



# UTILIZING EARTH LAW TO ADDRESS PLASTIC POLLUTION



# ABOUT THIS TOOLKIT

This Toolkit is for citizens of coastal settlements around the world. Its aim is to provide guidance for anyone who wishes to advance ecocentric law and policy in their area.

## THIS TOOLKIT INCLUDES:

- [Background information on where marine plastic pollution comes from;](#)
- [An explanation as to how the principles of Earth law may be used to tackle marine plastic pollution;](#)
- [Examples of Earth law-inspired policies and actions that address marine plastic pollution at a local level; and](#)
- [A template sustainability rights law.](#)

Here at Earth Law Center, we are seeing a large desire from coastal communities to address plastic pollution. Marine plastic pollution has been recognized as a serious global concern that international cooperation is required to mitigate.

Coastal communities play a crucial role in addressing marine plastic pollution. Through self-governance and educational efforts that raise citizens' awareness of the negative environmental and economic impacts of plastic debris in the ocean, coastal communities have the ability to control local plastic consumption, disposal and leakage.

This Toolkit gives examples of policies and strategies that local communities can implement to minimize marine plastic pollution. These strategies are largely based on the postulates of Earth law, or Earth Jurisprudence, which is a body of law that recognizes humans' interconnectedness with Nature as well as Nature's inherent right to exist, thrive, and evolve. By providing a general, non-exhaustive list of strategies, we aim to accommodate the needs of a wide range of municipalities, thus enabling communities to advance initiatives specific to their individual needs, capacities, and legal traditions. Moreover, this Toolkit seeks to inform local efforts by including wisdom from frontline practitioners on how to harmonize local governing practices with ocean conservation.

# TABLE OF CONTENTS

---

<b>Background: Marine Plastic Pollution</b>	<b>4</b>
<hr/>	
<b>Addressing Marine Plastic Pollution Through Earth law</b>	<b>6</b>
What is Earth Law?	6
Case Study: Santa Monica, California	7
<hr/>	
<b>Earth Law-based Actions for Communities</b>	<b>8</b>
Individual Actions	8
Community Mobilization	9
Passing Local Ordinances	10
Leveraging Clean Water and Policy	12
<hr/>	
<b>Actions for Working with Local Businesses</b>	<b>15</b>
<hr/>	
<b>Example Resolution and Ordinances to Get You Started</b>	<b>19</b>
<hr/>	
<b>Resources</b>	<b>21</b>
<hr/>	
<b>About Earth Law Center (ELC)</b>	<b>21</b>
<hr/>	
<b>Endnotes</b>	<b>22</b>

## AUTHORS

Ella Harvey, Sonja Fortuin, Michelle Bender and Marsha Moutrie

# BACKGROUND: MARINE PLASTIC POLLUTION

**T**he versatility of plastic renders it nearly ubiquitous. Plastic has come to play a role in nearly all aspects of our society, from healthcare to communications to industry. It has been estimated that since first starting to be mass-produced in the 1930s, more than 8.3 billion tons of plastic has been produced, and at least 6.3 billion tons of this plastic has become waste.<sup>1</sup> In general, plastic may take thousands of years to degrade, as most plastics are not biodegradable and simply fragment into smaller pieces.<sup>2</sup> The production of plastic waste has increased dramatically in the last few decades, and the amount of plastic waste in landfills is projected to reach 12 billion metric tons by 2050.<sup>3</sup> As a result, plastic is the most common form of marine debris.<sup>4</sup> In 2010, between 4 and 12 million metric tons of plastic waste entered the ocean from land.<sup>5</sup>

Much of marine plastic pollution comes from land-based sources including coastal landfills, river effluent, industrial and municipal wastewater discharge, and beach recreation.<sup>6,7</sup> When coastal landfills are mismanaged or poorly contained, plastic products make their way into rivers and the ocean.<sup>8</sup> Additionally, municipal wastewater often contains plastic beads from facial cleansers and cosmetics, and industrial wastewater can contain plastic from manufacturing these products or other plastics.<sup>9</sup> Our clothes are another important source of plastics, as synthetic textiles like polyester shed plastic fibers when they are washed.<sup>10</sup> With approximately 80 percent of marine debris coming from land-based sources, the Toolkit focuses on actions and strategies to reduce this source.

## HOW MUCH PLASTIC WASTE IS RECYCLED?

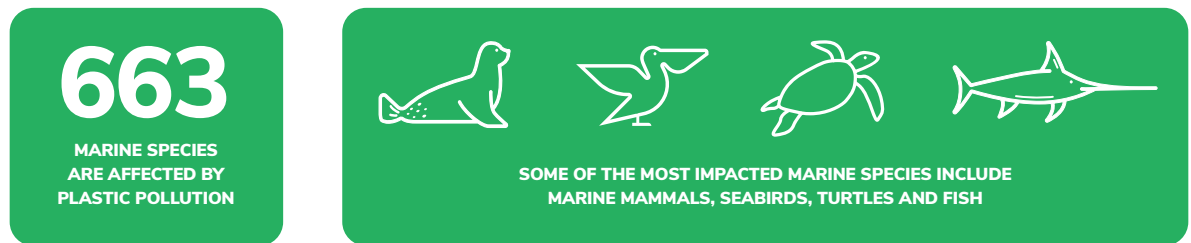


Why not just increase recycling? Even if plastic waste is recycled, recycling typically only delays plastic's inevitable journey to the landfill, as most reprocessed plastics have low economic value and are not generally recycled more than once.<sup>11</sup> The production of lower value goods from recycled plastics is called "downcycling," and it makes up the majority of recycling.<sup>12</sup> Additionally, only pure PET plastic items, including some food containers and plastic bottles, can be recycled into items with the same economic value, due to degradation of plastic polymers in other types of plastics.<sup>13</sup> About 9% of plastic ever produced has likely been recycled, while 12% has been incinerated, and 79% has accumulated in landfills and the natural environment.<sup>14</sup> Moreover, many plastic waste items, including single-use plastic consumables like food packaging, bottles, straws, and bags, end up in landfills because they cannot be recycled due to contamination, blended materials and additives.<sup>15</sup>



An important component of marine plastic pollution is microplastics. Microplastics are plastic fragments less than 5 millimeters in size, and they can be manufactured (primary microplastics) or derived from the fragmentation of larger plastics (secondary microplastics).<sup>16</sup> Primary microplastics are manufactured and can be used in cosmetic exfoliants and industrial abrasives, and secondary microplastics form when plastic material breaks down from UV exposure or mechanical abrasion.<sup>17</sup> Microplastics come from a variety of sources, but landfills are suspected to be a major source.<sup>18</sup> The United Nations Environment Programme estimates that there are 51 trillion microplastic particles in the ocean,<sup>19</sup> and a significant portion of beach sand is made up of microplastic particles.<sup>20</sup> While the United States banned the import and manufacture of toiletries with microbeads in 2015, microbeads are only one component of microplastic pollution.<sup>21</sup>

## HOW MANY MARINE SPECIES ARE AFFECTED BY PLASTIC POLLUTION?



The amount of plastic in the ocean is staggering, as are the consequences of this pollution on marine life. Marine life is easily entangled and killed in plastic refuse like abandoned fishing gear, and organisms often mistake microplastic particles for food and ingest them.<sup>22</sup> Plastic ingestion may not directly result in mortality, but it can have deleterious sublethal effects including gastrointestinal blockages and impaired locomotion.<sup>23</sup> Moreover, plastic ingestion can pose toxicological risks, as plastics often contain carcinogens, endocrine disruptors, and persistent organic pollutants.<sup>24</sup> It is estimated that at least 663 marine species are affected by plastic pollution, and some of the most impacted marine species include marine mammals, seabirds, turtles and fish.<sup>25</sup>

Plastic pollution also has consequences for human health and society. For example, bisphenol A (BPA) has been shown to be correlated with elevated risk of and cardiovascular disease, type 2 diabetes, and liver complications.<sup>26</sup> BPA is an additive used in containers that store food and water, such as plastic water bottles and cans. Plastic debris also serves as a vector for pathogenic bacteria, such as *E. coli*, as well as other parasites,<sup>27</sup> and a recent study estimates that a person can consume at least 74,000 microplastic particles a year.<sup>28</sup> Additionally, plastic pollution has an impact on coastal economies, as it can diminish recreational revenue and reduce the productivity of fisheries and aquaculture.<sup>29</sup>

As a result, coastal communities have a responsibility to combat marine plastic pollution by reducing the amount that makes it way into the ocean.

# ADDRESSING MARINE PLASTIC POLLUTION THROUGH EARTH LAW

## WHAT IS EARTH LAW?

**E**arth law, or Earth Jurisprudence, is a legal framework that enhances Nature's capacity to support all life. Human civilization has operated for centuries on the assumption that we have access to endless resources and that we have the right to use those resources. Until relatively recently, we did not consider the negative consequences of our civilization's growth on Earth's natural systems. As such, our current legal system is designed to benefit economic growth first and Nature second. By recognizing the human species' interconnectedness with Earth's natural systems, as well as the intrinsic rights of Nature, Earth law represents a way of relating to the natural world.

Earth law ultimately seeks to redress our failure to protect the environment by introducing a paradigm shift regarding our interactions with Nature. Earth law calls for a system in which Nature has legal protections, and where governments and citizens can and must defend and restore Nature. The wellbeing of humans and Nature is connected and interdependent, and we need a healthy planet to continue to support a thriving global economy.

In recent years, Earth law has gained increasing global attention among scholars, policy-makers and citizens. As a result, Earth law and the Rights of Nature movements are emerging in the legal systems of countries, municipalities, and intergovernmental organizations around the world. Communities are passing local laws that not only recognize Nature's inherent rights to exist and flourish, but moreover recognize that humans have a right to a healthy environment. For example, Ecuador, Bolivia, and New Zealand have passed laws to ensure that ecosystems have the same rights as people and corporations. In general, these laws reflect sentiments embodied in the national constitution. However, even when the constitution does not embody Earth law principles, it is possible to enact environmental regulations with a focus on Earth law.

## CASE STUDY: SANTA MONICA, CALIFORNIA

Local, achievable changes are a fantastic way to start building national support for Earth law initiatives that may eventually bring about more effective and global changes. One example of successful, local implementation of Earth law comes from the city of Santa Monica, California. Santa Monica is a densely-populated city of almost 100,000 residents,<sup>30</sup> and the local beach attracts over 8 million visitors annually.<sup>31</sup>

In 2013, Santa Monica passed the Sustainability Rights Ordinance, that recognized “the rights of people, natural communities and ecosystems to exist, regenerate and flourish”<sup>32</sup> within the city. Specifically, this ordinance gives the residents of Santa Monica the right to a healthy and sustainable environment, the rights to self governance, and gives citizens the authority to protect Nature’s rights on behalf of the groundwater aquifers, atmospheric systems, marine waters and native species within the boundaries of the city. With the passage of this ordinance, Santa Monica challenged the traditional legal status of Nature as simply property and recognized that natural communities and ecosystems have inherent and inalienable rights. Prior to the ordinance, a resolution was passed, so that the City Council, Environmental Task Force and community, could become familiar with an Earth law approach and what it would mean in practice. Even though the ordinance has been passed, fully implementing it at a city level has proven difficult. To promote accountability, the ordinance requires the city to report biannually on implementation progress.

Santa Monica has taken several measures to reduce its contribution to marine plastic pollution. To start, the city has banned smoking in public spaces, which leads to less litter from cigarette butts. Polystyrene containers and plastic bags were banned in 2007, and the use of utensils, cups, lids, lid plugs, stirring sticks, bowls, and other non-marine degradable disposable food service containers were banned in 2018. Additionally, Santa Monica has implemented storm water cleaning devices to prevent plastic from entering the ocean through city drains. The example of Santa Monica shows that public education and a local focus on shifting legal perspectives and consumer values can lead to larger cultural shifts.



# EARTH LAW-BASED ACTIONS FOR COMMUNITIES

**C**oastal communities have a central role in tackling the global plastic pollution crisis. Across the world, more and more communities are mobilizing to address global problems and take responsibility for their future. Community-based solutions can accommodate local needs and incorporate local knowledge to create ecologically-sound, fair, and relatively nimble policies. Moreover, community-based initiatives can strengthen local networks and build community resilience to environmental changes. Since local empowerment is highly important for global change, we have compiled a list of actions that you and your community can take to combat marine plastic pollution.

## INDIVIDUAL ACTIONS

**O**ne of the most important steps for protecting the ocean from plastic pollution starts with individual action, as incremental changes in individual behaviors accumulate and eventually lead to changes in overall societal values. The Earth law 'Theory of Change' is consistent with this notion that collective behavior builds momentum behind public expectations, which can spill over into legal frameworks. As a consumer aiming to implement Earth law in your own community, you can follow the **5R's: Reduce, Refuse, Reuse, Recycle, and Repurpose.**



**Reducing the use of plastic** is a guaranteed way to cut down on consumption, demand and environmental impact. In fact, researchers at UCLA and the Surfrider Foundation found that the key to cutting down on plastic waste is reducing consumption (Howe, Romer, Melliou, Rao, & Stein, 2019). For example, consider buying wax or silicone food containers and wrappers instead of plastic bags. For a useful tool to understand how much plastic you use, check out the resources on [Earth Day's plastic calculator](#).



**Refusing to buy or accept single-use plastics**, such as food with plastic packaging, will eventually lower the demand for non-sustainable products. Small steps, such as bringing your own grocery and produce bags to the store or frequenting grocery stores that offer plastic-free food items, can make a big difference.



**Reusing plastic**, such as water bottles, plastic bags or plastic take-away containers can help you cut costs and minimize your personal waste. While the ubiquity of plastic makes it hard to avoid, reusing the plastic you cannot easily find alternatives for can minimize the amount of landfill plastic you produce.





**Recycling plastic** reduces and can even eliminate the need to extract raw materials, reducing the consumption of fossil fuels needed to create plastic. Try only buying plastics that are recyclable within your jurisdiction (you may need to contact your local waste management facility to determine which types of plastics they accept).



**Repurposing plastic waste** by changing its use can prolong its lifespan and therefore the amount of time it takes for it to reach the landfills. For example, you can repurpose plastic bags by weaving them into 'plarn' textiles, bags, and accessories.

## COMMUNITY MOBILIZATION

Despite the important role of individual action, it is essential to mobilize the entire community to see community-wide improvements. Here are some ideas to build momentum around plastic-free living in your community:

### START A MOVEMENT

Start or join a local environmental initiative or association dedicated to taking action on plastic pollution. For example, you could join or start a local [Surfrider chapter](#), an organization dedicated to enacting local, regional, and national change to protect the oceans.

### FORM A PARTNERSHIP

Partner with other, nearby municipalities to form an association of local municipalities. An example of such an association is [KIMO](#) (Kommunenes Internasjonale Miljøorganisasjon), which started as an association of Danish municipalities designed to raise awareness around local environmental concerns.

### LOBBY YOUR GOVERNMENT

Meet with local or regional representatives in government to ask them to implement plastic-free initiatives in your area. Consider modeling your lobby strategy on that of [Citizens' Climate Lobby](#), a grassroots organization that supports volunteers to lobby their elected representatives about climate goals. You can also consider petitioning your government to create a [Circular Economy and Waste Pollution Reduction Panel](#) for the purposes of identifying the key sources of marine plastic debris and microplastics; identifying possible measures and best available techniques to prevent the accumulation of plastics in the marine environment; and creating recommendations for actions to address plastic pollution.

### HOST AN EVENT

Host an event in your community like a beach or river cleanup to raise awareness about marine plastic pollution. There are several organizations including the [Great Canadian Shoreline Cleanup](#) and [Earth Day's Great Global Cleanup](#) that provide resources to help with local cleanups and provide a repository for cleanup data. You may also want to hold a brainstorming session for local policy actions and ideas for your community to work together to reduce plastic waste.

---

## EDUCATE THE COMMUNITY

Encourage others to make changes in their daily activities and raise awareness about marine plastic pollution by leading community discussions, reaching out to local media, launching social media and billboard campaigns, and drafting letters to the editor. Engage a diversity of community leaders and residents in your discussions and activities by reaching out to all types of organizations in your area.

## PASSING LOCAL ORDINANCES

One effective mechanism of local change is passing a local ordinance, a law that is created and enforced locally and is meant to complement pre-existing state and federal laws and regulations. Ordinances are formally binding, unlike resolutions which are just expressions of priorities in policy but can help build support for a cause.<sup>33</sup> Since local ordinances are meant to act in tandem with state and federal laws and regulations, they can serve to tighten existing laws. For example, a state may implement a tax on certain single-use plastic items, but a municipality could pass an ordinance to ban them entirely. Below are examples of ordinances that your municipality could pass to reduce its plastic pollution.

---

### 1 SINGLE-USE PLASTIC BANS

There are dozens of cities and nations around the world that have already enacted bans on certain single-use plastic items, including: [Kenya](#) (plastic bags), [Vanuatu](#) (plastic bags and bottles), [Canada](#) (microbeads), [Montreal](#) (plastic bags), [California](#) (plastic bags), and [New York State](#) (plastic bags). However, local plastic bans in the US have recently been facing difficulties due to state-level laws (“[preemptive bans](#)”) that prohibit municipalities from banning certain plastic materials, as is the case in [Tennessee](#) and [Oklahoma](#).



---

## 2 TAXES ON SINGLE-USE PLASTICS

If your municipality cannot fully ban plastic goods, consider instituting a fee on the use or disposal of disposable plastics like plastic bags (charging at grocery stores and incentives for bringing reusable bags), as has been done in many places like the [United Kingdom](#) and [Connecticut](#), and in cities like [Portland, Maine](#).

---

## 3 PLASTIC ALTERNATIVES

Municipalities may find it difficult to entirely ban the sale or use of disposable plastics without the availability of alternative, plastic-free disposable items. Municipal governments should therefore consider substituting disposable plastic items with biodegradable, disposable plastic-free alternatives to simplify the transition to a plastic-free community. Municipalities could also ban the sale of degradable plastic products that don't meet certain specifications, as was done in [California](#).

---

## 4 INCENTIVIZE THE USE OF REUSABLE CONTAINERS

There are several steps a municipality can take to incentivize the use of reusable containers and bags, such as increasing the number of water refill stations in public spaces, as is occurring in [London, UK](#).

---

## 5 MAKE RECYCLING EASY

Require all fast-food businesses to place recycling and trash bins in easily accessible places on their premises, or enact penalties for littering plastic or failing to recycle it properly. For example, [California](#) and [Delaware](#) have enacted legislation that requires all retail stores to have an in-store recycling program. Municipalities could also host "[Recycle Fridays](#)," where residents can return their plastic goods for recycling.

---

## 6 INSTALL 'SMART' TRASH BINS

Install smart trash bins to increase collection effectiveness, as in [Baltimore, Maryland](#).

---

## 7 CREATE A DEPOSIT SCHEME

Institute local deposit schemes for plastics. Schemes exist in many countries around the world, in which consumers pay a small fee on recyclable plastics, for which they are reimbursed when they return the plastic to the vendor. A simple way to institute this type of scheme would be to install incentivized reverse vending (IRV) programs that accept used plastic bottles and in return, give the user back their deposit. IRV programs are becoming increasingly popular around the world, and incentivize consumers to return used bottles through creative means like prizes and other cash-equivalents like phone cards and public transit tickets. In order to visualize this growing popularity, [The Last Beach Cleanup](#) has created an online global map that shows both mandatory and voluntary IRV programs by country.

---

## 8 INSTALL CATCHMENT SYSTEMS

Install catchment systems in rivers, channels, or drains in order to prevent plastic waste from going out to sea. Different types of catchment systems have been installed in several cities around the world, including the "[drain socks](#)" in Kwinana, Australia, the "[Bubble Barrier](#)" in Amsterdam, and "[the Interceptor](#)" in Jakarta. In some areas, catchment methods for plastic have been implemented into regional law, as is the case in California with the [California Coastal Act](#), which requires that all facilities involved in the pre-production of plastics install screens downstream from their operations to collect escaped plastic particles.<sup>34</sup>



Proposing a resolution or ordinance to your local legislative body does not need to be challenging or intimidating. Before you start drafting the ordinance, the first step is to become familiar with any existing local, state, or federal laws on the subject that might determine the boundaries of your ordinance. You also may wish to attend a few meetings of the governing body you hope to influence, both to understand how they operate and to identify some allies in office who will support the cause. It is critical that you demonstrate that the community supports the initiative, so do your best to build a diverse coalition of community members to represent the legislation, at council meetings and otherwise. Once it comes time to present the ordinance to the legislative body, make sure to prepare the sponsor with a sheet of talking points about the ordinance, including both reasons why it is necessary and counterarguments to any concerns about it.

## LEVERAGING CLEAN WATER AND POLICY



The absence of a comprehensive plastic pollution framework provides an opportunity for local communities to explore how and whether existing law and policy mechanisms can be used to address the threat of plastic pollution. Local communities can leverage their rights to clean water, and federal statutes such as the Clean Water Act, to create and implement eco-centric policies that reduce the source and reduce the flow of plastics to the ocean.

The Clean Water Act (CWA) passed in the 1970s has yet to prohibit discharges and produce clean water (its objective) because it allows pollution under permitting systems. Even though it is feasible to reduce the sources of plastic pollution, the efforts to date have been unable to stem the tide. Lack of funding, political backtracking, understaffing and weak enforcement have prevented the CWA from achieving its intent.<sup>35</sup> But most importantly, the CWA fails to consider human relationships with other species and ecosystems. As a result, the CWA solely focuses on the impacts and benefits to humans, and harm to the environment is controlled on a “what is attainable” basis. By allowing exemptions and discharges on a permit-by-permit basis, the CWA allows pollution “as long as it does not have a ‘reasonable potential’ to violate water quality standards.”<sup>36</sup> It does not cease water quality degradation, it merely slows the pace.<sup>37</sup> The CWA is “built around the same core structure that privileges economic growth.”<sup>38</sup> It creates a system which balances competing interests (e.g., prohibiting the

discharge of pollutants per the goals of the Act and allowing discharge of pollutants at levels deemed reasonable) and licenses pollution to legitimize it (e.g., MSGP and NPDES).<sup>39</sup> This is the real reason why the CWA is not succeeding in controlling the discharge of pollutants, namely plastic.



## ADVOCACY BY PEOPLE AND LOCAL COMMUNITIES UNDER THE CWA CAN INCLUDE:

### ENFORCING THE LAW THROUGH PETITIONS AND LITIGATION

“CWA § 505(a) allows citizens to file a civil action against any Federal agency that is alleged to be in violation of an effluent standard or limitation or an order issued by EPA or a State with respect to such standards and limitations. In addition, CWA § 505(a) allows citizens to file a civil action against the EPA Administrator for alleged failure to perform any non-discretionary act or duty.”

### PRESENTING COMMENTS OR WRITING LETTERS TO WATER BOARDS

for example, California has regional water boards who will have public meetings where citizens can publicly voice their concerns.

### PUBLIC OUTREACH

Organizing public outreach, contact representatives, and demand that action is taken to restore and protect your waters.

### CHALLENGING A PERMIT

for example, California’s State Water Board allows permits to be challenged by protests which show “that the proposed appropriation would not be within the board’s jurisdiction, would not best conserve the public interest or public trust uses, would have an adverse environmental impact, or would be contrary to law....”

ELC created a **toolkit** specific to CWA advocacy related to flow impairment. It includes more information on opportunities and steps to advocate for clean water under the CWA.

## WHAT ADOPTING AN ECOCENTRIC APPROACH TO GOVERNANCE CAN LOOK LIKE UTILIZING THE CLEAN WATER ACT:

### Industrial Pollution Permits

The CWA provides that discharging any pollutant into navigable waters, the contiguous zone or ocean is unlawful unless granted a permit under the National Pollutant Discharge Elimination System (NPDES).<sup>40</sup> Facilities that manufacture plastic products are required to obtain NPDES permits, as accidental releases of pre-production plastic resin pellets from plastic processors contribute approximately 10% by count to plastic pollution.<sup>41</sup> Plastic resin discharge limitations are typically technology-based, and are therefore subject to the best available technology.<sup>42</sup> However, when these technology-based limitations fail to attain water quality standards, more stringent, water-quality-based effluent limits are adopted.<sup>43</sup> These water-quality-based limits are subject to “the amount of pollutants in the water without regard to the cost or technology availability,” and can therefore be more effective in preventing plastic pollution.<sup>44</sup> Encouraging plastic-producing facilities in your community to adopt water-quality standards in lieu of technology-based standards may be a highly effective way to prevent plastic pollution from entering your local waterways.

### **State-level Water Quality Standards**

The EPA has instituted a set of national minimal water quality standards based on current scientific knowledge, which states are required to adopt and regularly revise.<sup>45,46</sup> However, these national standards do not include plastic, even though mounting scientific evidence indicates that plastic poses a threat to our nation's drinkable, fishable, and swimmable waterways.<sup>47</sup> Since states have the option to institute more stringent measures than the national minimum, they have the option to declare whether plastic should be considered a criteria pollutant.<sup>48,49</sup> Therefore, one way to prevent plastic pollution in local waterways is through lobbying your local and state representatives to implement more stringent water quality standards.

### **Total Maximum Daily Loads**

States are required to identify waters that do not meet water quality standards,<sup>50</sup> and establish Total Maximum Daily Loads (TMDLs) for every pollutant that does not meet effluent limitations.<sup>51,52</sup> California and the District of Columbia have implemented trash TMDLs for their waterways.<sup>53</sup> Establishing a nationwide TMDL on plastics, or encouraging more states to follow California and D.C., may significantly reduce the flow of plastic debris from land to sea. Unfortunately, TMDLs do not yet account for microplastics (i.e. plastics smaller than 5 mm), so much of the plastic debris by count and a significant amount by weight goes unregulated and uncaptured.<sup>54,55</sup> Also, plastic debris can serve as a vector for contaminants and pathogens,<sup>56</sup> many of which, including toxic metals, pesticides like DDT, and certain strains of bacteria, are already listed as toxic pollutants requiring effluent limitations under the CWA.<sup>57</sup> This presents an opportunity for communities to not only advocate for trash TMDLs but expand TMDLs to include micro-sized debris, thereby addressing the vast majority of plastic debris and decreasing toxic chemicals and contaminants that decrease water quality.<sup>58,59</sup>

### **The Right of Humans and Nature to Clean Water**

The principal objective of the Clean Water Act is to ensure all waters of the United States are safe to drink, fish and recreate in. Local advocacy can highlight the human right to clean water as a tool to ensure plastic pollution standards are created and enforced. This advocacy can also include Nature's right to clean water as well: the fish, bugs, animals and plants that all rely on clean water for survival. By not implementing the CWA and enforcing it to address plastic pollution, local communities can assert that states are violating basic and inherent rights.

# ACTIONS FOR WORKING WITH LOCAL BUSINESSES

Businesses can take many actions to reduce their plastic footprint, and you can encourage them to do so. However, many companies may not have the capacity or interest to take these steps, which is where you come in. Encouraging local businesses to take action to reduce their plastic footprint requires not only making it as **easy as possible** for them to improve, but also demonstrating that the **community supports** this action. Therefore, some preliminary steps for encouraging local businesses to reduce their plastic footprint are listed below.

---

## 1 GET SUPPORT

Consider writing a joint letter from the community to local businesses that outlines the problem of marine plastic pollution and asks companies to take action to reduce their plastic footprint.

---

## 2 KNOW THE RULES

Obtaining and sharing a copy of your municipality's recycling and sustainability rules, in case the business is not aware of local recycling regulations.

---

## 3 FIND PLASTIC-FREE ALLIES

Make it easy for businesses to transition by gathering the names of local facilities or organizations that can help businesses go plastic-free. Find local producers of recycled plastic goods and plastic-free goods that the business could work with, and lists of the products that they produce. This would be to provide options for exchanging plastic goods that the company uses for biodegradable or recycled plastic products. Try the [Zero Waste Home](#) mobile site or [app](#) to find physical shops that sell packaging-free products. Some examples include the [Plastic-free Pantry](#), the [Zero Waste Club](#), [WorthWhyLe](#), and the [No Plastic Shop](#).

---

## 4 THINK AHEAD

Businesses undergoing renovations can turn usable plastic goods like old windows or fiberglass into a tax-deductible donation to organizations like [Habitat for Humanity](#), which collect and resell such goods to fund the construction of houses. In addition, companies like [Dell](#), [HP](#), [BestBuy](#), and [Staples](#) have programs where you can trade in or recycle old electronic goods.

Once you have gathered community support and done your background research, it's time to get in touch with the business. One approach would be to contact the business's manager or CEO to ask to meet. Once you have set up a meeting, you can explain what you are trying to accomplish and help the company think of strategic ways to reduce their plastic footprint by asking the following questions:

- What plastic products does this business consume and what plastic waste does it produce?
- Does the business donate its electronic waste, or send it to landfill?
- What recycling practices does this business follow?
- What is this business doing to ensure that all plastic waste is being responsibly recycled, in accordance to the rules of the municipality?
- What other opportunities could the business take to reduce its plastic footprint? For example, the company could provide reusable water bottles for its employees by partnering with a company like [School Bottle](#), which produces reusable water bottles for school children.

In partnership with the business, and using the information you have gathered, you can work together to identify areas where plastic consumption can be reduced. Try to find out who is in charge of procurement at the company and work with them to determine which products can be replaced by plastic-free alternatives, and if the **company's distributors** can deliver their products with less plastic packaging. In addition to these preliminary steps, here are a few more things you can ask businesses in your area to do to reduce their plastic footprint:

---

### **ADOPT PLASTIC CSR POLICIES**

Ask the company to adopt plastic-free practices into their corporate social responsibility (CSR) policies, to ensure that the plastic-free mindset informs all future decisions.

---

### **INCORPORATE EPR**

Ask the business to institute extended producer responsibility (EPR) policies to become accountable for their plastic production and usage. EPR is the concept that producers are responsible for the reuse, recycling, or disposal of all of the material they produce and distribute. As a result, producers are incentivized to design more recyclable or compostable products.

---

### **BAN SINGLE-USE PLASTICS**

Ask the company to implement a ban on the use of certain single plastic items, and suggest that they provide incentives for employees to 'go-green' as well.

---

### **SIGN ONTO THE NEW PLASTICS ECONOMY GLOBAL COMMITMENT**

The venture already includes businesses producing 20% of plastic packaging globally, with the commitment to reduce plastic pollution at its source.







Companies have an important role in shaping the community. Aside from encouraging them to reduce their own plastic consumption, you can also encourage local businesses to promote sustainable, plastic-free living in the community with the following initiatives:

---

#### **BEACH PICK-UP COMPETITIONS**

If the company is in the service industry next to the beach, you can suggest that they host a summer beach cleanup competition, like the [#SavedFromTheSea campaign](#). Another idea is to provide trash bags to beach-goers and offer prizes for returning the bag filled with plastic trash found on the beach, as was done by several [businesses in Holland](#).

---

#### **PLASTIC-FREE SIGNALING**

Businesses can signal to their customers and the community that they have eliminated, either entirely or partially, plastic from their operations via a sign in the window or on their website. This type of signalling can create a competitive advantage for businesses among a consumer base concerned with plastic pollution. Businesses could even work with local government or business organizations to develop a labeling system for local businesses, in which companies are awarded one, two, or three stars based on their commitment to reducing plastic in their operations.

---

#### **SUPPORTING COMMUNITY EFFORTS**

Aside from actions that can be taken to change business operations and plastic consumption, businesses can also stimulate action in the community by providing funding for local initiatives. Even if an initiative to reduce plastic pollution has garnered local support, it may be difficult to raise the capital needed to fully implement the change, and it can be hard to build momentum behind a cause if there is difficulty in securing financial resources. Local businesses can support efforts to reduce plastic by providing financial support to help raise money for advertisements and supplies.



Finally, all businesses depend on their customers for survival. Therefore, as a customer, you have a role in determining the success of your local businesses. For example, if you notice that a business in your area sells products with an unnecessary amount of plastic packaging, respectfully bring this to their attention and explain why this is problematic. If the business does not respond, you can start a community movement to encourage the business to address the issue, or draw attention to the issue on social media.

One example of the power of customer action comes from Holland, where two 'Plastic Avengers' (Merijn Tinga, AKA [Plastic Soup Surfer](#), and Dirk Groot, AKA the [Zwerfinator](#)) started a campaign on '[knetterballen](#),' plastic balls that release fireworks when thrown on the ground. These balls were very popular and ubiquitous, but contributed a lot of plastic waste to the environment. Merijn and Dirk noticed this problem, and asked people to share images of the plastic debris from the balls on social media using the hashtag #knetterbal, and to log the images in the litter-database app [Litterati](#). HEMA, a popular Dutch brand that used to sell the ball, quickly responded to the social media movement by stating that they would stop selling the toys immediately. This action started a chain reaction among other stores, resulting in a huge success.



# EXAMPLE RESOLUTION AND ORDINANCES TO GET YOU STARTED

## RESOLUTION NUMBER \_\_\_\_\_

A RESOLUTION OF THE [Governing Body of the City/Town/County of \_\_\_\_\_ ]  
DECLARING THE [City's/Town's/County's] COMMITMENT TO SUSTAINABILITY RIGHTS  
AND TO THE PROTECTION OF THE OCEAN FROM PLASTIC POLLUTION

**WHEREAS**, because the [City/Town/County of \_\_\_\_\_ ] recognizes that all life on Earth is interdependent and that the future welfare of \_\_\_\_\_ is inseparable from the welfare of the natural environment including the air, fresh water, soil and the Ocean; and

**WHEREAS**, \_\_\_\_\_ is committed to protecting, preserving and restoring the natural environment and to helping residents live in harmony with the natural world by respecting the rights of humans and natural communities and ecosystems to a sustainable future; and

**WHEREAS**, it has become apparent that existing local, national and international policies and laws have proven to be inadequate to ensure environmental sustainability, that their underlying societal and legal assumptions about humans' relationship to Nature must be re-examined, and that new approaches must be identified and undertaken; and

**WHEREAS**, our legal system has long rested on the assumption that the nature world as mere human property, which may be used by its human "owners" for their own, short-term, private economic benefit, with minimal regard for the environment or for the long-term health and well-being of all living things; and

**WHEREAS**, as a result of this underlying assumption, the exponential growth in the human population, and the increasing per capita resource consumption in developed nations, Earth cannot sustain human's current way of life; mass extinction of species is occurring on land and in the Ocean as the planet heats up, air pollution increases, soil is depleted, freshwater grows scarce, the Ocean acidifies, and human trash accumulates; and

**WHEREAS**, to address this crisis, world-wide, national and local environmental communities are using their governments to adopt a new paradigm based on the recognition that all communities, both human communities and natural communities and ecosystems, have fundamental sustainability rights, that the health of the planet depends upon recognizing and respecting these rights, and that private, rights cannot be allowed to take precedence over these rights to human and environmental health and well-being;

**WHEREAS**, there are enumerable examples of laws and policy statements adopted around the world to recognize the rights of the natural world to exist, thrive and evolve; Ecuador and Bolivia have incorporated Nature's rights into their national constitutions, and, across the United States, from Pittsburgh, PA to Santa Monica, CA, over 200 local governments have likewise recognized that both humans and natural communities possess rights to a sustainable future;

**WHEREAS**, in order to effectuate its commitment to environmental stewardship and better promote human life in harmony with Nature, \_\_\_\_\_ wishes to join this growing, world-wide movement and recognize the rights of humans and natural communities and ecosystems, on land and in the Ocean, to exist, flourish and naturally evolve.

**NOW, THEREFORE, THE (Governing Body of the City/Town/County of \_\_\_\_\_ DOES HEREBY RESOLVE AS FOLLOWS:**

**SECTION 1.** The [City/Town/County of \_\_\_\_\_] recognizes the right of its people and the natural communities and ecosystems and their component parts, on land and in the Ocean, to clean air, water, and soil, and to a sustainable natural climate, which will allow life on Earth to continue to exist, be restored, thrive and naturally evolve.

**SECTION 2.** The [City/Town/County] supports effectuating the right to a sustainable future by modifying or supplementing local law, policy, and programs as needed to better protect and sustain, for current and future generations, the natural environment on which we and all life, on land and in the Ocean, depend.

**SECTION 3.** The [City/Town/County] will identify and implement new practices and programs that will improve its waste management practices by, among other things: reducing waste production ; supporting beach clean-up activities; encouraging and facilitating proper waste disposal, particularly in public areas near the shore; and educating and encouraging consumers to choose environmentally friendly products and avoid polluting fresh and Ocean waters.

**SECTION 4.** \_\_\_\_\_ shall formulate and adopt laws, policies and plans that will, in general, effectuate sustainability rights, and will, in particular, achieve the goal that, by the year \_\_\_\_\_: plastic and other single-use materials sold in the [city/town/county] will either be reusable, fully and actually recyclable or compostable: and 75% of single-use plastic packaging and products sold or distributed with the [city/town/ county] will be recycled or otherwise diverted from landfills.

**SECTION 5.** The [City/Town/County] Clerk shall certify to the adoption of this Resolution, and thenceforth and thereafter it shall be in full force and effect.

**APPROVED AS TO FORM:**

---

City Attorney

---

Mayor



# RESOURCES

In addition to example policies already mentioned, the below resources offer a broad range of support, tools and example policies for addressing plastic pollution in your local community.

The [Clean Water Action Plastics Toolkit](#) includes model ordinances based on the type of plastic product you want to address.

[The Product Stewardship Institute](#) lists sample policies to address plastic pollution.

[Plastic Bag Laws.org](#) and [Californians Against Waste](#) includes ordinance language specific to plastic bags.

[The Plastic Pollution Coalition](#) includes toolkits on policies specific to bags, foodware, microplastics and EPR, as well as a [guide for becoming a plastic free town](#).

## ABOUT EARTH LAW CENTER (ELC)

[Earth Law Center](#) is a 501(c)(3) nonprofit environmental law organization working around the world to transform the law to recognize, honor and protect nature's inherent rights to exist, thrive and evolve. We partner with frontline indigenous people and communities to challenge the overarching legal and economic systems that reward environmental harm, and advance governance systems that maximize social and ecological well-being.

ELC strives to change our anthropocentric worldview and legal frameworks by:

Raising awareness through education and outreach and fostering a new generation of Earth law advocates

Creating strategic partnerships with grassroots organizations and local and Indigenous communities to provide frontline legal support

Securing new laws and landmark court decisions that strengthen our obligation to protect Nature

Learn more at <https://www.earthlawcenter.org/>

### CREDITS

Design	Norman Cherubino <a href="#">Hello Cherub</a>
Cover Photo	<a href="#">Cristian Palmer</a> on <a href="#">Unsplash</a>
Photo Page 7	Geert Koemans
Photo Page 7	<a href="#">Nenad Radojčić</a> on <a href="#">Unsplash</a>
Photo Page 10	<a href="#">Volodymyr Hryshchenko</a> on <a href="#">Unsplash</a>
Photo Page 12	<a href="#">Meritt Thomas</a> on <a href="#">Unsplash</a>
Photo Page 16	<a href="#">Kate Trifo</a> on <a href="#">Unsplash</a>
Photo Page 17	<a href="#">Brian Yurasits</a> on <a href="#">Unsplash</a>
Photo Page 18	<a href="#">Brian Yurasits</a> on <a href="#">Unsplash</a>

# ENDNOTES

- <sup>1</sup> Geyer, R., Jambeck, J. R., & Law, K. L. (2017). Production, use, and fate of all plastics ever made. *Science Advances*, 3(e1700782).
- <sup>2</sup> Barnes, D.K.A., Galgani, F., Thompson, R.C., Barlaz, M., Barnes, D.K.A., Galgani, F., Thompson, R.C., Barlaz, M., 2009. Accumulation and Fragmentation of Plastic Debris in Global Environments. *Philos. Trans. Biol. Sci.* 364, 1985–1998.
- <sup>3</sup> Geyer, R., Jambeck, J. R., & Law, K. L. (2017). Production, use, and fate of all plastics ever made. *Science Advances*, 3(e1700782).
- <sup>4</sup> Coe, J. M., & Rogers, D. B. (Eds.). (1997). *Marine debris: sources, impacts, and solutions*. New York, NY: Springer-Verlag;  
Derraik, J. G. B. (2002). The pollution of the marine environment by plastic debris: a review. *Marine Pollution Bulletin*, 44, 842–852;  
UNEP. (2005). *Marine Litter: An analytical overview*. <https://stg-wedocs.unep.org/handle/20.500.11822/8348>.
- <sup>5</sup> Jambeck, J. R., Geyer, R., Wilcox, C., Siegler, T. R., Perryman, M., Andrady, A., ... Law, K. L. (2015). Plastic waste inputs from land into the ocean. *Science*, 347(6223).
- <sup>6</sup> Derraik, J. G. B. (2002). The pollution of the marine environment by plastic debris: a review. *Marine Pollution Bulletin*, 44, 842–852.
- <sup>7</sup> UNEP. (2005). *Marine Litter: An analytical overview*. <https://stg-wedocs.unep.org/handle/20.500.11822/8348>.
- <sup>8</sup> Jambeck, J. R., Geyer, R., Wilcox, C., Siegler, T. R., Perryman, M., Andrady, A., ... Law, K. L. (2015). Plastic waste inputs from land into the ocean. *Science*, 347(6223).
- <sup>9</sup> Kay, P., Hiscoe, R., Moberley, I., Bajic, L., & McKenna, N. (2018). Wastewater treatment plants as a source of microplastics in river catchments. *Environmental Science and Pollution Research*, 25(20), 20264–20267. <https://doi.org/10.1007/s11356-018-2070-7>.  
Li, W. C., Tse, H. F., & Fok, L. (2016a). Plastic waste in the marine environment: A review of sources, occurrence and effects. *Science of the Total Environment*, 567, 333–349. <https://doi.org/10.1016/j.scitotenv.2016.05.084>.
- <sup>10</sup> Hernandez, E., Nowack, B., & Mitrano, D. M. (2017). Polyester Textiles as a Source of Microplastics from Households: A Mechanistic Study to Understand Microfiber Release during Washing. *Environmental Science and Technology*, 51(12), 7036–7046. <https://doi.org/10.1021/acs.est.7b01750>.
- <sup>11</sup> Geyer, R., Jambeck, J. R., & Law, K. L. (2017). Production, use, and fate of all plastics ever made. *Science Advances*, 3(e1700782).
- <sup>12</sup> Slaveykova, V. I., Couture, P., Duquesne, S., Hugues, P. D., & Sánchez, W. (2019). Recycling, reuse, and circular economy: a challenge for ecotoxicological research. *Environmental Science and Pollution Research*, 26, 22097–22100. <https://archimer.ifremer.fr/doc/00499/61048/64529.pdf>.
- <sup>13</sup> La Mantia, Francesco Paolo. (2004). Polymer Mechanical Recycling: Downcycling or Upcycling? *Progress in Rubber, Plastics and Recycling Technology* 20 (1): 11–24.
- <sup>14</sup> Geyer, R., Jambeck, J. R., & Law, K. L. (2017). Production, use, and fate of all plastics ever made. *Science Advances*, 3(e1700782).

- <sup>15</sup> Hahladakis, J. N., Velis, C. A., Weber, R., Iacovidou, E., & Purnell, P. (2018). An overview of chemical additives present in plastics: Migration, release, fate and environmental impact during their use, disposal and recycling. *Journal of Hazardous Materials*, 344, 179–199. <https://doi.org/10.1016/j.jhazmat.2017.10.014>.
- <sup>16</sup> Li, W. C., Tse, H. F., & Fok, L. (2016). Plastic waste in the marine environment: A review of sources, occurrence and effects. *Science of the Total Environment*, 567, 333–349. <https://doi.org/10.1016/j.scitotenv.2016.05.084>.
- <sup>17</sup> Andrady, J. L. (2015). *Plastics and Environmental Sustainability*. John Wiley & Sons.
- Barnes, D.K.A., Galgani, F., Thompson, R.C., Barlaz, M., Barnes, D.K.A., Galgani, F., Thompson, R.C., Barlaz, M., 2009. Accumulation and Fragmentation of Plastic Debris in Global Environments. *Philos. Trans. Biol. Sci.* 364, 1985–1998.
- Li, W. C., Tse, H. F., & Fok, L. (2016). Plastic waste in the marine environment: A review of sources, occurrence and effects. *Science of the Total Environment*, 567, 333–349. <https://doi.org/10.1016/j.scitotenv.2016.05.084>.
- <sup>18</sup> He, P., Chen, L., Shao, L., Zhang, H., & Lü, F. (2019). Municipal solid waste (MSW) landfill: A source of microplastics? Evidence of microplastics in landfill leachate. *Water Research*, 159, 38–45. <https://doi.org/10.1016/j.watres.2019.04.060>.
- <sup>19</sup> Kershaw, Peter John. (2015). *Biodegradable Plastics & Marine Litter: Misconceptions, Concerns and Impacts on Marine Environments*. Nairobi. Retrieved from: <https://europa.eu/capacity4dev/unep/documents/biodegradable-plastics-and-marine-litter-misconceptions-concerns-and-impacts-marine>
- <sup>20</sup> Tiwari, M., Rat hod, T. D., Ajmal, P. Y., Bhangare, R. C., & Sahu, S. K. (2019). Distribution and characterization of microplastics in beach sand from three different Indian coastal environments. *Marine Pollution Bulletin*, 140, 262–273. <https://doi.org/10.1016/j.marpolbul.2019.01.055>.
- Whitmire, S. L., & Bloem, S. J. Van. (2017). Quantification of Microplastics on National Park Beaches. [https://marinedebris.noaa.gov/sites/default/files/publications-files/Quantification\\_of\\_Microplastics\\_on\\_National\\_Park\\_Beaches.pdf](https://marinedebris.noaa.gov/sites/default/files/publications-files/Quantification_of_Microplastics_on_National_Park_Beaches.pdf).
- <sup>21</sup> United States. Microbead-Free Waters Act of 2015. Pub.L. 114–114. Approved 2015-12-28.
- <sup>22</sup> Avio, C. G., Gorbi, S., & Regoli, F. (2016). Plastics and microplastics in the oceans: From emerging pollutants to emerged threat. *Marine Environmental Research*. <https://doi.org/10.1016/j.marenvres.2016.05.012>.
- Derraik, J. G. B. (2002). The pollution of the marine environment by plastic debris: a review. *Marine Pollution Bulletin*, 44, 842–852.
- Li, W. C., Tse, H. F., & Fok, L. (2016). Plastic waste in the marine environment: A review of sources, occurrence and effects. *Science of the Total Environment*, 567, 333–349. <https://doi.org/10.1016/j.scitotenv.2016.05.084>.
- <sup>23</sup> Avio, C. G., Gorbi, S., & Regoli, F. (2016). Plastics and microplastics in the oceans: From emerging pollutants to emerged threat. *Marine Environmental Research*. <https://doi.org/10.1016/j.marenvres.2016.05.012>.
- Derraik, J. G. B. (2002). The pollution of the marine environment by plastic debris: a review. *Marine Pollution Bulletin*, 44, 842–852.
- <sup>24</sup> Whitmire, S. L., & Bloem, S. J. Van. (2017). Quantification of Microplastics on National Park Beaches. [https://marinedebris.noaa.gov/sites/default/files/publications-files/Quantification\\_of\\_Microplastics\\_on\\_National\\_Park\\_Beaches.pdf](https://marinedebris.noaa.gov/sites/default/files/publications-files/Quantification_of_Microplastics_on_National_Park_Beaches.pdf).

- <sup>25</sup> Avio, C. G., Gorbi, S., & Regoli, F. (2016). Plastics and microplastics in the oceans: From emerging pollutants to emerged threat. *Marine Environmental Research*. <https://doi.org/10.1016/j.marenvres.2016.05.012>.
- <sup>26</sup> Lang, I. A., Galloway, T. S., Scarlett, A., Henley, W. E., Depledge, M., Wallace, R. B., & Melzer, D. (2008). Association of Urinary Bisphenol A concentration with medical disorders and laboratory abnormalities in adults. *Journal of the American Medical Association*, 300(11), 1303–1310. <https://doi.org/10.1001/jama.300.11.1303>.
- <sup>27</sup> Vethaak, A. D., & Leslie, H. A. (2016). Plastic Debris is a Human Health Issue. *Environmental Science and Technology*, 50(13), 6825–6826. <https://doi.org/10.1021/acs.est.6b02569>.
- <sup>28</sup> Kieran D. Cox, Garth A. Covernton, Hailey L. Davies, John F. Dower, Francis Juanes, and Sarah E. Dudas, *Environmental Science & Technology* 2019 53 (12), 7068-7074; DOI: 10.1021/acs.est.9b01517.
- <sup>29</sup> Beaumont, N. J., Aanesen, M., Austen, M. C., Börger, T., Clark, J. R., Cole, M., ... Wyles, K. J. (2019). Global ecological, social and economic impacts of marine plastic. *Marine Pollution Bulletin*, 142, 189–195. <https://doi.org/10.1016/j.marpolbul.2019.03.022>.
- <sup>30</sup> U.S. Census Bureau. “2010 Census Interactive Population Search: CA – Santa Monica city”. Retrieved January 19, 2020 from: <https://www.census.gov/quickfacts/fact/table/santamonicacitycalifornia/PST045218>.
- <sup>31</sup> City of Santa Monica, California. About Us. Retrieved January 19, 2020 from: <https://www.santamonica.gov/about>.
- <sup>32</sup> City of Santa Monica, California. Santa Monica Municipal Code, Article 12 Sustainability Code. 2013. Retrieved January 19, 2020 from: <https://www.qcode.us/codes/santamonica/>.
- <sup>33</sup> US Legal. “Ordinances, Resolutions, And Other Legislation.” Retrieved January 19, 2020 from: <https://municipal.uslegal.com/ordinances-resolutions-and-other-legislation/>.
- <sup>34</sup> California Coastal Act, P.R.C. § 30001.5(a) (2015).
- <sup>35</sup> Linda Sheehan, Earth Day Revisited: Building a Body of Earth Law for the Next Forty Years, in Burdon, Peter, ed., *Exploring Wild Law: The Philosophy of Earth Jurisprudence* (Wakefield Press, 2011)[ hereinafter Earth Day Revisited].
- <sup>36</sup> Linda Sheehan, *Realizing Nature’s Rule of Law through Rights of Waterways*. In Voigt, C, ed. *Rule of Law for Nature* (Cambridge Univ. Press 2013).
- <sup>37</sup> *Id.*
- <sup>38</sup> Judith E. Koons, *At the Tipping Point: Defining an Earth Jurisprudence for Social and Ecological Justice*, 58 *Loy. L. Rev.* 349 (2012).
- <sup>39</sup> *Id.*
- <sup>40</sup> § 1311(a).
- <sup>41</sup> Moore, *supra* at 137.
- <sup>42</sup> § 1311(b, e); § 1314(b); § 1311(b)(2)(A).
- <sup>43</sup> § 1312(b)(2)(A); *Natural Resources Defense Council v. U.S. EPA*, 804 F.3d 149, 151 (2d Cir. R. 2015).
- <sup>44</sup> § 1312(b)(2)(A); *Natural Resources Defense Council v. U.S. EPA*, 804 F.3d 149, 151 (2d Cir. R. 2015).



<sup>45</sup> § 1313.

<sup>46</sup> § 1313(c).

<sup>47</sup> Center for Biological Diversity, Petition for Water Quality Criteria for Plastic Pollution Under the Clean Water Act, 33 U.S.C. § 1314 (2012), available at [http://www.biologicaldiversity.org/campaigns/ocean\\_plastics/pdfs/Petition\\_Plastic\\_WQC\\_08-22-2012.pdf](http://www.biologicaldiversity.org/campaigns/ocean_plastics/pdfs/Petition_Plastic_WQC_08-22-2012.pdf); U.S. Environmental Protection Agency, National Recommended Water Quality Criteria- Aquatic Life Criteria Table (Dec. 1, 2015, 3:36 PM), <http://water.epa.gov/scitech/swguidance/standards/criteria/current/index.cfm>.

<sup>48</sup> § 1314(a)(1).

<sup>49</sup> U.S. Environmental Protection Agency, National Recommended Water Quality Criteria- Aquatic Life Criteria Table (Dec. 1, 2015, 3:36 PM), <http://water.epa.gov/scitech/swguidance/standards/criteria/current/index.cfm>.

<sup>50</sup> Known as section 303(d) listed waters.

<sup>51</sup> § 1313(d).

<sup>52</sup> § 1313(d).

<sup>53</sup> Angela George and Linda L. Miller, Compliance with Trash TMDLs: Ten Years of Experience from Los Angeles County Unincorporated Areas, Department of Public Works (2014), available at [https://www.casqa.org/sites/default/files/downloads/2-county\\_of\\_la\\_presentation-casqa\\_trash\\_webinar\\_7-29-14.pdf](https://www.casqa.org/sites/default/files/downloads/2-county_of_la_presentation-casqa_trash_webinar_7-29-14.pdf) (Trash TMDL compliance in California generally involves the implementation of full capture or partial capture systems (combination of full capture and institutional measures), with 5 mm mesh screens. To date, California has spent approximately \$7 million in installing these devices).

<sup>54</sup> Moore, *supra* at 136 (according to the CA Regional Water Quality Control Board, Los Angeles Region).

<sup>55</sup> *Id.*

<sup>56</sup> Wagner, *supra* at 12.; Kershaw, *supra* at 25-28.

<sup>57</sup> 40 CFR § 401.15.

<sup>58</sup> Wagner, *supra* at 17.

<sup>59</sup> Kershaw, *supra* at 25-28.