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Marine Turtle Strandings in the Hawaiian Islands January – June 2012¹

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July 2012

The Marine Turtle Research Program (MTRP) documented 107 green turtle (*Chelonia mydas*), one hawksbill (*Eretmochelys imbricata*), and one olive ridley (*Lepidochelys olivacea*) strandings in the Main and Northwestern Hawaiian Islands from January 1 to June 30, 2012. Of the 107 green turtle strandings, 41 (38%) stranded alive, 65 (61%) stranded dead, and one (1%) was unknown whether alive or dead. Of the 41 live stranded green turtles, 13 (32%) were successfully treated and released, 15 (36%) returned to the water prior to MTRP arrival, and 13 (32%) died. The hawksbill stranded dead in Haleiwa, Oahu on April 2, 2012 of unknown causes. A necropsy performed by Dr. Thierry Work of the USGS showed a large amount of blood in the turtle's coelomic cavity. The olive ridley stranded alive on January 31, 2012 at Castle Beach in Kailua Bay on Oahu, but died prior to MTRP's arrival. The cause of stranding was determined to be emaciation by Dr. Work. Figure 1 shows a breakdown of green turtle strandings by month.

A cause of stranding is assigned to all reports of stranded turtles (Figure 2a & b). Some cases have multiple causes of stranding (e.g., boat impact and shark attack) and we use the best scientific judgment to determine which event was likely the prime cause of stranding. For the purpose of this report, we used the causes of stranding identified in Chaloupka et al. (2008), plus human take, to summarize all stranding events from January through June 2012. This enables comparison to historical records (Figure 3) and consistency through time. The eight categories are: fibropapillomatosis (FP), hook and line, net and gillnet entanglement, boat impact, shark attack, human take, miscellaneous, and unknown. Cases categorized as fibropapillomatosis (Table 1) include all stranded turtles with moderate or severe FP, or tumor severity scores of 2 and 3. It is important to note that the seven other categories may also include turtles with less severe cases of FP

¹ PIFSC Internal Report IR-12-033
Issued 28 August 2012

but since FP was not the primary reason the turtle stranded another more applicable cause of stranding was assigned.

Hook and line (Table 2) includes all turtles that strand as a result of interactions with fish hooks and fishing line. These include turtles that were hooked externally, ingested hooks, entangled in fishing line, or exhibited intestinal intussusceptions due to line ingestion.

Net and gillnet entanglement (Table 3) includes unidentified nets, cargo nets, trawl nets, lobster nets, and monofilament gillnets.

Boat impact (Table 4) includes any traumatic injury caused by a boat, usually involving propeller strike. If the injury cannot clearly be determined to be caused by a boat, it is simply listed as trauma.

Shark attack (Table 5) cases are identified by missing or lacerated appendages and large crescent shaped bites out of the carapace and plastron. It is often difficult to determine if the shark attack occurred before or after death. However, because we conduct a thorough necropsy to rule out other potential causes of stranding, we are confident that cases identified as shark attack are those that resulted from a predation event as opposed to a scavenging event.

Human take (Table 6) includes all strandings that result from directed human take including turtles that were speared or shot with a firearm. State and Federal enforcement agencies are notified for all human take cases. There were no incidences of human take from January through June 2012.

Miscellaneous (Table 7) includes but is not limited to various pathologies, excessive buoyancy, stuck in crevices, trauma, and trapped in items that are not fishing net or line related.

Unknown (Table 8) is used when no obvious cause can be discerned.

Turtles still pending a necropsy report (Table 9) have not yet been assigned a stranding cause, but will be included in the annual stranding report.

Turtles that were previously pending a necropsy report to determine cause of stranding have now been assigned a stranding cause and are reported in Table 10.

Total strandings (109) from January through June 2012 by cause were: fibropapillomatosis (13), hook and line (28), net and gillnet entanglement (7), boat impact (5), shark attack (5), human take (0), miscellaneous (6), unknown (36), and turtles pending necropsy reports (9), as detailed in the following tables. Strandings for the first six months of 2012 involved 82 dead and 27 live turtles. During the same period of 2011

there were 165 strandings involving 100 dead and 65 live turtles, which includes the March 11, 2011 Japanese tsunami resulting in 26 live and 5 dead strandings.

Table 1. Marine turtle strandings in the Hawaiian Islands involving Fibropapillomatosis (N=13), January – June 2012.

DATE	ISLAND	LOCATION	SPECIES	SEX	SCL (cm)	TUMORS	CAUSE OF STRANDING	NECROPSY	END STATUS
4-Jan-12	OAHU	Kailua (Kawainu Canal)	CM	U	72.6	Y	FP	N	Alive
22-Jan-12	OAHU	Haleiwa (Jameson's)	CM	F	58.5	Y	FP	Y	Dead
11-Feb-12	KAUA	Nomilu Fishpond	CM	M	46.6	Y	FP	Y	Dead
24-Feb-12	OAHU	Waialua (Aweoweo Beach Park)	CM	U	61.3	Y	FP	N	Alive
25-Feb-12	OAHU	Haleiwa (Kaiaka Bay)	CM	M	66.3	Y	FP	Y	Dead
22-Mar-12	OAHU	Kaneohe Bay (Kahaluu)	CM	F	76.5	Y	FP	Y	Dead
28-Mar-12	OAHU	Lagoon Drive	CM	F	61.8	Y	FP	Y	Dead
28-Mar-12	OAHU	Haleiwa (Jameson's)	CM	U	-	Y	FP	N	Alive
7-Apr-12	OAHU	Kaneohe Bay (Waikane)	CM	M	54.4	Y	FP	Y	Dead
16-Apr-12	OAHU	Kahana Bay	CM	M	49.8	Y	FP/Emaciation	Y	Dead
8-May-12	HAWA	Kapoho (Barsell Pond)	CM	F	48.7	Y	FP	Y	Dead
25-May-12	OAHU	Kahana Bay	CM	U	49.2	Y	FP	Y	Dead
21-Jun-12	OAHU	Iroquois Point (Puuloa Housing)	CM	M	66.9	Y	FP	Y	Dead

Table 2. Marine turtle strandings in the Hawaiian Islands involving hook and line (N=28), January – June 2012.

DATE	ISLAND	LOCATION	SPECIES	SEX	SCL (cm)	TUMORS	CAUSE OF STRANDING	NECROPSY	END STATUS
8-Jan-12	OAHU	Barbers Point (Lighthouse)	CM	M	47.1	N	Line entanglement	Y	Dead
11-Jan-12	OAHU	Kawela Bay	CM	U	75.1	Y	Line entanglement	N	Alive
17-Jan-12	HAWA	Waikoloa	CM	U	-	N	Fish hook	N	Alive
18-Jan-12	OAHU	Laie (Laie Point)	CM	U	-	N	Line entanglement	N	Dead
21-Jan-12	OAHU	Kailua Beach (White Sands)	CM	M	46.1	N	Fish hook	Y	Dead
29-Jan-12	OAHU	Kewalo Basin (Point Panic)	CM	U	40.8	N	Line entanglement	N	Alive
2-Feb-12	OAHU	Hanauma Bay State Underwater Park	CM	U	66.3	N	Fish hook	N	Alive
5-Feb-12	OAHU	Haleiwa	CM	U	-	N	Line entanglement	N	Alive
8-Feb-12	OAHU	Waimanalo	CM	F	39.1	N	Line entanglement	Y	Dead
15-Feb-12	OAHU	Makapuu	CM	U	-	N	Line entanglement	N	Alive
29-Feb-12	OAHU	Makaha (Hawaiian Princess Hotel)	CM	U	41.5	N	Line entanglement	N	Alive
8-Mar-12	HAWA	Hilo (Richardson Beach Park)	CM	U	-	N	Fish hook	N	Alive
11-Mar-12	OAHU	Haleiwa (Police Beach)	CM	U	-	N	Line entanglement	N	Alive
13-Mar-12	MAUI	Ahihikinau NAR	CM	U	-	Y	Line entanglement	N	Alive
9-Apr-12	OAHU	Haleiwa (Leftovers)	CM	U	-	N	Fish hook/Line entanglement	N	Alive
16-Apr-12	OAHU	Haleiwa (Leftovers)	CM	M	46.1	N	Line entanglement	Y	Dead
24-Apr-12	OAHU	Sunset Beach (Velzyland)	CM	U	-	N	Line entanglement	N	Dead
2-May-12	OAHU	Mokuleia (Dillingham Airfield)	CM	U	38.5	N	Line Entanglement	Y	Dead
3-May-12	OAHU	Kailua Bay (Castles)	CM	F	61.9	N	Line Entanglement	Y	Dead
5-May-12	OAHU	Hanauma Bay State Underwater Park	CM	U	-	N	Line entanglement/Fish hook	N	Alive
10-May-12	OAHU	Lanikai Beach	CM	U	-	N	Line entanglement	N	Alive
12-May-12	OAHU	Makapuu (Baby Beach)	CM	U	-	N	Fish hook	N	Alive
29-May-12	MAUI	Ahihikinau NAR	CM	U	-	N	Line entanglement	N	Alive
3-Jun-12	OAHU	Waimanalo Beach Park	CM	M	38	N	Fish hook	Y	Dead
7-Jun-12	OAHU	Barbers Point (Nimitz Beach)	CM	M	39.1	N	Line Entanglement	Y	Dead

Table 2 Cont. Marine turtle strandings in the Hawaiian Islands involving hook and line (N=28), January – June 2012.

DATE	ISLAND	LOCATION	SPECIES	SEX	SCL (cm)	TUMORS	CAUSE OF STRANDING	NECROPSY	END STATUS
10-Jun-12	OAHU	Malaekahana Beach	CM	M	50.1	N	Line Entanglement	Y	Dead
26-Jun-12	KAUA	Kealia Beach	CM	U	-	N	Line entanglement	N	Dead
30-Jun-12	OAHU	Kaneohe Bay (Kualoa Regional Park)	CM	F	61.8	Y	Line entanglement	Y	Dead

Table 3. Marine turtle strandings in the Hawaiian Islands involving net and gillnet entanglement (N=7), January – June 2012.

DATE	ISLAND	LOCATION	SPECIES	SEX	SCL (cm)	TUMORS	CAUSE OF STRANDING	NECROPSY	END STATUS
8-Jan-12	OAHU	Haleiwa Ali'i Beach Park	CM	U	-	U	Net entanglement/Human take	N	Dead
15-Jan-12	OAHU	Waialua (Puuiki Graveyard)	CM	M	35.7	N	Net entanglement	Y	Dead
27-Feb-12	OAHU	Ewa Beach	CM	U	36.2	N	Net entanglement	N	Alive
15-Apr-12	OAHU	Ewa Beach	CM	U	-	N	Net entanglement	N	Alive
10-May-12	KAUA	Kilauea	CM	U	-	N	Net entanglement	N	Alive
31-May-12	OAHU	Maunaloa Bay	CM	U	-	N	Net entanglement	N	Dead
7-Jun-12	OAHU	Waianae	CM	U	-	N	Net entanglement	N	Alive

Table 4. Marine turtle strandings in the Hawaiian Islands involving boat impact (N=5), January – June 2012.

DATE	ISLAND	LOCATION	SPECIES	SEX	SCL (cm)	TUMORS	CAUSE OF STRANDING	NECROPSY	END STATUS
10-Jan-12	OAHU	Waianae (Pilila'au Army Rec. Center)	CM	F	-	N	Boat impact	Y	Dead
9-Feb-12	OAHU	Kaneohe Bay (Kahaluu)	CM	F	86.8	N	Boat impact	N	Dead
2-Apr-12	OAHU	Hawaii Kai (Marina)	CM	U	39.7	N	Boat impact	Y	Dead
17-Apr-12	OAHU	Kaneohe Bay (Lilipuna Rd.)	CM	U	-	N	Boat Impact/Shark Attack	N	Dead
25-Apr-12	MAUI	Ahihikinau NAR	CM	M	81.6	N	Boat impact	Y	Dead

Table 5. Marine turtle strandings in the Hawaiian Islands involving shark attack (N=5), January – June 2012.

DATE	ISLAND	LOCATION	SPECIES	SEX	SCL (cm)	TUMORS	CAUSE OF STRANDING	NECROPSY	END STATUS
3-Feb-12	OAHU	Kaneohe Bay (Kualoa Regional Park)	CM	M	78.8	N	Shark attack	Y	Dead
5-Feb-12	MAUI	Kihei (Kalama Beach Park)	CM	M	90.4	Y	Shark attack/FP	Y	Dead
1-Apr-12	OAHU	Kaneohe Bay	CM	M	73.2	N	Shark attack	Y	Dead
13-Apr-12	OAHU	Kawela Bay	CM	U	76.3	Y	Shark attack/FP	N	Alive
12-May-12	OAHU	Laie (Hukilau Beach)	CM	F	86	N	Shark attack	Y	Dead

Table 6. Marine turtle strandings in the Hawaiian Islands involving human take (N=0), January – June 2012.

DATE	ISLAND	LOCATION	SPECIES	SEX	SCL (cm)	TUMORS	CAUSE OF STRANDING	NECROPSY	END STATUS
N/A	N/A	N/A	N/A	N/A	N/A	N/A	Human Take	N/A	N/A

Table 7. Marine turtle strandings in the Hawaiian Islands involving miscellaneous causes (N=6), January – June 2012.

DATE	ISLAND	LOCATION	SPECIES	SEX	SCL (cm)	TUMORS	CAUSE OF STRANDING	NECROPSY	END STATUS
31-Jan-12	OAHU	Kailua Bay (Castles)	LO	F	56.3	N	Emaciation	Y	Dead
15-Feb-12	OAHU	Lagoon Drive (Fire House)	CM	M	41	N	Tissue necrosis	Y	Dead
15-Mar-12	OAHU	Kaena Point	CM	U	-	N	Flooded ashore	N	Alive
26-Mar-12	OAHU	Kaneohe Bay (Kahaluu)	CM	F	65	Y	Trauma/FP	Y	Dead
11-Apr-12	OAHU	Waimanalo Beach Park	CM	F	41.7	N	Trauma	Y	Dead
20-Apr-12	OAHU	Nanakuli (Puuohulu Beach)	CM	M	51.7	N	Trauma	Y	Dead

Table 8. Marine turtle strandings in the Hawaiian Islands involving unknown causes (N=36), January – June 2012.

DATE	ISLAND	LOCATION	SPECIES	SEX	SCL (cm)	TUMORS	CAUSE OF STRANDING	NECROPSY	END STATUS
13-Jan-12	OAHU	Pearl Harbor	CM	F	-	Y	Unknown	Y	Dead
24-Jan-12	MOLO	Kalaupapa NHP	CM	U	-	U	Unknown	N	Dead
26-Jan-12	MAUI	Ahihikinau NAR (Aquarium)	CM	U	-	Y	Unknown	N	Dead
26-Jan-12	OAHU	Maunaloa Bay	CM	U	-	U	Unknown	N	Dead
28-Jan-12	OAHU	Waiau (Hawaiian Electric Company)	CM	U	-	U	Unknown	N	Dead
1-Feb-12	HAWA	Honokohau Small Boat Harbor	CM	U	-	N	Unknown	N	Dead
2-Feb-12	OAHU	Laie (Hukilau Beach Park)	CM	M	37.9	N	Unknown	Y	Dead
14-Feb-12	OAHU	Iroquois Point	CM	U	-	N	Unknown	N	Dead
17-Feb-12	OAHU	Bellows AFB	CM	U	41	N	Unknown	Y	Dead
25-Feb-12	OAHU	Iroquois Point Lagoon	CM	U	83	N	Unknown	N	Dead
29-Feb-12	OAHU	Pearl Harbor	CM	U	-	N	Unknown	Y	Dead
19-Mar-12	MAUI	Makena (Five Graves)	CM	U	-	U	Unknown	N	Dead
30-Mar-12	OAHU	Kawela Bay	CM	U	-	Y	Unknown	N	Alive
2-Apr-12	OAHU	Haleiwa (Surf N Sea)	EI	F	44.2	N	Unknown	Y	Dead
4-Apr-12	OAHU	Yokohama Bay Beach Park	CM	M	37.4	N	Unknown	Y	Dead
5-Apr-12	MAUI	Waihee	CM	M	35.8	N	Unknown	Y	Dead
10-Apr-12	KAUA	Poipu	CM	U	-	N	Unknown	N	Dead
18-Apr-12	OAHU	Haleiwa (Papailoa Road)	CM	U	-	N	Unknown	N	Dead
18-Apr-12	OAHU	Barbers Point (Nimitz Beach)	CM	M	39.5	N	Unknown	Y	Dead
10-May-12	OAHU	Kaneohe Bay (Kahaluu)	CM	U	78.1	Y	Unknown	N	Dead
14-May-12	OAHU	Pearl Harbor (Middle Loch)	CM	U	44.6	N	Unknown	Y	Dead
15-May-12	OAHU	Lagoon Drive (Fire House)	CM	U	55.6	Y	Unknown	Y	Dead
22-May-12	HAWA	Keahou Bay	CM	U	56.5	N	Unknown	N	Alive
23-May-12	OAHU	Kaneohe Bay (Kahaluu)	CM	U	-	Y	Unknown	N	Unknown
24-May-12	OAHU	Kaneohe Bay (Kahaluu)	CM	F	52.8	Y	Unknown	Y	Dead

Table 8 Cont. Marine turtle strandings in the Hawaiian Islands involving unknown causes (N=36), January – June 2012.

DATE	ISLAND	LOCATION	SPECIES	SEX	SCL (cm)	TUMORS	CAUSE OF STRANDING	NECROPSY	END STATUS
1-Jun-12	OAHU	Aina Haina	CM	M	60.9	Y	Unknown	Y	Dead
8-Jun-12	OAHU	Kahana Bay	CM	U	-	Y	Unknown	N	Dead
8-Jun-12	OAHU	Kaneohe Bay (Kahaluu)	CM	U	-	Y	Unknown	N	Dead
10-Jun-12	MAUI	-	CM	U	-	Y	Unknown	N	Alive
12-Jun-12	LANA	Awalua	CM	U	-	U	Unknown	N	Dead
12-Jun-12	MAUI	Kanaha Beach	CM	U	-	Y	Unknown	N	Dead
23-Jun-12	OAHU	Hauula	CM	M	-	N	Unknown	Y	Dead
23-Jun-12	OAHU	Haleiwa (Police Dept. Rec. Center)	CM	U	-	U	Unknown	N	Dead
24-Jun-12	OAHU	Kaneohe Bay (Kahaluu)	CM	U	-	U	Unknown	N	Dead
26-Jun-12	HAWA	Hilo (Leleiwi Beach Park)	CM	U	-	Y	Unknown	N	Alive
29-Jun-12	MAUI	Kahului Harbor	CM	U	-	Y	Unknown	N	Dead

Table 9. Marine turtle strandings in the Hawaiian Islands pending necropsy (N=13), 1 July 2011 – 30 June 2012.

DATE	ISLAND	LOCATION	SPECIES	SEX	SCL (cm)	TUMORS	CAUSE OF STRANDING	NECROPSY	END STATUS
29-Aug-11	HAWA	Honokohau Harbor	CM	-	-	N	Pending Necropsy Report	N	Dead
5-Oct-11	HAWA	Pohoiki Beach	CM	U	-	N	Pending Necropsy Report	N	Dead
11-Dec-11	OAHU	Kailua (Kalama Beach Park)	LO	U	-	N	Pending Necropsy Report	N	Dead
29-Dec-11	MAUI	Waiehu Beach	LO	U	-	N	Pending Necropsy Report	Y	Dead
17-Feb-12	HAWA	Kapoho	CM	U	-	N	Pending Necropsy Report	N	Dead
26-Feb-12	HAWA	Kawaihae Small Boat Harbor	CM	U	-	N	Pending Necropsy Report	N	Dead
8-Apr-12	HAWA	Hilo (Carlsmith Beach Park)	CM	U	-	N	Pending Necropsy Report	N	Dead
25-Apr-12	HAWA	Hilo Bay (Coconut Island)	CM	U	-	N	Pending Necropsy Report	N	Dead
24-May-12	OAHU	Kaneohe Bay (KMCBH)	CM	M	64.8	Y	Pending Necropsy Report	Y	Dead
13-Jun-12	HAWA	Puako (82 PBR)	CM	U	-	N	Pending Necropsy Report	N	Dead
14-Jun-12	HAWA	Waikoloa (Hilton Waikoloa)	CM	-	-	-	Pending Necropsy Report	N	Dead
23-Jun-12	OAHU	Kaneohe Bay (Kahaluu)	CM	F	51.3	Y	Pending Necropsy Report	Y	Dead
26-Jun-12	OAHU	Ala Wai Yacht Harbor	CM	U	-	Y	Pending Necropsy Report	N	Dead

Table 10. Marine turtle strandings in the Hawaiian Islands previously pending necropsy (N=19), 1 May – 31 December 2011 that were necropsied between 1 January – 30 June 2012.

DATE	ISLAND	LOCATION	SPECIES	SEX	SCL (cm)	TUMORS	CAUSE OF STRANDING	NECROPSY	END STATUS
2-May-11	OAHU	Honolulu Harbor (Aloha Tower)	EI	F	41.4	N	Emaciation	Y	Dead
21-May-11	MAUI	Napili Bay	CM	U	-	N	Unknown	Y	Dead
5-Jul-11	MAUI	Ho'okipa (Mama's Fish House)	CM	-	-	N	FP	Y	Dead
4-Aug-11	MAUI	Paia (Baldwin Beach Park)	CM	-	-	N	Unknown	Y	Dead
6-Aug-11	OAHU	Kailua	CM	-	-	N	Unknown	N	Dead
8-Aug-11	MAUI	Kahana Village	CM	-	-	N	Trauma	Y	Dead
3-Sep-11	OAHU	Lanikai Beach	CM	-	-	N	Unknown	Y	Dead
21-Sep-11	OAHU	Kailua Beach	CM	-	-	N	Trauma	Y	Dead
26-Sep-11	HAWA	Kailua-Kona (Honl's Beach Park)	CM	-	-	N	Shark attack	N	Dead
3-Nov-11	OAHU	Hanauma Bay	EI	F	61.1	N	Unknown	Y	Dead
24-Nov-11	OAHU	Haleiwa Boat Harbor	CM	M	-	N	Shark attack	Y	Dead
29-Nov-11	OAHU	Kahana Bay	LO	F	39.2	N	Emaciation	Y	Dead
8-Dec-11	OAHU	Kaneohe Bay (Kahaluu)	CM	M	55.4	N	Line ingestion	Y	Dead
8-Dec-11	OAHU	Waialua	CM	F	42.9	N	Net entanglement	Y	Dead
9-Dec-11	OAHU	Hauula (Kakela Beach Park)	CM	M	40.5	N	Unknown	Y	Dead
21-Dec-11	OAHU	Kaneohe Bay (Heeia Kea State Park)	CM	U	-	U	Unknown	Y	Dead
23-Dec-11	OAHU	Barbers Point (White Plains Beach)	CM	F	92.5	N	Shark attack	Y	Dead
24-Dec-11	OAHU	Kailua Beach Park	CM	F	41.8	N	Trauma	Y	Dead
31-Dec-11	MAUI	Baldwin Beach Park	CM	U	-	N	FP	Y	Dead

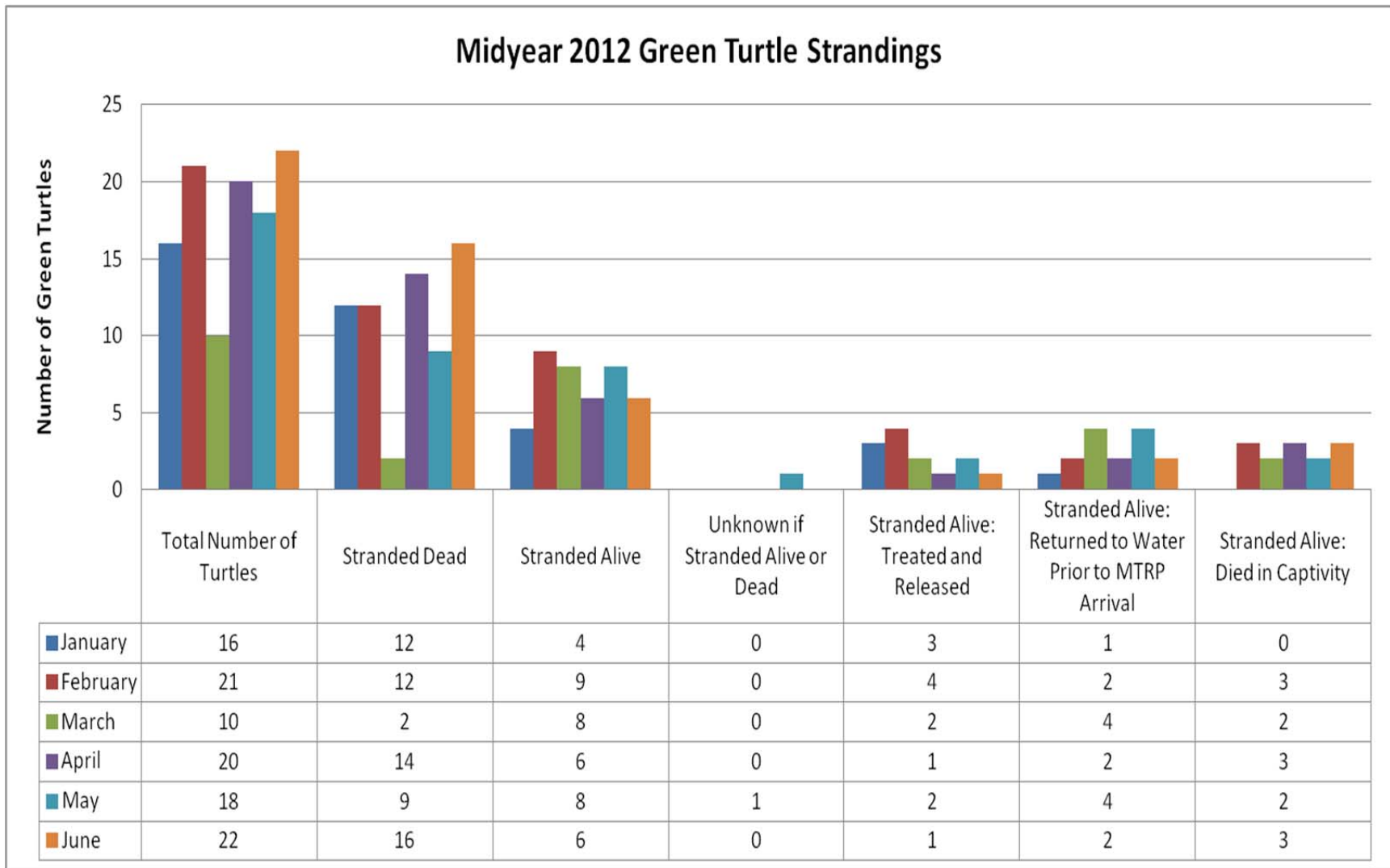


Figure 1. Midyear 2012 Hawaiian Islands green turtle strandings by month, January – June.

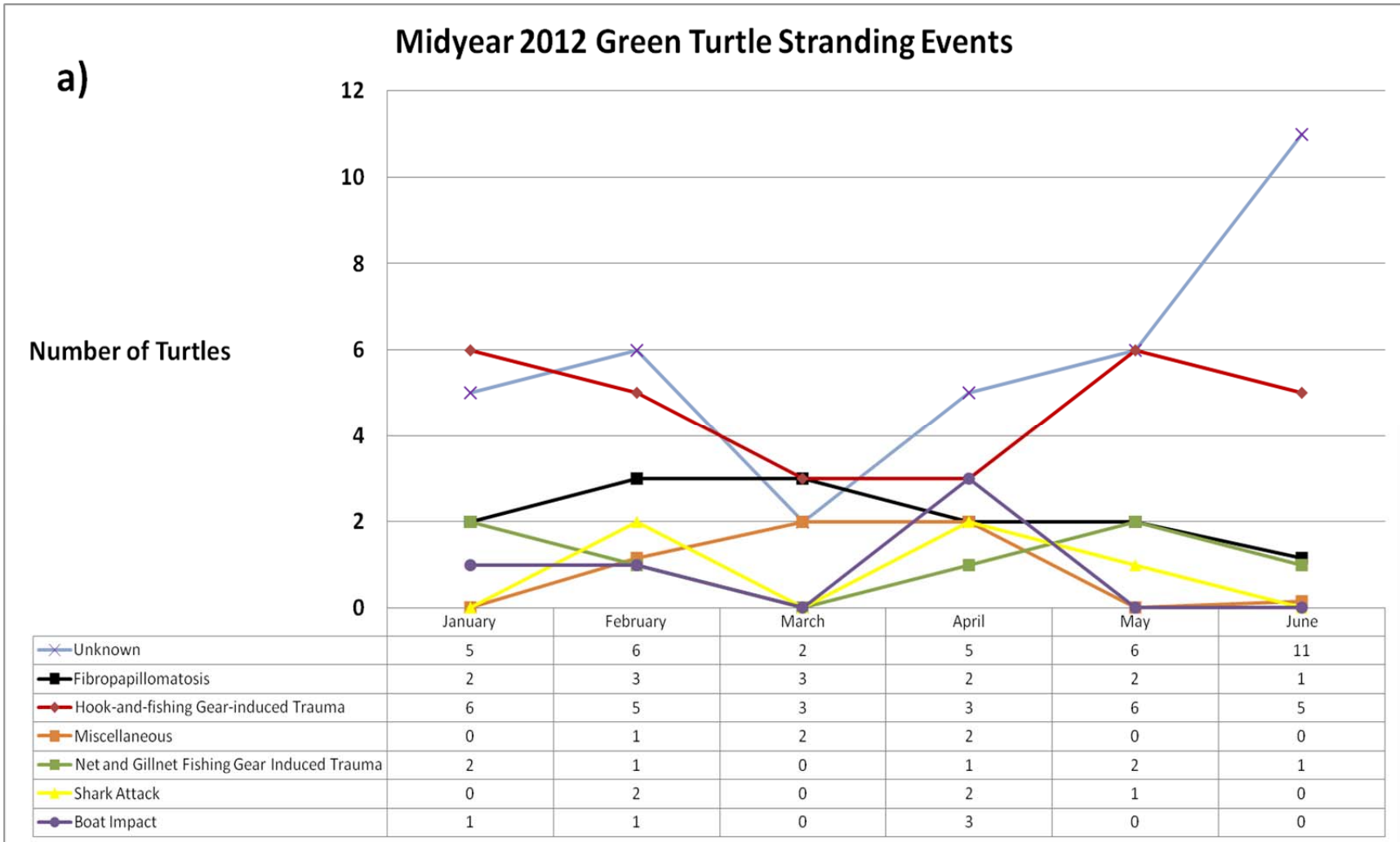


Figure 2a. Midyear 2012 green turtle stranding causes by month, January – June. Strandings pending necropsies are not included. No cases of Human Take.

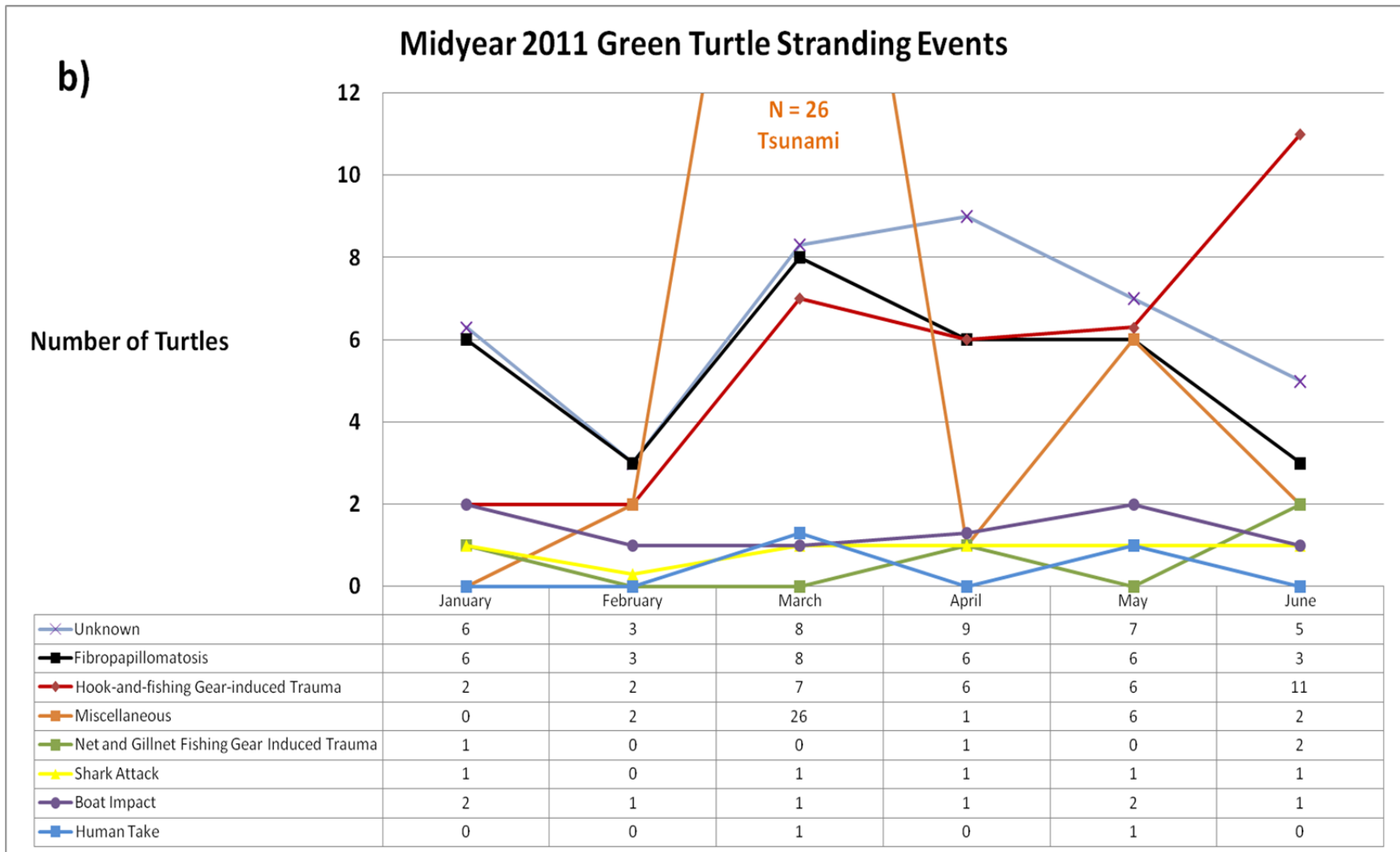


Figure 2b. Midyear 2011 green turtle stranding causes by month, January – June. Strandings pending necropsies are not included. Note: the high number of Miscellaneous strandings in March were due to the March 11, Japan-generated tsunami.

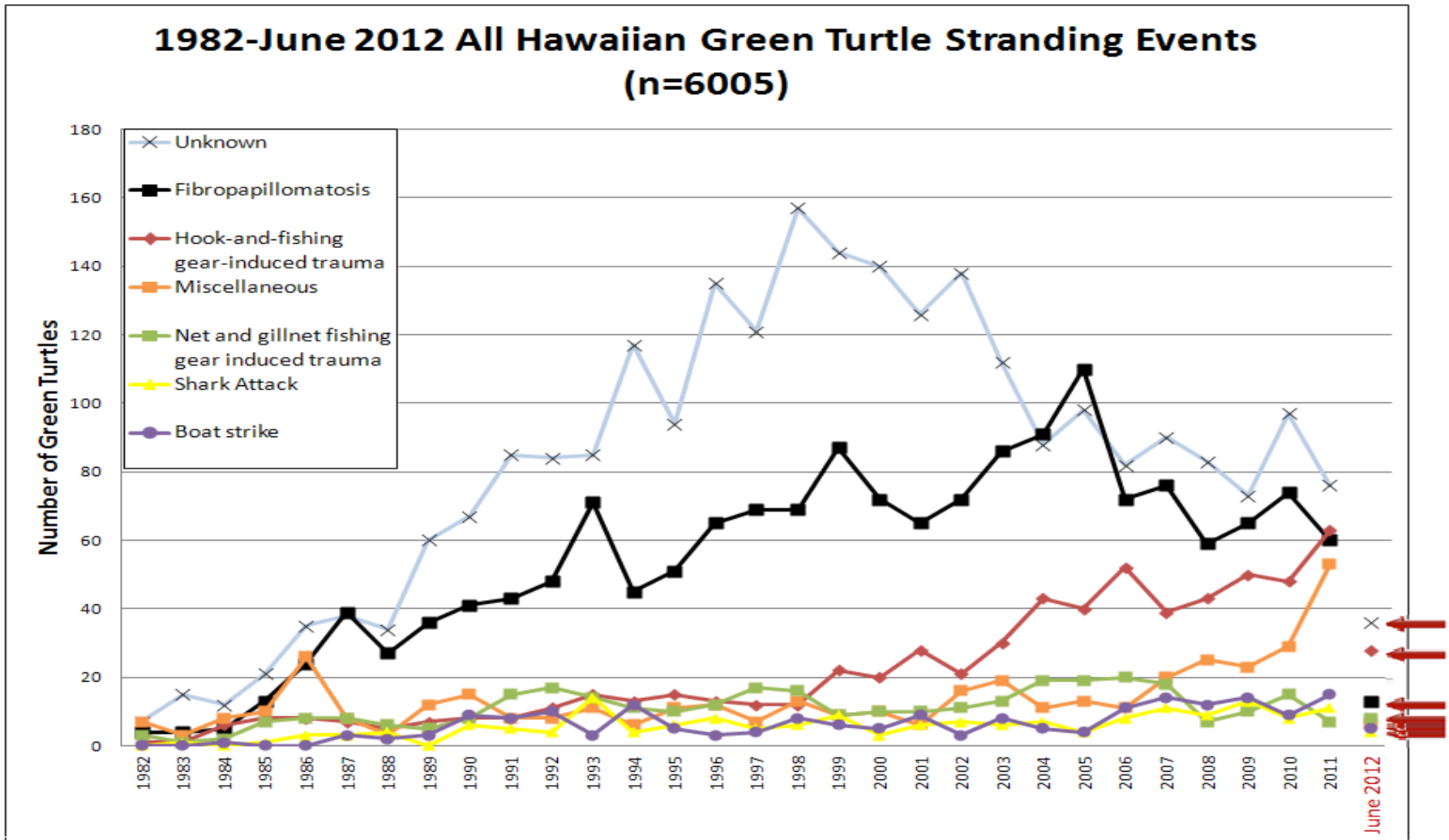


Figure 3. Green turtle strandings from Main and Northwestern Hawaiian Islands by cause from 1982 to through June 2012. Red arrows indicate number of strandings in each category midway through 2012.