

# Greater Farallones National Marine Sanctuary

## Resource Protection through Behavior Change Campaigns



Shotgun Wad Assessment & Behavior Change Campaign



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# Resource Protection Program Overview



**Protecting against threats to sanctuary resources from human activities, while allowing people to enjoy the sanctuary responsibly.**

# How?

**Policies**

**Regulations**

**Issue Permits**

**Respond to Threats**

**Assess Damages and Conduct Restoration**

**Community-Based Programs-**

**Promoting Resource Protection and**

**Regulatory Compliance**

**Coordinate with Enforcement**

# How?

**Community-Based Programs-  
Promoting Resource Protection and  
Regulatory Compliance**

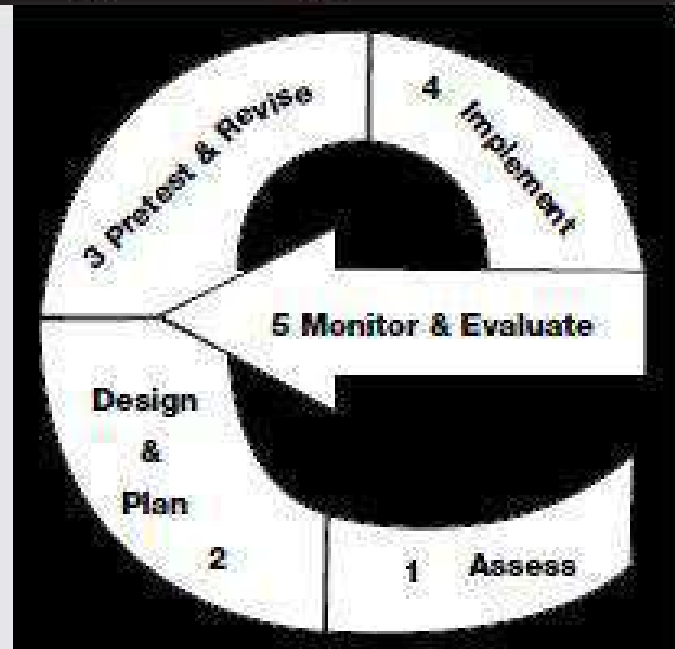
# Behavior Change Campaigns

## Weaving 4 Strands

### 1. Social Marketing

From: Environmental Education  
Communication for a Sustainable  
World (*Day and Monroe, 2000*)

Figure 1.1 The Steps of Social Marketing for Creating Behavior Change



# Behavior Change Campaigns

## 5-step Process: Digging Deeper into Social Marketing

- Doug McKenzie-Mohr



Assess

Design & Plan

Pretest & Revise

Implement

Monitor & Evaluate

Select Behaviors

Uncover Barriers & Benefits

Develop Strategy

Pilot Strategy

Implement Broadly & Evaluate

# Behavior Change Campaigns

## Weaving 4 Strands

### 2. Environmental Communication

- Four steps: Goal -> Audience -> Medium -> Message

### 3. Environmental Education

- Awareness—Knowledge—Attitudes—Skills—Participation (*UNESCO, 1978*).

# Behavior Change Campaigns

## Weaving 4 Strands

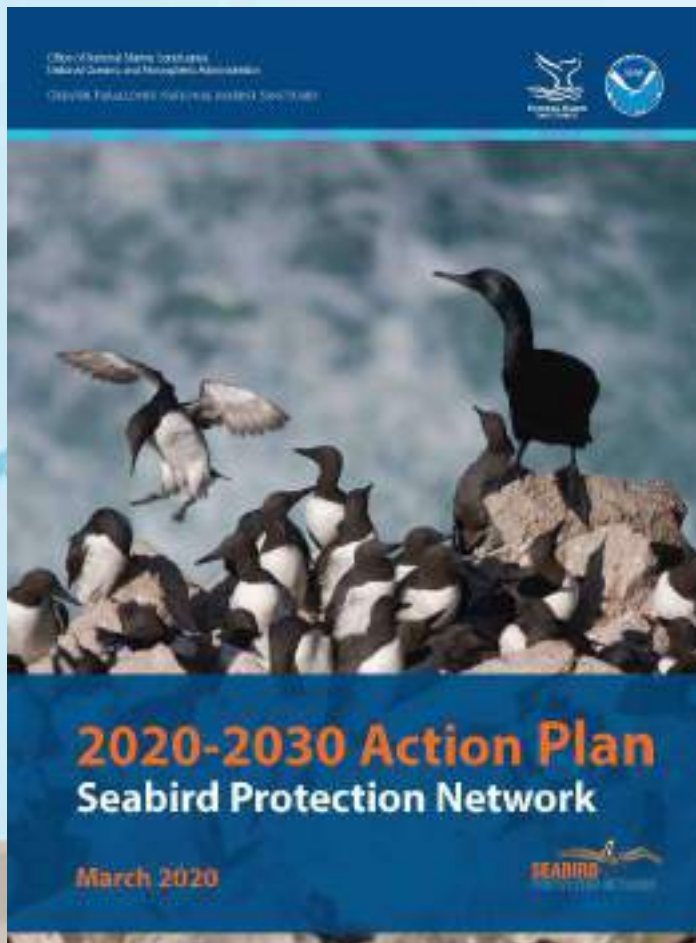
### 4. Stakeholder Participation

- Participatory materials development,
- Partnering with them in the collection of formative research data
- Participation in implementation.





# 2020 Action Plan For the Central Coast Chapter



## INTRODUCTION

- Background and Overview
- Purpose and Need
- Scope of Action Plan

## SETTING

- Target Species and Key Colonies
- Threats to Recovery

## STRATEGIES

- Intro to Core Strategies
  - Formative Research and Evaluation
  - Outreach
  - Coordinated Management
  - Monitoring

# Strategies for Target Audiences

Stakeholder  
Participation



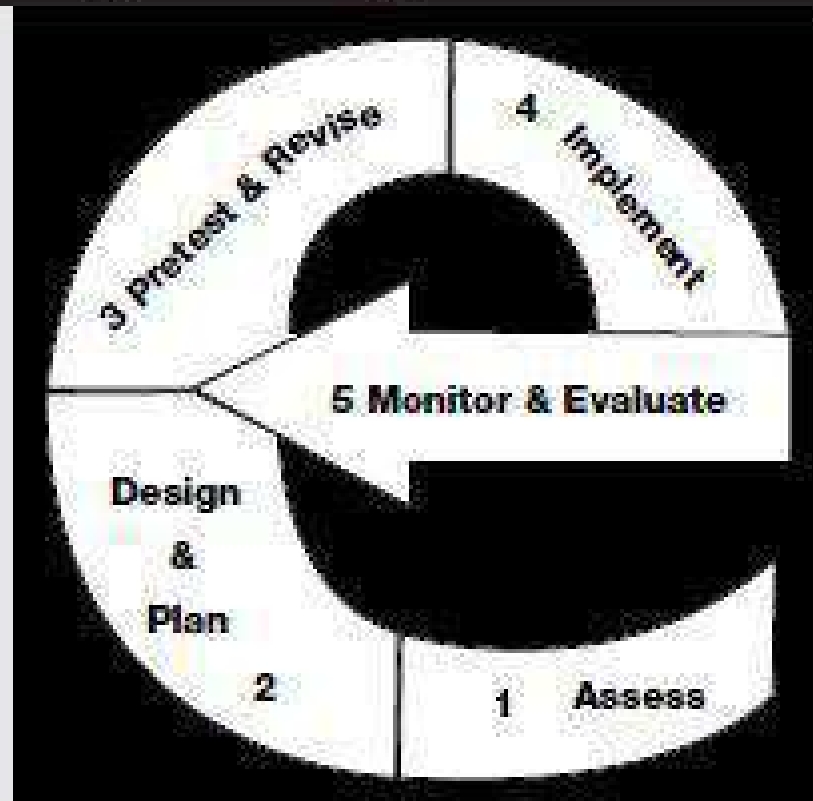
Environmental  
Communications



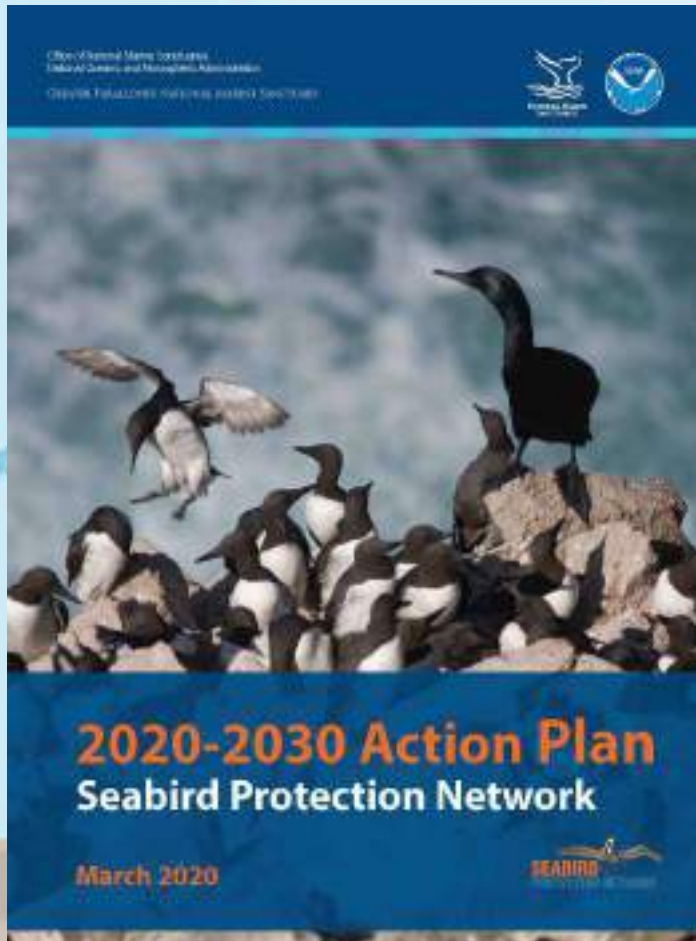
Environmental  
Education



Figure 1.1 The Steps of Social Marketing for Creating Behavior Change



# Appendix:



- A. 2013 Action Plan
- B. 2006-2019 SPN Accomplishments
- C. Seabird-Related Laws, Regulations, and Authorities
- D. Outreach Materials and Style Guide
- E. 2018 Evaluation and Planning Executive Summary
- F. Partnership-building Communications Tactics and Planning

# Actions for Each Target Audience



# Strategy 2: Outreach

## Strategy:

Use outreach to build long-term partnerships with target audiences that result in avoiding disturbance to seabird colonies.

## Target Audience: FIXED-WING PILOTS

*Includes motorized civilian, commercial, military, and experimental fixed-wing aircraft.  
(Outreach Fixed Wing Pilots – OP)*

## Other Target Audiences:

- Helicopter Pilots
- UAS Pilots
- Boaters
- Fishermen
- Sailors
- Coastal Users
- Agencies and Partners

# Meet the Team!



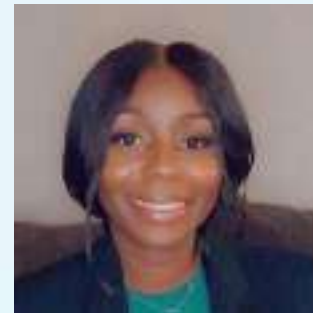
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Aviation  
Consultant

# Shotgun Wads!

Office of National Marine Sanctuaries  
National Oceanic and Atmospheric Administration



**A Behavior Change Campaign to Reduce  
Plastic Shotgun Wad Debris on the North-  
Central California Coast**



NOAA Office of National Marine Sanctuaries, and  
NOAA Marine Debris Program  
January, 2021

**Save the Date:  
May 25th**



# The Issue



**Plastic shotgun wads were one of the top ten most common items found at all six survey sites.**

**They likely originate from hunting reserves and shooting ranges along the SF bay shoreline or adjacent to river and tributaries.**

# The Behavior



**Shotgun wads travel at least 20 yards in front of the shooter and can often land in waterways.**

Plastic shotgun wad and pellets (left) and shotgun shell and powder (right). Source: *Shelled Out* by gfpeck, available under a Creative Commons Attribution-NoDerivs 2.0

# The Behavior



**Formative research identified two main pathways for addressing the problem of shotgun wad debris in waterways:**

- 1) reduce plastic wad prevalence through wad retrieval by hunters, and 2) transition to biodegradable wads.**

# The Campaign: Retrieval Partnering with Reserve Managers and Hunters



# The Campaign: Barriers to Behavior Change Uncovered!

**27 out of 75 (36%) hunters said that lack of access was a downside to picking up wads.**

*This includes not being able to find the wad, not being able to get to them, the fact that the wads float or fly away, or that the wads sink in the water and are impossible to access.*

# The Campaign: Barriers to Biodegradable Wads!



# Next Steps



**Thank You!**