583-589.

IN THE U.S., NOAA's National Marine Fisheries Service places observers on fishing vessels to collect scientific information about the catch brought onboard. In the North Pacific groundfish fishery, observers also are required to report illegal fishing activities. Read Porter from the Environmental Law Institute evaluated the effects of observer reporting mandates on enforcement activity by comparing enforcement activity in the North Pacific groundfish fishery to that of fisheries where observers are not required to report violations.

MAJOR FINDINGS

- **More incidents were reported in the North Pacific mandatory observer program than in fisheries that do not mandate such reporting.** Observers reported more than 20 percent of the enforcement incidents in the North Pacific groundfish fisheries compared to 5 percent of the enforcement incidents in other fisheries.
- **Observers reported the majority of illegal discard and retention incidents in North Pacific fisheries.** This aspect of the observer program is valuable because these kinds of violations usually occur at sea and are difficult to detect.
- **Observer-reported cases, however, were prosecuted less often than other reported violations.** Although pinpointing a specific reason for this trend requires further study, it does not appear to be a result of observers incorrectly identifying actual violations. Instead, differences may arise because (1) violations occurring in the presence of an observer are unlikely to be severe enough to warrant prosecution; or (2) it is more difficult to prove violations reported by a single observer at sea than violations that can be corroborated by multiple witnesses or that are accompanied by physical evidence.

In light of these results, the author suggests that expanding mandatory observer reporting requirements could increase the effectiveness of fisheries enforcement and incentives for compliance. He also suggests that NOAA can deter illegal fishing activities and safeguard observers more effectively by eliminating roadblocks to successful investigation and prosecution of violations reported by observers.

3. U.S. COAST GUARD AT-SEA ENFORCEMENT EFFECTIVENESS

A SUMMARY OF NEW SCIENTIFIC ANALYSIS:

King, D.M., R.D. Porter and E.W. Price. 2009. Reassessing the value of U.S. Coast Guard at-sea fishery enforcement. *Ocean Development & International Law* 40:350-372.

DR. DENNIS KING and colleagues examined the differences between high compliance rates reported by the USCG based on at-sea boardings and inspections and much lower compliance rates estimated from their own surveys of fishers and enforcement officials and other enforcement and compliance studies. The USCG considers its enforcement program successful at deterring fishing violations if 97 percent or more of the fishing boats boarded are free of "significant" violations. Based on their routine inspections of vessels, the USCG consistently reports that the targeted 97 percent compliance rate is being nearly met, met or exceeded. The authors argue, however, that USCG enforcement is less effective than claimed because USCG's failure to detect many violations is misinterpreted as compliance.

MAJOR FINDINGS

- **The USCG likely is overestimating compliance rates.** The USCG's claim that approximately 3 percent of fishers violate regulations (based on the 97 percent compliance rate) is far lower than the researcher's survey estimates of a 15 to 31 percent violation rate.
- **High compliance rates could be due to "localized deterrence" or inadequate training to detect violations.** Because USCG vessels are well-marked and visible from long distances, it may be relatively easy for fishers to halt illegal activities prior to being boarded by the USCG, resulting in a zone of deterrence around each USCG ship.
- **Using high rates of compliance as a measure of how successful enforcement is at deterring violations weakens incentive for USCG enforcement officials to detect and report violations.** Each significant violation detected makes it more difficult for the USCG to succeed at meeting its compliance goal of 97 percent.
- **Low detection rates, limited prosecution and small penalties limit the deterrent effect of at-sea enforcement.** Only 28 percent of violations reported by the USCG are successfully prosecuted and result in any type of penalty to the violator. The average penalty was $7,153. In the rare event that the USCG detects a violation during an at-sea inspection the expected penalty is therefore around $2,002 (.28 × $7,153).
- **The USCG detects few violations, and detecting violations at sea is expensive**. Based on the amount of money the USCG spent on at-sea enforcement from 2003–2006, the number of violations the agency detected, and the number of detected violations that resulted in a penalty, the USCG spends approximately $8.4 million per violation detected that resulted in a penalty.

Effective USCG enforcement is crucial because the USCG is the only agency able to conduct manned operations to enforce fisheries regulations at sea. However, the current enforcement system masks the true extent of illegal fishing, and (1) results in underestimation of violation types that are difficult to detect dockside; (2) hinders identification of strategies to improve compliance; (3) may prevent USCG enforcement from deterring illegal fishing outside a zone of localized deterrence around Coast Guard vessels; and (4) contributes to fishers' lack of trust that they will gain from stock rebuilding, which could further exacerbate illegal fishing. Based on these results, the authors suggest that the USCG reexamine how it enforces fishing regulations at sea and investigate and implement more accurate and effective means of measuring compliance.

Noncompliance may be jeopardizing the health of fisheries.

NEXT STEPS

These studies show that illegal fishing is likely a significant problem in U.S. commercial fisheries, and current enforcement strategies need improvement. The results suggest that enforcement agencies could become more effective by correctly identifying actual compliance rates, developing effective deterrence strategies, targeting chronic violators and expanding successful enforcement programs. Information about the extent of illegal fishing also needs to be factored into fisheries management strategies to improve managers' ability to halt fish population declines.

This research was initiated and supported by the Lenfest Ocean Program.

The Lenfest Ocean Program was established in 2004 by the Lenfest Foundation and is managed by the Pew Environment Group. For more information about the Program or papers, please visit www.lenfestocean.org or contact us at info@lenfestocean.org.

LENFEST OCEAN PROGRAM

Lenfest Ocean Program: Protecting Ocean Life Through Marine Science

The Lenfest Ocean Program supports scientific research aimed at forging new solutions to the challenges facing the global marine environment.

901 E Street NW, 10th Floor, Washington, DC 20004 • ph: 202.552.2000 • fx: 202.552.2299
email: info@lenfestocean.org • www.lenfestocean.org

Printed on 100% recycled paper.