



Good Practice Story Title: The Strategic Scuttling of Wrecks for Sustainable Tourism in Aqaba

Destination: Aqaba

Country: Jordan

Submitting Organization: Aqaba Special Economic Zone Authority (ASEZA)

Category:

- Destination Management
- Nature & Scenery
- Environment & Climate
- Culture & Tradition
- Thriving Communities
- Business & Marketing

Destination description:

Aqaba, located at Jordan's southern tip, uniquely blends local traditions and modern services. Positioned at the intersection of two continents bordering the Red Sea, Aqaba boasts stunning landscapes, including mountains, deserts, coral reefs, and sandy beaches. The nearby natural and historic sites of Wadi Rum and Petra enrich its cultural appeal.

Known for its warm winter weather and tranquil atmosphere, Aqaba is a peaceful retreat and a premier diving destination. Environmental sustainability is a cornerstone of Aqaba's development strategy. Recognising the importance of its natural resources, ASEZA, Aqaba's Destination Management Organisation, has implemented strict regulations to protect marine and terrestrial habitats. This ensures the preservation of unique ecosystems while enhancing Aqaba's attractiveness as a tourist destination and investment opportunity.



Local community involvement is crucial, with residents deeply connected to their environment and cultural heritage. Education and awareness programs emphasise conservation and sustainable practices, integrating local traditions and expertise into these efforts

Summary of Good Practice Story:

Aqaba's Destination Management Organisation, ASEZA, faced significant challenges managing its short Red Sea coastline. It needed to balance the protection of its natural coral reefs and fragile marine ecosystems with the physical damage caused by divers and boats from the increasing popularity of dive tourism.

Recognising the urgent need to address these issues, ASEZA spearheaded a groundbreaking initiative in collaboration with private sector partners and local residents. This initiative involved the strategic scuttling of military wrecks to create artificial reefs, alleviating the pressure on natural coral habitats. The primary goals were to enhance dive tourism, generate economic benefits for the region, and protect the natural coral reefs from further degradation.

Key measures implemented as part of this initiative included:

- Scuttling a series of military wrecks
- Establishing an Underwater Military Museum
- Implementing the Reef World Green Fins Programme
- Rigorous approval and monitoring processes for dive centres

Through these comprehensive measures, and by working collaboratively with local businesses and communities, ASEZA successfully addressed the challenges facing Aqaba's coastline, enhancing the region's appeal as a premier dive destination while safeguarding and strengthening its natural marine ecosystems.





Issues faced:

Aqaba faced numerous challenges typical of coastal tourist destinations, requiring **a delicate balance between development and environmental preservation**. One of the primary issues was the short, 27km, stretch of the Jordanian Red Sea coast, which limited the availability of dive sites. As urban expansion encroached upon these areas, the risks of sedimentation, pollution, and physical damage to coral reefs increased significantly. The construction activities associated with urban growth often led to sediment runoff, which smothered coral reefs and hindered their ability to photosynthesise and thrive. Additionally, increased human activity brought pollution, further degrading the marine environment.

Local pollution, stemming from both urban runoff and maritime activities, posed a significant threat to the health of the marine ecosystems. Contaminants such as plastics, oil, and other pollutants disrupt the delicate balance of the marine environment, adversely affecting both the flora and fauna. Moreover, climate change exacerbated these issues, with rising sea temperatures and ocean acidification leading to coral bleaching and weakened reef structures. The Gulf of Aqaba's unique corals, known for their resilience to higher temperatures, still faced significant risks from these global environmental changes.

Balancing the growth of tourism with the need for environmental sustainability was another major challenge. As Aqaba's popularity as a diving destination grew, so did the pressure on its natural resources. The high influx of tourists resulted in overcrowded dive sites, which led to physical damage to coral reefs from divers, anchors, and boats. This degraded the underwater environment and diminished the quality of the visitor experience.

Ensuring the enforcement of environmental regulations proved to be a continuous challenge. **Effective monitoring and compliance** required substantial resources, **coordination among various stakeholders, and strong political will**. There was a constant need for vigilance to ensure that dive operators and tourists adhered to sustainable practices to minimise their impact on the marine environment.

In summary, Aqaba's challenges were multifaceted, involving urban expansion, local pollution, climate change, and the pressures of growing tourism. Addressing these issues required **innovative and collaborative destination management solutions** and strategic planning, to ensure the sustainable development of the region while preserving its unique marine ecosystems for future generations.





Solution:

To address the pressing challenges of managing dive tourism and protecting Aqaba's natural coral reefs, ASEZA developed a comprehensive and innovative solution. This multifaceted approach involved the strategic scuttling of military wrecks to create artificial reefs, thereby alleviating the pressure on natural coral habitats.

The Vision for Destination Aqaba: The vision behind the scuttling project, was multifaceted, addressing the environmental, economic and social sustainability management and enforcement issues facing Aqaba. ASEZA aimed to:

- **Protect Natural Coral Reefs:** ASEZA sought to alleviate the pressure on these delicate ecosystems by diverting diving activities away from natural coral reefs.
- **Boost Dive Tourism:** Creating unique underwater attractions would position Aqaba as a premier dive destination, attracting divers worldwide.
- **Support Local Economic Growth:** The influx of tourists would stimulate the local economy, providing job opportunities and supporting local businesses.
- **Promote Marine Conservation:** ASEZA aimed to foster a culture of environmental stewardship among tourists and the local community through education and sustainable practices.

Methods, Steps, and Tools applied:

The Destination Management Initiative:

The method used to deliver ASEZA's initiative involved several key steps:

- **Creating Artificial Reefs:** Military vehicles, aircraft, and other equipment were carefully selected, cleaned, and prepared for scuttling. These artificial reefs provided new habitats for marine life and created exciting new dive sites.
- **Establishing the Underwater Military Museum:** This museum, the first of its kind, features a variety of military artefacts arranged in a battle formation on the seabed. It offers a unique diving experience that combines historical intrigue with marine exploration.
- **Implementing Sustainable Practices:** In 2023, ASEZA introduced the Reef World Green Fins Programme to promote sustainable diving and snorkeling practices. This program includes





training for local dive operators, guidelines for eco-friendly diving, and ongoing monitoring to ensure compliance.

- **Engaging the Local Community:** ASEZA launched educational programs to raise awareness about marine conservation. Workshops, school programs, and community events emphasised the importance of protecting the marine environment and the benefits of sustainable tourism.
- **Marketing and Communications strategy** through attendance at international dive shows, PR and marketing campaigns, events and fam trips to position Aqaba as a unique and world class scuba diving destination.

The scuttling of the wrecks was meticulously planned and executed over several years:

1. **1985:** The Cedar Pride, a former freighter, was scuttled to create an artificial reef.
2. **1999:** A C-130 Hercules aircraft was added to the underwater attractions.
3. **2017:** The initiative began in earnest with the scuttling of the M42 Duster anti-aircraft vehicle.
4. **July 2019:** A significant milestone was reached with the scuttling of 19 pieces of military hardware, including tanks, troop carriers, and a helicopter, arranged in a battle formation.
5. **August 2019:** The Lockheed L-1011 Tristar aircraft was scuttled, further enhancing the underwater museum.
6. **2020-2021:** Additional military equipment, including smaller vehicles and equipment, were scuttled to complete the project.

These wrecks were strategically arranged to create an underwater military museum, providing unique dive sites.

In 2023, ASEZA adopted the Reef World Green Fins Programme, promoting sustainable diving practices through training, guidelines, and regular monitoring of local dive operators.

Additionally, ASEZA established rigorous approval and monitoring processes for dive centers, including regular inspections and compliance checks, to ensure adherence to environmental regulations and best practices. These combined efforts ensured the successful creation of artificial reefs while promoting sustainable tourism and marine conservation.



Achievements and Results:

The strategic scuttling of wrecks in Aqaba has led to a vibrant dive tourism industry, economic growth, enhanced marine biodiversity, and global recognition for sustainable practices. These achievements demonstrate the effectiveness of coordinated efforts in promoting tourism and conservation, setting a benchmark for other destinations to achieve these results:

- 1. Boost in Dive Tourism:** The creation of artificial reefs and the establishment of the world's first underwater military museum have positioned Aqaba as a premier destination for wreck diving. The unique underwater attractions, featuring military artifacts arranged in a captivating battle formation, have drawn divers from around the globe. **The artificial reefs formed by the Military Museum and the C-130 Hercules and TriStar wrecks, scuttled since 2017, have attracted 10,138 new dives.** In total, since 2017 there have been 60,635 dives to Aqaba's 23 dive sites. This influx of tourists has significantly boosted the local economy, generated revenue and created job opportunities for the community.
- 2. Economic Benefits:** The enhanced dive tourism industry has had a positive ripple effect on Aqaba's economy. **In 2005 there were 10 dive centres, in 2024 this has increased to 41 licensed dive centres in which the local community works and depends on it as a basic source of income for them and their families.** Local businesses, including hotels, restaurants, and dive shops, have benefited from the increased tourist traffic. The economic upliftment has provided sustainable livelihoods for many residents, fostering a thriving community.
- 3. Marine Conservation:** The artificial reefs created by the scuttled military wrecks have provided new habitats for a diverse range of marine species. These structures have become thriving ecosystems, home to fish, corals, and invertebrates, including endemic species such as the Red Sea anemonefish (*Amphiprion bicinctus*) and the Red Sea butterflyfish (*Chaetodon Austriaco's*). The diversion of dive activities to these new sites has alleviated pressure on natural coral reefs, allowing them to recover and flourish. The identification of **157 species of hard corals, including 153 species of stony corals,** underscores the incredible richness and urgent need to protect this unique marine environment.
- 4. Environmental Sustainability:** By implementing the Reef World Green Fins Programme, ASEZA has promoted sustainable diving practices among local dive centres, **25% of whom are now Green Fins certified** and efforts continue to support other dive centres to become certified. This program has educated divers on minimizing their environmental impact, ensuring that tourism activities are conducted responsibly. Regular monitoring and compliance checks have maintained high standards of environmental protection.





- 5. International Recognition:** The innovative approach to sustainable tourism and marine conservation has garnered international recognition and praise. ASEZA's participation in global dive shows and tourism exhibitions has raised awareness of Aqaba's unique offerings and fostered global collaborations for marine conservation. **The project's success has positioned Aqaba as a model for other destinations facing similar challenges.**
- 6. Community Engagement:** Extensive educational campaigns and community involvement have fostered a culture of environmental stewardship among local residents and visitors. Workshops, school programs, and public events have raised awareness about the importance of marine conservation and sustainable tourism, ensuring long-term commitment to these values. **Each year 500 people from the local community join the World Beach Clean-up campaign that take place in Aqaba to protect the marine life in Aqaba.**

ASEZA's innovative solution to balancing economic development and environmental preservation resulted in the creation 23 artificial reefs and the world's first Underwater Military Museum.

This was combined with a wider strategy for delivering sustainable tourism practices that promoted eco-friendly diving and snorkelling, educated tourists, and partnered with responsible dive centres. These efforts achieved the creation new habitats for marine life and attracted divers, reducing pressure on natural reefs and promoting sustainable tourism.

ASEZA's efforts in sustainable destination management have resulted in the creation of a competitive, sustainable and diverse dive product along a 27km coastline, which has enabled Aqaba to diversify its offer and position itself as a world class dive destination, for not only for beginners and families, but also for wreck divers, technical divers and underwater photographers.

Lessons Learned and Advice:

Aqaba now offers a wealth of underwater experiences for divers of all levels. The **thriving coral reefs** are a testament to the **importance of marine conservation**. With the increase in dive centers to **32** in recent years, responsible diving practices have been crucial to ensure the health of this delicate ecosystem.

Divers are made aware of the **buoyancy and finning techniques** required to avoid damaging the coral. Respecting designated **dive zones and following local regulations** helps protect these underwater treasures.

The expansion of dive sites to **23** locations, including The Power Station with its **vibrant coral plateau** and diverse marine life, showcases the rich underwater world of Aqaba. From the **gentle slopes** teeming



with small fish to the **deeper wall** teeming with larger predators, The Power Station is a microcosm of the wonders that await divers.

Other fascinating sites like First Bay South and Eel Garden offer unique experiences. First Bay South boasts black coral trees, colourful parrotfish, and even **technical diving opportunities** in the aptly named "Death Valley." Eel Garden, with its **easy shore access**, lives up to its name and offers a **photographer's** paradise with a vibrant cleaning station teeming with life.

To be able to offer a truly sustainable and environmentally friendly dive experience, support **Green Fins certification** for the dive centres. Aqaba is now fortunate to have **10 dive centers** that have earned this prestigious certification. Green Fins members **adhere to strict environmental guidelines** that minimize their impact on the coral reefs and marine life. By choosing a Green Fins operator, visitors can be confident that their diving adventure is contributing to the preservation of Aqaba's underwater paradise.

A **comprehensive survey** that included various habitats, such as natural and artificial reefs, soft substrates, and reef caves, highlighted the significance of the Gulf of Aqaba as a **haven for crucial ecosystems**.

The identification of **157 species of hard corals**, including **153 species of stony corals**, underscores the incredible richness and urgent need to protect this unique marine environment.

From ASEZA's experience, we advise other destinations to:

- Ensure you work collaboratively with public and private sector stakeholders when planning your destination management strategy to create an underwater diving attraction
- Work very closely with your marine conservation authority and local administrative authority, to undertake a pre-environmental assessment of the locations selected.
- Before creating your artificial reef, collect baseline economic, social and environmental data so you can evidence change. E.g. number of divers, number of dive businesses, number of local people employed, number of women employed, additional related businesses, species counts.
- Undertake a baseline survey with marine experts, to measure the areas biodiversity, so you have a baseline against which you can monitor impacts
- Ensure these experts have the authority to lead on designing the most appropriate logistical approach of scuttling the wrecks to minimise any environmental impacts. The selection for the scuttling zone should be clear of any existing corals e.g. on sand.
- If planning to scuttle wrecks, ensure they are cleaned and in an appropriate condition before sinking. This should include removing the non-metallic parts of the military vehicles, and the plane such as cloth covering of tanks barrel and the leather covering of the seats, etc., so as to increase the suitable substrate availability for coral larval settlement.
- Create content of the scuttling event to build your story and share with media





- Design the dive area to attract all segments of the dive market from beginners and families to technical divers
- Work closely with your marketing team to ensure they are targeting the most appropriate niche dive market segments.
- Ensure dive zones are carefully managed, regulated and enforce restrictions
- Engage with the local dive sector to ensure they are fully aware of the potential economic, environmental and social sustainability benefits of your strategy and support them to ensure their business and your destination can capitalise on these opportunities.

Green Fins Members in Aqaba:

- Aqaba Sharks Bay Divers
- Arab Divers
- Bait Al-Aqaba Dive Resort
- Deep Blue Dive Center
- Diverse Divers Club
- Red Sea Dive Center
- Aqaba Adventure Divers Resort
- Coral Garden Diving Center
- Hammerhead Diving Center
- Royal Diving Club

Recognitions and Additional References

- [aqaba.jo/EchoBusV3.0/SystemAssets/Wrecks of Aqaba/Booklet-Edited.pdf](http://aqaba.jo/EchoBusV3.0/SystemAssets/Wrecks%20of%20Aqaba/Booklet-Edited.pdf)
- [wrecks of Aqaba Photo book 06122020.pdf](#)
- [dive-sites-jreds.pdf](#)
- [Aqaba Marine Reserve Management Plan \(AMRMP 2022-2026\).](#)
- www.aqaba.com
- [An introduction to the wreck dives of Aqaba - DIVE Magazine](#)
- [Directorate of Tourism](#)
- [Aqaba Special Economic Zone Authority](#)
- [Dive Sites - Aqaba](#)
- [Dive Centers - Aqaba](#)
- [Green Fins - Dive Certification](#)



