

Blueseed

Environmental Compliance and Sustainability



The College of William and Mary
Thomas Jefferson Program in Public Policy
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Acknowledgements

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Executive Summary

Blueseed has clearly demonstrated their appeal to investors and entrepreneurs in Silicon Valley. The lines are forming to come aboard the conceptual Googleplex of the Sea; however, many decisions remain before Blueseed casts off. Which environmental laws are applicable to a vessel anchored over 12 nautical miles¹ from San Francisco? How will Blueseed demonstrate sustainability to a global audience of investors? How will several hundred thousand gallons of waste be completely diverted from the Monterey Bay National Marine Sanctuary? Perhaps most important, will the local community greet Blueseed with a warm welcome to the Monterey Bay region?

Our team investigated these questions and consolidated our findings on the following pages in these categories: International & Environmental Law Summaries, Global Reporting Initiative, Systems Compliance, and Community Outreach. The report is divided into these four sections and includes further information or questions raised for Blueseed. Our intention for the report was not to be a solution for lawyers, administrators, or engineers, but a perspective-framing document to guide the early process of site preparation, organizational development, and vessel outfitting.

Blueseed's location poses several unique challenges in both the Legal and Systems Compliance categories. We have noted the red flags, posed the relevant legal questions, and recommended an innovative waste management strategy. Through the Global Reporting Initiative, Blueseed will be able to measure and compare its non-financial achievements in pursuit of regulatory compliance and responsible business leadership. Proactive governance that is mindful of stewardship and sustainability will demonstrate Blueseed's authenticity and dedication to stakeholders. Every decision or action, from conceptual planning to vessel launch, strengthens (or weakens) Community Outreach, and impacts Blueseed's viability. Our recommendations guide Blueseed in the direction most likely to result in it being an effective, sustainable member of the Monterey Bay community.

¹ 1 nautical mile = 1.15 miles.

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International & Environmental Law Summaries

National Marine Sanctuaries Act (NMSA)

P.L. 106-513, 16 U.S.C. § 1431

Relevant Provisions:

- NMSA does not apply to a person who is not a citizen, national, or resident alien of the United States, unless it is codifying a generally recognized principles of international law; an agreement between the United States and the foreign state of which the person is a citizen; or an agreement between the United States and the flag state of a foreign vessel, or if the person is a crewmember of the vessel.
- § 308: Grants authority to issue regulations for each sanctuary, including specifying the types of activities that can and cannot occur within the sanctuary.
- § 922:
 - Where necessary to prevent or minimize the destruction of, loss of, or injury to a Sanctuary resource or quality, or minimize the imminent risk of such destruction, loss, or injury, any and all such activities are subject to immediate temporary regulation, including prohibition.
 - Under section 312 of the Act, any person who destroys, causes the loss of, or injures any Sanctuary resource is liable to the United States for response costs and damages resulting from such destruction, loss or injury, and any vessel used to destroy, cause the loss of, or injure any Sanctuary resource is liable *in rem* to the United States for response costs and damages resulting from such destruction, loss or injury.
- a) A person may conduct an activity prohibited by subparts F through O, if conducted in accordance with the scope, purpose, terms and conditions of a permit issued under this section and subparts F through O, as appropriate.
- Except as may be permitted by the Director, the following activities are prohibited and thus are unlawful for any person to conduct or to cause to be conducted within the Sanctuary:

- (a) Anchoring in any manner, stopping, remaining, or drifting without power at any time;
 - (g) Lowering, laying, positioning or raising any type of seabed cable or cable-laying device;
 - (i) Discharging waster material into the water in violation of any Federal statute or regulation.
- § Subpart M (Monterey Bay National Marine Sanctuary):
 - (i) Prohibited Activities: Discharging or depositing from within or into the Sanctuary, other than from a cruise ship, any material or other matter, except: For a vessel less than 300 gross registered tons (GRT), or a vessel 300 GRT or greater without sufficient holding tank capacity to hold sewage while within the Sanctuary, clean effluent generated incidental to vessel use by an operable Type I or II marine sanitation device (U.S. Coast Guard classification) approved in accordance with section 312 of the Federal Water Pollution Control Act, as amended (FWPCA), 33 U.S.C. 1322. Vessel operators must lock all marine sanitation devices in a manner that prevents discharge or deposit of untreated sewage; Clean vessel deck wash down, clean vessel engine cooling water, clean vessel generator cooling water, clean bilge water, or anchor wash; For a vessel less than 300 gross registered tons (GRT), or a vessel 300 GRT or greater without sufficient holding capacity to hold gray-water while within the Sanctuary, clean gray-water as defined by section 312 of the FWPCA; Vessel engine or generator exhaust;
 - (ii) Discharging or depositing from within or into the Sanctuary any material or other matter from a cruise ship except clean vessel engine cooling water, clean vessel generator cooling water, vessel engine or generator exhaust, clean bilge water, or anchor wash.
 - (iii) Discharging or depositing from beyond the boundary of the Sanctuary any material or other matter that subsequently enters the Sanctuary and injures a Sanctuary resource or quality, except those listed in paragraphs (a)(2)(i)(A)

through (E) and (a)(2)(ii) of this section and dredged material deposited at the authorized disposal sites described in appendix D to this subpart, provided that the dredged material disposal is pursuant to, and complies with the terms and conditions of, a valid Federal permit or approval.

- (iv) Disturbing marine mammals or seabirds by flying motorized aircraft, except as necessary for valid law enforcement purposes, at less than 1,000 feet above any of the four zones within the Sanctuary described in Appendix B to this subpart. Failure to maintain a minimum altitude of 1,000 feet above ground level above any such zone is presumed to disturb marine mammals or seabirds (sections listed in Appendix B)
- (v) Operating motorized personal watercraft within the Sanctuary except within the five designated zones and access routes within the Sanctuary described in appendix E to this subpart
- NMSA Authorizes NOAA and the local program to assess civil penalties up to \$130,000 per day per violation of the NMSA or the local regulations.

Preliminary Interpretation for Bluseed:

- It appears that, much as a ship is responsible for damage it causes when docking due to a *force majeure* event, any ship, including Bluseed, is responsible for the § 312 damage provisions, regardless of nationality.
- § 308 authorizes the creation and enforcement of the Monterey Bay Regulations.
- Once a permit is granted, it is lawful to modify the submerged lands as incident and necessary to anchor a vessel, install a lawful navigational aid, construct, repair, replace, or rehab a dock/pier within the context of an approved activity.
- This statute raises the question of how the law would apply to a foreign flagged ship with a captain, engineer, or citizens from the United States? This remains contentious, but to date, the Second, Third, and Fifth U.S. Circuit Courts of Appeal, as well as the U.S. district courts in the First and Eleventh Circuits, have held that APPS, the U.S. application of MARPOL, applies to foreign-flagged vessels within U.S. jurisdictional waters, which

include its ports or terminals, internal waters, territorial sea, and the exclusive economic zone. See Nicholas H. Berg, *Bringing It All Back Home: The Fifth and Second Circuits Allow Domestic Prosecutions for Oil Record Book Violations on Foreign-Flagged Vessels*, 34 Tul. Mar. L.J. 253, 257 (2009). The exclusive economic zone extends to 200 nautical miles, and would encompass Blueseed's location. For additional information, please see:

- *United States v. Royal Caribbean Cruises, Ltd.*, 24 F. Supp. 2d 155 (D.P.R. 1997).
- *United States v. Abrogar*, 459 F.3d 430 (3d Cir. 2006).
- *United States v. Kun Yun Jho*, 465 F. Supp. 2d. 618 (E.D. Tex. 2006).
- *United States v. Petraia Mar., Ltd.*, 483 F. Supp. 2d 34 (D. Me. 2007).
- *United States v. Jho*, 534 F.3d 398 (5th Cir. 2008).
- *United States v. Ionia Mgmt. S.A.*, 555 F.3d 303 (2d Cir. 2009).
- *Giuseppe Bottiglieri Shipping Co. S.P.A. v. United States*, CIV.A. 12-0059-WS-B, 2012 WL 527619 (S.D. Ala. 2012).

Additional Questions:

- Will Blueseed need to seek permit approval for its activities in the Monterrey Bay National Sanctuary because of the restrictions in § 922?

Convention on the Continental Shelf (1958)

499 *United Nations Treaty Series* 311 (June 10, 1964).

Relevant Provisions:

- Art. 1: The Continental Shelf consists of the seabed and subsoil outside the territorial seas, to a depth of 200 meters.
- Art. 2: The State has the exclusive right to economic development and exploitation of natural resources on the continental shelf
- Art 3: These rights do not affect the legal status of the adjacent water as "high seas" or the airspace above it.
- Art. 5: Installations/devices shall not be made where they will interfere with recognized shipping lanes essential to international navigation.

Preliminary Interpretation for Blueseed:

- Blueseed must be located outside of the recognized shipping lanes along the California Coast.
- Blueseed cannot exploit natural resources at its location if the ocean is not deeper than 200m at the chosen site.

Additional Questions:

- Will the use of wave energy or other oceanic resources constitute a violation of the United States' Article Two rights?

Convention on the High Seas (1958)

450 *United Nations Treaty Series* 11 (September 30, 1962).

Relevant Provisions:

- Art. 1: High Seas consist of anywhere not in the territorial sea or internal waters
- Art. 2: High Seas are open to all nations, so no state may validly exercise sovereignty over navigation, fishing, laying pipes and cables, or flying over them (or other gen. principles of international law) as exercised by all states.
- Art. 5-6: Each ship flies under a flag of the state to whom they have a direct link, meaning that state exercises jurisdiction over its administrative, technical and social activities. You may only fly under one flag unless you transfer ownership/change registry. Flying under more than one flag voids your flagship status, causing you to be regarded as unaffiliated, subject to universal jurisdiction.
- Art. 11: Only the flagship state can arrest or detain the ship, even to investigate.
- Art. 25: Creates obligation to prevent pollution of the seas from radioactive waste, and an obligation to prevent pollution of the sea or airspace resulting from any activities with radioactive material or other harmful agents.

Preliminary Interpretation for Bluseed:

- State, within the context of all of these conventions, means nation, and in this context means the United States because that is the State located adjacent to this stretch of seas.
- The existence of the Monterrey Bay has caused some controversy over the extent of U.S. territorial jurisdiction. In the case of *Ocean Industries, Inc., v. Superior Court*, 200 Cal. 235 [252 P. 722]. [14 Cal.2d 624], Monterrey Bay was determined to be United States territorial sea, extending jurisdiction to 29 nautical miles throughout the sanctuary.
- This is the law that pertains to Flag Ship nationality. Bluseed has already committed, according to its website, to a UK/US common law nation as flagship. In general, Liberia and the Marshall Islands are the two most common flagship choices.

Convention on the Territorial Sea & Contiguous Zone (1958)

516 *United Nations Treaty Series* 205 (September 10, 1964).

Relevant Provisions:

- Art. 10: Discusses islands, artificial and natural
- Art 14: All ships shall enjoy rights of innocent passage through the territorial sea (peace, good order, and security of coastal state not prejudiced), including stopping and anchoring, but only insofar as incident to ordinary navigation/rendered necessary by *force majeure* or distress.
- Art: 15: States may, without discrimination, suspend passage through territorial seas to innocent foreign ships if deemed essential to protection of security
- Art 18: No charges may be levied on foreign ships by sole reason of passage through territorial sea.
- Art. 19: No criminal jurisdiction of the coastal state shall be exercised unless the consequences of the crime extend to the coastal state, the crime will disturb the peace of the country or the order of the territorial sea, or it is necessary to suppress illicit drug trade.
- Art. 24: The contiguous zone is the 12 nm adjacent to the baseline of the territorial sea (a total of 24 nm of influence). The coastal state may exercise control over ships in the contiguous zone to prevent infringement of customs, fiscal, immigration or sanitary regulations within its territory/territorial sea.

Preliminary Interpretation for Blueseed:

- Blueseed will not qualify as an "artificial island"
- Coastal State= United States of America
- Under Article 19 and Article 24, The United States may have authority, up to 24 nm, to enforce infringements on its customs, fiscal, immigration, and sanitary laws. In 1999, President Clinton extended the Contiguous Zone of the United States to its full, statutorily authorized, 24 nm, and expressly noted that the intention was to protect "America's working families against drug trafficking, illegal immigration, and threats to our ocean environment...We are putting would-be smugglers and polluters on notice

that we will do everything in our power to protect our waters and our shores." This may mean that visa enforcement is possible, even on Blueseed, and it likely means environmental regulations will be enforceable against Blueseed, particularly as they pertain to sanitation.

Additional Questions:

- Will Art. 15 allow the United States to prohibit the ferry from Blueseed to the mainland from operating?

International Convention for the Prevention of Pollution from Ships

MARPOL & MARPOL Annexes 73/78/97.

Relevant Provisions:

- General:
 - Ensure that ships do not discharge waste into the sea
 - Ports must have reception facilities
- Prevention of Pollution by Oil
- Prevention of Pollution by Sewage from Ships:
 - It is generally considered that on the high seas, the oceans are capable of assimilating and dealing with raw sewage through natural bacterial action, therefore the regulations in Annex IV of MARPOL 73/78 prohibit ships from discharging sewage within a specified distance of the nearest land, unless they have in operation an approved treatment plant.(i) When the ship is fitted with a sewage treatment plant the plant shall meet operational requirements based on standards and the test methods developed by the Organization; (ii) when the ship is fitted with a system to comminute and disinfect the sewage, such a system shall be of a type approved by the Administration; (iii) when the ship is equipped with a holding tank the capacity of such tank shall be to the satisfaction of the Administration for the retention of all sewage having regard to the operation of the ship, the number of persons on board and other relevant factors. The holding tank shall have a means to indicate visually the amount of its contents; and (iv) that the ship is equipped with a pipeline leading to the exterior convenient for the discharge of sewage to a reception facility and that such a pipeline is fitted with a standard shore connection in compliance with regulation 11 of this Annex. Each ship must qualify for and maintain certificate of operational standards, as defined in Annex.
 - Reg. 8: Discharge is prohibited except when the ship is discharging comminuted and disinfected sewage using a system approved by the administration, in accordance with reg. (3)(1)a... at a distance of more than 4 nautical miles from

the nearest land, or not comminuted and disinfected sewage at a distance of more than 12 nautical miles from the nearest land provided that it has, if stored in tanks, is not discharged instantaneously but at a moderate rate when the ship is en route (so not acceptable while in a fixed location). The ship must also operate an approved sewage treatment plant that results in no visible floating solids or effluent in discharge and surrounding water.

- If waste-water classifications are mixed, the more stringent standards apply.
- Prevention of Pollution by Garbage from Ships:
 - "All kinds of victual, domestic and operational waste generated during normal operation and liable to be disposed of which are not covered by other annexes"
 - Disposal of plastics, all other garbage, and mixtures of garbage are prohibited everywhere.
 - Food waste cannot be disposed of within 12 miles of land. It must be ground to 25mm.
 - All ships of 400 Gross tonnage and above, or greater than 15 persons, will have to carry a garbage management plan including written procedures for collecting, storing, processing, and disposing garbage, designating a responsible member of the crew in the prevailing shipboard language, and providing a garbage record book that records all disposal and incinerations operations. Placards must also be provided for passenger and crew.
- Prevention of Air Pollution from Ships:
 - Limits the main air pollutants contained in ships exhaust gas, including sulphur oxides (SO_x) and nitrous oxides (NO_x), and prohibits deliberate emissions of ozone depleting substances. MARPOL Annex VI also regulates shipboard incineration, and the emissions of volatile organic compounds from tankers.
 - Under the revised MARPOL Annex VI, the global sulphur cap is reduced initially to 3.50% (from the current 4.50%), effective from 1 January 2012; then progressively to 0.50 %, effective from 1 January 2020, subject to a feasibility review to be completed no later than 2018. The limits applicable in ECAs for SO_x

and particulate matter were reduced to 1.00%, beginning on 1 July 2010 (from the original 1.50%); being further reduced to 0.10 %, effective from 1 January 2015.

- Progressive reductions in NOx emissions from marine diesel engines installed on ships are also included, with a “Tier II” emission limit for engines installed on or after 1 January 2011; then with a more stringent "Tier III" emission limit for engines installed on or after 1 January 2016 operating in ECAs. Marine diesel engines installed on or after 1 January 1990 but prior to 1 January 2000 are required to comply with “Tier I” emission limits, if an approved method for that engine has been certified by an Administration.

Preliminary Interpretation for Blueseed:

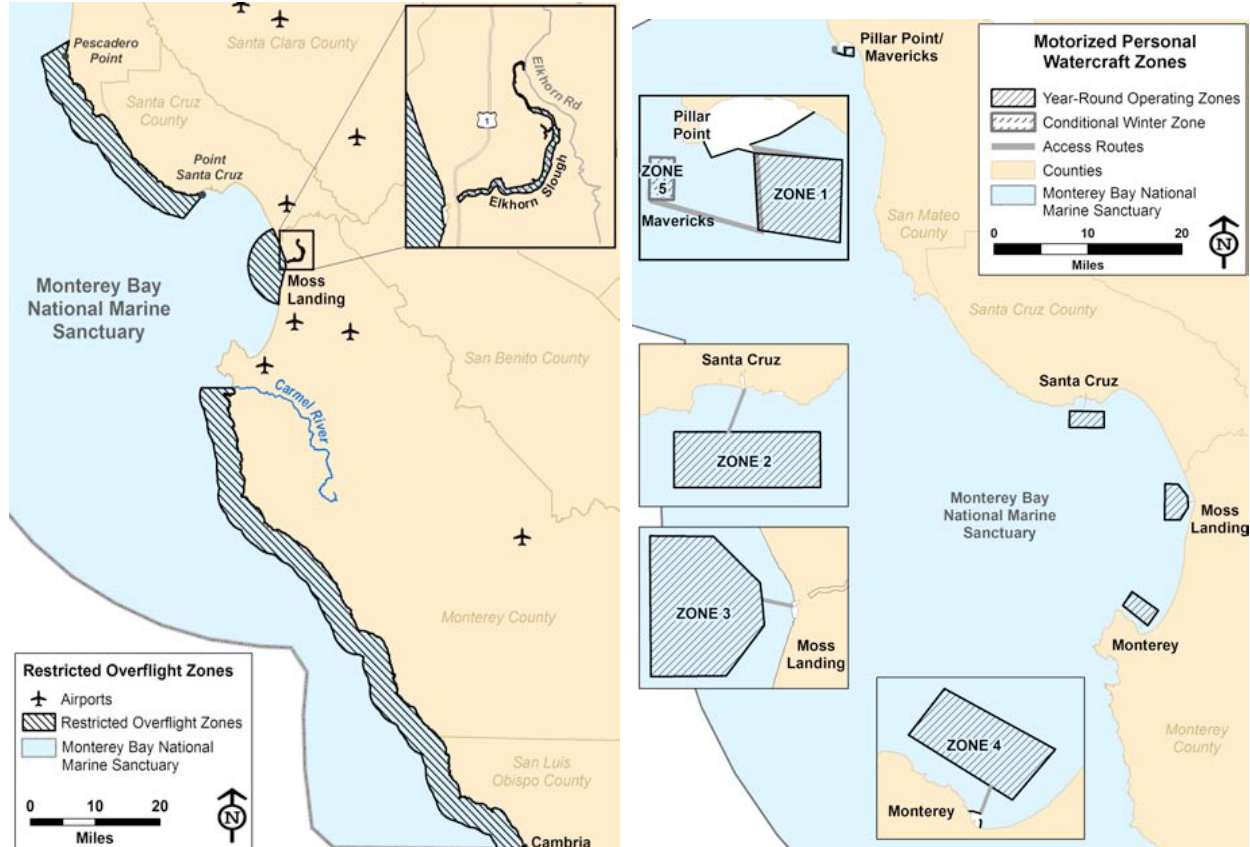
- These regulations are highly technical and very specific as to the regulations placed on specific kinds of ships. Blueseed will need to be careful to comply with these standards when it selects and outfits its ships.
- Blueseed may want to consider meeting the revised MARPOL standards that are coming into effect in the 3-5 year range. Many of these standards reflect changes in the emissions standards described under air pollution:
 - The global sulphur cap is currently 3.50%. MARPOL requires a reduction to 0.50 %, effective from January 1, 2020, subject to a feasibility review to be completed no later than 2018.
 - Limits on ECAs for SOx and particulate matter will be reduced to 0.10 %, beginning January 1, 2015.
 - Progressive reductions in NOx set a "Tier III" emission limit for engines installed on or after 1 January 2016 operating in ECAs.

Monterey Bay National Marine Sanctuary Rules and Regulations

15 C.F.R. § 922.

Relevant Provisions:

- Proscribes discharging or depositing any material or matter within or into the sanctuary (e.g. pollutants, trash, objects, etc.), or from outside the boundaries if it subsequently enters and injures the sanctuary...Except:
 - Clean water from anchor wash, bilges, deck wash, engine or generator cooling.
 - Clean effluent from Type I or II marine sanitation devices and clean gray-water from small boats or 300 GRT vessels without sufficient sewage or gray-water holding capacity.
 - Cruise ships may only discharge clean water from anchor wash, engine or generator cooling water.
- Proscribes disturbing, taking or possessing any marine mammal, sea turtle or bird within or above the sanctuary.
- Proscribes introducing or releasing introduced species



Preliminary Interpretation for Bluseed:

- These regulations are extremely detailed. This is a list of interpretations of the ones identified as most likely to seriously impact Bluseed, but for legal and operational planning purposes, the full text of the law and relevant case law will need to be evaluated by a legal expert.
- Cargo Track Recommendations: Cargo boats going back-and-forth from San Francisco to Bluseed will likely be encouraged to travel NW-SE and vice-versa. Following this guideline has the potential to increase fuel costs and the duration of cargo trips because of the counter-current movement and additional distance travelled
- Fly Over Restrictions: Helicopters going back-and-forth from San Francisco to Bluseed will only be permitted to pass over the 1000-foot restriction in 4 zones. This will be an important consideration for emergency evacuation and meetings where helicopters will be essential.
- Motor Watercraft Zones: Personal watercraft must dock, load, and unload within the 4 specified zones marked on the maps, which will be relevant to cargo, waste, and other Bluseed supply vessels.
- Zone of Influence: MBNS rules and restrictions apply within the boundaries of the sanctuary and the tangential zone of influence, as marked on the striped maps.
- Special permits may be applied for and granted by NOAA so long as no sanctuary resources would be negatively impacted. Cross-sanctuary travel is allowed without a permit, but development and permanent settlement will require permitting.
- Bluseed may also need to be cautious of the classes of food being brought on board to avoid the potential introduction of non-native species into the Bay.

International Convention for the Safety of Life At Sea

536 *United Nations Treaty Series* 27 (May 25, 1980).

Relevant Provisions:

- Passenger Ships must have a public address system (220), two-way VHF radiotelephone apparatus (219), and radar (219).
- Lifebuoys must be so distributed as to be readily available on both sides of the ship and as far as practicable on all open decks extending to the ship's side; at least one shall be placed in the vicinity of the stern; and so stowed as to be capable of being rapidly cast loose, and not permanently secured in any way. Half of buoys need lights (221).
- A number of lifejackets suitable for children equal to at least 10% of the number of passengers on board shall be provided or such greater number as may be required to provide a lifejackets for each child; and a sufficient number of lifejackets shall be carried for persons on watch and for use at remotely located survival craft stations. The lifejackets carried for persons on watch should be stowed on the bridge, in the engine control room and at any other manned watch station.
- Clear instructions to be followed in the event of an emergency shall be provided for every person on board. In the case of passenger ships these instructions shall be drawn up in the language or languages required by the ship's Flag State and in the English language. [Posters are also required. As are a certain number of people who are muster (emergency assembly/control) certified] (222).
- Every ship must have raised lifeboats with launching stations (224) and enough space for at least 50% of passengers (233).
- Every ship must have buoys on board. 8 buoys are required for ships of <60m, 12 buoys are required for ships of 60-120m.

Preliminary Interpretation for Blueseed:

- Blueseed may want to look into whether the children's life vest provision can be waived due to the absence of children anticipated on board, despite Blueseed's likely classification as a Passenger Ship.
- Blueseed should consider the most appropriate and useful languages to print its emergency instructions given the multicultural nature of its crew and residents.

UN Convention of the Law of the Sea (UNCLOS)

1833 *United Nations Treaty Series* 3 (November 16, 1994).

Relevant Provisions:

- Article 10 (Bays): The territorial sea's 12 nm limit begins at the mouth of the bay along a straight baseline.
- Exclusive Economic Zone (EEZ): The U.S. has sovereign rights and exclusive jurisdiction to protect and manage natural resources, including economic development, within 200 nm from the edge of the territorial sea.
- Wind and solar energy are included in the "Natural Resources" subject to management.

Preliminary Interpretation for Blueseed:

- The U.S. cannot exercise general sovereignty over foreign vessels and nationals' high seas freedoms and rights of navigation and over-flight, but those rights are subject to U.S. regulation to some extent, as exercised by NOAA.
- The 12 nm territorial sea begins at the straight baseline across the Bay's opening, not at its innermost landward point.
- Within the EEZ, the U.S. has:
 - Sovereign rights for the purpose of exploring, exploiting, conserving and managing natural resources, whether living and nonliving, of the seabed and subsoil and the superjacent waters and with regard to other activities for the economic exploitation and exploration of the zone, such as the production of energy from the water, currents and winds; and
 - Jurisdiction as provided for in international law with regard to the establishment and use of artificial islands, installations, and structures, marine scientific research, and the protection and preservation of the marine environment

Additional Questions:

- Which of Blueseed's activities, both in terms of energy production and ordinary operations, will be subject to the United States' sovereignty over economic activity in the exclusive economic zone?

Global Reporting Initiative

Global Reporting Initiative - Background Brief

To: Joe Nash & The Bluseed Board

From: William & Mary, TJPPP Bluseed Team

Re: Global Reporting Initiative - Background Brief

Date: December 4, 2012

Organizations thrive when they can minimize negative impacts, preserve their own value, and enhance their reputation. To do this requires a comprehensive view of their organization's strengths and weaknesses, which includes many components not captured by financial performance indicators alone. The Global Reporting Initiative ("GRI") emerged in the 1990s as a means to quantify and measure the many aspects of an organization. Membership in GRI helps companies "understand [] the links between financial results and sustainability impacts [that are] critical for business managers, and increasingly connected to long- and short-term business success". The organization has the central belief that the "successful company of tomorrow will have an integrated strategy to achieve financial results and create lasting value for itself, its stakeholders and society". GRI's implementation of this model has been highly successful. Since its 1999 public launch, GRI has gained more than 30,000 business and NGO member organizations, including a majority of the Global Fortune 500. More than 1000 of these companies, representing 65 countries, have issued formal, public GRI reports, in addition to undergoing the initial membership and accreditation process. Of the Global Fortune 500, eighty percent produce non-financial reports, with more than seventy-five percent of those reports using GRI standards and guidance.

Membership with GRI requires an application comprising specific economic, environmental and social factors. Reporting must be done in a replicable way using accepted data measurement techniques to provide potential investors with the means to check accuracy and reliability of reported information. The application also offers fifteen sector-specific

supplements available for targeted industries. A GRI application need only be filed once, with minimal application maintenance and updating over time. GRI partners with The Global Compact, the International Organization for Standardization, the UN Environment Program, and the Organization for Economic Cooperation and Development to ensure support and regulation by a specialized body with the metrics in place to establish standards and criteria for those aspects of the GRI application. For example, the UN Environment Program has established environmental standards in categories including materials, energy, water, emissions, effluents, wastes, compliance, and transport.

One of the key strengths of this collaborative model is that revisions of any measurement framework are deliberative, conducted through a committee and subcommittee model. Systemic changes are not randomly or arbitrarily implemented, and, when change does occur, organizations are permitted to continue implementing the model they joined using, so they are not forced to update their full GRI application and reporting system unnecessarily. The third iteration of GRI standards occurred in 2006, with further substantial revisions expected in the two to three year time horizon. GRI also provides updates as to which specific system changes are relevant to a given company when they are issued, helping to avoid any unnecessary burden on the company as it seeks to remain current in its reporting.

GRI has grown rapidly. Its message of increasing profit through enhanced reputation, brand recognition, and supply chain management, consensus-based, multi-stakeholder corporate citizenship, and free access to clear, quantifiable standards for improvement speaks to both established companies seeking to streamline and improve their processes and global images, and to new companies looking to legitimize their business. Both can use GRI to attain credibility as responsible, effective members of the global business community. This trend in reporting is anticipated to continue. In 2010, the Johannesburg Stock Exchange introduced a new listing requirement that ensures all companies produce an integrated, non-financial report, or provide justification for the failure to do so. Dow Jones has also implemented a Sustainability Group Index. This shift in market treatment of non-financial reporting, coupled with GRI's adoption by so many of the business world's leading organizations, shows that GRI is here to stay.

Further Information:

- http://www.fip.org/files/fip/IPJ/IPJ_Vol27_No1_web_def.pdf#page=4
- http://www.hks.harvard.edu/m-rcbg/CSRI/publications/workingpaper_36_brown.pdf
- http://www.deloitte.com/view/en_GX/global/about/global-initiatives/global-reporting-initiative/index.htm
- <http://books.google.com/books?hl=en&lr=&id=SkOq6n83BMcC&oi=fnd&pg=PA281&dq=global+reporting+initiative&ots=1bbN3pv->
- <https://www.globalreporting.org/information/about-gri/alliances-and-synergies/Pages/default.aspx>
- <https://www.globalreporting.org/resourcelibrary/G3-Guidelines-Incl-Technical-Protocol.pdf>
- <https://www.globalreporting.org/information/current-priorities/integrated-reporting/Pages/default.aspx>
- http://onlinelibrary.wiley.com/store/10.1002/csr.38/asset/38_ftp.pdf?v=1&t=h7o1eic7&s=cf764d129e74f6896c98343437994e3d2709a11ard&sig=eMFKGdMjdHol7x1q7C3x1gKGt3Q#v=onepage&q=global%20reporting%20initiative&f=false
- <http://www.mallenbaker.net/csr/gri.php>
- <https://www.globalreporting.org/reporting/latest-guidelines/g3-1-guidelines/Pages/default.aspx>
- <https://www.globalreporting.org/reporting/latest-guidelines/g4-developments/Pages/G4-Public-Comment-Periods.aspx>
- <http://www.sapsustainabilityreport.com/global-reporting-initiative>
- <https://www.globalreporting.org/reporting/reporting-framework-overview/application-level-information/Pages/default.aspx>

Global Reporting Initiative- Is GRI Right for Blueseed?

To: Joe Nash & The Blueseed Board

From: William & Mary, TJPPP Blueseed Team

Date: December 4, 2012

The Global Reporting Initiative (GRI) offers a viable means of quantifying and demonstrating Blueseed's commitment to profitability, innovation, sustainable practices, and corporate citizenship. It provides the most comprehensive sustainability guidance available in the global marketplace, harmonizing the existing environmental sustainability ratings systems in a standardized way that decreases confusion and increases investor and shareholder trust in non-financial reports.

The Coalition for Environmentally Responsible Economies (CERES), a non-profit coalition of over 50 investor, environmental, religious, labor and social justice groups, convened The Global Reporting Initiative to establish metrics to monitor and improve triple-bottom-line-style metrics (TBL), adding legitimacy to economic, environmental, and social performance by making them as routine and comparable as financial reports are in conventional market analysis. The GRI model recognizes that it is more effective for corporations to pursue corporate-citizenship objectives when there is a tangible way to distinguish effective, TBL practices from ordinary operations. GRI serves this purpose, giving corporations the benefit of a report and certification that demonstrates to the public, and society at large, that the corporation has made a commitment to implementing sustainable practices in a profitable, efficient way, while providing those companies with the tools to implement their commitment. The benefits experienced by GRI member organizations include enhanced reputation, brand recognition, improved customer loyalty, process efficiencies, and increased global competitiveness in rapidly shifting markets and economies.

GRI delineates guidelines for each phase of a corporation's development, as well as each component of a project. It is designed to allow organizations flexibility; they can either introduce full GRI reporting at the outset of the enterprise or phase it in over time as feasibility and practicality dictate. For Blueseed, this means GRI can be used to implement TBL strategies

even at the earliest, conceptual phases of the project. Within GRI reporting, materials selection and construction guidelines are available, as are transportation, water use, energy, and waste metrics. By working with the GRI standards from the project's inception, Blueseed can both minimize cost and waste, investing in those systems that net them the most significant advantages, and demonstrate to the Monterey Bay region, the state of California, and the Federal Government its commitment to be a sustainable, responsible neighbor. One particular area where GRI reporting might alleviate tensions would be implementing GRI energy standards. This project is innovative, and has the capacity to invest in and implement state of the art energy technology on-board the ships, scoring high marks with GRI, which will improve investor perceptions of the viability of the Blueseed residential model from a cost-perspective. Similarly, if Blueseed commits to applying GRI guidelines for waste, water use, and other components, installing efficient appliances and machinery on its vessels, the environmental community will be apt to embrace the project, availing itself of the many potential benefits of Blueseed offers the region.

Beyond the systems and environmental standards, labor practices, human rights, society and product responsibility are all categories of GRI that would be applicable to Blueseed. In a project certain to face scrutiny pursuant to its visa, customs, and employment environments, demonstrating an awareness of "community health" concerns, and documenting the many performance indicators in this area for GRI reporting would help to alleviate governmental and individual concern, including facilitating staffing and attracting entrepreneurs. In fact, GRI has been lauded for helping organizations foresee, mitigate, and reverse negative environmental, social, and governance impacts their enterprise might otherwise unnecessarily inflict. As such, GRI enables external stakeholders understand their investment's true value, and the project's tangible and intangible assets, while elucidating the ways in which the organization influences and is influenced by, expectations about sustainable development.

Once Blueseed is operational, many additional economic and social performance indicators will be relevant, particularly in terms of logistics and financial reporting. At this time, there are nine special economic performance indicators that will be of relevance to Blueseed. Beyond those nine indicators, much of GRI economic reporting mirrors conventional financial

reporting widely available in other media, with a greater focus on synergy and increasing organizational efficiency. By contrast, the environmental and social metrics are entirely unique to GRI.

Another distinct advantage of GRI reporting, as opposed to other standards Blueseed may consider, is its flexibility for implementation and long-term use by organizations of any size, in any sector or location. This is particularly useful to Blueseed because it allows Blueseed to stay consistent in its sustainability message and investor outreach even as it develops and changes during the seed phase. Using GRI throughout the complicated development process can help the Blueseed Board increase their understanding of the involved risks and opportunities, evaluate long-term strategies and policies, and craft a workable business plan that establishes streamlined processes, reduces costs, and improves long-term efficiency.

These benefits for Blueseed have been demonstrated throughout the international community for a number of years. Based on the growing understanding of the link between financial and non-financial performance, and the importance of benchmarking and assessing sustainability performance with respect to laws, norms, codes, standards, and voluntary initiatives, sustainability reports have become increasingly mainstream in the financial and business communities. In recent years, Dow Jones and the Johannesburg markets have incorporated sustainability reporting indices into their listing and assessment criteria. This is consistent with the growing trend to report, reflected in the Global Fortune 500, where 80% of companies have begun to issue sustainability reports. GRI is the most standardized, most effective way to issue these reports, and Blueseed could opt at any time to file for level A, B, or C certification by GRI, allowing it to adapt to perceived norms and interests as its role emerges in the global economy, deciding how best to implement sustainability objectives once it determines whether reporting has the intended effects.

Implementing GRI at Blueseed's developmental stage is the most cost-effective and labor-efficient approach. It will enable Blueseed to use best practices and the most sustainable technology from its inception, rather than having to retroactively correct for less than optimal institutions and systems after the project is completed. GRI is a five-step process, with the first three steps aligning closely with the development process of an organization, as described in

the "GRI Implementation Memo". The GRI Framework is designed so that any organization can complete comparable reports without expertise, though guidance and support are available. In addition to ease of use, GRI is designed to add minimal expense to any organization that already has a system in place to gather information, with extra staffing costs to gather data and prepare the report often presenting the largest expense. At this developmental stage, human resources employees, accounting employees, and other relevant data-gatherers can learn to generate data for the GRI metrics and fill out GRI reports in their initial training to learn their other on-the-job tasks. This would allow Blueseed to avoid the need to duplicate training or assign additional staff at a later date. As such, implementing GRI will be easier and more cost-effective while Blueseed is creating its internal systems than if Blueseed has to adapt existing models to accommodate these practices later in the organization's life cycle.

Implementing GRI

To: Joe Nash & The Bluseed Board

From: William & Mary, TJPPP Bluseed Team

Date: December 4, 2012

GRI is a five-step process. The first step, preparation, focuses on internal management discussions in which managers identify positive and negative economic, environmental, and social impacts they perceive as part of the project. The second step, connection, involves seeking stakeholder input on which GRI metrics should be prepared for the final report. In step three, the organization will confirm the importance of the impacts identified in step one, defining the focus of the GRI report. Having completed these three stages, the organization will then begin a monitoring phase, gathering data for the final report. GRI indicators provide a roadmap for data gathering, and GRI's "Reporting Principles" help the organization ensure high-quality data is obtained. Finally, the fifth phase is creation of the report. Once the report is completed, the organization will need to make important decisions about how best to communicate its results and market its GRI certification.

Within this broad five-step process, there are three levels of certification an organization can obtain. Level A is the most rigorous; Level C is the most flexible. In deciding which application level is appropriate, Bluseed would likely need to contact GRI's reporting services group. Bluseed should present them with a proposed index to help with the determination. To initiate the application process, Bluseed must create a Content Index that adheres to the GRI provided template, an appendix of all information sources the Index references, and a draft assurance statement declaring a commitment to achieve the self-declared application level. These materials will need to be submitted along with a €1750 application fee. Review of this initial filing will be completed within five days. Following Review, training and assistance are available as the Bluseed staff fills out and structures the formal application. This process generally takes several months for the first application, but is more rapid thereafter because of the reduced learning curve and preexisting data systems.

In Blueseed's case, the quantitative nature of the report will make a final filing impossible until the organization has selected technologies, implemented its processes, and completed a comprehensive budget, though the first three phases of Report preparation will be possible beginning at the seed stage of the organization's development. Although Blueseed could decide to undertake GRI reporting at any stage in its organizational development, early implementation is the most cost-effective option. Uniquely, almost 100% of the costs associated with compiling a GRI report are sunk costs for an organization. The only additional costs Blueseed will face are the marginal costs of gathering and organizing data on the costs and processes already in place. This is why early GRI adoption will provide Blueseed with cost savings.

The primary costs Blueseed will incur in developing the Report are the person-hours required to compile and present the data, and the application fees GRI charges. Some organizations contract out a GRI expert or consultant to manage the reporting, but many keep it in-house. Blueseed will need to assess its most cost-effective choice in this regard. The cost to have GRI evaluate the report, make recommendations for improvement, and release a final certification is an additional €12,500, plus additional costs for any supplemental filings the organization decides to undertake in addition to the primary application. The more that Triple Bottom Line and GRI are integrated into Blueseed's formation, the easier it will be to fulfill the reporting requirements, and the more likely Blueseed is to receive a high-level certification from GRI, improving the public image and marketability of the organization, and increasing the return on investment from GRI. It is easier to implement best-practices at the beginning than to have to retrofit an entire organization after less than optimal programs are already ingrained in the organizational culture. Blueseed is positioned to get the most out of GRI reporting possible, if it undertakes the GRI process now. Blueseed can adopt the mentality, strategy, and indexing process up front, but wait to complete the final application, and incur the application cost until Blueseed is fully operational and bringing in revenue, enjoying the nearly free benefits of GRI membership and participation in the interim.

For Further Information:

- <https://www.globalreporting.org/SiteCollectionDocuments/GRI-ALC-Terms-and-Conditions-2012.pdf>
- <https://www.globalreporting.org/resourcelibrary/G3.1-Application-Levels.pdf>
- <https://www.globalreporting.org/information/FAQs/certified-software-and-tools/Pages/default.aspx>
- <https://www.globalreporting.org/resourcelibrary/Starting-Points-2-G3.1.pdf>
- <https://www.globalreporting.org/SiteCollectionDocuments/CST-Pricing-Policy.pdf>
- <http://prizmablog.com/2010/06/27/what-are-cost-drivers-of-sustainability-reporting-for-first-timers/>

Systems Compliance

Blueseed will be subject to substantial constraints on its waste stream at the proposed location off the coast of San Francisco. The location is within an Emissions Control Area (ECA)² and the Monterey Bay National Marine Sanctuary (MBNMS)^{3,4}, a “no-discharge zone” (NDZ)⁵. As the most restrictive applicable compliance standards, these designations require low air emissions and zero waste discharge; Blueseed must design its system for ECA and MBNMS compliance. The following proposal is one method to achieve environmental compliance in the wake of Blueseed’s 75,000 gallons of sewage, 600,000 gallons of graywater, and 45,000 lbs of garbage generated every week.⁶

Floating Production Storage & Offloading Vessel

Waste will need to be preliminarily treated, stored, then transported for onshore final treatment and disposal. Therefore, we recommend that Blueseed convert a liquid cargo vessel into a Floating Production Storage and Offloading (FPSO) facility. FPSOs are standard in offshore oil extraction. They are made to house complication processing systems and substantial amounts of liquid. Their storage capacity and safety systems are more than sufficient to satisfy Blueseed’s needs. Bluewater⁷, BW Offshore⁸, and similar shipbuilders are capable of conversion services.

Blueseed’s FPSO will house power generation, reverse osmosis water production, fuel tanks and waste storage. Semi-submersible utility lines will connect residential vessels to the FPSO. A buoyant, offloading connection will allow for intermittent waste transport to onshore

² <http://www.imo.org/MediaCentre/PressBriefings/Pages/28-eca.aspx> (International Maritime Organization)

³ National Oceanographic and Atmospheric Administration designation.

⁴ Monterey’s City Council has banned cruise ships from visiting following waste discharge:

<http://www.nytimes.com/2003/03/06/us/monterey-bans-a-cruise-ship-over-dumping.html>

⁵ <http://www.epa.gov/region9/water/no-discharge/pdf/CaNdzMapFinal-Rule2-2-12.pdf>

⁶ Based on EPA’s survey resulted of waste/person and 1300 persons aboard Blueseed.

⁷ <http://www.bluewater.com/products.asp?refID=254&ID=255&contentID=255>

⁸ http://www2.emersonprocess.com/siteadmincenter/PM%20Articles/worldoil0709_fpso.pdf

treatment and disposal. Essentially, the FPSO will serve as a full-service utility hub for the Blueseed residential vessels.

Our team evaluated levels of compliance and corresponding technologies; however, NDZ requirements require the highest level of compliance, so zero discharge is the focus of this analysis.

Blackwater Treatment

Several sewage treatment technologies were evaluated in EPA's 2009 Cruise Ship Discharge Assessment Report (CSDAR)⁹. Type II Marine Sanitation Devices (MSDs) are typically a combination of biological treatment and chlorination or maceration and chlorination. Advanced Wastewater Treatment (AWT) generally provides improved screening, biological treatment, solids separation and disinfection, as compared to Type II MSDs.¹⁰ At the time of EPA's assessment The Zenon ZeeWeed® MBR system was the only one processing the vessel's gray water load. Blueseed will need to incorporate biological treatment and membrane filtration for compliance. According to EPA, AWTs achieve greater than 99% removal of pathogen indicators, while conventional pollutants received lower levels of removal. Although the residential vessels would be capable of waste treatment, we envision most waste being stored on the FPSO, transported to store in liquid cargo ships, then being processed at a municipal facility. This process accomplishes two goals: zero waste discharge and reduced energy consumption aboard Blueseed vessels.

Graywater Treatment

Graywater is typically discharged from cruise ships at least four miles from shore, while the vessel is underway. Blueseed will not have that option due to its stationary location in an NDZ. The solution for graywater is very similar to the treatment of sewage or black water. Residential vessels should be able to store 60 hours worth of graywater in tanks, which was the average reported to the EPA. Like sewage, graywater will be pumped to the FPSO for eventual

⁹http://water.epa.gov/polwaste/vwd/upload/2009_01_28_oceans_cruise_ships_0812cruiseshipdischargeassess.pdf This 162 page document served as a significant source of waste treatment information for our team.

¹⁰ See CSDAR Section 2.3.2

onshore treatment. Although some discharge may be permitted within the MBNMS, the National Marine Sanctuaries Act (NMSA) provides for civil penalties for permit violations and discharges;¹¹ Blueseed should not anticipate discharge permits for untreated graywater.

Solid Waste Treatment

Solid waste is typically incinerated on board and the ash is discharged into the surrounding seawater.¹² Neither ash nor any other solid waste may enter the MBNMS from Blueseed vessels. One of the largest categories of solid waste by size is dunnage (lining and packaging materials that float). Therefore, we recommend that Blueseed establish an on-shore processing center to screen potential excessive materials from reaching the vessels with food, toiletries, and other packaged goods. More preparation should be done on shore, because the reduction of incoming materials will reduce the amount of waste coming off the vessels, lowering costs.

We looked at existing transportation and distribution centers for guidance. Blueseed's port would be a hybrid of a cross-dock facility and a bulk break center. Basically, that means there will be incoming trucks on one side from numerous sources, the breaking down and repackaging of goods in the middle, then a marine transport to Blueseed on the other side. For the waste stream coming ashore, the process will be reversed: marine vessels bring in liquid and solid waste for processing, then upcycle, recycle or final disposal. This will differ from cruise ship facilities in two ways. First, Blueseed will be in constant use of the facility, instead of intermittent use by cruise ships. Second, Blueseed residents will have substantially more individualized needs as compared to a typical cruise passenger due to their extended residence; therefore, the advantages of standardized, incoming deliveries will not be available to Blueseed.

On board, solid waste treatment and recycling methods are consistent across the current generation of cruise ships. Instead of pursuing innovative technologies, Blueseed should redevelop the perspective given to solid waste. If viewed as a loss of resources, waste streams

¹¹ See CSDAR Section 3.2.3

¹² According to the Alaska Department of Environmental Conservation, 75-85% is incinerated and some is landed ashore. See CSDAR Section 5.

acquire a new, or at least an increased, value. Organizations like Terracycle work with clients like Blueseed, to develop rewards programs for targeted recycling. However, this type of participatory recycling does not happen without incentives. Perhaps recycled items could be exchanged for credits towards on-shore visits or redeemable for donation credits. Regardless of the method of disposal or recycling, no solid waste shall be discharged within MBNMS. Blueseed could look to examples like Use EPA's WasteWise¹³ or Recycle on the Go¹⁴ as governance tools for responsible waste stream management.

Hazardous wastes include chemicals, photo and medical wastes, fluorescent lights, paints, aerosols and are defined in the Resource Conservation Recovery Act (RCRA). As expected, discharge of hazardous waste is strictly prohibited in National Marine Sanctuaries. Blueseed will need to sort, store, transport and dispose of hazardous wastes ashore.

Combined Heat & Power Generation

In addition to waste treatment and storage facilities, the FPSO could also serve of Blueseed's power plant. The residential vessels will have increased flexibility regarding their space utilization if auxiliary power can be generated off the vessel. We recommend that Blueseed locates a combined heat and power (CHP) facility on the FPSO. There are several advantages to centralized power generation on the FPSO. First, these types of vessels were designed for petroleum storage (and emergency clean-ups), and Blueseed will require a constant amount of petroleum feedstock. Second, the FPSO could be attached to several residential vessels at the same time for greater improvements of energy generation for the Blueseed fleet. Third, co-locating major energy using-systems like reverse osmosis water production, wastewater treatment and energy generation segregates maintenance and residential activities to separate vessels. This segregation reinforces the idea that the FPSO will serve as Blueseed's municipal utility hub.

Given the upcoming emissions reductions with MARPOL Annex VI, Blueseed will need to invest in low-sulfur and low-GHG fuel sources. One viable option could be liquid natural gas (LNG), the clean burning alternative to diesel. There are, however, some obstacles to LNG. One

¹³ <http://www.epa.gov/epawaste/consERVE/smm/wastewise/index.htm>

¹⁴ <http://www.epa.gov/wastes/consERVE/tools/rogo/program/index.htm>

is the existing availability in the region: regular refills to the FPSO would be required to keep Blueseed powered; however, LNG port facilities and transport ships are not at the level that would be required for Blueseed. STX Europe, among others, has developed LNG-powered ships and supports its mission of corporate responsibility by pursuing contract for low-emission vessels.¹⁵ The tide is turning away from diesel and towards LNG, and Blueseed may be able to partner with marine energy consultants to lead the pack of LNG vessels.

Further Information

- A. <http://www.epa.gov/otaq/oceanvessels.htm#north-american> (EPA – Vessel Emission Regulation)
- B. http://water.epa.gov/polwaste/vwd/cruise_ship_disch_assess.cfm (EPA - Cruise Ship Discharge Assessment)
- C. <http://www2.cruising.org/industry/PDF/CLIAWasteManagement.pdf> (Cruise Lines International Association – Waste Management)
- D. <http://www.epa.gov/otaq/regs/nonroad/marine/ci/420f11025.pdf> (Energy Efficiency Design Index)
- E. <http://www.ship-technology.com/projects/eoseas-concept-cruise-ship/> (STX Europe Concept Cruise Ship)
- F. http://water.epa.gov/lawsregs/lawsguidance/cwa/vessel/unds/surfacebilge_index.cfm (EPA - Bilgewater Treatment)
- G. <http://www.cdc.gov/nceh/vsp/ConstructionGuidelines/constructionguidelines.htm> (CDC - Vessel Sanitation Program)
- H. <http://www.dieselnets.com/standards/inter/imo.php> (IMO - Marine Engine Regulations)

¹⁵ <http://www.skipsrevyen.no/nyheter/135252.html>

Community Outreach

Community outreach is the consistent theme and inevitable outcome of efforts toward sustainability and environmental compliance. By viewing the organization through the lens of triple bottom line and demonstrating sustainable governance through the Global Reporting Initiative, Blueseed will build a solid foundation for community outreach. Although Blueseed has clearly demonstrated support from investors and entrepreneurs, there are crucial stakeholders within the local community who will be just as influential on Blueseed's success.

Blueseed should engage these institutional stakeholders in the exact same way they would want to be approached as a start-up. However, the business jargon stays at the door, and connections should be made on the basis of shared passions. If the Blueseed team takes an approach of humility and active listening, then the concerns of the marine community will become apparent. Blueseed needs to understand and appeal to these constituencies' driving passion – be it research, conservation, or aesthetic enjoyment. Marine research institutes should be offered lab areas and housing onboard Blueseed vessels. Non- marine research institutions could be offered access to Blueseed residents for ethnographic research.

Our stakeholder summary includes stakeholders which have not been pursued by Blueseed, as far as we could determine. By locating in a National Marine Sanctuary, Blueseed will attract substantial attention and opposition, so we have included two of the preeminent marine research institutions. As a collection of some of the brightest international minds, Blueseed may be able to offer the Monterey Institute for International Studies a gem of ethnographic research. The network of stakeholders applicable to the Blueseed project is interconnected through research institutions, local government, and regulatory commissions.

Every conversation, decision, and process should be governed with the following response as the driving force: "Welcome to the neighborhood." To spark this response, Blueseed will need to listen to concerns, employ GRI and fully compliant systems, and engage the community on the same level as investors and entrepreneurs. The level of engagement should be focused on senior local representatives and connectors within the community.

Reasons for Community Outreach

- Blueseed is looking for allies and good neighbors by being a good neighbor itself. The local community has the power and energy to oppose Blueseed if they are not convinced to ally with the Blueseed organization.
- Blueseed can benefit by establishing a relationship with knowledgeable, and potentially helpful, local stakeholders.

Support the Blueseed Project

- Blueseed will listen to concerns and offer constructive solutions.
- Tell these local partners about anticipated TBL practices and the organization's intent to file a GRI application (our GRI report can serve as evidence).
- Blueseed will demonstrate research of the Monterey Bay National Marine Sanctuary, and set a standard above applicable compliance laws. Zero discharge means zero discharge.
- Blueseed can be a good neighbor by taking the initiative to reach out to them, and to do so before the project is even underway.
- Blueseed may be able to offer Scripps Institution of Oceanography and/or Stanford's Hopkins Marine Center research laboratories, monitoring stations and boat docking on the ship.
- Blueseed can prove it understands the possible environmental impacts of activity within MBNMS by illustrating knowledge of the applicable NEPA environmental statement.

Monterey Bay National Marine Sanctuary

Mission Statement: To understand and protect the coastal ecosystem and submerged cultural resources of central California.

The Monterey Bay National Marine Sanctuary (MBNMS), designated in 1992, is a Federally protected marine area offshore of California's central coast. Stretching from Marin to Cambria, the MBNMS encompasses a shoreline length of 276 miles and 6,094 square miles of

ocean, extending an average distance of 30 miles from shore. At its deepest point, the MBNMS reaches down 12,713 feet. It is the nation's 11th Marine Sanctuary, and the largest.

To assure continued public participation in the management of the Sanctuary, the MBNMS Advisory Council was established in March 1994. It has played a vital role in the decisions affecting the Sanctuary along the central California Coast. Some of the major issues the Advisory Council has addressed are Oil & Gas Exploration, Cruise Ship Discharges, Vessel Traffic Safety, Water Quality Protection Program (WQPP), etc....

Contact info:

- General Sanctuary Information – (831) 647-4201 montereybay@noaa.gov
- Jacqueline Sommers – Sanctuary Advisory Council Coordinator – (831) 647-4206
jacqueline.sommers@noaa.gov
- Scott Kathey – Public Relations and Outreach – (831) 647-4251 scott.kathey@noaa.gov
- Karen Grimmer – Resource Management Issues – (831) 647-4253
karen.grimmer@noaa.gov

Scripps Institution of Oceanography

Mission Statement: To seek, teach, and communicate scientific understanding of the oceans, atmosphere, and Earth for the benefit of society and the environment.

Scripps Oceanography was founded in 1903. It became part of the University of California in 1912. Today, Scripps is part of UC San Diego, and has become one of the world's oldest, largest, and most important centers for ocean, earth, and climate science research, graduate training, and public service. The Scripps campus is situated on 170 acres of shore and hillside along the California coast in La Jolla. Other specialized facilities, including the institution's ship facility on San Diego Bay, are located throughout San Diego County and Southern California.

Among the hundreds of research programs under way at Scripps, many are linking discoveries in one subject to advances in other disciplines. This approach is now being applied to how the physical environment affects life systems and to aspects of global change, ocean pollution, and marine resources. This multidisciplinary approach may make Scripps particularly

receptive to a partnership with Blueseed. However, Since Scripps Director, Dr. Tony Haymet, is on sabbatical until June 30, 2013, we recommend Blueseed not contact Scripps until he returns.

Contact info:

- General Questions: scrippsnews@ucsd.edu or call 858-534-3624
- <http://sio.ucsd.edu/Research/People/> (access to researchers, faculty, post-docs, project scientists and graduate scientists)

Stanford: Hopkins Marine Station and Woods Institute of the Environment

The Hopkins Marine Station was established in 1892 on the shore of Monterey Bay. It is integral to marine research and to local marine conservation. Although the program has a global reach academically, it focuses its effort on the local ecosystem. The Hopkins Marine Station faculty and staff are actively involved with various relevant marine stakeholders ranging from the California Coastal Commission to the Monterey Bay Aquarium. Hopkins also serves as a hub for lectures and excursions, in which Blueseed could participate. As a “Friend of HMS”, Blueseed could partner with research on the impacts of sea-steading on the local ecosystem. Blueseed could also offer a general research platform for students and faculty alongside the international entrepreneurs.

Contact info:

- Stephen Palumbi, Director of Hopkins Marine Station: (831) 655-6210;
spalumbi@stanford.edu

Naval Postgraduate School

Located in view of Monterey Bay, the Naval Postgraduate School (NPS), founded in 2002, is an academic military institution focused on national defense. It is important to establish to them that they have no reason to feel like Blueseed is a threat to National Security. Blueseed’s environmental record will likely matter less in the eyes of this institution because it’s primarily concerned with homeland security. Much of the research done at NPS is more related to airspace than water.

Blueseed offerings to NPS could include: a lookout tower for national defense purposes (which would also increase Blueseed's security), the opportunity for NPS to run field courses on certain dates, and some form of helipad access granted to NPS. These motions would be received as friendly, forging a sense of community between the Naval Institution and Blueseed, but are unlikely to be utilized by NPS because they have their own ships.

Contact info:

- Research Department: 831-656-3241/2098.
- Naval Research Lab: 831-656-4721
- Center for Educational Design, Development and Distribution (CED3) Training/Events:
CED3TrainingEvents@nps.edu
- CED3 Director: CED3Director@nps.edu

Monterey Institute for International Studies

Located several blocks from NPS, and a partner of NPS, the Monterey Institute for International Studies (MIIS) is situated within shouting distance of the bay. MIIS focuses on international studies, but also has a research facility called the Center for the Blue Economy (CBE).

The CBE aims to promote coastal and oceanographic sustainability through research. MIIS is devoted to the study of languages and cultures. Because Blueseed will have such a wide range of ethnicities on board, the boat's population could serve as an opportunity for surveying, interviewing and data collection for masters' students at MIIS. Perhaps Blueseed could agree to distribute information about optional surveys or classes to residents aboard the ship.

Contact info:

- General info: info@miis.edu
- Faculty database: <https://web.middlebury.edu/database/directory/Miis.aspx>
- CBE Program Director (Monica Galligan): mgalligan@miis.edu

- The staff advisory team works with the faculty at MIIS. They lead staff meetings so it may be possible to pass information to faculty or students through them:
<http://blogs.miis.edu/staff/about/current-team-members/>
- List of partner organizations (perhaps a mutual partner exists):
<http://www.miis.edu/about/partnerships>

California Coastal Commission

Mission Statement: Protect, conserve, restore, and enhance environmental and human-based resources of the California coast and ocean for environmentally sustainable and prudent use by current and future generations.

Background: “In 1972, alarmed that private development was cutting off public access to the shore, Californians rallied to ‘Save Our Coast.’ They declared by voter initiative that ‘it is the policy of the State to preserve, protect, and where possible, to restore the resources of the coastal zone for the enjoyment of the current and succeeding generations.’ The initiative created the California Coastal Commission to make land use decisions in the Coastal Zone while additional planning occurred.”

“New development in the Coastal Zone that requires a permit from the Coastal Commission or the appropriate local government includes the placement of any solid material or structure; a change in land use density or intensity (including any land division); change in the intensity of water use or access to water; and removal of major vegetation.” The California Coastal Commission (CCC) has an oil spill program working to prevent spills in the coastal zone.

Although CCC’s jurisdiction is limited to three miles offshore, Blueseed should engage this stakeholder as if their jurisdiction covered Blueseed. The CCC’s members are well connected to the local research community and regulatory agencies, Blueseed’s ultimate target collaborators.

Contact Info:

- Jana Zimmer – Assembly Speaker Appointment – zimmerccc@gmail.com
- William Burke – Assembly Speaker Appointment
- Dayna Bochco – Senate Rules Committee

Steve Blank – Governor’s Appointment

Brian Brennan – South-Central Coast Representative

- Commissioner list: <http://www.coastal.ca.gov/roster.html>
- Commissioner biographies: <http://www.coastal.ca.gov/bios.html#Burke>

For Further Information

Monterey Bay National Marine Sanctuary:

- <http://montereybay.noaa.gov/welcome.html>
- <http://montereybay.noaa.gov/intro/advisory/advisory.html> (MBNMS Sanctuary Advisory Council)
- <http://montereybay.noaa.gov/intro/contact.html> (More contact info)
- <http://www.epa.gov/SoCal/nepa.html> (NEPA)
- <http://ceq.hss.doe.gov/nepa/regs/states/detail.cfm?StateID=5> (where to request NEPA information)

Scripps Institution of Oceanography:

- <http://sio.ucsd.edu/>
- <http://sio.ucsd.edu/Research/> (Research programs)
- <http://sio.ucsd.edu/Research/Ships/> (Scripps ships)
- http://sio.ucsd.edu/About/Scripps_Overview/Contact_Scripps/ (More contact info)

Stanford Hopkins Marine Station

- <http://palumbi.stanford.edu/books.html#death> (Director Palumbi’s book: *The Death & Life of Monterey Bay, A story of Revival*)
- <http://www-marine.stanford.edu/friends.html> (Friends of HMS)

Naval postgraduate school:

- <https://maps.google.com/maps?hl=en&ie=UTF-8&q=naval+postgraduate+school+research+monterey+bay&fb=1&gl=us&hq=naval>

+postgraduate+school+research+monterey+bay&cid=0,0,2429961563426643411&ei=2yOyUNzDMuPI0QHqICQCw&ved=0CHUQ_BlwBA

- B. <http://www.nps.edu/>
- C. <http://www.chds.us/>
- D. <http://www.nps.edu/Academics/Schools/GSEAS/Departments/MAE/Academics/SpecialTracks/AST/ResearchThesis/ResearchThesis.html>
- E. http://www.nps.edu/Academics/Schools/GSOIS/Departments/OR/Research/Projects/OR_Research.html (Detailed list of NPS projects)
- F. <http://www.chds.us/?research>
- G. <http://www.nps.edu/Academics/Institutes/Meyer/Research/Researc.html#A>
(Strategy for Dealing with Islamic Terrorists)
- H. <http://www.nps.edu/research/UniqueResFacilities.html> (List of research facilities used by NPS)
- I. <http://www.nps.edu/About/NPSInfo/directory.html>

Monterey Institute for International Studies

- A. <http://www.miis.edu/about/monterey>
- B. <http://www.miis.edu/academics/courses/university-partnerships>
- C. <http://www.miis.edu/academics/researchcenters/blue-economy/about/people/mgalligan>
- D. <http://www.miis.edu/about>

California Costal Commission

- A. <http://www.coastal.ca.gov/whoweare.html>
- B. http://www.coastal.ca.gov/publiced/Comm_Brochure.pdf
- C. <http://www.coastal.ca.gov/fedcd/faq-fc.html>
- D. Application form and the appeals form if Blueseed needs to deal with CCC:
(Application) <http://www.coastal.ca.gov/cdp/CDP-ApplicationForm-scc.pdf>
(Appeals) <http://www.coastal.ca.gov/cdp/CDP-AppealForm-scc.pdf>
- E. Full list of regulations can be found here: <http://www.coastal.ca.gov/coastact.pdf>;
<http://www.coastal.ca.gov/climate/whyinvolved.html>

- F. Here are the exemptions and the exemption request form (no exemptions seem applicable to Blueseed): http://qcode.us/codes/capitola/view.php?topic=17-17_46-17_46_050&frames=on;
http://qcode.us/codes/malibu-coastal/view.php?topic=local_implementation_plan-13-13_4&frames=on; http://www.coastal.ca.gov/cdp/Exemption_Request_Form_SCC.pdf