THE ACTIONABLE PLAN FOR HARTWIN

A Humpback Whale in German Waters

DER AKTIONSPLAN FÜR HARTWIN

A White Paper by StrandedNoMore

strandednomore.org

July 2026

Based on peer-reviewed research by Gulland et al. (2008), O'Mahony (2024), Olhasque et al. (2025), Sharp et al. (WHOI-2024-05), and German federal law (BNatSchG)

Executive summary

This white paper presents a concrete, immediately actionable, and legally viable plan to diagnose and treat the humpback whale Hartwin, currently in German waters near the Schleswig-Holstein Baltic coast. The plan requires no new legislation, no new technology, and no extraordinary resources, and it can begin within days.

Hartwin has been tracked across six countries since January 2026, covering thousands of kilometres. His skin condition has visibly deteriorated. Multiple experts have publicly stated he will die. Yet no veterinary assessment has been conducted, no diagnostic sample has been collected, and no treatment has been attempted. The reason is not scientific impossibility, but an institutional inertia.

This plan uses non-invasive blow sampling, a technique documented in the peer-reviewed literature, to diagnose Hartwin's condition without touching him. It relies on existing German law that already permits veterinary intervention for sick protected animals. It identifies who can do it, who can authorise it, and how long each step takes. Every element of this plan has either been done before or is expressly permitted under current law.

The plan: six steps

Step 1: Secure an urgent permit for blow sample collection

Under German federal law, there are two legal pathways to collect a blow sample from Hartwin. The fastest is BNatSchG §45(5), which already permits veterinary intervention for injured, helpless, or sick strictly protected animals without a formal permit. A veterinarian who observes a visibly ill whale can act immediately under this provision. The blow sample is the diagnostic first step toward treatment.

Alternatively, a research exemption can be filed under BNatSchG §45(7) Nr. 3 for purposes of scientific research, specifically framed as a population health assessment. This requires application to the competent state authority, which in Schleswig-Holstein is the Ministerium für Energiewende, Klimaschutz, Umwelt und Natur (MEKUN), specifically Referat 52: Schutzgebiete, Artenschutz, led by Manfred Bohlen (Tel: 0431/988-7007, manfred.bohlen@mekun.landsh.de). The condition for granting such an exemption is that no reasonable alternative exists and the conservation status of the population must not worsen. Non-invasive blow sampling poses zero risk to conservation status.

Both pathways can proceed in parallel: The §45(5) route allows immediate action; the §45(7) route provides formal institutional backing.

Step 2: Collect the blow sample

Two proven methods exist, both entirely non-invasive and requiring zero physical contact with the whale.

Option A: SnotBot drone. A modified consumer drone (such as a DJI Mavic or Phantom) carrying petri dishes flies through the whale's blow as he exhales. The drone collects exhaled breath condensate containing DNA, hormones, microbiome data, and cellular material. This method has been validated in peer-reviewed literature for humpback whales specifically (O'Mahony 2024, Molecular Ecology Resources). Ocean Alliance, the developer of SnotBot technology, has conducted expeditions globally (the drone does not touch the animal).

Option B: Pole-and-cup method. Approach Hartwin calmly by boat when he is resting at the surface. Hold a sterile collection cup or petri dish on a long pole (3-5 metres) above the blowhole. Collect the exhaled blow as he breathes. With a pole of sufficient length, a close approach is not needed, and the method requires no specialised equipment beyond a sterile container and a pole.

Step 3: Send the blow sample to a laboratory for analysis

The blow sample is a treasure trove of diagnostic information. A single non-invasive sample can reveal:

Microbiology: bacteria, viruses, and fungi in the lungs, including detection of known whale diseases, fungal infections (directly relevant to Hartwin's skin condition), antibiotic-resistant bacteria, and respiratory pathogens. Recent research has detected alphaherpesvirus genes in humpback whale blow for the first time.

Hormones: cortisol (stress levels), progesterone (reproductive status), testosterone, estradiol, and thyroid hormones (metabolic and nutritional health).

Inflammation and nutrition: cytokines (inflammation markers), lung surfactant (airway health), oxidative stress markers (pollution damage), ketones (signs of starvation or fasting).

Cellular health: living lung epithelial cells for cytology, mucus levels (irritation from toxins), parasite detection (lungworm larvae).

DNA and identity: individual identification and sex determination without biopsy, population connectivity and inbreeding assessment, epigenetic aging (biological age estimation), and gene expression profiles indicating active immune response.

Pollutants: PCBs, DDTs, PAHs (oil spill exposure), mercury, cadmium, and lead.

Turnaround time for priority laboratory analysis: days, not weeks. Standard veterinary microbiology and cytology labs can process the samples. Specialised cetacean labs such as those at the Stiftung Tierärztliche Hochschule Hannover or university marine biology departments can provide additional analysis.

Step 4: Develop a treatment plan and deliver medication via darts

Based on laboratory results, develop a targeted pharmaceutical protocol. If the analysis reveals a fungal infection (as suspected from the visible skin condition), antifungal medication can be prepared. If bacterial infection is identified, antibiotics are indicated.

Medication delivery follows the methodology established by Gulland et al. (2008), who successfully darted free-swimming humpback whales in the Sacramento River, California. Using a modified dart gun from a boat, antibiotics were delivered to two humpback whales that had spent approximately 20 days in fresh water and sustained visible skin damage from low-salinity exposure. Both animals survived, and the freshwater skin damage reversed within approximately 24 hours of returning to salt water.

This technique does not require physical restraint of the animal. It has peer-reviewed precedent for the exact species involved. The dart delivers medication intramuscularly through the blubber layer. The method has been used on free-swimming large whales and is considered safe for both the animal and the responders.

Step 5: Develop a plan to guide Hartwin out of confined waters

Hartwin has demonstrated strong swimming ability and navigational capacity, having covered thousands of kilometres across six countries. He may find his way to open sea on his own. However, if his trajectory indicates he is moving deeper into confined waters or his condition worsens, a guided escort plan should be prepared.

Proven methods include acoustic luring using underwater playback of humpback social and feeding calls (Humphrey cases, San Francisco Bay, 1985 and 1990, which moved a humpback 130 km in seven hours), coordinated boat herding (Olhasque et al. 2025, Rance estuary case), and continuous escort operations as documented in the NRE Tasmania 2022 Cetacean Incident Manual. The Sharp et al. (WHOI-2024-05) workshop report from Woods Hole provides additional methodology for large whale stranding response.

Step 6: This must happen now

Every day without diagnosis is a day wasted. Hartwin's skin condition is visibly deteriorating. Multiple experts have publicly predicted his death. The approach of waiting for a stranding event before beginning any response is not a protocol. It is a decision to let a treatable animal decline until treatment is no longer possible.

The blow sample takes minutes to collect and the laboratory results take days. The treatment can begin within a week of the first sample, so there is no scientific, legal, or logistical reason to wait.

Who can do this?

Any licensed veterinarian (Tierarzt/Tierärztin) can initiate this process under BNatSchG §45(5) by making a professional judgment that the animal appears sick and that diagnostic assessment is the first step toward treatment. No prior cetacean experience is required for the legal authority to act, though marine mammal expertise is strongly recommended for the practical execution.

A university researcher studying marine mammal population health can file the §45(7) Nr. 3 research exemption in parallel. Suitable institutions include the Stiftung Tierärztliche Hochschule Hannover (which has veterinary marine mammal expertise), Christian-Albrechts-Universität zu Kiel (marine biology), Büsum research station, or any university department with active marine mammal research programmes.

The SnotBot drone technology is available through Ocean Alliance (whale.org/snotbot). The pole-and-cup method requires no specialised equipment beyond a sterile container and a pole of 3-5 metres length.

Legal framework: Bundesnaturschutzgesetz (BNatSchG)

All cetaceans in German waters are strictly protected (streng geschützt) under EU Habitats Directive Annex IV, implemented through BNatSchG §44. The following provisions create legal pathways for the actions described in this plan:

BNatSchG §45(5) - Sick animal provision: "Abweichend von den Verboten des §44 Absatz 1 Nummer 1 sowie den Besitzverboten ist es vorbehaltlich jagdrechtlicher Vorschriften ferner zulässig, verletzte, hilflose oder kranke Tiere aufzunehmen, um sie gesund zu pflegen." This provision permits the uptake of injured, helpless, or sick animals for the purpose of nursing them back to health, deviating from the §44 prohibitions. No formal permit application is required. A veterinarian acts on professional judgment.

BNatSchG §45(7) Nr. 3 - Research exemption: The competent state authority can grant individual exceptions from §44 for purposes of research, teaching, or education ("für Zwecke der Forschung, Lehre, Bildung"). The condition is that no reasonable alternative exists and the conservation status of the population must not worsen. Blow sampling is non-invasive and poses zero risk to conservation status.

BNatSchG §45(7) Nr. 5 - Overriding public interest: Exceptions can also be granted for compelling reasons of overriding public interest. The conservation of a strictly protected Annex IV species, combined with the documented ecosystem services value ($8.6 million per living baleen whale at the social cost of carbon; Chami et al. 2022) and the significant public attention this case has received, supports this argument.

Permit authority in Schleswig-Holstein: Ministerium für Energiewende, Klimaschutz, Umwelt und Natur (MEKUN), Mercatorstraße 3, 24106 Kiel. Specifically Referat 52: Schutzgebiete, Artenschutz, Manfred Bohlen (Tel: 0431/988-7007, manfred.bohlen@mekun.landsh.de).

Conclusion

This plan requires no new law, no new technology, and no extraordinary budget. Every technique described here has been used before on the exact species involved. The legal authority to act already exists in German federal law. The

diagnostic tools are available and the peer-reviewed literature supports every step. What is missing is the decision to begin and that decision can be made today.

References

Gulland, F.M.D., et al. (2008). Eastern Pacific gray whale unusual mortality event and Sacramento River humpback whale intervention. NOAA Technical Memorandum.

NRE Tasmania (2022). Cetacean Incident Manual. Department of Natural Resources and Environment, Tasmania, Australia.

O'Mahony, M., et al. (2024). Collecting baleen whale blow samples by drone: A minimally intrusive tool for conservation genetics. Molecular Ecology Resources.

Olhasque, A., et al. (2025). Rescue of a juvenile humpback whale from the Rance Estuary, Brittany, France. Animals.

Sharp, S.M., et al. (2024). Large Whale Stranding Response Workshop Report. WHOI-2024-05. Woods Hole Oceanographic Institution.

Thalmann, S., et al. (2008). Refloating stranded sperm whales in Tasmania, 2007. Marine Mammal Science.