

**Report to the National Marine Fisheries Service regarding the five pilot whales at Big Pine Key in Florida July 30 – Aug 1, 2003**

Report by: Laurie J. Gage, D.V.M.

I visited the site where the five juvenile pilot whales are held on July 30, 2003 and together with Dr. Charlie Manire and Dr. Doug Mader, did thorough physical examinations on each whale that afternoon. This report summarizes my findings from my observations over two full days and nights, and the physical examinations we completed.

First I would like to commend Blair Mase, and the entire NMFS team as well as Jeff Foster and his team for their hard work and ability to bring structure to what appeared to have once been a nearly chaotic situation for the rehabilitation efforts for these whales.

#### **FACILITIES**

The rehabilitation site was located near a busy highway (Hwy 1). There was a sign on the main road, letting the public know the whales were located at that site. There was a fairly steady stream of public viewers whenever I was present, except after dark. A large tent was set up near the public entrance, with an area for volunteers to sit, and tables set up for the public to purchase T-shirts. There was a public whale-viewing area which was set back from the lagoon area by about 20 feet, and did not appear to me, to have any impact on the animals' behavior.

When I arrived at the rehabilitation site, there were several motor homes or trailers that volunteers lived in parked near the lagoon where the whales are living. There was an air conditioned medical trailer, as well as several containers holding equipment. There was a designated fish preparation trailer that appeared to be clean and well organized.

The whales were housed in a small lagoon that was netted off at the entrance to prevent them from escape. There were several large floating booms in the water. The water was turbid, and the whales could not be seen when they submerged, even a short distance under water. There were recordings of recent water temperature, which seemed to vary between the mid to high 80's (F).

#### **RECORDS**

I reviewed the feed and medical records that had been kept for each whale. These were on a laptop computer in the medical trailer, and appeared to be complete with the exception of the animal's accurate weights. I was impressed that the feed records included a daily Kilocalorie intake estimate for each whale, each day, based on the fat content of each shipment and each type of fish fed.

The only records that were absent were written behavioral observation records, which had only been started a few days before my arrival. These would have been valuable retrospective information, not only to evaluate these whales, but to help to evaluate behaviors of future whales during rehabilitation. It is too bad this rehabilitation group did

not see the value of such records, and therefore refused to keep them. All previous behavior of the whales for me could only be gleaned by interviewing a number of the volunteers and getting their personal opinions. Valuable insight to their early behavior was also provided by Drs. Manire and Mader.

#### ANIMAL CARE

The animals were fed several times daily on a varying schedule. I was not there long enough to get to know the volunteer staff responsible for feeding the animals, but I was told that the same group of people fed the animals every day, which would suggest some consistency in the feed efforts. One whale, #3, appeared to have some severe behavioral and/or medical problems. For consistency and to maximize the chances of turning this animal around, it was being cared for entirely by members of Jeff Foster's team. Feeding #2, 4, 6, and 7 was done by throwing fish in front of the animals and trying to watch to see if they ate the fish. Sea birds would periodically swoop down to pick up fish, and were hit with jets of water from a water gun. Sometimes the water from the gun would attract the whales to the area where it hit. Numerous times I saw fish thrown out, with no animal apparently consuming it. I have no idea how accurate the feed intake records are, but it was clear to me that the whales did not get every fish offered to them.

The #3 whale was hand-fed by experienced personnel, and I am convinced the feed intake records are accurate for that whale since Jeff Foster's group took over.

Supplements (vitamins) were added to the diet of the animals each day. I do not know how the supplement fish was fed to the animals, and I do not know if each animal got its supplements each day. With the exception of #3, I could not evaluate how successful the volunteers were at getting the supplement fish into each animal each day.

#### ANIMAL INTERACTIONS AND OBSERVATIONS

The group of four active whales; 2, 4, 6, and 7 tended to stay together as a group, and seemed fairly active throughout the day. Other than two volunteers in kayaks, I did not see anyone approach these animals other than when we had to capture them for their examinations, or when one of Jeff's group was trying to stimulate the #3 whale.

Whale #3 was logging and inactive nearly every time I observed her. During the two days I was there, I observed her about 40 times from early morning to very late at night. The only activity I saw was when the staff was interacting with her by moving "her" boom which she would follow around. When she did swim, she seemed to be able to swim and dive normally. While she was resting next to the boom (which was most of the time) she seemed to prefer to have her left side up, and would have to roll upright to take a breath. I did see her, on a few occasions, resting with her right side up, or saw her upright.

The animals had been conditioned to come down to the mouth of the enclosure to facilitate their capture. The four came down together and with the exception of #6, were netted off for capture for the physical examinations. Whale #6 came down again later with the group, and was then captured, and examined. The entire capture effort went

extremely smoothly, with minimal obvious stress to the animals. The #3 whale was captured after examining the first three, and #6 was captured last and examined.

#### PHYSICAL EXAMINATION

Complete physical examinations were done on each whale but whale #2 did not have all procedures done.

Whale #2 showed obvious signs of stress while in the stretcher, and was breathing erratically. We felt it was in the best interest for that animal to cut the examination short, and not take the fecal sample. Gastric samples, blood, blowhole samples and weight were obtained and the animal was freeze branded. I evaluated the lungs, but could not hear good, clear lung sounds partly due to the size of the whale, and partly due to the fact it was not taking very deep breaths. I could hear air moving in parts of the chest but could not evaluate the lungs further than that. The bloodwork on this animal is somewhat alarming. It's fibrinogen is over 700, certainly indicating inflammation somewhere in the body. The WBC is also elevated over the last blood with a neutrophilia and about 6% bands, which indicates to me there is an active infectious process occurring. It also had clearly lost weight fairly recently, as the entire body had that "spongy" feel to all of us, indicating probable loss of some of the blubber layer. Its alkaline phosphatase has dropped from a high of 219 on June 7, and is now down to 89. I am not certain of the significance of this in pilot whales, but in Tursiops this would be of concern. Clinically this animal looks good when it is swimming, but on numerous occasions, I heard a slight gurgle to it's breath when it was swimming with the other animals.

Whale #3 tends to be very inactive most of the day. Apparently this animal has had abnormal behavior all along, and has isolated itself from the other animals at all times. It seems to become aggressive towards people and the other whales some of the time. It was difficult to evaluate this animal's lungs. It's breath had a ketotic smell to it, however this animal's body condition did not seem bad, nor did it seem as if it had lost any significant weight, and did not have the "spongy" feel to it's body that we noticed in #2. The bloodwork on this animal also has some abnormalities. The fibrinogen seems somewhat close to normal range. The WBC is somewhat elevated at 10.0, and is increased since the last blood. The alkaline phosphatase has dropped from a high of 229 at the end of May and is now at 100. It had been lower than this in the early stages of it's rehabilitation. There were a few *Nasitrema* eggs found in a rather scant blowhole sample, and the blowhole sample collected at the exam time was purulent.

Whale #4 seemed strong and had good body condition. The lungs were clear in all quadrants and the heart sounded strong and regular. The only concern I have is an increased number of monocytes in this animal, and an elevated fibrinogen of 549, an increase since the last blood in early July. It had a normal WBC count, but I felt the monocytes were somewhat abnormal in appearance, but I have no real experience with pilot whale blood. It had a high alkaline phosphatase of 731, which seems like a normal value for a young whale.

Whale #6 seemed strong and also had good body condition. It had clear lungs in all quadrants and a normal heart. It's WBC was normal with a normal differential. It also had an elevated fibrinogen of 505, up from 393 in early July. It had WBCs in the gastric and fecal samples with many basal cells in the gastric sample. It had a high alkaline phosphatase of 603, which seems normal for a juvenile whale.

Whale # 7 seemed strong and had good body condition. It had clear lungs in all quadrants and a strong heartbeat. It's bloodwork was unremarkable with a very high alkaline phosphatase of 1822. While this is higher than values I have seen in Tursiops calves, it could be normal for this species. This animal had many WBCs in the feces. The fibrinogen seemed close to normal (for Tursiops) at 369. This animal did have an odd skin condition that staff, volunteers, and the attending vet staff feel is improving. Possible etiologies include a reaction to poor water quality, to insect bites, or to some systemic problem.

These observations are merely my own, with a summary of the blood results. I feel that based on these findings, whales 4, 6, and 7 have the best overall chance of survival from a medical standpoint, this being based on my knowledge blood parameters of other species of small cetaceans, and not on any direct experience with juvenile pilot whales. Whales 2 and 3 have some blood parameters that are concerning (and the fibrinogens of 4 and 6 are also of concern), but perhaps with our emergency treatment of antibiotics and gastric acid inhibitors, they may improve between now and the release date. The behavior of whale #3 is alarming to me, but there is some thought that this whale may improve considerably upon release.

My overall feeling is that release may be the best solution for all of these whales, given the fact we will be closely monitoring them, and have a plan to intervene if there seems to be a problem with any of them. We give them the opportunity to get into colder, deeper, cleaner water, and see if that improves their activity and attitudes. I feel comfortable that we will be able to sufficiently track these animals and should be able to recover them if trouble arises. I feel that everyone on the NMFS team and Jeff Foster's team have done a fantastic job to prepare these animals for release in a rather short period of time.

It is my belief that some of the problems seen in these animals stem from their initial 4-6 weeks of rehabilitation, and having hoards of people in the water with them, feeding them, certainly was not to their benefit and could have contributed to their present condition. The water quality is likely another major factor in their recent downturn in blood parameters and apparent weight loss. I must admit, however, that early care of these animals is commendable and the fact they survived the initial stranding is a credit to the team of volunteers and veterinary care they received.

I look forward to working with all of you on the release and the follow-up observations.

Sincerely yours,  
Laurie Gage, DVM