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Harassment and obstruction of observers in U.S. fisheries

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Fishery observers play a crucial role in the management and conservation of fish stocks, but the treatment they receive aboard fishing vessels can affect their ability to perform their duties. Using law enforcement data from the Northeast and Alaska regions, home to the most important commercial fisheries in the United States, we explore the extent of observer harassment, assault, interference, and obstruction (OHAIO). We find that 16% of 10,346 fishery violations reported in the Northeast and Alaska regions from 2014–2018 are observer-related, and over 80% of those involve OHAIO. We trace how OHAIO incidents are reported and processed and propose steps to mitigate the issue.

KEYWORDS

fisheries, enforcement, observers, safety, management

1 Introduction

As of 2017, there were an estimated 2,500 fishery observers working worldwide (Ewell et al., 2020). Fishery observers are professionally trained biologists tasked by national agencies with monitoring commercial catch of marine species. They work alongside fishing vessel crews at sea for hours to months at a time, collecting data critical to fishery management and ecosystem modeling (Gilman et al., 2017; Ewell et al., 2020). Though observers do not enforce regulations, the data they collect can affect future regulations, such as the following year's total allowable catch. For this reason, and because they take up limited space, time, and resources on fishing trips, observers are not always welcome on board. They face not only the same occupational hazards as fishers, but also observer harassment, assault, interference, and obstruction (OHAIO) (Heinz et al., 2017), and in rare cases even death (Ewell et al., 2020). In one U.S. survey, nearly half of observers said they had experienced harassment, much of it unreported (Wang and DiCosimo, 2019). This treatment hinders observers' ability to collect the data required to manage fisheries effectively (Ewell et al., 2020) and contributes to high rates of job turnover among observers (Wang and DiCosimo, 2019).

Harassment and assault encompass actions and behaviors that create a hostile or intimidating environment, including, for example, sexually offensive comments or physical assault. Interference and obstruction refer to actions that unreasonably impede an observer's job and performance. Examples include pressuring observers to change sampling procedures and biasing samples by tampering with catch. These OHAIO

incidents are likely to be more extreme in less regulated and policed regions like the high seas, where illegal activity is common and observer-reported violations often go uninvestigated (Ewell et al., 2020). From a global perspective, ensuring safe working conditions for fisheries observers aligns with United Nations Sustainable Development Goals (SDGs) 8 “Decent Work and Economic Growth, and SDG 14 “Life Below Water.”

U.S. fishing regulations pertaining to treatment of observers are among the world’s most stringent, yet OHAIO incidents persist. The Magnuson-Stevens Fishery Conservation and Management Act (MSA, 16 U.S.C. §1801-1891d) makes it unlawful “to forcibly assault, resist, oppose, impede, intimidate, sexually harass, bribe, or interfere with any observer on a vessel.” Violators can face fines of up to \$200,000, up to 10 years in prison, or both. While researchers have assessed the merits of mandatory reporting requirements in fishery observer programs (Porter, 2010), compared international observer programs across different regional fishery management organizations (Ewell et al., 2020), and surveyed attitudes and experiences related to U.S. observer programs (Wang and DiCosimo, 2019), the scope of observer harassment in major U.S. fishing regions and how to address it have not been well explored. This paper uses data from Alaska and the Northeast, home to two of the largest U.S. fishery observer programs, to shed light on the size of the OHAIO problem and key challenges in solving it.

2 Role of observers in U.S. fisheries

The National Oceanic and Atmospheric Administration (NOAA) has used fishery observers to monitor catch of marine species and fishery interactions with marine mammals since the 1970s (Brooke, 2015). Placed aboard commercial fishing, processing, and receiving vessels, observers collect firsthand data from the vessel’s haul to assess the myriad ocean species that come aboard (NOAA, 2021). Information on catch composition, specimen sizes, bycatch, protected species interactions, gear, and fishing effort is collected to support sustainability goals and monitor protected species. Observers are the only independent source for these at-sea data, which also support compliance with fishing and safety regulations (NOAA, 2021). Although they are not enforcement agents, observers report and document potential violations of the law, including inappropriate use of gear, improper record-keeping, and invalid permits.

Serving as managers’ eyes and ears can make observers unwelcome—and often costly—guests among the fishers they work alongside. Certain fleets are required to carry observers on all trips at their own expense (National Marine Fisheries Service, 2020). Industry paid 65–73% of observer coverage costs (e.g., observers’ salaries, travel expenses, and insurance) in Alaska during our study period, as compared to 7–17% in the Greater Atlantic (Supplementary Table S1). Some fishers willingly bear the consequences of refusing to carry an observer, but the personal risk to observers is greater when aggression takes the form of OHAIO, especially given the physical confinements aboard a vessel at sea. Gender, age, and power dynamics can heighten these vulnerabilities (Smith, 2018); women

have a much higher rate of representation in the field of observing than in fishing itself, and 41% of observers are under 30 years old (an additional 32% are aged 30–39). (Wang and DiCosimo, 2019). Sexual harassment or even assault of women aboard vessels has been documented as a problem in other settings, including the U.S. Antarctic Program (National Science Foundation, 2022) and maritime shipping (Carballo Piñeiro and Kitada, 2020).

The MSA’s 1996 reauthorization made it unlawful to harass an observer and added guidelines for carrying and training observers. Responsibility for ensuring compliance with these regulations lies with NOAA’s Office of Law Enforcement (OLE), which is also tasked with enforcing the many other laws protecting domestic marine resources and their habitats (Alaska Fisheries Science Center, 2021).

3 Reported OHAIO incidents

To explore the extent of OHAIO in U.S. fisheries, we obtained incident report data from the Alaska and Northeast regional enforcement divisions from NOAA through a Freedom of Information Act (FOIA) request and public reports. The FOIA data span five years (2014–2018) and encompass the Alaska and Northeast observer regions, which include several of the country’s most economically significant fisheries. Our dataset covers 68–71% of total yearly observer sea days nationwide between 2014 and 2018 (Supplementary Table S1). Studying these two regions allows us to compare observer programs covering biologically similar but geographically diverse fisheries operating under the same national observer framework.

The North Pacific Observer Program monitors the Alaskan groundfish and Pacific halibut fisheries in the Bering Sea, Aleutian Islands, and Gulf of Alaska. Vessels participating in these fisheries are assigned to either a full or partial observer coverage category. Those in the full coverage category have at least one observer present during all fishing or processing activity, while those in the partial coverage category are assigned observer or electronic monitoring coverage based on annual sampling plans developed by fishery managers (Alaska Fisheries Science Center, 2021). The North Pacific Groundfish Observer Program is the largest of the 17 regional U.S. programs (National Marine Fisheries Service, 2021), overseeing roughly 450 observers annually and providing 39,902 sea days in 2018 (Alaska Fisheries Science Center, 2021).

There are three monitoring programs managed by the Northeast Fisheries Science Center that collect data during commercial fishing trips. These programs operate in New England and Mid-Atlantic waters from Maine to North Carolina, providing a combined 10,779 sea days in 2018. The Northeast Fisheries Observer Program is the longest-standing U.S. observer program. It deploys approximately 120 observers annually (NOAA Fisheries, 2022) and is supplemented by the At-Sea Monitoring (ASM) Program for New England groundfish quota tracking and the Industry-Funded Scallop Observer Program (National Marine Fisheries Service, 2020).

Our FOIA data include the source of each incident report, a description of what occurred, and any fines issued. To protect

observers' identities, gender is not always recorded. While all entries in the data have an "incident number," not all include citations (indicating what law was suspected of being broken) or descriptions. Therefore, we use "incidents" to describe the inclusive set of all reported events and "citations" to describe incidents explicitly citing an alleged transgression of a law.

After dropping approximately 6,700 duplicates and entries without descriptions, we manually sorted the remaining 10,346 citations into categories following Porter (2010) (Figure 1A) and subcategories (Figure 1B) based on their descriptions and citation numbers. The primary categories include vessel safety violations,

not using or improperly using the Vessel Monitoring System (VMS), improper gear, fishing in a closed area, not having a valid permit, improper discards/retention/handling of fish, fishing over the catch limit (overages), record-keeping and reporting violations, and observer-related citations.

Observer-related citations include any citations that explicitly involve an observer, including issues pertaining to their contract or length of deployment, refusal to carry an observer, and OHAIO. Further detail on how these citations were categorized can be found in Table S3. Refusal to carry observers made up a larger share of observer-related citations in the Northeast (50%) compared to

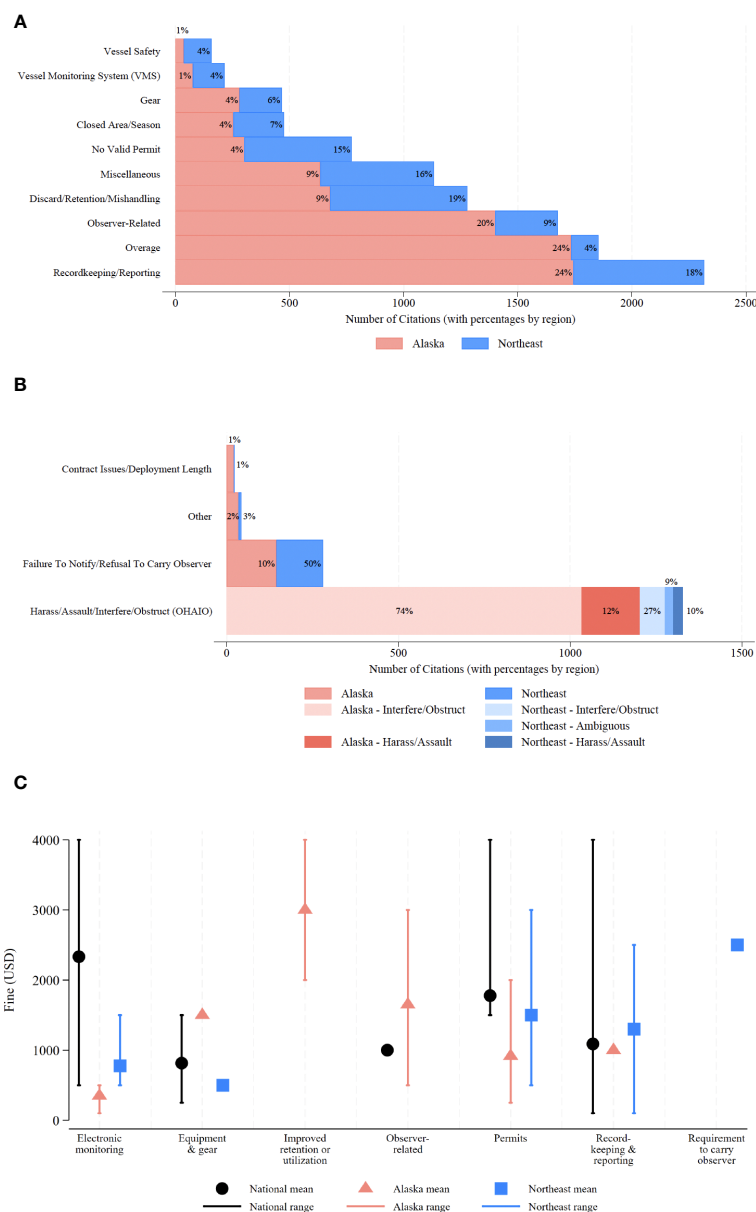


FIGURE 1

Summary of commercial fishery citations and fine guidance for the Alaska (AK) and Northeast (NE) regions. **(A)** Citations reported by category ($N=10,346$) from the AK and NE regions combined, 2014–2018. Approximately 6,700 incidents lacking citation descriptions could not be categorized and were excluded. Miscellaneous reports include those that are ambiguous or fall into uncommon categories. **(B)** Observer-related citations reported in the AK and NE regions combined, 2014–2018 ($N=1,675$). **(C)** Summary settlement schedules (max, min, and mean) by type, per violation, at the national level (NOAA, 2022c) and for the AK (NOAA, 2019) and NE (NOAA, 2022b) regions. Fine violation categories are described in Supplementary Table S2.

Alaska, likely because some Alaskan fleets had 100% required observer coverage during the study period and were accustomed to carrying observers as the norm. Most OHAIO violations involved interfering with or obstructing observers' ability to do their jobs, which is perhaps unsurprising given the numerous passive and active means by which this can occur. In our data these citations include, for example, failure to provide the observer with functional equipment or adequate accommodations on board, sorting catch without the observer present, and tampering with the observer's samples. Examples of harassment or assault include intimidating, threatening, or sexual language, physically hurting an observer, and sexual assault.

As these data provide only a snapshot in time and there may be years-long lags between cases being reported and charged, we also searched NOAA's Office of General Counsel enforcement action records from 2014 to 2022 for OHAIO violations occurring during our study period. In addition to providing case status updates, this yielded more cases that were retroactively determined to involve OHAIO violations but were not recorded as such at the time of the FOIA request.

During the 272,697 observer sea days in both regions combined between 2014 and 2018 (Table S1), there were 1,675 observer-related citations, out of the 10,346 citations that we could categorize. Between 2014 and 2018, 20% of all citations were observer-related in Alaska, and 9% were observer-related in the Northeast (Figure 1A), making this type of violation the third and fifth most common category in each region, respectively. Most observer-related citations involved OHAIO: 86% in Alaska and 46% in the Northeast (Figure 1B). Although most OHAIO violations were interference or obstruction violations, 12% of all observer-related violations were harassment or assault violations in Alaska and 10% in the Northeast. Finally, 9% of observer-related violations in the Northeast had ambiguous descriptions that could be interpreted as interfere/obstruct, harass/assault, or both.

In Alaska, the average recommended fine for observer-related violations is \$1,650 (Figure 1C) (NOAA, 2019). The Northeast does not provide fine guidance for observer-related violations and relies on the national fine schedule, which recommends a fine of \$1,000 (NOAA, 2022b). However, only 8% of observer related violations resulted in a fine, as compared to 76% of overage violations, for example (Supplementary Figure S1).

4 Barriers to OHAIO reporting and resolution

An OHAIO violation's path from reporting source to penalty, if any is issued, comprises several steps (Figure 2). While reports of potential violations can come to the OLE from NOAA, tips, the U.S. Coast Guard, and elsewhere, most (91%) originate with observers themselves. Observers are encouraged to report inappropriate behavior directly via hotline or an OLE field office. Alternatively, they can share their experiences with mandatory reporters, such as their observer program supervisors or state troopers.

Each potential violation passes through three layers of review to ensure it includes sufficient evidence to proceed. Over a third of the citations in our data did not proceed past this stage. Of those, a

quarter did not proceed due to lack of evidence, (>18%) did not proceed due to lack of resources available to pursue them, and the rest did not proceed because OLE determined that no further action was needed. The latter could be due to the fact that the citation was not deemed a violation or that evidence or resources were not available to make a determination. The citations that make it through the review process (62% in our data) become violations, and law enforcement officers or agents may pursue different enforcement options depending on the nature and seriousness of each offense. For minor violations, they may provide compliance assistance and issue a written warning, giving the offender time to correct the violation. Some violators may receive summary settlement offers, allowing them to resolve the matter quickly by paying a reduced penalty (NOAA Office of General Counsel – Enforcement Section, 2019). About 58% of citations were minor or first-time violations. If the violation is determined to be egregious or repeated, or if the violator has not paid the summary settlement, the case is referred to NOAA's Office of General Counsel, which may recommend charges under NOAA's civil administrative process (15 C.F.R. Part 904). Violations involving a significant criminal component are referred to the U.S. Attorney's Office for prosecution (NOAA Office of General Counsel – Enforcement Section, 2019). A little over 4% percent of citations were considered egregious or repeated violations. Ultimately, 4% of citations resulted in fines, 57% led to warnings and fix-it tickets, and 38% were closed without any enforcement action.

OHAIO presents unique challenges for fisheries enforcement, beginning with observers' hesitancy to disclose it. Common reasons for not reporting include the observer thinking it is not a serious enough issue, believing nothing will be done, fearing retaliation, and not trusting NOAA Fisheries, OLE, or their supervisor (NMFS Office of Law Enforcement Alaska Enforcement Division, 2018). Socio-cultural barriers may also restrain observers' communication of concerns; for example, they may not want to appear "difficult" or damage anyone's career, or they may even blame themselves (NOAA, 2022a). According to a national observer survey, though almost half of respondents reported being harassed during a deployment, two thirds of those said they let such incidents go unreported either some or all of the time (Wang and DiCosimo, 2019).

Even when reported, incidents may not be pursued or penalized for a number of reasons. First, some do not legally qualify as OHAIO violations. The OLE encourages observers to report any potential violation regardless of whether or not it initially appears to be a pursuable charge, and many incidents ultimately are not. Second, there may be insufficient evidence substantiating the potential violation. In the absence of physical or electronic proof, prosecutors may need to collect witness testimony or other indirect evidence, a complex process which can be compounded by the difficulty of locating offending crew members, who might be hard to reach or non-local (Donkersloot and Carothers, 2016; Silva et al., 2021). Third, limited enforcement resources may constrain or delay the prosecution of violations considered less severe than others being processed (Porter, 2010), causing observer-reported violations to be disproportionately neglected under a system of triage. Without a larger budget for more officers, shifting OLE's focus to observer incidents would create tradeoffs with its other responsibilities.

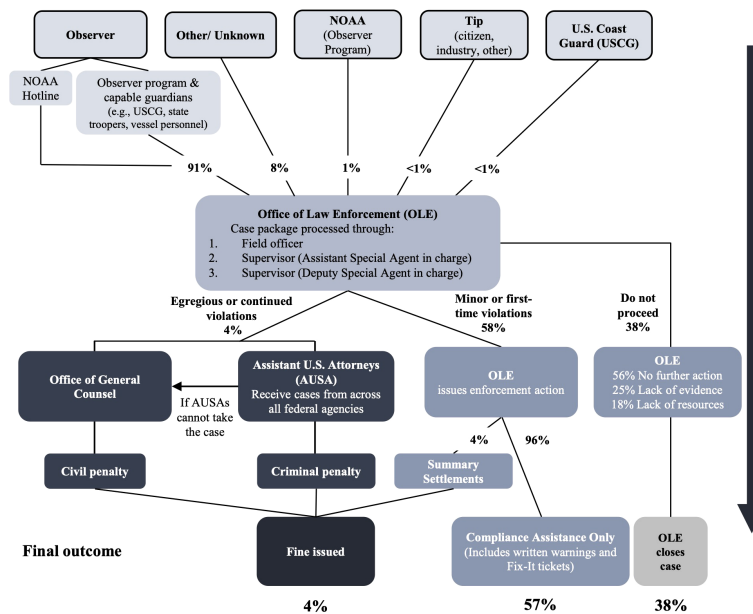


FIGURE 2

Pathways by which harassment, assault, interference, and obstruction of observers can be reported and resolved, from source to enforcement action. About 38% of the OHAIO citations in our data were closed by OLE without any enforcement action taken, due to lack of evidence, lack of resources to pursue the case, or a determination that no further action was needed. Source percentages (at the top) indicate the portion of reports that come from each source based on FOIA data for which we have the violation source.

5 Discussion

Despite being one of the OLE's top stated priorities (NMFS Office of Law Enforcement, 2017), OHAIO continues to be prevalent in U.S. fisheries. Observer-related citations are the third-largest category across the Alaska and Northeast regions combined, and OHAIO violations make up the bulk of this category. Our analysis highlights specific changes that could help deter OHAIO violations and protect the safety and efficacy of on-board fishery observers.

First, equipping observers with body cameras could provide evidence for the 44% of closed cases that do not have enough evidence or resources for OLE to pursue them. Such cameras have been found valuable for fisheries inspectors in Africa (Andrianalisoa et al., 2021) and may circumvent some limitations of vessel cameras, like blind spots or tampering by crew (Michelin et al., 2018). However, some fishers already view observers as "fish cops" (Fletcher, 2017), and body cameras could reinforce this view and increase hostility towards observers.

Second, standardized methods and categories should be developed for recording OHAIO incidents. It should be possible to generate reports on OHAIO without manually categorizing individual incidents based on inconsistently entered citation descriptions. Predefined OHAIO categories are an important first step in consistently quantifying and tracking the problem across different regions and over time to see if progress is being made. A data portal could include OHAIO report templates that use a predefined violation category and sub-categories, the offender's history, and charging information as cases are processed. Observer programs could be required to produce annual reports presenting OHAIO data queried from the portal. The North Pacific Observer Program, which produces the most comprehensive

annual report in the United States, provides an example for programs like the Northeast Fisheries Observer Program, which currently does not publish any annual review. Improvements in data management could also support case tracking and reduce delays in prosecuting cases and publicizing their outcomes. Increasing awareness of the seriousness of these offenses could deter future unlawful behavior towards observers, and greater transparency and efficiency may also reduce observers' hesitancy to report.

Recently, Amendment 23 to the Northeast Multispecies Fishery Management Plan revised target human ASM coverage to 100% of groundfish trips for four years, effective January 2023, provided federal funding is available to support costs (87 FR 75852). This new rule, intended to address data biases across observed and unobserved trips, could increase the number of observers and interactions between crew and observers, creating more opportunities for OHAIO to occur. Due to vessel profit-sharing arrangements, the additional cost—\$698 per day based on recent averages—may be borne in part by vessel crew, which "could produce negative social impacts on crew attitudes" and "exacerbate negative attitudes towards fisheries management" (New England Fishery Management Council, 2020). While the rule provides vessels with the opportunity to propose electronic monitoring (EM) plans in place of human observers to meet some monitoring requirements, this, too, creates tradeoffs. New costs would include EM installation and maintenance, as well as crew training on its use. And while EM may be cheaper and provide more round-the-clock data than humans (New England Fishery Management Council, 2020), it is not a substitute for much of the hands-on work observers do. Over time, the policy may provide useful information on the contexts to which each kind of monitoring is best suited, the appropriate balance

between costs and risks, and the quality of data generated to support fisheries management.

OHAIO remains an unresolved and underreported problem in fisheries, one that affects both the efficacy of fishery regulations and the safety and well-being of observers. These issues are particularly salient now. Amendment 23 to the Northeast Multispecies Fishery Management Plan and the MSA's pending reauthorization offer opportunities to consider improvements to data management, information-sharing, annual reporting requirements, and technology to support observers on their trips.

Data availability statement

The original contributions presented in the study are included in the article/[Supplementary Material](#). Further inquiries can be directed to the corresponding authors.

Author contributions

JD wrote the original draft and MK submitted the FOIA request and collected the initial data. All authors contributed to the formal analysis, methodology, data cleaning, and writing, as well as reviewing and editing. AB and KO supervised the project. KO and AB conceived the project. All authors contributed to the article and approved the submitted version.

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Conflict of interest

MK is an active duty U.S. Coast Guard officer. AB serves as a member of the New England Fishery Management Council's Scientific and Statistical Committee (SSC).

The remaining authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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Supplementary material

The Supplementary Material for this article can be found online at: <https://www.frontiersin.org/articles/10.3389/fmars.2023.1232642/full#supplementary-material>

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