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THE PLASTIC OCEAN: An art educator’s interpretation

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THE PLASTIC OCEAN: An art educator’s interpretation

by

ROCHELLE JOHNSON

Under the Direction of Melanie Davenport, PhD

ABSTRACT

The purpose of this study was to create a series of artwork in response how plastic is affecting marine life and indicate implications for classroom use. I focused primarily on the plastic pollution in and around the North Pacific Gyre and three of the marine animals affected. I chose animals that spend time off the coast of California and painted images of the Pacific leatherback sea turtle, the Laysan albatross, and the California sea lion. Through this project I have learned a lot about myself, both as a consumer and as an artist educator. Since the beginning of this research I have changed our household ways of viewing and using single-use plastics. This study has also pushed me artistically to create works to raise awareness and inspire change. I feel confident that I will be able to use this knowledge to motivate students to do the same.

KEY WORDS: Marine debris, Pacific gyre, Pacific garbage patch, Plastic pollution, Plastic ocean
THE PLASTIC OCEAN

by

ROCHELLE JOHNSON

A Thesis Submitted in Partial Fulfillment of the Requirements for the Degree of

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2019
THE PLASTIC OCEAN

by

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Office of Academic Assistance
College of the Arts
Georgia State University
May 2019
DEDICATION

I would like to dedicate this thesis to my family for giving up family time and supporting me while I embarked upon this journey.
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After starting my master’s program ten years ago, I am so thankful that Georgia State was willing to work with me in completing my degree from across the country. A special thank you to Tony Davis, Kevin Hsieh, Melanie Davenport, and Timothy Flowers for helping me get back into the MAED program and finish the requirements for my degree.
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DEFINITIONS OF TERMS

**Microplastics**: formed when larger plastic pieces that have been degraded by the sun’s radiation, ocean waves, and grazing by marine animals are broken down into smaller and smaller pieces. These tiny fragments are microplastics (van Sebille, 2015)

**North Pacific Gyre**: place in the Northern Pacific Ocean where ocean currents swirl

**Marine debris**: is any man-made object that has found its way into the marine environment (NOAA, 2018)

**Plastic ocean**: plastic pollution in a marine environment
1 INTRODUCTION

I lived in Atlanta, Georgia for most of my life until moving to the San Francisco Bay area in 2014. On one of my family’s many new west coast adventures we visited the Marine Mammal Center in Sausalito, California. The center is well known for rescuing and rehabilitating marine mammals as well as conducting scientific research and providing education. As you walk through the complex there are pictures throughout that detail the stories from the different mammals they have rescued. Many of these animals had been entangled in marine debris. After learning the stories of the rescued animals, it here where I first really became aware of the plastic problems in our oceans.

Growing up landlocked, recycling was something my family did on occasion and when convenient. I recall that we always cut up our six pack rings because we had heard it was affecting sea turtles and birds. I remember recycling aluminum cans and newspapers, but that was it. In my part of the country it really wasn’t that easy to recycle. As I grew to be an adult and a homeowner, recycling was an additional expense. I found this strange because I know in other places in the country people are paid for bringing their recyclables to a recycling center.

Upon moving to the west coast, I immediately noticed recycling trash cans everywhere. I soon discovered that you pay for garbage cans based on size, however, recycling and green waste trash cans are free. It was so different to live in a place that made recycling easy, but also gave you incentives to do so. The landfill bin is half the size of the others and we rarely have more than one bag going to the landfill a week.

Before researching the plastic in the oceans, our recycling bin was almost full weekly, typically with single-use plastics. However, now that I have become more aware of the
problems with single-use plastics, we have reduced the household amount of single-use plastics. Cardboard is now the primary material in our recycling trash.

1.1 Interest in the Study

This thesis project has allowed me to challenge myself as an artist by creating works of art for the purpose of inspiring people to change. I have only ever created works of art for myself or assignments. After going through this process, the way that I will approach future works will be changed. I will have to make a conscience decision about what statement I want to make, if any at all.

In 2014, my husband took a new job and we packed up the family and moved from my birthplace and everything I knew in Atlanta, Georgia cross country to the San Francisco Bay area. In our first 4 months of life in our new environment we spent more time outside as a family than we had in all of our years of living together in Atlanta. The lack of humidity, heat, and biting insects made the outdoors a much more enjoyable place. We all began to feel a closer connection to nature.

When we visited the Marine Mammal Center in Sausalito, California, I left with a feeling of roused concern. Seeing a glimpse of all of the animals rescued and rehabilitated made me think of all of the animals that were not as fortunate and had died on the beaches or in the ocean. The series of work I have completed in this project are based upon this realization.

In this study, I have created works of art inspired by the plastic pollution in the ocean (the plastic ocean) and marine life off the coast of California. The processes I have taken to research and create the works as well as the physical incorporation of plastics have become valuable teaching resources for me as an educator. This research will help me to teach future generations of students about not only the plastic ocean and native marine animals but also how use visual
expression as a nonverbal language to convey thoughts and ideas. My artwork brings visibility to this problem and raises awareness to help inspire change.

1.2 Need for the Study

Before visiting the Marine Mammal Center, I knew that trash in the ocean was a problem, but it was insignificant to me. While visiting the center with my family we were able to see only a small sampling of the marine mammals that they rescue; California sea lions, harbor seals, and elephant seals. Upon further exploration, within a short distance from our house, I found even more disturbing truths.

A year and a half later we took our first trip to the Monterey Bay Aquarium and saw the Art for the Environment exhibit that is on display. There was something about that experience that stirred a deep emotional response within me. Whether it was being at an aquarium that is attached to the ocean or viewing the exhibit and being able to see the sea otters playing in the ocean behind or some combination of both. The impact of seeing plastic trash upcycled to art especially art in the form of sea animals motivated me to learn more.

By delving into information on the plastic in our oceans I have learned a great deal. The first person to document the plastic pollution problem in our oceans was Captain Charles Moore in 1997. That summer, he set sail from Honolulu headed for his home in California. Deciding to take a short-cut through the North Pacific Gyre, Moore and his ship-mates soon realized they was cruising through a slurry of plastic waste, soon dubbed plastic soup, and later referred to as the North Pacific Garbage Patch (Moore & Phillips, 2011).

Since the 1970’s scientists have been using plankton nets to capture any marine debris that is larger than the net’s mesh. The scientists are looking specifically at microplastics. Microplastics are formed when larger plastic pieces that have been degraded by the sun’s radiation, ocean
waves, and grazing by marine animals are broken down into smaller and smaller pieces. These tiny fragments are microplastics (van Sebille, 2015). In Figure 1-1 below, van Sebille has assembled information depicting the location and amount of microplastics indicating more than one garbage patch.

![Figure 1-1. The location and count of microplastics, van Sebille, (2015)](image)

When the information from this is compared with the National Oceanic and Atmospheric Administration (NOAA)’s map of surface currents, Figure 1-2, one can draw clear comparisons between the ocean’s currents and the larger deposits of microplastics (2016). These larger areas, along with where they converge are where five gyres, swirling with a slurry of microplastics and marine debris, exist.
Part of my research for this project included looking at current curriculum for state and national standards. Surprisingly, I found a gap in the curriculum. In the California science standards there is no mention of standards specifically related to plastic pollution, water pollution, or pollution in general. I found it shocking to be living in one of the more progressive states and still there are no standards specific to protecting the environment from pollution, or the negative effects of pollution. It is my hope, that in the upcoming years, there will be a more precise set of standards around protecting the environment for all aged students.

1.3 Purpose of the Study

The purpose of this study is to: create a series of three works of art with multiple pieces comprising each work. These works focus on how the plastic ocean is affecting marine life off the coast of California. This has pushed me as an artist to work with nontraditional materials I have not used before. I have also incorporated my knowledge and passion, through process and experimentation, to pass down to students in a teaching environment. I want students to see how you can take an experience and use it to create powerful artwork that can be used to raise awareness by educating others and encourage change in behaviors and habits.
2 LITERATURE REVIEW

One of the most substantial global threats to marine life is marine debris. It is known to injure or kill marine and coastal wildlife as well as damage and destroy habitats. Marine debris is considered to be any man-made material that has been deposited into a marine environment. One of the most substantial types of marine debris is plastic. Research has shown that plastics do not break down into molecules but rather into microplastics. These microplastics are then ingested by marine wildlife and make their way through the marine food web. Other plastics are being directly ingested by wildlife by either being mistaken as food or consumed accidentally with other food the animal ingests (UNEP, 2018).

Plastic pollution is preventable through public awareness, changing individual actions, and finding better ways to manage waste. There are many different resources readily available to educate and raise awareness. Major broadcasting stations such as BBC and PBS have programing created to inform the public of the plastic pollution affecting our oceans. The Plastic Pollution Coalition is one of many groups working to put an end to plastic pollution by raising public awareness. Dianna Cohen, CEO and co-founder of the Plastic Pollution Coalition, in her Ted Talk about plastic pollution mentions a fourth R to add to Reduce, Reuse, Recycle; Refuse single use plastics (Cohen, 2010). Cohen’s story is inspiring to me because her roots are in painting, but she has become emotionally stirred by plastic pollution and has found ways to not only speak passionately about the current state the of problems that plastic is causing but also to create and motivate other artists to make powerful artwork in response.

An important charge of artists is to use their abilities to document and influence change. John Reid, a contributor in the book, Change! Combining Analytic Approaches with Street Wisdom, writes about artists as makers of change and “aesthetic communicators” (Reid, 2015,
In this study I have focused on public awareness through art by looking at artists working with plastic waste from our oceans. They are using their artistic abilities to promote social commentary about how plastic pollution is destroying marine life and reiterate the importance of recycling and avoiding single-use plastics through a variety of means. I have grouped artists together by how their works have inspired me.

2.1 Life-life works of art

As an artist, I am most comfortable creating works of art that look realistic, especially representational of animals. Therefore, it seems only natural that the first works of art I felt connected to was those depicting marine animals. The works from the Washed Ashore Project, Sayaka Ganz, and Sue Lipscombe all portray large scale recreations of marine animals. Although their subject matter is similar, their execution was quite different with a different feel for each style of works. It was the realistic style of the artworks that drew me to them initially.

2.1.1 Washed Ashore Project

Started by Angela Haseltine Pozzi in 2010, the Washed Ashore Project is the collaborative efforts of Pozzi and many other artists has created over sixty sculptures depicting marine life. I am immediately drawn to the larger than life realistic looking animals. Through the use of brightly colored plastic waste, they have created an almost whimsical feel to a very somber reality. While reading about this installation, I liked how this project enlisted the help of many people in collecting, cleaning, and sorting the plastic, not to mention all of the artists that assisted in creating the animals. Even the initial collecting, cleaning and sorting was a great way to raise awareness of the plastic ocean.
These artworks are also interesting because when viewed from afar you might not notice they are made up of plastic trash. I like that as you approach the works you start to notice the composition of the pieces. Although I am not going to create large sculptures in my works, I hope that my artworks are interesting enough from afar that the viewer wants to come closer to see the details in the compositions.

2.1.2 Sayaka Ganz

Sayaka Ganz, while also creating animals out of plastic waste constructs works of art with a much different feel. Her works of art seem to come alive with beautiful fluidity portraying animals in motion yet stationary. Both pieces below are on permanent display at the Monterey Bay Aquarium.

Figure 2-1. Washed Ashore Project, *Priscilla the Parrotfish*, (n.d.), plastic waste

Figure 2-2. Washed Ashore Project, *Octavia the Octopus*, (n.d.), plastic waste
Ganz strives to create harmony in her works of art. Unlike many of the other artists I found working with plastics, her main concern was not necessarily to raise awareness about the plastic in the oceans, but more about how easily we discard objects. Her goal is to have people rethink our relationship with the natural world. It is a gentler approach that I think is reflected in her artworks that seem energized with the natural motions of the animal represented. Like Ganz, I hope to capture the natural beauty of the animals I paint.

2.1.3 Sue Lipscombe

Sue Lipscombe designed the The Bristol Whales sculpture to encourage discussion about plastics in the ocean. This life-like installation is created with willow grown locally and plastic water bottles that were collected from local races. She captured the beauty and grace of these massive marine mammals in a way that no passer-by can ignore. I really like that this life-like installation is interactive. It inspired me to create interactive works of art. I think that interacting with a piece makes it more memorable.
I find the way the willow intertwines and the fluidity of the water bottles especially aesthetically pleasing. It has a way of bringing a calmness to an otherwise difficult topic.

2.2 Aesthetically pleasing works of art

Creating works of art that is aesthetically pleasing is a good way to quickly grab the viewers eye. However, if it is just a pretty image, the viewer may take a quick look and then keep on going. Part of creating something aesthetically pleasing is to make it interesting enough to keep the viewers gaze a moment longer. I was initially drawn to this group of artworks and artists because they are aesthetically pleasing. Through the use of bright colors or recognizable images, these artists were able to draw me in to look closer at their works. The works of Dianna Cohen, Alison McDonald, and Chris Jordan’s series, Running the Numbers II: Portraits of global mass culture, inspired me to create something aesthetically pleasing with an interesting twist to keep the viewer’s attention.

2.2.1 Dianna Cohen

Much of Dianna Cohen’s work is aesthetically pleasing, the bright colors of the plastic bags used in Postconsumer Mandala and Falda were what initially drew me in. Upon a closer look, seeing that these bags sewn together is an interesting way to use a nontraditional material such as

Figure 2-5. Lipscombe, Sue, Cod Steaks, & Arts Project Earth, The Bristol Whales, (2015), steel armature, willow, water bottles, wire
plastic bags. These works like the ones below are typically large scale and draw attention wherever they are hung. She is able to make trash beautiful.

![Image 1](image1.png)  ![Image 2](image2.png)

Figure 2-6. Cohen, Dianna, *Postconsumer Mandala (open)*, (2001), plastic bags, handles, thread, and pushpins

Figure 2-7. Cohen, Dianna, *Falda*, (2005), plastic bags, handles, thread, and pushpins

Although her original plastic works of art were flat and framed images, she noted that the plastic began to break down inside the frames but never completely disintegrated. This changed how she viewed ocean plastic and inspired her to form the Plastic Pollution Coalition. It has also made me think about how the materials I am using will respond over time.

2.2.2 Alison McDonald

When I think of an artist that truly turns something mundane into something spectacular, I think of Alison McDonald. My first introduction to her work was at the Monterey Bay Aquarium’s exhibit where *Message in a Bottle* is on permanent display, Figure 2-8. Her precise cuts into the plastic bottles utilizes both the positive and negative space in serene yet somber manner. Some of my series present my ideas in a somewhat similar way with an initially serene scene which becomes progressively somber.
In sharp contrast to the small delicate cuts found in *Message in a Bottle*, *Flow*, Figure 2-9, is made up of plastic bottle caps that have been wired together. From a distance, it looks like a beautiful blanket for cliffs by the beach. I was drawn to this piece because it not only contrasted the small scale of the previous piece, but it displayed McDonald’s expert use manipulating small materials to create a much larger new form. I was drawn to the large-scale approach combined with multiple smaller materials as it parallels the polluted state of our oceans.

2.2.3 Chris Jordan

I was first introduced to Chris Jordan’s series, *Running the Numbers II: Portraits of global mass culture* at the Monterey Aquarium when I saw his rendition of *The Great Wave off Kanagawa*. I remember that at first my daughters and I almost walked right past it, but
something caught my eye and brought me in for a closer look. I did not realize it then, but this artist would become one of the most inspiring artists through my thesis process.

This was the first piece of art in response to the plastic ocean that I saw at the Aquarium. I remember that when I got closer to this massive image (8x11 feet), I was taken aback by all of the tiny pieces of plastic that had been assembled to recreate this famous image. I was even more stunned when I realized that all of these pieces had come from the Pacific Ocean. This has inspired me to want to stun the viewer in a similar way when they look closely at my works. Jordan has created many recreations of famous works, but his photography skills are not limited to this. Another series of his that focuses on a specific animal, falls into another category of inspiration for me, #NoFilter.

2.3 #NoFilter

This next group of artists inspired me because their artwork, although perhaps not aesthetically pleasing to some, portrays the harsh reality of what is happening to our marine animals currently. I find that creating artworks in this manner will either draw the viewer in or cause them to shy away. I think it is important for the proverbial band aid to be ripped off and people to become aware of the reality of the consequences of our wasteful habits. Chris Jordan’s
photography and videography is a perfect introduction to it. I have also included Alvero Solar-Arpa and Pam Longobardi in this group. I hope to create works that also show this truth that is happening in our oceans but perhaps be a bit gentler in my presentation.

2.3.1 Chris Jordan revisited

As I began researching the plastic ocean and the marine animals that were being affected most by the plastic waste we continuously dump into our oceans, Jordan’s photographic images of the Laysan albatross on the Midway Atoll were some of the most gut wrenching, eye opening images I came across. His images and movie of the Laysan albatross directly influenced my decision to create a series of artworks in response to their plight. He has also created and released a short movie about the birds that really exemplifies their beauty and innocence which helps make viewer feel like they should protect these striking animals.

![Image of a Laysan albatross with plastic in its stomach]

Figure 2-12. Jordan, Chris, (2009), digital photograph

2.3.2 Alvaro Soler-Arpa

I find myself drawn to Alvaro Soler-Arpa’s solo work as well. He works predominantly with skeletal remains that he finds. In his sculptural work, Soler-Arpa combines his knowledge of anatomy and drawing with his interest in organic forms. The way he manipulates skeletal remains and challenges the viewer to look deeper and longer to see the meaning is inspiring.
have included skeletons in my works before and have also included some in the series I just completed. I like the way the plastic is incorporated into the body of the skeleton so that the viewer can see and interact spatially with his work. In his series, *Evolución Tóxic*, Soler-Arpa creates works that depict the parasitic relationship between the negative effect humans have on the environment, specifically with their plastic waste.

![Soler-Arpa, Alvero, Animal Marino, (2013), Crocodile skull, bull antlers, cow vertebrae, wire and trash](image)

**Figure 2-13.** Soler-Arpa, Alvero, *Animal Marino*, (2013), Crocodile skull, bull antlers, cow vertebrae, wire and trash

### 2.3.3 Pam Longobardi

Longobardi’s most striking and inspirational work to me is the works she created for the Drifter’s Project which she began in 2006 after encountering the marine debris in Hawaii. Although I did not encounter marine debris on the beach as inspiration, I was also inspired by a visceral reaction to my personal interactions with what I was seeing in front of me. In my case, plastic waste upcycled into art in the form of marine animals while being able to view sea otters playing in the ocean in the distance behind.

Longobardi’s focus for the Drifers’ Project has been on the movement or drift of marine plastics throughout the world ocean currents. In the piece of art below, she uses cigarette lighters that were found on the Midway Atoll in every color of the rainbow. At first glance, the image
looks like a rainbow ribbon of color, but a closer look reveals the ugly truth. The lighters represent the twisted entrails of the Laysan albatross and other marine birds ingesting them.

![Image of plastic lighters arranged in a colorful pattern.](image)

Figure 2-14. Longobardi, Pam, *Rainbows End*, (2017), plastic lighters

What I have found most interesting and appealing with all of these artists is that in general, they create beautifully aesthetic works of art from afar but in order to really understand what the artist is trying to say, you must look closer. If not, you have failed to grasp the point the artist is trying to convey. Things are not always as they seem. It seems that in order for society to take the plastic ocean crisis seriously, they have to look at something pretty first and then by use of the shock factor, awaken their inner consciousness.

Although these artists represent a multitude of artistic styles and themes, I feel that a common thread emerges through my works which incorporates inspiration drawn from each of these artists. My goals for this series are to create realistic animals that are aesthetically pleasing, but upon closer inspection portray the harsh truth. This required me to develop new processes and methodology for mixing materials and techniques to achieve my goals. My hope is that these works will help to bring about change in the way society views plastics and its impact.
3 METHODOLOGY

When I first decided that I wanted to research the plastic ocean, I did not really know what I was getting myself into. I knew that I wanted to see how the plastic is affecting marine life near me. I have a little prior knowledge from headlines worldwide about animals washing up on the shore with bellies full of plastic. I have also seen the video that went viral last summer of a straw being pulled out of a sea turtle’s nose. What I have not seen a lot of is how it is affecting the local marine wildlife that lives off the coast of California. In order to maximize the knowledge and insight gained from a topic, you should be interested and invested in that topic. If I was still living in Atlanta, I would have likely picked a topic more pertinent to my daily life there. Because I live so close to the ocean, this topic is relevant and impactful for me.

This is an auto-ethnography of how plastic in the ocean has affected my artworks. I decided that this form of qualitative research would be the most interesting for the reader as well as hold my interest while writing it. I also feel that drawing connections to how this research has changed my life might help a reader realize that it is not difficult to make minimal changes in their own lives in order to have a substantial impact on the environment.

3.1 Research questions

As I learned more about the depth of the problem with plastics in our oceans, I found myself coming back to two main questions about what I can do to affect change:

1. How can I explore and express my concerns for marine wildlife through the creation of artworks?

2. What might this research suggest for art education?

To tackle the first question, I looked at what other artists are doing to address the same issue. I found many artists that have made plastic in the ocean their main focus. Seeing their works
inspired me to think about how I could manipulate nontraditional art materials in a way that would represent my ideas. I spent much time researching marine animals that live off the coast of California that are most harmed by plastic pollution. Through sketching and experimentation, I developed compositions for three marine animals, a reptile, a bird, and a mammal. I have found some plastics on the shoreline near San Francisco and used plastics from my own recycling bin and integrated this material into my artworks. My completed works are to help raise awareness about this critical problem affecting our oceans and help facilitate a change in how people in my community view single-use plastics.

To address the second question, I reflected upon my research into the issue of plastic pollution and how it informs my artmaking, in an effort to identify ways not only to raise awareness of this problem among my students, but also to introduce the idea that a passionate concern about something that needs changing in the world can be inspiration for their own artmaking. Showing students that artworks can be used to make a statement will empower them to express their voice through their works knowing that they can also inspire change.

The topic of plastic pollution, in particular, is in the media frequently these days which makes it relevant to the lives of students. I am fortunate enough to live near the coast and could either assign students or take students to collect plastics found on the shoreline. There are so many different aspects to the impact of plastic pollution that an entire unit of study could be created on it, i.e. where it is coming from, what is being done to prevent it, how it is affecting the marine life, how it is affecting the marine food web, etc. I have learned so much through my research and have become more aware of the plastic everywhere that I think it could easily be a running theme in the art classroom for the year. I have documented my research through notetaking, photographs, and a visual journal.
3.2 Materials, processes and plans

3.2.1 Pacific Leatherback Sea Turtle

I have created a series of four works, 11x14 inches, about the leatherback sea turtle representational of our distant past, more recent past, current state of the ocean and a possible future that is less than optimal. I researched information about how plastic is affecting the Pacific leatherback sea turtle and looked to see if there was anything setting it apart from the other sea turtles. It is one of the larger sea turtles but is being impacted in the same ways as the other sea turtles. They not only ingest plastic bags but is also entangled in derelict fishing nets and other marine debris. One of the most interesting things I learned about the leatherbacks is that unlike other sea turtles, their ribs are not fused to their shells. This makes it easy to pick out leatherback skeletons versus other sea turtles. Their shell has some flexibility in it that allows them to dive to deeper depths than other sea turtles. I really wanted to capture the essence of the leatherback in my paintings. In order to do this, I looked at many different images and angles of leatherbacks and their skeletons, some with shell and some without.

For this grouping of works, I wanted to find ways to include plastics. I have used acrylic paint, which is itself a plastic, and incorporated found plastics. I have used a varied surface material of canvas and acrylic sheets. The canvas is the main background image and acrylic sheets are overlays for it. The three overlays will be attached to the canvas with plastic hinges allowing the viewer to interact with the artwork. The Pacific leatherback sea turtle not only ingests plastic bags but is also entangled in derelict fishing nets and other marine debris.

3.2.2 Laysan Albatross

I have produced a tryptic of three, 16x20 inch acrylic paintings on canvas with added found plastics and sand. They are a linear progression, read from left to right, telling the story of the
Laysan albatross. In researching the Laysan albatross, I found it most interesting that although they were ingesting all different types of plastic waste, there were more red bottle caps and red lighters than anything else. I am impressed with how precise their vision is, that their homing ability to find their favorite foods while scouring the ocean from above causes them to ingest more red plastic waste. The Laysan albatross is affected by the plastic ocean through ingestion of bottle caps, lighters, and other marine debris mistaken as food.

3.2.3 California Sea Lion – gets entangled in derelict fishing nets and other marine debris

For the California sea lion, I have taken plastic 2 liter bottles stuffed with plastic bags and wrappers and connected them together to form a raft-like object similar to the image in my head of the sea lions resting on the docks at San Francisco’s Pier 39. I glued on netting and trash I found on the beach. I had acrylic sheets cut to create a stand to hold up the 2 liter bottles and a top created to paint the sea lion on. The California sea lion like so many seals and sea lions become entangled in derelict fishing nets and other marine debris as well as accidentally ingesting plastics. When researching them, I found it interesting that so many of the sea lions and seals had netting cutting into their necks. I learned that this is because the pups are very curious and tend to get entangled. As they get older, like a tree with a rope tied around it, the netting cuts into their necks, causing horrible abrasions. I felt that it was important to show this in my painting of the sea lion.

With these artworks completed, I hope to continue exploring not only how plastic is affecting sea life but become more involved in community outreach and actively help with cleaning up the ocean near me. I look forward to discovering new implementations for the art classroom as I research, create, reflect and then start the process over again. I am excited to see how this
process will help me grow as an artist and an educator as well as guide me through other crucial topics that I will want to teach in the future.
4 PROCESS

I have chosen to create works of art that build on skills I already have as well as challenge me to work with nontraditional art materials. My works are inspired by the combination of the information I have learned through research and what artists are creating. I have never used plastics as an artistic medium before and I have to think about what Dianna Cohen learned about the volatility of plastics and how it will eventually change my artworks. Like the artists I researched, in order to draw the viewer in, I wanted to create something that appears beautiful from far away. Next, I needed to pick a subject matter that was interesting and inspirational to me. I have been painting or drawing animals on and off since I was in high school so picking a topic that had to do with their protection fell in line with my interests. While I decided to stay inside my comfort zone by painting animals, I also pushed myself by working with plastics.

According to the NOAA (2018), there are at least two hundred and sixty species impacted by marine debris. With so many to pick from, I decided to start close to home, with ones that spend a lot of time in the waters off the coast of California. The Pacific leatherback turtle was inspiration for my first artwork. The Laysan albatross seemed like an easy choice for my second animal to create a story about after viewing images from Chis Jordan and the pieces from Pam Longabordi’s, Drifter’s Project. The most challenging was picking a third to complete the series. Since I already had a reptile and a bird the logical next choice was a mammal. With so many affected whales, dolphins, seals, otters, and sea lions to pick from, I chose the one I see most often, the California sea lion. This marine mammal is perhaps the most iconic marine mammal for California, especially the bay area, and they too are afflicted by the plastic ocean.

When I first began to contemplate how to create artworks that would convey my feelings but also meet the task of documenting and influencing change, I remembered some of my own more
recent works. In these works, I explored seeing the inside of amphibians and the outside simultaneously. I created watercolor paintings where the skull was visible if you looked close enough at the painting. I used acrylics to paint the skull, so it would show through the watercolor. The paintings I created were experiments that I learned from and have applied the knowledge to my current works.

Figure 4-1. Johnson, Rochelle, *Frog*, (2010), watercolor with acrylic detailing

Figure 4-2. Johnson, Rochelle, *Salamander*, (2010), watercolor with acrylic detailing

4.1 My plan and execution for the leatherback turtle

I chose to focus on the leatherback first because I felt there had been more recent news released about them. I remembered reading about the sea turtles that were confusing plastic bags as their main food, jelly fish. Jellyfish drift on the ocean’s currents just like plastic bags do. The turtles, unaware that something that looks like a jellyfish and moves like a jellyfish isn’t a jellyfish, mistakenly ingests the plastic bags. This is affecting all species of sea turtles, but the Pacific leatherback is nearing extinction.

There were some things I knew I wanted to include and represent in my artwork moving forward. I wanted to somehow show some or all of the skeleton of the leatherback as a basic
representation of where the species is currently headed. I wanted to incorporate plastic bags disguised as jellyfish, making this a mixed media collage. Initially, I was uncertain about the background of the piece. I thought about leaving it a beautiful blue but after sketching and experimenting with color choices I decided to make the water murky.

Figure 4-3. Johnson, Rochelle, *Leatherback Sketch*, (2018), pen and ink, visual journal

After sketching, I felt tentative of the finished work. When I thought about what other artists were doing, I remembered that, in general, they created something beautiful to draw the viewer in closer. I brainstormed with my professor and we talked about using layers to convey my ideas. Then I talked with my husband and came up with something that I felt would project my thoughts in a more interesting way. While I did like the initial idea, I didn’t think it would be as impactful as a singular piece.

In the past I have painted on clear plastic acrylic sheets to create paintings for friends’ nurseries. I like using it because of its transparency. I could use this material as a layer on top of my painting but to go even further, I could create multiple layers that could move across a canvas to portray a passage of time. In the end, I created a single canvas and three separate acrylic sheets to use as overlays.
Some things I had to think about were the different types of acrylic available, the sizes I could purchase, as well as the weight of the materials since I want this to be an interactive piece. I decided on 11x14 inch acrylic sheets that I was able to purchase easily from Home Depot. The largest problem I would run into with this set of works was how to display the finished pieces. I had many ideas, but not certainty. It was not until I went to a plastics store to have my acrylic sheets cut for the California sea lion artwork that I found my solution. I found clear plastic hinges that I could cut to the length of the acrylic sheets. With attaching hinges to the sides and top, the piece is fully interactive.

4.1.1 The canvas: Ocean’s Distant Past

I created my “sketches” by manipulating images on photoshop until I achieved the desired result. The canvas portrays an image of what the ocean from our distant past might have looked like, full of turtles and sea life, swimming in a beautiful, clean, ocean.
While painting the canvas I documented which colors I was mixing to create the ocean waters as well as the leatherbacks. I have learned the hard way that if I do not do this then I have a difficult time recreating specific colors. Since I was unable to view leatherbacks in the ocean, I created a study of different views of leatherbacks swimming and noted the shape of the body as well as common features.

In order to accurately paint the fish known to swim with leatherbacks, I spent time looking at photographs online which provided ample images. The three fish that I continued to find were
the three pictured with the leatherback above. After some research I was able to figure out what types of fish they are; golden trevally, pilot fish, and shark sucker remoras. In the studies I noted body shape and size compared to a leatherback, as well as experimented with color. I also attempted to find images of the fish from multiple angles.

![Image of fish with the leatherback](image)

Figure 4-8. Johnson, Rochelle, *Studies of Fish*, (2018), visual journal

When I view this completed piece, I think about it as a calm, gentle way to introduce the viewer to a difficult topic similar to how *The Bristol Whales*, and Sayaka Ganz’s works do. Also, like Ganz, I tried to energize the turtles by capturing their essence and depicting their natural motions. This continues on through the first acrylic sheet.

4.1.2 *The first acrylic sheet: Ocean’s Recent Past*

The first acrylic sheet shows our not-so-distant past, when man began to heavily hunt leatherbacks and their eggs. On this sheet I have painted over much of what is on the canvas.
The ocean water remains clear but there has been an obvious decrease in sea life. I thought this panel would be the easiest to paint because I was just painting over what was showing through the acrylic to achieve the desired result. It surprised me in that it was the most challenging one to paint. Matching the ocean color, even though I had written down the colors used proved to be difficult. The way the paint looks and handles on the canvas is also much different than the way the same paint looks on the clear acrylic.

4.1.3 The second acrylic sheet: Current State of the Ocean

The second acrylic sheet is a drastic change and represents the current state of our ocean. It is more reflective of the inspiration of Chris Jordan’s works, the reality harshly sets in. This painting is much darker with the skeleton beginning to emerge from the image of the
leatherback. The once blue waters darken and take on a red tinge as does the leatherback’s shell and skin. The red represents the pollution and destruction of our oceans. At this point, I have also added plastics to the waters as well as the plastic jellyfish. After manipulating the jellyfish multiple times, I ultimately decided to make them more representational and less realistic. To a turtle they look the same. I am still figuring out how to predict what will happen as the plastic begins to degrade. Perhaps it will just flake to the floor under the paintings.

![Image](image1.jpg)  
**Figure 4-12.** Johnson, Rochelle *Plan for acrylic sheet 2*, (2018), digital image

![Image](image2.jpg)  
**Figure 4-13.** Johnson, Rochelle, *Current State of the Ocean*, (2018), mixed media

![Image](image3.jpg)  
**Figure 4-14.** Johnson, Rochelle, *Current State of the Ocean (just the acrylic sheet)*, (2018), mixed media

For the plastics, I went to the Pacific shoreline, but I did not have the best of luck. I found it was more challenging than I thought to find discarded plastics. I like to think of this as a good
problem. Instead, I searched my home and recycle bin for bits of plastics to use to fill the void in my artwork. I used a mixture of Elmer’s Glue All and a hot glue gun to attach the pieces of plastic. While they seem to be holding well for now, I do not know the longevity of either of these.

### 4.1.4 The third acrylic sheet: A Bleak Future

Finally, the last acrylic sheet projects a grim future if we continue on our current path. The leatherback is now nothing but bones on the bottom of the ocean floor and the plastic has swallowed the ocean. The “sketch” I created for this piece is the one that I knew from the beginning was going to be the least like the final project.

![Image](image)

Figure 4-15. Johnson, Rochelle, *Plan for acrylic sheet 3: A Bleak Future*, (2018), digital image

I knew I was going to incorporate a lot of plastic as well as show the sandy bottom of the ocean. I created a series of journal pages of various leatherback skeletons and decaying turtles to pull ideas from. There were few resources available and while many sea turtles have similar skeletons, the leatherback is quite different. The skull is much shorter on the snout and usually jagged around the mouth and the shell is a single piece of bone. Unlike other sea turtles, the ribs are not fused to the shell.
In order to achieve a dark and murky ocean, I have poured paint in an attempt to be representational of an oil spill. I had not experimented with paint pours until this project and while it did not come out exactly as I thought it would (not all of the colors show in the way I thought they would), I am happy with the outcome. It will completely black out the canvas behind it and will be direct commentary on water pollution in general, especially in light of the oil that is currently leaking into the Gulf of Mexico at horrific rates. Using a variety of colors and a lot of black I created the background for the final painting. This pour was completed during the days of horrible air quality due to the fires north of Sacramento; hence the smoky skies and the mask.
After a few days the pour dried and I was ready to paint. I added skeletal and decaying remains of leatherbacks and then began to work on the “sand” at the bottom of the painting. For the “sand” I used cut up pieces of a green 2 liter bottle for the base and then added more plastic colored bits. In the background I added scraps of netting and more plastic that I shredded and cut. I spent the most amount of time finalizing this piece. I wanted it to have a very different feel. I think I was channeling my dark inner Lorax. Unless…

![Image](image_url)

Figure 4-19. Johnson, Rochelle, *A Bleak Future*, (2018), mixed media on acrylic sheet

### 4.1.5 The completed piece

Once all of the pieces were completed, I had to finalize how to display them and make them interactive. It was not until I was working on my final piece of the series, the California sea lion, that I found my solution. After brainstorming several ideas over many months, I found the solution at a plastics store. There, I found plastic hinges that I could affix to side of the canvas as well as the acrylic sheets.
I was terrified to risk ruining any of the pieces of artwork by gluing hinges on them, but I powered on. With the use of a plastic solvent and E6000, I attached the hinges to both the canvas and the acrylic sheets. The piece is now ready for display.

4.2 My plan and execution for the Laysan albatross

The Laysan albatross is a large seabird that is found in the Northern Hemisphere with breeding grounds on the northern Hawaiian Midway Atoll (Awkerman, Anderson, and Whittow, 2009). Figure 4-21, illustrates where the Laysan albatross can be found throughout the year. Their diet primarily consists of squid, fish eggs, and fish (U.S. Fish and Wildlife Service, 2006). When you look back at a close up of Figure 1-2 as seen in Figure 4-22, you can see that their fishing grounds coincide within entirety of the North Pacific gyre. There is no surprise then that their current diet consists mostly of plastic waste most commonly those resembling the reds of their typical diet.
The next step was to figure out how to show a series depicting the story of this bird. I had all of these images swirling in my head from Chris Jordan’s, *Albatross* film (2018) and I wanted to find a way to tell the story in a meaningful, impactful way. I opted to create a triptych where the first panel is of a juvenile bird on the beach, the second is of a parent bird feeding a chick and last, a deceased juvenile bird. I wanted to incorporate found plastic as well as some skeletal remains to keep consistent with the *Leatherback* series. I had quite a bit of the bits of plastic I used in the *Leatherback* series leftover that I wanted to have through all of my paintings as well, see *Figure 4-23*. I also wanted to work in a larger scale. My largest problem was trying to keep the artwork beautiful but also show the sad story of these birds.

*Figure 4-23. Johnson, Rochelle, plastic pieces used in Leatherback series, (2018), cut up 2L bottle*
From the beginning I knew that I wanted to have the background connect for all three panels. Like the *Leatherback* series I also wanted the images to get progressively darker, both in subject matter and through value in the paint.

![Image of sketch](image1.jpg)

**Figure 4-24.** Johnson, Rochelle, *Plan for Laysan albatross*, (2019), visual journal

Although I was not sure of all of the specifics, I decided to start with something I was certain of, the background. After mixing much extra paint, knowing that I would want to go back and rework areas as I worked on each panel, I got to work on a basic background.

![Image of background](image2.jpg)

**Figure 4-25.** Johnson, Rochelle, *Tryptic background*, (2019), acrylic on canvas

### 4.2.1 1st panel – juvenile bird on the beach

The story begins with a juvenile bird on the beach amongst some larger marine debris. This image is meant to be aesthetically pleasing and serene on its own. I was inspired by how Chris Jordan was able to show the beauty and innocence of the albatross and I tried to do the same. My hope is that it will inspire people to want to protect these birds by reducing the amount of single-use plastics in their homes.
In order achieve the realistic look I wanted, I viewed many images of juvenile Laysan albatross. I noticed that the soft, brown, downy feathers could range depending on the age of the bird and that the head is the last place they remain before becoming an adult. I also noticed that the prominent dark spot in front of the eye that is very noticeable on the adult bird is also on the juvenile.

After completing the bird, the branches, and the marine debris, I went back and reworked the ocean, sand, clouds, and shadows knowing that I would need to align the canvases and make sure I stayed consistent throughout. The finishing touches of adding sand and the small green pieces of plastic waited until all three pieces were complete.
4.2.2 2nd panel – parent feeding chick

I knew from the beginning that I wanted the second panel to depict a parent bird feeding their chick. I also knew that the “food” would be bits of plastic directly inspired by one of Chris Jordan’s photographs as seen below. I wanted this image to begin to show the skeleton of the chick as well as plastic in the stomach reminiscent of Alvero Soler-Aropa’s fanciful skeletal sculptures filled with plastic. I created a study of skulls to help with the anatomy.
I ran into many problems while working on this canvas. The first was making the parent’s feet look natural with the sand. After trying a few different ideas and looking at many images of birds on beaches, I found the best solution was to bury the feet in the sand.

The next hurdle was adding shadows to the painting. Once again, I looked at countless images of shadows of birds on the beach as well as shadows inside my workspace. I printed up some copies on my paintings to play with different shadow ideas, knowing that I wanted the light source to stay stationary throughout the triptic.
The final hurdle for this painting was the plastic. I wanted to make the plastic inside the stomach of the chick instead of on top of the painting’s surface. If I was working sculpturally it might have been easier but adding to a two-dimensional painting proved to be too challenging. As much as I wanted this, I eventually decided that the image would be just as powerful without it. The skeleton and the plastic being fed to the chick would accomplish my vision. For the plastic inside the mouth of the parent I added acrylic gloss to give the impression of saliva, still thinking back to the Chris Jordan image.
4.2.3 3rd panel – a sad ending for the albatross

For the final painting in the triptyc I knew that I wanted to paint death because unfortunately that is how this story ends. I looked through many of Chris Jordan’s images of dead albatross and created my own configuration. For this piece, I knew that I wanted the head and neck to look wasted away, the feet to be partially buried in the sand and for the body to be filled with plastic. Although I started strong, I immediately began to notice some problems.
I realized that I was going to need to work on the background in order to make it appear that the bird was lying flat on the sand in the foreground and push the background to the back. I also needed to make the bird look partially buried in the sand.

![Figure 4-40. Johnson, Rochelle, *And in the End (before reworking of background)*, (2019), acrylic on canvas with and plastic pieces](image1)

![Figure 4-41. Johnson, Rochelle, *And in the End (after reworking, before sand added)*, (2019), acrylic on canvas with and plastic pieces](image2)

It was at this point that I made the decision to add real sand to the paintings, but I knew it would have to wait until I was finished reworking the background. I was also unhappy with how the water and sky were looking. I did not feel like they had gotten as dark as I had wanted. I had not glued the plastic down at this point, so I removed it and began reworking the background. Once reworked to satisfaction, I glued on the plastic pieces and added splatter-painted sand to help bring the piece together. After the finished touches of sand and plastic were added, the piece was completed.
My plan and execution for the California sea lion

The California sea lion is iconic when you think about San Francisco. They can be seen easily at tourist attractions like Pier 39 in Fisherman’s Warf and elsewhere in the bay area.
Sea lions and seals are becoming entangled in plastic packing strips, large black rubber bands, rope, line, nets, and monofilament line (NOAA, 2018). They are not only becoming entangled but are also ingesting marine debris. For this piece of artwork I decided to create a single image compiled on top of plastics and marine debris. I was not exactly sure which materials I would find on the beach and how all of the materials would work together and I assumed that manipulating them would be somewhat challenging.

4.3.1 Beach hunting

While I thought it would be easy to find netting and plastic waste on the beach, I was pleasantly frustrated when it took many trips to different beaches to find what I was looking for. I even enlisted my daughters to help, mostly they held the bags and pointed out findings. We found shotgun castings and bottle caps and other things that I am not certain of. Eventually, I found some netting.
4.3.2 Problems with the materials

There were many expected problems I was going to need to solve for this project. Would the plastic 2 liters stay together in the way I wanted them to? Would they be structurally sound enough for me to attach the netting to? How would I make the netting stiff enough to paint on? Would I be able to put my image onto the netting the way I envisioned in my head? Although I knew I had many things to figure out, my initial sketch looked like Figure 4-48. I knew that once again I wanted to include the skeleton image visible through the painting. I also knew that I wanted to incorporate the trash I had found on the beach with the netting and image somehow.

Figure 4-48. Johnson, Rochelle, *sketch for CA sea lion*, (2019), visual journal
4.3.2.1 The 2 liter bottles

I thought a lot about how Allison McDonald manipulated plastic materials to create a new form. I wanted to include the use of 2 liter bottles to create a raft for the sea lion to float on, much like the docks they rest on at Pier 39 in San Francisco. The 2 liter bottles would need to be attached to each other and secure in order to attach the netting that would eventually be painted on. I used twine and E6000 to attach the bottles and then tape to hold them in place while the epoxy dried. I was not expecting to have issues with the E6000 but, it was not enough to hold things together on its own, so I tried some silicon sealant. In some spots the sealant worked great, in others it did not hold. I added more E600 and tape in hopes that it would hold. After the epoxy had set, I enlisted the help of one of my daughters and we stuffed the 2 liter bottles full of plastic bags and wrappers.

![Figure 4-49. Johnson, Rochelle, sketch for 2L bottle attachment, (2019), visual journal](image)

4.3.2.2 Stiffening the netting

The next problem I needed to solve was how to make the netting stiff enough to become a surface to paint on. I experimented with Elmer’s School Glue, Arlene’s Tacky Glue, Modge Podge, and Acrylic Gloss on small sections of netting. I was looking to see which one dried clearest, quickest and still made the netting stiff. Out of all of the different sealants, Modge Podge seemed to stiffen the netting nicely.

![Figure 4-50. Johnson, Rochelle, “canvas”, (2019), 2L bottles with plastic](image)
Before I could really begin to paint on the netting, I needed to create a guide since the netting would not be as forgiving as canvas if I made a mistake. I created a guide out of newsprint and then the outline in chalk. I was then ready to paint. Although I was not surprised, it was still quite frustrating to paint on the netting. As expected, there were many places that the paint could not reach but I realized pretty quickly that it would be challenging to get a lot of detail to show up on the netting.

After putting many hours into it, I was unhappy with how this project was progressing. Following a few emails to my professor and a meeting with my local mentor, I ripped most of the netting off of the bottles and came up with a new idea that incorporated using acrylic sheets. This new piece would be three dimensional to be viewed predominately from the top but also from the front. This would allow the viewer to see the netting hanging down from the 2 liter
bottle raft and give another opportunity to insert some plastics. I also experimented with the idea of cutting into the 2 liter bottles and pulling some of the plastic bags out through the cuts. In thinking about Dianna Cohen’s experience with the degradation of plastic, as the plastic begins to crumble and disintegrate it will leave small flecks of plastic underneath the structure. Ultimately, there will need to be some sort of tray underneath the structure itself to catch these flecks.

![Image](image1.jpg)

Figure 4-54. Johnson, Rochelle, *starting over*, (2019), netting on plastic 2 bottles

![Image](image2.jpg)

Figure 4-55. Johnson, Rochelle, *sketch moving forward*, (2019), visual journal

### 4.3.2.4 Assembling the finished piece

The next morning I put my plan into action. I went to a store that specializes in plastics. I set to work painting the top sheet while I waited on the other pieces to have holes cut into them. A few days later, the painting and the acrylic sheets were ready.

![Image](image3.jpg)

Figure 4-56. Johnson, Rochelle, *California sea lion painting*, (2019), acrylic on acrylic sheet with netting
Assembling everything turned out trickier than I thought. The entire piece leaned to the side and the top bowed inward. The addition of wooden feet helped to stabilize the structure and adding a bit more plastic prevented the bowing.

4.3.3 The finished product

This project, by far, was the most challenging from conception through completion. I pushed myself and am happy with the outcome. Using acrylic sheets in the final project ties in nicely with the acrylic sheets from the *Leatherback series*. I also incorporated sand and 2 liter bottles to pull the series together.
I ran into many obstacles in throughout the process of completing this series. I had ideas about where I wanted to go with these projects and, as is only natural, my ideas changed as I progressed through the pieces. In the *Leatherback series*, I had difficulty figuring out how to display the final interactive piece. I also ran into problems with manipulating the plastic when I was gluing it onto the acrylic sheets. In the *Laysan albatross series*, I ran into problems yet again with the plastic pieces but this time it was in how to make them look seamlessly like a part of the painting instead of glued on top of the painting. Finally, with the *California sea lion*, I ran into the most number of problems to solve. I had to tear off most of the netting I had originally attached and completely rework my idea in order to accomplish the desired effect. It was incredibly nerve wracking. I am not used to reworking any type of artwork that severely, except when working with clay. With clay there is always a chance of disaster, but that is one of the hazards in working with that material. As if tearing my project to shreds wasn’t stressful enough, the structure itself was bowing and looked like it was going to snap. After adding wooden feet for stabilization, the completed piece was finally ready. I have grown as an artist going through these processes and working with materials I was not comfortable with. I feel I have learned lessons that I will be able to pass onto my students in the future.
5  NEXT STEPS, SUGGESTIONS, AND CONCLUSIONS

After completing this project and process I feel I have learned a lot about myself as an artist, an educator, the plastic waste that our culture produces, and how to raise awareness about an issue through artwork. I have overcome problems with the manipulation of unfamiliar materials, and I feel confident that I can help facilitate students to create works of art with the intent of raising awareness. I have changed the quantity of single-use plastics in our home, and I believe that one person can make a difference to inspire change.

5.1  Expressing concerns through my artworks

In this last year I have been highly focused on how to express my concerns for marine wildlife through the creation of artworks. I have learned how to use art as a tool to inspire change. I have grown and implemented change in my own household and shifted how my family views single-use plastics. The next step is to encourage my friends near and afar to do the same. From there, I hope to work on larger communities by being involved in beach clean-up days and becoming an active member in the Plastic Pollution Coalition.

I am still looking for a place to display my series of works but I am in contact with the Plastic Pollution Coalition, based in Berkeley, California as well as a contact at the Georgia Sea Turtle Center on Jekyll Island, Georgia. If those do not pan out, there are many local galleries as well as places like the Marine Mammal Center and Monterey Bay Aquarium that I can check with. I know that the California Academy of Sciences in San Francisco is also focusing on ocean plastics in their planetarium shows. Because my pieces are relatively small, I believe they could easily be put on permanent display.
5.2 Suggestions

The research I have completed in this study is helpful moving forward in curriculum development and lesson planning. I feel confident that I can facilitate students in expressing themselves through visual communication in a powerful way to change an audience’s mind. Using art as a method to raise awareness and influence change has been proven an effective tool as seen by the viral video of a turtle with a straw in its nose that has inspired many places to ban plastic straws. By creating a visual representation of their thoughts, students can express themselves with this powerful non-verbal language. Teaching students about the plastic waste clogging our oceans is important to aid in prevention and raise awareness. I have no doubt that students at any grade level can create a work of art inspired by what they learn about the plastic ocean and how it is affecting marine animals, their habitats and, ultimately, all of us.

5.2.1 Gaps in curriculum

When studying the plastic ocean, I found there were gaps in curriculum. There are no Common Core standards or California state standards specifically relating to pollution, let alone plastic pollution. When I looked over the Next Generation Science Standards (NGSS) for elementary aged students in California, I found that in some grades there are places where plastic pollution could be applied to some of the standards. For example, in the third grade NGSS, 3-LS4-3, under Interdependent Relationships in Ecosystems, students are asked to “construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all” (NGSS, 2018). I suppose one would say that the animals I focused on survive less well.

In other grades, I found that it would be more challenging or not possible to tie in to the standards. Out of all of the standards I looked through, kindergarten and third grade had the
most potential for including plastic pollution into the curriculum. I think this says much about what needs to be added to the NGSS and Common Core standards. Part of the problem is that science, like art, is not a main leg of the Common Core standards. However, with the current strong push for STEM and STEAM in schools, I am hopeful that the continued revising of standards will show the inclusion of specific threats that humans are imposing on the world.

5.2.2 Getting students involved

When I was creating my own works, I found it challenging to find plastics on the shore. I lost two weeks of hunting due to unsafe air quality from the fires ranging one hundred and fifty miles north east of me. During this time, I was unable to go outside and find plastic waste. At other times I searched and there were not many useable pieces that I found. In order to make this more successful in the classroom I would recommend this project at the beginning of the school year and ask students to participate in the weekend of coastal cleanup in September. If this is not possible, another approach is to have students collect plastics from their homes. Things like: plastic bottles, bottle rings and caps, plastic bags, bubble wrap, straws, and other single use plastics that they find in their homes. This is a good exercise to ask of students at the beginning of the unit. It helps to make them aware of the quantity of single use plastics found in their own homes and daily lives.

The movie Bag It (2011) is a great way to introduce students to the current state of the oceans as well as raise their awareness of the large amount of single use plastics consumed daily. The movie also has suggestions of different ways that you can become plastic free. Although much of the decision-making process for plastics in the home does not reside with the student, they can certainly educate and influence their parent’s decisions.
The students are our future and getting them involved and passionate about saving the oceans will hopefully help preserve the oceans for their and following generations. Students can create art as a way to nonverbally express important issues in order to raise awareness. Everyone has the capability to make a difference. All hope is not lost, yet.
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