

Behavior Change Action Plan

WWF French Guiana French Guiana

Case Overview

During nesting season, some beaches in French Guiana can receive hundreds of nesting olive ridley turtles per night. These preferred nesting beaches overlap with productive halieutic zones where fishermen focus their efforts on catching redfish and bass using gillnets. Reports have shown that a single gillnet can be responsible for entangling and killing 30 olive ridleys at once during peak nesting season. These interactions are devastating for the turtle population as well as for the fishers who lose equipment and time during each interaction.

The proposed solution to this threat is a voluntary no-fishing zone implemented and governed long-term by the fishers and fisheries committee, which has been introduced and discussed with the fishers over the past 3 years. Many of the fishers are already supportive of this solution, and a behavior change campaign is needed to **start implementation and support long-term adherence to a voluntary no-fishing zone.**

Target Audience

The area is home to about 100 ship owners that employ hundreds of local people and feed thousands, making fishing a central part of the economy. Fishers are represented by the local fisheries committee which, over the 20 years that WWF has worked to nurture relationships, has become collaborative and open to discussion with conservationists, especially when technical, practical solutions are proposed.

WWF's long-term presence in the region and working with fisheries have successfully influenced the attitudes of fishers; what was once a mistrustful dynamic lacking communication through-lines has evolved into a collaborative environment with key stakeholders open-minded to solutions. For example, (define this COAST) conducted interviews around the region to initiate discussions about bycatch. At first, fishermen were unwilling to discuss this controversial topic, but assurances that information would be protected and not used against fishers allowed WWF the necessary inroads to begin the important dialogue and audience research in this community. Since then, WWF has spent years collaborating with (and earning the trust of) local fishermen and communities and now work together on multiple conservation projects along French Guiana's coastline.

The target audience for this campaign are local fishermen, and in particular, the 3% of this population who have not adhered to the no-fishing zone and other fishery closures.

Key Stakeholders

Local Fishing Committee: This committee is made up of local fishermen and leadership is elected and changes every couple of years. They have a 20-year relationship with WWF and are collaborative and open to discussion with conservationists, especially when technical, practical solutions are proposed. Because membership and leadership may change over time, it is important to maintain positive relationships and frequent, periodic communication regarding the voluntary no-fishing zone.

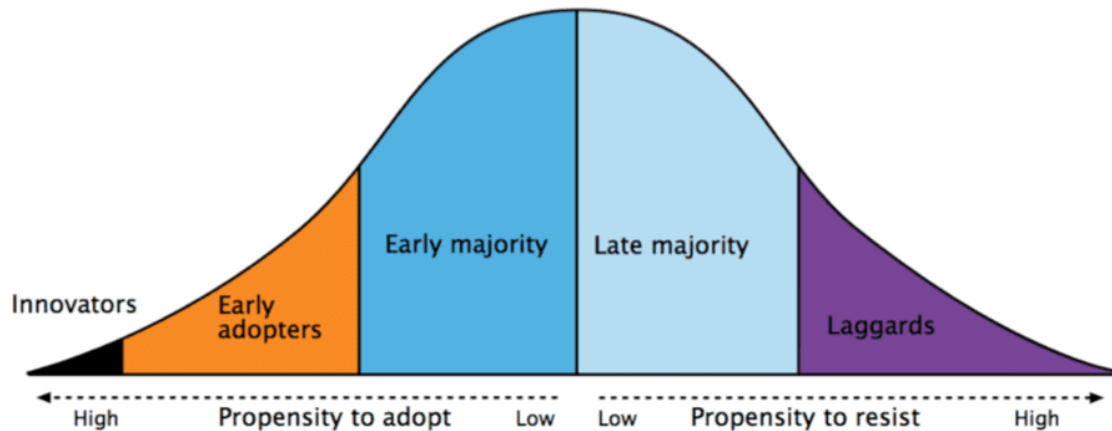
Community leaders and local government: WWF works closely with both regional French representatives (public servants placed by the national government) and the local government, for which members are locally elected. The individuals in these positions change over time; as such, it remains important to maintain open lines of communication with past, current, and potential future representatives to discuss opportunities to collaborate on co-promoting the voluntary no-fishing zone.

Purchasers of fish: The high demand for fish in the local community is likely a driver of noncompliance for the 3% of fisherman not yet adhering to the voluntary no-fishing zone. It will be important to engage local consumers to understand their attitudes towards sea turtles, communicate the positive impacts of marine protected areas on fish production in adjacent areas, and empower individuals to make responsible purchasing decisions.

Kwata: This local association focuses on monitoring sea turtle populations by conducting beach surveys and also organizes a major volunteer network to raise awareness for sea turtle conservation. Partnering with organizations with similar missions can increase reach, share resources, and maintain a consistent messaging cadence with the community.

Theoretical Framework

Diffusion of Innovation theory describes how innovations, or new ideas, diffuse (or, become adopted) within and across social systems (Fig. 1). The theory also presents five key constructs that inform the likelihood of an innovation diffusing successfully (see below for descriptions). In this case, the vast majority of fishers in the community have already adhered to the voluntary no-fishing zone. The laggard group, on whom much of this campaign is focused, tends to have a high propensity to resist innovations. Therefore, it is critical to examine the innovation itself to determine if changes can be made to encourage this group to adopt it.



Below are descriptions of the five constructs of Diffusion of Innovation that influence the adoption potential of an innovation:

- **Relative advantage:** The likelihood that the benefits of the new practice outweigh the costs and exceed the value of the current practice. Because implementing a no-fishing zone is likely to impact the amount of fish caught, and in turn, the profits made, some community members may not believe a no-fishing zone has a relative advantage to the alternative of lesser regulation. However, it is known that bycatch can reduce the amount of target catch caught, takes time to detangle from fishing gear, and can sometimes damage gear. Framing this no-fishing zone as beneficial for fishermen in terms of reducing time and money spent on separating bycatch and repairing gear may help the community see the benefits of a no-fishing zone.
- **Compatibility:** The new practice does not conflict with social norms, past experiences, or needs of the community. Many fishermen in this community may join a long familial line of fishermen meaning a no-fishing zone may conflict with the social norms and expectations of how the system should work based on how it has worked in the past. Framing this no-fishing zone as an opportunity to maintain viability in an ever changing and globally connected world could help fishers see the need to change in response to the changing social and environmental context. Discussions with those who have yet to adhere to the voluntary no-fishing zone may reveal their motivations for not wanting to participate.
- **Complexity:** The new practice is not too difficult to understand or implement. The boundaries of the no-fishing zone and the time periods in which fishers should adhere to the no-fishing zone should be clear and consistently communicated. A graphic designer may be able to help create visually compelling maps delineating the no-fishing zone that could be distributed to the community and posted in areas where fishers congregate.
- **Trialability:** There is an opportunity to try the new practice at no or low cost without a long-term commitment. While the no-fishing zone is meant to be a long-term solution, collecting data on bycatch and target catch profitability to better understand the impact to sea turtle populations and the profitability of the fishers may be helpful to improve the overall effectiveness of the zone. Communicating the no-fishing zone as a starting point that will be adjusted if the data

show a better path forward may help laggards adopt this practice if they believe it will be monitored closely.

- **Observability:** There is an opportunity to observe others participating in the new practice and the results of participating. The vast majority of the fishers in this community do adhere to the voluntary no-take zone; however, it is difficult for others to observe a ‘non-action’ or something that is not happening (in this case not fishing in a certain area). Observability in this case would rely on trustworthy communication between those that adhere to the no-fishing zone and those that do not so that the latter can better understand how this voluntary regulation works in practice and the impact fishers have seen in profitability and efficiency. Identifying and collaborating with well-respected fishermen in the community who can talk with those who are not adhering to the no-fishing zone may help with this element.

Stern, M. J. (2018). *Social science theory for environmental sustainability: A practical guide*. Oxford University Press.

Key Message

A voluntary no-fishing zone can not only help protect a critically endangered species, but also increase efficiency by reducing the time and money it can take to detangle and separate bycatch and repair damaged gear. It takes a committed community for a voluntary no-fishing zone to be effective, which may prevent the government from implementing more strict regulations. In fact, many of your fellow community members are already committed to maintaining the no-fishing zone. We (the WWF and partners) are committed to continually evaluating this voluntary regulation and to make adjustments as needed to ensure it is having its intended impact on sea turtle populations while also incurring benefits to the fisher community.

WWF may also want to consider rebranding the no-fishing zone. Fishers may not prioritize conservation of sea turtles above the efficiency of their operation, so reframing the no-fishing zone with a name that resonates with the values and needs of the target audience (reluctant fishers) is a small change that can have a large influence on adoption potential. For example, a name such as “gear damage risk zone” speaks to the benefits that avoiding the zone may have on operational efficiency, which may encourage adoption by the remaining laggards. We encourage the team to play with the wording and involve stakeholders in this process.

Implementation

1. Before implementation, it will be beneficial to discuss the no-fishing zone with local stakeholders to understand current adherence, motivations and barriers to adherence, and positive impacts experienced by those who are adhering. Collaborate with the fishing committee to determine a name for the zone that will resonate with the target audience while maintaining the key message.
2. Determine what segment of the population is currently not adhering to the voluntary no-fishing zone and explore their relationships with others in the community. Identify key fishermen who adhere to the voluntary regulation and who may have a pre-existing relationship with those who are

not adhering. Work with these stakeholders to craft a clear and concise message (and mode of delivery for that message) that can be shared with those not adhering.

3. Determine areas where fishermen tend to congregate and post well-designed maps and graphics that explain the no-fishing zone. Communicate that the vast majority of fishermen in the community already adhere to the voluntary regulation to establish the practice as a social norm. Communicate your key message consistently and often to all stakeholders including fishers, consumers, and local leaders. Encourage open communication and dialogue between fishers, the local fishing committee, and WWF and partners to continue to evolve and adapt the voluntary regulation to be effective and efficient.
4. Leverage community pride and sense of ownership that 97% of fishers have adhered to the no-fishing zone. A certification process could be established to incentivize participation. Those who adhere to the voluntary no-fishing zone can communicate their certification when selling their catch to increase demand*. This could also include a branded certification that could be put on t-shirts, patches, stickers, or anything else culturally relevant that they can display. This could not only motivate the remaining fishers who have yet to adhere, but also help ensure the sustainability and longevity of the voluntary no-fishing zone.

**Note: A certification will only be successful if there is validity and truth behind the certification. It will be important to monitor fishing activities to ensure that only fishers adhering to the zone are permitted to use the certification and corresponding branded items to their advantage.*

Evaluation

To evaluate the success of this campaign and the voluntary no-take zone, it is important to measure both social and ecological outcomes. First, continually monitor the percent of fishers in compliance with the no-fishing zone. Identify specific fishermen that are not in compliance to further understand their barriers to participation (either through direct communication or through trusted messengers, depending on the relationship). Hold discussions with key stakeholders often about the progress of the campaign, the impacts of the no-fishing zone, and challenges of adhering to the zone. This could include structured discussions like interviews or focus groups or more informal methods. Monitor sea turtle populations, collect data on bycatch as well as fisher profitability and operational efficiency for those adhering to the no-fishing zone, and communicate these findings to relevant stakeholders. It is important to adapt the no-fishing zone as needed, informed by the data and discussions with stakeholders.

Informal or formal survey methods could be used to understand the awareness of and attitudes towards sea turtle conservation and use of the voluntary no-fishing zone in the community. The findings from these surveys can help craft and refine messaging strategies that will resonate with the target audience.

Conclusion

Improving adherence of reluctant fishers to a voluntary no-fishing zone is a complex challenge, but one that can benefit immensely from science-based messaging efforts and behavior change strategies. Spend

time building relationships within the community and exploring each specific audience you must reach to further develop custom action/implementation plans. Develop your evaluation plan alongside your action/implementation plan to ensure you are measuring relevant indicators of success that align with your action plan. If nothing else, the critical take-home message of this action plan is the importance of community-based management. Work directly with the key stakeholders and audiences identified in this plan, and encourage leadership roles for community members in the development of the various strategies.

You might find helpful resources on our webpage: <https://www.seaturtlestatus.org/team-beach>.

For more on either the ecological or socio-economic benefits of community-based management in small-scale fisheries, as well as the importance of strategic message framing, see the following case studies:

1. Long, S., 2017. Short-term impacts and value of a periodic no take zone (NTZ) in a community-managed small-scale lobster fishery, Madagascar. PloS one, 12(5), p.e0177858.
2. Climate Links blog post: [Addressing Cooperative Dilemmas in Fisher Communities Using Behavior Change](#)
3. Frameworks Institute report: [Engaging Boaters: Reframing Sea Turtle Protection in Florida](#)

Thank you for submitting this case study to Team BEACH for further exploration. We hope this plan gives you ideas to begin to tackle this conservation challenge. If you would like to further collaborate with Team BEACH, reach out to one of our members:

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