

(Above) Skeleton of a juvenile gray whale at Fort Bragg, Ca.

(Far left) Head on view of a gray whale illustrating the surface area available to collect food.

(Left) I'm checking out a dead whale on Beverly Beach on May 24, 2006 to see if mysids are trapped in the baleen and if the tongue is intact.



(Above) A dead whale showing top jaw with baleen and an intact tongue-an indication that it was not killed by orcas.

(Left) I'm standing in the mouth of a 32-foot whale and above my hand is where the baleen hangs.

Gray Whales: The Lean Years

Gray whale movement patterns are intricately connected to the amount of food that is available. In years with poor food supplies or during el nino years (a time period where water temperatures are warmer than normal with decreased nutrients), the whales will tend to be on the move, trying to find localities where the food is dense enough to forage efficiently. Whales that are undernourished will have insufficient blubber layers. The outward signs of starvation are having a depression behind the blow holes or the scapula protruding through the skin.

An example of whale starvation was seen in the summer of 1999, an el nino year. Previous to 1999, the gray whale population reached an estimated high of 25,000. At this point it was speculated that the whales



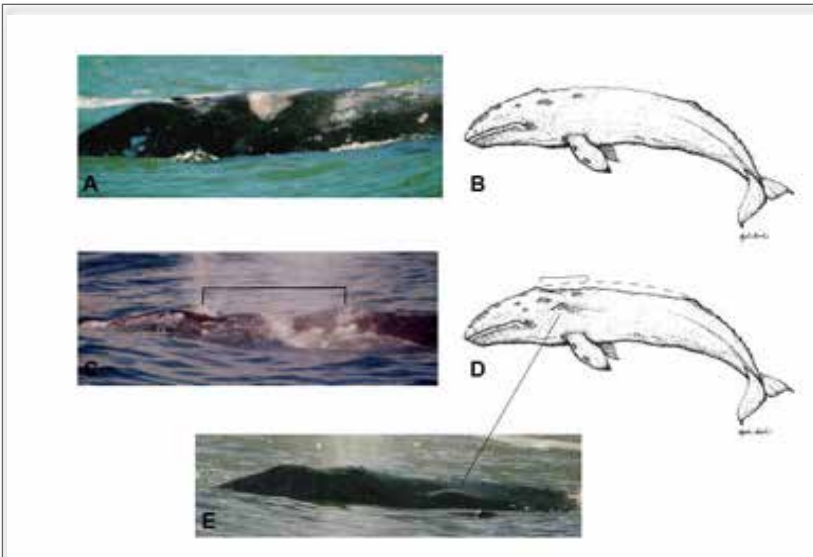
A summer resident that is not well fed as seen by the bump of the scapula

exceeded the carrying capacity of their Alaskan environment and up to a third of the population died off. This decline was probably due to a lack of food since many of the dead whales were emaciated.

Pictures A. and B. illustrate a healthy whale named Matrix Slasher. During an el nino year, Matrix Slasher became

extremely undernourished as illustrated in (C) and (D), (E) Scapula bone showing through skin.

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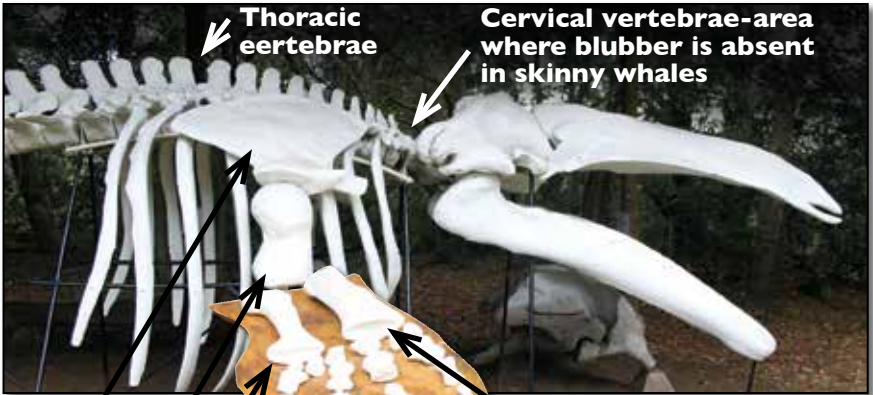


Alaskan waters may not be able to support a large number of whales during el nino years because the amphipods (their main prey in Alaska) have poor reproductive success in warmer waters.

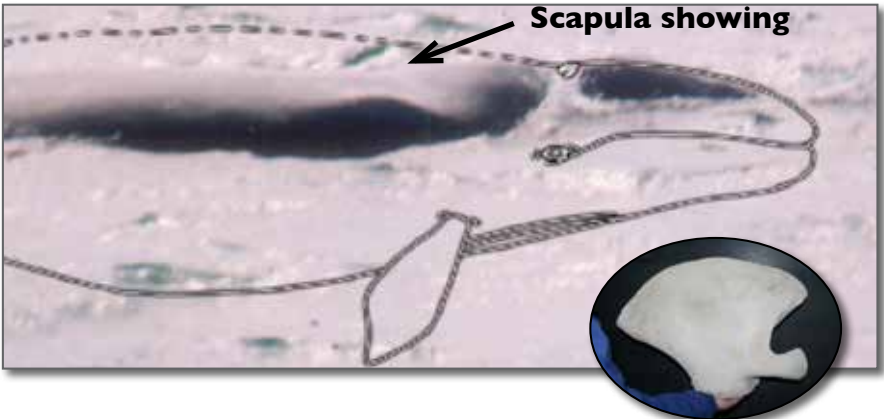
In 2005, off the Oregon coast, warmer than normal waters caused lower mysid production. About 1/5 of the resident gray whales were skinny, evidenced by the

scapula “bump” and a depression behind the blowholes.

In years with an abundance of prey, mysids or other prey items, female gray whales become pregnant and carry their calves for a 12-13 month term. An abundance of calves causes increased predation by orcas. In years with abundant calves, orca mortality on these calves may be as high as 30%.



Scapula
Humerus
Ulna
Radius



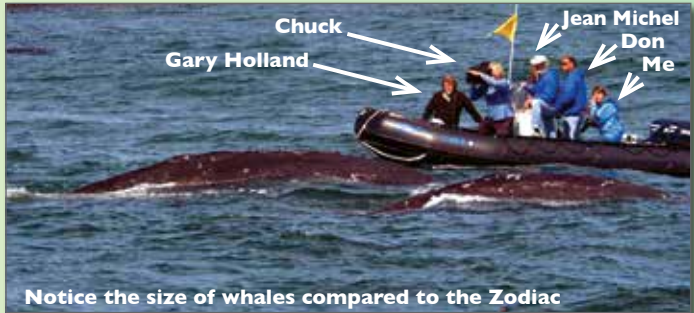
Cousteau Crew Films Discovery



Jean-Michel Cousteau giving me the bunny ears! Cameraman Chuck Davis.
Photo by Blair Mott

A high point in the summer of 2004 was an opportunity to work with the Cousteau film and dive crew. They came to Depoe Bay to document and film my discovery: that Oregon gray whales were feeding on mysid shrimp! Jean-Michel Cousteau's Ocean Futures Society in partnership with KQED, was producing a documentary on gray whales, called "Gray Whale Obstacle Course". It aired in 2006. This show featured gray whales traveling from the lagoons of Baja California to their final destination in the Arctic. The show focused on the obstacles gray whales faced during migration. Throughout this endeavor, the Cousteau crew interviewed and filmed various researchers who worked with different aspects of the gray whale migration. Growing up in Michigan, I was always glued to the TV when shows with Jacques Cousteau and son, Jean-Michel Cousteau, were on. I always dreamed of working in the ocean and understanding the marine environment as they did and as Jean-Michel is presently doing. The two weeks that I spent with the

Cousteau crew filming and diving was incredible. Jean-Michel is extremely knowledgeable and has a great sense of humor as does his whole crew. Their expedition leader, Don Santee did an excellent job supervising various aspects of the project.



Notice the size of whales compared to the Zodiac



Chief Diver, Blair Mott, stands on the observation deck of an Ocean Future's vessel while diver/photographer Matt Ferraro gears up to go in the water and camera operator Antoine Rosset stands at the ready. Sound engineer, Gary Holland seen in middle photo.

OPB - Oregon Field Guide Crew Films Discovery

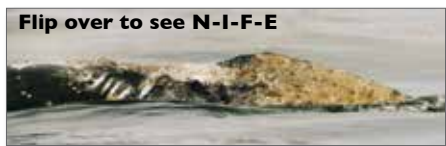
During the summer of 2009, I was fortunate to have the Oregon Public Broadcasting (OPB) crew join me on some of my gray whale adventures. They filmed my research for a segment of an Oregon Field Guide (episode #2203), Gray Whales, that aired October 2010. My research involves identifying individual gray whales that return each summer to feed on a previously unknown food source, mysid shrimp. The specific food source of Oregon's summer whales was unknown until I collected whale fecal material. For my research I have also dove in the kelp beds where mysids live and gray whales feed.

While their videographers filmed a number of our summer resident gray whales, I provided narration about each individual whale. They filmed Eagle Eye, Milkyway, DD, Spike, Vinnie, and various other summer residents. They also filmed other aspects of the mysid shrimp discovery. The producer of this segment was Vince Patton and the two videographers were Todd Sonflieth and Michael Bendixen, an incredible team. In one segment they photographed a whale coming up to the boat while my dog Kida ran to the bow to see it.



Gray Whale Discoveries of 2004

Each year I spend with the gray whales brings new and exciting discoveries and 2004 was no different. I am now not just recognizing individual whales by their markings but actually learning their characteristic behaviors. Many times I can tell from a distance which whale is around



since each one has unique quirks. Bubble Blaster starts blowing when it

is still under the water, and Chunky throws her partial tail fluke extremely high when feeding. Comet throws the tail fluke up every time when diving, even when this 42 foot whale is in water only 25 feet deep whereas Zebra Stripe never puts up the fluke. Stretch comes to the coast and breaches, at times in the same place as previous years. Olivia comes during the fall to feed and practice mating behaviors. She waits until there are two males by her, then she takes off at high speeds as the males chase her. After ten minutes or so she will stop and we can only imagine what's happening as the water begins to boil. My favorite observations from 2004 were those of our mother/calf pairs. During certain years, we have some of our females showing up with their calves. In 2004, there were five mother/calf pairs, more than in any other year of my study. I watched as Scarback was teaching Milky Way how to feed on mysids. When long-time resident, Matrix Slasher, showed up with a calf, we finally knew she was a female. We also realized what an incredible mom Matrix Slasher is since her calf had killer whale tooth rakes along the right side of the head,

evidence of a fierce attack. Mom had successfully protected her calf from a savage onslaught of transient killer whales that attacked them sometime between February and July when they migrated up from Mexico to Depoe Bay. The killer whale tooth rakes in fact spelled out the name we gave the calf, Nifer. Throughout the season, I observed how each calf gained their independence. I also saw Raker and Eagle Eye playing with sea lions for three hours.

Mysids food resources in 2004 were at their highest biomass since I began this study. I used an acrylic cube (1 f^3) to collect mysids while

diving to determine their biomass. By measuring the length,

width, and depth of the swarm, the amount of mysids in the cube and their neighbor distance, I estimated 54 billion mysids to be in some swarms. Because of the high mysid biomass, whale numbers were also high. In September, there were 20 whales around at one time. We also had new whales showing up that had not been identified before. One whale, we later named Trio, had us confused with Dotsee, proof why good identification photographs are necessary.

Many of our summer residents would approach the boat within a few feet before diving underneath it. My heart would beat very fast whenever these large whales displayed this particular behavior.



Gray Whale Discoveries of 2005

The summer of 2005 started out great. I sampled for mysids in April and May and the mysids were abundant but unfortunately, that was not to last. By June, few mysids were to be found. Strong upwell-



Rambolina passing through the area since no food was available



McFlurry in Boiler Bay, one of only 2 mysid feeding areas in 2005 - skinny, notice scapula showing

ing winds did not begin until mid-July. These winds are necessary to cause the upwelling of nutrients for phytoplankton production. It is my assumption that since phytoplankton were not reproducing the mysids had little food and therefore were not reproducing, and this resulted in few gray whales. Sampling throughout the season showed little increase in mysid numbers and whale numbers remained low until September. I photographed many of our residents including Scarback, Rambolina, Matrix Slasher, Morisa, Chunky, and others but none stayed in the area. They would usually approach from the north and check out their normal feeding localities but since few mysids were

found, they moved on. Many of the whales had their scapula showing, an indication of being undernourished. One whale was an exception and did stay. McFlurry, a new resident whale, showed up in July and resided in the area for 33 days. McFlurry had a predictable pattern. In the early morning and late evening, McFlurry would be feeding in Boiler Bay. I sampled and dove in the bay and found this to be one of only

two localities where there were abundant mysids. During the day, McFlurry would travel south about one-half mile and feed in front of the Trendwest condos, the other mysid location. One juvenile whale was also periodically seen in this area, but it was extremely unpredictable. No mother/calf pairs were present this year but two new whales from the previous year did return for



We discovered that a few whales go on their left side to feed - "lefties"

a week. My favorite returning whale was Eagle Eye. Cutter also returned for a week. My hope is that next year will be more similar to 2004 but everything is always unpredictable when it comes to the ocean.

Gray Whale Discoveries of 2006

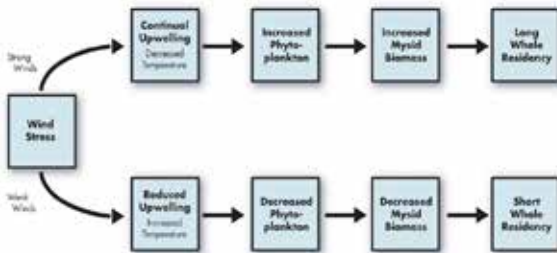
STRANDING # 541-270-6830



The Marine Mammal Stranding Network has their coordinator, Jim Rice, on site at every stranding. Above is a stranding at Seal Rock on May 26, 2007 with Jim checking out the whale.



The summer of 2006 was an extremely productive year for mysids which in turn means high numbers of gray whales having long residency times. It is amazing how quickly the ocean can undergo a turn around in ocean conditions from one year to the next. Nearshore ocean conditions are dependent upon the winds. In 2005, we had an unproductive ocean with little wind and therefore little upwelling which resulted in high water temperatures reaching the mid 60's. Lack of upwelling resulted in few nutrients for the phytoplankters and therefore little food for the mysids. The lack of phytoplankton for mysids resulted in low mysid production and therefore



short or no summer residency of gray whales. In 2006, the Northwest winds resulted in many upwelling episodes. In upwelling, the warmer surface waters are blown offshore and this results in colder, nutrient rich water rising up from depth to take its place. Water temperatures in

2006 were in the high 40's for a large part of the summer. The influx of the nutrients, phosphorus and nitrogen resulted in phytoplankton blooms which

in turn provided an ample food source for the zooplankters, mysids. With an abundant food source of mysids, gray whale numbers increased and so did their residency times. Regular residents included: Scarback, Eagle Eye, and a new whale Arrow.

Gray Whale Discoveries of 2007

My first gray whale in 2007 experience began in February when I was a naturalist in San Ignacio Lagoon. In the lagoon I saw one of our summer residents, “Rambo” with a calf. Locals in Depoe Bay had named this large whale Rambo but now since he is a she, we changed her name to Rambolina. In the summer of 2007, we saw a number of returning residents to Depoe Bay, including: Scarback, Zebra Stripe and Comet. Some of the new summer residents included Raptor, and Wishbone. Comet stayed around for 4 months that summer feeding primarily between Government Point and Whale Cove. Comet and Wishbone exhibited a lot of courtship in September. Male whales usually follow the female closely behind while courting. Although the females don’t get pregnant in September, many times they do practice.

One unique story in 2007 was about a young whale named Raptor. We were patiently awaiting the appearance of a gray whale in front of the Whale Center, when all of the sudden a young whale,

Raptor, started playing peek-a-boo with us. I got an excited call from the Whale Center saying that Raptor spyhopped behind our boat. All of us on the boat

Rambolina with calf, Hoot, along her side in Mexico



missed it, since we were at the front of the boat. I quickly turned the boat around, but once again Raptor spyhopped behind us. Again I turned the boat around to see him, but he was too clever for me, and for the third time he spyhopped behind us. We never did see any of the spyhops but the people at the Whale Center saw all three spyhops.



Comet being followed by Wishbone



Gray Whale Discoveries of 2008

The summer of 2008 saw the return of Scarback, Zebra Stripe, Stretch, Comet, Morisa, Doorknob, and Arrow. Each of these whales spent at least one month in residence from mid-July to mid-September. One new

ily offshore along convergence zones on an unknown food source.

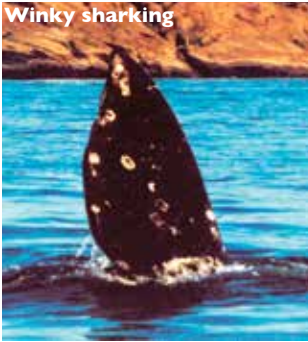
Two stories stick out in my mind with our 2008 whales. With Stretch, the story begins in September as we sat along an offshore

convergence zone. Stretch surfaced not more than 2 feet from our boat followed closely by Doorknob. This was a little close for comfort so I engaged the engine slightly and began to move away. To my surprise, Stretch followed me and Doorknob followed her. I took a sharp right and Stretch followed me and Doorknob followed her. I now began to feel that I was part of a mating triad. I took a sharp left and again I was followed by Stretch who was

Doorknob and Stretch courting



whale, Winky, spent three weeks sharking off North Point. Other new summer residents included Jenny Lace, Dotty, Pointer and Tad-Pole. Scarback showed up with



Winky sharking

a calf the beginning of the summer, her third calf since 2000. Calves stay with the females for about 7 months, so by late July, the calf had separated from mom. Stretch showed up for the 7th year in a row but fed primar-



Comet T-boning it to my boat

then followed by Doorknob. Finally I sped up to leave this courtship to the two of them. The other story began with my veterinarian. As we cruised off Pirate's Cove, I spotted Comet for the first time that year. I told my vet that Comet was here for 4 months the previous year and that many times she would approach my boat if I clapped and called out to her. I don't think she believed me. Comet surfaced about 100 yards away, I called her and she T-Boned it right to the boat. My vet and her husband were amazed that I called a 45 foot long whale to us-not an every day occurrence.

New whale Winky



Gray Whale Discoveries of 2009

The spring of 2009 started out with an ocean packed with phytoplankton: (diatoms) and zooplankton: (mysids.) This early indication was hopefully a sign that the summer would bring abundant mysid swarms and long residency times for the gray whales. In early May, Zebra Stripe showed up. This long time resident is usually the first resident to appear in late spring. As usual, June was a little slow for whales. July was a great month with returning residents Eagle Eye, Vinnie, DD, Pinnacle, Jenny Lace, Icecap, Minus 8 and Doorknob. These whales stayed for a couple of months. Brief appearances were made by Dotty, Rambolina, Star, Winky, Stretch, and Scarback. One of the new whales we named in 2009 was Wilson with a volleyball-sized pigmentation mark reminiscent of Tom Hank's movie Castaway.

DD and Pinnacle were both observed to have killer whale tooth rakes on their body. DD's fluke was missing the tip, having been bitten off by an orca and Pinnacle had tooth rakes on its back. Both of these whales exhibited a unique feeding behavior, bubble net feeding. This behavior has only been observed with humpback whales. When DD and Pinnacle bubble net feed, they release a circle of bubbles and then shark around the



DD and Pinnacle showing the orca rakes on their back

periphery of the bubble net probably sucking up all the mysids.

One of the most exciting things that occurred in July was the return of Milky Way, the 2004 calf of Scarback. I know that this whale is 5 years old, because I saw and photographed Milky Way as a calf. Mom, Scarback, was teaching Milky Way how to feed on mysids in 2004, and now, in 2009, Milky Way has come back to the area to feed on the mysids just like her mom taught her. This five-year old whale had an encounter with transient killer whales as evidenced by the tooth rakes on her tail fluke. Luckily Milky Way is a survivor.



A Bubble Net made by Pinnacle while feeding on mysids. This is a new discovery never documented by gray whales. They probably trap the mysids in the bubbles

and then suck them in their mouth. Possibly they learned this behavior from humpbacks since they are the only whale that are documented making a Bubble Net

Gray Whale Discoveries of 2010

The summer of 2010 was a slow year for whales with only two whales feeding in the area most of the summer, Rusty and Ice Cap. This trend was due to the fact that food supplies were low. Mysid swarms were practically non-existent for the months of June and July. When the mysids did start reproducing and producing the larger swarms, another problem surfaced. When diving, I noticed that the mysids were separated by many times their body length. Envision for one moment a swarm with mysids separated by only two body lengths vs 10 body

lengths. In a normal year, the nearest neighbor distance between individual mysids was two body lengths and this is effective for gray whales to trap a sufficient number of mysids in their baleen in order to feed. In 2010, the mysids were separated by 10 body lengths, not an effective way to trap sufficient mysids. This is probably why there were fewer whales

that stayed in the area. I recognized at least a half dozen whales that came to the area but unfortunately they just traveled past. I followed many of these whales north to Lincoln City or south to Newport at only 4 mph. How did they know that the food supplies were not sufficiently dense to feed them-I am not sure. Maybe it was their hearing, possibly sight, although limited, sensory hairs-who knows. Luckily, the end

of the summer ended up on a high note for whales with 15-20 whales hanging around in September and October. Residents seen in 2010, primarily in September and October included: O'Valentine, Morisa, Beacon, DD, Snowflake, Jenny Lace and McFlurry. New whales were Angel Wings, Jersey, Schooler, and Buckshot. We had a late season in 2010.

Jersey made its appearance on Memorial Day when this small, lice covered whale approached the boat within a few feet off Fogerty Beach and spyhopped repeatedly. Ice Cap also returned Memorial Day week-end

for the fifth year in a row. These whales then disappeared until mid-July.

From the middle of July to the middle of October, two whales, Ice Cap and Rusty gave us one incredible close encounter after another as they fed from Government Point to Depoe Bay. I am convinced that these whales have a great sense of humor because when we would least expect it, the whales would pop up within a foot or two of the boat. I



Spyhop in front of The Surfrider

think they like to hear me scream.

Two unique aspects occurred with two of our whales. First, Ice Cap got cut by a propeller from a boat I was watching. I watched Ice Cap's wound heal over the next few weeks. Second, I saw Jenny Lace at the beginning of the summer with no killer whale tooth rakes and the end of the summer she had a number of rakes between her second and third knuckles.



(Above) Jenny Lace showing killer whale tooth rakes.



(Left) Ice Cap showing the characteristic white rostrum while feeding nearshore.

(Bottom) Rusty's orangish rostrum from whale lice.

(Bottom Left) Whale turning on its left side to feed-a lefty.

(Bottom Right) Sharking Behavior.



Gray Whale Discoveries of 2011

The summer of 2011 was a good year for whales with from one to 20 whales feeding in the area from the end of May to the end of October. We had good upwelling winds throughout the summer and this brought lots of nutrients to the surface layers which the diatoms (a kind of phytoplankton) need in order to reproduce. The mysid shrimp eat these diatoms. I know this for a fact since I dissected the mysid guts and found

open their ear cavity and pulling out their waxy ear plug and counting the rings. Since baleen whales eat for half the year and then fast for half the year, they only deposit wax when actively feeding and so when they don't feed, no wax. It is very similar to counting rings of a tree. Grays can live to be at least in their eighties whereas bowheads whales have been aged over 200 years.

A behavior we observed various times

throughout the summer was when a whale was in sleep mode. The whales would leave their 30 foot feeding depths and go to 65-70 feet and rest in one spot for 15 minutes to one hour. It is assumed that like dolphins, they shut off half their brain but leave the other half alert in order to actively open their blow holes. We observed different whales doing this behavior including Scarback and Rusty.

Various pictures of Scarback



diatom parts in the stomach. The swarms seem to be most abundant in September and because of this abundance, we had up to 20 whales in the area early in the fall. Once again Scarback showed up, the 19th year in a row that I have seen her. Her flukes were a little whiter but her scar was just the same. She

was first seen as an adult in 1979. She is at least in her forties. The only way that you absolutely know how old a living baleen whale is would be to see it as a calf. A dead baleen whale can be aged by cutting



We saw Scarback, U-Fish, Morisa, Valentine, Comet, Doorknob, McFlurry, Jenny Lace and various others throughout the summer.

Gray Whale Discoveries of 2012

The summer of 2012 was incredible with four calves and an extremely friendly whale named Blanco showing up. I finally learned that Cutter and Bullseye were for sure females since they both showed up with calves. A new female and calf also showed up in the area that I did not recognize. This calf was excellent since it did various behaviors including breaching, spyhopping and belly flopping. We also had a young friendly calf show up without the mother. This small calf we named Lucky since it had numerous tooth rakes from killer whales

all over its tail flukes. I fear that as mom and calf were attacked, the mother gave up her life in order to save her calf. It is very unusual to see a young calf this time of year

without its mother. Most calves are born in the lagoons around January 15th so Lucky was only a little over four months old when he showed up. He was a very lucky whale indeed to have escaped from the transient orcas. Lucky stayed from late May until late October often giving us very close encounters.

Our other incredible whale was Blanco, a young whale around five years of age that continually tried courting all the older females. You can see his dimpled rostrum and hairs in the dimples that

indicate he is young. Apparently he did not realize that females cannot get pregnant until December or January. He sure did try his best at practicing but none of the females took him up on his offer and always ditched him and went back to feeding. He went after Comet, Aurora, Morisa, Valentine, Bullseye,

Dotsee and Scarback but none of them were receptive. He also loved to come up to my boats and tease my dog, Kida. He would sneak up under the boats

and pop up unexpectedly on the opposite side or lift his head up to get a better look at us or Kida. He stayed around for six months.

We also saw a whale that has a weird white coring on its skin. We named it Yin Yang for the black and white. I don't know



what exactly the white area is yet.

We also saw Scarback, Ice Cap, U-Fish, McFlurry, Comet, Valentine, DD and others.

Whale Id

Individual gray whales can be identified by patterns of natural pigmentation, barnacles, barnacle scars, man-made scars, and natural scars like the tooth rakes of a killer whale. Most whale biologists use the dorsal hump region to identify individuals because the dorsal hump is always seen when a gray whale surfaces. Each dorsal hump is as unique as a fingerprint. Some dorsal hump regions have boat propeller cuts, scrapes, barnacle scars or, in the case of Scarback, a large chunk of blubber missing from a harpoon encounter. The following pages show a number of gray whales that take up residence along the

Oregon coast during the summer and they have been named according to distinguishing mark(s) that are rapidly discernible. The following sections are organized by shared characteristics like man-made scars, natural pigmentation patterns, killer whale scars or other unique patterns.

The tail flukes of gray whales are also unique but not a reliable way to identify individuals, because I have observed fluke patterns change dramatically over time (see Scarback p. 50-1). Also grays feed in water depths of 15-30 feet and since they're 40-45 feet long, they seldom fluke up.

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Surfacing and Diving

Progression of a gray whale through its dive sequence.



1

The head is also known as the rostrum



2

The right dorsal hump with its characteristic markings



3

The top or dorsal part of the tail fluke as the whale begins a deep dive.



4

The bottom or ventral side of the fluke as it continues its deep dive.

Scarback

Scarback is our most famous resident whale, and has been sighted off Newport and Depoe Bay since 1979. I have seen Scarback every year since 1992. The scar on Scarback was probably caused by an exploding harpoon, which biologists believe she acquired between 1985 and 1987. It appears that the harpoon went in on the left and blew up as it was leaving the right side. These harpoons were designed to explode in the body cavity. The orange coloration of the scar is from whale lice, a crustacean that eats dead skin, keeping the wound infection free. The white areas on her head are clusters of barnacles.

Scarback is “going gray” as seen in the increase of white areas on her tail flukes. We know Scarback is female because at least four calves have been seen with her, one in the mid 1990s, another, Scarlett, in 2001, Milky Way in 2004 and another calf in 2008. Scarback is an excellent mother, being very protective of her calves and also teaching her calves how to feed on mysid shrimp. Scarback exhibited friendly behavior in July of 2012 by closely approaching both of my boats and spyhopping (sticking up her head) next to each boat for over a half an hour. So close, I could see the hairs on her head!

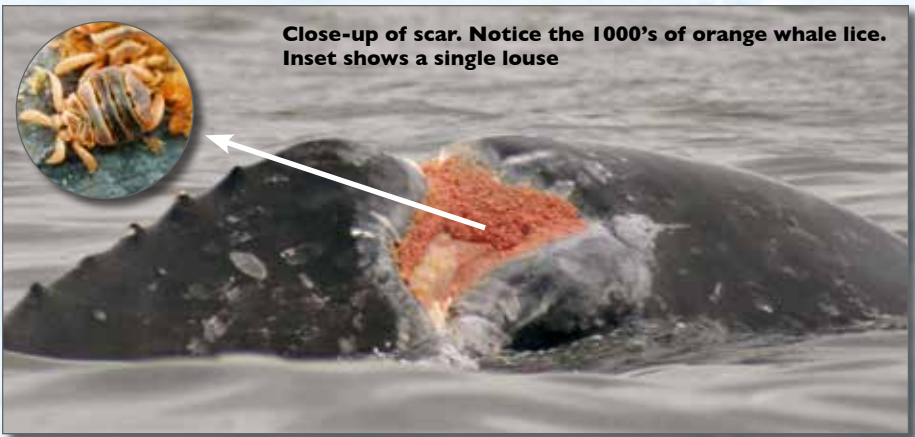


Right dorsal hump of Scarback and her calf Scarlett



My most exciting day with Scarback, first approaching my one boat and then coming up to me in my other boat (Below).





Notice Scarback's louse filled injury on her right side, this is the exit wound.



(Above) Scarback's dorsal fluke from 2013.



(Right) A color change progression of Scarback's ventral flukes from 1992-2013. She is "turning gray."



Rambolina

This whale's full name is Rambolina X Proper due to the 10 cuts on the left side from a boat propeller. The locals called this long-time resident Rambo for the cuts that Sylvester Stallone received in the movie, Rambo. In 2008, I was a naturalist in San Ignacio Lagoon and saw "him" with a calf, therefore this whale underwent the name change to Rambolina. We named the calf Hoot for the owl face on the dorsal hump. Rambolina exhibits friendly behavior off

the Oregon coast by closely approaching boats. She knows the locations of the "mysid snack bars" along Depoe Bay, having been a regular since the 80's. When food was lacking in 2005, Rambolina made three different appearances but did not stay in the area due to the scarcity of food. This whale looks similar to Zebra Stripe, except Rambolina's cuts are on the left side and Zebra Stripe's cuts are on the top of the dorsal hump.

Left dorsal hump showing prop cuts.



Left dorsal hump of calf, Hoot - notice "owl eyes" and "beak" in circle.



Rostrum



Rostrum and back - notice scapula showing on "skinny" Rambolina



Dorsal fluke



The left dorsal hump - notice prop cuts.

The right dorsal hump of Rambolina notice the "eye pigmentation patch."



Zebra Stripe

Zebra Stripe is a large whale that has 11 scars on the dorsal hump area, probably the result of an encounter with a boat propeller. Zebra Stripe is a long-time resident of the area and usually one of the first residents to appear in May. In the late '90's Zebra Stripe showed up with buddies, Lucky and Barnacle Jill, an unusual behavior for residents, who are normally

solitary. In all the years that I've seen Zebra Stripe, I have never seen the fluke. Maybe the cuts have interfered with its fluking ability.

This whale looks similar to Rambolina and Cutter but Zebra Stripe has the cuts on the top of the dorsal hump and they show up best from the right side. Rambolina and Cutter's cuts are on the left side.



Zebra Stripe's head showing clusters of barnacles, whale lice and a cut in the middle of the head, seen in October 2008.

Zebra Stripe's cuts are more visible from the right side unlike Rambolina and Cutter whose cuts are visible only from the left side.



Whale Id: Man-Made Scars

CRC #1124

Cutter

Cutter was a new resident to Depoe Bay as of 2004. This large whale was seen again in 2005 and 2010. Cutter had an encounter with boat propellers. The prop cuts extend

down the left side of the body from the dorsal hump to a white spot beneath the 7th knuckle. On the right side you can't see the cuts but you can see "a pair of white glasses" just below the dorsal hump.



Cutter cruising around a bullwhip kelp bed searching for the next swarm of mysids to feed on.

Left dorsal hump



Notice the large white spot as Cutter arches up for a deep dive. The skin is sloughing off by the end cuts.



Right dorsal hump



Distinctive "white sunglasses" are seen beneath the right dorsal hump.

Whale Id: Man-Made Scars

CRC #720

Football

Football was first identified off Depoe Bay in July of 2007 and seen again in 2010. This whale got hit by a boat propeller as evidenced by the scars shaped like football laces along the upper back. Football also has a characteristic “sinkhole” shape on the left.

Close-up of prop cuts looking like football laces



Back showing the location of prop cuts



Right dorsal hump



Left dorsal hump, showing “sink hole” pigmentation pattern



Dorsal fluke



Ventral fluke



Whale Id: Man-Made Scars

Zipper

Zipper was first identified off Depoe Bay in July of 2009. This whale got hit by a boat propeller as is evidenced by the 14 scars on the right side of the dorsal hump and back that resemble a zipper. The dappled gray coloring of this whale is also distinctive.



Right dorsal hump
- the first three cuts look like a sideways "Z"



Left dorsal hump



Dorsal fluke



Ventral fluke



Whale Id: Killer Whale Attacks

CRC #76

Raker

Raker was a new resident to the area as of 2004. She was severely scarred when

attacked by transient killer whales as evidenced by the numerous tooth rakes on her body and the chunks missing from the fluke.



Raker and Eagle Eye playing with sea lions. They played with them for three hours.



Raker on her side (pectoral fin up) while playing with Eagle Eye.



(above) Close-up of the numerous tooth rakes alongside the left dorsal hump. Notice the tip of the tail has been bitten off.

(right) Killer whale tooth rakes on the tail stock below the knuckles.



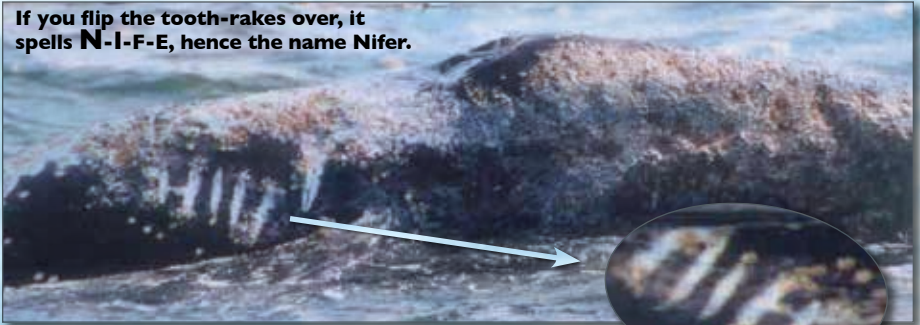
Whale Id: Killer Whale Attacks

Nifer

Nifer is the 2004 calf of Matrix Slasher. Nifer spells out its name as shown below. The letters are actually killer whale tooth rakes connected by barnacles. Nifer was to survive a transient killer whale attack. Nifer was probably born in January in one of

the three breeding lagoons in Baja California and the attack probably occurred on the northward migration to Oregon. Mom and calf arrived July 7th in Depoe Bay and spent 3 months there.

If you flip the tooth-rakes over, it spells N-I-F-E, hence the name Nifer.



Right dorsal hump



Notice the tooth-rakes on the side of the neck inflicted by transient killer whales. A killer whale would launch itself on the calf trying to drown it and then rake its teeth along the calf's neck while sliding off.

Left dorsal hump



Nifer was a very friendly calf who would "play" in kelp, breach and spyhop. This photo was taken as Nifer put its head next to the Zodiac when Jean-Michel Cousteau's film crew was filming mom and calf for a PBS film.

Whale Id: Killer Whale Attacks

Madame Butterfly

Madame Butterfly has beautiful ventral and dorsal tail flukes. The butterfly comes from the fact that the ventral (underside) looks like a butterfly. The orange “eyes” are actually whale lice living in a wound caused by killer whales. The Madame part of her name comes from the rough life this whale

appears to have lived. Madame Butterfly has numerous barnacle scars on the left side and was attacked by a killer whale as evidenced by the tooth rakes on the left ventral fluke. Madame Butterfly is a large whale last seen off Depoe Bay the summer of 2002.

Rostrum



Left dorsal hump

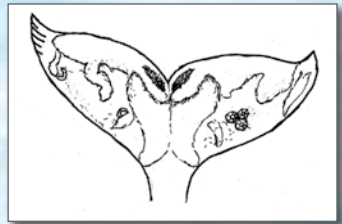


Ventral fluke



(Above) Notice tooth rakes on the left side of this fluke from a killer whale attack. Also

notice the wound with orange whale lice in it.



Dorsal fluke



Fluking Up!



Whale Id: Killer Whale Attacks

Scars and Stripes

This medium-sized gray whale has been a resident whale off Depoe Bay occasionally. The very white rostrum may cause confusion with Frosty, Ghost, or Double Dipper. I first observed Scars and Stripes on July 4th 2003. Since the left side of the body has numerous barnacle scars, I thought of

stars since the barnacle scars look like stars in the night sky (stars on a flag). It has also been attacked by transient killer whales, as evidenced by tooth rakes on the top and bottom of the fluke (stripes on a flag), hence the name Scars and Stripes.



Ventral fluke showing killer whale tooth rakes; "stripes". Notice reddish whale "poop" in water.



Whale Id: Killer Whale Tooth Rakes

Lucky

Lucky first came to Depoe Bay the beginning of June in 2012 and stayed until October of that year. There were four calves present in the area that summer and only Lucky showed up without a mom. While traveling northward, Lucky and mom possibly encountered killer whales around Monterey Bay where many attacks occur. This poor little whale was brutally attacked by killer whales as evidenced by the tooth rakes on the tail and sides of the body. His

mom probably gave her life to save him. We gave this whale its name because it was “Lucky” to have escaped with its life. Lucky was probably born around January 15th in the lagoons of Mexico. Lucky was extremely friendly all summer and would approach the boats very close numerous times throughout the summer. Periodically he would just disappear before your eyes, a behavior that probably saved his life. This whale did various behaviors including breaching, spyhopping, skim feeding, and sharking.

Ventral fluke - notice tooth rakes



Dorsal fluke - notice tooth rakes



Left dorsal hump



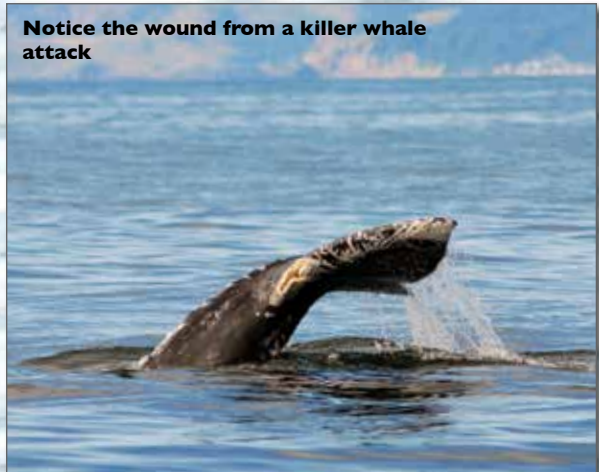
Right dorsal hump



Lucky doing the tallest breah I have ever seen.



Lucky was an awesome little whale, approaching us many times, sometimes just to surprise us as in the top photos, other times skim feeding close to the boat as seen in the middle pictures and once in awhile, lifting his head and looking at us with his eye.



Notice the wound from a killer whale attack

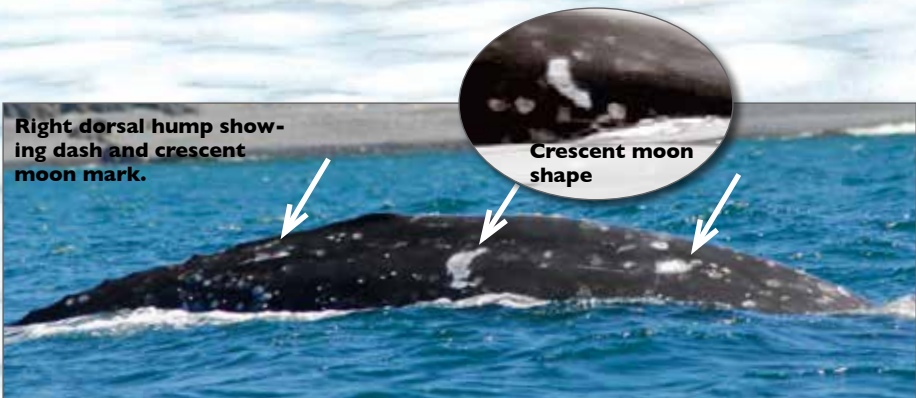
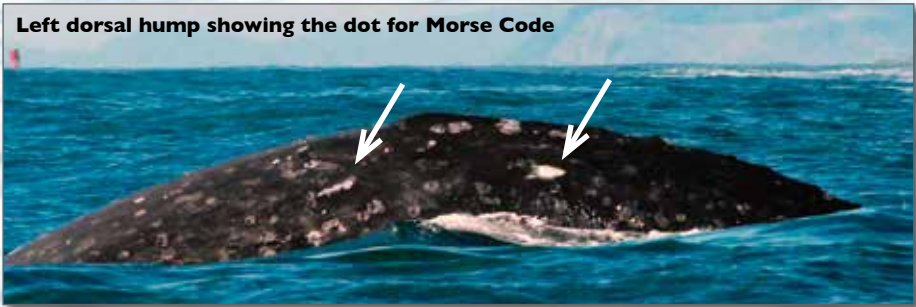
Morisa

Morisa was a new resident whale as of 2003. She spent months around Depoe Bay during the summers of 2003 and 2004. She stopped along Depoe Bay briefly in 2005 but since food resources were scarce, she moved on. She spent many weeks off Depoe Bay during the summers of 2008 and 2012. She made brief appearances in 2010 and 2011. She's very friendly and approaches boats closely. In 2004 she breached by my Zodiac and immediately after landing back in the water, she lifted up her head and looked at us as if to say "Did you like my breach?"

Initially she was named Morris for Morse Code because she has a "dot" on her left side below the first knuckle and a "dash" on her

right side below her second knuckle. After she became friendly with one of the male captains, he found out that she was, in fact,

a female so her name changed to Morisa. Morisa has had a hard life after being attacked by transient killer whales as evidenced by bite marks at the end of her tail flukes and tooth rakes on the upper right tail fluke. It also appears that a rope got wrapped around her tail stock since she has rope wounds. Morisa may be confused with Snake Eyes or Bullseye. If you look closely at the right side, you can see a crescent moon shape and some people therefore may confuse her with Crescent who has a moon crescent facing the opposite direction.





Whale Id: Prominent White Spots

CRC #319

Dotsee

Dotsee is a large whale and long time resident off Depoe Bay. Transient killer whales attacked Dotsee sometime in 2004 as evidenced by the killer whale tooth rakes on the fluke. In 2010 we saw Dotsee surfing the swell off Depoe Bay.

Dotsee is identified by having two large basketball-sized “dots” on the left side: “SEE THE DOTS or DOTS-SEE”. Dotsee may be confused with Trio. Notice the differences in the shape between the dots and their placement on these two whales.



Whale Id: Prominent White Spots

CRC #629

Trio

Trio is a new resident to the area, showing up at the beginning of the 2004 season off Newport and spending the end of the season off Depoe Bay. Many of us confused this whale with Dotsee. Trio is unique in having "3 O's." There is a large spot "O" midway

down the back on the left side, another one below the 4th knuckle, and the last one on the underside of the right side of the fluke. Trio is a very large and friendly whale approaching boats within a few feet.



Back and left dorsal hump; notice location of the spot.



Right dorsal hump



(left) Left dorsal hump and tail stock. Notice the spot "O" under the 4th knuckle.

(below) Trio fluking up. Notice the spot "O" on the underside of the right fluke.

