

THE COST OF WASTE IN THE U.S. FISHING INDUSTRY

THE FISHING INDUSTRY in the United States is an important part of the economy, generating \$82 billion in sales and supporting 1.2 million jobs. Unfortunately, much of this value could be undercut by bycatch, the capture and discarding of non-target fish and ocean wildlife at sea, often already dead or dying. According to estimates by the National Marine Fisheries Service, 2 billion pounds of fish are thrown out by fishermen every year, representing a great deal of ecological and economic waste. Oceana's analysis calculates that discarded fish could be worth at least \$1 billion annually.

Besides the economic impacts, bycatch also remains one of the largest threats to the health of marine ecosystems, contributing to global overfishing and the decline of fish populations all over the world, as noted in Oceana's report *Wasted Catch: Unsolved Problems in U.S. Fisheries*. Fishermen discard fish for three main reasons: the fish are poor quality, have low market values, or regulations prohibit them from being kept. These discarded fish have real value both ecologically within their ecosystems and economically to fishermen.

VALUING NATURAL RESOURCES: THE COST OF BYCATCH

Much of what is in the ocean provides measurable value, which includes fish as well as seaweed products, minerals, tidal energy, wildlife tourism and even the very oxygen we breathe. Fisheries are among the most valuable of our natural resources, providing food, incomes and recreational opportunities for millions of people. In 2012, U.S. commercial fishermen landed almost 10 billion pounds of fish worth just over \$5 billion dollars. Unfortunately, all of this added value is undermined by the discarding of fish as

bycatch. Bycatch costs fishermen in lost time, ruined gear and wasted catch. In the 1990s, the Food and Agriculture Organization concluded that losses due to fish discarding could equal or exceed the value of landed catch in some fisheries, with billions of dollars hanging in the balance worldwide.

In this report, Oceana multiplied the best available nationwide bycatch data in the NMFS' *National Bycatch Report* by the price per pound of each fish species across three regions of the U.S., to compile its national estimate. This simple analytical approach provides a conservative estimate, and does not include recreational fisheries, indirect losses of diminished wages and costs of replacing ruined gear, among other variables. However, this estimate is a useful tool for evaluating the costs of discarding in our fisheries.

Oceana's economic analysis demonstrates that wasting billions of pounds of fish is not economically or ecologically sensible. Fisheries managers and fishermen should make informed decisions about the costs and benefits of reducing bycatch compared with the risk of doing nothing. Improving the selectivity of gear or providing incentives for fishermen to avoid bycatch pays dividends into the future. While fisheries management and science are complex and continually evolving, the logic of bycatch economics is simple: waste not, want not.

THE BOTTOM LINE

► Bycatch costs fishermen and the marine environment in more ways than one. Improving gear selectivity and providing incentives to avoid bycatch would pay dividends into the future.

FISHERMEN COULD LOSE UP TO \$1 BILLION ANNUALLY DUE TO BYCATCH

ALASKA & PACIFIC

Alaska produces the highest earnings in the country for seafood products, bringing in fish worth \$1.7 billion in 2012. However, valuable fish thrown away include Pacific halibut, snow and red king crabs, Pacific cod and sablefish. Along the coast of California, Oregon and Washington, valuable fish that are commonly discarded include spiny lobster, rockfish, California halibut, sea bass, shortfin mako sharks and thresher sharks. The average price per pound of discarded fish in 2010 was 63 cents.

\$17 million:
Value of fish discarded
by flatfish trawlers in the
Gulf of Alaska

California
gillnet fisheries
also capture and
kill a large number of
vulnerable **sea turtles,**
dolphins, whales and
baby great white
sharks every year

\$53 million: Value
of discarded Pacific
halibut, equivalent to
25% of the landed
value in one year

\$0.5 million:
Value of bluefin tuna
wasted in the California
drift gillnet fishery in
one year

FISHERMEN COULD LOSE AT LEAST \$1 BILLION EVERY YEAR BECAUSE OF BYCATCH

SOUTH ATLANTIC & GULF OF MEXICO

Fisheries in the southeast region threw away fish worth at least half of a billion dollars in 2010, including \$45 million in seatrout, \$27 million in red snapper, \$25 million in Atlantic croaker, \$4.2 million in king mackerel, \$3.4 million in bluefin tuna and \$1.3 million in swordfish. The average price per pound of wasted fish in this region was \$1.20, the highest in the U.S.

\$3 million:
Value of discarded
red grouper in the
snapper-grouper longline
fishery, also responsible
for discarding more than
\$250,000 worth of
red snapper

\$100 million:
Value of fish discarded
in the southeast shrimp
trawl fishery, responsible for
the deaths of thousands of sea
turtles annually and some of
the highest bycatch rates in
the U.S.

\$4 million:
Value of discarded
target fish within the
Atlantic pelagic longline
fishery, including tuna,
swordfish and sharks

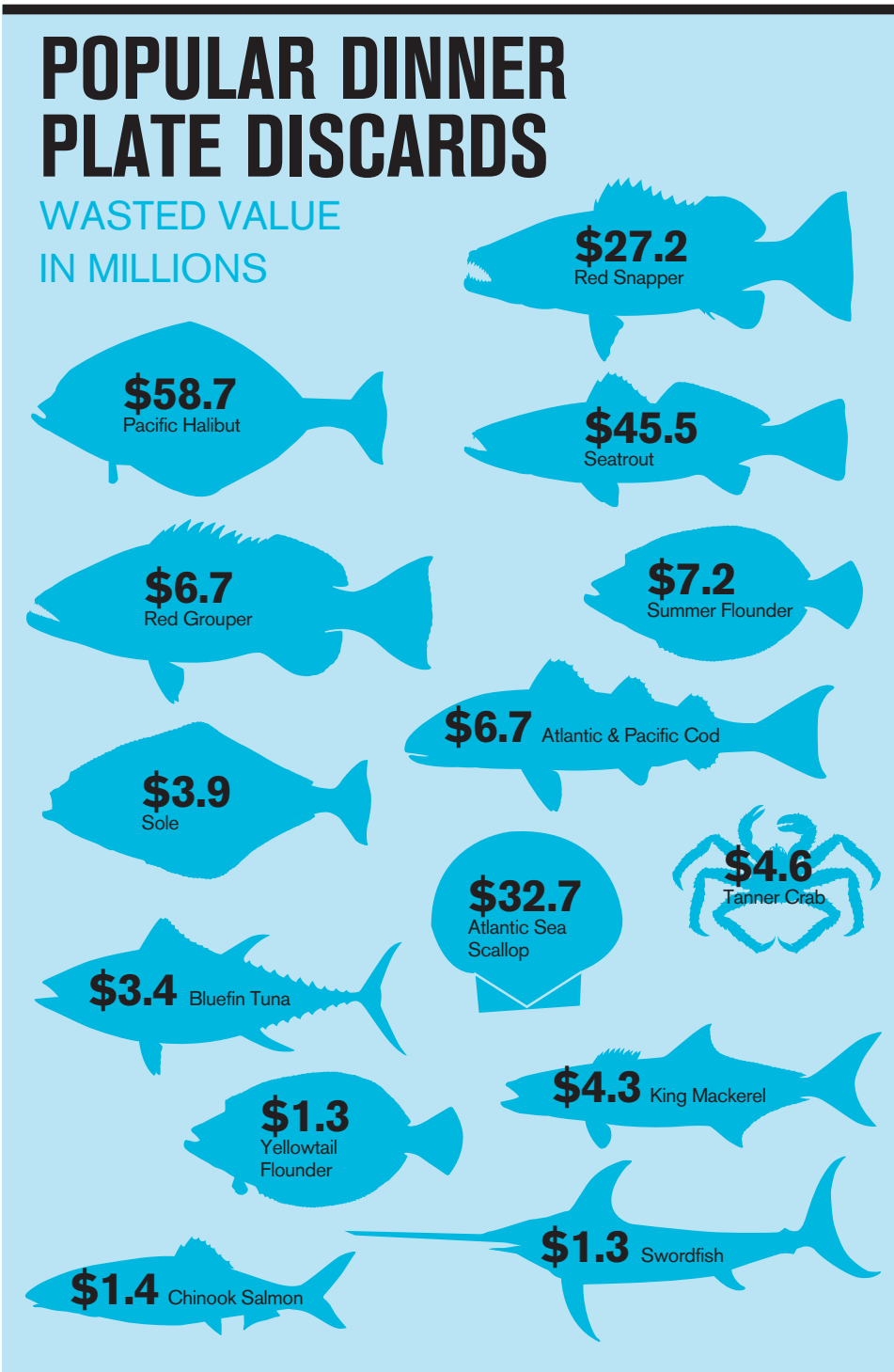
NEW ENGLAND & MID-ATLANTIC

Every year, fish worth millions of dollars are thrown overboard, including more than \$20 million in sea scallops, \$13.5 million in flounders, \$7 million in monkfish and \$4 million in hake. Discarded fish in this region are worth an average of 50 cents per pound.

\$25 million:
Value of discarded
fish in the regional
bottom trawl fisheries,
equivalent to 20 percent
of the total value of
the fisheries

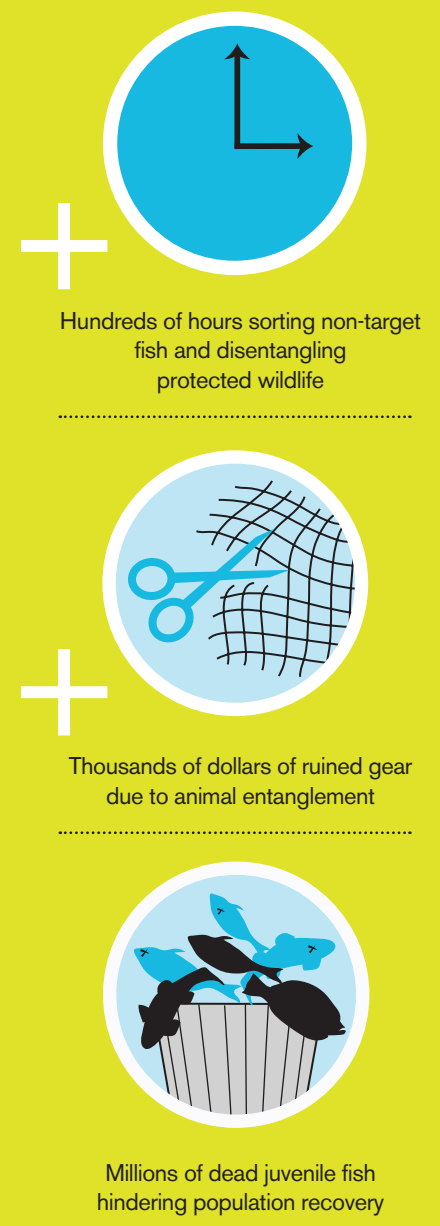
\$3 million:
Value of discarded
cod, an overfished
and highly valuable
species

\$8.5 million:
Value of discarded
summer and yellowtail
flounder in regional trawl
and dredge fisheries,
equivalent to 30 percent
of earnings for these
species



*According to figures in a recent Marine Policy article

THE COMPOUNDING COSTS OF BYCATCH



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GRAPHICS BY SYLVIA LIU



PHOTOS BY NAOMI BLINICK/MARINE PHOTOBANK; OCEANA/CARLOS PEREZ; OCEANA/ENRIQUE PARDO

USING ECONOMIC TOOLS

SUCCESSFUL BUSINESSES IN THE U.S. are constantly striving to increase efficiency, reduce waste, cut costs and maximize the market value of their products. Fisheries should take the same approach to reducing the wasteful practice of discarding. Benefits of working to reduce bycatch include avoiding premature fishery closures, improving the efficiency of fishing operations or even avoiding high costs of replacing ruined gear. A commitment to reducing bycatch by 50 percent during the next decade could amount to billions in savings. Fisheries managers in the U.S. must integrate economic tools into existing regulations.

COUNT ACCOUNTING FOR BYCATCH

► Accurate and precise bycatch data are critical to ensuring that fish populations are not overfished, fishermen do not unintentionally exceed annual quotas, and that the industry adheres to sound management measures. Without accurate estimates of how much fishermen are catching and discarding, fisheries managers have no way of accounting for the negative consequences of bycatch, including the failure of juvenile fish to mature, off-the-books fishing on depleted species, hindered recovery of diminished populations, opportunity costs and lost future revenue.

CAP BYCATCH LIMITS PAY DIVIDENDS

► Bycatch limits are essential for ensuring that vulnerable species maintain healthy populations and that already depleted fish populations can recover. Bycatch caps have prompted fishermen to develop innovative gear modifications and real-time, open-source reporting to collectively ensure that those limits are not exceeded, and they do not suffer the economic losses from premature fishery closures.

CONTROL ECONOMIC INCENTIVES CHANGE BEHAVIOR

► Management approaches should use economic tools to ensure that bycatch limits are not exceeded and that bycatch is reduced over time. Some of these methods could include incentive funding to transition to cleaner gear, bycatch taxes to discourage waste, individual bycatch quota systems to share risk, and insurance bonds to improve accountability. Like all businesses, innovation within fisheries is critical to remaining viable. Fisheries managers should utilize economic incentives where possible, and economic penalties if necessary, in order to reduce the amount of bycatch waste in our fisheries.

THE BOTTOM LINE \$1 BILLION IN WASTED CASH IS TOO MUCH

► Wasting billions of pounds of fish is not economically or ecologically sensible. No single approach can work in all situations, but combining existing management measures with economic incentives will be critical to changing fishing practices for the better and to ensure the economic viability of our nation's fisheries for future generations.

For more information, please see the full report at www.oceana.org/wastedcash.

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JUNE 2014

WASTED CASH



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