

Transport Plan for Lolita

From Miami to the San Juan Islands

Adapted in part from *Morgan's Rehabilitation and Release Plan by Jeff Foster and Ingrid Visser*

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1. PRE TRANSPORT

Lolita is a female killer whale approximately 20-21 feet long and 7,000 pounds, estimated to have been born approximately 1966. She was captured in Penn Cove, Whidbey Island WA on August 8, 1970 and was delivered to the Miami Seaquarium on September 24, 1970.

When an agreement is reached with the Miami Seaquarium and/or other responsible parties, Lolita will be desensitized to the her sling and to the 'rehabilitation and release' personnel while her current trainers maintain their relationships with her. She will not be fed for 24 hours prior to transport. No antibiotics will be administered pre-transport. However it is now standard protocol, under veterinary supervision, to administer low-dosage valium to cetaceans which have not recently been transported by air.

2. TRANSPORT

2.1 HEALTH AND SAFETY

A medical doctor, ideally her current veterinarian, will travel with the Lolita Transport Team in the case of any medical emergencies. An assistant to the doctor (who is trained in medical emergency medicine) will accompany the Transport. The transport team will be comprised of personnel with appropriate qualifications. The Coast Guard in Washington will be alerted and asked to attend the seapen phase of transport to ensure that spectator craft are controlled and to provide on-water assistance and facilitate necessary health and safety controls.

2.2 TRANSPORT TEAM

The transport team will consist of personnel experienced in transfers of cetaceans, ideally including members of her current training and care staff.

2.3 GROUND STAFF

A full 'call-sheet' with all contact details will be distributed to local authorities and all personnel involved with the transport of Lolita. Call sheet will include details such as radio channel for communication, cell-phone numbers, appropriate liaison personnel with local authorities, emergency numbers etc.

2.5 SECURITY

A security plan will be available upon request. Liaisons will be made with the local authorities at both ends of the transport to ensure appropriate permits and personnel are applied. This will include 'escorting vehicles' such as police / 'live animal' signs before and after the transport truck, where appropriate.

Spectator control (on land and water) will be liaised via local authorities. For instance, the Coast Guard will be alerted and asked to attend the seapen phase of transport to ensure that spectator craft are controlled and to

provide on-water assistance and facilitate necessary health and safety controls. Media passes will be issued to limited number of media personnel (details of which will be established in association with local authorities).

2.6. TRANSPORTATION TIMEFRAME

It is anticipated that total time from removal from her tank in Miami to immersion in seawater at Eastsound WA will be approximately 15 hours. This timeframe falls well within transport time-frames conducted by display facilities. The distance between Miami and Bellingham is just over 3,000 miles (see details below). Approximate transportation timeframes are given in Table 1. Details for each aspect are outlined in relevant sections. (NOTE: All times are given according to the 24 hour clock).

Table 1. Approximate transportation timeframes (where a range is possible due to different airports etc, the maximum time frame is used in the running total, although minimum times are more likely).

Section # & DETAILS	START TIME	END TIME (max.)	TIME RANGE (hours: min.)	RUNNING TOTAL (hours: min.)
2.7 (Loading at Seaquarium)	02:00	04:00	1:00 - 2:00	1:00 - 2:00
2.8 (Overland to Miami Airport)	04:00	05:30	1:00 - 1:30	2:00 - 3:30
2.9 (Load into plane)	05:30	07:30	1:30 - 2:00	3:30 - 5:30
2.14 (Air Transport to Bellingham)	07:30	14:30	6:00 - 7:00	9:30 - 12:30
2.16 (Unload from plane to barge)	14:30	15:30	1:00 - 1:30	10:30 - 14:00
2.18 (Transport and unload to seapen)	15:30	19:30	3:00 - 4:00	13:30 - 17:30

2.7 LOADING at Miami Seaquarium

Lolita will be lifted into her stretcher as per the details given in the separate Transfer of Lolita to Her Natal Water document, prepared by Orca Network.

Loading will start at approximately 02:00 hours on day of transport, to ensure that traffic-jams can be avoided and to maximize daylight hours at the destination. Additionally, as it is unclear when the transport date will be confirmed, it is not possible to predict the amount of daylight available for the given day. Therefore, once a transport date has been confirmed the departure time from the Seaquarium may need to be modified (e.g., departure time may be 22:00 hours the previous night). Loading at Seaquarium is anticipated to take between 1-2 hours.

2.8 OVERLAND TO AIRPORT

Expected arrival time at Miami Airport (see details below) is approximately 1 - 1:30 hours after loading. Liaisons will be made with Miami authorities for spectator control, vehicle escorts etc to ensure that traffic delays are kept to a minimum.

2.9 EQUIPMENT REQUIRED

STRETCHER

An orca-specific stretcher designed to accommodate Lolita's length, weight, and pectoral fins (Figure 1) will be

provided. The stretcher must be adequate to support the weight of Lolita. It should have appropriate ‘cut-outs’ for her pectoral flippers. The “pectoral fin cut-outs” are lined with anti-rubbing fabric to prevent chaffing. The stretcher will be of the style that a longitudinal pocket is sewn into the structure along the each of the long edges. These will each take a single steel pole, threaded through the pockets. The pockets will have sections cut out from them to allow lifting points to be attached, thereby making the complete stretcher, containing Lolita, suitable for hoisting by a crane. See Figure 1. Lolita will remain in the stretcher while inside the transport cradle (see details below). NOTE: The stretcher will need to be adjustable to allow for suitable placement inside cradle.

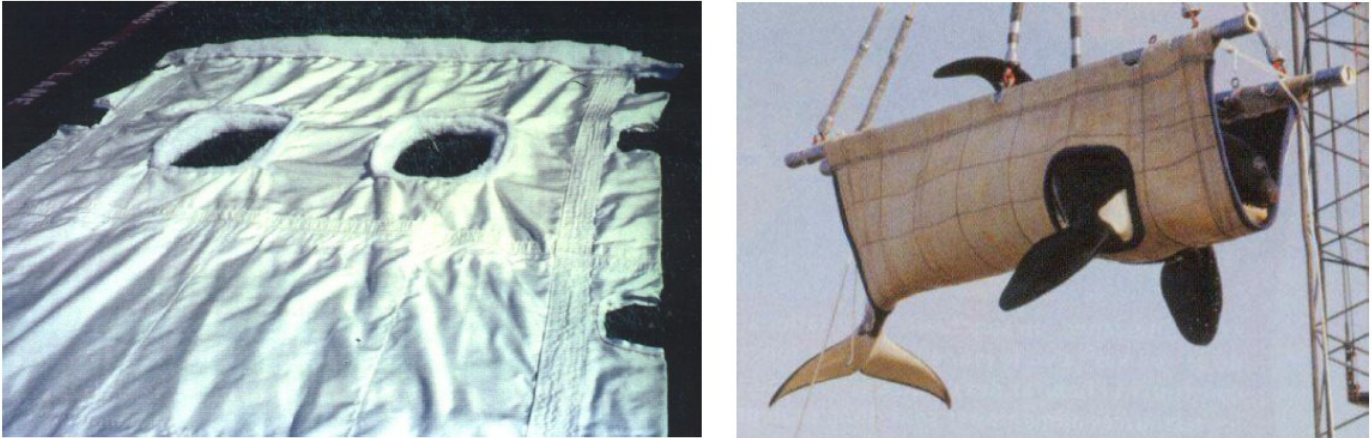


Figure 1. Left. Example of stretcher designed specifically for an orca – note the ‘cut-outs’ for the pectoral fins and the cut-outs for the lifting points for the steel poles. Right: A stretcher being used to lift an orca.

CRADLE (transport box / crate)

A cetacean-specific transport cradle (see Figure 2 for an example) will be provided. Dimensions and specifications can be supplied.

Lolita will be lowered, suspended in the stretcher, into the cradle. Cross bars on the outside of the cradle (with chains on the cross bars) allow for adjustments to be made for the suspension of the stretcher. This allows for compensation of Lolita’s body position. It is important to note that Lolita does not need to be directly upright as each animal naturally tends to adjust their body to one side or the other. A 15° angle away from centered is still suitable for an orca suspended in a stretcher and buoyed by water.

After Lolita is lowered into the cradle (facing forward), baffles will be placed along upper edges of the cradle, to minimize water egress during transport. These baffles will not extend forward of the anterior insert of the flipper (i.e., posterior to blow-hole) to minimize splashes entering the blow-hole. Her exposed skin will be coated with moisturizing cream.

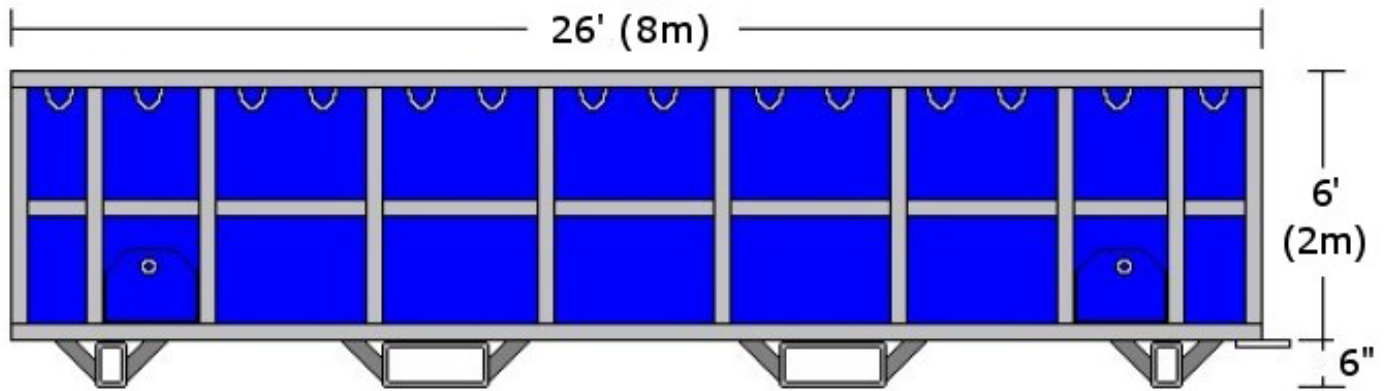


Figure 2. Cetacean-specific transport cradle (box/ container). NOTES: (1) Dimensions are Lolita-specific. (2) Final size must allow for Lolita’s size + 1 m at each end (i.e., Length of Lolita + 2 m). Lolita’s length is approx. 6.3 m, i.e., transport cradle will be a minimum of 8.3 m. Width of the cradle will be approx 3 m. Water will be approximately 1 m deep inside the cradle. This will rise when Lolita enters the cradle. (3) Brackets welded at the base of the cradle allow for lifting with large forklift if required. (4) Baffles will be placed along upper edges of cradle, after Lolita is lowered into cradle, to minimize water egress during transport.

CRANE

A crane will be required for both the Miami and the Bellingham ends of the transport to lift Lolita into / out of the cradle (see Lolita Training Plan for details regarding lifting stretcher). Additionally, the cradle, with Lolita inside (and perhaps with water inside) will be lifted from the loader (see below) onto the barge.

Approximate payload for the crane, consisting of Lolita + cradle with water, is estimated at 24,000 kg (see 2.12, Payload for details). Therefore, a 50 ton mobile or all-terrain crane such as illustrated in Figure 3 would be suitable. Such cranes are sufficient to lift and rotate a four ton payload (i.e., Lolita + stretcher) (see 2.12, Payload) in a 20 m diameter circle. This is necessary to allow for ‘swing’ from the Seaquarium tank to the cradle and from the cradle to the sea-pen. The diameter of the swing is calculated from the center of the crane to the center of the payload.



Figure 3. All-terrain, mobile, 50 ton crane.

LOADER & OR FORKLIFT

A Cochran Loader (hydraulic lifting device with rollers, see Figure 4) will be required at Miami and at Bellingham International Airports to facilitate loading into and out of the plane. The Cochran Loader allows the cradle to be lifted to match the height of the loading dock inside plane. Such horizontal lifting avoids rolling the cradle up/down the ramp onto the plane, which therefore ensures that the ramp angle can be avoided. See <http://www.globalsecurity.org/military/systems/aircraft/systems/316-cochran.htm>

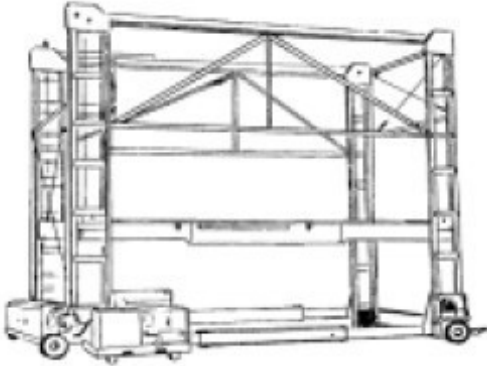


Figure 4. Cochran Loader

Although ideally a Cochran Loader will be required at both ends of the transport, it would also be possible to use a commercial standard forklift if a Cochran Loader is not available. Note the cetacean-specific cradle has forklift brackets/spacers underneath. The cradle, with Lolita inside, will be loaded via the Cochran Loader (or forklift) into the plane. NOTE: Lolita will face forward during the flight.

Loading into the plane will take approximately 1-2 hours, including securing cradle, embarking personnel etc, depending on type of plane chartered. Unloading from the plane to the truck for overland transport will take approximately 1-2 hours, depending on the type of plane chartered.

2.10 AIRPORT PHASE - MIAMI

Lolita could be transported out of Miami International Airport with a runway of 13,000 ft. or 3,962 m. (tarmac). This airport is approximately 12 miles from Seaquarium (estimated drive time of 45-60 minutes by truck).

2.11 AIRPORT PHASE - BELLINGHAM INTERNATIONAL AIRPORT

Lolita can be flown into Bellingham International Airport. Distance between Miami International Airport and Bellingham is approximately 3200 miles. Alternatively, Paine Field in Everett WA would provide close access to a seawater launch where the cradle containing Lolita could be placed on a barge for transport to Orcas Island.

2.12 PAYLOAD

The Payload of transporting Lolita will be approximately as follows:

ITEM	DETAILS	APPROXIMATE WEIGHT (kg)
Lolita		approx. 6,000 lbs.; 2,000 kg
Cradle	Steel, plywood & fiberglass	approx. 11,000 lbs.; 5,000 kg
Water	Approx. weight of water based on approx. volume of cradle i.e., (8 x 3 x 1 m) = 24 m ³	approx. 52,910 lbs.; 24,000 kg
Stretcher	Includes pipes, cross bars & chains	approx. 220 lbs.; 100 kg
	TOTAL	approx. 70,000 lbs.; 31,751 kg

2.13. PLANE

The best option is the Boeing C-17 Globemaster (tail loading) plane, if available in partnership with the US Air Force. Maximum Normal Payload is 170,900 lb (77,500 kg); Cruise speed: 450 knots (517 mph); Unrefueled range: about 2,800 nautical miles (2,301 miles). In-kind contributions will be sought to provide air transport.

An alternative plane would be a C-130 Hercules, the same type of plane that was used to transport the orca Keiko, about the same size as Lolita, from Mexico City to Newport OR in 1995. Regardless of the aircraft type chartered, the plane / airline must be ATA (Air Transport Association) approved to transport animals (Military / Coast Guard planes are likely to be already ATA approved).



Figure 5. Keiko the orca from the movie 'Free Willy' in the transport cradle of a C-17 in 1998, being loaded into a cargo plane.

2.14 DURING PLANE TRANSPORT

NOTE: We may be required to have no water in the cradle during takeoff and landing (this requirement will depend on the airline). Regardless, water in the cradle will be FRESH (in case of spills to reduce issues with corrosion). Fresh water is suitable for Lolita for the duration of the transport.

If, during takeoff and landing it is a requisite that no water is to be inside the cradle, we will then also require a holding tank(s) / bladder(s) and pump on board – these are used in typical water transport operations. Such a holding tank will prevent excessive water movement during the acceleration and deceleration process.

Inside the cradle, Lolita will remain in the stretcher, but will be suspended and floating in water inside the cradle. Water level will be near the top of her eye patches (i.e., the blow hole will be clear at all times). It is important that Lolita is not allowed to float too high as otherwise she may inadvertently move in the stretcher and possibly chaff the insert points of her pectoral fins.

During the takeoff and landing phases the pilots will be instructed to maintain gradual acceleration (deceleration) and minimal incline. The internal temperature of the plane will be lowered to 10°-12° C (50-54° F) to ensure that Lolita does not overheat. This will be the same temperature as the water inside the cradle.

Water temperature inside the cradle will be maintained through the addition of small ice cubes which will be inserted into the water on the outside of the stretcher (to avoid damage to Lolita's skin). We will require approximately 2.5 kg x 100 bags of cubed ice (stored inside coolers such as polystyrene boxes / iceboxes) to maintain water temperature.

Lolita's exposed skin will be kept wet by the personnel inside the cradle and by hand-pumped water bottles. Under veterinary care a non-invasive (e.g., suction-cup attachment) heart rate monitor will be placed on Lolita to examine and observe her heart rate. Four people will be in dry-suits at all times. Two personnel will be in the cradle during transport (except during take-off and landing), with two on stand-by. These pairs will rotate in and out of the cradle.

The flight duration at a cruising speed of 517 mph will be approximately 5 hours (including takeoff/ landing and one refueling stop).

2.15 ARRIVAL PHASE

NOTE: As per 'During Plane Transport' Phase, we may be required to have no water in the cradle during landing (this requirement will depend on the airline). No personnel will be in the cradle during landing. During landing the pilots will be instructed to maintain gradual deceleration and minimal incline or decline.

Liaison will have been coordinated by Ground Staff (2.3) regarding Security (2.5), permits and escort vehicles (see Overland Transport Phase, 2.17) etc as required.

2.16 UNLOAD FROM PLANE & LOAD ONTO BARGE

A tug and barge (or motorized barge) will be used to transport the cradle containing Lolita to the seapen in Eastsound. The cradle (with Lolita still inside) will be unloaded from the plane and loaded onto the barge. The

cradle will be loaded in such a manner to ensure that Lolita is facing forward. Once loaded onto the barge the water inside the cradle will be removed and replaced with clean water) or water will be added (if it was a requisite to land without water). The cradle will be secured. Alternatively, Tokitae (at this point in the project to be renamed *Tokitae*, the name she was given by the veterinarian who chose her in 1970) could be lifted out of the cradle in her sling and lowered into a floating pen, to be towed to East Sound.

It will take between 1-2 hours to conduct this Unload / Load Phase.

2.17 OVERWATER TRANSPORT PHASE

Security will be in place during transport operations from Bellingham Int. Airport to the Bellingham dock and throughout the journey to East Sound. Speed of travel will be governed by road conditions on land, and sea conditions overwater, the behavioral and welfare state of Lolita (as determined by the Load Master and Vet) and environmental conditions. Approximate travel times have been estimated based on 8-10 knots x approx. 30 miles = 3-4 hours of travel time to the proposed sea-pen location.

Two personnel (in dry suits) will be inside the cradle with Lolita during the Barge Transport Phase. They will each have waterproof radios (+ spare batteries) with them to enable communication with the barge pilot (2.16) and the rest of the Transport Team (2.2) and Ground Staff at the sea-pen site (2.3). Either a floating crane suitable for lifting Tokitae out to lower her into her natural habitat will be positioned at the location of the seapen, or the barge will be equipped with a crane.



Figure 6. East Sound at Glenwood Springs, Orcas Island.

All members of the Transport Team/ Ground Staff will lead / follow in vehicles to San Juan Island, to the location of the designated sea-pen and unload site (2.18).

2.18 SEA-PEN LOCATION

The proposed location of the rehabilitation sea-pen is in Eastsound, Orcas Island (48.677028,

-122.882925).

Approximate water depth at sea-pen location = 10-15 m.

The exact timing of Lolita's placement into the seapen will depend on Lolita's responses and condition, to be determined by a veterinarian.

2.19 TRANSFER FROM CRADLE TO SEAPEN

Lolita will have been lifted into her stretcher as per the details given in the Rehabilitation Training document. To remove Lolita from the cradle and into the seapen similar protocols will be in place (but in reverse). That is, a crane will be used to raise the stretcher, with Lolita suspended in it, out of the cradle. Such cranes are

sufficient to lift and rotate a four ton payload (i.e., Tokitae + stretcher) (see 2.12, Payload) in a 20 m diameter circle (2.9). The stretcher will have four lines attached to prevent spinning and to assist directing the stretcher. Tokitae, inside the stretcher, will then be lowered into the water of the seapen. The four lines will then be used to assist with 'opening' the stretcher once Lolita has been lowered into the water. A team of qualified Scuba divers will be in the water ready to assist Lolita in case of entanglement, lethargy or muscle cramping.

The veterinarian and trainers will conduct appropriate husbandry and medical checks once Lolita has been released from the stretcher and allowed time to settle into the seapen. She will be provided with food as she requests it for the first 12 hours, then Tokitae's diet will be formulated to facilitate the Rehabilitation Training plan.

As it is unclear when the transport date will be confirmed, it is not possible to predict the amount of daylight available. Therefore, once a transport date has been confirmed the departure time from the Seaquarium may need to be modified to maximize daylight at the sea-pen transfer location. Alternatively, it may be applicable to have a generator with flood lights on standby.

3. POST TRANSPORT

3.1 SEAPEN MONITORING

If the Load Master and Veterinarian (2.2) deem it appropriate for Tokitae to be kept in the medical pool of the seapen for monitoring, she will be moved into this section for close observations, until she is considered in a suitable health state to be released into the main section of the seapen.

The medical pool of the sea-pen will be constructed so that a net is suspended from the floating platform to the shoreline.