

## Logistics of maintenance, rehabilitation and return to the Pacific Ocean of a California gray whale calf

J. Antrim

*SeaWorld of California, 500 SeaWorld Drive, San Diego, CA, 92109, USA*

### Abstract

This report details the logistics of the handling and return to the ocean of the first orphaned neonate baleen whale rehabilitated to independent status. The success of this project was attributed to detailed advanced planning, the acquisition and application of necessary resources, the development of contingency plans, and advance simulations of critical activities. The release was executed without problems and JJ became the largest animal ever returned to the wild.

Key words: gray whale, transport, rehabilitation, *Eschrichtius robustus*.

### Introduction

The rehabilitation of any stranded marine mammal generally requires anywhere from several weeks to several months of human care, facilities, and capital resources dedicated to providing food, housing, and medical care. Once rehabilitation is complete, animals usually will be transported by truck, boat, or aircraft, often customized to suit the unique characteristics of the species, to an appropriate release site. That transport may require coordination with various federal and state agencies and local community groups to ensure a safe, quick, and efficient delivery of the animal from the rehabilitation facility to the point of release.

The logistics of the entire rehabilitation process of a baleen whale may be procedurally similar to that of smaller cetaceans that are routinely managed, but it is substantially far more complicated. Here, I briefly describe some of the significant issues that SeaWorld San Diego (SWS) confronted and resolved at key times during the rehabilitation of a female California gray whale named JJ.

### Materials and Methods

#### *Maintenance and rehabilitation of JJ*

From 11 January through 11 February 1997, we housed JJ in a small holding pool (HPA,

12.2 m × 12.2 m × 3 m; 434,230 l), but then transferred her to a somewhat larger pool (HP1, 12.2 m × 18.9 m × 3.7 m; 850,960 l) as she continued to grow quickly. After permission was granted by the United States National Marine Fisheries Service (NMFS) (see Andrews *et al.*, 2001), we transferred JJ to a much larger pool (45.7 m × 29.0 m × 9.1 m; 6,437,136 l) inside the publicly accessible area at SeaWorld, called 'Shamu Backstage' (SB), on 14 February 1997.

These short-distance relocations were accomplished by guiding JJ into a ballistic nylon sling as the water level was lowered in the holding pools and lifting the sling, with a Pettibone Multicrane (Model 30), and moving her directly into the adjacent holding pool or onto a foam-rubber padded flatbed truck that delivered her to the larger pool at SB. These operations were similar to others that are routinely used to move dolphins and killer whales.

JJ was maintained in the SB pool until 22 March 1998 when she was moved back to HP1 in preparation for her release. On 31 March, we moved JJ out of that pool and returned her to the Pacific Ocean off Pt. Loma, San Diego. These last two moves were more complicated because of JJ's size and mass; we had to rent a 70-ton hydraulic crane for the several hour operation. This same procedure was used to weigh JJ and conduct various scientific studies. Many of the physical examinations and some of the scientific studies were able to be done while JJ was in the SB pool simply by raising the medical pool's false bottom (see Bruehler *et al.*, 2001) to a shallow depth until JJ was relatively immobile.

Several dozen staff members from a number of SeaWorld departments were needed for these periodic movements and handling episodes, which happened in early morning before the park was open to visitors. Several animal care staff attended to JJ fulltime to prepare and deliver food and feed her about four times each day. Because of the extensive time and diversity of resources needed to care for JJ during her 14-month tenure at SeaWorld, a substantial amount of time was needed

for inter-departmental communication and coordination. Weekly planning and discussion meetings were held. Virtually all of these meetings and activities were internal SWSD and Busch Entertainment Corporation (BEC) matters and quickly became routine practice by early spring 1997. The medical care and husbandry efforts had been successful in stabilizing JJ and the early results and JJ's growth patterns indicated that long-term rehabilitation was indeed achievable. SWSD and BEC then began to develop a proactive strategy in preparation for the anticipated return of JJ to the Pacific Ocean. This started with a 'reintroduction' workshop convened at Hubbs-SeaWorld Research Institute (HSWRI) on 3 June 1997 (see Stewart, 2001). The consensus at that workshop was that JJ's return to the Pacific Ocean should coincide with the annual northbound migration of California gray whales as they passed by San Diego, California in mid-March from the breeding lagoons in Baja California.

#### *Coordination and planning of JJ's return to the Pacific Ocean*

Planning for JJ's reintroduction to the Pacific Ocean in March 1998 required consultation, collaboration, and coordination with federal, state, and local agencies and local community groups. Numerous meetings, phone calls, faxes, and emails ensued between SWSD and these organizations over several months. The reintroduction itself was authorized by a standing letter of authorization from NMFS to SWSD (LOA, 17 November 1995) as a member of the California Marine Mammal Stranding Network. An additional Marine Event Permit (#SD-98-008) was required by the United States Coast Guard (USCG) to resolve logistic and marine traffic issues on the day of the reintroduction because of the anticipated great public and media interest that the event would generate.

On 15 January 1998, a comprehensive preliminary meeting was held to plan JJ's reintroduction. The meeting took place at SWSD and involved SeaWorld staff and representatives from BEC and Anheuser-Busch to formulate a detailed strategy, primary outline, and contingency plans which included the possible need for recovery if she encountered problems or stranded again. Shortly after, representatives from SWSD and HSWRI briefed representatives of the United States National Marine Fisheries Service, the United States Marine Mammal Commission, the United States Congress, and the U.S. State Department (because JJ might swim into Mexican waters and need to be tracked), on the plans for the reintroduction and solicited comment and input on those plans.

We anticipated that the predicted size and mass (>8000 kg) of JJ in March 1998 might present

substantial logistical and transport challenges. The 55-m USCG buoy tender *Conifer* (WLB 301) located on the west coast of the United States was the only vessel available that would likely be able to manage transport and release of JJ. When contacted with a request for assistance, the USCG responded enthusiastically, though the timing would be critical because of other scheduled commitments. The USCG also offered the 40-m cutter *Tybee* (WPB 1330) to provide security for the operation and as a platform for television and news media correspondents, seven other USCG vessels and auxiliary vessels to enforce a safety zone, and a HH60 helicopter to provide aerial reconnaissance. However, the USCG did not have docking facilities in San Diego where JJ might be loaded aboard the *Conifer*. Consequently, we contacted the United States Naval operations in San Diego and then the Waterfront Operations Officer, at the Naval Station San Diego (NSSD), who also responded with preliminary, positive offers to assist with loading facilities at Pier #2 at the NSSD. They also offered the services of the Navy Public Works Center to provide and operate a crane on site.

The Federal Aviation Agency (FAA) was contacted to advise them of the plans for JJ's reintroduction and to ask if they might facilitate a safety zone above the various vessels that would be involved in the reintroduction day activities to preclude aircraft from disrupting the project. The Flight Operations Manager of the FAA's San Diego Flight Service Office was assigned to assist.

We also contacted the San Diego Police Department and the California Highway Patrol to request their assistance in establishing an appropriate and safe route from SWSD to NSSD and to provide an escort to the vehicle convoy that would transport JJ to the *Conifer*. Their response was also immediate, affirmative, and enthusiastic.

Because calm weather conditions would be essential to safely lower JJ from the deck of the *Conifer* into the ocean, the Naval Pacific Meteorology and Oceanography Facility San Diego at the Naval Air Station North Island provided continuous information on current and forecasted weather conditions. Real time access to data from the National Oceanographic and Atmospheric Administration weather buoy about 10 km west of Pt. Loma, San Diego, was an essential element that allowed us to plan for a suitable window of calm weather for the reintroduction.

SWSD contracted with Martin Container Company for use of a 15-m shipping container for ground transport that was placed on a 15-m flatbed tractor-trailer combination leased from Bill Signs Trucking Company. A 70-ton hydraulic crane was rented from Marco Crane to move JJ from HP1 to the shipping container on the morning of the

reintroduction using a custom-made nylon stretcher (Ortega Canvas) and supported by steel rigging cables (American Rigging).

SWSD also arranged for the use of a fixed-wing aircraft (Cessna 175) to search daily for gray whales migrating past San Diego to facilitate JJ's introduction as close as possible to other gray whales with the expectation that she might join or follow them.

Even though SeaWorld routinely conducts transport of killer whales and other smaller marine mammals great distances, this task of reintroduction of JJ to the Pacific Ocean was clearly the most complex and laborious that the SWSD staff had undertaken. Its success was certainly due to the coordinated efforts of all the other agencies and community groups whose help was either sought or volunteered. In great measure it involved the professional, unselfish, and unconditional help of many ordinary people doing extraordinary things for this truly remarkable whale.

On 18 March, SWSD held a press conference to publicly announce JJ's pending reintroduction. Subsequently, a series of Pacific storms threatened to delay the reintroduction for some time and complicate the finely coordinated activities. Fortunately, all agencies and personnel involved were able to extend their commitments until a break in the weather allowed the reintroduction on 31 March 1998.

Throughout March, SWSD curatorial, animal care, and veterinary services staff made practice runs of the procedures that would be involved in moving JJ from the SB pool to the HB1 pool, then onto the flatbed truck, and then the final release from the *Conifer*. We constructed quick-release devices that would allow one set of the lifting cables to quickly detach letting one side of the stretcher fall free and JJ quickly, but smoothly, roll or drop

away from the stretcher. We also made a dry-run transport to NSSD with the tractor-trailer and shipping-container to confirm adequate overhead clearances, bridge loads and cornering radii and also two trials at Pier #2 to confirm proper sizing of the lifting tackle and to practice the transfer of the stretcher from the dockside crane to the boom of the *Conifer* under simulated load conditions.

### Results and Discussion

On the morning of 31 March, JJ was loaded into the shipping container, transported by the flatbed truck on an interstate freeway and surface roads to Pier #2, transferred to the deck of the USCG *Conifer*, motored-out to several km west of Pt. Loma, CA, lifted over the side, and at 10:17 (PST) the command was given to 'release the whale'. All aspects of the event went flawlessly and JJ became the largest animal ever returned to the wild and the first orphaned neonate baleen whale rescued, rehabilitated to independent status, and then returned to the ocean.

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