



SF Environment

Our home. Our city. Our planet.

A Department of the City and County of San Francisco



**SAN MATEO
COUNTY HEALTH**

All together better.



ALAMEDA COUNTY
**HOUSEHOLD
HAZARDOUS WASTE**

Marine Flare Pilot Collection Events

Huy Le, San Francisco Department of Environment

Bruce Fritz, Alameda County HHW

Wesley Won, San Mateo County EHS



From a Boater's Perspective



One of our readers summed up the problem: "The Coast Guard told us to take them to the Fire Department. The Fire Department told us to take them to the Hazardous Materials Recycling Center" "The Hazardous Materials Recycling Center said they won't take explosives. We tried to donate them to sail/boating instruction groups...who all stated they had more than enough for their training. The (stores) that sell the flares don't have an answer, (they) are happy to replace my combustible flares with electronic flares . . . leaving us still with the problem of old flares."

Excerpt from Latitude 38, a Bay Area yachting magazine





What Are Boaters Doing With Them?



Barriers to Marine Flare Collection



- Storage Requirements
- Permits and Approvals
- Transportation Hurdles
- Cost



CalRecycle HHW Grant



Alameda and San Mateo County

- \$59K - HD27 Regional Grant

Alameda County

- \$49K – HD29 Individual Grant

City & County of San Francisco

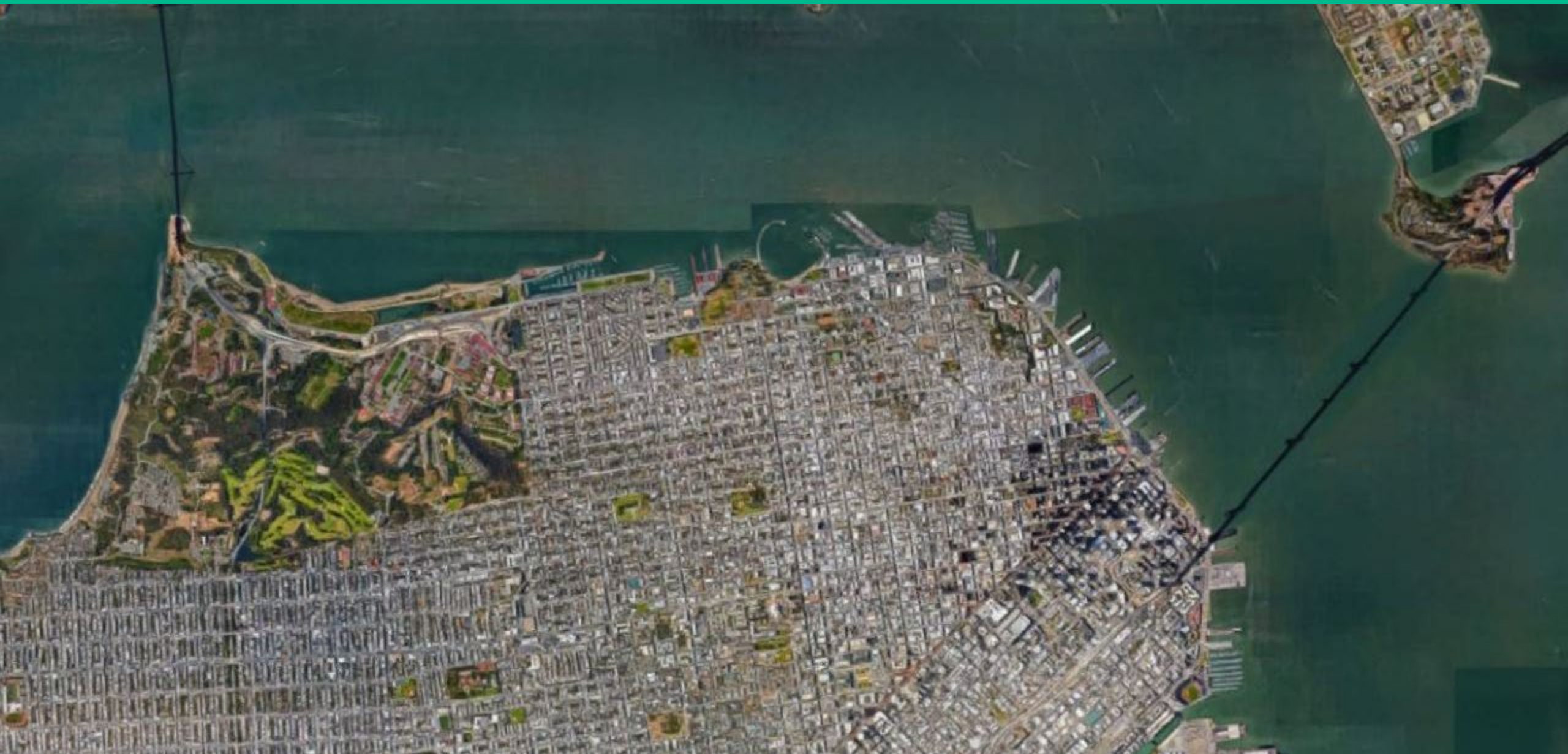
- \$30K – HD29 Individual Grant



Cal Recycle

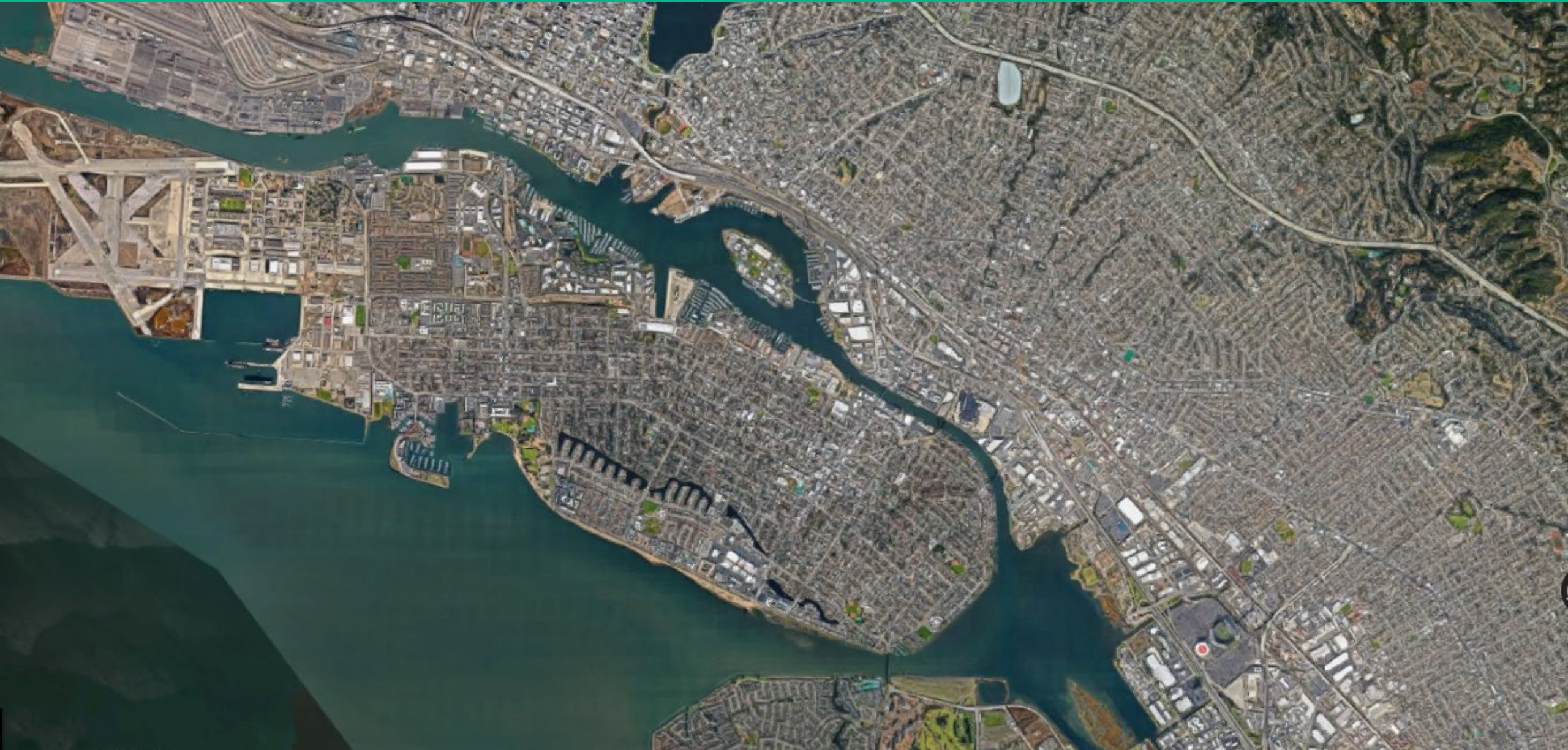


City & County of San Francisco – April 14th

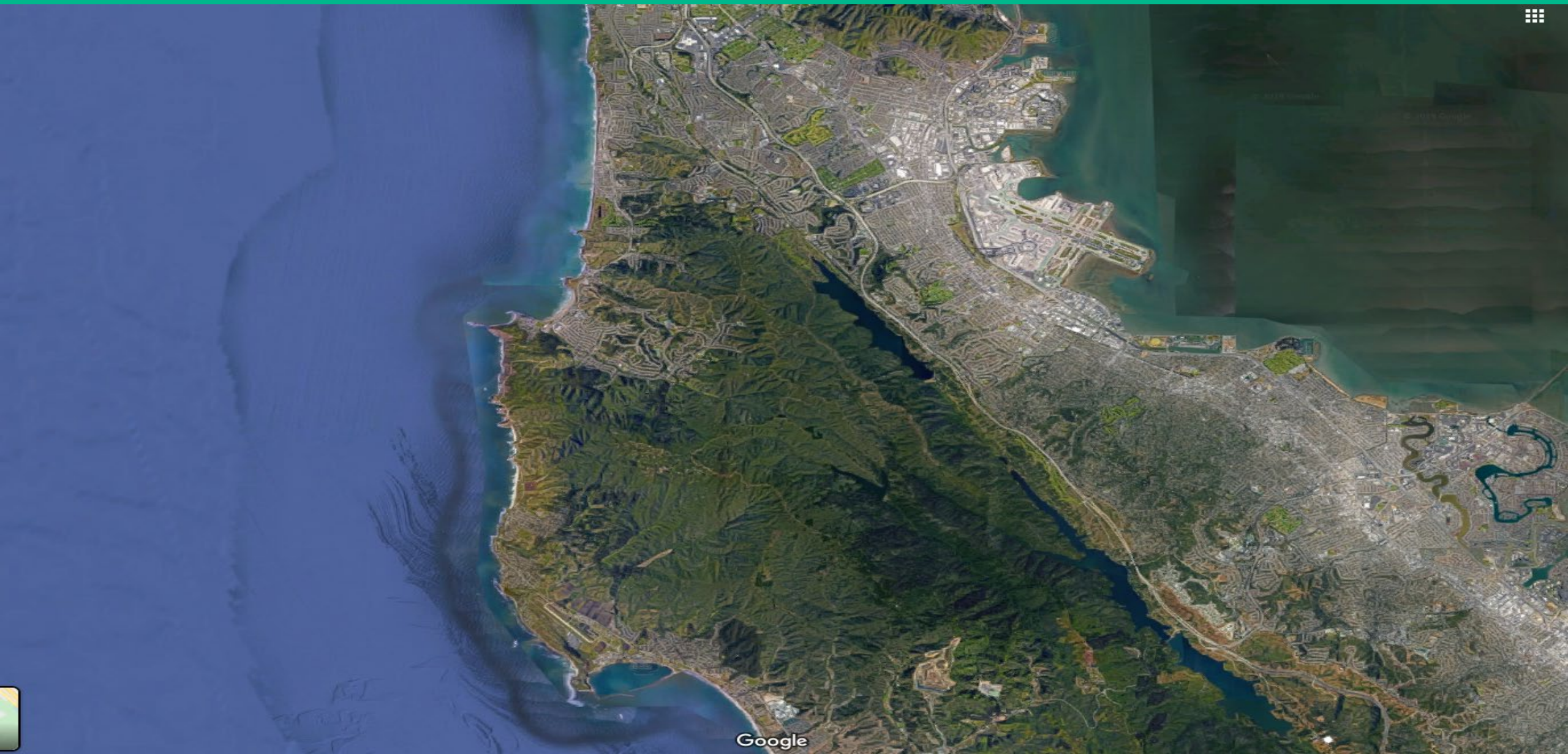




Alameda County – May 26th & Nov 3rd



San Mateo County – November 2nd



Pilot Collection Event Results



City & County of San Francisco

- 51 Boaters Attended
- 2,175 Estimated Number of Flares Collected

Alameda County (2 events)

- 49 Boaters Attended
- 2,638 Estimated Number of Flares Collected

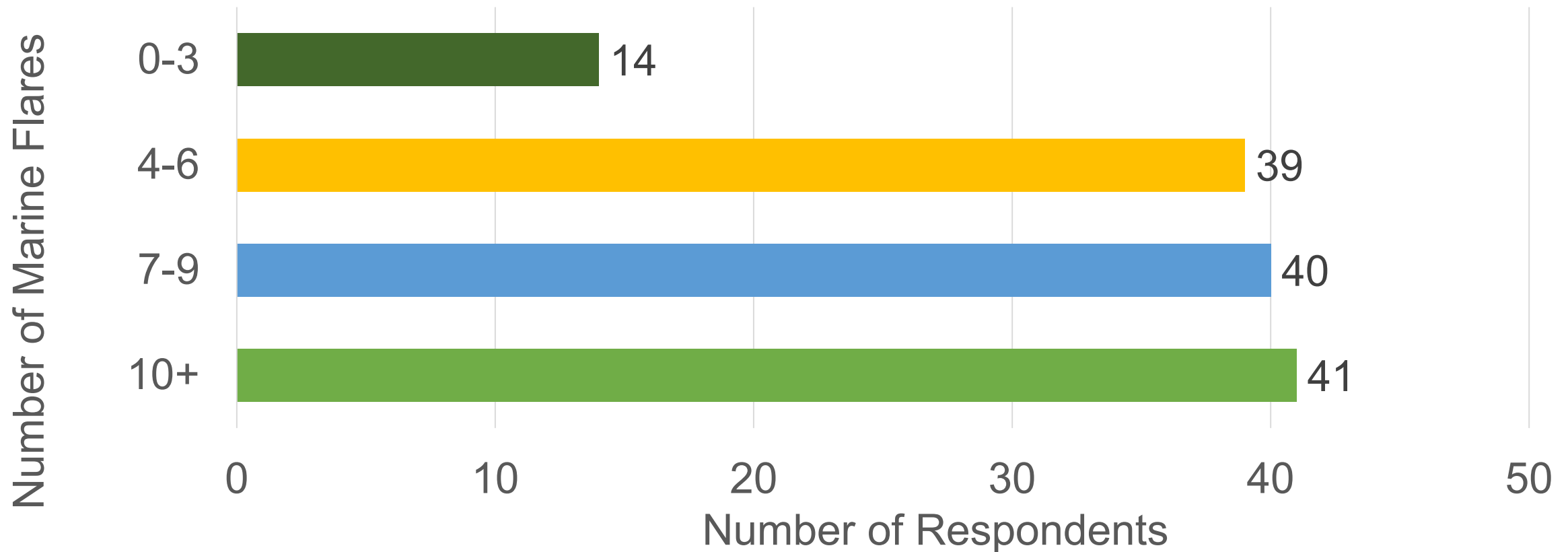
San Mateo County (2 events)

- 41 Boaters Attended
- 1,088 Estimated Number of Flares Collected

Survey Results – How Many Flares?



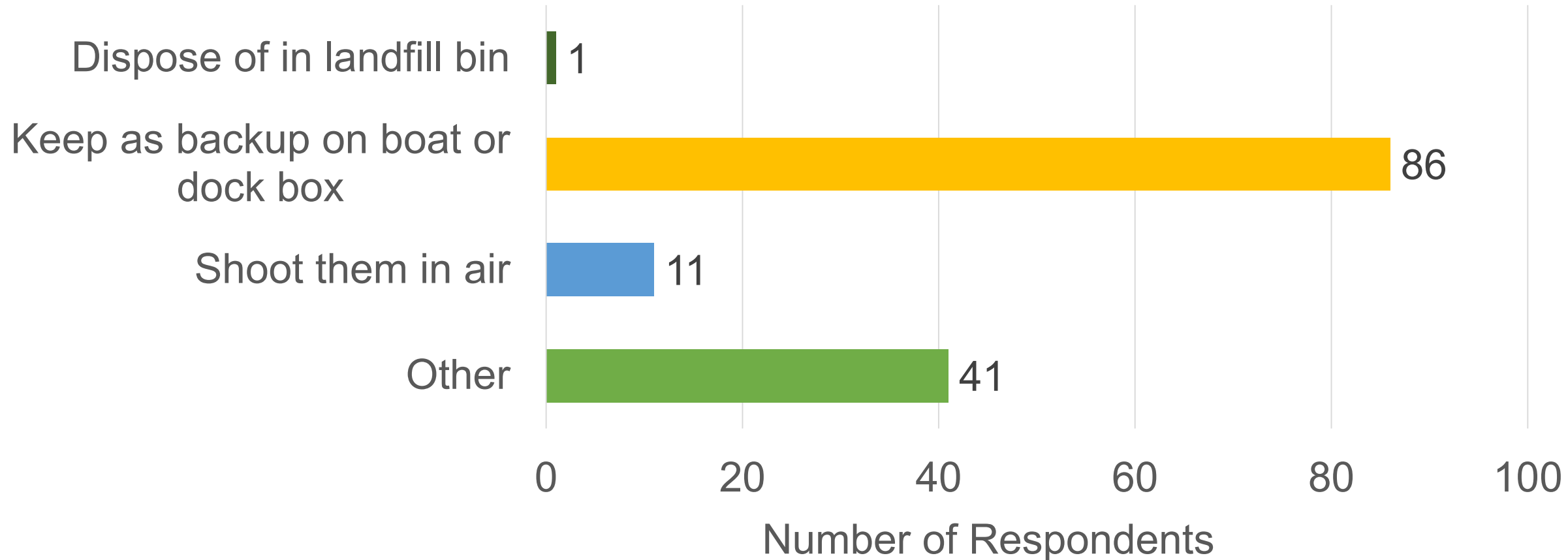
How many marine flares do you carry on your boat at any given time?



Survey Results – How Disposed of Flares?



Prior to this event what have you done with expired or unwanted marine flares?



Event Numbers



5 Collection Events

1,901 Flares Collected

135 Boaters Served

\$77,062 Total Cost

Cost/Flare: \$13

Cost/Boater: \$570





Lessons Learned



- Appointment system and drop-ins
 - Fewer responses than expected
- Site choice
 - Control access and foot traffic
 - Plan for contingencies
- Regional multi-collection event
 - Manageable
 - Can save significant cost
- Outreach Efforts
 - Budget for media buy



Next Steps



Questions?



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Collection Buckets for Expired Marine Flares



Expired Marine Flares at the San Francisco Collection Event



Educational Booth at the San Francisco Collection Event



Hazardous Waste Label on Bucket



U.S. D.O.T. SHIPPING DESCRIPTION
UN0430, WASTE ARTICLES, PYROTECHNIC FOR TECHNICAL PURPOSES, 1.3G, SP20599

Line # 2. **1.3G**
HAZARD CLASS

UN0430

HAZARDOUS WASTE
STATE AND FEDERAL LAW PROHIBIT IMPROPER DISPOSAL
IF FOUND, CONTACT THE NEAREST POLICE, OR PUBLIC SAFETY
AUTHORITY, THE U.S. ENVIRONMENTAL PROTECTION AGENCY OR THE
CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL

CAUTION

MANIFEST TRACKING #	013523323FLE	ACCUMULATION START DATE	4/14/2019
GENERATOR	City and County of San Francisco Department of Env	TELEPHONE NUMBER	(415) 355-3760
ADDRESS	200 Marina Boulevard		
CITY	San Francisco	ST	CA
		ZIP	94123
GENERATOR'S ID#	CAH777001962	PHYSICAL STATE	SOLID
EPA WASTE # / CA WASTE #	612 D001 D003	EPA HAZARD NAME	Reactive/Ignitable
PROFILE #	CH1809705	DESCRIPTION	WASTE ARTICLES, PYRO FOR TECHNICAL PURPOSES, UN0430,
		CUST. CONTROL #	C000000002

HAZARDOUS WASTE
CONTAINS HAZARDOUS OR TOXIC WASTE
HAZARDOUS CONSTITUENTS
PART # LM-HW305CA 01/11

CAUTION

EXP 1

Approach to the San Francisco Collection Event



Sign for the Alameda Collection Event



Worker at a Collection Event



Buckets of Expired Flares at a Collection Event



A Degraded Expired Marine Flare

