



Mark Van Thillo

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Occupation:

1991 - PRESENT Chief Operations Officer of **Biosphere Foundation**, Biosphere Foundation is a US 501 (c) 3 organization (Federal ID # 86-0686472) with a primary goal to inspire intelligent stewardship of our earth's biosphere. Its projects aim to contribute to the existing knowledge about the biosphere and to inspire individuals to join conservation programs through hands-on field work or educational programs that include:

(1) 2012- Present: Indian Ocean Marine Mammal Sanctuary Research & Conservation Program to study blue and sperm whale populations off the coast and mitigate ship strikes.

(2) 2009 – Present: Captain of **sailing vessel *Mir***, a classic 1910 Bermuda Ketch

- Reconstruction & retrofit of *Mir* in Malta
- Voyage from Malta to Singapore via the Red Sea
- Replacement of the deck in Singapore
- Laying of teak planks over the new steel deck in Bali
- Design and installation of new masts, rigging and sails

(3) 2008 – Present: Director of Biosphere Foundation in Indonesia

- Menjangan Island Bali Barat National Park Conservation Program
- Organic Farming and Agroforestry Research & Development Program in NW Bali
- “Friends of Menjangan” Community Conservation Program for NW Bali
- Durai Island Sea Turtle Protection Program at Durai Island, Anambas Islands South China Sea

(4) 2001 – 2009: Director of **Mars On Earth®**, a simulation on Earth of an inhabited base for Mars. The goal of this project was to determine the feasibility of maintaining humans in a space-based self-sustaining system

(5) **2000 – 2005: Laboratory Biosphere**, the design, construction and operation of a 12' diameter sealed chamber to experiment with soil-based agriculture systems and atmospheric dynamics

(6) **2000 – 2008: Studio of the Sea** film projects to highlight coral reefs, marine life in general, and cultures during a Pacific Ocean and Southeast Asia expedition

2011 - Present: Director **Biosphere Association**, a registered UK Charity #1145458 representing the work of Biosphere Foundation in Europe

(7) **1995 - 2008:** Chief Operations Officer and Director, **Planetary Coral Reef Foundation** (PCRF) with an ocean-going sea vessel that sailed the Pacific, Atlantic and Indian Oceans as well as the Red Sea and Southeast Asia

- PCRF conducted research concerning the **health and vitality of coral reefs** at 49 sites worldwide
- PCRF pioneered the **Coral Reef Satellite Mission** to map the coral reefs of the world using satellite imagery
- PCRF collaborated with **Immersive Media** to make 360° films of coral reefs and Pacific island cultures
- PCRF carried out **seamanship training** programs onboard its vessels

(8) **1995 – Present:** Design and development of **Wastewater Gardens®**, an ecological waste recycling system implemented in Mexico, Indonesia and the USA

1986 - 1994: The **Biosphere 2** Project

- 1993-1994: Executive Manager of Technical Systems - supervised the operations of and coordinated the maintenance and up-grades of all mechanical systems for Biosphere 2
- 1991 - 1993: Co-Captain of the first Biospherian Crew and Executive Manager of Technical Systems, Biosphere 2. Resided inside Biosphere 2 for two years during its first mission which set world records in waste, water, food, and air recycling
- 1986 - 1991: Construction Quality Controller for Biosphere 2 called a "marvel of engineering" by Science

1983-1986: Chief Engineer for the "**Around the Tropic World Expedition**" 13 part series Zagreb Television

1981-1982: Production Assistant, Petrochim Belgium

Education:

1996: NAUI dive instructor

1990: Preventative Maintenance Program, Az State University

1989: Vibration Monitoring in Rotating Machinery, Up-date International

1974-1978: A3 Mechanics, Don Bosco Technic Institute, Belgium

Memberships:

1994: Fellow, Explorers Club

1992: Member of the Institute for Advanced Studies in Life Support

1988: Founding Member for International Hypersonic Research Institute

Languages

Fluent in English and Dutch,

Films:

“Studio of the Sea” films: Studio of the Sea is a project of the Biosphere Foundation that has made over 40 mini-films about life at sea, ocean challenges and island cultures. Its archive consists of 3 terrabytes of HD and DV footage. The films are online at www.studioofthesea.org

The most well known include:

A Selection of Studio of the Sea Films. 2010. Xinya Television, China

Reuse or Refuse. 2009. Youtube at Biosphere Foundation

Water Music & Mbambanga Dance. 2008. World Water Expo Zaragoza Spain.

Whaling Wall. 2008. Youtube at Biosphere Foundation

Canary is Dead. 2008. Link TV

Deep Trouble. 2007. Youtube at Biosphere Foundation

Going, Going, Gone. 2007. Youtube at Biosphere Foundation

Canary is Dead. 2007. Current TV

Our World – A visual journey into Biosphere 2. 2006. Youtube at Biosphere Foundation

About Studio of the Sea. 2005. Link TV

Documentaries involving my participation in different capacities:

Acid Test: The Global Challenge of Ocean Acidification. 2009. A film by the National Resources Defense Council that used footage from Studio of the Sea

An Inconvenient Truth. 2006. Academy award winning film by Paramount Classics and Participant Productions that featured the work of PCRf and the fact that coral reefs are an early warning sign for global warming

Dragon of the Seas. 2004. 52 minute documentary film about the PCRf Coral Reef Research program by ADR Productions, France

Indonesia Beyond the Reefs. 1999. 90 minute National Geographic Television program about Raffles Marina Marine Parks of Indonesia expedition with PCRf’s ship and crew

The Coral Dance. 1998. 30 minute documentary film on the PCRf Coral Reef Research and Wastewater Gardens® by Japan Asahi TV, French Canal + TV, and British 3BM Production

Buddha and the Biosphere - Vis a Vis. 30 minute documentary about life inside the two year Biosphere 2 project by Point du Jour - France 3 - Borromeé Productions

Numerous International films about the Biosphere 2 project. 1986-1994

Projects and Expeditions:

2012- Present- **Sri Lanka Marine Mammal Science, Education and Conservation Initiative** with special emphasis on ship-strikes affecting the status of the pygmy blue whale and sperm whale populations.

2011- Present: “Friends of Menjangan” **Biosphere Stewardship Conservation & Education Programs**, Bali Barat National Park, Bali, Indonesia – www.biospherefoundation.org

2009- Present: **Rebuild & Operation of sailing ship *Mir***, a 1910 classic Bermuda ketch for Biosphere Foundation’s offshore conservation projects and operation of the ship as First Mate. Voyages include sailing the Mediterranean, Red Sea, Indian Ocean, Bay of Bengal, South China Sea and Java Sea

2009- Present: **Menjangan Island Coral Reef Conservation Program**, Bali Barat National Park, Indonesia - www.biospherefoundation.org

2009- Present: **Sea Turtle & Coral Reef Conservation Program**, Durai Island, Anambas Islands, Indonesia - www.biospherefoundation.org

1995- 2006: **Closed system research and development for Mars On Earth®**, a manned life support system for Mars - www.biospherefoundation.org

2006: Laboratory Biosphere – third generation **Russian Mir wheat** propagation experiment - www.biospherefoundation.org

1995- 2005: **Laboratory Biosphere** (a 12’ closed system chamber) research and development with atmosphere & water recycling with soils and crops - www.biospherefoundation.org

1995- 2008: **Planetary Coral Reef Expedition** to 49 locations worldwide- www.pcrf.org

1993- Present: **Wastewater Gardens®** - ecological wastewater recycling R & D in Mexico, Bali, New Mexico (USA) - www.biospherefoundation.org

1995- 2003: **Coral Reef Satellite Mission** concept: a project to put a satellite in space to map and monitor reefs and to create an urgently needed first comprehensive baseline map of living coral reefs. Partners in this effort included the Massachusetts Institute of Technology (MIT) and the Scripps Institution of Oceanography - www.biospherefoundation.org

- 1985- 1994: **Closed ecological systems** research and development, Biosphere 2
- 1991 - 1993: Two year expedition in Biosphere 2; the **longest human habitation in a closed ecological system**
- 1988-1991: Design & operation of Biosphere 2 **Preventative Maintenance Program**
- 1983-1986: **Around the Tropic World Expedition** on an 82 ft sailing vessel
- 1983-1986: **Microbial sampling of tropical reefs: a joint research project with the** University of Hawaii (Dr.Claire Folsome and the Institute of Ecotechnics)
- 1983: **Santa Fe and Chisolm Trail Expedition** by horse and chuck wagon, from Santa Fe to Fort Worth, Texas
- 1979-1986: Personal expeditions to India, Sri Lanka, Nepal, Mexico, Central America, Nigeria, Egypt, Sudan, Djibouti, Yemen, Samoa, Seychelles, Singapore, and Indonesia

Publications:

- Tilak Priyadarshana, C. Milner, M. Van Thillo, E. Heywood¹, A. Forrest, L. Sato, and A. Alling¹ 2015. A note on acoustic and visual observations of sperm whales off southeast Sri Lanka, April Accepted in University of Ruhuna Journal, Sri Lanka. 7pp.
- M. Van Thillo. 2005. *Ecology, Technology and Biosphere 2*. MAPS . Vol XIX(1):50-51.
- Alling, A., Van Thillo, M., Dempster, W., Nelson, M., Silverstone, S., Allen, J. 2005. *The Mars On Earth® Project: Lessons Learned from Biosphere 2 and Laboratory Biosphere Closed Systems Experiments*. Jpn. So. Biol. Sci. Space, Vol. 19, No. 4: 250-260.
- William F.Dempster, J.P. Allen, A. Alling, M. Nelson, S. Silverstone, M. Van Thillo. 2005. *Atmospheric dynamics in the Laboratory Biosphere with wheat and sweet potato crops*. Advances in Space Research. 2005;35(9):1552-6.
- M. Nelson, W.F. Dempster, S. Silverstone, A. Alling, J.P. Allen and M. Van Thillo. 2005. *Crop Yield and Light/Energy Efficiency in a Closed Ecological System: Two Laboratory Biosphere Experiments*. Advances in Space Research 35 (2005) 1539-1543.
- Nelson, M., W. Dempster, A. Alling, J.P. Allen, R. Rasmussen, S.Silverstone and M. Van Thillo. 2003. *Initial experimental results from the Laboratory Biosphere closed ecological system facility*, Adv. Space Res. 31(7):1721-1730, 2003.
- Dempster, W.F., Van Thillo, M., Alling, A., Allen, J.P., Silverstone, S., Nelson, M. 2004. *Technical review of the Laboratory Biosphere closed ecological system facility*. Adv. Space Res., 34, 1477-1482.

Alling, A, Nelson, M., Silverstone, S and M. Van Thillo. 2002. *Human Factor Observations of the Biosphere 2, 1991-1993, Closed Life Support Human Experiment and Its Application to a Long-Term Manned Mission to Mars*. Life Support and Biosphere Science 8:71-82.

Nelson, M., Alling, A, Dempster, W.F., Van Thillo, M. and J. Allen. 2003. *Advantages of using subsurface flow constructed wetlands for wastewater treatment in space applications: ground-based Mars Base prototype*. Advances in Space Research 31 (7): 1799-804.

Nelson, M., Alling, A, Dempster, W.F., Van Thillo, M. and J. Allen. 2002. *Integration of wetland wastewater treatment with space life support systems*. Life Support and Biosphere Science 8 (3/4):149-154.

W. Dempster and M. Van Thillo. 1993. *Maintenance and Operational Support Characteristics of Biosphere 2*. 1993. Invited paper to the Space Programs and Technologies Conference, AAIA, Washington, DC.

M. Van Thillo. 1993. *First Reflections on Two Years Under Glass*. Kronos, Germany.

M. Van Thillo, W. Dempster, N. Alvarez-Romo, G. Hudman, S. Silverstone. *From Theory to Practice: The Initial Two-Year Closure of Biosphere 2.1991-1993* Journal of Ecological Engineering.