

**Marine Mammal
Health and
Stranding
Response**

**Cook Inlet
Belugas**



Why Marine Mammals Strand

- Unknown
- Weakened / diseased
- Environmental influences (tides, currents, etc.)
- Foraging (eg. belugas in Turnagain Arm, Cook Inlet)
- Echolocation distorted
- Escape predators
- Human interference (injuries, noise, boat collision, etc.)

Educational Value from Strandings

Communicates messages to scientists and the public

- Sick animals – Disease information
- Calves and pups – Moms feeding, abandonment, etc.
- Entanglements – Marine debris danger
- Unusual mortality – Species distribution, population health, marine health
- Dead animals – Life history, basic biology
age, growth, fecundity, etc.

Stranded Beluga is Reported



CAN Access Stranded Belugas



CAN'T Access Stranded Belugas



Stranding Response NOAA Enforcement



Stranding Response - Sampling



Stranding Response - Necropsies = Field

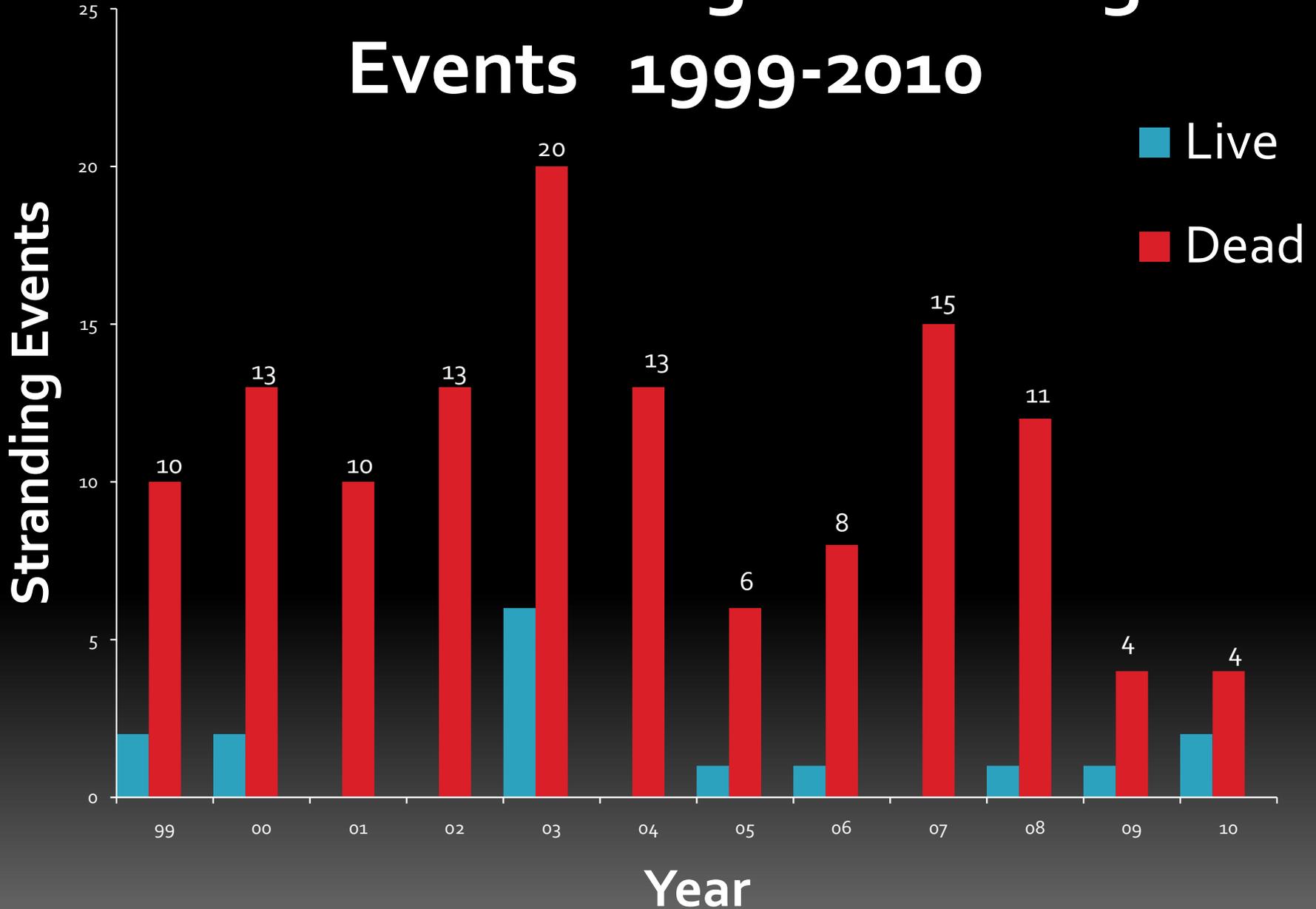


Stranding Response - Necropsies = Lab

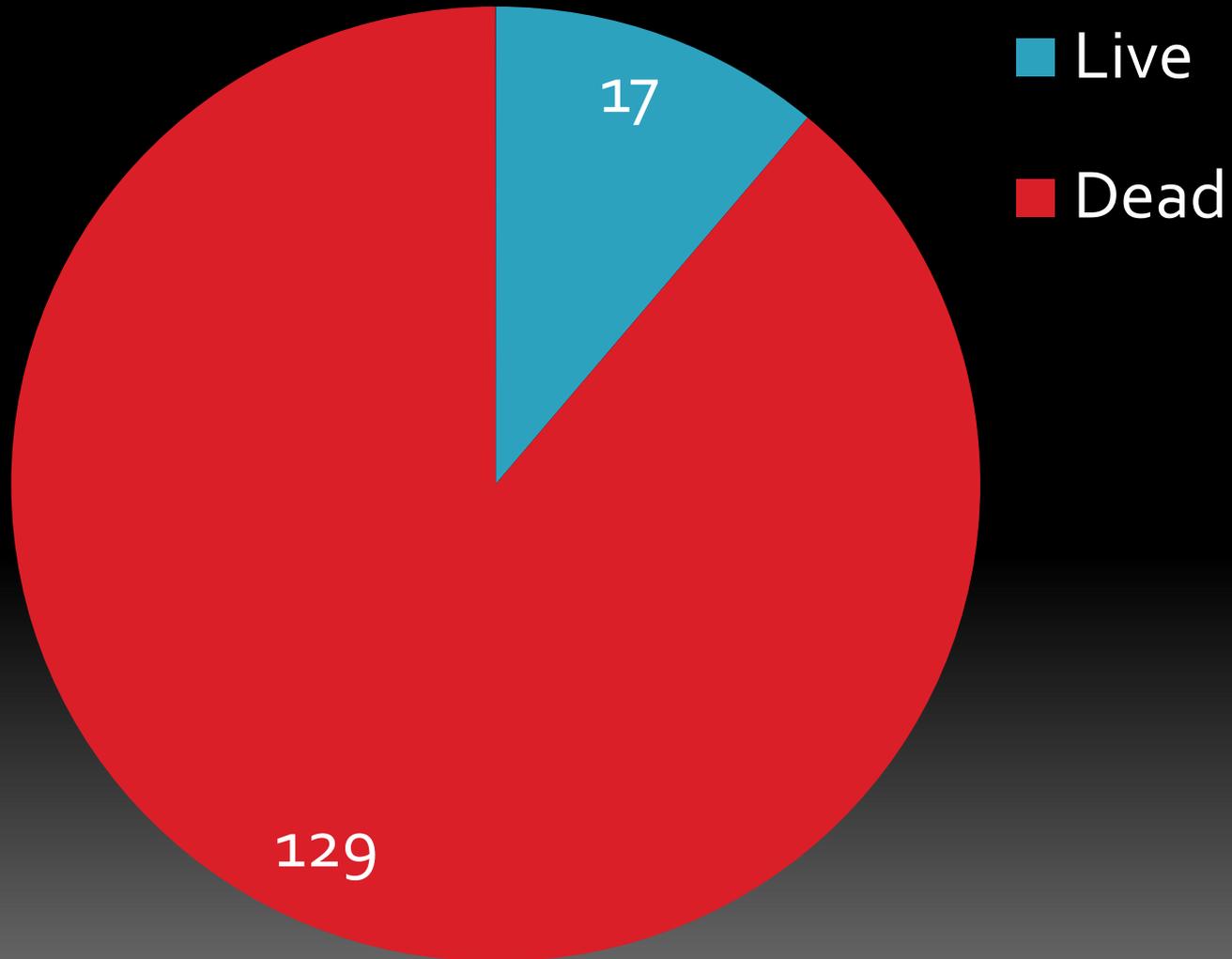


Cook Inlet Beluga Stranding

Events 1999-2010



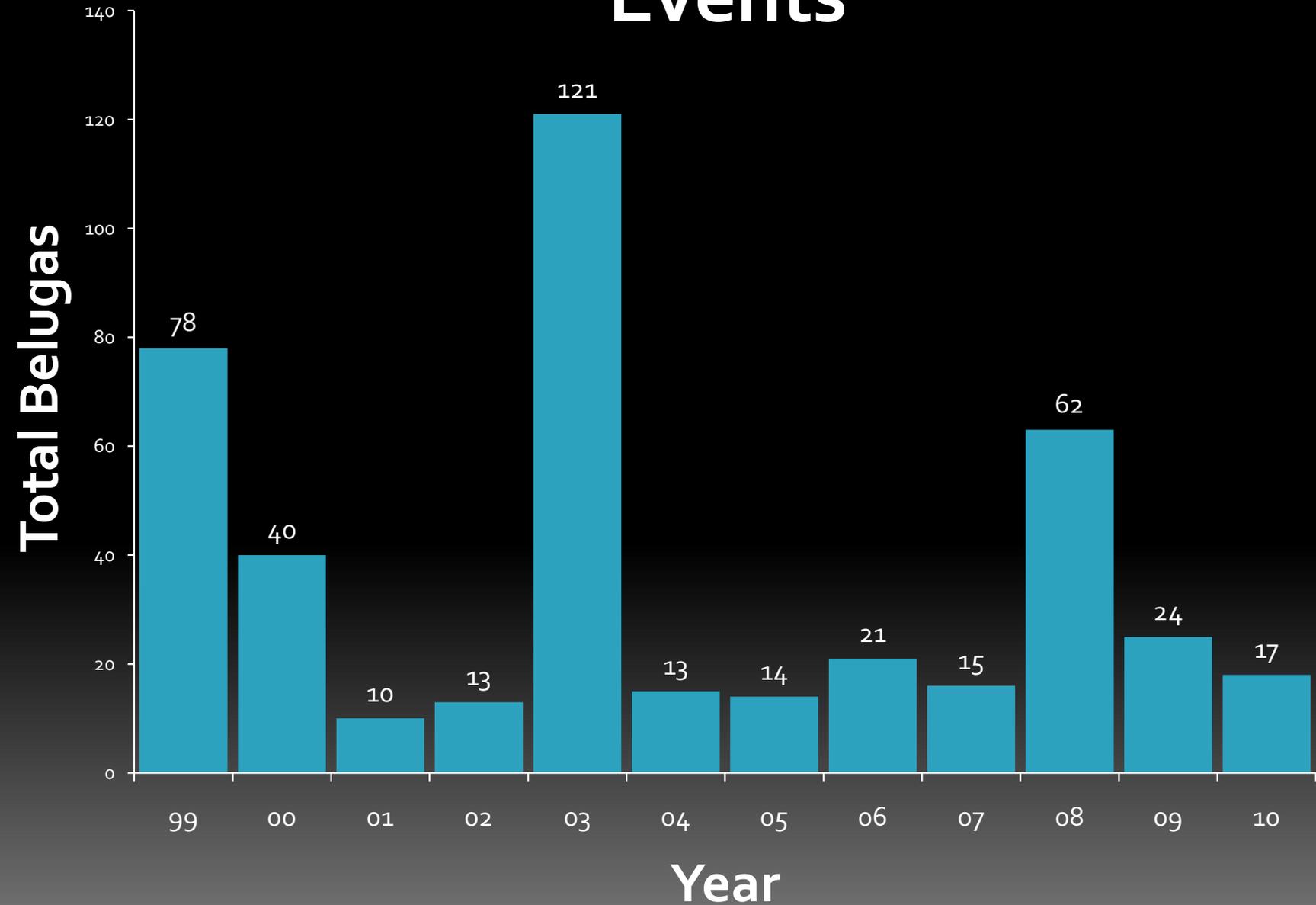
Cook Inlet Beluga Strandings Events 1999-2010



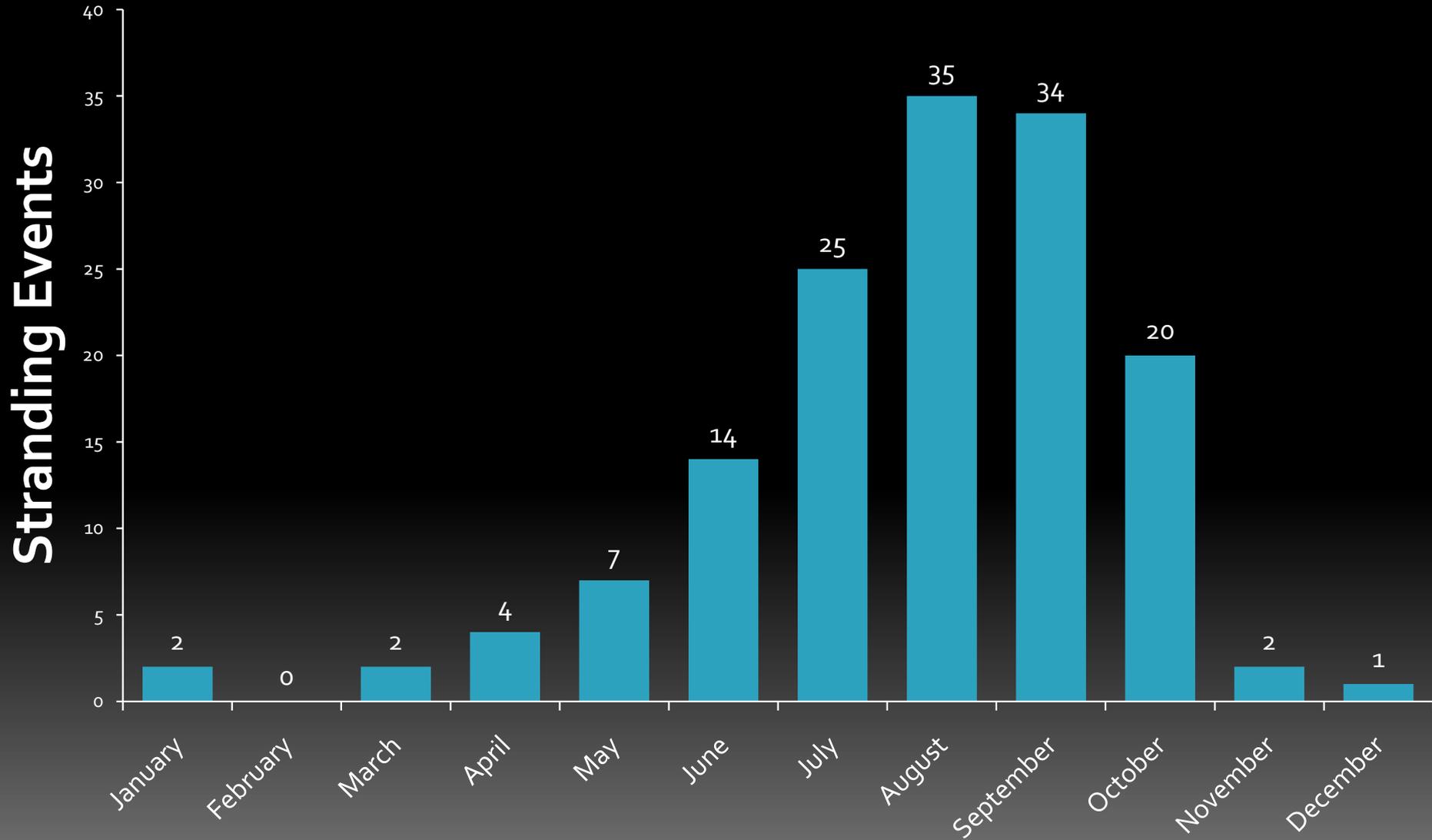
Dead beluga stranding response

YEAR	DEAD BELUGA	RESPONSE SAMPLING	RESPONSE NECROPSY	NO RESPONSE (FLOATER)	UNCONFIRMED	PERCENT RESPONSE
1999	10	4	4	2 (1)		89
2000	13	8	0	4	1	67
2001	10	8	0	0	2	100
2002	13	6	0	3(3)	4	100
2003	20	17	0	3(2)	0	89
2004	13	6	0	7(5)	0	75
2005	6	5	1	0	0	100
2006	8	1	2	5(4)	0	75
2007	15	6	4	2(0)	2	77
2008	11	5	7	0	0	100
2009	4	0	4	0	0	100
2010	4	0	1	3(2)	0	50

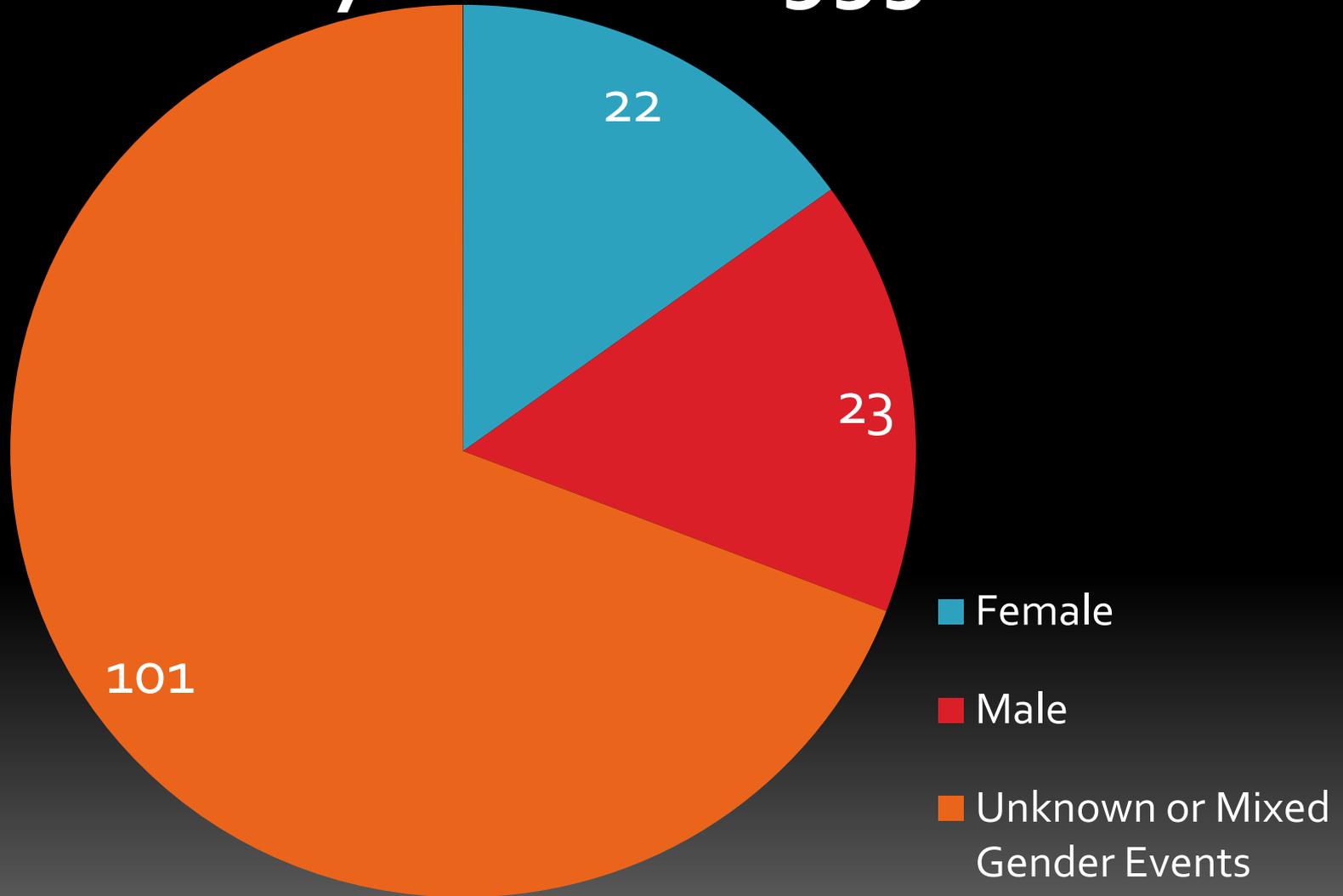
Belugas Involved in Stranding Events



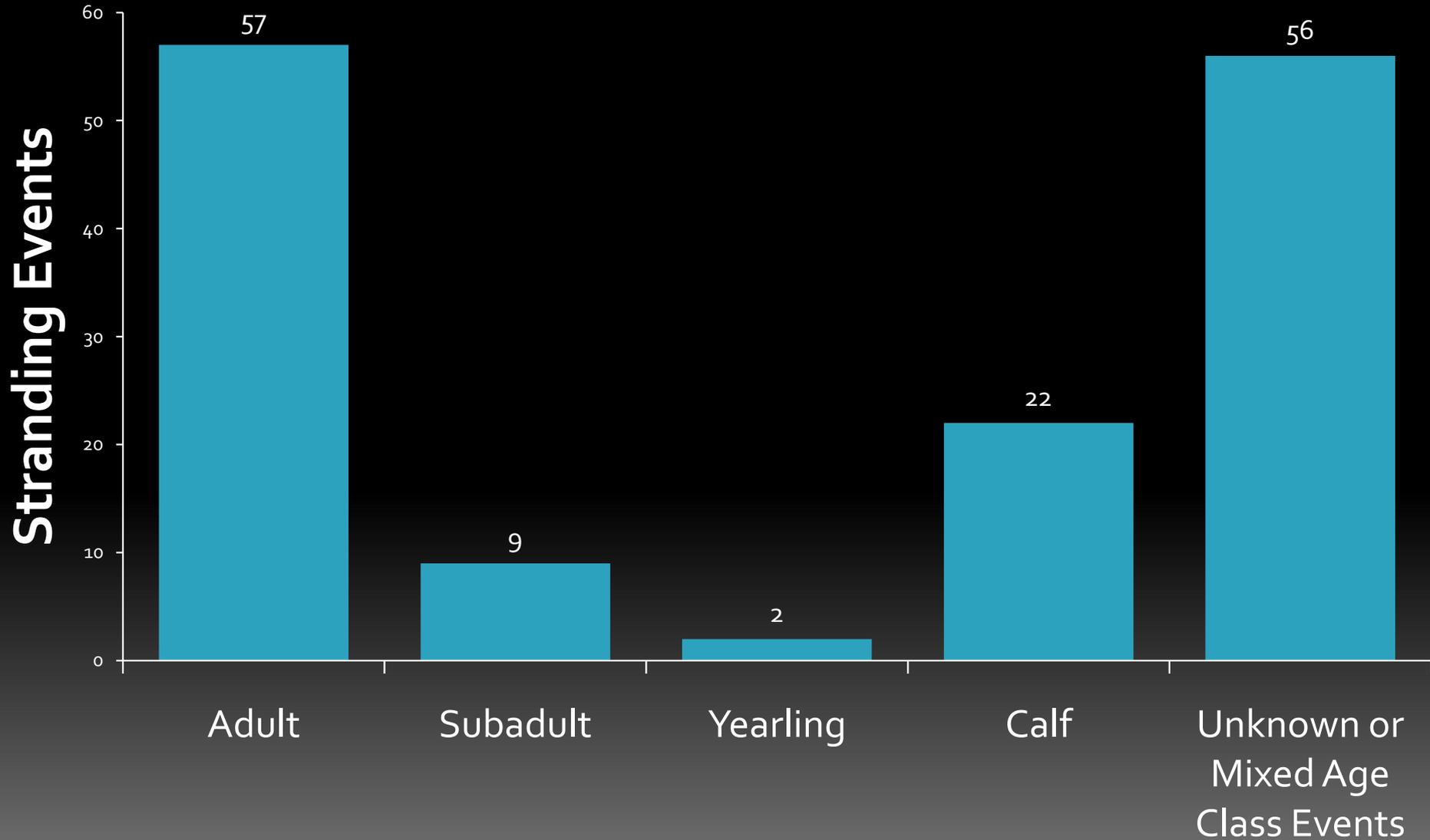
Cook Inlet Beluga Stranding Events by month 1999-2010



Cook Inlet Beluga Stranding Events by Gender 1999-2010

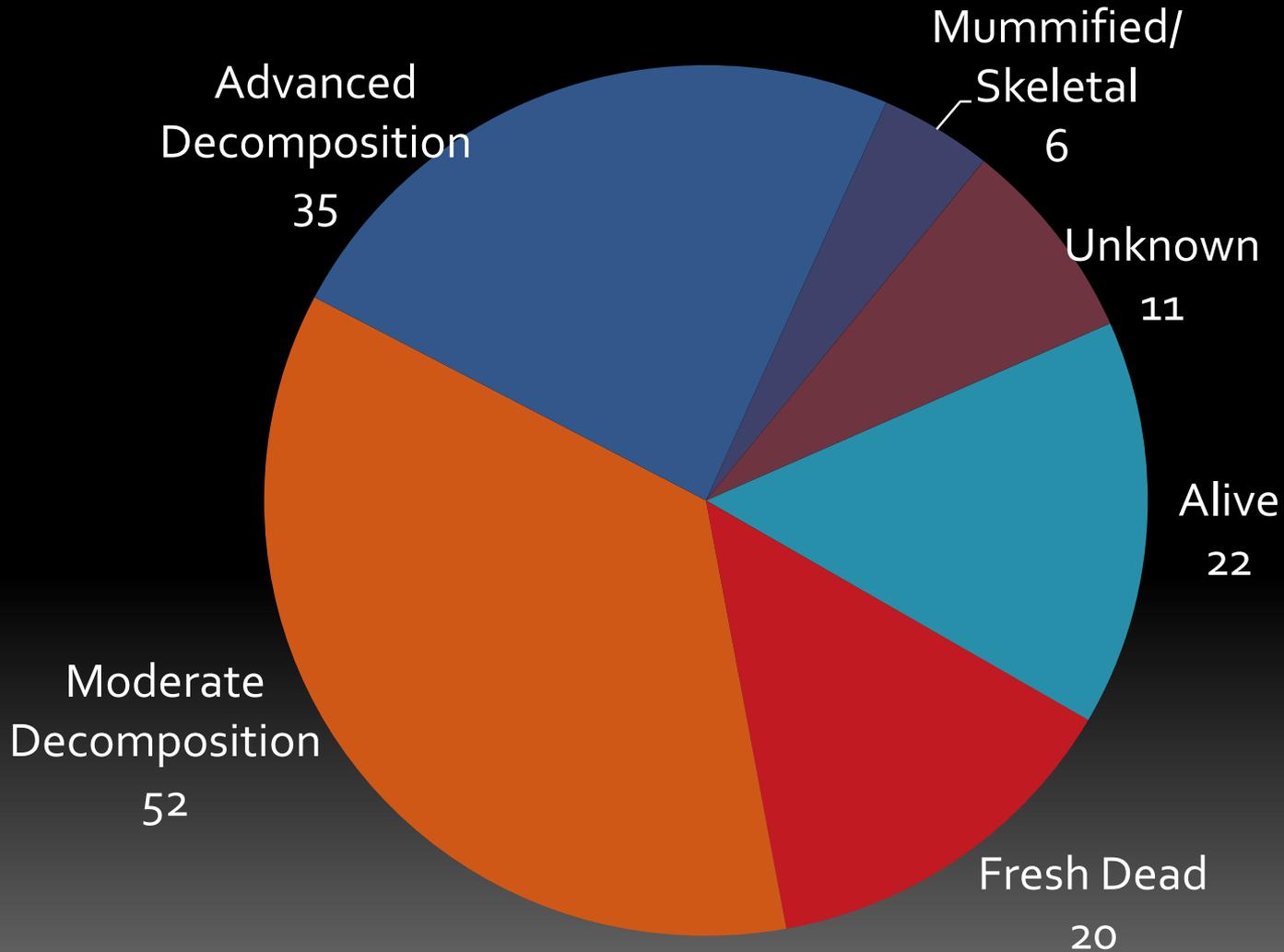


Cook Inlet Beluga Stranding Events by Age Class 1999-2010



Cook Inlet Beluga Condition

1999-2010



Beluga Live Stranding Events and Killer Whales

YEAR	DATE	LOCATION	BELUGAS	KILLER WHALES PRESENT
1999	29 August	Turnagain Arm	58 – 70	REPORTED
	9 September	Turnagain Arm	12 – 13	No
2000	27 August	Turnagain Arm	08	No
	24 September	Turnagain Arm	15 – 20 (unconfirmed)	WITNESSED
	24 October	Turnagain Arm	01– 02 (unconfirmed)	No
2001	-	-	-	-
2002	-	-	-	-
2003	18 April	Turnagain Arm	01–02 (unconfirmed)	No
	28 August	Turnagain Arm	46	No
	06 September	Turnagain Arm	26	No
	14 September	Turnagain Arm	32	No
	06 October	Turnagain Arm	04–09 (unconfirmed)	No
	17 October	Ship Creek	01	No
2004	-	-	-	-
2005	24 August	Knik Arm	07 (picture)	No
2006	12 September	Knik Arm	12 (picture)	No
2007	-	-	-	-
2008	7 August	Knik Arm	30 (picture)	No
2008	September	Turnagain Arm	17-19 (picture)	No
2009	22 August	Knik Arm	17–20 (picture)	No
2010	21 August	Knik Arm	11 (picture)	No
	29 August	Knik Arm	02 (unconfirmed)	No

Known Beluga Mortalities from Killer Whales

YEAR	DATE	LOCATION	GENDER	SIZE	OBSERVATIONS
1999	-				
2000	25-Sep	Turnagain Arm, Indian Creek	Female	12'3"	Lactating, bite marks, hemorrhaged
	26-Sep	Turnagain Arm, Bird Creek	Female	11'9"	Lactating, bite marks, hemorrhaged
2001	-				
2002	-				
2003	25-Aug	Knik Arm, north of Port MacKenzie	Male	15'7"	Bite marks, hemorrhaged
2004	-				
2005	-				
2006	-				
2007	-				
2008	19-Sep	Turnagain Arm, near Hope		white	Witness reported attack by two killer whales
	28-Sep	Turnagain Arm, Bird Creek	Unidentified	12'9"	Most of the blubber was stripped
2009	-				
2010	-				

MARINE MAMMAL STRANDING REPORT - LEVEL A DATA

FIELD #: _____ NMFS REGIONAL #: _____ NATIONAL DATABASE#: _____
 (NMFS USE) (NMFS USE)

COMMON NAME: _____ GENUS: _____ SPECIES: _____

EXAMINER Name: _____ Affiliation: _____

Address: _____ Phone: _____

Stranding Agreement or Authority: _____

LOCATION OF INITIAL OBSERVATION State: _____ County: _____ City: _____ Body of Water: _____ Locality Details: _____ Lat (DD): _____ N Long (DD): _____ W <input type="checkbox"/> Actual <input type="checkbox"/> Estimated How Determined: (check ONE) <input type="checkbox"/> GPS <input type="checkbox"/> Map <input type="checkbox"/> Internet/Software		OCURRENCE DETAILS <input type="checkbox"/> Restrand GE# _____ Group Event: <input type="checkbox"/> YES <input type="checkbox"/> NO (NMFS Use) If Yes, Type: <input type="checkbox"/> Cow/Calf Pair <input type="checkbox"/> Mass Stranding # Animals: _____ <input type="checkbox"/> Actual <input type="checkbox"/> Estimated Findings of Human Interaction: <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> Could Not Be Determined (CBD) If Yes, Choose one or more: <input type="checkbox"/> 1. Boat Collision <input type="checkbox"/> 2. Shot <input type="checkbox"/> 3. Fishery Interaction <input type="checkbox"/> 4. Other Human Interaction: _____ How Determined (Check one or more): <input type="checkbox"/> External Exam <input type="checkbox"/> Internal Exam <input type="checkbox"/> Necropsy <input type="checkbox"/> Other: _____ Gear Collected? <input type="checkbox"/> YES <input type="checkbox"/> NO Gear Disposition: _____ Other Findings Upon Level A: <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> Could Not Be Determined (CBD) If Yes, Choose one or more: <input type="checkbox"/> 1. Illness <input type="checkbox"/> 2. Injury <input type="checkbox"/> 3. Pregnant <input type="checkbox"/> 4. Other: _____ How Determined (Check one or more): <input type="checkbox"/> External Exam <input type="checkbox"/> Internal Exam <input type="checkbox"/> Necropsy <input type="checkbox"/> Other: _____																																											
INITIAL OBSERVATION Date: Year: _____ Month: _____ Day: _____ First Observed: <input type="checkbox"/> Beach or Land <input type="checkbox"/> Floating <input type="checkbox"/> Swimming CONDITION AT INITIAL OBSERVATION (Check ONE) <input type="checkbox"/> 1. Alive <input type="checkbox"/> 4. Advanced Decomposition <input type="checkbox"/> 2. Fresh dead <input type="checkbox"/> 5. Mummified/Skeletal <input type="checkbox"/> 3. Moderate decomposition <input type="checkbox"/> 6. Condition Unknown		LEVEL A EXAMINATION <input type="checkbox"/> Not Able to Examine Date: Year: _____ Month: _____ Day: _____ CONDITION AT EXAMINATION (Check ONE) <input type="checkbox"/> 1. Alive <input type="checkbox"/> 4. Advanced Decomposition <input type="checkbox"/> 2. Fresh dead <input type="checkbox"/> 5. Mummified/Skeletal <input type="checkbox"/> 3. Moderate decomposition <input type="checkbox"/> 6. Unknown																																											
INITIAL LIVE ANIMAL DISPOSITION (Check one or more) <input type="checkbox"/> 1. Left at Site <input type="checkbox"/> 6. Euthanized at Site <input type="checkbox"/> 2. Immediate Release at Site <input type="checkbox"/> 7. Transferred to Rehabilitation: <input type="checkbox"/> 3. Relocated Date: Year: _____ Month: _____ Day: _____ Facility: _____ <input type="checkbox"/> 4. Disentangled <input type="checkbox"/> 8. Died during Transport <input type="checkbox"/> 5. Died at Site <input type="checkbox"/> 9. Euthanized during Transport <input type="checkbox"/> 10. Other: _____ CONDITION/DETERMINATION (Check one or more) <input type="checkbox"/> 1. Sick <input type="checkbox"/> 7. Location Hazardous <input type="checkbox"/> 2. Injured <input type="checkbox"/> a. To animal <input type="checkbox"/> 3. Out of Habitat <input type="checkbox"/> b. To public <input type="checkbox"/> 4. Deemed Releasable <input type="checkbox"/> 8. Unknown/CBD <input type="checkbox"/> 5. Abandoned/Orphaned <input type="checkbox"/> 9. Other: _____ <input type="checkbox"/> 6. Inaccessible		MORPHOLOGICAL DATA SEX (Check ONE) AGE CLASS (Check ONE) <input type="checkbox"/> 1. Male <input type="checkbox"/> 1. Adult <input type="checkbox"/> 4. Pupa/Calf <input type="checkbox"/> 2. Female <input type="checkbox"/> 2. Subadult <input type="checkbox"/> 5. Unknown <input type="checkbox"/> 3. Unknown <input type="checkbox"/> 3. Yearling <input type="checkbox"/> Whole Carcass <input type="checkbox"/> Partial Carcass Straight length: _____ <input type="checkbox"/> cm <input type="checkbox"/> in <input type="checkbox"/> actual <input type="checkbox"/> estimated Weight: _____ <input type="checkbox"/> kg <input type="checkbox"/> lb <input type="checkbox"/> actual <input type="checkbox"/> estimated PHOTOS/VIDEOS TAKEN: <input type="checkbox"/> YES <input type="checkbox"/> NO Photo/Video Disposition: _____																																											
TAG DATA Tags Were: Present at Time of Stranding (Pre-existing): <input type="checkbox"/> YES <input type="checkbox"/> NO Applied during Stranding Response: <input type="checkbox"/> YES <input type="checkbox"/> NO		CARCASS STATUS (Check one or more) <input type="checkbox"/> 1. Left at Site <input type="checkbox"/> 4. Towed: Lat _____ Long _____ <input type="checkbox"/> 7. Landfill <input type="checkbox"/> 2. Buried <input type="checkbox"/> 5. Sunk: Lat _____ Long _____ <input type="checkbox"/> 8. Unknown <input type="checkbox"/> 3. Rendered <input type="checkbox"/> 6. Frozen for Later Examination <input type="checkbox"/> 9. Other: _____																																											
<table border="1"> <thead> <tr> <th>ID#</th> <th>Color</th> <th>Type</th> <th>Placement* (Circle ONE)</th> <th>Applied</th> <th>Present</th> </tr> </thead> <tbody> <tr> <td>_____</td> <td></td> <td></td> <td>D DF L</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>_____</td> <td></td> <td></td> <td>LF LR RF RR</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>_____</td> <td></td> <td></td> <td>D DF L</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>_____</td> <td></td> <td></td> <td>LF LR RF RR</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>_____</td> <td></td> <td></td> <td>D DF L</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>_____</td> <td></td> <td></td> <td>LF LR RF RR</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </tbody> </table>		ID#	Color	Type	Placement* (Circle ONE)	Applied	Present	_____			D DF L	<input type="checkbox"/>	<input type="checkbox"/>	_____			LF LR RF RR	<input type="checkbox"/>	<input type="checkbox"/>	_____			D DF L	<input type="checkbox"/>	<input type="checkbox"/>	_____			LF LR RF RR	<input type="checkbox"/>	<input type="checkbox"/>	_____			D DF L	<input type="checkbox"/>	<input type="checkbox"/>	_____			LF LR RF RR	<input type="checkbox"/>	<input type="checkbox"/>	SPECIMEN DISPOSITION (Check one or more) <input type="checkbox"/> 1. Scientific collection <input type="checkbox"/> 2. Educational collection <input type="checkbox"/> 3. Other: _____ Comments: _____ NECROPSIED <input type="checkbox"/> NO <input type="checkbox"/> YES <input type="checkbox"/> Limited <input type="checkbox"/> Complete <input type="checkbox"/> Carcass Fresh <input type="checkbox"/> Carcass Frozen/Thawed NECROPSIED BY: _____ Date: Year: _____ Month: _____ Day: _____	
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Beluga Whales in Cook Inlet

- Site data – what, where, when
- Morphological data – length, fluke width, color, girth, blubber thickness
- Ageing – jaw and teeth
- Genetics – skin
- Diet and fatty acid analysis – stomach and full depth blubber
- Contaminants:
 - AMMTAP: blubber, kidney, liver
 - Additional: heart, muscle
- Parasite analysis – kidney
- Histology – heart, intestine, liver, lung, muscle, etc.
- Reproduction – reproductive tract
- Animal health – feces, urine, upper intestinal fluid, etc.



Alaska Veterinary Pathology Services (AVPS)

Kathy Burek, D.V.M., M.S.
Diplomate, A.C.V.P.

23834 The Clearing Dr. / Eagle River, AK 99577

Voice: (907) 696-3704 / Fax (907) 696-3565 / Cell 242-2566 / Email: AVPS.KBH@gmail.com

STRANDING NETWORK CETACEAN NECROPSY REPORT

SPECIES: Beluga whale (*Delphinapterus leucas*)

SEX: Female **AGE:** Adult

REPRO STATE: Recently gave birth

ANIMAL ID/NAME: KBH-062810-01

CONTACT: Barbara Mahoney

VETERINARIAN: Kathy Burek

CLINIC: National Marine Fisheries Service

ADDRESS: 222 W. 7th Ave #43

Anchorage, AK 995137572

PH: (907) 271-3448

FAX: (907) 271-3030

Email: Barbara.Mahoney@noaa.gov

PERMIT NO. 932-1905-00/MA-009526 MMHSRP

Chain of custody forms: no; Human interaction form no

Level A form completed? Yes Person filing the level A: Barbara Mahoney

CASE NUMBER: KBH-062810

1st OBSERVED DATE: 6/26/2010

NECROPSY DATE: 6/30/2010

TRIM DATE:

DATE FINAL:

PATHOLOGIST: KATHY BUREK

NUMBER OF BLOCKS:

PENDING:

GROSS DIAGNOSIS:

- 1.) Possible trauma;
- 2.) Poor body condition
- 3.) Mild *Crassicauda giliakiana* (incidental)

BRIEF HISTORY:

This Adult, Female Beluga whale (*Delphinapterus leucas*), was stranded at Pt. Possession (61.0118; -150.4773056) on 6/26/2010. It was reported by: Betty Gilchrist as a "red beluga" She also reported a white blobby carcass nearby which turned out to be an autolyzed shark. The beluga was necropsied on 6/30/2010 and was not previously frozen. The carcass quality was Poor - Advanced autolysis. The necropsy was performed on the beach by Kathy Burek assisted by Barbara Mahoney, and Jennifer Dushane. At the time of the stranding, the weather was partly sunny to rainy and tidal fluxes had been moderately high and were reducing.

MEASUREMENTS (cm unless indicated)

Tooth count: UpL -Not counted; Up R - not counted ; Low L= 9 Low R = 5 (missing 3-7)

Strandings

Cause of death:
UNKNOWN



Strandings



Cause of death:
KILLER WHALE

Response Completed



Marine Mammal Strandings

What to do:

- Notify proper authorities
 - NMFS, NOAA Enforcement, Alaska SeaLife Center, State Troopers
- Provide information: date, time, location, identification, pictures

Marine Mammal Strandings

NOAA Hot Line: 800 – 853 – 1964

NOAA Enforcement: 907 – 271 – 3021

Alaska SeaLife Center: 888 – 774 – SEAL (7325)

NMFS cell phone: 907 – 360 – 3481

THANK YOU TO THE THOSE WHO REPORT, COLLECT, AND ASSIST

Many individual boaters, drivers, hikers, homeowners, hunters, and pilots, who live in and around Cook Inlet report stranding events when they happen

STRANDING REPORTS AND VOLUNTEERS ARE OFTEN FROM:

Alaska Department of Fish and Game

Alaska SeaLife Center

Alaska State Troopers

Alaska Veterinary Pathology Services

Chevron Corp

ConocoPhillips Alaska, Inc.

Cook Inlet Tug and Barge Co

Crowley Marine Tug

Friends of the Anchorage Coastal Wildlife Refuge

John and Betty Gilchrist

LGL Alaska Research Associates, Inc.

Native Village of Tyonek

Port of Anchorage

Priewe Air Service

Resource Development Council

Spernak Air

US Air Force, Elmendorf Air Force Base

US Army, Fort Richardson

US Forest Service, Chugach National Forest

