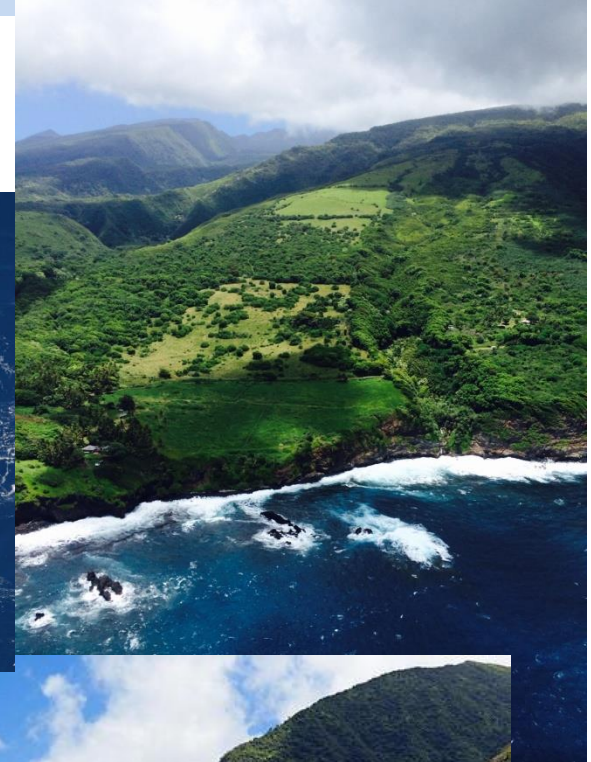


# Shoreline Surveys Following Navy Training Events in HRC



Prepared by J. Mobley, HDR



# Aerial shoreline surveys--purpose

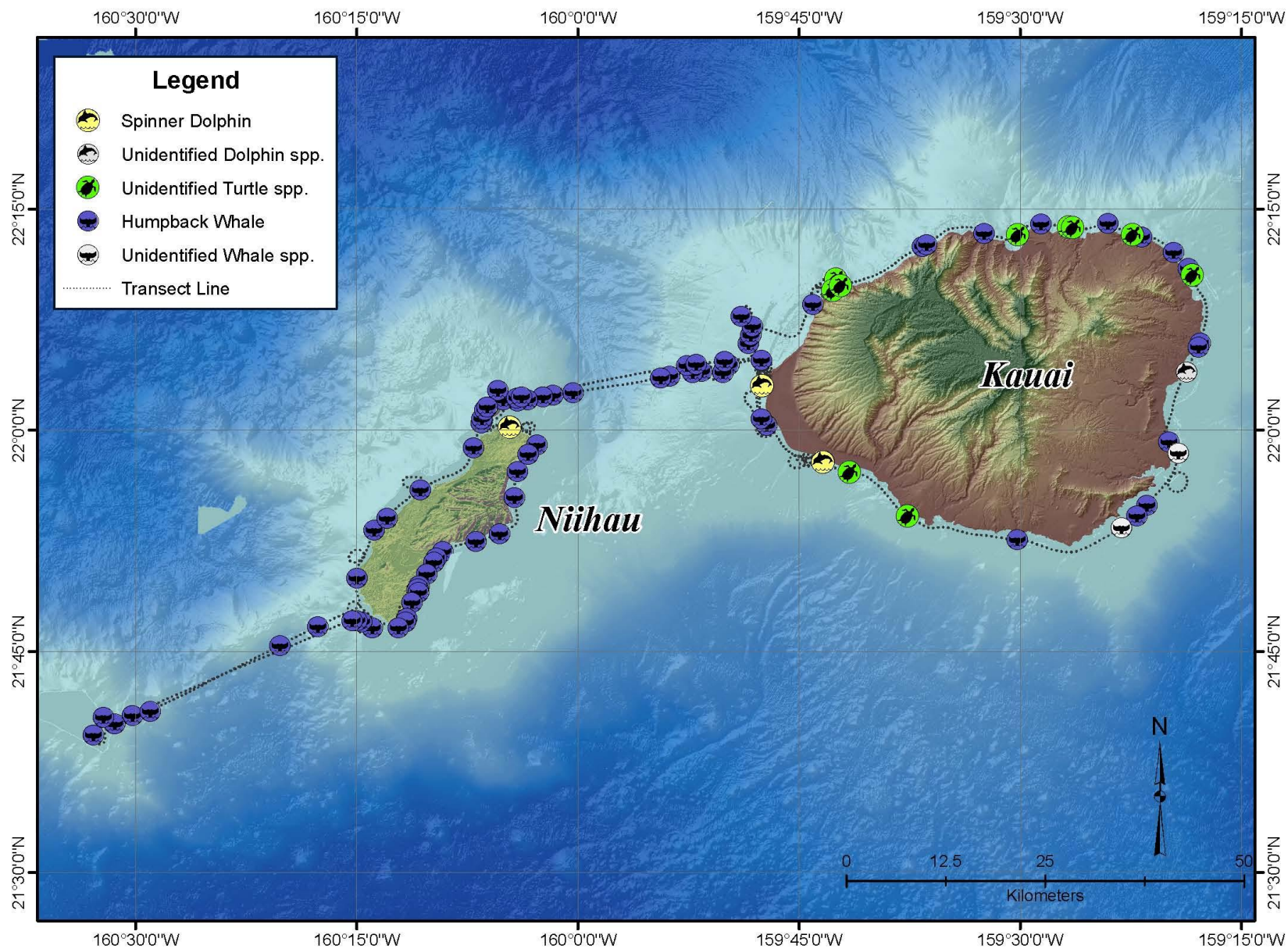
- Primary: Detect stranded or near stranded cetaceans within 5-7 days following training events
- Secondary: Document incidence and distribution of MM/ST species within 3 km of shore
- Platforms: fixed wing aircraft; helicopters

# HRC Aerial Shoreline Surveys (2010-14)

Date	Region	Training Event
Feb 21, 2010	Kauai-Niihau-Kaula Rock	SCC
Nov 18 & 22, 2010	4-island region + Kona coast	USWEX
Feb 24 & 26, 2011	Kauai-Niihau	SCC
Feb 28 & Mar 5, 2011	Oahu + 4-island region	USWEX
Feb 23 & 25, 2012	Kauai-Niihau	SCC
Aug 20* & 22, 2013	Kauai-Niihau	SCC
Jan 31 & Feb 5, 2014	Kauai-Niihau	SCC
Aug 1 & 6, 2014	Oahu + 4-island region	USWEX

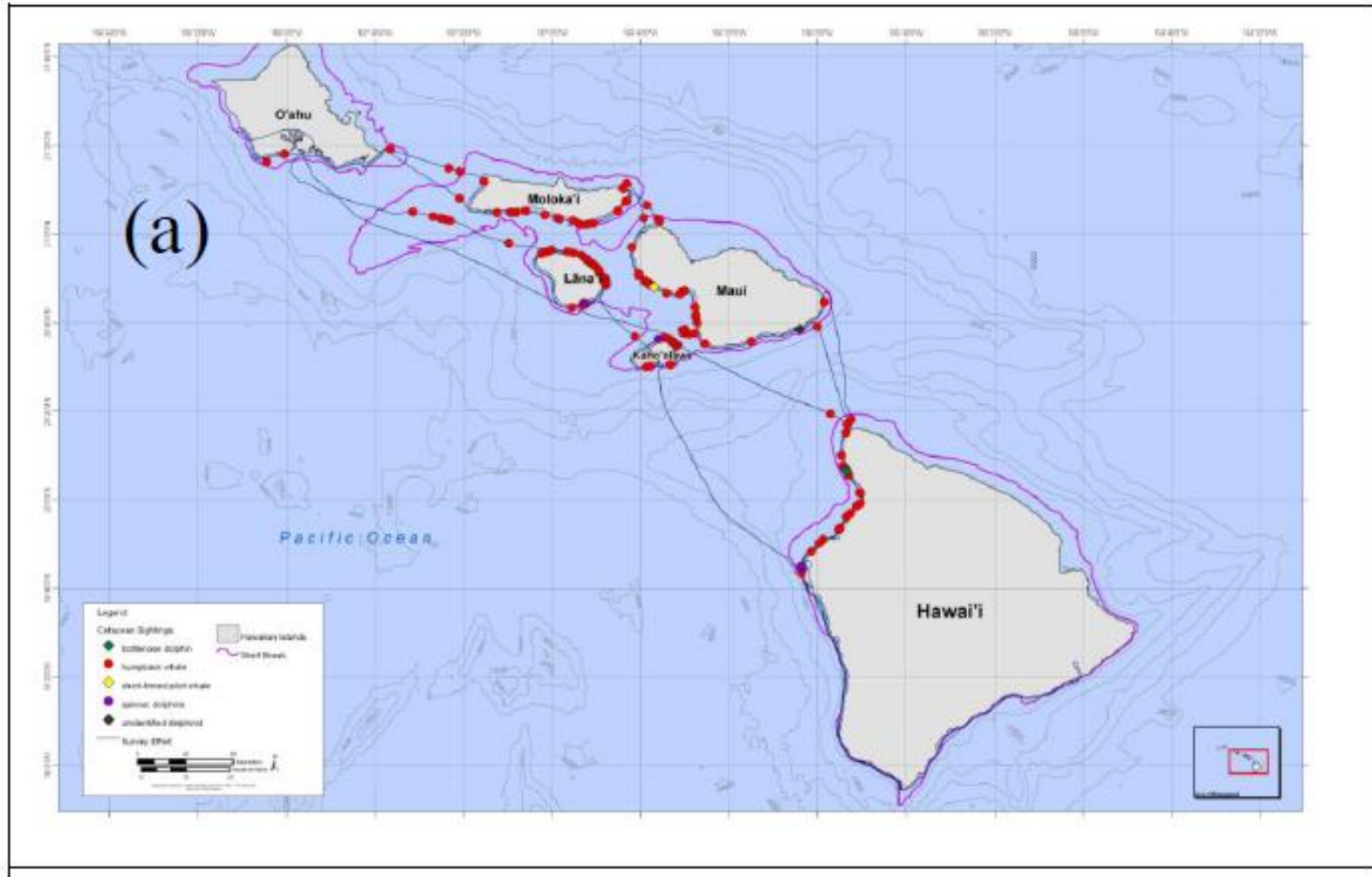
\*included ground- based vs aerial comparison for Niihau island





Sightings for Feb 21, 2010 following SCC event (Feb 16-18, 2010)

# Post USWEX Feb 2011 Shoreline Surveys



Shows shoreline portions of 5 islands covered in 8-hr period

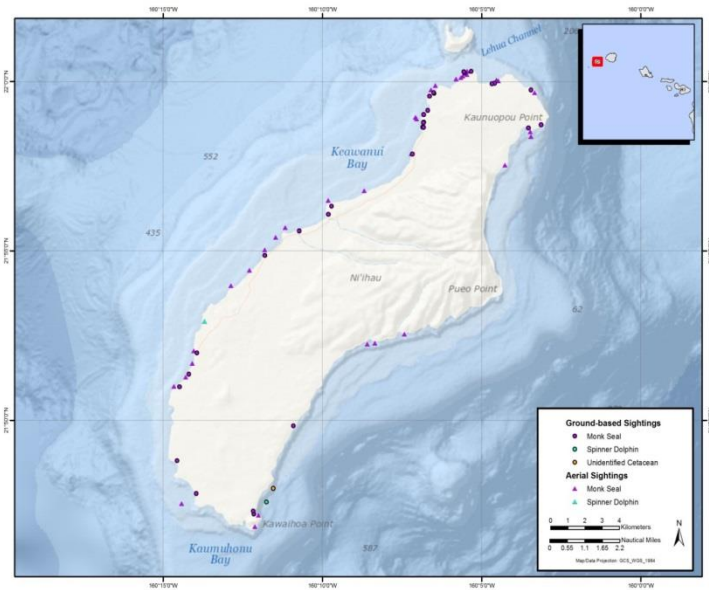
## **Kauai-Niihau Results: 31-Jan-14    & 5-Feb-14**

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	<b>Count Sightings</b>	<b>Count Animals</b>	<b>% Total</b>
Humpback Whale	66	157	53%
Unidentified			
Hardshell Turtle	52	100	34%
Hawaiian Monk Seal	14	26	9%
Spinner Dolphin	1	12	4%
Bottlenose Dolphin	1	1	0%
	133	295	100%



# Shoreline surveys—ground-based vs aerial (8/20/13)



Species	Survey Type	No. Groups	No. Individuals
Hawaiian Monk Seal	Aerial	11	17
	Ground	29	43
Spinner Dolphin	Aerial	1	130
	Ground	1	40
Unidentified Cetacean	Aerial	0	0
	Ground	1	-
Total		45	

# Monk seal sightings (2010-14)—Kauai/Niihau only

Date	No. monk seals sighted	Platform
Feb 21, 2010	0	Partenavia (fixed wing)
Feb 24 & 26, 2010	0	Partenavia
Feb 23, 2012	1	Partenavia
Feb 25, 2012	28	Agusta 109a (helicopter)
Aug 20 & 22, 2013	54	Agusta 109a
Jan 31 & Feb 5, 2014	26	Agusta 109a

Helicopter clearly superior platform



# Summary

- No instances of stranded or near-stranded cetaceans seen during shoreline surveys (2010-14)
- However, using beached monk seals as proxies for stranded MM, there is arguably high probability of detection
- helicopter clearly superior platform relative to fixed-wing (based on monk seal sightings)
- Results support earlier observations of main Hawaiian islands becoming increasingly important for monk seal recovery (Baker & Johanos, 2004)