

Data Stream Table: Cetaceans

Data quality, not quality of effort

green = adequate

yellow = fair / partial / could improve

red = insufficient

analysis

Data could improve, but not necessarily best use of resources

Data Stream	Types of Analyses used:						Which have informed these processes:										Data Quality		
	Occurrence	Stock Structure	Abundance & Trends	Design / Implement Conservation Strategies	General Biology / Ecology	Human interactions & Human-caused mortality	ESA			MMPA		NEPA		Outreach/ public education	Journal publications/ conference presentations/ advancing protected species knowledge	Species	Frequency	Coverage	Collected by
							Biological Review Team/ Status Review Team	Critical Habitat	Biological Opinion	Stock Assessment Report	Take Reduction Team	Evaluation of Conservation Strategies	Environmental Assessment, Environmental Impact Statement, Programmatic Environmental Impact Statement						
Cross-cutting- data quality measures and informed processes are the same across regions																			
Hawaii Longline Observer Program protected species interactions	x			x		x	x		x	x	x	x		x	x	All cetaceans	Ongoing effort, sporadic interactions	20% in Deep-set longline fishery, 100% shallow-set longline fishery	PIRO Observer Program
Hawaii Longline Observer Program fishery effort and characterization				x		x	x		x	x	x	x		x	x	All cetaceans	Ongoing	20% in Deep-set longline fishery, 100% shallow-set longline fishery	PIRO Observer Program
Hawaii Longline fishery cetacean bycatch estimates				x		x	x		x	x	x	x		x	x	All cetaceans	Ongoing	All cetaceans bycaught	PIFSC FMRD
Hawaii Longline Logbook fishery effort						x	x		x	x	x	x		x		All cetaceans	Ongoing	All fishing trips	PIFSC FRMD
Marine Mammal Health & Stranding Response Program (outside HI)	x	x				x	x		x	x				x	x	All cetaceans	Sporadically	Guam, CNMI, American Samoa	PIRO, Hawaii Pacific University
Hawaii																			
Ship survey: visual line-transect	x		x			x	x		x	x	x	x		x	x	All cetaceans	Full surveys 2002 and 2010, MHI survey 2009, NWHI survey 2013	Full survey = entire EEZ	SWFSC (2002), PIFSC CRP-SWFSC collaboration (2010), CRP (2009, 2013)
Ship survey: towed array	x	x	x			x								x	x	All cetaceans	Full surveys 2002 and 2010, localized surveys every 2-3 years	Full survey = entire EEZ	SWFSC (2002), PIFSC CRP-SWFSC collaboration (2010), CRP (2009, 2013)
Ship survey: sonobuoys	x	x				x									x	Baleen whales	Full surveys 2002 and 2010, localized surveys every 2-3 years	Full survey = entire EEZ, deployed once per day or on baleen	SWFSC (2002), PIFSC CRP-SWFSC collaboration (2010), CRP (2009, 2013)
Ship survey: oceanography (active acoustics, CTDs, XBTs, water samples)						x									x	All cetaceans	Full surveys 2002 and 2010, localized surveys every 2-3 years	Full survey = entire EEZ	SWFSC (2002), PIFSC CRP-SWFSC collaboration (2010), CRP (2009, 2013)
Small boat sighting surveys: sighting distribution	x					x	x	x	x	x	x	x		x	x	All cetaceans	Several efforts per year	Nearshore Main Islands	Primarily Cascadia Research Collective, occasionally CRP

Tissue samples																		False killer whale, Spinner dolphin, Pantropical spotted dolphin, Bottlenose	Collected during ship and small boat efforts, bycaught	Throughout EEZ	Primary Cascadia Research Collective nearshore, CRP offshore, PIRO Observer
Tissue samples																		All other cetaceans	Collected during ship and small boat efforts, bycaught	Throughout EEZ	Primary Cascadia Research Collective nearshore, CRP offshore, PIRO Observer
Photographs																		False killer whale, Melon-headed whale, Short-finned pilot whale	Collected during ship and small boat efforts	Throughout EEZ	Primary Cascadia Research Collective nearshore, CRP offshore
Photographs																		All other cetaceans	Collected during ship and small boat efforts	Throughout EEZ	Primary Cascadia Research Collective nearshore, CRP offshore
Pacific Islands Photo-Identification Network																		Spinner dolphins	Sporadic	Nearshore Main Islands	PIPIN members: includes CRP, Cascadia, and several other
Long-term acoustic data (HARPs)																		All cetaceans with known call types	Continuous	2-4 throughout archipelago	CRP
Opportunistic acoustic recordings																		All cetaceans	Sporadically	Primarily leeward Hawaii Island, but also Kauai, Oahu, Lanai	CRP, Cascadia Research Collective, Other researchers
Passive acoustic recordings on longline fishing gear																		Primarily false killer whales, but can include other cetaceans	1-2 boats monitored per month	Throughout fishery area	CRP
Hawaii Department of Aquatic Resources Commercial Fish Catch Reports																		All cetaceans	Monthly or trip-level reporting	All State of HI commercial fisheries	State of Hawaii
Satellite telemetry																		False killer whales	Several per year	Within Hawaii EEZ	Primary Cascadia Research Collective nearshore, CRP
Satellite telemetry																		Short-finned pilot whale, Melon-headed whale	Several per year	Nearshore Main Islands	Cascadia Research Collective
Satellite telemetry																		Pygmy killer whale, Blainville's beaked whale,	One every few years	Nearshore Main Islands	Cascadia Research Collective
Marine Mammal Health & Stranding Response Program (HI)																		All cetaceans	Sporadically	Mainly Hawaii, but also Guam, CNMI, American Samoa	PIRO, HIHWNMS, Hawaii Pacific University
Acoustic gliders																		All cetaceans with known call types	Three 20-30 day deployments to	Oahu, Kona	CRP-UH collaboration
Kona Integrated Ecosystem Assessment (IEA)																		Primarily deep-diving species: beaked whales, sperm whales, pilot whales	~20 day cruises annually starting 2011	Kona	PIFSC EOD, with CRP participation
Mariana Archipelago (Guam-Commonwealth of the Northern Mariana Islands)																					
Ship survey: visual line-transect																		All cetaceans	30 days 2015	Within 50nmi of archipelago	CRP
Ship survey: towed array																		All cetaceans	30 days 2015	Within 50nmi of archipelago	CRP
Ship survey: sonobuoys																		Baleen whales	30 days 2015	archipelago, Deployed once per day or on baleen	CRP
Ship survey: oceanography (active acoustics, CTDs, XBTs)																		All cetaceans	30 days 2015	Within 50nmi of archipelago	CRP
Small boat sighting surveys: sighting distribution																		All cetaceans	30-60 days per year since 2010	Southern islands	CRP
Tissue samples																		All cetaceans	Collected during ship and small boat efforts	Primarily within 50nmi of archipelago	CRP

Photographs	x	x	x		x	x									x	x	x	All cetaceans	Collected during ship and small boat efforts	Primarily within 50nmi of archipelago	Primarily CRP, some contributions from Navy researchers
Satellite telemetry	x	x			x										x	x	x	False killer whale, Short-finned pilot whale, Bottlenose dolphin, Rough-toothed dolphin, Melon-headed whale	Sporadic deployments (5 in 5 years)	Throughout EEZ	CRP
Long-term acoustic data (HARPs)	x	x	x		x										x	x	x	All cetaceans with known call types	Continuous	2 sites since 2010, new 3rd site 2015	CRP
Opportunistic acoustic recordings		x			x													All cetaceans	Sporadically	Nearshore Guam, Saipan, Tinian	CRP, other researchers
Palmyra Atoll & Kingman Reef																					
Ship survey: visual line-transect	x		x		x										x	x	x	All cetaceans	Full surveys 2005 and 2011-12	Full survey = entire EEZ	SWFSC (2005), PIFSC CRP (2011-12)
Ship survey: towed array	x	x	x		x										x		x	All cetaceans	Full surveys 2005 and 2011-12	Full survey = entire EEZ,	SWFSC (2005), PIFSC CRP (2011-12)
Ship survey: sonobuoys	x	x	x		x													Baleen whales	Full surveys 2005 and 2011-12	Full survey = entire EEZ, deployed once per day or on baleen whale sightings	SWFSC (2005), PIFSC CRP (2011-12)
Ship survey: oceanography (active acoustics, CTDs, XBTs, water samples)					x													All cetaceans	Full surveys 2005 and 2011-12	Full survey = entire EEZ	SWFSC (2005), PIFSC CRP (2011-12)
Small boat sighting surveys: sighting distribution	x				x											x	x	All cetaceans	2 periods of 3-6 weeks per year, 2006-2010	Nearshore	CRP & SIO collaboration
Tissue samples		x			x										x		x	All cetaceans	Collected during ship and small boat efforts	Throughout EEZ	SWFSC, CRP, SIO
Photographs	x	x	x		x	x												All cetaceans	Collected during ship and small boat efforts	Throughout EEZ	SWFSC, CRP, SIO
Long-term acoustic data (HARPs)	x	x	x		x										x		x	All cetaceans with known call types	Continuous	1 site 2006-2010	CRP- SIO collaboration
American Samoa																					
Non-standard ship survey	x				x										x	x	x	All cetaceans	One week near Swains- 2006,	Localized	CRP
Small boat sighting surveys: sighting distribution- CRP	x				x										x	x	x	All cetaceans	Three one week surveys 2006-2008	Nearshore Tutuila, Swains	CRP
Small boat sighting surveys: sighting distribution- HIHWNMS	x				x										x	x	x	Humpback whales	2006-2012	Nearshore Tutuila, Swains	HIHWNMS
Tissue samples		x			x										x	x	x	All cetaceans	Collected during small boat efforts, bycaught cetaceans	Nearshore Tutuila, Swains	CRP, PIRO Observer Program
Photographs	x	x	x		x	x												All cetaceans	Collected during small boat efforts	Nearshore Tutuila, Swains	CRP, HIHWNMS
Observer Program protected species interactions	x				x										x	x	x	All cetaceans	Ongoing effort, sporadic interactions	6-40% of fishing trips	PIRO Observer Program

American Samoa Longline Observer Program fishery				x		x					x					x	x	x	All cetaceans	Ongoing	6-40% of fishing trips	PIRO Observer Program
American Samoa Longline fishery cetacean bycatch				x		x					x					x		x	All cetaceans bycaught	2010, 2015	Fishery area	PIFSC FMRD
Wake Atoll																						
Non-standard ship survey	x					x											x		All cetaceans	Two transits through region in 2010	Across EEZ & near Atoll	CRP
Ship survey: towed array	x	x	x			x											x		All cetaceans	Two transits through region in 2010	Across EEZ & near Atoll	CRP
Ship survey: sonobuoys	x	x	x			x													Baleen whales	Two transits through region in 2010	Across EEZ & near Atoll	CRP
Ship survey: oceanography (active acoustics, CTDs, XBTs, water samples)						x													All cetaceans	Two transits through region in 2010	Across EEZ & near Atoll	CRP
Long-term acoustic data (HARPs)	x	x	x			x											x	x	All cetaceans with known call types	Continuous	1 site since 2010	CRP
Johnston Atoll																						
Ship survey: visual line-transect	x		x			x			x							x	x	x	All cetaceans	Full survey 2005, partial survey 2006	Full survey = entire EEZ	SWFSC (2005), PIFSC CRP (2006)
Ship survey: towed array	x	x	x			x													All cetaceans	Full survey 2005, partial survey 2006	Full survey = entire EEZ	SWFSC (2005), PIFSC CRP (2006)
Ship survey: sonobuoys	x	x	x			x													Baleen whales	Full survey 2005, partial survey 2006	Full survey = entire EEZ	SWFSC (2005), PIFSC CRP (2006)
Ship survey: oceanography (active acoustics, CTDs, XBTs, water samples)						x													All cetaceans	Full survey 2005, partial survey 2006	Full survey = entire EEZ	SWFSC (2005), PIFSC CRP (2006)
Tissue samples			x			x											x	x	All cetaceans	Collected during ship survey efforts	Throughout EEZ	SWFSC, CRP
Photographs	x	x	x			x	x												All cetaceans	Collected during ship survey efforts	Throughout EEZ	SWFSC, CRP
All Other Pacific Remote Island Areas (Jarvis, Howland & Baker)																						
Opportunistic observations	x																x	x	All cetaceans	Infrequent	Sporadic	FWS, Other researchers, naturalists