

CIGARETTES

7900 Cigarette butts were piked up by one resident from January to July 2020.

This does not count the cigarette packaging, which includes clear film which almost always washes out to be eaten by marine life.



No.1 most littered item

Cigarettes are the number one most littered item in the world, despite non-smoking bans on beaches and public areas.

Butts are a major concern for the health of San Diego County beaches. They are non-biodegradable and leach toxins, dangerous chemicals, and carcinogens into the water, poisoning marine life and beach goers alike. They also move with ease through city storm-water systems, entering roadside storm drains and traveling miles underground through conveyance infrastructure to outfalls along the coast. Because storm-water is untreated, littered butts from all over the county find their way to the beach eventually.

This plastic is uniquely dangerous because it most often contains trace amounts of the carcinogenic chemicals in the original cigarette. When the plastic additives, absorbed nicotine, and trace heavy metals (such as lead and arsenic) leach from cigarette butts; they become integrated in the chemical composition of the surrounding seawater. Once ingested by marine life, these microplastics pose physical and biochemical risks that can kill marine organisms and/or bioaccumulate along the food chain. Ultimately, these adverse effects impact humans through seafood consumption and the associated water pollution.

Of the six trillion cigarettes smoked worldwide each year, an estimated 4.5 million butts are tossed directly into the environment. In the United States, "smok-

ing-related debris" make up over one-third of all the anthropogenic waste found on beaches, and in rivers and streams. [Cigarette Butt Pollution Project]

Not So Fun Fact

Fragments of cigarette filters have been found in 70 percent of seabirds and 30 percent of sea turtles, The are not biodegradeable. They're made from cellulose acetate, and this does degrade in the presence of UV light but they send arsenic, benzene and lead into your food source.

Fun Facts

Cigarettes can be repurposed into Surfboards, fins, clothing and art projects. South Korea is working on a program to recycled filters to make energy Playa De Carmen Mexico has launched a cigarette recycling to make pots. Terracycle has a Cigarette Recycling program. Smoking on beaches, parks and parking lots is illegal and subject to fines. \

Cigarettes can be recycled!

<https://www.terracycle.com/en-US/brigades/cigarette-waste-recycling>

TOYS

1714 Discarded toys were picked up from the beach from January to July last year a record 4010 discarded toys were picked up, cleaned and donated to charity.



Breaking the Myth

It is NOT OK to leave your beach toys on the beach for others. No one will pick up and reuse your previously used toys. In reality these toys kill marine animals. The cheap brightly colored plastic toys break easily and fish consider them food and eat them. The beaches are strewn with bright colors of hard plastic.

All toys are easily lost in the sand, drifting away in the tide, stomped on, broken up. Most toys are not seen and run over by trucks.

We pick up thousands of toys on the beach. Most of those fun and colorful toys all come with plastic packaging comprising 4 items: 1 large plastic net, 2 piece 'clip' closure and a paper label. Most of these toy bundles include 5 plastic toys. All of this ends of finding its way onto the beach.

Because many pieces are small, they are easily lost in the sand. The netting alone can choke and entrap fish. Can you imagine how easily these small plastic pieces could be swallowed by a sea animal? Wonder what those ridges would do a stomach?

So many of these cheap toys come with tiny breakable parts. Worse yet, people will walk right over a brightly colored plastic beach toy in the tide line.

They don't pick them up because they assume a child was playing with them and will return. They rarely do. And so the toys become dangerous to marine life.

Not So Fun Fact

Beach toys are found on beaches all over the world
Beach toys have been found in whale's stomachs.
The most beach toys found in Mission Beach in one day: 342

Recycle Facts

Beach Toys are recyclable and can be tossed in San Diego's Blue Bins.
Many Toys are easily donated to most charities.
Toys have been reused in many art pieces.

What you can do

Stop buying plastic and disposable beach toys
Only bring big and bright colored items to the beach.
Action toys, little doll accessories, little dolls, army soldiers are lost on the beach. Leave them home.
Use metal kitchen gear instead of plastic digging toys.
Pick everything up when you leave the beach.

PERSONAL TRASH

5200 Personal items were left on the beach last year. Sunscreen is the most dangerous, it is toxic to coral reefs. The plastic pieces are consumed by marine life.

Who would have thought

That one would find Contact Lenses, razors, feminine hygiene bags, brushes, combs, deodorant, toothbrushes, toothpaste, dental floss and cosmetics on the beach? While this doesn't make up a huge amount of overall trash, it is picked up everyday.

Condoms, tampons, shampoo, lotion, sunscreen, hair dye, soap, ear plugs, band-aids, diaphragms, dirty diapers, lip balms, cosmetics, toothbrushes, flosses, toothpaste, retainers, aspirins, medical cleansers, hand sanitizers, wet ones . These small items litter the beach to the tune of about 25 per day in one mile of beach.

All are encased in plastic and are easily eaten by animals. The Personal care industry's is huge. It reportedly creates a 120 billion units of packaging every year. Many cosmetics contain tiny plastic fragments, called micro plastics, are showing up in dead larval fish.

Fish eat up blue plastic the most. "About 75% of the ones that we're finding are blue, which is consistent with what researchers are finding in other species," according to the National Oceanographic Institute.



Not So Fun Facts

The worst Personal Care product is Sunscreen

14,000 tons of sunscreen collect in the world's reefs each year and is the most dangerous.

oxybenzone and octinoxate, two of the most common sunscreen ingredients are also toxic for corals

90% of all reefs will be dead by 2050, and sunscreen could play a huge part in that on top of climate change and other stressors.

The plastic microbeads that the beauty industry added to products for years are collecting in the oceans and killing fish. Microbeads were officially banned from sale in the U.S and other countries.

Fun Facts

Coral reefs cover less than 1% of the ocean but are home to almost 25% of all known marine species!

Corals are in fact animals, not plants.

Coral reefs are the largest structures on earth of biological origin.

Coral reefs also promote better water quality. The plants, animals, and organisms act as a filter, trapping debris that makes the surrounding environment cleaner.

VAPING & DRUGS

1050 items of vaping and drug paraphernalia have been picked up from the beach and surrounding streets from January to July.

Who would have thought

With the legalization of cannabis and vaping, Drug and Tobacco litter has increased. Manufacturer Juul, saw its sales increase nearly seven-fold between 2014 and 2017." Today, more than 10 million Americans use e-cigarettes and much of that litter including e-cigarettes and packaging is left on the beach. Add in Syringes and other drug paraphernalia it adds up. Because this is relatively new category, beach clean ups are just starting to track drug-vape-waste.

Also new is the recreational use of Whippits -AKA Nitrous Oxide or "laughing gas." These metal bullets are strewn all over the beach, the use of this drug has grown over the years.

Emptied pods, also known as cartridges, contain residual nicotine, propylene glycol and benzoic acid, while vape pens, the battery-operated e-cigarettes that heat the fluid for vaping, contain lead and mercury that can leach into soil or sand.

Non-biodegradable cartridges also pose choking hazards for small children and animals, and endanger ocean creatures that inadvertently consume the plastics

Plastic Cannabis packaging is everywhere and strewn on beaches, streets and parking lots. The packaging is colorful and attractive to animals AND children.

In July 2020 alone, more than 54 vaping devices were picked up on one mile of the beach in South Mission Beach. This does not include the packaging and cannabis litter.

Senate Bill 8 passed in October 2019, making smoking and vaping is prohibited in most areas in California state parks and beaches. Following the installation of signage, people can be fined for leaving tobacco waste in state parks, unless disposed of in an appropriate waste receptacle.



BOTTLE CAPS

1790 Bottle caps were picked up in Mission Beach from January to July. Last year, 35,712 bottle caps were recovered from California alone.

The scourge of the beach

Bottle Caps are the #4 most littered item in beach clean ups. In 2019 1,390,232 Bottle Caps were picked up globally on Coastal Clean Up Day. 35,712 Plastic Bottle caps just in California alone.

From Jan 2020 to July 2020 1790 plastic bottles caps in South Mission Beach. We estimate that this is 1% of all the bottle caps left on the beach.

Bottle caps especially white or clear are easily lost in the sand and washed away by the tides. Beach Clean machines can easily bypass small bottle caps, which then get ground further in the sand or eaten by marine life, especially birds.

Death By Plastic

Eating bottle caps can give turtles a condition called "bubble butt" - turtles that float as a result of trapped gas caused by harmful decomposition of marine debris inside a turtle's body. The gases cause the turtle to float, which leads to starvation or makes them an easy target for predators.

Albatross and the like feed colorful plastic bottle caps to their chicks, thus killing them. Besides easy to be broken down into microplastics, the caps are small enough to be swallowed whole by animals such as birds, suffocating or hurting their intestines in the process.



Not So Fun Fact:

Record: 600 Bottle Caps were picked up in one day after a high tide in south mission beach

Consumers leave behind 80% of the plastic bottle caps on the beach

Plastic bottle caps are among the top 5 ocean trash items that are deadly for sea life

Bottle Caps are easily washed down storm drains and then off to sea.

Municipalities often limit the materials they accept for recycling because of the cost associated with sorting. Bottle caps are usually made from a different type of plastic than the bottles they seal shut. While most plastic water bottles are made of polyethylene terephthalate (#1 PET plastic), most bottle caps are made from polypropylene (#5 PP plastic). PET has a melting point of almost 500° Fahrenheit, whereas PP will melt at only 320° Fahrenheit; this difference in melting points means that the two materials must be separated from one another prior to being melted down for reuse.

FABRIC AND TEXTILES

Over 988 pieces of clothing, 509 Shoes, 434 Towels, sheets, blankets, were found on the beach in South Mission Beach on the ocean in just a one mile area.

Throw in the towel.

Do you know that clothing has been found in dead Whales stomachs? Fabrics and textiles leak both micro plastics and toxic ingredients and are known killers to marine life. From January 2020 to end of July 2020

Over 988 pieces of clothing, 509 Shoes, 434 Towels, sheets, blankets, were found on the beach in South Mission Beach on the ocean - 1 mile. That averages to about 9 pieces per day. We estimate that this is about 20% of the Fabric items left on the beach in South Mission Ocean.

All Fabric items can be recycled or reused.

The tide washes away and the beach cleaners have to stop and pick up. Fabrics get 'sanded over' only to leak toxic ingredients into the ocean and your food source. Sandy towels attract flies and other pests.

The top items found

Towels
Sheets
Pillows
Pillowcases



Blankets
Shoes
Underwear
Clothing
Scarves
Hats
Backpacks

Leather shoes can take 24 to 40 years to decompose while rubber soles can take as long as 80 years! Shoes are 100% recyclable.

Fun Facts:

2017, 11.2 million tons of textile waste ended up in landfills, according to data from the Environmental Protection Agency.

According to the World Resources Institute, it takes 2,700 liters of water to make one cotton shirt.

Over 8,000 chemicals are used to turn raw materials into clothing.

BOOGIE BOARDS

An average day in South Mission Beach Oceanfront one can pick up 10 Boogie Boards and parts laying in the sand and or drifting out to sea.



Cheap but really Expensive.

Cheap, single Day-Use Styrofoam boards are one of the most common types of litter left on tourist beaches. Many make it for only one ride and break easily. Made with Styrofoam, they break into millions of Styrofoam pellets littering the tideline and are easily eaten by marine animals.

Animals mistake the white pellets for food and it clogs up the stomach-gullet wherein the animal literally starves to death. The pellets are toxic and a probable carcinogen based on benzene. When marine animals eat Styrofoam, it works its way up the food chain and eventually into humans

In 2006, the United Nations Environment Program estimated every square mile there was 46,000 pieces of floating Styrofoam in the oceans that can kill all kinds of birds and fish.

A California case study showed that 162 marine species, mostly seabirds, were reported to have eaten Styrofoam and other plastics.

It is not only the board itself, but hundreds of broken leashes are strewn all over the beach. Animals get caught in the leashes and die. The outside nylon material on a \$9.00 boogie board is just as toxic. The harder boogie boards such as Moray have an outside strap which easily comes off, adding more plastic to the ocean.

Not So Fun Facts

Broken Boards are a global issue.

Polystyrene does not biodegrade.

Parks and Recreation Department does not go on the 'wet' shoreline to pick up boogie boards.

There is no way to pick up all the Styrofoam on the beach from broken boards.

San Diego banned Styrofoam (2018) on beaches until the Restaurant Industry decided to sue.

An estimated 750,000 Boogie Boards are sold in the USA annually

An estimated 3,000 Boogie Boards are left on Mission Beach annually

Marine animals mistake the pellets for food and eat them, resulting in starvation and death

The sand is filled with gleaming white pellets - those pellets are Styrofoam and toxic to marine life

What can you do?

Don't purchase, rent instead.

Buy better boogie boards that last

Recycle or put broken boards in trash cans

Never, never, never leave them on the beach



ILLEGAL FIRES

No pretty picture here. Just the disgusting aftermath left by careless visitors.

It is NOT okay to build a fire on the sand.

It is NOT OK to burn trash, especially toxic plastics. It is NOT OK to leave your trash everywhere. In nearly every photo displayed here, the coals were still burning when the illegal beach fire was discovered the next day posing a tremendous risk to humans and animals.

Myth

It's good, safe family fun' until it is not, which is why bonfires out of enclosed pits are banned on beaches in San Diego.

At one time (2013) Mission Beach had 186 fire pits which cost about \$173,000 taxpayer dollars.

Illegal fires are those that are directly on the sand and without a designated fire pit, or the burning of trash instead of approved wood.

Currently there are about 25 active fire pits 30 legal fire pits in South Mission Beach. At any one time in a one mile stretch of oceanfront beach in South Mission beach there are at least 14 illegal fires in South Mission Beach

The Issues are many: Health- Fire needs fuel and what goes into a fire-pit, plastic, scooters, glass, food wrappers, aluminum, beach chairs and umbrellas shoes, clothing, bottle caps, plastic cups and even last year a person was put not a lit fireplace. If it burns they will put into a fire.

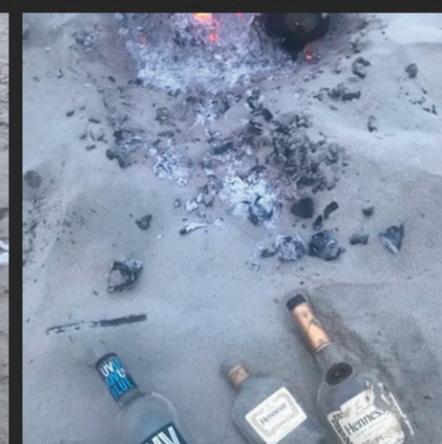
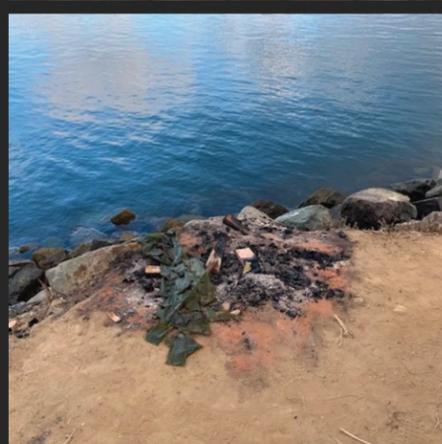
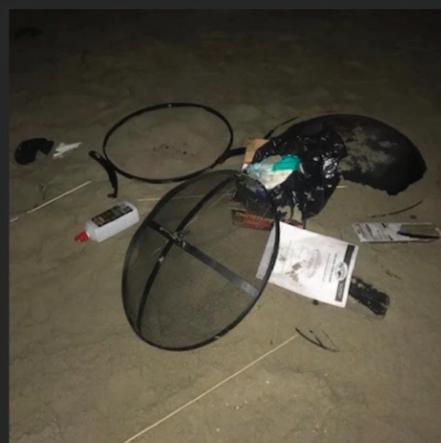
People bring scrap wood loaded with nails and toxic paint to burn in the illegal fire pits. The nails are left behind.

The majority of these fires involve drinking and beach trash. Some people may cover up their evidence, still burning coals, which continue to burn for up to 24 hours.

If buried, the burnt wood (which you now see all over the beach) comes up again and or washes out to sea, harming both humans and animals. Much of the wood has nails in it. Most of these fires include glass liquor bottles, which get broken and are strewn all over the beach. Add in the metal spits and it is a recipe to anyone to get hurt.

Toxic charcoal and lighter fluid kills animals. 90% of the people leave lighter fluid behind leaking toxic fluid into the beach.

Food particles left behind have caused an explosion in rat populations.



Don't Trash Mission Beach

GENERAL TRASH

Especially single use plastics, food wrappers and other waste.

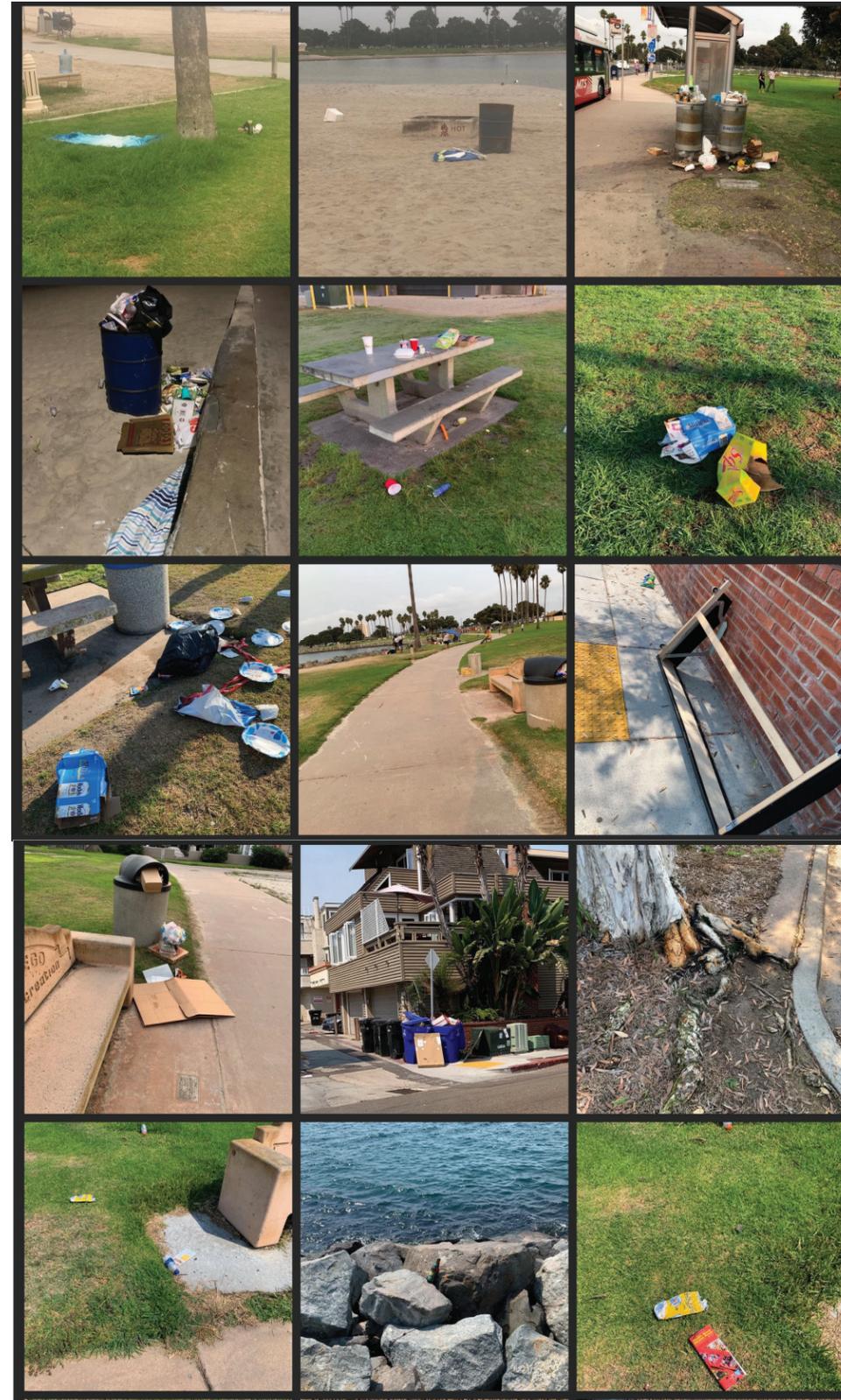
It is shocking to see what people leave behind.

How much does it cost society for plastic pollution? The result is not pretty. Conservatively the yearly estimate is \$13 billion USD. In addition, the latest research suggests that plastic is responsible for a 1 to 5% decline in the benefits humans derive from the oceans.

Another study by the Marine Pollution Bulletin reported that plastic pollution in the world's oceans costs society up to \$2.5 trillion a year. According to The Guardian, plastic waste costs up to \$33,000 per ton in reduced environmental value.

One study comes from researchers from the UK and Norway, who analyzed the multiple ways in which plastic pollution can damage and destroy natural resources. The annual cost per ton of a reduced environmental value runs between \$3,300 and \$33,000 per ton of marine plastic (2011 values). In 2011 it was estimated the oceans contained between 75 and 150 million tons of plastic at that time (probably much more now). Plastic leaches chemicals, including dyes, metals, and flame-retardants. They are toxic to oxygen-producing microorganisms, which produce 10% of the oxygen on the entire planet.

A surprising and sad find, plastic bags at the very bottom of the Mariana Trench--the deepest and most remote spot on earth.



GHOST NETS

Ghost Nets are the number one killer of marine animals.

Nets and Fishing Debris

There are two names for lost fishing lines one is Ghost Fishing, and the other is Ghost Nets. If you want to see the destruction of this marine debris, visit google images and "animals caught in ghost nets." It is horrendous!

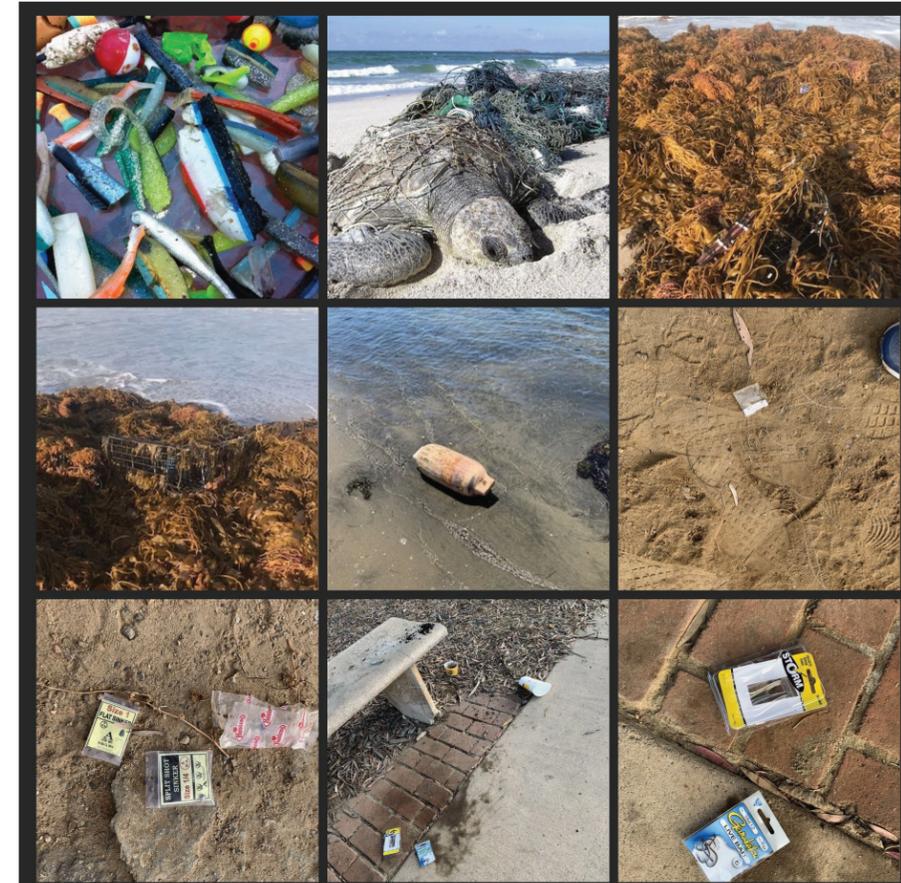
Ghost Fishing happens when broken traps are lost at sea. Crab pots and lobster traps are the most common. When lost, they sink and continue to capture marine animals, which of course, are trapped and then die. This is what the NOAA calls self baiting.

In Washington, an average of 14 million pounds of Dungeness Crabs are harvested per year with 90,000 to 100,000 pots set in the waters.

An estimated 10% of the crab pots are lost. It has been reported that 300,000 "ghost" lobster pots can be lost to the seas each year in Maine alone.

NOAA also found 85,000 abandoned lobster and crab traps in the Florida Keys National Marine Sanctuary. In another heavy crab area, the Chesapeake Bay, more than 913,000 crabs were caught by derelict traps each year.

Ghost Nets are fishing lines from boats that get lost every year throughout the world. Drifting with the currents, these nets, traps, hooks, lines kill an estimated 136,000 marine animals a year, 136,000 seals, sea lions, whales, porpoises, dolphins ingest and get tangled up in the Ghost Nets.



Not So Fun Facts

- 640,000 tons of fishing gear is estimated to be floating in our oceans.
- 57 tons of ghost nets end up in the 139,000-square-mile Northwestern Hawaiian Islands region every year. (Estimated) NOAA research boat picked up 57 tons of fishing nets and plastic garbage in the Hawaiian Islands.
- 32,000 pounds of fishing nets and 12,000 pounds of lobster and crab traps just along California's coast have been picked up since 2002 by Captain Rex Levi.
- 48 to 65% of Gulf of Maine humpback whales have been entangled at least once in their lifetime. This is about half of the Humpback population.
- 70% of North Atlantic Right Whales, (critically endangered), have been entangled in ghost fishing gear.
- 1,500 marine animals—including seals, sea lions, dolphins, sharks, 22 species of fish, and 15 species of birds—were found dead among 870 derelict nets discovered in the Puget Sound over the course of one year.
- 1000+ Traps rescued from the Bay of Fundy since 2008
- Unfortunately, Fishing Lines would take hundreds of years to bio-degrade.

FOOD WRAPPERS

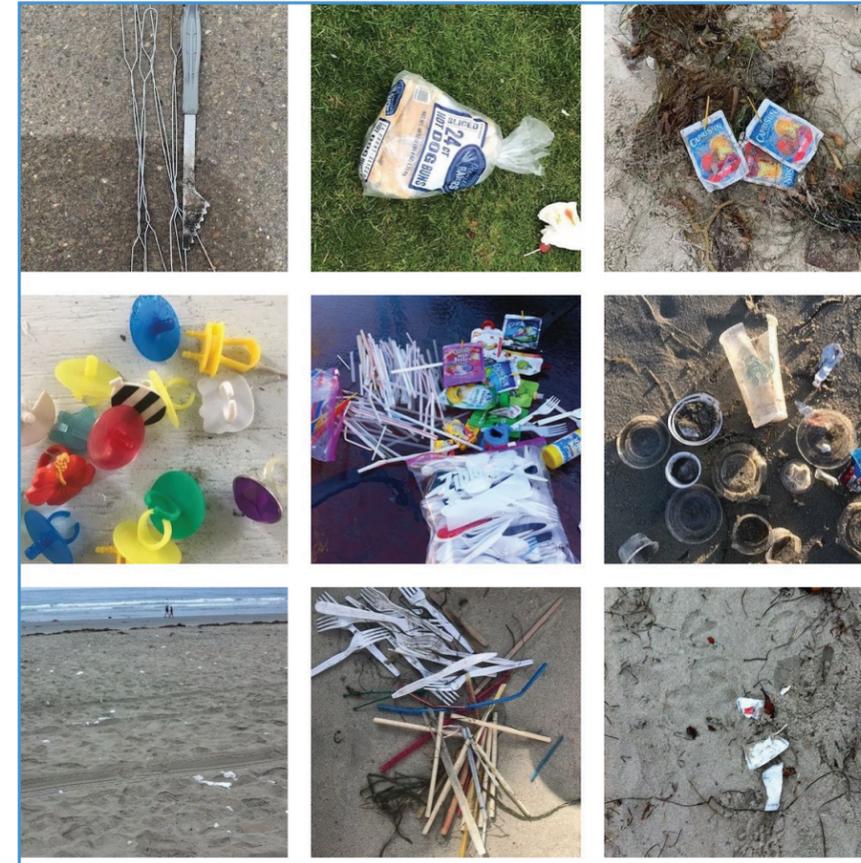
The Ocean Conservatory counted 4,771,602 Food Wrappers on one cleanup day.

The number one trash item.

Food Wrappers have taken over the #1 spot of beach trash picked up in 2019. In August 2020, in South Mission Beach more than 4,000 Food Wrappers were picked up on the Oceanfront. If you include beverage bottles, caps, and miscellaneous other food items, Food Wrappers account for 68% of all beach trash in just one mile of South Mission Beach.

Top Food Wrappers Picked Off Mission Beach

- | | |
|---|---------------------------------------|
| Chip Wrappers | Plastic Food containers such a yogurt |
| Candy Wrappers | Plastic Storage Containers |
| Fast Food Wrappers | Juice Boxes and clear film cellophane |
| Salsa containers | Napkins and Wet ones |
| Plates: Paper, Foam, Plastic | Plastic food packaging |
| Cups (Paper, Foam, Plastic) | Paper packaging |
| Plastic Utensils | |
| Straws and Stirrers | |
| Condiments (Ketchup, Mustard, Mayo, Pizza toppings) | |
| Pizza Boxes | |
| Plastic Lids | |
| Wooden popsicle sticks | |
| Wood Spits | |
| Metal Spits | |



Add in aluminum foil, charcoal, tongs, BBQ grills, it amounts to thousands of pieces of plastic going into our oceans every day.

Most food wrappers do not biodegrade. They either wash out to sea and sink to the bottom to be eaten by marine animals.

The myth that the beach screeners pick up food is not true. The beach screeners at Mission Beach pick up some wrappers, but they also shred them into pieces. In addition, they only go down 1-2 inches, so the food wrappers that are buried will stay buried until a big storm.

What you can do.

Pack It In and Pack It Out!

Pick up wrappers you see and put them in the trash.

Bring a bag just for your trash and dispose of it properly and do not over-stuff cans or worse, leave your trash next to the can--the seagulls will tear it apart.

PLASTIC BOTTLES

5049 bottles and cans picked up from Jan to Aug 2020.



Many parts, one heartache.

Plastic bottles are one of the top ten items found in beach clean-ups globally

Plastic Bottles have many parts that are found all over the beach
Plastic Bottle, Bottle Cap, Plastic Ring around the bottle cap, Plastic cellophane around the bottle cap, Plastic label, Plastic sealer over the mouth.

January to August 31, 2020 South Mission Beach 1-mile of Oceanfront .
An estimated 20% of all bottles are left on the beach in South Mission.

1001 - Glass Bottles Found: Modelo Beer, Pacifico Beer, Hennessy Liquor, Patron Tequila are the top brands picked up.
1973- Plastic Bottles: Top Bottles Found include Water Bottles and Gatorade bottles
2078- Aluminum Cans picked up - Top Cans found: Modelo Beer, Bud Light, Coors, Cola, Squirt

Surfrider Report 2019

1,885,833 Plastic Bottles were found on beaches
1,500,523 Plastic Bottle Caps were found
6058 Glass Bottles were picked off the beach
7778 Beverage Cans were cleaned off the beach
4635 Metal Bottle Caps

Single-use plastic bottles are designed to be thrown away after using. It is not just the bottle itself; the packaging alone accounts for much of the beach trash left to be washed away and eventually eaten by marine animals, our food source.

Plastic bottles do not decompose and will still be with us for over 400 years.

1500 plastic water bottles are consumed in 1 second in the US

17 million barrels of oil are used in producing bottled water each year
The process of producing bottled water requires around 6 times as much water per bottle as there is in the container.

Bottled water costs 1,000 times more than tap water. Drinking 2 Liters of tap water a day only costs 50 cents per year.

22% of tested bottled water contains chemical contaminants
17 million barrels of oil are used in the production of water bottles yearly
It takes 3x the amount of water to produce the bottle than to fill it.

14% of all litter comes from beverage containers. When caps and labels are considered, the number is higher.

The U.S. is the only country in the world with abundant access to clean drinking water yet we are the number one consumer of bottled water.

Don't Trash Mission Beach

ELECTRONICS

Worldwide, 40 million tons of electronic waste is left in the environment every year.

Toxic truth of electronics.

Electronics Contain toxic material and contaminants such as lead, mercury, arsenic, cadmium, selenium, chromium, phthalates, and brominated flame retardants.

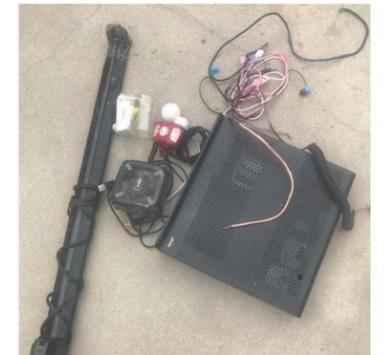
Parts from electronics are toxic to humans and marine life.

Nothing speaks more about our disposable society more than the number of electronic devices that are found on the beach almost daily.

Light bulbs, Headsets, earbuds, cell chargers, cell phones, ethernet cords, parts of cell phones, batteries, scooter parts, cell phone accessories, GPS devices, Scooter parts, Go-Pros, laptops, computer parts, keyboards, cassette tapes, CD's have been found on the beach.

While finding earbuds is a score for those of us who need chargers and earbuds, the toxic toll is not great for the environment. Electronic devices contain toxic materials that will leak into the sand and ocean, eventually into our food source and then humans.

Not only that, but animals can also become entangled in the cords.



SURF & SWIM

Children's Swim goggles are the #1 swimming gear picked off the beach at South Mission. An average of 1 swim goggle a day is picked up during the summer.

When good items go bad.

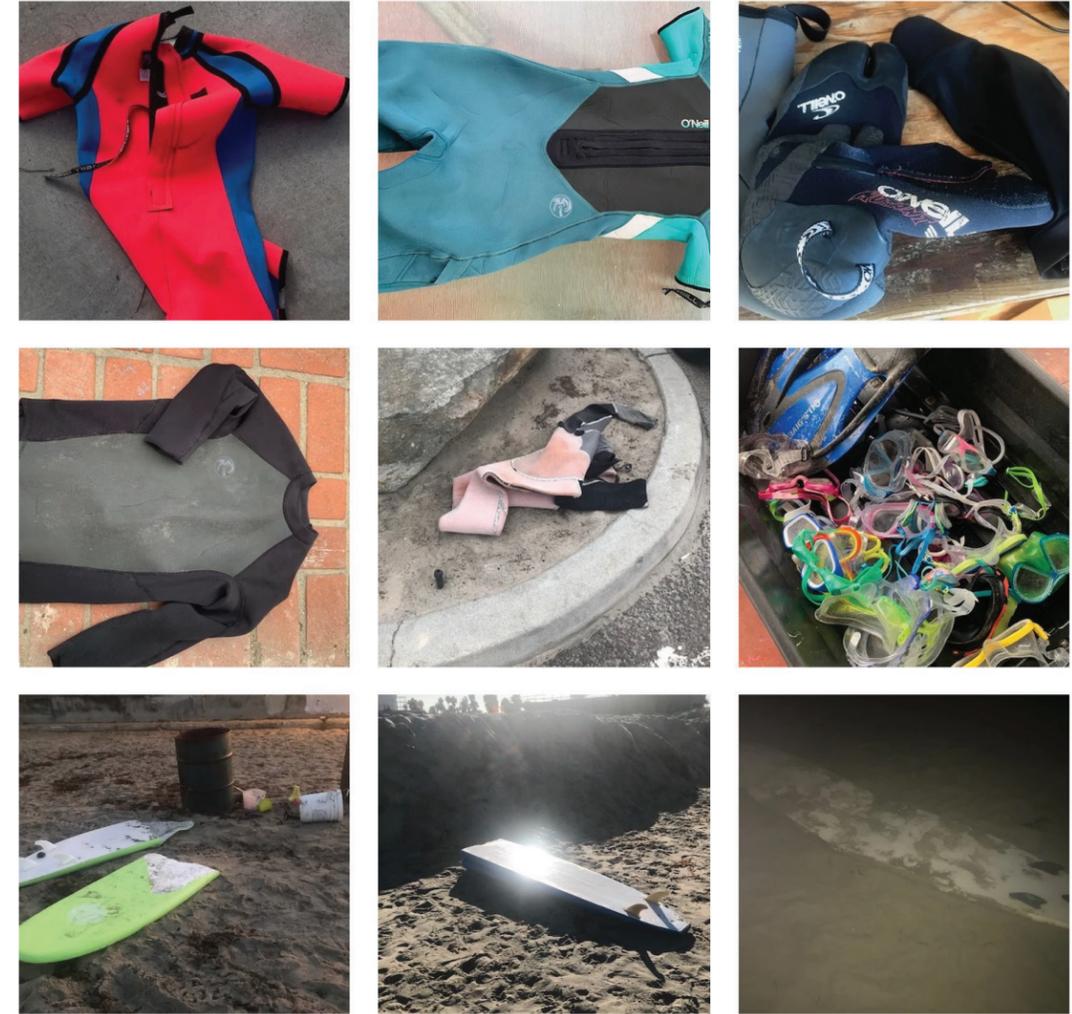
- Water sports trash: broken boards, leashes, fins, swim fins, wet suits, surf wax, booties, scuba gear (masks and snorkles), goggles, masks, head gear, paddleboards, supboards and oars,
- 99% of all water sports products contain plastic.

Quick Facts

- Worldwide, over 400,000 surfboards are sold every year and is estimated to bring in over \$3.1 billion in annual sales.
- Modern day surfboards are made from fiberglass with a polyurethane foam core and then covered with polyester resin all a toxic when broken or left floating to sea.
- Broken surfboards are dangerous to both swimmers and marine animals who can eat the debris, thinking it is food
- Surfers and Paddleboards are good for World Economy: They buy, souvenirs, surf gear, equipment, film, boat rentals. Most of these are bought from small mom and pop businesses, who in turn put their earning back into the local economy.

Not So Fun Facts

- Cheap foam surfboards and paddle boards break easily, spewing deadly styrofoam into the ocean.



- 100's of boogie boards are left on the beach DAILY. An average of 5 boogie boards are picked up off the beach everyday in South Mission Beach.
- Disposable boogie boards are the leading cause of styrofoam pollution in Mission Beach.
- Average of 5 cheap swim goggles are found weekly during the summer in South Mission Beach

Good News

- Good surfboards when taken care of can be repaired
- Bird Surf Shop in San Diego, will recycle wet-suits, booties and more.
- Many surfing companies are using recycled products to product surfing products, including cigarette butts.
- Economic value of surfing to San Diego County of \$5B/year. (sandiegodata.org)