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Trash Talking

Exploring Marine Debris on the Andaman Coast, Thailand

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Water pollution and marine debris (marine litter) are common topics in Phuket... Styrofoam, rubber slippers, 'single-use' plastic bags, fishing gear... it's all floating around in the Andaman sea just waiting for the Southwest Monsoon winds to deliver it to a beach near you.

Marine debris is a practical term for trash or rubbish introduced to the ocean environment. Trash and debris along Thailand's western coastline adversely affects the image and quality of the overall beach experience, especially for surfers. In a sense, marine debris is the result of a crime, and a polluted beach is a crime scene. It is a crime against tourism, the environment, our health, our economy, and the surfer. As surfers, we have an intimate relationship with water pollution—water gets in our ears, up our noses and sometimes even swallowed. The following article is a brief investigation into the origin of marine debris in Phuket and was conducted from 2007 to 2011; specifically, it is the result of a study of single-use plastic bags and food wrappers.

Marine debris has a story to tell; it indicates that people have been careless and may provide clues as to where it came from, local or otherwise. Beginning in April 2007, I collected plastic bags along the west coast of Phuket while surfing. Marine debris is like a familiar face in the water, bobbing around here and there, clasp around our legs and surf leashes, creating a nuisance, an eyesore, and an obstacle to our sport.

General Observations

Surfing aside, from a purely research-based point of view, I participated in various beach clean-ups and conducted any number of interviews with Phuket residents and tourists alike. Here are a few examples of comments attesting to this issue:

- "It's too bad about the trash, I noticed it immediately—it hit me in the face as soon as I got off the plane and walked on the beach at Nai Yang."
- "There is so much trash! It gets wrapped around your legs and your surfing leash when we are trying to surf; it's disgusting."
- "There is really a lot of trash after a major storm."
- "Phuket has a real problem with 'storm trash'—I had no idea about this problem before coming here."
- "Tourists come to Thailand to experience the environment, and the presence of marine debris and plastics in the sea is aesthetically and environmentally critical."



Kalim Beach—2011

Eyewitness Accounts

Although interviews with Phuket residents regarding how, why, or where, the rubbish originates offer only provisional results, a number of hypothesis emerged from eyewitnesses, including the following:

- During periods of high tides and heavy rains, debris are flushed from local canals and are carried out to sea, returning with the waves and tides to the Andaman's west-facing coastlines.
- Materials are carried out to sea and dumped by local fisherman.
- Materials are carried up from the Straits of Malacca by the dominate ocean currents and wind patterns.
- Large Indian Ocean storms transport the rubbish to the Thai coast.
- Boats passing in the outer shipping lanes are dumping these materials.
- Local beach businesses are somewhat responsible.
- Picnickers and beachgoers, including tourists, are somewhat responsible.
- Materials are dumped in the sea from workers at construction sites.
- Cruise ships pay local Thai companies to dispose of their rubbish when they come to Phuket, however these companies may be dumping the refuse at sea rather than on land as required.
- "While off shore on a small boat I saw a large ship (I believe it was Indonesian) throwing enormous amounts of trash/garbage overboard."



Nai Yang Beach—2011

Unwitting Opinions

Somewhat jokily in approach, I interviewed hundreds of beachgoers (Thais, foreign residents, and tourists) with the simple question: "Gosh, I wonder where the trash in Phuket waters is actually coming from?" The following shortlist may indicate a number of conjectures:

- "It all comes from India."
- "It all comes from Myanmar."
- "It all comes from the Straits of Malacca."
- "It all comes from tourists."
- "It all comes from boats."
- "Cruise ships are dumping all the trash."
- "All the trash comes from the klongs (canals)."
- "Half of the trash comes from the locals."
- "It comes from Thailand, Indonesia, and Burma."

The purpose of asking simple, open-ended questions was to gauge public opinion and to establish a basis for further research; it also served to indicate that many individuals have not made any effort to look closely at the debris or the wider issue.



Tourism Professionals

More experienced accounts for the origin and nature of rubbish in Thai waters and beaches came from Phuket tourism professionals who reported the following comments:

Surfer Luke Remmers theorizes that materials coming from far offshore appear degenerated and algae-covered due to the extended time at sea, whereas materials originating from local canals and fishermen appear newer and were quite recently introduced to the environment: "During the early part of the monsoon season the trash is mainly from local sources, but as the large storm systems come up from the south later in the season, they bring the foreign garbage which may have barnacles stuck to it." Remmers spent several days in September 2008, with the support of five Thai youth, collecting trash washed in at high tide in the Bang Tao Beach area; they collected approximately three-hundred cubic gallons of rubbish and reported that ninety-eight percent of the material was of Thai origin and appeared identical to materials used at local construction sites. He also witnessed Burmese work camp residents (in the Bang Tao area) dumping rubbish in tidal areas.

Mr. Mueller, the General Manager of Marriott's Courtyard Hotel in Kamala in 2009, believes that "The rubbish originates from three sources: local businesses, picnickers [park users], and the trash that washes in from the sea." He added, "Once I was showing a potential client the beach, it was so dirty [with rubbish] that it was embarrassing. We need a system in place to manage the issue, such as adequate trashbins and timely removal. Often the trash is left in bags near a full trash can overnight and dogs may tear it up and spread the trash around again."

Michelle Williams, previously with the Mai Kao Turtle Foundation, who has initiated beach clean-ups since 2004, has witnessed how the primary source of the marine debris is the "Careless rubbish disposal by people on boats and on the beach."

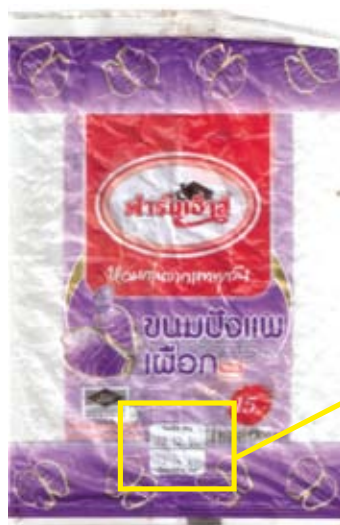
Matt Blauer has observed that in the case of Phang Nga Province, most of the trash with Thai labeling originates from local villages located inland and is eventually washed down to the ocean and the beach after heavy rains; rather than people intentionally throwing trash directly on the beach.

Hiro Tachiban, managing director for Tokonatsuya Co. Ltd., which organizes surf travel for Japanese clients to Phuket said, "Over the years, many customers are surprised at the amount of marine debris, especially plastic bags that are in the surfline and washed up on the beaches."



Analysis of Plastic Food Wrapper Labels

The plastic bags and food wrappers identified in this study were plucked from the sea while surfing. Overall, they were mainly small packets of 'ready to eat' or 'instant cooking products', such as instant noodle or coffee packages. Also, approximately 9% of the plastic bags with Thai labeling were from dishwashing soap, laundry detergent, or fabric softener. Identified in the study, were plastic bags with Thai, Bahasa Indonesian, Malay, Burmese, and Hindi labeling. In some cases, plastic bags with manufacture dates were cross-referenced with the dates in which they were fished from the sea or washed upon the beach in order to identify the lag period between the sales or expiration date of the item, its entry into the sea, and to estimate the potential duration at sea. However, these results were inconclusive as further research is necessary to provide decisive results.



- Marine debris fished from the surfing area at Kata Noi Beach on November 1, 2008.
- Manufacture Date: December 22, 2007
- Expiration Date: December 28, 2007

Surfer Matt Blauer, located in the Khao Lak area during August and September 2008, identified the labeling on trash and reported that writing was again predominantly Thai. Other informants had similar findings in regard to the rubbish being of Thai origin. An exception to the researcher's independent findings include, for example, a beach cleanup alert posted by the Phuket Boardriders website in late August 2008 when the trash collected was predominantly from Indonesia.

Although examining the labels on food wrappers may offer only anecdotal evidence to the exact origin or place of entry into the sea, it is nonetheless a significant indication as to the potential source. Statistically, single-use plastic bags and wrappers on the Andaman Coast are Thai in origin (74%), rather than from foreign sources, with Indonesian (6.5%) and Malaysian (3.5%) in second and third place respectively.

Analysis of 1,127 Food Wrapper Labels

Percentage	Language	Potential country of origin
74%	Thai	Thailand
6.5%	Bahasa/others	Indonesia
3.5%	Malay/others	Malaysia
2%	Burmese/others	Myanmar
1.5%	Hindi	India
12.5%	Unidentifiable	Unidentifiable



Hindi—India



Kamala Beach Cleanup—2009

Concluding Thoughts

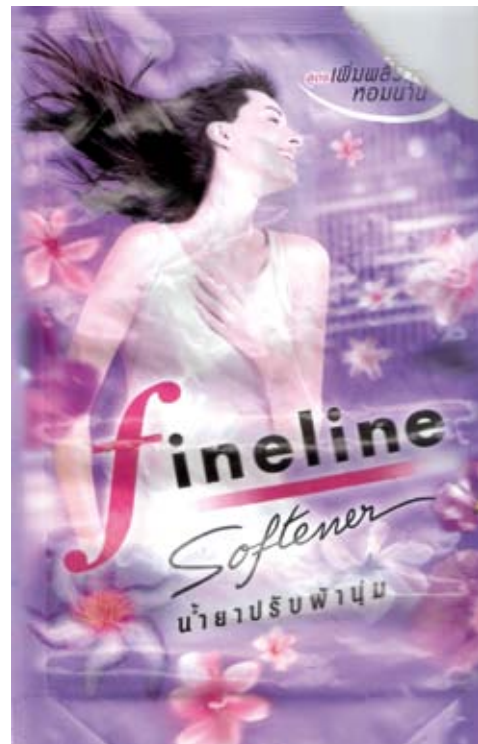
Marine debris is an discernible issue during the Andaman surf season; it may also be viewed as a crime against tourism, the environment, our health, our economy, and the surfer—and Phuket beaches may indeed resemble a crime scene after a few days of monsoon wind and wave activity. It is somewhat unconscionable the amount of trash in the Andaman Sea and we only get a dose of it when the sea inevitably 'pukes up' a batch of it on our west coast beaches. However, the trash talks to us; it is encoded with messages of where, when, and potentially who is behind the needless pollution. It inevitably tells us that individuals are responsible through the careless disposal of plastics.

The most commonly identified marine debris found on Phuket beaches are as follows: plastic bags; plastic lighters; rubber slippers; plastic straws; plastic wire; plastic water bottles; fishing lines, nets, and baskets; plastic and metal bottle tops; 'ya dom' (nasal inhalers); cans; syringes; plastic toys; and cordage (thin ropes and strapping materials); and discarded light bulbs from squid fisher boats.

Overall, with the advent of single-use plastic bags, a fundamental problem was born, one that will inescapably plague our coasts for the decades ahead. The shift from using natural materials, such as banana leaf to wrap food products for local consumption, and the movement toward instant and ready-to-eat food products (7-11-ism), comes at an immeasurable price to the environment.

Although this short article has not addressed the social behaviors behind the issue, nor has it offered any solutions, it does serve to raise awareness for further discussion and to spark our readers to take a closer look at the marine pollution affecting our coastal surfing resources and the quality of our surfing experience.

Please comment on this topic on our online forum at www.thaisurfrider.com. This study is on-going and we are happy to receive your mail, comments, insights, photos, and research.



Thai Fabric Softener



Burmese—Myanmar



Thai Instant Coffee

