

2020 ANTHONY A. LAPHAM FELLOWSHIP

WATER JUSTICE TOOLKIT

A GUIDE TO ADDRESS ENVIRONMENTAL INEQUITIES
IN FRONTLINE COMMUNITIES



American Rivers
RIVERS CONNECT US®

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American Rivers
RIVERS CONNECT US®

TABLE OF CONTENTS

EXECUTIVE SUMMARY	1
INTRODUCTION	5
Why We Need a Toolkit	6
About American Rivers	8
BACKGROUND	9
The Environmental Justice Movement in the United States	10
The Importance of Rivers to Communities	13
Federal Laws and Policies	15
1: CLEAN & SAFE WATER GUIDE	19
Purpose	20
Federal Laws And Policies Related to Clean and Safe Water	23
How Do I Know if My Water is Polluted	26
Recommendations	
1. Citizen Suits	31
2. Stormwater Permitting	34
3. EPA's Residual Designation Authority	39
4. Re-Designation Process	40
Resources	41
2: EQUITABLE FLOOD RISK MANAGEMENT GUIDE	43
Purpose	44
Background	46
Emergency Steps	48
Recommendations	
1. Understanding Flood Maps and Insurance	49
2. Integrating Equity and Justice Into Hazard Mitigation Plans	52
3. Encourage Floodplain Management Training	56
Resources	58

3: TITLE VI ENVIRONMENTAL JUSTICE COMPLAINTS & COMPLIANCE GUIDE **59**

Introduction	60
Community Benefits Agreements	62
Title VI. A Reactive Approach	66
Guidelines on Filing an Environmental Justice Administrative Complaint	68
Challenges Associated with Title VI Complaints and Compliance	71

4: LOCAL LAND USE PLANNING & ZONING GUIDE **75**

Purpose	76
Background	78
Recommendations	
1. Bolster Public Participation	80
2. Encourage "Cumulative Impacts" Language	82
3. Encourage Equitable Zoning Policies	84
4. Participation in Zoning Hearings	87

5: PUBLIC PARTICIPATION GUIDE **91**

Purpose	92
Recommendations	
1. Public Comment	93
2. Legislative Advocacy	98
3. Equitable Community Meetings and Hearings	103

6: COMMUNITY SCIENCE GUIDE **107**

Purpose	108
Steps to Create Your Community Science Project	112

ACKNOWLEDGMENTS **124**



EXECUTIVE SUMMARY

Low-income communities and communities of color disproportionately bear the negative environmental impacts stemming from the inequitable systems rooted in this country. While our country is considered to be a leader in environmental regulations and safety, we are faced with inequitable accessibility and enjoyment of our natural environment including water and rivers. Unfortunately, these inequities are not rare.

The need to address water-related environmental inequities in our country is heightened by the threat of climate change. Safe and accessible clean water is threatened with increased droughts, severe storms, and increased flooding. These impacts exacerbate threats to lower income communities and communities of color, impacting them more frequently and severely than higher wealth or predominantly white communities. These

impacts can include exposure to pollutants such as lead, PFAS, industrial waste, and more and result in health impacts such as lead poisoning, asthma, and other illnesses. To address these inequities, communities can use legal, planning and policy tools to advance environmental justice. American Rivers has developed a set of six legal and policy guides to advance environmental justice efforts in frontline communities.

We hope this resource serves to support communities in their efforts to address their water-related injustices. These guides are not meant to be exhaustive, but rather, a curated set of important legal and advocacy tools. We hope this provides a helpful place to start.

BRONX RIVER, NEW YORK / CHARLES R. BERENQUER, JR.

THE GUIDES

The purpose of providing the following legal guides is to support communities in their efforts to implement long-term sustainable change. With time and the right resources, everyone can learn how to utilize environmental laws and policies to advocate for and address environmental justice concerns. The following guides are meant to serve as a resource for local communities and organizations to either start or supplement their environmental justice efforts.

1: CLEAN & SAFE WATER GUIDE

This guide encompasses recommendations on how communities can engage with federal law and policy to address environmental injustices and secure clean water. The guide discusses the Clean Water Act and the Safe Drinking Water Act, as well as resources on water quality and compliance.

This guide includes:

- Guidance on filing citizen suits under the Clean Water Act and the Safe Drinking Water Act
- Guidance on stormwater management, permitting, and green infrastructure
- Guidance on use of the Residual Designation Authority under the Clean Water Act
- Information on how to re-designate a source of water in order to require higher water quality standards
- Resources on water quality data

2: EQUITABLE FLOOD RISK MANAGEMENT GUIDE

This guide encompasses recommendations on how to participate in decision-making to mitigate flooding impacts. The negative impacts of flooding have consistently and disproportionately burdened lower-income communities and communities of color. This guide is intended to bolster community engagement in water governance in order to influence flooding related policies.

This guide includes:

- Information on how floodplain designations are made
- Background on hazard mitigation planning and recommendations on how to participate in the hazard mitigation planning and processes
- Information on training guides provided by the Federal Emergency Management Agency

3: TITLE VI ENVIRONMENTAL JUSTICE COMPLAINTS & COMPLIANCE GUIDE

This guide is intended to be used as a resource to understand the background and purpose of Title VI and how communities can effectively use this tool to voice environmental justice concerns. Title VI is a federal law that falls within the Civil Rights Act of 1965. Under Title VI, a complaint can be filed when either the federal government or recipient of federal funding intentionally discriminates on the basis of race, color, or national origin.

This guide includes:

- Process used for filing an environmental justice complaint with a federal, state, or local agency
- Recommendations on how local entities and state agencies can comply with Title VI

4: LOCAL LAND USE PLANNING & ZONING GUIDE

Environmental justice is rooted in local planning and the opportunity, or lack thereof, for communities to participate in decisions that will impact their surroundings. Local planning can address exposure to pathogens associated with wastewater treatment plants, hazardous waste incinerators, solid waste landfills, and disposal sites. These polluting entities can have a significant impact on community and environmental health, including waterways.

This guide includes:

- Recommendations on how to bolster community participation in decision-making processes
- Examples of equitable zoning policies that include the consideration of diverse communities
- Recommendations on how to participate in local zoning and board meetings

5: PUBLIC PARTICIPATION GUIDE

Public participation is the foundation of democracy and the heart of environmental justice. This fundamental concept of participation is that the public interests are represented when people participate meaningfully in a process they understand. Sustainable and long-term solutions are created by engaging with communities.

This guide includes:

- Information and guidance on public comment
- Recommendations on how to participate in legislative advocacy
- Policies to encourage equitable community meetings and hearings

6: COMMUNITY SCIENCE GUIDE

Environmental justice advocates have used community science to bring forward environmental justice lawsuits. This guide is designed to encourage individuals in their roles as community scientists and to promote the practice of community-based science as a catalyst for environmental justice.

This guide includes:

- Background on community science and information on how science can support legal or policy-based claims
- Recommendations on how to create a community science project
- Examples and case studies of successful community science projects
- Resources to support ongoing community science projects



INTRODUCTION



WHY WE NEED A TOOLKIT

According to the U.S. Environmental Protection Agency (EPA), environmental justice is “the fair treatment and meaningful involvement of all people—regardless of their race, color, national origin or income—with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.”

Environmental justice and water justice, in particular, are important issues for river conservation. Access to clean water and healthy rivers is critical for the health of all communities everywhere. Yet there is a long history of Black and Indigenous communities and other communities of color (BIPOC communities) systematically being denied such basic necessities. Cases such as Flint, Michigan with rampant lead in drinking water and the Navajo Nation where 15% of the people do not have running water in their homes exemplify the types of water

injustices that exist despite sweeping water policies that were created to address issues concerning access to and quality of water in the United States (US).

Addressing climate change and water inequities is a human rights and justice issue. The environmental burdens faced by communities of color and low-income communities in the U.S. and around the world are being intensified by the impacts of climate change. Those who are most affected by flooding, drought, extreme temperatures and storms have the fewest resources to adapt due to a legacy of community disinvestment in basic infrastructure such as stormwater management.

While environmental justice is fundamental to developing equitable water and climate responses, for the average citizen, environmental law is a vast and intimidating

PRIOR PAGE:
INTRENCHMENT CREEK,
ATLANTA, GEORGIA /
JOHNOTHAN KELSO

ABOVE: INTRENCHMENT
CREEK, ATLANTA, GEORGIA

field. Seasoned attorneys can spend their entire careers learning to navigate and apply U.S. environmental laws and policies. Given this, how can communities that are most impacted by environmental injustice use existing laws and policy to address their need for access to nature, clean water and a healthy environment?

American Rivers developed this toolkit to provide legal resources to support, encourage, and engage communities experiencing environmental injustice in efforts to ensure healthy communities, rivers, and clean water.

MOVING FROM THE PAGE TO ACTION

Environmental justice starts and ends with the community and it is our hope that this Water Justice Toolkit will provide a helpful resource to ongoing efforts to ensure clean water and healthy rivers for all. The toolkit was created to provide guidance to community leaders on how to apply laws and policies to address harms in their communities and watersheds.

WHO THIS GUIDE IS FOR

- Community organizers
- Concerned residents and individuals
- Neighborhood organizations
- Students and educators
- Established environmental nonprofits



CASE STUDIES COMMUNITIES IN ACTION ANYTOWN, USA

Throughout this document are examples from across the country of nonprofits and neighborhood organizations taking legal action to address water injustices. Look for sidebars like this one for water justice success stories and lessons learned.

For more inspiration from community partners, see:
www.americanrivers.org/category/environmental-justice/

WACCAMAW RIVER
FLOODING CONWAY,
SOUTH CAROLINA /
ROBBIE BISCHOFF



ABOUT AMERICAN RIVERS

American Rivers' mission to protect wild rivers, restore damaged rivers, and conserve clean water for people and nature has never been more relevant and urgent. We were founded in 1973 to save America's last wild rivers from the insatiable designs of dam builders and permanently protect free-flowing rivers through the federal Wild and Scenic Rivers Act. Today, our efforts also include the restoration of damaged rivers through dam removal, protection of urban rivers, and clean water through green infrastructure and advocacy to improve the laws and policies that protect rivers and clean water.

We believe a future of clean water and healthy rivers everywhere, for everyone, is essential. For nearly 50 years, American Rivers has improved the health of our rivers and communities. But too many rivers are still dammed and diverted, polluted and mismanaged. River degradation and its downstream effects hit lower-income communities, Indigenous communities, and communities of color the hardest. And now climate change poses the greatest challenge of all. Extreme droughts and floods threaten the vitality—and in some cases, the very survival—of rivers and the communities that depend on them.

Every day we fight to improve the quality of life for all communities and ensure a legacy of healthy, free-flowing rivers that contribute to strong, sustainable economies. We have staff and field offices located across the country and are advancing pragmatic solutions to support sustainable communities, communicating river values; building a diverse nationwide constituency for river conservation and advocating for sound policies and practices that promote long-term river health.

American Rivers is dedicated to supporting environmental justice on a national, regional, and local level. Our latest strategic plan places an increased focus on Diversity, Equity, and Inclusion (DEI), both internally within American Rivers, and externally in our projects and goals. This toolkit furthers our initiatives by offering guides to environmental justice-focused legal advocacy connected to rivers and climate change. Our intent is to build on existing American Rivers work by providing an environmental justice lens and a set of tools to utilize when addressing environmental inequities related to rivers.

LOWER AMERICAN RIVER,
CALIFORNIA / BOB WICK



BACKGROUND



THE ENVIRONMENTAL JUSTICE MOVEMENT IN THE UNITED STATES

The environmental justice movement was inspired by the Civil Rights movement and was started by individuals, primarily people of color, who sought to address the inequity of environmental protections in their communities. In 1968, for the first time, African Americans mobilized a national broad-based group to oppose what they considered environmental injustices. Led by Rev. Dr. Martin Luther King Jr., garbage workers advocated and led a strike for better working conditions and pay in Memphis, Tennessee. Environmental justice became widespread in the 1980s with its noted birthplace being Warren County, North Carolina where a polychlorinated biphenyl (PCB) landfill was to be built. A non-violent sit-in protest against the landfill took place and over 500 civil rights activists and environmentalists were arrested. Ultimately, the protest was unsuccessful in halting the construction of the PCB landfill.

However, it was successful in catalyzing the environmental justice movement.

Following the Warren County PCB landfill protest, the [United States General Accounting Office \(GAO\) conducted a study](#)¹ that “galvanized the environmental justice movement and provided empirical support for the claims for environmental racism.”² The study determined that three out of four hazardous waste landfills examined were located in communities where African Americans made up at least twenty-six percent of the population, and whose family incomes were below the poverty level. In 1991, the First National People of Color Environmental Leadership Summit was held in Washington, D.C. During this conference, persons of color developed and adopted the [17 Principles of Environmental Justice](#)³ as a comprehensive platform for a national and international movement of all people.

PRIOR PAGE:
MISSISSIPPI RIVER,
MISSISSIPPI / LEW
WILSON

FIRST AMBROSE
EPISCOPAL CHURCH RAIN
GARDEN, RALEIGH, NORTH
CAROLINA / PETER RAABE

Eventually, pressure from grassroots groups, academicians, and environmental justice activists prompted the Environmental Protection Agency (EPA) to take several positive steps in addressing the equity question. The agency established an Internal Working Group on Environmental Equity, which issued a two-volume final report in June, 1992 and created an Office of Environmental Equity and an Environmental Equity cluster.

During Bill Clinton's presidency, environmental justice became a government priority. In February, 1994, Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, was signed into order. This order focused federal attention on the environmental and human health conditions of minority and low-income populations with the goal of achieving environmental protection for all communities. This Order also established an Interagency Working Group on Environmental Justice and directed federal agencies to develop strategies on how to identify and address the disproportionately adverse human health and environmental effects of programs, policies and activities on minority and low-income populations.

Under the Obama Administration, environmental justice continued to be a priority. The EPA established environmental justice as an agency-wide priority and the White House held a forum on environmental justice which aimed to ensure all Americans have strong federal protection from environmental and health hazards. In December 2011, the EPA released EJ Legal Tools which identifies key legal authorities

for Agency policy makers to consider in advancing environmental justice.

Environmental injustice persists today in the United States. These are experienced through heightened exposure to pollution and corresponding health risks, limited access to adequate environmental services, and loss of land and resource rights.

These injustices extend to water as well. Access to clean water is a human right, yet even in the United States low-income communities and communities of color lack access to this basic necessity.⁴ Low-income communities and communities of color are disproportionately burdened by water hazards rooted in discriminatory governance, land-use planning and housing policies.

Water-related inequities, or water injustices, range from lack of clean drinking water, prevalence of polluted waterways, systematic targeting and concentration of noxious facilities such as sewage water treatment plants, higher exposure to fish contamination and disproportionate exposure to lead contamination in drinking water. It is these persistent water injustices that still require public engagement and systematic reform.

GLOSSARY

CLIMATE CHANGE:

Climate change is a long-term change in the average weather patterns that have come to define Earth's local, regional and global climates. These changes have a broad range of observed effects⁵ that include rising sea levels, shrinking mountain glaciers, ice melting, flooding and changes in flora and fauna.

FAIR TREATMENT:

No group of people should bear a disproportionate burden of environmental harms and risks, including those resulting from the negative environmental consequences of industrial, governmental and commercial operations or programs and policies.⁶

LOW-INCOME COMMUNITIES:

Low-income communities are census tracts with median household incomes at or below 80 percent of the statewide median income or with median household incomes at or below the threshold designated as low-income by a state or federal entity.

MARGINALIZED COMMUNITIES:

Socially and economically excluded groups of people due to age, race, physical or mental disabilities, economic status, religion, language, access to education, or who live in isolated or depressed areas. Marginalized communities are often denied involvement in mainstream economic, political, cultural or social activities.

MEANINGFUL INVOLVEMENT:

Potentially affected populations have an appropriate opportunity to participate in decisions about a proposed activity that will affect their environment and/or health; the public contribution can influence the regulatory Agency's decision; the concerns of all participants involved will be considered in the decision-making process; and the rule writers and decision makers seek out and facilitate the involvement of those potentially affected.⁷

MITIGATION:

Mitigation is the effort to reduce loss of life and property by lessening the impact of disasters. For mitigation to occur, we need to take action to reduce human and financial consequences in the future.

RESILIENCE:

The ability to anticipate, prepare for, and respond to hazardous events, trends, or disturbances related to climate, for example floods and drought. Improving climate resilience involves assessing how climate change will create new or alter current climate-related risks and taking steps to better cope with these risks.

VULNERABILITY:

The propensity or predisposition to be adversely affected.



THE IMPORTANCE OF RIVERS TO COMMUNITIES

Rivers are our main source of clean drinking water, and their economic value, environmental value, and even aesthetic or spiritual value touches all people. Across many cultures, rivers symbolize life and health. Rivers play a number of roles to ensure livability, prosperity, and the assurance of a healthy environment. Rivers support agriculture, industry, transportation, recreation, and provide habitat for wildlife. Rivers are closely connected to communities as activities such as jogging, walking, sporting, and attending festivals are frequently organized along river banks. Rivers are also a place for communities to fish, boat, and participate in other leisure activities.

One of the most important functions of our rivers is providing clean drinking water to communities. Humans need water, and two thirds comes from rivers and streams. The health of river ecosystems directly affects the quality of water we drink. Forests and rivers act as filters, constantly purifying the water so before it reaches our tap it requires less chemical treatment and expensive filtration to make the water clean enough to drink.

Free flowing rivers also provide flood protection. A free flowing river that occasionally floods its banks nourishes floodplain habitat important for the natural environment. A free flowing river is connected to floodplains and wetlands that mitigate flood damages, providing a “relief valve” for floodwaters, serving as

nature's sponges and protecting downstream communities.

Rivers are more than a natural feature of our environment. They are a way of connecting people to their water supply, a way of protecting communities from flooding, and a way to escape and enjoy nature. Rivers are essential to communities, and all communities should have access to clean and healthy rivers

THE IMPACTS OF CLIMATE CHANGE

The impacts of climate change are more than just warming. Climate change impacts human life and the negative impacts of climate change can lead to negative health, social and economic consequences.

Water sources, in particular, face a great threat as temperatures rise and precipitation patterns shift. More frequent and intense storms will impact our rivers and will continue to damage infrastructure, ecosystems, and social systems that provide essential benefits to communities. Lower-income and other frontline communities may have limited resources to prepare for and cope with extreme weather and climate-related events. Decisions related to land-use planning, flood protection, water infrastructure and other facets of community life will have a profound impact on a community's vulnerability in a warming world.

Climate change has a profound impact on rivers, which in turn, has a profound impact on communities. Here are some ways in which climate change impacts our rivers:

Water Quantity

Climate change alters where and when water is available across the nation. For instance, in the Southeast it is projected that we will have the same amount of rainfall but it will come in more intense storms resulting in pulses of water in rivers with potentially longer periods of potential drought. The droughts will result in lower water levels in rivers and diminished water supplies for the communities that rely on them.

Water Quality

More frequent and more powerful storms will increase polluted runoff from urban and agricultural areas, picking up pollutants from the landscape and carrying them to nearby waterways.

Extreme Storms

The frequency and severity of storms will increase. Atmospheric capacity to hold moisture increases exponentially with temperature, leading to greater capacity for heavy precipitation events and floods.



FEDERAL LAWS & POLICIES

How can environmental laws and policies help protect you and your community?

Environmental laws, though complex, serve an important role in protecting human health and the environment. Through research and effort, anyone can learn how to utilize environmental laws to advocate for and address community health concerns and exposure to environmental risks and harms. Environmental laws provide many opportunities to review, comment and engage in the decision-making processes for proposed projects. Laws create avenues for communities to advocate for equitable and just outcomes. Tools such as the Clean Water Act, Title VI of the Civil Rights Act, regulatory comment requirements, access to information through the Freedom of Information Act (FOIA), public hearings, and legal action in court provide

communities with opportunities to influence the decision-making process.

Environmental laws in the United States are robust and should provide relief to those who are suffering. The following laws are mentioned throughout the toolkit as sources for addressing environmental injustices. This list is not comprehensive and does not outline specific provisions within each law but rather, provides a basic overview of what the law does. The guides within this toolkit will take a deeper dive into these environmental laws.

SAN JOAQUIN RIVER /
LIGHTHAWK

FEDERAL LAWS & POLICIES

CLEAN WATER ACT (CWA)

CWA regulates pollution discharge into the waters of the United States and regulates quality standards for surface waters. Major provisions of the CWA include pollution control programs such as setting wastewater standards for industry. EPA has already developed national water quality criteria recommendations for pollutants in surface waters.

CLEAN WATER STATE REVOLVING FUND (CWSRF)

The CWSRF program is a federal-state partnership that provides communities a permanent, independent source of low-cost financing for a wide range of water quality infrastructure projects. The CWSRF was created by the 1987 amendments to the CWA as a financial assistance program for a wide range of water infrastructure projects.

CIVIL RIGHTS ACT OF 1964 (CRA)

The Civil Rights Act of 1964 outlaws discrimination on the basis of race, color, religion, sex, or national origin. Title VI of the CRA prohibits discrimination on the basis of race, color, and national origin in programs and activities receiving financial funding. On the occasion where a federally funded program does discriminate on the above-named basis, one can file a Title VI complaint with the appropriate government agency.

DRINKING WATER STATE REVOLVING LOAN FUND (DWSRF)

The DWSRF was established by amendments to the SDWA. The DWSRF is a financial assistance program to help water systems and states to achieve the health protection objectives of the SDWA and creates a powerful partnership between EPA and the states.

EMERGENCY PLANNING AND COMMUNITY RIGHT TO KNOW ACT (EPCRA)

The EPCRA was created to help communities plan for chemical emergencies. To implement EPCRA, Congress requires each state to appoint a State Emergency Response Commission (SERC). The SERCs are required to divide their states into Emergency Planning Districts and to name a Local Emergency Planning Committee (LEPC) for each district. The LEPC must develop an emergency response plan for the district. It also requires industry to report on the storage, use and releases of hazardous substances to federal, state and local governments. EPCRA requires state and local governments, and Indian tribes to use this information to prepare for and protect their communities from potential risks.

EXECUTIVE ORDER 12898: FEDERAL ACTIONS TO ADDRESS ENVIRONMENTAL JUSTICE IN MINORITY POPULATIONS AND LOW- INCOME POPULATIONS

EO 12898 was issued in 1994 to focus federal attention on the environmental and human health effects of federal actions on minority and low-income populations with the goal of achieving environmental protection for all communities. The EO directs federal agencies to identify and address the disproportionately high and adverse human health of environmental effects of their actions on minority and low-income populations to the greatest extent possible.

FREEDOM OF INFORMATION ACT (FOIA)

FOIA ensures that the public has access to information in the federal government's files. A member of the public can file a written request for information from the federal government. The government must respond within ten days saying how and when it will provide access to the documents. Many states have similar public access statutes.

NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)

NEPA established a broad national framework for protecting our environment and communities impacted by federal agency action. NEPA's basic policy is to assure that government agencies consider the environment prior to undertaking any major federal action that significantly

affects the environment. Agencies are required to consider environmental justice impacts under NEPA.

THE NATIONAL FLOOD INSURANCE PROGRAM (NFIP)

The National Flood Insurance Program is implemented through FEMA and aims to reduce the impact of flooding on private and public structures. NFIP provides affordable insurance to property owners, renters and businesses and encourages communities to adopt and enforce floodplain management regulations.

ROBERT T. STAFFORD DISASTER RELIEF AND EMERGENCY ASSISTANCE ACT (STAFFORD ACT)

The Stafford Act provides for federal natural disaster assistance for state and local governments. States are required to have State Hazard Mitigation Plans as a condition of receiving non-emergency Stafford Act assistance and FEMA mitigation grants.

SAFE DRINKING WATER ACT (SDWA)

The SDWA protects public drinking water supplies throughout the nation. Under the SDWA, the EPA sets standards for drinking water quality and implements various technical and financial programs to ensure drinking water safety.



1 CLEAN AND SAFE WATER GUIDE



PURPOSE

Life depends on water. It regulates body temperature, protects organs and tissues, carries nutrients and oxygen to cells, helps dissolve minerals and nutrients to make them accessible to your body, and so much more.⁸ Water not only serves a person's physical health, but its sources also serve as places for recreation, relaxation, and worship. Despite water being an essential requirement for life, certain populations within the U.S. face inadequate water supplies, poor water quality, and exposure to pollution as a result of crumbling water infrastructure. It may seem self-evident that every person should have access to clean water, yet our reality is far from that. Studies have found that lower income communities and communities of color across the United States are disproportionately impacted by polluted waters.

Conserving clean water and ensuring environmental justice are not two separate goals, but can only be achieved together. The United States has strong water laws including the Clean Water Act (CWA) and the Safe Drinking Water Act (SDWA), yet the benefits of these laws are often felt unequally. Clean water related public health risks in frontline communities are compounded by poor disaster management,

unequal management of disaster funds, the government neglect of community water management and inequitable application of the law and public resources. This neglect of adequate water management in frontline communities means they are more at risk to the impacts of climate change on water resources. The increased risk of drought and flood by all communities are magnified in frontline communities.

The intent of this Guide is to provide an overview of federal laws and policies related to water quality that facilitate public participation and advocacy. The guide explains the meaning behind specific portions of the laws and how to utilize them including:

- Citizen suits under the CWA and SDWA,
- Stormwater management and green infrastructure,
- Residual designation authority (RDA), and
- Re-designation of water bodies.

The Guide also contains funding opportunities related to water and a list of organizations that can support ongoing efforts related to water pollution.

PRIOR PAGE:
BOUNDARY WATERS
CANOE AREA
WILDERNESS, MINNESOTA
/ NATE PTACEK

FLINT RIVER, GEORGIA /
HANNAH PALMER

HOW MIGHT READERS USE THIS GUIDE?

This guide can be useful to you if you need legal guidance on how to utilize water policies to ensure clean water in your neighborhood. This guide is designed to answer basic questions regarding federal water policies and identify areas where community engagement is possible and effective. This guide is not intended to provide a detailed or comprehensive analysis of all water policies, but is structured to help communities identify how water policies can help address injustices and environmental inequities.

WHAT ARE THE BIGGEST OBSTACLES FACING CLEAN AND SAFE WATER?

Generally, water pollution is discussed in the context of pollution spills, drinking water contamination, and poor quality. Often overlooked is that water pollution is more likely to occur in communities of color and

lower-income communities due to a history of racially discriminatory policies and enforcement. Water injustices are all too common.

Examples include:

- Community flooding as a result of poor stormwater management as a result of legacies of discrimination in land-use planning and housing development;
- Exposure to lead contamination in drinking water;
- Cumulative water-related risks (lead contamination, exposure to polluted waterways, etc) and impacts to low-income communities and communities of color;
- Community voices and water needs that have been excluded from the development of water management policy;
- Exposure to contaminated fish.

FLINT RIVER, GEORGIA /
HANNAH PALMER



SHIFTING DEFINITIONS: WATERS OF THE UNITED STATES

The Waters of the United States' definition has changed a number of times due to changes mandated by presidential administrations and litigation. In 2018, the Trump administration scaled back the definition of Waters of the United States. While wetlands generally fall under this definition, there has been conflicting interpretation on whether "adjacent wetlands" fall under this definition. Definition of "adjacent wetland" has fluctuated in scope based on regulatory interpretation.

Currently, the Waters of the United States⁹ includes:

- The territorial seas, and waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including waters which are subject to the ebb and flow of the tide;
- Tributaries;
- Lakes and ponds, and impoundments of jurisdictional waters; and
- Adjacent wetlands

GLOSSARY

CITIZEN SUITS: Citizen suits are lawsuits that are brought by individuals or nonprofit groups under the provisions of environmental laws.

DESIGNATED USES: Water quality standards require states, territories, and authorized tribes to specify goals and expectations for how each body is used. Typical designated uses include:

- Protection and propagation of dish shellfish and wildlife;
- Recreation;
- Public drinking water supply; and
- Agricultural, industrial, navigational, and other purposes.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES): The CWA prohibits anybody from discharging “pollutants” from a “point source” into a “Waters of the United States” unless they have a NPDES permit. The permit will contain limits in what you can discharge, monitoring and reporting requirements, and other provisions to ensure that the discharge does not hurt water quality or human health.

NATIONAL WATER QUALITY CRITERIA: A criteria developed by the EPA for ambient water quality that accurately reflects the latest scientific knowledge on the impacts of pollutants on human health.

NATIONAL WATER QUALITY STANDARDS: Provisions of state, territorial, authorized tribal or federal law approved by EPA that describe the desired condition of a water body and the means by which that condition will be protected or achieved.

NON-POINT SOURCE POLLUTION: Any source of water pollution that does not meet the legal definition of point source. Non-point source pollution generally results from stormwater runoff, precipitation, atmospheric deposition, drainage, seepage, or hydrologic modification.

MS4 PERMIT: A MS4 is a municipal separate storm sewer system that often discharges untreated water into local bodies of water. MS4s can be a system that is owned by a state, city, or town, that discharges runoff into waters of the United States; designed to collect or convey stormwater; not a combined sewer; or not a part of a sewage treatment plant.

POINT SOURCE POLLUTION: Any discernible, confined and discrete discharge of pollution, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged.

RESIDUAL DESIGNATION AUTHORITY: An authority created for the EPA to require NPDES permits for other stormwater discharges on a case-by-case basis when:

- the discharges contribute to a violation of water quality standards;
- are a significant contributor of pollutant to a protected water;
- or controls are needed for the discharge based on watershed allocations that are part of TMDLs that address the pollutant of concern.

TOTAL MAXIMUM DAILY LOAD (TMDL): A TMDL is the calculation of the maximum amount of pollutant allowed to enter a water body so that the water body will meet and continue to meet water quality standards for that particular pollutant. A TMDL determines a pollutant reduction target and allocates load reductions necessary to the source of the pollutant.

TRIENNIAL REVIEW : States are required under the CWA to conduct a comprehensive review of all water quality standards and designated uses at least once every three years.



FEDERAL LAWS AND POLICIES RELATED TO CLEAN & SAFE WATER

Water laws in the United States tend to fall under a “federalism” statutory framework, meaning responsibilities are shared between the federal and state government. Often, the federal government will delegate its authority to states to set and enforce limits.

The United States has two broad laws that address clean and safe water, the Clean Water Act (CWA) and the Safe Drinking Water Act (SDWA). These laws can be complicated and technical and cover many different topics. Therefore, it is important to consider and define what water related challenges are impacting your community when determining which aspects of these laws most apply to your community and what standards they set.

Under the CWA, states, or the EPA in some instances, issue water quality standards for rivers, lakes, and other surface waters. Those standards identify the “designated uses” for which those waters will be protected, and the levels of water quality for various pollutants and other water conditions necessary to protect those uses (water quality criteria). Community residents can provide information on the actual uses of water bodies in their communities (ie. swimming, fishing, recreating) during the

decision making process and designation determinations, which may demand more protective uses and standards. They can also argue for more protective water quality criteria based on cumulative exposure and other health factors.

Under the SDWA, the EPA establishes drinking water standards for public water systems, with maximum contaminant levels or treatment methods based on impacts to human health. As a part of this process, EPA is supposed to consider health threats to groups that are likely to be at greater risk than the general population. Community residents can provide EPA with information about the health effects of contaminated drinking water in their communities, especially considering such factors as existing health problems and cumulative exposure to toxic materials such as those present in aging drinking water supply systems, such as lead.

This guide highlights a few major provisions in each law that can support communities in their environmental justice efforts. The following section outlines the major provisions of each act and citations to those sections for reference.

CLEAN WATER ACT

National Pollutant Discharge Elimination System (NPDES) Permit Program: The NPDES permit program addresses water pollution by regulating point sources that discharge pollutants into “waters of the United States.” This regulation is enforced through the issue of permits.

Section 319 seeks to control pollution by non-point sources (NPS). This section requires states to develop reports that identify water bodies impaired by NPS pollution and the categories of NPS contributing to this problem. States also adopt a NPS management program, which details the states strategy for addressing NPS pollution.

Section 401: A federal agency may not issue a permit or license to conduct any activity that may result in any discharge into waters of the United States unless a Section 401 water quality certification is issued, verifying compliance with water quality requirements, or certification is waived. States may create more stringent standards than the federal standards.

Section 404 establishes a program to regulate the discharge of dredged or fill material into waters of the United States.

State Revolving Funds allows the EPA to provide grants to states to establish loan funds. These state funds then provide low interest loans to municipalities, businesses, or non-profit organizations for water quality projects. Most loans are used for the construction, repair, or expansion of municipal sewage treatment plants, but money can also be used for NPS projects.

Section 303 Total Maximum Daily Load (TMDL) authorizes EPA to assist states, territories and authorized tribes in listing impaired waters and developing TMDLs for these water bodies. A TMDL establishes the maximum amount of a pollutant allowed in a water body and serves as the starting point or planning tool for restoring water quality. Under section 303, subsection (d) includes information on the impaired waters list. 303(d) authorizes the EPA to assist states, territories, and tribes in listing impaired waters and developing TMDLs for listed water bodies.

Residual Designation Authority (RDA): The EPA can use its RDA to require NPDES permits for other stormwater discharges or category of discharges under certain circumstances.

SAFE DRINKING WATER ACT

Section 1412 instructs the EPA on how to select contaminants for regulation and specifies how and when the EPA must establish regulations once a contaminant has been selected.

Section 1413 authorizes states and Indian tribes to assume primary oversight and enforcement responsibility for public drinking water systems when EPA determines that statutory criteria are met.

Section 1443 authorizes Congress to appropriate \$100 million annually for EPA to make grants to states to cover the public water system supervision program (PWSS).

Section 1452 establishes a state revolving fund to help systems finance improvements needed to comply with SDWA regulations.

ADDITIONAL CHALLENGES: WATER AFFORDABILITY

While not addressed in this guide, a major challenge to clean water access is the affordability of drinking water and wastewater services.

Water affordability is a growing problem in the United States with researchers estimating that within the coming years, approximately 33% of the U.S. population will have water bills that are not affordable. According to the US Water Alliance, there is no national, enforceable affordability standard for waters in the United States.

This guide does not provide direct recommendations to address water affordability; however, communities can use recommendations from the public participation guide to address affordability through public participation.

To learn more about water affordability, see the following resources:

- “The Invisible Crisis: Water Unaffordability in the United States,” US Water Alliance, May 2016.
- “Measuring and Addressing Water and Waste Water Affordability in the United States,” Boston University Institute for Sustainable Energy, June 2020.



Section 1459A directs EPA to establish a grant program to assist disadvantaged communities and also small communities that are unable to finance projects needed to comply with SDWA.

To administer the Clean Water Act and the Safe Drinking Water Act the federal and state government work together to ensure compliance with the laws. Under the CWA, the EPA can issue compliance orders, suspend or revoke permits, assess penalties, bring lawsuits to address violations of the statute, regulations, permits, or other requirements governing discharge of pollutants into water.

The EPA can also seek emergency relief if a court finds an “imminent and substantial endangerment” at a particular facility. Under the Safe Drinking Water Act, the EPA may deny federal financial assistance to any project which may contaminate the recharge zone of certain “sole source aquifers.”

While local governments source 95% of water infrastructure funding, the federal government has substantial power when it comes to regulating our waters. The federal government oversees broader environmental laws and determines which entities, localities, and utilities receive federal funding.



HOW DO I KNOW IF MY WATER IS POLLUTED?

BASELINE ASSESSMENT FOR WATER POLLUTION

Prior to working on solutions to address water inequities and pollution in your community, it is beneficial to understand what problems are present. When pollutants are present in water, there may or may not be obvious or visible changes to how the water looks or smells. Often pollutants can go unnoticed for years. Water pollution occurs when harmful substances, often chemicals or microorganisms, contaminate a stream, river, lake aquifer, or infiltrates drinking water pipes. This contamination can degrade water quality and render water toxic to humans and the environment. Water pollution can have many sources including farms, urban centers, and industrial sites and can be present in different types of water sources such as groundwater and surface water. Given this wide range, it is important to consider where your drinking and recreational water comes from and whether it may have been exposed to any sources of pollutants.

There are a number of tools communities can use to understand pollution levels, toxicity, and contamination in both drinking water and surrounding waterways. This section will provide information on databases and resources that communities can utilize to establish a baseline assessment

to identify specific areas that require improvement, or attention. In addition to tools made available by the government, it is also important to consider community science and your own data and findings. Since communities are most familiar with their surrounding environment, local knowledge is critical.

As you work through assessing water related problems in your community, consider reaching out to your local public utility, department of watershed or the environment, and other local government officials such as council members to identify sources of pollution or areas that need water quality improvements.

EXAMPLES OF THREATS TO DRINKING WATER

PFAS

Per- and polyfluoroalkyl substances (PFAS) are a group of human-made chemicals that includes PFOA, PFOS, GenX, and many other chemicals. PFAS chemicals are more common than you may think. They are often used in furniture, adhesives, food packaging, heat resistant non-stick wear, and more. There is now evidence that exposure to PFAS can lead to adverse human health effects. PFAS exposure and consumption can result in low infant birth weights, effects

on the immune system, cancer, and thyroid hormone disruption. This is particularly important since these chemicals are very persistent in the environment and in the human body—meaning they do not break down and can accumulate over time. PFAS can be found in drinking water and living organisms such as fish and animals.

According to the EPA, drinking water can be a source of exposure in communities where these chemicals have contaminated water supplies. Such contamination is typically localized and associated with a specific facility.

Lead

The EPA and Centers for Disease Control and Prevention (CDC) agree that there is no known safe level of lead in a child's blood. Lead can enter into drinking water when plumbing materials that contain lead corrode (ex. Lead pipes). Lead, much like PFAS, is persistent and can bioaccumulate in the body over time. Lead exposure is especially dangerous for young children. Even low levels of lead in the blood of children can result in behavioral and learning problems, lower IQ and hyperactivity, slowed growth, hearing problems and anemia. In adults, lead exposure can result in cardiovascular effects, decreased kidney function, and reproductive problems.

For more information on lead and what you can do if you think your water is contaminated visit EPA's website: [**"Basic Information about Lead in Drinking Water"**](#) This site provides information on learning where your water comes from, including information on:

- Consumer Confidence Reports (CCR),
- Ways to have your water tested for lead,
- How to reduce lead in drinking water,
- Regulations for lead.

INSPECTION AND REPORTING REQUIREMENTS

Often polluting entities operate under permits that limit discharges or allow them only when certain water treatment has been undertaken. Most environmental permits grant the state or federal agency that issues them the authority to enter the permitted facility to inspect whether the operation is being conducted in compliance with the permit's requirements. This usually includes the authority to take water samples for inspection and analysis. In addition to providing information about whether the permitted facility may be non-compliant or in violation of health and safety standards, inspection results can form the basis of government or community enforcement actions.

Polluting entities may also be required to provide data on their discharges or monitoring activities. Usually these entities are required to maintain records and monitor water quality, and in some circumstances report that information regularly to the permitting agency. For example, if a local watershed department is granted a wastewater discharge permit under the CWA by the State with authority delegated by EPA within their permit, there may be a requirement to provide monitoring data and discharges quarterly.

In addition to monitoring requirements set forth by permits, facilities with permits may be required to report information that will help the government protect public health. This usually includes reporting major spills and accidental releases of chemicals.

This type of information is particularly important for communities because it provides information on where pollution



WATER POLLUTANTS COMMUNITIES MAY FACE

One of the greatest threats to human health is drinking water contamination. Water pollutants can take on many forms and can include physical, chemical, biological, or radiological pollution.¹⁰

PHYSICAL: Pollutants that primarily impact the physical appearance or other physical properties of water. This can include sediment or organic material suspended in the water of lakes, rivers, and streams from soil erosion

CHEMICAL: Pollutants that are elements or compounds. These contaminants may be naturally occurring or man-made. This

can include nitrogen, bleach, pesticides, metals, toxins produced by bacteria, and human or animal drugs

BIOLOGICAL: Pollutants that are organisms in water. These are also referred to as microbes or microbiological contaminants. This can include bacteria, viruses, protozoan, and parasites.

RADIOLOGICAL: Pollutants that are chemical elements with an unbalanced number of protons and neutrons resulting in unstable atoms that can emit ionizing radiation. This can include cesium, plutonium and uranium.

is occurring and how often releases are happening. This information can help communities better understand how individual members may be exposed to harmful substances and support claims that pollution is having an impact on their community. This information is also important for local government agencies, such as fire departments, and community planning departments in order to incorporate these polluting facilities and their emissions into their emergency-response plans and help communities to advocate for better emergency response plans.

Specifically related to clean and safe drinking water, the Clean Water Act requires states to report to the EPA every two years about the state of water quality within their state, and the progress being made to meet water quality goals. Under the Safe Drinking Water Act, community water systems must mail an annual report to their customers outlining the level of contaminants in the drinking

water system. All public water systems must notify their customers when they violate applicable requirements or find unregulated contaminants in the drinking water. Notice must be given to customers within 24 hours if there is potential for serious adverse health effects from short-term exposure.

The SDWA also requires EPA to determine the level of contaminants in drinking water at which no adverse health effects are likely to occur within an adequate margin of safety. These non-enforceable health goals, based solely on possible health risks are called maximum contaminant level goals (MCLGs). For most contaminants, EPA sets an enforceable regulation called a maximum contaminant level (MCL).

Government entities often focus on compliance by individual permit-holders. Communities can and should advocate for agencies to take a broader, more holistic view of pollution and consider cumulative impacts of the numerous polluting sources

FLINT RIVER, GEORGIA /
STACY FUNDERBURKE

that contribute to health impacts in their community.

FINDING DATA AND INFORMATION

ECHO: Water Pollution Search

The EPA's **Enforcement and Compliance History Online (ECHO) website (www.echo.epa.gov)** allows community members to search facilities with permits to assess their compliance with environmental regulations.

ECHO can be used to:

- Search for facilities
- Investigate pollution sources
- Search EPA enforcement cases
- Examine and create maps of enforcement actions
- Analyze trends in compliance and enforcement data

Within ECHO, the Pollution Search Loading Tool is a web-based tool that generally calculates and reports facility pollutant discharges in pounds per year. The Tool prioritizes discharges based on total mass and toxicity to help identify discharges that may have the greatest impact on the environment or human health.

The **ECHO QuickStart Guide** provides information on how to use ECHO and undergo an analysis.

Freedom of Information Act (FOIA)

FOIA provides the public the right to request access to records from any federal agency. It is known as the law that keeps citizens in the know about their government. FOIA is particularly useful for accessing environmental records.

It is important to note that there is a federal FOIA statute, but each state also has its own

Freedom of Information law that applies to state agency records. Prior to filing a FOIA request, see if the information you are seeking is already public. If it is not already public, identify the correct agency for your request. There are over 100 agencies, and each is responsible for handling its own FOIA requests. After filing a request, an agency will determine what can be disclosed and provide the requested information in a timely manner based on complexity of the request and any backlog of requests.

The FOIA website (www.foia.gov) provides information on how to submit a FOIA request.

EJSCREEN: Environmental Justice Screening and Mapping Tool

EJSCREEN (www.epa.gov/ejscreen) is an environmental justice mapping and screening tool that provides EPA with a nationally consistent dataset for combining environmental and demographic indicators.

This tool helps users identify geographic areas with:

- Federally defined “minority” and/or low-income populations
- Potential environmental quality issues
- A combination of environmental and demographic indicators that is greater than usual.

EJScreen can be used to support:

- Educational programs
- Grant writing
- Community awareness efforts

This EPA user guide provides support on navigating and using EJScreen as a tool.



COMMUNITY CASE STUDY: WORKING WITH RESIDENTS TO ENSURE SAFE DRINKING WATER PETOSKY, MI

When a municipality issues an advisory on elevated lead levels in drinking water, residents are alarmed and looking for answers. Is my water undrinkable? Do I need a filter? Do I buy bottled water?

Freshwater Future partners community groups to make sure residents understand the advisory. Volunteers train neighbors on how to flush their water and install filters. Freshwater Future has even provided grants to pay volunteer stipends, share educational materials, and complete water testing for lead and other metals.

And once the results come in, Freshwater Future is there to help analyze the data and communicate to communities and to the Health Department. Alexis Smith, Community Program and Technical Associate explains, “If you’ve ever seen a water analysis, you can imagine how overwhelmed these residents must feel. Environmental chemistry is not my background, so even for me, it was a learning curve. You have

to learn the acronyms and the contaminants and what they can do. We translate and communicate what the data is actually saying.”

When it comes to drinking water, says Smith, “zero amount of lead is safe.” Freshwater Future remains engaged until all lead service lines are replaced or tests prove that the water is safe. “The residents tell us how they would like to move forward, and we support them every step of the way,” she says. “Whether that is through strategy for taking actions or funding to support their initiatives.” Freshwater Future offers a great example of how to follow the lead of the community.

Learn more at: www.freshwaterfuture.org

RECOMMENDATION 1 CITIZEN SUITS

Environmental laws are only effective to the extent they are enforced. The government included provisions in the CWA and the SDWA to allow individuals the ability to bring lawsuits against polluters, acknowledging that individuals play a critical role in identifying polluters and holding them accountable. These provisions are called “citizen suits.”

Citizen suit provisions are a bedrock of several environmental laws. The intent of these provisions is to supplement government action. However, because government agencies may also use their discretion to choose not to bring enforcement action when there has been a violation, citizen suits play an important role when the government cannot or will not act.

There are two situations in which citizens are authorized to bring a lawsuit to enforce the CWA.

- If there are ongoing violations of a NPDES permit and no enforcement action has been taken by the state or federal agency in charge of the permit, or
- If the EPA is not performing mandatory (non-discretionary) duties.

Citizen suits under the CWA are most commonly filed when there is a violation of a NPDES permit. The CWA prohibits anybody from discharging “pollutants” through a “point source” into a “waters of the United States” unless they have a NPDES permit. The permit will contain limits on what you can discharge, monitoring and reporting

requirements, and other provisions to ensure that the discharge does not hurt water quality or human health.

The CWA “citizen suit” provision is as follows (CWA, Section 505(a)).

(a) Authorization; Jurisdiction: Except as provided in subsection (b) of this section and section 1319(g)(6) of this title, any citizen may commence a civil action on his own behalf:

- Against any person (including (i) the United States, and (ii) any other governmental instrumentality or agency to the extent permitted by the eleventh amendment to the Constitution) who is alleged to be in violation of (A) an affluent standard or limitation under this chapter or (B) an order issued by the Administrator or State with respect to such a standard or limitation or
- Against the Administrator where there is alleged failure of the Administrator to perform any act or duty under this chapter which is not discretionary within the Administrator.

The SDWA “citizen suit” provision is as follows (42 U.S.C. § 300j-8)

Similar to the CWA, SDWA allows citizens to file a civil action (civil suit) on their behalf:

- Against any person (including (A) the United States, and (B) any other governmental instrumentality or agency to the extent permitted by the eleventh amendment to the Constitution) who is alleged to be in violation of any requirement prescribed by or under this subchapter;

- Against the Administrator where there is alleged a failure of the Administrator to perform any act or duty under this subchapter which is not discretionary with the Administrator; or
- For the collection of a penalty by the United States Government (and associated costs and interest) against any Federal Agency that fails, by the date that is 18 months after the effective date of a final order to pay a penalty assessed by the Administrator under section 300h-8(b) of this title, to pay the penalty.

In addition, SDWA allows citizens to file a civil action against the EPA Administrator for an alleged failure to perform any non-discretionary act or duty. Citizen suit opportunities under the SDWA are broader than the CWA. There needs to simply be a violation of a SDWA requirement in order for a citizen or a community group to bring suit.

WHO CAN I SUE?

A citizen suit may be brought against any person or entity, including the United States, for causing injury. In addition to suing parties for causing injuries, suits may be brought against the Administrator of the relevant government agencies for failing to perform any duty required under the CWA or SDWA.

DO I NEED AN ATTORNEY?

Citizen suits are complicated and will require legal assistance. However, some law firms may be able to support citizen suits in a pro-bono or low-cost capacity. At the end of this guide, you will find a list of organizations that contribute legal services to environmental justice issues.

WHAT IS AN “INJURY?”

While the word “injury” may sound like some physical harm needs to occur, the legal definition does not require a physical injury. Simply put, injury includes an impact, which may be biological (falling sick) to physical (broken arm). Injury can also be a financial impact on an individual (ie. losing money, property, etc.).

WHERE CAN A CITIZEN SUIT BE FILED?

A citizen suit must be filed in the judicial district in which the violation occurred and a copy of its complaint or suit must also be sent to the U.S. EPA Administrator and the U.S. Attorney General.

To begin a citizen suit, a number of factors must be satisfied in order to properly file suit in court. Here are a few things to consider:

Check for other claims against the violator. The entity or person that you plan on suing may already be criminally charged or sued in civil action by the EPA or state agency. If the government has already started legal action against the violator to enforce the CWA or SDWA, a private citizen cannot sue independently. The best way to find out if there is an ongoing lawsuit is to check the ECHO database and inquire with your local environmental protection agency.

Standing. A commonly litigated and controversial part of filing a citizen suit is determining whether the plaintiff (person bringing the suit) has something called standing. Standing is required in order to prove that the plaintiff bringing the lawsuit has the proper grounds to do so. If an organization is bringing suit, it is required to show standing of the individual members. To

establish standing three requirements must be met:

- The plaintiff must have suffered an “injury in fact,” meaning the injury is of a legally protected interest which is (a) concrete and particularized and (b) actual or imminent.
- There must be a causal connection between the injury and the conduct brought before the court.
- It must be likely, rather than speculative that a favorable decision by the court will redress the injury.

Notice. Prior to a lawsuit, a citizen must give a 60-day notice of their intent to sue to the alleged violator, the EPA, and the local designated enforcement agency. The local designated enforcement agency is likely your state environmental protection agency (ex: Maryland Department of the Environment).

The purpose of a 60-day notice is to warn the violator and other governing agencies that they are being sued and give them a period of time to address the problem. The notice should identify the entity being accused (the entity being sued) and what they are doing to break the law.

Following the consideration of these preliminary steps and considerations, a community or private citizen may file a citizen suit if it is deemed appropriate.

Next steps:

- After filing a notice of intent, a violator has 60 days to comply with the permit or whatever regulation or law they are violating. This grace period allows for the violator to remedy any violations that are specifically stated in the Notice of Intent filed by the plaintiff.
- If the 60-day grace period has passed and the violator is not compliant, any citizen can file a suit against the violator and the regulatory agency that failed to require the violators requirement with the CWA or SDWA, and the regulatory agency if they did not perform any duty required by law.

The court may enter a final judgment and require the violator to comply with all laws, regulations, and permits. The court may also assess penalties upwards \$55,000 under the CWA and SDWA per day, per violation. The amount of civil penalty is dependent on a number of factors including how serious the violation was, the economic gain from the violation, if there were previous violations, if efforts to comply were shown, and more.

RECOMMENDATION 2

STORMWATER PERMITTING

HOW CAN THIS SECTION BE USEFUL?

Stormwater pollution is a common cause of sewage overflows, basement sewage backups, increased local flooding, among other water quality problems. This section can be used as guidance to (1) better understand stormwater and how it fits into EPA's responsibilities to protect our nation's waters and (2) how to improve water quality in your community through green infrastructure. Though there are a number of origins for stormwater, this guide focuses specifically on MS4s.

WHAT IS STORMWATER?

Stormwater runoff is simply rain or melting snow that flows over the ground. However, in urban or developed areas, stormwater runs over pavement and parking lots, picking up pollutants before flowing into nearby rivers and streams. Sometimes this stormwater can infiltrate and flood sewage pipes, cause basement floods and sewage spills. Sewer overflows carry harmful pathogens that can end up in drinking or recreational water causing health risks. In more natural areas like forests and wetlands, stormwater soaks into the ground, filtering pollutants and keeping it from causing flooding.

Like other sources of water pollution, stormwater falls under the prohibitions and requirements of the Clean Water Act. However, distinguishing between types of stormwater and whether it is regulated or not, can be confusing. This confusion

stems from the language of the Clean Water Act, which distinguishes pollution into two categories: point source pollution and nonpoint source pollution. As mentioned in the glossary, a point source is a discrete conveyance of water, such as a pipe or channel. A non-point source is any other sources of water pollution where stormwater runs off surfaces such as roads, fields, rooftops, etc.

HOW IS STORMWATER MANAGED?

Stormwater is managed through municipal separate storm sewer systems, or "MS4s." These are a collective "system" of publicly owned storm drains, gutters, roadside ditches, grassy swales, sediment ponds, and other similar features that are connected to collect and move stormwater through and out of the community. While these piped systems are created to manage stormwater, sometimes they overflow, which results in community floods. In some cases, stormwater is collected within the same pipes as sewage, causing sewage flooding. For point source discharges, the Clean Water Act established the The National Pollutant Discharge Elimination System (NPDES).

Under the NPDES program, factories, sewage treatment plants, and other point sources must obtain a permit from the state and U.S. EPA before they can discharge their waste of effluents into any body of water. Prior to discharge, the point source must use the latest technologies available to treat its effluents and reduce the level of pollutants. However, stormwater did

not fall under the Clean Water Act at the time, as it was considered a non-point source. Following a number of court cases and updated science, Congress passed the Water Quality Act which amended the Clean Water Act to include provisions in section 402(p) that specifically address stormwater discharges. Congress clarified, in the statute, that stormwater discharges from municipal storm sewers are “point sources” and require the same level of pollution control that point sources require. As a result of this legislation change, a permit system was created for stormwater, referred to as MS4 permits.

MS4 permits have a specific standard that “must reduce the discharge of pollutants to the maximum extent possible,” which is commonly known as the “MEP standard.” To comply with the MEP standard, MS4 permits require permittees to determine and implement “best management practices” (BMPs) (see below for different kinds of BMPs) to reduce the quantity of pollutants entering into and/or discharging from the MS4.

The U.S. EPA oversees the NPDES program, and uses it to regulate stormwater discharges from three potential sources: municipal storm sewer systems (MS4s), construction activities, and industrial activities.

Industrial activities include 11 categories. Major activities include hazardous waste treatment, storage, and disposal facilities; heavy manufacturing; coal and mineral mining; and more.

Construction: Generally, NPDES stormwater program requires permits for discharges from construction activities that disturb one or more acres.

Operators of these pollutant sources may be required to obtain NPDES permits before they can discharge stormwater. This permitting mechanism is designed to prevent stormwater runoff from washing harmful pollutants into local surface waters. Combined sewer overflows (CSOs) contain untreated or partially treated human and industrial waste, toxic materials and debris as well as stormwater. EPA regulates CSOs through the National Pollutant Discharge Elimination System (NPDES) permitting program. It provides guidance on how communities with CSOs can achieve compliance.

For more information on CSO’s visit the [EPA’s CSO guidance](#), which covers long-term control plans, long-term planning with water quality standards reviews, CSO guidance for monitoring and modeling, and more.

MS4 PERMIT COMPLIANCE

MS4s are required to comply with the MEP standard, meaning they are only allowed to pollute up to a certain limitation. In order to successfully stay under the limits of allowed pollutant discharge, mechanisms and infrastructure need to be in place to ensure compliance.

There are two different types of MS4 permits, referred to as Phase 1 and Phase 2 permits. The phases refer to the order they were implemented under the CWA amendment referred to in the previous section. Phase 1 MS4 permits are stormwater permits for cities with populations over 100,000 people, while Phase 2 permits are for cities with populations under 100,000. These smaller communities often obtain their permit coverage through a collective state-wide permit program.

The basic requirements for a Phase 1 MS4 permit include a definition or standard for how to meet MEP requirement, a stormwater management plan (SWMP), a manual of stormwater management practices that can be used to achieve the plan and MEP standard, as well as maps and reporting requirements and schedules. Phase 2 communities have a lighter permit burden, and these permits must contain programs to achieve six minimum control measures (MCM's).

1. Public Education and Outreach
2. Public Participation and Involvement
3. Illicit Discharge Detection and Elimination
4. Construction Site Runoff Control
5. Post-Construction Runoff Control
6. Pollution Prevention and Good Housekeeping

There are many different ways communities can engage in the MS4 permit process. Many Phase 2 programs often utilize local community groups to help them comply with their MCM's. One growing trend in MS4 permits is the inclusion of green stormwater infrastructure as requirement in a stormwater management plan and/or list different green stormwater infrastructure practices as options in a stormwater management manual. On a city or county scale, green infrastructure is a patchwork of natural areas that provide habitat, flood protection, clean air, and clean water. At the neighborhood scale, green infrastructure mimics nature to soak up and store water. Anywhere from small to large scale areas, green infrastructure can be incorporated to reduce stormwater pollution and help meet MS4 NPDES compliance.

FUNDING GREEN INFRASTRUCTURE PROJECTS

Incorporating green infrastructure into your community can vary in cost, depending on the desired project type. While green roof can have more up-front costs, community rain gardens are relatively inexpensive. However, if a city is installing green infrastructure BMPs of any type, they are cost competitive with traditional stormwater management practices like storm drains and basins.

To support green infrastructure development, there are a number of federal funding opportunities that may be available to your community.

Visit EPA's [Green Infrastructure Funding Opportunities](#) page for more information.

Individual states may also have funding or grants available for green infrastructure projects. Each state differs, so it will be helpful to check in with your state's environmental or public works agency.

Green infrastructure projects are also a great opportunity to partner with local environmental non-profits who may already be spearheading stormwater management projects.





WHAT ARE GREEN INFRASTRUCTURE BEST MANAGEMENT PRACTICES (BMPS)?

Green infrastructure and best management practices can include both small- and large-scale projects. There are a variety of options to fit individual community needs and below are a number of green infrastructure practices that can be used:

Downspout disconnection

This practice reroutes rooftop drainage pipes from draining rainwater into the stormwater sewer to draining it into rain barrels or permeable surfaces.

Rainwater harvesting

This system collects and stores rainfall for later uses.

Rain gardens

These gardens are shallow basins that collect and absorb runoff from rooftops, sidewalks, and streets. They are a versatile feature that comes in many different sizes and can be used in a variety of applications—from front yards to main streets. They can be installed on almost any unpaved surface or built to replace paved surfaces.

Planter boxes

These are urban rain gardens that absorb runoff from sidewalks, parking lots, and streets. These are ideal for urban areas.

Bioswales

These are vegetated or mulched channels that provide treatment and retention as they move stormwater from one place to another. Vegetated swales slow, infiltrate, and filter stormwater flows.

Permeable pavements

This mechanism infiltrates, treats and stores rainwater where it falls. It is particularly cost effective where land value is high, and flooding or icing is a problem.

Green parking and green roofs

This structure creates permeable surfaces that can absorb and filter runoff. These are also cost effective and appropriate for urban areas.

Land conservation

Water quality and flooding impacts of urban stormwater can also be addressed by protecting open spaces and sensitive natural areas within or adjacent to cities. Natural areas that can be a focus include riparian areas, wetlands, and steep hillsides.



COMMUNITY CASE STUDY: STORMWATER FLOODING AND DISPLACEMENT IN SOUTH ATLANTA NEIGHBORHOODS ATLANTA, GA

In 2012, a 25-year storm delivering 3.5 inches of rain in just four hours flooded South Atlanta's Peoplestown and Mechanicsville streets and filled basements and backyards with toilet paper and sewage. Community members in these historic neighborhoods organized to demand that the city address flooding and combined sewer spills in their neighborhood. The Mayor promised a plan within 30 days for addressing the problem.

Fast forward to 2020, the community was still flooding, and many residents still felt fear each time it rained, so community leaders officially launched the Intrinchantment Creek Community Stewardship Council (ICCSC). Some of the members had been advocates for equitable and sustainable development in the area for over thirty years, while others were newer residents, alarmed by the intersection of gentrification and environmental justice.

Jason Dozier, co-chair of the ICCSC connects chronic flooding to the displacement of people of color in exchange for wide parking lots,

highways, and large scale developments. "In fact, this development is a major reason why we see significant flooding in communities like Peoplestown when we have big rain storms. When it rains, the pipes can't hold all that rainwater and it has to go somewhere. And unfortunately, too often that means in our homes and in our roadways."

First on the list is their campaign to advocate for a stronger stormwater ordinance from the City that works for everyone and to hold developers accountable for building practices that contribute to downstream flooding. Atlanta is an MS4 and as part of the City's permit, they have prioritized green infrastructure to address stormwater flooding. Long term, ICCSC's goal is to advocate for stormwater management, craft collaboration, and advocate for policy change that creates an equitable neighborhood in this rapidly changing heart of Atlanta.

Learn more at: www.intrenchmentatl.org

RECOMMENDATION 3

EPA'S RESIDUAL DESIGNATION AUTHORITY

In addition to traditional stormwater permitting for MS4s, industrial pollution, and construction, the EPA can use its “residual designation” authority (RDA) under 40 CFR 122.26(a)(9)(i)(C) and (D) to require NPDES permits for other stormwater discharges or category of discharges on a case by case basis when it determines that:

- The discharge contributes to a violation of water quality standards
- Is a significant contributor of pollutant to federally protected surface waters, or
- Controls are needed for the discharge based on waste load allocations that are part of TMDLs that address the pollutant(s) of concern.

RDAs are a unique way to regulate stormwater discharge that is not addressed by existing permitting. Generally, RDAs are successful when existing permitting is not enough, and there is an already impaired waterway that is at risk. Ultimately, if the EPA Administrator or state authority determines that a stormwater discharge — even from an existing unregulated source—is contributing to the impairment of a water body, the discharger may be required to obtain a permit and comply with current stormwater regulations.

RDAs can be an effective tool that helps rectify inequity resulting from non-municipal and non-regulated sources beyond a municipality's jurisdiction. Petitioners who have used RDAs state that the municipal sector has been unfairly bearing the burden of responsibility and cost

of addressing stormwater discharges from unregulated sites.

RDAs are complicated and to advocate for the federal government to use their RDA is a big task. We recommend that if an RDA is a route you or your community would like to take, to seek counsel or assistance from a local non-profit chapter or organization.

For example, Vermont's Environmental Court required the Vermont Department of the Environment and Conservation to exercise their RDA in association with a series of stormwater-related TMDLs. The resulting RDA permit, which extended stormwater permitting to more than 450 existing discharges, required different levels of action for three categories of existing stormwater discharges.

American Rivers and partner Natural Resources Defense Council recently won a lawsuit requiring USEPA to be proactive in developing RDA permits in areas where stormwater pollution is not being adequately addressed.

Some states are currently developing new RDA programs for specific water bodies. So this tool is slowly becoming a more accessible option for some. For the purposes of this toolkit, the examples show how RDAs were successful in these particular scenarios and to provide guidance on whether your community can use this authority to implement permitting requirements.

RECOMMENDATION 4 RE-DESIGNATION PROCESS

WHY WOULD I RE-DESIGNATE A BODY OF WATER AND WHAT DOES THAT MEAN?

Re-designation is an opportunity to change the status of a water body so that it is required to meet a higher standard of water quality. Let's say there are known pollutants in your local river and it is dangerous for your children to swim in it, but the company polluting the river is operating within the requirements of the law. Here the problem is with the "standard" for the river being set too low. In order for the permittee to be held to a higher water quality standard to support swimming, the water body would need to have recreation added as a "designated use."

Water bodies in the United States are given a "designated use," and based on the water bodies' "designated use," water quality standards (WQS) are implemented. The WQS regulation requires states to specify goals and expectations for how each body of water is used. Typical designations include:

- Protection and propagation of fish, shellfish, and wildlife;
- Recreation;
- Public drinking water supply;
- Agricultural, industrial, navigational and other purposes.

WHY IS DESIGNATION IMPORTANT?

Determining a designated use for a body of water is particularly important because the use determines the criteria to protect the water body. Water quality criteria can be numerical or narrative. It is important for communities to involve themselves in

the designation process to have appropriate water criteria for the waters in their state. For example, if a water source near your home is currently designated as industrial, the quality criteria for that water will be low. If children also swim and recreate in this body of water, they would be exposed to industrial pollution. During the re-designation process, this water body should be designated as recreational, creating a more stringent water quality criteria that is safe for recreation.

WHAT ARE WATER QUALITY STANDARDS?

WQS are provisions of state, territorial, authorized tribal or federal law approved by the EPA that describe the desired condition of a water body and the means by which that condition will be protected or achieved. Water bodies can have different standards based on their uses. For example, water can be used for recreation, scenic enjoyment, fishing, and drinking water. To protect human health and aquatic life in these waters, states establish WQS and form a legal basis for controlling pollutants entering water of the United States.

"States must adopt those water quality criteria that protect the designated uses. Such criteria must be based on sound scientific rationale and must contain sufficient parameters of constituents to protect the designated use. For waters with multiple designation, the criteria shall support the most sensitive use."

(40 CFR 131.11)

RESOURCES

ORGANIZATIONAL SUPPORT

The CWA and SDWA are technical and complicated laws. They often require expertise and technical support to pursue claims that fall under these statutes. In order to support your ongoing efforts, below is a list of organizations that may support your ongoing efforts for environmental justice in relation to clean and safe water.

National Organizations

- American Rivers
- Center for Biological Diversity
- Earthjustice
- NAACP
- National Wildlife Federation
- Natural Resources Defense Council
- River Network
- Sierra Club
- Southern Environmental Law Center
- Water Keepers Alliance
- [River Network Equitable Infrastructure Toolkit](#)

Local Organizations

- Riverkeepers, Coastkeepers
- Watershed Alliances
- Chesapeake Legal Alliance (Bay focused)
- Great Lakes Environmental Law Center

GRANT AND FUNDING SUPPORT

Grants can be helpful in addressing environmental issues in your community. If you are looking to apply for a grant, it will be important to understand what grants are available both in your geography and by issue. Below you will find a description of grants available for clean water-related work.

319 Grant Program for States and Territories

The 1987 amendments to the CWA established the Section 319 non-point source management program. Under Section 319, states, territories and tribes receive grant money that can support technical assistance, financial assistance, education, training, technology transfer, demonstration projects and monitoring to assess the success of specific non-point source implementation projects. This funding can support implementation of green infrastructure and other projects to address stormwater pollution.

For more information on the 319 grant program, visit EPA's website: [319 Grant: Reports and Project Summaries](#)

Information on how to apply for the 319 program can be found here:

[Applying for and Administering CWA Section 319 Grants: A Guide for State Nonpoint Source Agencies](#)

RESOURCES

Clean Water State Revolving Fund (CWSRF)

This program is a federal-state partnership that provides communities low-cost financing for a wide range of water quality infrastructure projects. Through this program states have the flexibility to fund a range of projects that address their highest priority water quality needs. Loans are eligible to construct municipal wastewater facilities, control nonpoint sources of pollution, build decentralized wastewater treatment systems, construct green infrastructure projects, protect estuaries, and fund other water quality projects.

For more information on CWSRF, visit EPA's website:

[**Learn about the Clean Water State Revolving Fund \(CWSRF\)**](#)

To apply for the CWSRF, contact the CWSRF program in your state for information on how to apply:

[**Contact Us About the Clean Water State Revolving Fund \(CWSRF\)**](#)

Drinking Water State Revolving Loan Fund (DWSRF)

This program is a financial assistance program to help water systems and states to achieve the health protection objectives of the SDWA. DWSRF has provided assistance for improving drinking water treatment, fixing leaky or old pipes, improving water supply, replacing or constructing finished water storage tanks, and other infrastructure projects needed to protect public health. DWSRF can also be used to protect source waters including land acquisition to protect source waters, including rivers.

For information on DWSRF, visit EPA's website:

[**How the Drinking Water State Revolving Fund Works**](#)

To apply for the DWSRF, contact your local state agency:

[**State DWSRF website and contact\(s\)**](#)



2 EQUITABLE FLOOD RISK MANAGEMENT GUIDE



PURPOSE

Floods are a natural and necessary part of a healthy river. During floods, water flows over the flat areas next to rivers—known as floodplains. Floodplains are biodiversity hotspots that help improve water quality by capturing pollutants, and allow flood water to soak into the ground, recharging groundwater supplies. Undeveloped floodplains can safely convey floodwaters, but when floodplains are developed¹¹ for residential, urban, or industrial uses, flooding¹² can bring myriad problems including but not limited to loss of life, damage to property and infrastructure, community displacement, waterborne diseases, and contaminated water supplies.

The impacts of floods are unevenly distributed across people and places. The disproportionality of these impacts is associated with a number of socioeconomic factors which include: poverty, social class, race, ethnicity, culture, physical activity and disability, language competency, social networks and social capital, gender, household composition, home ownership, and age.

Communities of color are disproportionately exposed to flood-related damages. This is due to economic factors, like the affordability of land in less hazardous areas, and racially discriminatory policies, like redlining¹³ that deliberately placed Black and Brown

people on properties that were flood prone.¹⁴ Federal flood risk reduction programs are designed to help populations that are more socially and economically vulnerable, but studies have found that the administration of these programs systematically under-serve communities of color, which is perpetuating racist planning decisions of the past.¹⁵

These disparities are heightened by the impacts of climate change. Climate change has shifted rainfall patterns, making heavy rain more frequent in many parts of the country. The Intergovernmental Panel on Climate Change (IPCC) has noted that it is increasingly clear that climate change has influenced several of the water related variables that contribute to floods, such as rainfall and snowmelt. It is becoming clear, with climate change impacts compounding, that the need to address flooding related inequities is crucial.

This guide focuses on riverine flooding and actions that communities can take to engage in flood risk management in their locality. This guide provides information on understanding flood risk and the process for mapping floodplains, how communities can contribute to flood mitigation and adaptation planning, and resources by the Federal Emergency Management Agency (FEMA) to be trained as a floodplain manager.

PRIOR PAGE:
ALTON, ILLINOIS /
ANDREW DOBSON

ABOVE:
MISSISSIPPI RIVER,
ILLINOIS / OLIVIA
DOROTHY

GLOSSARY

BASE FLOOD: The flood that has a one-percent chance of being equaled or exceeded in any given year (often referred to as the 100-year flood)

DISASTER RISK: probability that a household, community, business, or entity will be unable to resist, manage, or recover from the losses sustained from a hazard without external assistance

FLOOD: A flood is the temporary overflow of water over land that is normally dry. Floods can occur on rivers and streams that receive enough rainfall and/or precipitation to cause water to overtop the channel's banks and spill onto the neighboring floodplain; along coasts as a result of severe storms, excessive tides, or tsunamis; or when urban drainage systems are overwhelmed or a dam or levee fails. Floods vary in size, magnitude and frequency so the standard flood used for floodplain management purposes is the base flood.

FLOOD HAZARD MITIGATION: All actions that can be taken to reduce property damage and the threat to life and public health from flooding.

FLOODPLAIN: The land area inundated during a flood. Because floods vary in size, magnitude and frequency, the area of land inundated during any particular flood will vary.

FLOODPLAIN MANAGEMENT: The administration and implementation of federal and state laws, and local ordinances related to the management of flood-prone areas. The individuals who perform these activities are known as floodplain managers.

HAZARD EVENT: a phenomenon with potential to cause harm

NATIONAL FLOOD INSURANCE PROGRAM (NFIP): the NFIP is a federal program managed by the Federal Emergency Management Agency and is delivered to the public by a network of approximately 60 insurance companies and the NFIP Direct, that makes flood insurance available to cover the cost of flood damages to homes, business, and property.

REDLINING: In the United States and Canada, redlining is the discriminatory and unethical practice of systematic denial of providing services, particularly financial services, to residents of certain neighborhoods or communities associated with a certain racial or ethnic group. The denial of services can be accomplished directly (e.g., prohibiting the granting of loans to a certain racial group) or indirectly (e.g., imposing higher interest rates for the borrowers from a certain racial group).¹⁶

RESILIENCE: is the ability of individuals, communities, institutions, and governments to adapt to changing conditions and prepare for, withstand, and recover from disruptions, such as hazard events like flooding.

RISK REDUCTION: reflects an objective to achieve reductions in loss of life, of property, and/or natural resources by identifying and reducing hazards and vulnerabilities.

SPECIAL FLOOD HAZARD AREA (SFHA): The area designated on a Flood Insurance Rate Map that will be inundated during a base flood (also referred to as the 100-year flood, or one-percent annual chance flood) and is subject to regulation under the National Flood Insurance Program and where mandatory flood insurance purchase requirements apply.



BACKGROUND

HISTORY OF INEQUITY IN FLOOD RISK MANAGEMENT

Floodplains have always been attractive places for communities to settle. Their flat fertile land supports abundant crops, and the proximity to rivers make them obvious sites for centers of commerce. However, development in floodplains comes with the inherent risk of flooding that can cause significant, and occasionally catastrophic damage to property and ways of life.

Federal flood risk management policies and practices in the U.S. have resulted in inequitable outcomes for communities of color. For example, the first major levee systems constructed on the Mississippi River were built by the poorly paid labor of African American sharecroppers, convicted criminals and immigrant laborers. In the 1900's, to combat the economic fallout of the Great Depression, construction of major flood control dams in the West displaced Indigenous communities from their ancestral lands.

The Flood Control Act of 1936 established a benefit-cost analysis requirement for federal flood control projects which has ended up prioritizing investments in communities that have existing wealth and resources over communities with less wealth and resources.

Housing policies have contributed to who lives in flood-prone areas. A study by Redfin in 2021¹⁷ found that formerly redlined neighborhoods have a larger share of homes endangered by flooding than neighborhoods that were not redlined in the 1930's.

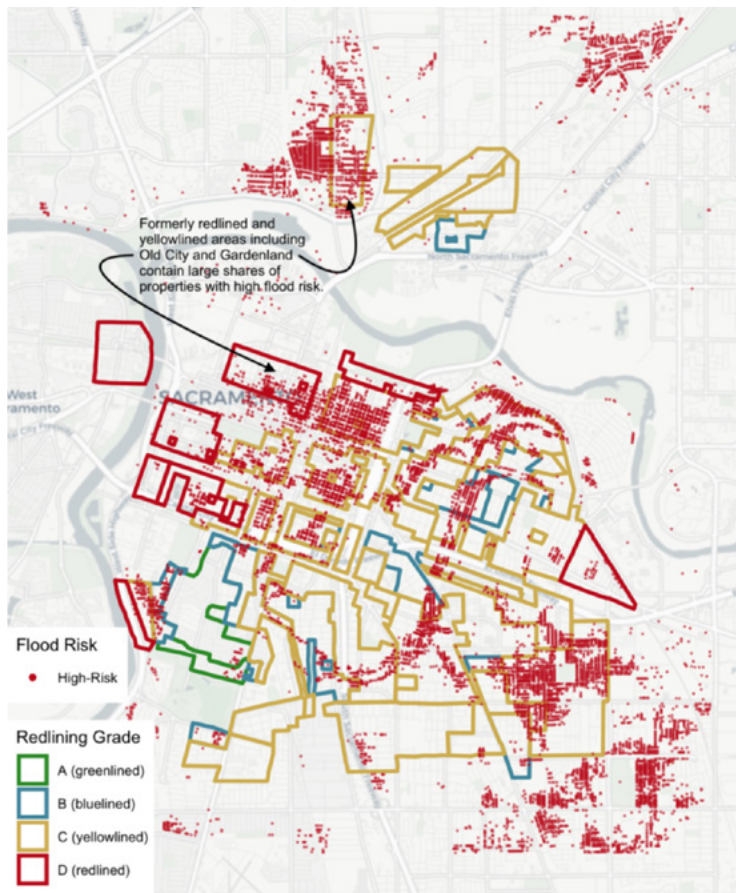
Redlining was a discriminatory lending practice put in place following the Great Depression that determined where investment in housing would take place and where it would not. The federal government assigned color coded grades to residential neighborhoods to indicate where it was "safe" for mortgage lending. Red coded areas were deemed the most hazardous to provide mortgages to due to a variety of factors that included the presence of Black communities and flood hazards. The impacts of redlining are felt today, as less money was invested in these areas for decades to come. Today, 58.1% of households in neighborhoods once deemed undesirable for mortgage lending are nonwhite.

RELEVANT FLOODPLAIN MANAGEMENT POLICIES

Until the 1960's the U.S. primarily relied on structural flood control strategies like levees and dams. However, these approaches continued to encourage development in floodplains and disaster relief expenses continued to rise.¹⁸ In response to the

TUSCON, ARIZONA / CITY
OF TUSCON

SACRAMENTO'S FORMERLY REDLINED NEIGHBORHOODS FACE HIGH FLOOD RISK



Source: Redfin analysis of First Street Foundation flood risk data and HOLC redlining maps. Background map copyright OpenStreetMap contributors.

continued failure of flood control infrastructure, the federal government began a shift towards “flood risk reduction.” This approach focuses on regulating floodplains to reduce unwise development in hazardous areas. The capstone of this approach is the National Flood Insurance Program (NFIP).

The NFIP, which is managed by the Federal Emergency Management Administration (FEMA) provides flood insurance to property owners, renters and businesses in communities that agree to adopt and enforce **minimum floodplain management regulations**. FEMA develops flood insurance rate maps that identify areas of flood risk and can be used to help guide community development plans.

While FEMA provides significant support to improve community planning and development to reduce hazard risks, communities must have local government capacity and matching funds to gain access to these resources.

FEMA coordinates the federal government’s role in preparing for, preventing, mitigating the effects of, responding to, and recovering from all domestic disasters whether natural or man-made. The Robert T. Stafford Disaster Relief and Emergency Assistance Act created a system by which a presidential disaster declaration triggers the release of financial and sometimes direct assistance through FEMA. The intention of this law was to encourage states and localities to develop comprehensive disaster preparedness plans, prepare for better intergovernmental coordination in the face of a disaster, encourage the use of insurance coverage, and provide federal assistance programs for losses due to a disaster.

Under the Stafford Act, state, local, tribal, and territorial governments are required to develop hazard mitigation plans as a condition for receiving certain types of non-emergency disaster assistance. These plans are a blueprint for the actions a community or state will take to reduce disaster risk and increase resilience. Hazard mitigation plans and implementation of the NFIP are undertaken by floodplain managers or emergency managers at the municipal level of government. Smaller or under-resourced communities may be challenged to support adequately trained staff dedicated to reducing flood risk for their community.

However, it is important to also recognize that even in communities that meet the investment thresholds for federal assistance, studies show that predominantly Black neighborhoods within those communities still receive lower levels of assistance than predominantly White neighborhoods.¹⁹

Today, floodplain management and reducing flood risk to communities is considered a shared responsibility of individuals and local, state and federal governments. Resources to make communities more resilient to floods are unequally distributed so it is imperative that community members understand how they can engage in flood mitigation processes.

EMERGENCY STEPS

WHAT IS A FLOOD WARNING?

There are different types of floods and related warnings. See the chart to distinguish between various alerts provided by the National Weather Service.

Coastal Flood Watch	issued when moderate to major coastal flooding is possible. Such flooding would potentially pose a serious risk to life and property.
Coastal Flood Warning	issued when moderate to major coastal flooding is occurring or imminent. This flooding will pose a serious risk to life and property.
Coastal Flood Advisory	issued when minor or nuisance coastal flooding is occurring or imminent.
Flash Flood Watch	issued when conditions are favorable for flash flooding. It does not mean that flash flooding will occur, but it is possible.
Flash Flood Warning	issued when flash flooding is imminent or occurring.
Flood Watch	issued when conditions are favorable for flooding. It does not mean flooding will occur, but it is possible.
Flood Warning	issued when flooding is imminent or occurring.
River Flood Watch	issued when river flooding is possible at one or more forecast points along a river.
River Flood Warning	issued when river flooding is occurring or imminent at one or more forecast points along a river.

IF YOU ARE UNDER A FLOOD WARNING, FIND SAFE SHELTER RIGHT AWAY

- Do not walk, swim or drive through flood waters. Turn Around, Don't Drown!
- Just six inches of moving water can knock you down, and one foot of moving water can sweep your vehicle away.
- Stay off of bridges over fast-moving water.

Depending on the type of flooding

- Evacuate if told to do so.
- Move to higher ground or a higher floor.
- Stay where you are.

Visit [Floods | Ready.gov](https://www.floods.gov) to learn more about how to prepare, react, and recover from floods.

RECOMMENDATION 1: UNDERSTANDING FLOOD MAPS AND THE NATIONAL FLOOD INSURANCE PROGRAM

It is important that all communities understand their flood risk, and how to engage in the process used to identify and map flood risk, to ensure that maps reflect the flooding that community members see on the ground.

WHAT ARE FLOOD INSURANCE RATE MAPS (FIRMS)?

Flood Insurance Rate Maps (FIRMs), show a community's risk of flooding as determined by FEMA. Specifically, flood maps show a community's flood zones, floodplain boundaries, and base flood elevation. Floodplain managers use them to enforce floodplain management regulations, planners use them to inform community development decisions, and insurance companies and banks use them to determine who is required to purchase flood insurance for their home.

Using flood maps has a number of benefits. You and your community can understand whether your neighborhood is at risk when a hazardous event occurs, whether there is a requirement for flood insurance in your neighborhood, or simply recognizing that the risks listed by FEMA's mapping tools are inaccurate do not portray the events that have happened in your community.

NOTE

In 2021, FEMA is expected to begin to transition to Risk Rating 2.0, a risk rating methodology that will incorporate additional flooding variables beyond Flood Insurance Rate Maps into flood insurance rates. More information about **Risk Rating 2.0: Equity in Action** is available at [FEMA.gov](https://www.fema.gov).

WHERE CAN I FIND MY COMMUNITY'S FLOOD MAP AND FLOOD RISK STUDY?

FEMA's Flood Map Service Center website is the official public source for all flood hazard information produced for the National Flood Insurance Program. By visiting the Map Service Center you can view historic, final and preliminary regulatory flood hazard products including Flood Insurance Map Rates (FIRM), Flood Insurance Study (FIS) reports, and FIRM Databases as well as non-regulatory products, including Flood Risk Maps, Flood Risk Reports, and Flood Risk Database.

HOW DO I READ A FLOOD MAP?

Flood maps depict flood zones, the geographic areas that FEMA has defined according to varying levels of flood risk. These zones are depicted on a community's Flood Insurance Rate Map (FIRM). Each zone reflects the severity or type of flooding in the area.

- Moderate to low risk areas are designated as B, C, or X on FIRMs. Residents in these areas are currently eligible for lower flood insurance rates, (even though one in three claims occurs in a low to moderate risk area.)
- High risk areas which are designated as A or V on FIRMs. Property owners

in these zones with a federally backed mortgage are required to have flood insurance.

FEMA offers a tutorial on how to read a FIRM.

HOW ARE FLOOD MAPS CREATED AND REVISED?

FEMA partners with states, tribes, and communities through the Risk Mapping, Assessment, and Planning (Risk MAP) program to identify flood hazards and risks and incorporate accurate data into FIRMs. FIRMs must be periodically updated because flood hazards are dynamic and may change over time due to alterations in flow and drainage patterns caused by land use, surface erosion, natural forces, or climate change. Updates to FIRMs may result from FEMA-funded flood risk studies, or when the community makes scientific technical data that reflects changes available to FEMA.

WHAT IF MY FLOOD ZONE DESIGNATION IS INCORRECT?

Though FEMA attempts to use the most accurate information available, sometimes there may be inaccuracies in flood maps. FEMA established administrative procedures to change the designation for properties that are inaccurately zoned on FEMA's flood maps. If a property owner thinks their property has been inadvertently mapped as part of the Special Flood Hazard Area, they may submit a request for a Letter of Map Change (LOMC) which is an official revision/amendment to an effective Flood Map. Property owners may request a LOMC online via the Online Letter of Map Change tool. If a LOMC is granted, the property owner may be eligible for lower

flood insurance premiums, or to opt out of purchasing flood insurance.

HOW CAN I PARTICIPATE IN THE PROCESS OF CREATING OR REVISING A FLOOD MAP?

There are numerous opportunities for community officials and the public to engage in the process of creating or revising a flood map. **Risk Map project lifecycle** includes the following steps:

Project Planning

- Selecting the Project Area: Reviewing a watershed to determine if there is a need for a new or updated FIRM
- Discovery Process: Collecting current and historic flood-related data

Mapping and Data

- Data and Product Development: FEMA and mapping partners prepare the data, maps and flood risk products
- Flood Risk Review Meeting (optional): early feedback on products by community officials and communication to the public about potential changes.

Resilience Meeting

FEMA, state and local leaders discuss community flood risk and identify ways to reduce flood risk.

PRELIMINARY FIRM ISSUANCE

Distribution of preliminary Maps and

Data: Preliminary FIRM and FIS report are delivered to community officials and posted on **FEMA's Flood Map Service Center** for review and comment.

Consultation Coordination Officer Meeting and Public Open House:

FEMA holds meetings to present the preliminary FIRMs

and FIS reports to community officials, and the general public.

90-Day Appeal Period: Communities or the public can submit data to revise the FIRM if they believe it is scientifically or technically incorrect. [Information on the appeals process can be found here.](#)

RISK ASSESSMENT

Flood Risk Products

Risk MAP provides local officials with flood risk assessment products to better understand the community's flood risk and mitigation options.

Effective FIRM and FIS Report Issuance

After resolving all appeals, FEMA sends community officials a Letter of Final Determination six months before the new FIRM and FIS report becomes effective.

Planning for Mitigation Action

FEMA, partners, and local officials identify mitigation opportunities that work for their community.

HOW DO I FIND OUT WHO MY COMMUNITY'S FLOODPLAIN MANAGER IS?

An individual's first step in engaging in a flood mapping process is to contact the local floodplain manager. Every community that participates in the National Flood Insurance Program has a designated floodplain manager who ensures the community is implementing floodplain regulations, helps prepare and revise flood maps, and helps residents obtain information on flood hazards, floodplain map data, flood insurance, and proper construction in the floodplain.

- Visit your community's website
- [List of certified floodplain managers](#)

- [List of state floodplain managers](#)
- [State Floodplain Management Associations](#)

Tips for best results:

- Identify your local floodplain manager
- Identify correct process/ product
- Answer all questions on forms
- Use data checklists provided with the forms
- Submit data all at once

IF I'M NOT IN A FEMA DESIGNATED HIGH RISK AREA, AM I SAFE FROM FLOODS?

Not necessarily, especially since local stormwater related flooding is rarely mapped. Flooding is a dynamic, ever changing natural process that is affected by the decisions that we and our neighbors in our watershed make. One in three NFIP claims occurs outside of the special flood hazard area. Flood risk in the United States is far greater than government estimates show. Flood mapping tools like Flood Factor are intended to complement FEMA's FIRMs and provide additional data and resources for homeowners to better understand their flood risk.

TAKEAWAYS

- Everyone should have flood insurance.
- Everyone has some level of flood risk. It's important to understand your risk so you can prepare for the inevitable, and take steps to mitigate your risk.
- Individuals can band together to have their voices heard²⁰ if FEMA or local officials aren't listening to them. Many flood-prone communities are making their voices heard to address flood preparedness and equity.

RECOMMENDATION 2: INTEGRATING EQUITY AND JUSTICE INTO HAZARD MITIGATION PLANS

WHY DO WE ADDRESS EQUITY AND JUSTICE IN HAZARD MITIGATION PLANS?

Natural disasters can be hard on anyone and result in the loss of life, infrastructure damages, economic impact, social consequences, and environmental degradation. But they can be particularly devastating on low-income communities and communities of color. Low-income communities often don't have the local resources for enough hazard mitigation staff. Individuals with fewer resources and who lack a social safety net have a harder time evacuating during a flood or replacing damaged goods. Many residents may have nowhere to go, and they have a harder time getting back on their feet. They may also have more challenges with the process of applying for disaster assistance, for example, if they don't have access to technology which makes them more likely to miss deadlines for paperwork.

It is critical that these communities be involved throughout the hazard mitigation planning process to ensure their distinct voices are heard and their issues addressed in the plan. Incorporating equity and justice fosters a fair and balanced approach to help all community members as it relates to pre- and post-disaster planning and will result in a much more resilient community. Furthermore, having a clear understanding of how and where at-risk groups might be during a disaster will help you allocate resources efficiently before, during, and after an emergency.

WHAT ARE HAZARD MITIGATION PLANS?

Hazard mitigation planning is the process used by state, local, and tribal leaders to understand risks from natural hazards and develop long-term strategies to reduce the impacts of disasters on people, property, and the environment. Hazard mitigation planning goes hand in hand with community resilience. Resilience is the ability of individuals, communities, institutions, and governments to adapt to changing conditions and prepare for, withstand, and recover from disruptions, such as hazard events like flooding. Planning encourages the development of long-term mitigation strategies. By going through a planning process, communities think about their potential risk and develop mitigation actions before a disaster has occurred. Development of a well thought out plan makes it easier to recover from hazardous events.

WHO DEVELOPS HAZARD MITIGATION PLANS?

The Stafford Act requires State, tribal, and local governments to develop and adopt FEMA-approved hazard mitigation plans in order to receive certain types of non-emergency disaster assistance. Jurisdictions must update their hazard mitigation plans and re-submit them for FEMA approval every five years to maintain eligibility. Current plans can be accessed by contacting the emergency management agency or office within your state, local or tribal government. FEMA maintains a list of [State Hazard Mitigation Officers](#) and [Regional Tribal Liaisons](#).



COMMUNITY CASE STUDY: DIVERSE STEERING COMMITTEES PORTLAND, OR

The Portland Bureau of Emergency Management established a steering committee which included members from diverse backgrounds, including underserved communities such as communities of color, renters, and immigrants. The steering committee was to modify the process and structure of projects and engage community groups in the planning

process. With a more diverse steering committee, there also comes a diverse range of expertise such as engineers, long-time residents, and community leaders.

To learn more, visit:
www.portlandoregon.gov/pbem/

States, tribes and local communities will usually create a team or working group of partners and stakeholder groups that work together to inform and create a hazard mitigation plan. Having representation on this team is critical in order for a vulnerable community to have their voice heard.

FEMA has an **Office of Disability Integration and Coordination** that provides resources on how to integrate individuals with disabilities and others with access and functional needs into hazard mitigation planning. However, the agency does not yet have resources specifically dedicated to communities of color or low-income populations.

WHERE CAN I FIND MY STATE AND LOCAL HAZARD MITIGATION PLAN (HMP)?

FEMA **tracks the status** of hazard mitigation plans from all 50 states, the District of Columbia, and five territories, as well as over 25,100 local governments and 240 tribal governments. Current plans can generally be found on the websites of state, tribal, and local emergency management agencies.

What is the process for creating a state or local Hazard Mitigation Plan and opportunities for public input?

FEMA has developed a significant number of **resources** to help jurisdictions with the development of both state and local hazard mitigation plans.

- **State Mitigation Plan Review Guidance**
- **Tribal Mitigation Planning Handbook**
- **Local Mitigation Planning Handbook**

FEMA encourages mitigation planners to use a **collaborative process** that involves a cross-section of agencies and stakeholders with at minimum, a knowledge of:

- Emergency management;
- Economic development;
- Land use and development;
- Housing;
- Health and social services;
- Infrastructure; and
- Natural and cultural resources.

FEMA allows state and local communities the flexibility to develop their own process for developing a local hazard mitigation plan and encourages the use of community-driven planning processes that brings



COMMUNITY CASE STUDY: INCLUSIVE OUTREACH & PUBLIC ENGAGEMENT SEATTLE, WA

The City of Seattle created an Inclusive Outreach and Public Engagement Guide that strives for multiculturalism, with equal access and respect for all groups and creating conditions for understanding. One of their goals for their hazard mitigation plan, specifically, is to partner with diverse organizations and agencies. The City will use current

Census data in order to identify diverse communities within the city limits and seek to create partnerships with existing organizations that can invite and encourage their constituents to participate.

Read the full guide at www.seattle.gov.

together local officials, stakeholders and the public. Because of this flexibility it is critical for stakeholders and the general public who are interested in the development of state and local hazard mitigation plans to identify the individuals leading the plan development process, build relationships with them, and if possible, gain a seat on the planning team.

Stakeholders and the public should urge state and local planners to design a robust public engagement process that may include outreach at public events like festivals and fairs, mail or online surveys, announcements in the newspaper, create a project website, solicit information over social media and hold open house events.

HOW ARE HAZARD MITIGATION PLANS FUNDED?

FEMA's Hazard Mitigation Assistance grant program (HMA) provides some limited planning grants to communities looking to develop or update their hazard mitigation plans. The purpose of this job aid is to provide considerations for the development of a planning grant scope of work with the ultimate goal of encouraging

strong, comprehensive planning grant sub-applications.

WHAT SHOULD PLANNERS CONSIDER WHILE DEVELOPING A HAZARD MITIGATION PLAN?

While developing long-term hazard mitigation strategy, it is important to understand the likelihood of future events, including changing future conditions. Communities that plan for future development and a changing climate are more likely to recover from severe events and can preserve their community for years to come. FEMA's mitigation planning policies state that State and Tribal governments must consider future climate and weather patterns when assessing the probability of future hazard events.

See “[Land Use Solutions for Colorado](#)” by [Planning for Hazards](#) for an example.

HOW DO I CREATE AN EQUITABLE AND JUST HAZARD MITIGATION PLAN?

There is a growing list of equitable planning resources available that communities and hazard mitigation officers can use to inform their plan. These include:

- **NAACP’s “Equity in Building Resilience in Adaptation Planning.”**
- **NAACP’s “Our Communities, Our Power: Advancing Resistance and Resilience in Climate Change Adaptation Action Toolkit.”**

RESOURCES TO DEVELOP EQUITABLE HMPS:

- **Social Vulnerability Index for the United States**
- **Arc GIS online search for demographic data**
- **FEMA Mitigation Planning**
- **Planning For An Emergency: Strategies For Identifying And Engaging At-Risk Groups**

RECOMMENDATION 3: ENCOURAGE FLOODPLAIN MANAGEMENT TRAINING

Assistance programs need to be established to provide higher levels of planning support for communities that are more socially and/or economically disadvantaged.

Some communities have more resources than others. Pre-disaster resilience planning and project funding sources always require some type of community investment, like municipal staff to apply for grants, direct match, upfront costs for development concepts, access to various experts, a tax-base for loan repayments, etc. The state should provide tiered assistance programs to help communities get access to more planning and development resources. Assistance levels should be based on census block data and communities with populations that meet multiple census thresholds should be eligible for higher levels of planning assistance.

HOW WILL THIS HELP COMMUNITIES OF COLOR?

Communities like Centreville, Cairo and Rockford Illinois have large populations of people of color and low-income households. Cairo and Centreville also have a declining tax base that cannot support full-time municipal staff, let alone support staff with the various floodplain management certifications. These factors limit their ability to apply for existing grant programs for watershed planning and green infrastructure including FEMA's Building Resilient Infrastructure and Communities (BRIC) Grants, EPA Revolving Loan Programs; and EPA Section 319 Non-point Source Pollution

Grants. A need-based state floodplain management assistance program would help these communities compete with wealthier and more politically connected communities for access to resources.

Information about floodplains, flooding, and development options needs to be more accessible to the public.

When it comes to floodplains, residents see places to build memories with families and loved ones, elected officials see land that can be developed to collect property taxes, environmentalists see critical habitat for fish and wildlife, farmers see rich soil capable of producing abundant crops, insurance agents see public safety threats from flooding, and so on. Understanding these various demands on floodplains is essential for a community to make the best decisions to maximize community resiliency in the face of climate change.

Information about flooding as a safety hazard and as an essential ecosystem function needs to be more readily available to the general public via public education institutions. Insurance agents and municipal staff, the primary trusted sources of flood-related information, also need to be given more robust continuing education opportunities to ensure accurate information about flood risks and floodplain benefits is making it into communities.

HOW WILL THIS HELP FRONTLINE COMMUNITIES FACING FLOOD RISKS?

In Centreville, community members can clearly see the impacts of historic floodplain development patterns as their homes and yards are flooded with storm- and wastewater. Many residents have already relocated from another area of the Metro East that was bought out due to frequent flooding, only to continue to face the same problems at their new homes. Determined not to “make the same mistake twice” community members are trying to get access to more effective and sustainable alternatives. Many hazard mitigation educational opportunities are targeted at elected officials and engineering professionals. More information needs to be developed for the general public, including pre-K-12 curriculum, FEMA courses for the general public, and mandatory professional development for city staff and insurance agents. This will ensure communities have base-line information about floodplain functions that is required to lead the decision-making processes.

Community leaders should enroll in floodplain management classes to learn more about hazard mitigation options for their neighborhoods and communities.

FEMA’s Emergency Management Institute offers many free classes on emergency management topics like flood risk reduction and floodplain management. While classes are designed for public officials and

municipal staff, they are available to the general public. Most classes are offered for free. A few require a nominal fee if the interested individual does not meet certain requirements.

The full catalog of classes is available at: www.firstrespondertraining.gov/frts/

RECOMMENDED CLASSES

- EO273: Managing Floodplain Development through the National Flood Insurance Program
- IS-393.B: Introduction to Hazard Mitigation
- IS-1101.B: Basic Agent Tutorial

RESOURCES

- [Floodsmart.gov](https://www.floodsmart.gov/)
- [Video: “Protecting Your Home and Property from Flood Damage”](#)
FEMA guide for mitigation ideas to reduce flood loss
- [FEMA: Protecting Your Property From Flooding](#)
- [FEMA: Flood Map Search by address](#)
- [FEMA: Flood Map Service Center](#)
- [“Find Your Home’s Flood Risk,” Flood Factor mapping resource](#)
- [EPA: EJScreen: Environmental Justice Screening and Mapping Tool](#)
- [EPA: College/Underserved Community Partnership Program \(CUPP\)](#)

A photograph of two men standing in a shallow stream in a lush forest. The man on the left is wearing an orange long-sleeved shirt, blue overalls, a blue cap, and yellow gloves. The man on the right is wearing a black long-sleeved shirt, a white hard hat, and yellow gloves. They are both holding black plastic bags. The background shows a dense forest with many trees and a large fallen tree trunk in the water.

3 TITLE VI ENVIRONMENTAL JUSTICE COMPLAINTS & COMPLIANCE GUIDE

INTRODUCTION

Communities of color and low-income communities often have less meaningful involvement with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies when it comes to land-use decisions that affect their communities.²¹ Research²² suggests that companies tend to place facilities that can negatively impact human health in communities of color and low-income communities because these communities often lack the political influence and resources necessary to fight siting decisions. When it is found that communities are not treated fairly, Title VI and Community Benefits Agreements can serve as a remedy to mitigate or even prevent discriminatory practices.²³

Discrimination may take on many forms. Discrimination can range from a governing body permitting construction of a new polluting entity in an already heavily polluted neighborhood to failing to address a lack of water infrastructure in lower-income communities and communities of color. Ultimately, if a project or a decision intentionally and disparately negatively impacts a protected community, there is a basis for a Title VI complaint. Meanwhile, CBAs can be used more broadly to establish partnerships between community groups and developers to secure better outcomes for communities. CBAs are mutually beneficial and can help create long-lasting relationships between a number of entities in a given region.

While Title VI is the main focus of this guide and can be a useful tool, it is important

to note at the outset that Title VI requires resources, time, and political capital to pursue effectively. Community Benefit Agreements and other forms of resolutions and compromise can be beneficial and less burdensome as an alternative or addition to filing Title VI complaints. The key difference between Title VI complaints and CBAs is that Title VI is a formal federal retroactive process, meaning that filing occurs after an inequity or a form of discrimination has already taken place. A CBA is done proactively prior to development to ensure compatible and equitable uses and benefits for both the developer and the community.

The Environmental Justice Complaint and Compliance Guide is intended to be used as a resource to understand mechanisms to file complaints and reach resolution when faced with environmental harms. This guide focuses on Community Benefit Agreements (CBAs) and Title VI Complaints.

Our intent is that this guide provides a general understanding of Title VI and CBAs and information about where opportunities exist to file such complaints and enter into such agreements. We also hope this guide provides you with information to pass along to local government leaders on how to successfully comply with Title VI.

GLOSSARY

CONTRACTOR:

A person or company that undertakes a contract to provide a service. In the context of Title VI complaints, contractors may be recipients of federal funding.

COMMUNITY BENEFITS AGREEMENT (CBA):

A CBA is an agreement signed by a community benefit group and a developer, identifying the community benefits a developer agrees to deliver, in return for community support of the project. CBA's can ensure that measurable, local benefits will be given to a community. They are enforceable, legally-binding contracts for all parties that stipulate community benefits and are the direct result of substantial community input.

DISPARATE IMPACT:

When practices of a policy adversely affect one group of people of a protected characteristic more than another, even though the policy may not single out a particular protected group. Disparate impact can be considered unintentional discrimination, where the policy has a disproportionate impact on a protected group.

DISPARATE TREATMENT:

When a person or groups of people can show that they were treated differently than others who do not share the same protected characteristics. Disparate treatment

can be considered intentional discrimination and shown in two ways:

1. Directly, by pointing to a policy or decision that expressly singles out individuals by race, or
2. Indirectly, by providing circumstantial evidence that a discriminatory motive was likelier than not responsible for the alleged mistreatment.

EXECUTIVE ORDER 12898:

The purpose of this executive action is to focus federal attention on the environmental and human health effects of federal actions on minority and low-income populations with the goal of achieving environmental protection for all communities.

FEDERAL FINANCIAL ASSISTANCE:

Assistance in the form of any grant, loan, or contract (other than a contract of insurance or guarantee).

RECIPIENT:

A "recipient" receives Federal financial assistance and/or operates a "program or activity." A recipient may be a public (ex. a State or municipal agency) or a private entity. A federal agency cannot be considered a "recipient" under Title VI. There can be more than one recipient (state, local). It is important to know the "recipient" of federal funds when filing a Title VI complaint.

RETALIATION:

No recipient can intentionally take adverse actions against a person who exercises their rights under Title VI. This sort of intentional discrimination is called retaliation. Retaliation involves three elements:

1. An individual engaged in protected activity of which the recipient was aware;
2. The recipient took a significantly adverse action against the individual; and
3. There is evidence to show the protected activity was the cause of the recipient's adverse action.

SUBRECIPIENT:

A subrecipient is a non-federal entity that receives a subaward from a pass-through entity (the recipient) to carry out part of a federal program but does not include an individual that is a beneficiary of such a program.



COMMUNITY BENEFITS AGREEMENTS

This guide discusses Title VI in detail, but, in addition to considering Title VI, it is beneficial to also consider CBAs. This section will discuss some general information on CBAs and then outline background and recommendations on Title VI.

As a preliminary step, it is crucial for communities to understand the implications of filing a Title VI complaint. Filing a Title VI complaint is a difficult process and requires a high burden of proof for success. Due to its complexities, it is in a community's best interest to seek legal support when filing a Title VI complaint. Because Title VI complaints are often time consuming and have historically resulted in limited success, there are alternatives to address environmental inequities based on placement and development.

COMMUNITY BENEFIT AGREEMENTS—THE PROACTIVE APPROACH

CBA's are a relatively recent approach to addressing and resolving many inequities

that stem from development, urbanization, and planning. CBA's are a useful tool when a developer or government entity is planning a new development that will impact a neighborhood. A CBA is a way for the community to negotiate benefits that are priorities for the existing residents such as parks, recreation centers, equitable housing, and jobs. While there are compromises throughout the negotiation process and no CBA would be considered perfect, the benefits of CBAs are many for the community. Primarily for the developer, a CBA minimizes risk of litigation because CBA's are based on collaboration and mutual benefit.

WHY ARE CBAS AN EFFECTIVE OPTION FOR COMMUNITIES?

CBAs have the benefit of instilling a value driven approach when developing in areas within or near communities. According to the Department of Energy,²⁴ the following values should be promoted when CBAs are used:

COLUMBIA RIVER,
WASHINGTON /
SHUTTERSTOCK

Inclusiveness

The purpose of a CBA is to ensure community issues are heard, represented and addressed. Public participation is critical to develop an equitable and thoughtful CBA. While developing an engagement plan for a CBA, ensure historically-underrepresented communities have a seat at the table.

Enforceability

CBAs require written commitments. The promises developers make in a CBA are enforceable. Importantly, enforceability is a two-way street: communities also must honor their commitments.

Transparency

CBAs provide a bottom-up approach where community groups, developers, government officials, and the general public can monitor a development. Agreements are made directly by communities and public participation allows an open conversation.

Coalition-Building

Coalition building can be tricky, especially when different community groups and organizations have conflicting perspectives

and goals. However, the process of negotiating a CBA can encourage alliances and bring together groups, resources, and ideas. CBAs can also promote the recognition of the intersectionality of different groups. For example, a project can have an impact on workers, jobs, housing, the environment, and health. Groups from various sectors can develop an intentional agreement that addresses the intersectionality and issues amongst one another.

Efficiency

Similar to coalition building, CBAs encourage a cooperative relationship between potentially adversarial parties. This facilitates the development process because CBAs establish agreements ahead of time that reduce delays and conflict.

Clarity of Outcomes

CBAs are intended to provide entities with clarity and agreement on the on the benefits received by the community. Through the agreement, there are clear requirements for metrics, reporting, and outcome goals.

In addition to providing a value-driven approach, CBAs can be beneficial to both the community and developers.

Developer Benefits	Community Benefits
The project is supported by community members with public testimony and written statements.	Clear incentives through the CBA. This can include hiring commitments, living wages, and other benefits.
There is a reduced risk for future pushback since community groups are united behind a CBA.	Educational partnership between developers, communities, and local residents.
Developers have an opportunity to get state and local subsidies and approvals	Creates support for local, small businesses.



COMMUNITY CASE STUDY: NEGOTIATING A HISTORIC MITIGATION AGREEMENT THAT BENEFITS CHARLESTON COMMUNITIES CHARLESTON, SC

In 2005, Lowcountry Alliance for Model Communities (LAMC) organized as a collective to deal with social issues—violent crime and drugs—in low wealth communities across Charleston. Years later, when they learned about the multi-billion dollar terminal expansion the South Carolina State Ports Authority (SCSPA) was planning adjacent to seven predominantly African-American, low-income neighborhoods, they were already organized and asking critical questions about the project’s impact on their community.

LAMC focused on the provision in NEPA that allows for mitigation for local impacts. They learned that the State Ports Authority was setting aside millions of dollars for a bird sanctuary, an oyster restoration project, and preservation of historical sites, but only promising the community ten jobs.

“It was a slap in the face,” said Omar Muhammad, Executive Director of LAMC. It was also a major motivator. The community began to look at the environmental impact documents with a technical team familiar with NEPA. Neighborhood presidents and community leaders representing seven of the most economically distressed neighborhoods in North Charleston decided

to take a unified and comprehensive approach to combat the myriad of social, economic, and environmental issues their constituents were facing daily.

Historically, Black and low wealth residents were forced to live near industrial zones with very serious implications for health and well-being. Throughout the environmental review process for the Port Terminal, LAMC representatives were able to demonstrate that their communities bore a disproportionate share of the region’s air, water, and land-based pollution. The Corps of Engineers conducted an environmental justice assessment and determined that the LAMC communities did meet the criteria set for an environment justice population.

The \$4 million Community Mitigation Plan was a result of the City of North Charleston and LAMC partnering to ensure that the SCSPA’s expansion enhances the community of which it is a part by building capacity of local organizations and funding initiatives in affordable housing, job training, education, environmental research, and youth development.

Learn more at: www.lamcnc.org

WHO ARE THE PLAYERS IN A CBA AND HOW DO YOU START ONE?

Generally, the key players in a CBA are the developers, community groups, and local and state governments.

One of the more difficult parts of the CBA process can be consensus or coalition building between multiple community organizations. In order to provide concrete prioritized asks, it will be important to streamline the needs from multiple organizations across various sectors.

The Community Tool Box, a service of the Center for Community Health and Development at the University of Kansas is a helpful resource for consensus or coalition building, including how to:

- Set up meetings,
- Organize and define membership,
- Include diverse participants,
- Create a foundation for a successful coalition, and more.

The U.S. Department of Energy outlines the following strategies for each key player:

Developers:

- Identify stakeholders and build public trust. Stakeholders should represent a diverse group of community-based organizations and individuals
- Engage community representatives and coalitions
- Initiate project briefings with key state and local government officials
- Train company representatives about community outreach
- Educate stakeholders about the technical aspects of the development

Communities:

- Research and understand development proposals in your region and identify any that can have a significant impact or benefits to the neighborhoods in which they will be located
- Organize coalitions and recruit stakeholders
- Hold public meetings with assistance of leaders.
- Actively engage the developer with community objectives, via open dialogue and transparency.

State and Local Governments:

- Inform community coalitions of proposed developments
- Encourage developers to enter good-faith negotiations with responsible coalitions
- Inform developers of the benefits they can achieve through CBAs
- Respect the negotiating process and honor community coalition agreements

For more information on CBAs visit:

[Partnership for Working Families' Community Benefits 101](#)

While CBAs are an effective method for influencing development that has not yet happened, your community may face existing development that has a disparate impact on the community's health. In this case, a Title VI complaint is worth considering. The following section provides background on Title VI complaints and the process through which to file one.



TITLE VI. A REACTIVE APPROACH

The purpose of Title VI is simple: to ensure that public funds are not spent in a way that encourages or results in discrimination. A Title VI complaint is a formal administrative complaint filed by those impacted by discrimination to begin an investigation on an entity receiving federal financial assistance.

A Title VI complaint is often filed when either the federal government or a recipient of federal government funds intentionally discriminates on the basis of race, color, or national origin. There are many instances in which a Title VI complaint can be filed, however, the basis of any complaint will be intentional discrimination on the basis of race, color, or national origin by the federal government or a recipient of federal funding. Title VI protects all persons in the United States regardless of citizenship status. Title VI works in two parts, the first being the administrative complaint process which allows aggrieved individuals to file complaints, and the second being federal compliance, which requires all government entities to comply with Title VI guidelines.

HISTORY

Title VI is a federal law that falls within the Civil Rights Act of 1965. Though agencies enacted Title VI regulations in the 1970s, the first administrative complaint was not filed with an Agency until 1993.

In the environmental justice context, Title VI works in conjunction with an Executive Order issued by President Bill Clinton. On February 11, 1994, Executive Order 12898 was issued to direct Federal agencies to incorporate achieving environmental justice into their mission. Agencies were required to do this by identifying and addressing, as appropriate, disproportionately high adverse human health or environmental effects of its activities on minority and low-income populations. Executive Order 12898 also created the Interagency Working Group on Environmental Justice (IWG). The IWG provides guidance to Federal agencies, based on criteria, to identify disproportionately high and adverse human health or environmental effects on minority and low-income populations. In 2011, the IWG also established a Title VI Committee to address

IPSWICH RIVER,
MASSACHUSETTS
/ IPSWICH RIVER
WATERSHED ASSOCIATION

the intersection of agencies' environmental justice efforts with their Title VI enforcement and compliance responsibilities.

While Title VI of the Civil Rights Act and Executive Order 12898 complement one another, there are key differences. While Title VI is a prohibition on discrimination by law, the Executive Order is a directive order that may not hold the force of law. Further, while Title VI can be enforced in courts, an executive order cannot. If enforced vigorously, Title VI can be a powerful tool for agencies to address environmental justice and remediate existing inequities and discrimination.

Title VI is unique from violations of specific environmental laws. Environmental laws can be used to address non-compliance and procedural requirements that are required by the law. Title VI addresses and focuses on the discriminatory impact of permitting decisions made by local agencies. Violations of specific environmental laws are distinct from whether the permitting agencies' decisions to grant permits to operators have a discriminatory impact on affected communities. This subtle, but important, distinction allows Title VI to be applied more broadly to address various environmental inequities, and specifically hones in on discriminatory intent and environmental justice.

WHO IS RESPONSIBLE FOR ADMINISTERING TITLE VI?

Generally, the Environmental Protection Agency (EPA) Office of Civil Rights (OCR) is the division responsible for processing most Title VI environmental justice complaints. However, there are other agencies that have a robust Title VI program and may also receive complaints. These agencies may include the Department of Justice, Department of Transportation, and the Federal Highway Administration.

Because Title VI is a federal law, all levels of government must comply with it. This means that states and local governments should also have Title VI programs and policies in place to mitigate discriminatory practices. Title VI complaints can be filed at a local level, where many states and localities have a form or process for discriminatory complaints, or a national level, where agencies have specific requirements. Generally, Title VI complaints should be filed with the agency that is engaged with misconduct. The recommendations listed below are based on the Title VI compliance policies of the Environmental Protection Agency's Office of Civil Rights. These recommendations should be generally applicable to other agencies and state and local governments, however, minor differences in procedure may exist.

GUIDELINES ON FILING AN ENVIRONMENTAL JUSTICE ADMINISTRATIVE COMPLAINT

Filing a Title VI complaint is simpler than one may think. If the proper procedures are followed, and all relevant information is provided, filing a Title VI complaint is straightforward. However, while the filing may seem simple, creating an effective complaint is a larger task. This part of the guide discusses (1) how to file a complaint and (2) how to write an effective complaint.

WHO CAN FILE A COMPLAINT?

Any person who believes they have experienced discrimination based on race, color, national origin, or sex can file a complaint. Each federal agency that provides federal financial assistance is responsible for investigating complaints of discrimination on the basis of race, color, sex, or national origin in the use of its funds. If you believe that you or others protected by Title VI have been discriminated against, you may file a complaint with the Federal, State, or local agency that provides or receives funds for the program or practice engaging in misconduct or discriminatory practices. It is important to note that different jurisdictions may have different procedural requirements or standards. Be sure to check with the governing agency in which the complaint will be filed to ensure proper procedure is followed and that the specific discriminatory standard is met.

It is important to note that Title VI is not limited to only the federal government, but also applicable to state and local

governments. If you are discriminated against and the discriminating entity is a government entity, a complaint can be filed with one or multiple levels of government.

HOW DO I FILE A COMPLAINT?

Prior to sending a complaint, the complainant must send a written notice to the funding agency alleging that a recipient of agency financial assistance has acted or has a discriminatory policy against a protected class. An authorized representative such as an attorney or representative from an organization may file the notice on behalf of the complainant.

Next, a signed, written complaint should be filed with the appropriate Federal agency, within 180 days of the date of the alleged discrimination. In order to write a complete complaint, you must meet two elements to make a case:

- The activity must be federally funded, and
- You must fall within a protected class of Title VI (i.e. race, color, or national origin discrimination).

It is important to note that there is no right to appeal a decision made by an agency investigation, therefore, putting your best case forward in an initial complaint is crucial.

WHAT DOES A COMPLAINT REQUIRE?

While requirements for a complaint may vary across local, state, and federal agencies, most processes require that your complaint have at least the following:

- Your name, address, and telephone number.
- Your complaint **MUST** be signed. If you are filing on behalf of another person, include your name, address, telephone number, and your relation to that person.
- The name and address of the agency, institution, or department you believe discriminated against you.
- How, why, and when you believe you were discriminated against. Include as much background information as possible about the alleged acts of discrimination. Include names of individuals whom you allege discriminated against you, if you know them.
- The names of any persons, if known, that the investigating agency could contact for additional information to support or clarify your allegations.

HOW DO I WRITE AN EFFECTIVE COMPLAINT?

It is important that when a complaint is filed, it is concise and provides the best evidence to support an individual or community's case. For an agency to accept a complaint, the complainant must submit a written and signed complaint.

The complaint must allege and adequately describe a discriminatory act that, if true, would constitute a violation of the agency's Title VI non-discrimination policies. For example, an allegation that a decision has been made to place a wastewater treatment facility in a location that disproportionately impacts a community of color may constitute a discriminatory act. The complaint must also indicate that a recipient of the agency's financial assistance was responsible for the alleged discriminatory act.

For more information on effective complaint writing, see the resources below:

- **"Writing A Complaint Letter,"** from **New Hampshire Department of Justice**,
- "Filing a Complaint," from The Community Tool Box, the Center for Community Health and Development at the University of Kansas. ctb.ku.edu/en/table-of-contents/advocacy/direct-action/file-complaint/main

For more information on how to write an effective complaint see **Recommendation 2. Legislative Advocacy in the Public Participation Guide**. Title VI Complaints are not the only form of complaints that can be used to address environmental inequities. There are opportunities to register local concerns with your local and state governments as well.

Filing alone will not stop discriminatory practices. Once a complaint has been filed

WILL FILING A TITLE VI COMPLAINT STOP DISCRIMINATORY PRACTICES?

within the required timeframe, there is a process through which resolution can be secured. The regulations require OCR or the appropriate filing agency to acknowledge receipt of the complaint within five days. The agency then must immediately initiate complaint processing procedures and within twenty days review the complaint or file an acceptance, rejection, or referral to the

appropriate federal agency (if filed to the wrong agency).

If the complaint is accepted, within 180 days of the start of the complaint investigation process OCR must notify the complainant and recipient agency of the agency's findings and recommendations for voluntary compliance.

The options for handling the complaint are as follows:²⁵

Accept	If a complaint is timely filed, contains sufficient information to support a claim under Title VI, and concerns matters under the stated Agency, the Civil Rights Office of the Agency will send to the complainant, the respondent agency, and the Division Office a written notice that it has accepted the complaint for investigation.
Preliminary Review	If it is unclear whether the complaint allegations are sufficient to support a claim under Title VI, then the Civil Rights Office of the Agency may (1) dismiss or (2) engage in a preliminary review to acquire additional information from the complainant and/or respondent before deciding whether to accept, dismiss, or refer the complaint.
Procedural Dismissal	If a complaint is not timely filed, is not in writing and signed, or features other procedural/ practical defects, then the Office of Civil Rights of the Agency will send the complainant, respondent, and Division Office a written notice that it is dismissing the complaint
Referral/Dismissal	If the complaint is procedurally sufficient but the Agency (1) lacks jurisdiction over the subject matter or (2) lacks jurisdiction over the respondent entity, then the Office of Civil Rights of the Agency will dismiss the complaint or refer it to another agency that does have jurisdiction.

CHALLENGES ASSOCIATED WITH TITLE VI COMPLAINTS AND COMPLIANCE

Frontline communities have historically utilized Title VI through two avenues:

- Directly suing recipients of federal funds in federal and state courts under Title VI, and
- Filing Title VI administrative complaints with the EPA and other agencies.

To date, both avenues have yielded limited success in the courts and at the agency level, however, there has been recent reform to push Title VI responses and cases.

More recently, some much-needed attention was finally given to Title VI. In 2005, *Rosemere Neighborhood Association v. U.S. EPA*, the court held that EPA's failure to process a Title VI complaint in accordance with the 180-day timeline was found to be unlawful pursuant to the Administrative Procedure Act (APA).²⁶ EPA settled the *Rosemere* case by agreeing to respond to all future Title VI complaints from plaintiffs within the regulatory time frames and to produce, on a quarterly basis, an inventory of all Title VI complaints submitted to the agency and a report on the status of each complaint.

In 2015, the United States District Court for the Northern District of California, the case *Californians for Renewable Energy et. al. v. the United States Environmental Protection Agency* found that the EPA was in gross violation of its Title VI procedures. The case was brought by four different

communities across the United States that had filed Title VI complaints. The EPA failed to provide a timely response to the complaints within their 180-day requirement, a pattern that is commonly seen by the EPA's Office of Civil Rights (OCR). The court referred to the decades-long delays as "agency action unlawfully withheld." This decision was pivotal to the environmental justice movement. It has created a clear path forward for future environmental discrimination complaints by affirming that releasing findings within 180 days of accepting a complaint is the legal requirement and agencies can no longer skirt that deadline.

Even following litigation and court decisions, Title VI remains to have inherent flaws. The process of filing a complaint is often overlooked, but don't underestimate the importance a complaint can hold.

RECOMMENDATIONS FOR LOCAL TITLE VI COMPLIANCE

Though Title VI is a federal law, it still requires state and local compliance. While citizens are armed with the ability to file complaints and litigate in the face of intentional discrimination, governments are tasked with ensuring compliance and developing preventative policies to avoid acting in a discriminatory manner.

In addition to Federal compliance, State and local governments are also required to

comply with Title VI of the Civil Rights Act so long as they facilitate a federal program. A state administering agency is an entity that is directly granted federal funds to prioritize and allocate amongst various programs, policies, and initiatives. A state or local government is required to comply with Title VI if they are “recipients” of federal financial assistance. The Department of Justice’s Office of Civil Rights (OCR) provides technical assistance to state administering agencies and staff on the importance of Title VI, with an emphasis on improving monitoring procedures to ensure the compliance of subrecipients, those who then administer the state administering agencies policies and initiatives. The following subsections include recommendations for state and localities to implement or achieve Title VI compliance and prevent discriminatory policies.

It is important to note that many states have Title VI guidelines for their State Departments of Transportation. State Departments of Transportation Title VI compliance programs follow guidelines set forth by the Federal Transit Administration. The recommendations below are meant for state and local agencies that may not have, or have a weak, Title VI program. While these are specific to the Department of Transportation, these principles can be applied to other agencies.

This portion of the guide is meant for communities to share with local leaders and decision makers.

This resource provides examples for what local and state governments should consider to bolster inclusive decision making and consider environmental justice in conjunction with public participation and community involvement. The following list is not meant to be exhaustive and we encourage local governments to work with communities in developing their own, robust Title VI compliance guidelines. These guidelines were developed by the Tennessee Administrative Office of the Courts²⁷ in order to comply with Title VI. Other states may have more exhaustive or comprehensive plans for Title VI compliance.

DEVELOP A PUBLIC PARTICIPATION PLAN

It is important for government entities to engage the public to make them aware of projects or services and to provide input in decision-making processes through:

- Public meetings/ Hearings in centralized locations;
- Advertisement with local media resources and newspapers serving communities of color;
- Direct mailings;
- Public service announcements;
- Website, radio and television.

DIVERSE REPRESENTATION ON PLANNING BOARDS AND COMMISSIONS

The inclusion of communities of color and lower income communities on planning

boards and commissions is critical in establishing an equal access planning system. Subrecipients cannot “deny a person the opportunity to participate as a member of a planning, advisory, or similar body which is an integral part of the program.”

HAVE A WRITTEN TITLE VI COMPLAINT PROCESS AND COMPLAINT LOG

Localities should create a written Title VI complaint process and create a complaint log to track any instances of discrimination. For recommendations on what the process and log should include, visit the [Tennessee Administrative Office of the Courts website](#) for more information.

HAVE A “LIMITED ENGLISH PROFICIENCY” PLAN

Executive Order 13166 requires Federal agencies to examine the services they provide, identify any needs for services for those with limited English proficiency (LEP), and develop and implement a system to provide those services so LEP persons can have meaningful access to their services. LEP persons are persons who do not speak English as their primary language, and who have a limited ability to read, speak, write or understand English. In order to take reasonable steps to ensure access to programs and activities by LEP persons, the community must determine:

- Number or proportion of LEP persons in the community;
- Frequency of contact with the program or activity;
- Nature and importance of the program or activity and
- Resources to ensure LEP persons can access the program.

EXAMPLES OF TITLE VI PLANS

SANDAG, “Guide to Developing a Title VI Plan for FTA Subrecipients,” May, 2017.

U.S. Department of Transportation, Federal Highway Administration, Office of Civil Rights, “State Title VI Implementation Plans: A collection of commendable procedures and practices,” April, 2019.

Title VI. Plan Template

In order to successfully implement and comply with Title VI, current practices to address nondiscrimination in federally funded programs must be evaluated by local entities. This will allow for programs, entities and government officials to change existing practices that are non-compliant and revise plans to ensure public participation and meaningful involvement.

When evaluating current practices, the evaluator should:

- Identify actions already being taken and existing tools that can be used to provide meaningful access;
- Inventory existing materials that have been translated into other languages;
- Develop staff awareness; and
- Prepare a response plan. Evaluations can be done by local EJ committees established by local or state governments or by an ethics committee designated by the locality or state.



4 LOCAL LAND USE PLANNING & ZONING GUIDE



PURPOSE

Land use planning is not much different from the type of planning we do in our everyday lives. We map out the things we want, when we want them, and how to execute a plan to obtain them. Similarly, land use planning decides where things will be located, when things will be developed, and how it will be executed. Our everyday planning is often easy because we are generally the sole decision-makers of our own lives. However, things get more complicated as more players and perspectives are involved. This is partially why land use planning can become so complex—there are wide-ranging opinions and interests to be considered.

A major barrier communities color and lower-income communities face is access to and participation in governmental decision making processes. Zoning and land use policies have been used to codify segregation²⁸ and justify allocation of different resources and protections to different zoned areas. The initial purpose for zoning in the 19th was to decrease the spread of infectious diseases by separating land uses in order to limit human exposure to toxic chemicals and biological agents.²⁹

In a landmark United States Supreme Court case of *Ambler Realty Co v. Village of Euclid*, the court found that zoning ordinances

are an appropriate use of the state’s police power because they protect the health and safety of the community. This case, rooted in constitutional principle, became a means of exclusionary zoning, or the illegal practice of excluding low-income and Black and Brown residents under the guise of zoning classifications. Zoning has led to regulations that benefit White and higher wealth populations and leave out low wealth communities and communities of color.

To learn more about the history of segregation, zoning, and public health, see: [**How Planning and Zoning Contribute to Inequitable Development, Neighborhood Health, and Environmental Injustice.**](#)

Since the early 1900s, discriminatory zoning and permitting laws have designated housing for people of color in neighborhoods with a high concentration of environmental hazards. This systemic racism has created a higher density of low-income communities of color residing near environmental hazards and an economic inability to escape their discriminatory placement. Now, people of color “comprise 56% of the population living in neighborhoods” with facilities registered under the Emergency Planning and Community Right-to-Know Act’s Toxic Release Inventory, “compared to 30% elsewhere.”³⁰

PRIOR PAGE & ABOVE:
WACCAMAW RIVER,
SOUTH CAROLINA / MAC
STONE

Land use impacts can include exposure to hazardous waste incinerators, petrochemical refineries, lead smelters, solid waste landfills, and disposal sites. Land use impacts can also be linked to lead in home drinking water pipes, pesticides in fields, and storm water overflows with toxic contaminants. The mere permitting of polluting facilities can lead to long-term exposure of surrounding communities. It is not only inequitable for communities of color and lower-income communities to bear the burden of exposure, but it is also an ongoing public health concern that requires local and state governments to act.

There are several ways communities can influence and address environmental justice concerns related to zoning and land-use planning. This section of the toolkit provides avenues for engagement and participation to further environmental justice advocacy. This guide is created to provide a set of resources for local community members and leaders to use to address land use-related environmental injustices in their communities in the face of climate change.

Recommendations include:

- Bolster public participation;
- Encourage “cumulative impacts,” language in zoning policies;
- Encourage equitable zoning policies; and
- Encourage participation in zoning hearings.

While this guide can be utilized in several different ways, it should be primarily used to address and encourage community participation and encourage a comprehensive look at land use planning to promote environmental justice.

Grassroots community activists are often catalysts for action, bringing environmental justice problems to the attention of local governments. By raising important issues and working with government, community groups can be a critical force in identifying problems and developing new, more effective solutions to environmental justice concerns.

BACKGROUND

UNDERSTANDING WHAT'S WHAT

Planning generally provides a comprehensive plan on how to utilize a physical environment. Land use may also be considered a planning process, where the physical, social, and economic aspects of a community are examined and considered. Land use and planning consider transportation, housing, recreation, open spaces, cultural resources, community services, population and economic development.

Zoning is a tool used to regulate what types of development can happen in different areas of a community. Examples of zoning categories include industrial, residential (single-family, multi-family), and commercial. Zoning can be used to advance and protect the community's public health, safety, and general welfare. Essentially, zoning is a tool to implement land use planning. Local governments use zoning to protect the value of property, prevent the establishment of nuisances, ensure compatibility between adjacent uses of land, and protect natural resources. While used historically as a tool to implement systemic racism, zoning is ultimately a planning control tool for the government to regulate the physical development of land based on its usage, purpose and geology.

A comprehensive plan is an attempt to establish guidelines for the future growth of a community. A comprehensive plan is designed to be adopted into law and consists of the following elements: land use (both existing and future), demographics (existing

and projected), housing, infrastructure, education, recreation, and transportation.

LAND USE AND ENVIRONMENTAL JUSTICE

Zoning and land use planning are tools that can help protect communities from pollution. Zoning has significant implications for shaping the environment of a community because it defines where sources of pollution and other potentially noxious uses can legally be sited.

Environmental justice is heavily rooted in zoning, land use, and local decision making. Zoning and land use planning have been described by some scholars as not only a “root enabling cause of disproportionate burdens [and] environmental injustice” but also “the most fundamental and potentially most powerful of the legal weapons deployed in the cause of racism.”³¹ Municipalities are at the forefront of most land use issues that eventually lead to environmental injustices.

Locally unwanted land uses (LULUs) were the foundation for the environmental justice movement. Following the protest of the government's decision to place a PCB landfill in a mostly African American community in Warren County, North Carolina, the U.S. General Accounting Office (GAO) undertook an investigation and found that hazardous waste landfills were located in communities where African Americans were a majority of the population.

Zoning is often extremely political. There is significant evidence showing that not only

are people of color or low-income residents likely to live close to polluting industries with the resulting unequal distribution of environmental exposures, but also that local zoning has sometimes created these disparities and that local decision-makers were often fully aware of the likely outcomes.³²

Further, people of color or low-income residents also face the vulnerabilities associated with land use and zoning. These vulnerabilities can include, but are not limited to, exposure to contaminants from wastewater, increased property flooding, toxic exposure from fishing and waste runoff from water treatment facilities.

HOW IS ZONING RELATED TO WATER POLLUTION?

Land use and water resources are undeniably linked. The type of land use and the intensity of the use will have a strong influence on the quality and quantity of water resources.³³ The potential negative impacts on our water and natural resources increase as the intensity of land use increases. More intensively developed areas have a greater level of impervious surfaces, including roads, parking lots, sidewalks, rooftops, etc. than low-intensity areas.³⁴

Impervious surfaces prevent natural infiltration of water and increase storm water runoff. As the intensity of land use increases, infiltration, and the ability to recharge groundwater decreases. Lack of infiltration can lead to severe urban flooding, ultimately harming properties that are in flood-prone zones. Also land use decisions often result in the reduction and fragmentation of open space, thus reducing water filtration, infiltration and collection.

WHO ARE THE DECISION MAKERS?

The decision makers for a zoning or land-use plan typically involve the municipalities' local zoning staff, the planning commission, and the Board of Zoning Adjustment (BZA), and county council.

- **Municipal Staff:** Generally, the first ones to look over a proposed zoning plan and ensure it is compliant with all laws and ordinances
- **Planning Commission:** Entity conducts public hearings, takes evidence, creates a record of the proceedings, and then makes recommendations for approval, approval with modification, or denial of the application
- **Governing Body:** An entity such as a city council or county commission that is the final decision maker on all zoning applications, unless the state has delegated this authority to another entity.
- **Board of Zoning Adjustment (BZA):** Some jurisdictions create a BZA to: (1) hear and act upon variance applications; and (2) hear appeals to rezoning denials where the basis for appeal is an alleged irregularity in the governing body's application of the ordinance.

Advocacy related to zoning and planning is conducted on a local level and there is strength in numbers. A great place to start considering options for zoning changes is to follow and join existing advocacy groups that are addressing similar issues. Typically, zoning-related proposals occur in town halls or even local community meetings (e.g., HOA). This is a great place to test the waters, determine if other members of your community feel the same way, and build your coalition.

RECOMMENDATION 1

BOLSTER PUBLIC PARTICIPATION

Meaningful involvement and participation of communities of color and low-income communities in the decision-making process are critical to ensure fair and equitable use of land. Direct community participation in local decision-making reflects a fundamental principle of American democracy.³⁵ Community participation in today's land use decision making can counter well-resourced, private interests otherwise favored by the process. Clear public participation processes can empower communities of color and low-income communities to counter the prevailing power imbalance that has been embedded in community planning for centuries.³⁶

According to Audrey G. McFarlane, a law professor from the University of Baltimore, “meaningful participation” requires:

- local government inclusion of community participants in the development decision-making process early so as to allow them to state the goals of development in the first place;
- “enforcement mechanisms” for failing to follow its procedures; and
- that local governments not wait to devolve decision-making power to communities when development projects arise—they should “allow community participation and education in the business of community decision making on real decisions regularly.”³⁷

EXAMPLES OF PUBLIC PARTICIPATION STATUTES

Public participation and collaboration can enhance a local government's effectiveness, expand its range of options, improve the quality of its decisions, and enlist the problem-solving capacities of the general public and organizations outside local government.³⁸ Knowledge and talent are widely dispersed in society and all benefit when those skills and abilities are directed towards a common goal. It is encouraged to have public agencies and municipal authorities collaborate with the general public and state, regional and local government agencies, tribes, nonprofit organizations, businesses, and other nongovernmental stakeholders to accomplish public work and deliver public services more effectively and efficiently.

States have taken varied approaches when adopting statutes to encourage or require effective community participation in local land use planning. Two examples of bolstering community participation through state enacted legislation³⁹ are in Maine and Arizona.

Maine: “In order to ensure citizen participation in the development of local growth management programs, municipalities may adopt local growth management programs only after soliciting

and considering a broad range of public review and comment. The intent of this subsection is to provide for the broad dissemination of proposals and alternatives, opportunity for written comments, open discussions, information dissemination and consideration of and response to public comments.”⁴⁰

Arizona: The Public participation procedures shall provide for the broad dissemination of proposals and alternatives for the local comprehensive plan or such part or other amendments in order to ensure multi-directional flow of information among participants in advance of and during participation of plans. Examples of measures contained in such procedures may include, but shall not be limited to:

- Surveys and interviews of the local governments’ residents and business owners, operators and employees;
- Communications programs and information services, such as public workshops, training, focus groups, newsletters a speaker’s bureau, radio and television broadcasts and use of computer accessible information networks;
- Opportunity for written comment on drafts of the plan or such part or other amendment;
- Appointment of a person to serve as a citizen participation coordinator for the planning process;
- The creation of advisory task forces.

RECOMMENDATION 2

ENCOURAGE “CUMULATIVE IMPACTS” LANGUAGE

WHAT ARE CUMULATIVE IMPACTS?

The National Environmental Policy Act’s implementing regulations define cumulative impacts as: “the impact on the environment which results from the incremental impact of the action when added to other past, present, or reasonably foreseeable future actions regardless of what agency or person undertakes such other actions. Cumulative impacts can result from individuals minor but collectively significant actions taking place over a period of time.” (40 CFR 1508.7)

Cumulative impacts result when the effects of a land use decision are compounded by previous land use decisions and their negative impacts on a community. It is the combination of these effects, and any resulting environmental degradation, that should be the focus of cumulative impact analysis. The concept of cumulative impacts considers all disturbances since cumulative impacts result in the compounding of the effects of all actions over time.

Cumulative impact analysis may be thought of as a comparison of the past, present, and reasonably foreseeable health or condition of a specific resource. Cumulative impact analyses are important because they consider whether a permit for an entity has a larger impact due to existing factors rather than simply ensuring compliance with individual standards. Research has

shown how the cumulative effects of social and environmental stressors can work in combination to produce health disparities.⁴¹

Cumulative impacts include “successive additions.” These successive additions, in the context of environmental justice, means additional sources of pollution. This can also be used to describe an individual’s integrated exposure to pollutants.

Cumulative impacts are related to aggregate risk. The aggregate risk is the risk from all routes of exposure to a single substance. This in turn, defines “population vulnerability” which includes the consideration of social and economic factors such as lack of access to healthcare, food and diet accessibility, pollution levels and more.

WHEN IS A CUMULATIVE IMPACT ANALYSIS REQUIRED AND WHEN COULD THEY BE USEFUL?

Cumulative impact analyses are most commonly used by federal and state governments when an entity is following the National Environmental Policy Act (NEPA) process. NEPA requires that the permitting agency to either develop an environmental assessment (EA) or an environmental impact statement (EIS) and consider cumulative impacts within them. However, cumulative impacts should not be limited only to large scale projects requiring NEPA



COMMUNITY CASE STUDY: A CUMULATIVE IMPACTS ORDINANCE NEWARK, NJ

The City of Newark is subject to a concentrated amount of environmental pollution due to its dense transit network including a major airport and seaport, industrial uses, and waste and sewer treatment facilities. The city is home to the largest trash incinerator in the Northeast and the 2nd largest port in the nation with 7,000 trucks making an estimated 10,000 trips daily.

The Environmental Justice & Cumulative Impacts Ordinance directs the Newark Environmental Commission to establish a baseline for environmental conditions and seeks to address the problems that have led to unhealthy, concentrated levels of pollution in the region's poorest communities.

The Ordinance's Policy Statement is:
The goal of the Environmental Justice & Cumulative Impacts Ordinance is to advance Environmental Justice, good stewardship, and sustainable economic development in furtherance of the priorities outlined in the Newark Sustainability Action Plan and the Newark Master Plan.

Through this ordinance, the City of Newark seeks to:

- Protect the health of all residents, regardless of race, culture, or income, from exposure to pollution linked to adverse health effects including the cumulative impacts that may be worsened as an unintended byproduct of new development or redevelopment, and to ensure the enforcement of laws, regulations and policies in a manner consistent with the principles of Environmental Justice.
- Take appropriate action to avoid, minimize and mitigate pollution from all sources with Newark's jurisdiction through partnerships, innovation and enforcement.
- Encourage proposals for development or redevelopment that contribute positively to Newark's environmental, economic, and social health, or at minimum, that do not contribute net new pollution to the environmental or adversely impact public health.

analysis. Cumulative impact assessments can also be used locally when a zoning board decides on providing permits to a new entity, property owner, or land-use developer.

Currently, not many local ordinances take into consideration the cumulative impacts of land use plans and permitting. Current environmental and local policy focuses narrowly on pollutants and their sources and should be broadened to consider the cumulative impact of exposures and vulnerabilities encountered

by neighborhoods consistent mostly with communities of color or low-income populations. On a local level, a cumulative impact analysis should be considered for any major projects or changes to the locality.

RECOMMENDATION 3

ENCOURAGE EQUITABLE ZONING POLICIES

The Natural Resources Defense Council (NRDC) published a study⁴² of various zoning policies that cities across the United States have implemented. The study outlines various strategies and policy directives that mitigate environmental injustices through the use of zoning. The strategies NRDC identified include: bans, general EJ policies, reviews, proactive planning, targeting existing land uses, and public health codes and policies.

STRATEGY 1: BANS ON UNWANTED LAND USES

One of the most direct ways to mitigate negative impacts on environmental justice communities is to institute an outright prohibition or ban on specific land uses or industries deemed harmful to public health and the environment. A municipality's existing zoning code may be amended to identify those uses it deems incompatible within a particular zone or pass a stand-alone prohibition of particular uses it deems undesirable.

The vast majority of the policies under the category of bans focus on the process, storage, or transport of fossil fuels which ultimately contribute to climate change. The past two decades have seen the marked expansion of domestic fossil fuel infrastructure due to increased natural gas fracking as well as processing of heavier, dirtier forms of crude oil and increased exports of coal and petroleum coke.

STRATEGY 2: GENERAL ENVIRONMENTAL JUSTICE POLICIES

Like state governments, municipalities can establish broad policies and programs with the purpose of furthering environmental justice, with a particular focus on land use policies.

In 2020, New Jersey passed legislation that aims to limit new pollution sources in neighborhoods already facing disproportionate impacts.⁴³ NJ S232 (20R) requires the state Department of Environmental Protection to deny permits for power plants, incinerators, landfills, large recycling facilities and sewage treatment plants in certain communities of color and lower-income neighborhoods if the project may pose a risk to human or environmental health in conjunction with threats those communities already face.⁴⁴

STRATEGY 3: REVIEWS

Environmental reviews can be a powerful way for municipalities to regulate development in their jurisdictions. Most municipalities already have a process in place to review proposals for new developments or expansion projects through their planning and zoning boards. The policies in this category add another layer of review focused specifically on the impact of development proposals on environmental justice communities.

STRATEGY 4: PROACTIVE PLANNING

Planning is a way that cities and other localities can envision future development and proactively work towards that vision. This may include a comprehensive plan, overlay zones, and/or green zones that



CONNECTION TO WATER AND RIVERS

A WATER CRISIS LINKED TO FIREFIGHTING FOAM

NEWBURGH, NY

Recently, PFOA and PFAS have been gaining national attention. The EPA states, “PFOS and PFOA are extremely persistent in the environment and resistant to typical environmental degradation processes. As a result, they are widely distributed across the higher trophic levels and are found in soil, air, and groundwater at sites across the United States. The toxicity, mobility, and bioaccumulation potential of PFOS and PFOA pose potential adverse effects for the environment and human health.”

In one national example,⁴⁷ these chemicals were found at unsafe levels in a reservoir for Newburgh, New York, a city 70 miles north of New York City with a population of mostly Black or Latino residents. The source was determined to be firefighting foam from Stewart National Guard Base which seeped into groundwater.

The city declared a state of emergency in 2016 and the base was designated a Superfund site that year. This crisis led to New York state ban of PFOS in firefighting foam. Learn more at: www.newburghcleanwaterproject.org

explicitly aim to address environmental justice. This approach to environmental justice focuses on future development is a way that cities can guide their growth, institute new standards, target investment, to attract beneficial developments.

STRATEGY 5: TARGETING EXISTING LAND USES

Municipalities seeking to address existing land use that disproportionately impacts EJ communities do have a few mechanisms through targeted mitigation efforts like the implementation of buffer zones, the phasing out of noxious land uses that no longer conform to the existing code, or mitigation of hazards through code enforcement.

STRATEGY 6: PUBLIC HEALTH CODES AND POLICIES

Cities have a special role to play in the protection of public health and safety. One of the ways cities oversee public health is through the adoption of codes that enforce nuisance protections over things like noise, odor, dust, and light. Municipalities may choose to adopt and enforce health codes

to protect residents from various pollutants that pose a risk to public health.

In addition to public health codes, it is also beneficial to know whether a Health Impact Assessment (HIA) is considered when making zoning decisions.⁴⁵

An HIA is a tool that can help communities, decision makers, and practitioners make choices that improve public health through community design. An HIA is a process that helps evaluate the potential health effects of a plan, project, or policy before it is built or implemented. HIA's can provide practical recommendations to increase positive health effects and minimize negative health effects.

A study out of Baltimore, Maryland⁴⁶ found that zoning changes can have a significant impact on population health. The study found that HIA's are an important platform for applying social determinants of health, or factors outside of genes and biology that affect population health and well-being.

EPA'S BROWNFIELD AND SUPERFUND PROGRAMS

BROWNFIELDS

While explicit recommendations related to brownfields are not mentioned in this guide, it may be helpful to understand brownfields in the context of zoning and land use. A brownfield is a property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant.

The EPA has a Brownfields Program which provides grants and technical assistance to communities, states, tribes, and others to assess, safely clean up and sustainably reuse contaminated properties.

For information on the Brownfields Program, visit EPA's website: www.epa.gov/brownfields/overview-epas-brownfields-program

If you have questions on whether a property is environmentally contaminated, a site assessment may be needed. View EPA's **Assessing Brownfield Sites Fact Sheet** to learn more.

Brownfields Success Story
Clean Water Funds Brownfield
Redevelopment, Yorklyn, Delaware,
February 2019.

SUPERFUND

EPA's Superfund program is responsible for cleaning up some of the nation's most contaminated land and responding to environmental emergencies, oil spills, and natural disasters. Superfund sites commonly include contaminated sites that exist as a result of hazardous waste being dumped or improperly managed. These sites include manufacturing facilities, processing plants, landfills and mining sites.

The government passed the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), or informally known as Superfund, which allows the government to clean up contaminated sites and compels responsible parties to either perform clean-ups or reimburse the government for cleanup.

Superfund's goals are to:

- Protect human health and the environment by cleaning up contaminated sites
- Make responsible parties pay for cleanup work
- Involve communities in the Superfund process; and
- Return Superfund sites to productive use

Helpful links:

- [EPA Superfund community involvement](#)
- [EPA Community Involvement Toolkit](#)
- [EPA Superfund Data and Reports](#)

Superfund Case Study

Historic Preservation and Mixed-Use Superfund Redevelopment: The Plainwell Paper Mill In Plainwell, Michigan, August 2014.

RECOMMENDATION 4

PARTICIPATION IN ZONING HEARINGS

Successful and equitable participation in zoning hearings is dependent on how entities prepare and engage in meetings, and how community members effectively participate in the decision-making process.

This section provides recommendations for community members and individuals on how to effectively prepare and participate in a zoning hearing.

WHAT IS A ZONING HEARING?

A zoning hearing is a meeting convened by a governing body often called a zoning board. The meetings focus on various zoning matters including permit requests, zoning amendments, and more.

WHEN DOES A ZONING HEARING HAPPEN AND WHO IS INVITED?

Zoning hearings happen when there are proposed changes to zoning in an area. For example, after a developer files for a permit, there may be a zoning hearing to either approve or deny the permit, and the public has an opportunity to comment. In a zoning hearing, there will be a zoning board, the decision making entity; the permittee, the person or entity applying for a permit; and concerned citizens who may be impacted by any proposed changes in the zoning.

It is essential that required notices of public hearings be published and distributed as specified in the zoning ordinance and the state enabling legislation.

WHY ENGAGE IN HEARINGS?

Public hearings provide a specific opportunity for citizens to be heard on zoning matters that may affect their interests.

The primary purpose of a public hearing is to gather facts and information from members of the public about the proposed changes. Community members are invited to provide their personal perspectives, knowledge and data that may inform the proposed changes.

General Hearing Procedure

A zoning hearing board conducts a hearing in order to determine if it should uphold or overrule a local government's decision.⁴⁸ Though zoning hearings will vary across localities and ordinances, the following general procedures can be considered to understand how a zoning hearing is conducted:

- A meeting will begin with a chairperson announcing the subject of the public hearing, as advertised through public notice.
- The public hearing procedures are summarized for all present by the chairperson.
- The staff of the zoning board is then asked to present the substance of the

application and any staff reports and to answer technical questions of the hearing body

- Individuals wishing to speak in support of the subject of the hearing shall be recognized by the chairperson beginning with the applicant(s) or their representative.
- The hearing body must permit comments from all interested or affected individuals and organizations, and consideration is given to all comments or suggestions made.
- The chairperson, may, with reasonable limits, upon request, allow cross-examination or rebuttal. All comments should be addressed to the hearing through the chairperson and not directed to any other individual.
- The chairperson will upon their motion or the motion of any member, announce the close of the public hearing or announce the continuation of the public hearing to another specified time and date if the house is late or additional pertinent information must be obtained.

COMMUNITY PREPARATION FOR A ZONING HEARING

Prior to engaging in a zoning hearing, it is important to prepare or outline statements that have an effective, concise, and clear goal. Each zoning board will have its own set of particular rules on how and when to participate, however, these recommendations can work generally.

For example, the [City of Fort Collins, Colorado assigns a Neighborhood Development Review Liaison](#) to assist citizens who are preparing substantial presentations.

It is important to check in with your zoning office to understand the rules of a hearing, how long participants may have to speak, and when during the zoning hearing participants can make comments.

Meeting Agenda

Every zoning board will likely have a hearing agenda that will list what items will be discussed and whether public comments are allowed. Meeting agendas may be found online on your local zoning board website or found in a municipal building. To find a zoning hearing agenda you can try to use Google and search: “[municipality or county name] + zoning board/ planning/ zoning hearing.” If you are unable to find the hearing agenda, it should also be located outside of the zoning hearing board room one hour prior to a hearing.

When Can I Speak?

Your opportunity to speak will depend on whether your item of concern is on the listed agenda or not. Generally, if your item is NOT listed on the agenda then the zoning board will set an allocated time for non-agenda community discussion. If your agenda item IS listed, there will be a specific time within the item agenda time for public discussion. During public discussion of the agenda item, either a group or a designated spokesperson on behalf of the group may present information.

What Should I Talk About?

Providing effective comments during your allocated time for discussion is important. Each person wanting to speak may only have two or three minutes, making this short amount of time incredibly important. At the beginning of your statement, voice your opinion clearly and to the extent possible

back it up with facts, data on impacts, and tangible outcomes. If data is available to support your claim, try and explain it in a clear and concise manner.

Speaking Guidelines

- At the beginning of any public comment period, the Chair will announce how long each person may speak (typically three minutes)
- Begin speaking by stating your name, and whether you oppose or support the item on the agenda
- Be prepared with copies of your written comments for the board to consider.

If possible, try to find an expert to testify on the issue. For example, if there are issues regarding water quality, find a water hydrologist to testify on the water quality of the community. Experts can come in many forms, it may be a person who has

an educational background in the specific topic, or it may be a person who developed a professional experience by working in the field for many years. Experts can be found through local universities.

For local hearings, such as zoning, district council, and planning board hearings, there is strength in numbers. Hearings associated with land use decisions are often overlooked. If there are numbers of communities and individuals who are present and voicing their concerns, it can be impactful. When there is an opportunity for public input, try to mobilize as many people as possible to speak to the issue by sharing stories, data, and concerns.

With the COVID-19 crisis, public comment, testimony, and letters of concern are increasingly accepted in electronic form.



5 PUBLIC PARTICIPATION GUIDE



PURPOSE

The foundation of the United States is rooted in democracy. In building this country, the founders were attempting to create a system where the government can respond to people's needs and where people have the opportunity to express those needs. Public participation can be called many things such as public engagement, public involvement, community-based decision-making, and neighborhood-based decision-making. Whatever you may call public participation, it is rooted in the involvement of people in solving a problem and structuring a process for them to be a part of the solution.

Environmental justice is, in part, based on the idea that, in a democracy, when everyone has an opportunity to participate meaningfully in a process whose procedures and substance they understand, decisions will be informed by this input and therefore any negative impacts should not disproportionately burden any one community.

Public participation has multiple benefits that make it worth the investment of government, community groups, and organizations who work for the common good. Engaging the public, as decisions are made, leads to informed decision-making and stronger solutions to problems. Public participation is also important because it adheres to democratic principles, it creates more substantive decisions and outcomes, and it helps identify problems that can and should be solved as well as relevant solutions to solve for them.

The purpose of this guide is to provide guidance to communities who want to engage in decision-making in and about their communities. Public participation takes persistence and success may mean a compromise or "moving an inch." Often, in the policy world, small incremental changes are what will get you to the final goal. Success comes in different forms, but engagement is crucial for even the smallest change to occur.

PRIOR PAGE:
COMMUNITY MEETING
COLLEGE PARK, GEORGIA /
MIKE YOUNG

ABOVE: BOUNDARY
WATERS, MINNESOTA /
JOE BRANDMEIER

RECOMMENDATION 1 PUBLIC COMMENT

Providing public comment is an important way to have people's voices heard on regulations and proposals that may have a significant impact on their lives. Comments provide decision-makers with information to help them make better decisions, improve policies or a proposed project and can provide perspectives that the government may not have contemplated. Not only are comments a useful tool for government agencies, but they are also often a requirement for policy-making efforts with proposed rules and regulations often requiring a public participation period where communities can engage in the drafting process. This guide provides information on regulations, comment opportunities, and how to write effective comments.

Public comment can take on many forms. Often they are required on proposed rules intended to carry out or provide detail on an existing law. Comments may also be required when the government takes on a major new federal action. Here are some examples of instances when the law requires public engagement:

Major Federal Action:

National Environmental Policy Act (NEPA): When an environmental impact statement (EIS) is prepared and before an agency reaches a final decision on a "major federal action," public notice is required at several stages, including the initial "scoping" of issues to be addressed in the EIS, issuance of the draft EIS, and when the final EIS is issued.

Rulemaking/Regulations:

Clean Water Act (CWA): Public notice and an opportunity for public comment is required before a state, EPA, or the U.S. Army Corp of Engineers issues a permit for a new source of water pollution or a renewed or revised permit for an existing pollution source.

WHAT ARE REGULATIONS?

Regulations are rules created by agencies, commissions, and departments in the federal and state governments' executive branch based on authority granted to it by Congress. Regulations are written by executive agencies to enforce statutes passed by Congress. They have the force of law and provide detailed instructions on how agencies intend to enforce laws. Simply put, rules carry out or explain law or policy.⁴⁹

Statutes v. Regulations

Statute: A written law passed by the legislature

Regulations: Agency written rules to implement statutes

HOW ARE REGULATIONS CONNECTED TO ENVIRONMENTAL JUSTICE?

Environmental justice, as defined by the Environmental Protection Agency (EPA), is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations and policies. The public's contribution can influence the regulatory

agency's decision. Community concerns can be considered in the decision-making process and decision makers will seek out and facilitate the involvement of those potentially affected by their actions.

WHAT IS THE RULEMAKING PROCESS?

The Federal rulemaking process begins with Congress passing a law that requires regulations.⁵⁰ Following the passage of a law, Executive agencies are tasked with developing and implementing regulations for the law. The Agency will release a public notice for rulemaking and seek stakeholder input to develop a "proposed rule." The agency then publishes the proposed rule in the Federal Register which opens a "notice and comment" period for the public. During this time, the public may submit letters, studies, and other documents for consideration in the rulemaking process. The Agency will then review public comment and incorporate them into the final rule.

In accordance with the Administrative Procedure Act, agencies are legally required to respond to every unique, fact-based comment. These responses are published, along with the final rule or action, in the Federal Register. If the agency does not respond to such a comment or does respond, but does so in a way that may be considered "arbitrary and capricious," or a decision made on unreasonable grounds, the commenter has cause to take the agency to court for violating procedural law. This is often done by a special interest group, or advocacy group such as American Rivers.

WHAT OPPORTUNITIES EXIST FOR ENGAGEMENT?

The government has many steps when creating regulations. So which rules are even open to public comment? Below you will find a list of opportunities when you can usually provide comment. Keep in mind that these are based on federal recommendations. States may have different procedures and opportunities for public comment.⁵¹

Preliminary rule-making: This comment opportunity includes advance notices of proposed rule-making, petitions for rulemaking, and notices for inquiry, where no rules have yet been proposed but comments are invited on the agency's intent to add, remove, or change a rule or regulation.

New Regulation or Rule Proposal: This comment opportunity exists when an agency plans to establish a new regulation or rule. This opportunity also includes the justification and analysis behind the regulation proposal.

Proposed Changes to Existing Rules: An agency wants to update one of their existing rules. This can be a result of new information, research or technology.

Agency Information Collection Activities: Federal agencies are required to publish a notice in the Federal Register each time they intend to collect information, or extend an existing collection of information to ensure that information collection methods are sound. The notices solicit comment on proposed information collection actions and requirements.

WHEN CAN THE PUBLIC ENGAGE IN THIS PROCESS AND WHY IS IT IMPORTANT?

Federal law requires government agencies to allow at least 30 days after publication for the public to submit “written data, views, or arguments” regarding a proposed rule. In some cases the statute authorizing a rule requires a longer comment period. Agencies are not generally required to hold a public hearing or meeting on a proposed rule, although a statute might specifically require an agency to do so. They may also decide to hold public meetings if they receive a substantial amount of criticism or opposition from the public.

HOW DO I WRITE A COMMENT?

Now that you have some general information on the regulatory comment process,, it is time to draft your comment. Below are suggestions and guidelines to consider while drafting your comment.

Know what you are commenting on: The first and most basic step in the process is understanding what exactly you are commenting on. What is it that you are trying to influence? Though this may seem to be a simple task, understanding the rule or proposal may be complicated and requires thorough research. There are resources to find out about public comment opportunities including: newspapers, magazines, other media outlets, and government publications. Advocacy organizations also share notice of opportunities on their websites as well. However, the most complete way of finding information on proposed rules and opportunities for comment is by searching the Federal Register (www.regulations.gov). The Federal Register is published every

weekday and includes all proposed rules open for public comment.

Considerations while writing your comment: There are a number of things to consider while developing your comment. Comments are most effective when they provide information relevant to analyzing the rule or issue and its effects. The most valuable public comments are unique, fact-based, and succinct. The agency will have to sort through many identical letters and expressions of personal opinion, so making your letter stand out is important. Note that the following information is on the federal commenting process. Your states will likely have similarly structured rule-making processes. To find your state’s regulatory process you can try doing a simple Google search of “your state and regulations” or “your state and register” (Ex. Maryland Regulations or Maryland Register). While you are drafting your comments, consider the following recommendations:⁵²

- Accuracy: Identify which regulation or proposal you are commenting on and ensure that comments are addressed to the appropriate Agency head, not just the Agency. Ensure that comments address the appropriate and relevant proposed regulation.
- Make the strongest possible points referencing the law, facts, processes, and people.
- Suggest specific language when possible and appropriate including the exact language from the proposed regulation or NEPA proposal that you may agree or disagree with.
- Use specific examples to illustrate concerns.

- State what you support as well as what you disagree with.
- Provide supplemental information if available.

PREPARING A COMMENT

While preparing your comment, consider the following steps to get your thoughts organized. There may be a lot of concerns that you and your community would like to raise, however, it is important to stay on topic, be concise, and formulate an effective and clear statement.

1. Define your objectives: What do you want to achieve through your comment? Are you trying to stop or delay a regulation that may be harmful to your community? Are you supporting a regulation that furthers water conservation? Are you interested in pointing out factual errors or bad data for a proposed regulation? Are there scientific studies or reports that can be cited?
2. Write your comment in a way that best supports your objectives. Use clear organization, formatting, and language. Use subject headings throughout your comment to draw attention to key points.

From these steps, you will create the main point that you are trying to get across. After establishing the main idea, it is time to structure the comment.

How to structure your comment: At the top of your comment, identify the document you are commenting on by its docket number, subject heading, federal register date, and page number.⁵³

YOUR COMMENT SHOULD INCLUDE

1. Introduction/ Summary

Explain why you are interested in the regulation or proposal, highlight any credentials or experience that may distinguish your comment from others, and whether you are commenting on your own behalf, on the behalf of another organization, or are endorsing or joining with another comment or commenter.

2. Background

Clearly identify the issues within the regulatory action on which you are commenting, and list your recommendation upfront. If you are commenting on a particular word or phrase, or if you are responding to specific questions or requests for data, state this clearly and provide the relevant page number, column, and paragraph citation from the federal register document.

3. Analysis

Lay out a detailed argument and evidence to support your recommendations.

- If you have more than one major concern, open your comment with a summary section like “Major Concerns” or “General Comments” and outline them before you go into detail.
- Use headings and sub-headings to separate your points. Highlight headings with spacing, color, capital letters, bold, italic, or underlined texts to differentiate between topics and details.
- For specific concerns, order your comments page-by-page to make it easier for the reviewer to locate the places in the document you are referencing
- Avoid dense blocks of texts

4. Conclusion

Recap your main argument and list your recommendations again.

Comments should also include citations for all information and research you relied on. Remember to follow good writing practices: use topic sentences, keep each sentence under fifty words, and use active voice. Further, phrase comments as statements, not questions, and always use respectful language.

For templates on comment letters visit:

- publiccommentproject.org/comment-templates
- cdn.ymaws.com/www.aaofe.net/resource/resmgr/government_documents/Tips_for_Writing_an_Effective.pdf
- moenvironment.org/wp-content/uploads/2019/12/Comment-Letter-Template-for-Proposed-Rules.pdf

Here is an interactive guide on how to read the Federal Register: www.foreffectivegov.org/node/3456

Here are instructions on how to track a regulation: www.foreffectivegov.org/node/3454

You will need to locate the rule on www.regulations.gov and then search for rules comments, and documents by entering keywords, browse rules and agency actions by topic, and view rules grouped by comment period. The government provides instructions on how to use www.regulations.gov and how to find specific documents that may be of interest to your community. You can visit www.regulations.gov

[gov/help](https://www.regulations.gov/help) to see instructions on finding regulations.

www.regulations.gov/help provides information under the “Submit a Comment” tab that explains what you can comment on, when you can comment, how to comment, and more. It is important to read through these instructions to effectively comment on relevant rules.

Following up on your comment: If you want to increase the likelihood that your comment is addressed, you may want to follow up after you’ve submitted it. Some follow-up options include meeting with relevant agency contacts to communicate your concerns, sharing your comment letter with the press or as an op-ed.⁵⁴

RECOMMENDATION 2 LEGISLATIVE ADVOCACY

Laws play an important role in environmental justice. Laws can increase funding for water monitoring or require use of trees and plants to manage stormwater. Whatever the legislation or policy may be, there are likely groups that have worked hard to either support or oppose its passage or adoption. Legislative advocacy's success is often a result of organized and mobilized efforts.

WHAT IS LEGISLATIVE ADVOCACY?

Legislative advocacy is working with policy makers to gain support for your cause or initiative, for the needs of a specific population, for an organization, or for specific services. There are a number of ways policymakers may support a specific cause. So what do you advocate for?⁵⁵

- You can advocate for a bill that would provide money to work on an issue you care about.
- You can advocate for a bill that supports a cause that you care about or that would legitimize an issue that you or your community are facing.
- You can advocate for a bill that will create regulations that benefit your target population or advance a cause that you or your community believe in.
- You can advocate for decisions that are not laws. For example, local ordinances make regulations that promote particular health, social or environmental agendas.

Advocacy can include advancing more stringent water standards, increasing accessibility to water supply, or ensuring water affordability.

Legislative advocacy can be a direct means to achieving your communities' goals. On the ground, legislative advocacy is voicing your opinion, organizing a focused effort that pushes one particular policy or goal forward to either be written into law or into a local policy. You might think, legislative advocacy is difficult and what are the chances of success? The truth is, it is hard and success is limited, but even gaining publicity and providing testimony in front of the legislature brings light to your goals and concerns. This sets up a platform to consider your issue moving forward.

Remember, YOU, the residents of the community, are the experts on the issues your community faces. Be prepared to educate legislators and other decision-makers, have one pagers ready with a clear statement of the issues and clear recommendations. Proactive suggestions are valued and taken more seriously than a mere support/oppose position.

RESEARCH AND EVALUATE LEGISLATIVE OPPORTUNITIES

There are a number of considerations prior to advocating for legislation or a policy, including: How might this policy benefit

my community? How might it impact the state economy? Is there similar legislation that exists? What opposition may there be towards the policy? Who might support my policy? Have other states or governing bodies passed a similar bill that can be used as an example?

To better understand how to influence decision-makers, take a look at the power structure of your legislative branch. It will be helpful to know what party is in the majority? Who is your majority leader? Who are the committee leaders?

For more information on power structures, see the following resource: www.ncsl.org/legislators-staff/legislators/legislative-leaders/leadership-positions-roles-and-responsibilities.aspx

www.ncsl.org/research/about-state-legislatures/the-selection-of-committee-chairs.aspx

Capacity Building

After considering these questions, it is important to think about who might support your initiative. Many times, non-profits, including environmental and civil justice organizations, may be pushing similar policies or legislative proposals. The best way to advocate for a cause is to build momentum by creating partnerships and through coalition building.

An important skill set at this stage is consensus building. Like many public participation efforts having strength in numbers is crucial and consensus building can help build a powerful constituency advocating for your community's proposal.

Some resources for information on consensus building are:

- www.epa.gov/international-cooperation/public-participation-guide-tools-consensus-building-and-agreement-seeking
- www.ctdatahaven.org/sites/ctdatahaven/files/HEA%20Consensus%20Building%20Steps%20CBI.pdf
- www.beyondintractability.org/essay/consensus_building

Finding a Sponsor

Once you have built a network through developing partnerships and connecting to coalitions, you will need to gather support of local representatives. They are the decision-makers after all! Passing a law requires a sponsor, who is a representative in government who can bring forth your proposed policy or bill. Here's what you can do to find a sponsor or representative for your bill:

- Get to know your local representative, the issues they care about, and their voting history
- Contact them through emails, letter, phone calls, and town halls
- Invite representatives to town halls, education sessions and community meetings
- Organize one-on-one meetings with them to present your issues and invite their support for addressing your issues through legislation or to voice your opinion on proposed legislation.

HOW DO I APPROACH POLICYMAKERS?

On a local, state and even national level, policy makers can be your neighbors, a local business owner, or a nearby professional.

Policy makers are public servants and as such should be approachable and accessible. You are encouraged to meet regularly with your elected representatives to develop relationships that will be useful when your community is facing issues.

It is also important to remember that policymakers have limited time and may have busy schedules, so if you do plan to meet with your representative you will want to make your time worthwhile. Below are a few recommendations on approaching policymakers:

- Approach policymakers personally. It will be important to introduce yourself and your community members and share stories about your issues in order to develop personal and memorable relationships with the representative and their staff.
- Do your research ahead of time to know who your representatives are, what they care about and what committees they sit on (where they have influence).
- While it is possible to have one on one meetings with policy makers, it is easier and more effective to have a meeting with a representative or their staff if you have an organization or a number of organizations who have a unified agenda.
- Approach policymakers with a clear goal: When you meet with staff or a representative, it should be very clear what exactly you are asking for. Is it a new bill that includes language for something that has been an issue in your community? Funding for a new project? Funding to mitigate an ongoing problem? It is also recommended to articulate what the intended impact of the policy would be. For example, you

can mention that particular legislation or investment will reduce flooding in the target neighborhoods by 50%.

- Express gratitude. If they have supported something that has helped your community in the past thank them, and thank them/their staff after the meeting
- If you are asked a question that you don't know the answer to, it is perfectly okay to say that you don't know and you'll get back to them after. Be mindful that sometimes as a community member you know more about the issue than the policymaker.
- Consider developing a one page document that summarizes your issue, the facts and your ask that you can leave behind at the end of the meeting. This document will provide the staff and representative the ability to refer back to your issues more easily and, ideally, take action.

Typically, meetings with legislators are brief, if you are able to meet them at all. Your meetings likely be with their staff, who are often more involved with the subject matter and have the capacity to hear out individual concerns.

LETTERS OF SUPPORT OR OPPOSITION

Let's say your community supports or opposes a piece of legislation that is being proposed. What can you do? A popular and powerful tool to express your opinion on legislation is through a letter of support or opposition. In a way, letters of support or opposition serve a similar purpose to the commenting process.

Letters have a number of benefits. They can explain to a policy maker how an issue affects you, express support or opposition for a law or policy, demonstrate that constituents are concerned about a particular issue, request a meeting to discuss a matter of concern; and ask for help or support.⁵⁶

alerts, you can look at the government guide here: www.regulations.gov/help

WHEN DO I WRITE A LETTER?

Letters are sent to policymakers every day. The best time to send a letter is whenever you or your community have a concern. Letters can be especially effective when policymakers are planning to vote on a particular piece of legislation that will have an impact on your community. Another time letters are effective are right before an election, during budget hearings, and immediately before and after a decision-maker has done something you either approve or disapprove of. Remember, letters do not always have to be in opposition to something. It is important to send letters of support so policymakers know their decisions are making a positive impact and considering the needs of their constituents.

HOW DO I WRITE A LETTER?

You can find information on how to write an effective letter here:

- ctb.ku.edu/en/table-of-contents/advocacy/direct-action/letters-to-elected-officials/main
- www.usa.gov/elected-officials

After you have submitted a comment through the online portal at regulations.gov, you can sign up to receive email alerts about any newly posted documents related to that regulation. This can include publication of the final rule and agency responses to substantive comments. To sign up for email



COMMUNITY CASE STUDY: ORGANIZING FOR WATER SECURITY DURING COVID-19 TOLEDO COMMUNITY WATER COUNCIL TOLEDO, OH

Through robust public participation, the Toledo Community Water Council provides oversight and community support to the city of Toledo. The Council's collective knowledge and insight have been key to developing the city's water bill assistance program.

Reliable access to water is becoming more expensive, and during COVID, water disconnection can have a devastating public health impact. For years, Freshwater Future has been working with the Toledo Community Water Council to address water issues throughout the City.

For residents experiencing water shutoffs due to nonpayment or leaks, this work has become even more urgent during the pandemic.

"Utilities are run by engineers; often they don't think about the social impact of these shutoffs on people working check to check," says Alexis Smith, Community Program and Technical Associate for Freshwater Future. "When we organize to find solutions, our goal is—turn the water on, keep the water on."

Members of the Toledo Community Water Council organized to respond to rising water rates and the inequity and harm that results when city governments and utilities are not proactive and transparent. Freshwater Future has helped individual residents request assessments to identify water leaks driving up their water bills and file a Freedom of Information Act (FOIA) request to understand why water rates continue to increase. They also helped the municipality identify funding for full lead service line replacement in order to lower the cost burden on residents.

Learn more at www.freshwaterfuture.org

(PRE-COVID) COMMUNITY
MEETING TOLEDO, OHIO /
FRESHWATER FUTURE

RECOMMENDATION 3

HOW TO CREATE EQUITABLE COMMUNITY MEETINGS AND HEARINGS

Inclusive representation is important for equitable policy making. When a proposed plan or policy will impact a community, it is important that all members of the community have an opportunity to be heard. Listening to and considering a diverse set of opinions often helps facilitate implementation processes for projects because people have been heard and ideally the policy makers have incorporated feedback and concerns into revised proposals. Having good representation and inclusive meetings create a better sense of community, uphold principles of democracy, and ultimately, create better outcomes.

The **National Environmental Justice Advisory Council (NEJAC)**, a federal advisory committee, created a model plan to bolster public participation to ensure that decisions affecting human health and the environment embrace environmental justice. This plan was released in February 2000 and has been used to encourage community inclusion and involvement. NEJAC has listed four critical elements for public participation. These elements are to be considered by the decision-making entity and include preparation, participants, logistics, and mechanics.

PREPARATION

Community partnerships, co-sponsorships and co-planning relationships are essential to successful community meetings. To ensure a successful meeting, agencies should

provide co-sponsors the resources they need and should share all planning roles. The roles include: decision making, development of the agenda, establishment of clear goals, leadership, and outreach.

While preparing for a meeting, a number of things should be considered:

- Decision makers should educate the community to allow equitable participation and provide a means to influence decision making
- Regionalize materials to ensure cultural sensitivity and relevance
- Provide a facilitator who is sensitive and trained in environmental justice concerns

PARTICIPANTS

NEJAC has found the following communities should be involved in environmental justice issues and decisions: community and neighborhood groups, community service organizations, educational institutions and academia, environmental organizations, government agencies (federal, state, county, local, and tribal), industry and business, medical community, non-governmental organizations, religious communities, and spiritual communities. It is also important to identify the key stakeholders, including educational institutions, affected communities, decision makers and agencies accountable for environmental justice issues.

LOGISTICS

When holding a meeting for a decision that will impact communities, it is important to consider three things: where, when and how.

Where

- The meetings should be accessible for all who wish to attend
- The entity holding the meeting should consider public transportation, childcare, and access for persons with disabilities
- The meeting must be held in an adequate facility where size and conditions should be considered
- Technology should be utilized to allow more effective communication. One may consider options such as teleconferences, translation, equipment, and other factors.
- The venue should encourage participation for an affected community

When

- The time of day and year of the meeting should accommodate the needs of affected communities
- Generally, evening and weekend meetings can accommodate working people and careful scheduling can avoid conflicts with other community, religious or cultural events.

How

- An atmosphere of equal participation should be created.
- Avoid discussions that include “panels” or “head table”
- Depending on the issue, a series of meetings may be warranted. . The first meeting could be reserved for community planning and education while subsequent meetings could focus

on feedback and amendments to the proposal.

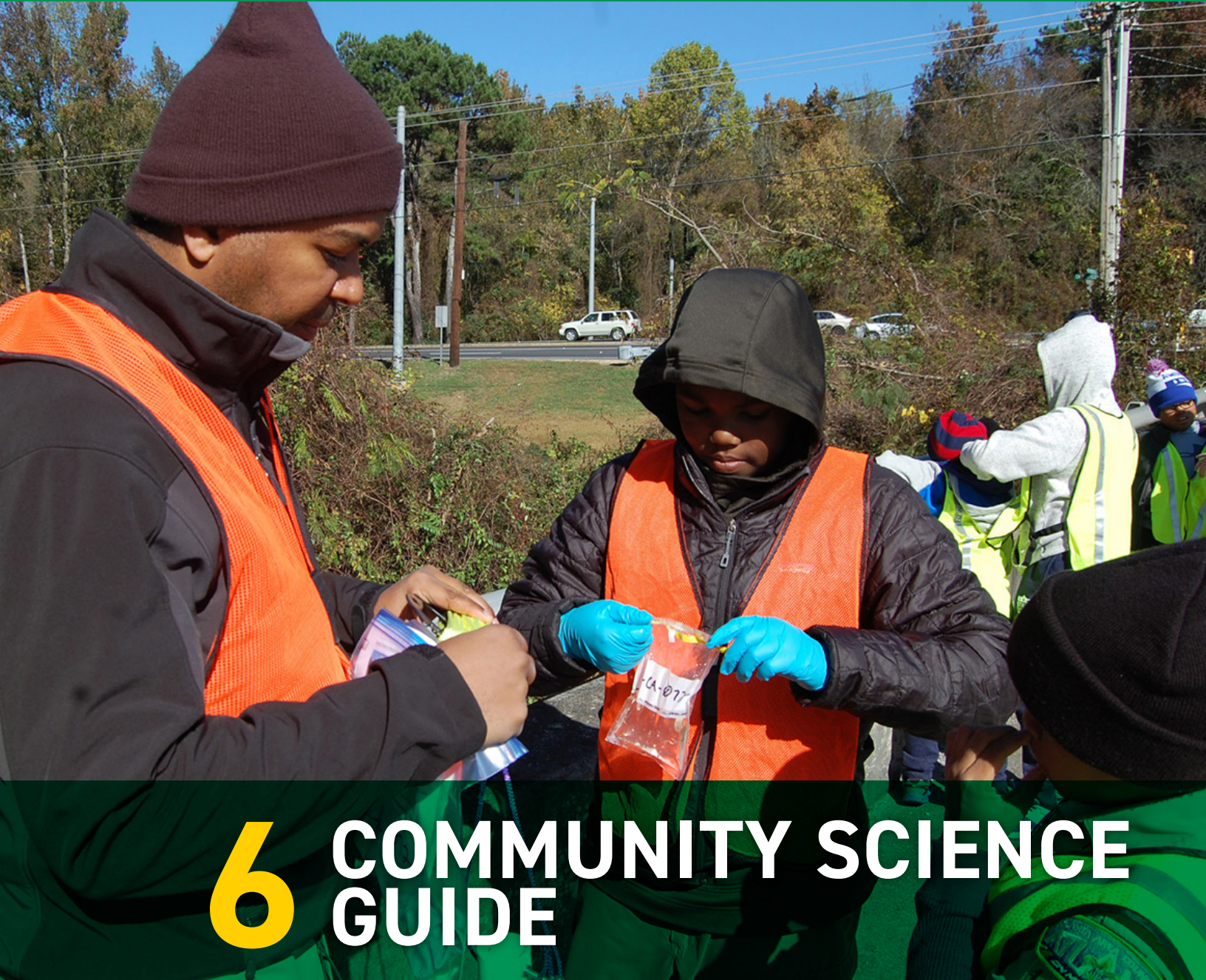
- The community and government should share leadership and presentation assignments

MECHANICS

Incorporating ways to facilitate and continue meaningful conversations are incredibly important in the public meeting space. It is important to: maintain clear goals be referring to the agenda, however, not be bound by them; incorporate cross cultural exchanges in the presentation of information and the meeting agenda; provide a professional facilitator who is sensitive to, and trained in environmental justice issues; provide a timeline that describes how the meeting fits into the overall agenda of the issue at hand; coordinate follow-up by developing an action plan and determining who is the contact person who will expedite the work products from that meeting and; distribute minutes and a list of action items to facilitate follow up.

Government agencies and decision makers should follow the Environmental Justice Public Participation Checklist for Government Agencies to ensure compliance with legal requirements, bolster community engagement, and establish decision-making processes that are meaningful, comprehensive and inclusive.

The checklist can be found here: portal.ct.gov/-/media/DEEP/climatechange/GC3/GC3-2020-agendas-and-minutes/Draft-public-participation-documents/GC3_Public_Participation_Checklist.pdf



6 COMMUNITY SCIENCE GUIDE



PURPOSE

Often, the lack of accessible data hinders a community's ability to address environmental inequities. Information is a powerful tool and influences decisions made at zoning hearings, town halls, and other public forums. Given that frontline communities are expected to experience the impacts change first, they can often see changes to their environment before others. It is, therefore, important to gather data on these environmental changes and patterns of environmental harms that frontline communities face as climate change exacerbates existing inequities.⁵⁷

The benefits of community science are many. Community science has the potential to increase equity and democracy in science through inclusion of previously missing groups and by changing social norms, practices, and implicit bias to be more democratic. Community science has the potential to democratize science by making the scientific process participatory and inclusive of many stakeholders in knowledge generation, dissemination, and decision making. Community science also supports scientific literacy and provides a path to engagement in local issues.⁵⁸

Environmental justice advocates have used community science to develop EJ claims and document concerns.⁵⁹ Not only can community science promote social justice, but it can also change the view from being one where marginalized communities are largely recipients of science to where community members have a role where they are partners in the generation of data and use of science.⁶⁰

Historically, community science has been referred to as "citizen science." If you or other community members would like to do further research on community science, it may be helpful to use the search term "citizen science" in order to get a comprehensive list of resources.

We use the term "community science" as an intentionally inclusive term. A volunteer's participation is invaluable regardless of their birth country, how they came to the United States, or their citizenship status. Simply being a citizen is not a prerequisite to participating in the science community, protecting your community, or having accessibility to a clean and healthy environment.

PRIOR PAGE:
FLINT RIVER, GEORGIA /
NOEL MAYESKE

ABOVE:
TUCKASEGEE RIVER,
NORTH CAROLINA / MANDI
CARRINGER

WHY IS COMMUNITY SCIENCE USEFUL?⁶¹

Benefits for Science	Benefits for Society	Benefits for Participants
<ul style="list-style-type: none"> • Inspires new research topics by inviting new ideas, questions, methods and societal knowledge • Creates large datasets (spatially and temporally) that can be adapted to various uses • Allows diverse evaluation capacities including photos, scans, and videos • Promotes public evaluation of research 	<ul style="list-style-type: none"> • Generates and communicates socially relevant research topics • Allows co-creation of transparent research • Allows society to take on responsibility for research • Introduced participants to new perspectives • Develops opportunities for societal transformation • Promotes better transfer of research results in practice through early involvement • Strengthens civil society and government agencies 	<ul style="list-style-type: none"> • Allows contributions to scientific discoveries • Improves understanding of science • Increases understanding of complex problems • Facilitates participation in political decision-making through scientific contributions • Contributes ideas and suggestions for alternatives • Promotes better environment and a better society • Community storytelling and placekeeping

There is a common misconception that only highly trained scientists can conduct and engage in scientific research; however, anyone can play an important role in compiling valuable data and providing first-hand knowledge of critical issues. Community science makes it possible for everyday people to be trained to advance scientific knowledge. Some communities may be engaging in data collection without knowing it. Data doesn't necessarily have to be numbers or science experiments, but something as simple as story-telling and gathering valued information from those around you. Community science can be documenting illnesses your community may be facing or recording how many times homes in your neighborhood have flooded over the past year.

This guide is designed to encourage individuals in their roles as community scientists and to promote the practice of community-based science as a catalyst for

environmental justice. This guide provides information about community science, enhance participation and influence, and support environmental justice in your community.

HOW MIGHT READERS USE THIS GUIDE?

You may be a concerned community member and wanting to start a community science project. This manual shares a series of steps to follow. You may also be a community member wanting to join an existing community science project. This manual is designed to help you find an existing community science program or create your own. For those who are currently engaged in a community science project, this guide includes recommendations and ideas for how to continue engaging in this important work.

GLOSSARY⁶³

CIVIC SCIENCE:

Civic science emphasizes public participation, enhancing representation of marginalized voices, and democratization of the scientific process. This sector of research and expertise highlights how science and public input are intertwined.

COMMUNITY-BASED**PARTICIPATORY RESEARCH:**

A collaborative approach to research that equitably involves all partners in the research process and recognizes the strengths that each brings. CBPR begins with a research topic of importance to the community with the aim of combining knowledge and action for social change.

DECISION MAKER:

A person or entity with jurisdiction to make legal decisions or judgments.

ENVIRONMENTAL PROTECTION AGENCY (EPA):

The federal agency created by Congress to protect human health, natural resources, and the environment from pollution, to set limits for the emission of pollutants, and to enforce those limits. Most states have their own state-created agency empowered to do the same within that state.

INFORMATION COLLECTION:

The gathering and analysis of information that is already publicly available.

INFORMATION USE:

The ways in which information that is collected or generated during a community science project can be used.

JURISDICTION: The legal authority to make legal decisions or judgments. It could be a local, state, or federal administrative agency, legislative body, or court.

NATIVE KNOWLEDGE¹⁶²:

A knowing or understanding of the world, including traditional ecological, and social knowledge of the environment derived from multiple generations of indigenous people's interactions, observations, and experiences with their ecological systems. This knowledge is accumulated over successive generations and is expressed through oral traditions, ceremonies, stories, dances, songs, art, and other means within a cultural context.

POLLUTANT SOURCE:

An industrial facility, agricultural facility, landfill, sewage treatment plant, coal mine, etc.

QUALITY ASSURANCE**PROTECTION PLAN ("QAPP"):**

A formal document that describes how a project will achieve its information quality requirements.

QUALITY STANDARDS: Standards that serve to establish a level of quality that information must meet before it can be used in a court proceeding or in an agency action.

WHAT IS COMMUNITY SCIENCE?

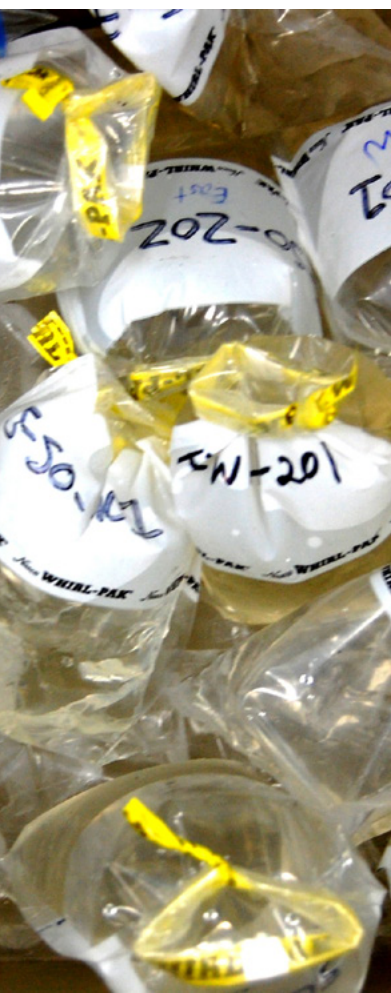
Community science is any grassroots effort where ordinary community members, sometimes in collaboration with professional scientists, organizations, and government agencies, collect, generate, and distribute information either for educational purposes or to address community-centered environmental issues. This is simply science by non-scientists.

Some community science is initiated by institutional scientists giving community members the opportunity to observe. Community science projects are also increasingly launched by government agencies. However, community science can also be conducted by independent individual committed volunteers.

CASE STUDIES AND APPLICATIONS

It may be challenging to visualize how to start a community science project of your own. These case studies provide examples of situations where communities or individuals used community science to further their community goals and promote environmental justice.

Examples on the following pages demonstrate how every situation is different and a wide range of opportunities exist for applying community science. The EPA, community organizations, and local and state governments support many types of community science projects. The examples in the Guide exemplify successful research and collaborations with government agencies focused primarily on water quality.



WATER PROJECT 1 CHESAPEAKE BAY MONITORING COOPERATIVE ANNAPOLIS, MD

Volunteers from many local organizations collect water quality data to improve the health of water bodies. One of these local organizations is the Chesapeake Monitoring Cooperative.

The Chesapeake Monitoring Cooperative is supported by four partner organizations:

- The Alliance for the Chesapeake Bay,
- Izaak Walton League of America,
- Dickinson College's Alliance for Aquatic Resource Monitoring, and
- University of Maryland Center for Environmental Science.

The groups came together to monitor the water quality of the Chesapeake Bay in order to address concerns around agricultural and nutrient pollution. The project, so far, has laid the groundwork for a watershed-wide monitoring program by creating methods manuals and quality assurance project plans, taking inventory of existing monitoring programs throughout the watershed, and developing a tiered framework for determining data use. The EPA provides grants that support the organizations and their collaborative monitoring effort.

Learn more at:
www.chespeakemonitoringcoop.org

STEPS TO CREATE YOUR COMMUNITY SCIENCE PROJECT

Now that you and your community have a general idea of what community science is and the different scenarios you may use it in, it's time to create a project! Though this may seem challenging, remember, there are many resources available. The steps outlined below are from the Harvard Law School's Emmett Environmental Law and Policy Clinic's Manual for Citizen Scientists Starting or Participating in Data Collection and Environmental Monitoring Projects.

The purpose of these steps is to provide a general outline of what community members can do to either create a project or join existing initiatives. While this list is not comprehensive and engagement in community science varies between regions, states, and localities, this list will give you a good starting place.

1. IDENTIFY THE GOAL OF YOUR PROJECT

As with any project, setting goals is crucial. The most important step in starting a community-based science project is developing the main goal or outcome you would like to see with the results of the project. When considering your project focus, you must consider what is the environmental issue you are trying to address? In a single community there may be a number of environmental issues, however, it is important to focus and develop a plan around a single environmental harm. Examples of these can include monitoring a pollutant source (i.e. contamination from an industrial facility, agricultural

facility, landfill), monitoring pollution levels in rivers (general pollution levels), or monitoring water quality in your homes due to concern of water contamination. Along with considering your environmental issue, it's important to consider what this data will be used for.

There are three main uses identified by the Environmental Protection Agency (EPA) for community science projects.⁶⁴

Increasing Public Understanding

These types of projects are created to engage communities in environmental monitoring and participation. Common objectives include educating citizens about their environments, scientific processes, and STEM (science, technology, engineering, and mathematics) activities. These projects result in more qualitative, or descriptive outcomes, such as presence or absence of pollutants or species. These kinds of projects are generally more loosely monitored.

Scientific Studies and Research

Projects in this category are aimed at providing data useful for research, feasibility studies, or to identify baseline conditions or trends in exposure from water or air pollutants. Many projects in this category determine the effectiveness of environmental decisions. Many organizations use this category to conduct screening studies for public health assessments and utilize risk assessment tools for prioritizing community-based actions.



WATER PROJECT 2

THE GARDENROOTS PROJECT

DEWEY-HUMBOLDT, AZ

Residents of Dewey-Humboldt, Arizona became concerned about whether arsenic from a nearby Superfund site was contaminating their soil and home gardens. Residents created a group called Gardenroots Project and partnered with Dr. Monica Ramirez-Andreotta from the University of Arizona (UA) Superfund Research Program Center (SRP Center). Together, they found that the main sources of arsenic exposure were drinking water and incidental soil ingestion. They also learned that arsenic concentrations were higher in home grown garden vegetables than store bought produce. ⁶⁶

Residents in the community collected garden soil for lab analysis of arsenic content, participated

in gardening seminars, engaged in forums to discuss health concerns and informed residents through fact sheets and personalized results. More than 40 community members signed up to attend a 1.5-hour training on how to properly collect soil, water, and vegetable samples from their home gardens for laboratory analysis.

Ultimately, the community worked together to understand why there were increased arsenic levels, learned how to garden to avoid contamination and ultimately, created a neighborhood network that worked together to solve the problem.

Learn more at: gardenroots.arizona.edu

Legal and Policy Action

These projects require the most rigorous planning. To influence legal and policy action, high level quality assurance and documentation is required. The purposes of these projects may include regulatory decision-making at a local, state, or national level, and often use approved federal methods, or testing to demonstrate equivalence to these methods.

While developing your project goals, consider whether your project has already been done. It may be more beneficial to the existing community science group and yourself to support existing projects rather than starting one of your own.

To find ongoing citizen science projects, you can turn to a number of resources:

- Media Outlets: local news agencies often cover major ongoing community science efforts. Many community science projects are advertised via social media to raise public awareness.
- Organizational Websites: Some community science organizations have websites that provide information on ongoing citizen science projects
- For examples, The Waterkeepers Alliance lists organizations across the country. Many of the organizations run water testing programs in which communities can engage. (www.waterkeeper.org/)
- Agency Websites: State and Federal environmental agencies also maintain community science information for public use. For example, the EPA has a page dedicated to community science projects.

2. DESIGN A PROJECT APPROACH

Along with identifying the goal of your project, you will also need to initiate a “project approach.” The project approach consists of two steps:

- Identification of a site of interest to you
- Determination of which pollutant or combination of pollutants you will examine.

Usually the site of interest is the source of pollution. After identifying the project site of interest, you must then determine which pollutant or combination of pollutants will be examined. Usually, you can determine a pollutant through the pollutant source.

Consider what is the source emitting or releasing? You can use your senses such as smell and sight to determine what kinds of pollutants you may be dealing with. For example, you may see a film over the water, or smell an unfamiliar chemical.

Utilizing media outlets is also a helpful resource. News reports provide information on emitting entities and may report on pollutant issues such as lead, asbestos, or benzene. Government records and databases are also useful since agencies are responsible for regulating pollutant sources. EPA provides a number of databases through EnviroFacts that can be used to determine what pollutants are emitted in nearby facilities.

3. IDENTIFY USES FOR COLLECTED DATA AND QUALITY STANDARD

Data must meet certain quality standards depending on the use of the data. The use of community science data is subject to various legal standards regarding its credibility and reliability, also known as “quality standards.”

Many community groups will be in the preliminary stages of establishing their community science projects. For those beginning their community science projects, the EPA recommends community groups and individuals consider a number of questions. These questions are important to answer prior to embarking on a community science project because it begins the consideration of the quality of data that will need to be produced. Helpful questions to consider are:

1. How and where are you planning to collect samples, data, or other information?
2. How are you training the volunteers to collect samples, data, or other information? How will you control for errors in the field, in the laboratory, or during data analysis?
3. How will you check your data and determine if it is useful?
4. Where does the data go and who will look at the data?

To determine quality standards, we must consider:

- Who will be using the information and
- How will they be using the information?

Ultimately, based on the usage of the data, there will either be a legally imposed quality standard or not.

WHAT IS THE STANDARD IF THERE IS A LEGALLY IMPOSED STANDARD?

Action	Quality Standard
Influence Decision Making	If you are using the data gathered to provide information to a regulatory agency (federal, state, or local), it is important to note that agency decisions are subject to judicial review. Judicial review means that an agency's decision can be reviewed by the court to determine whether the decisions and/or procedures behind the decisions were found to be "arbitrary, capricious, an abuse of discretion or otherwise not in accordance with the law."
Administrative or Judicial Enforcement	If you are using the information collected in hope that an agency will use it to being an administrative or judicial enforcement against someone who is violating the law, the standard, on a federal level according to the Administrative Procedures Act (APA) is that "any oral or documentary evidence may be received, but the agency as a matter of policy shall provide for the exclusion of irrelevant, immaterial, or unduly repetitious evidence." Essentially, the agency will not consider or include repetitive or irrelevant information. Many, but not all, states have adopted a similar standard under the Revised Model State Administrative Procedures Act (MSAPA).
Encourage Future Independent Agency Action	Information can also be used to make an agency aware of a problem where the agency will then conduct an independent act to verify the information through its own information generation procedures. Some federal regulations explicitly require states to solicit public participation in the collection of information and require state agencies to comment on citizen generated information. EPA regulations require that the Clean Water Act (CWA), the Resource Conservation and Recovery Act (RCRA), and the Safe Drinking Water Act (SDWA) "provide for, encourage, and assist the participation of the public." The CWA further states that agencies should actively solicit the help of members of the public "for research they may be conducting or reporting."

No legally imposed quality standard

There are no legally imposed quality standards when you are collecting data for yourself. This information can be used for educational purposes, to bolster public awareness, or to inform legislatures.

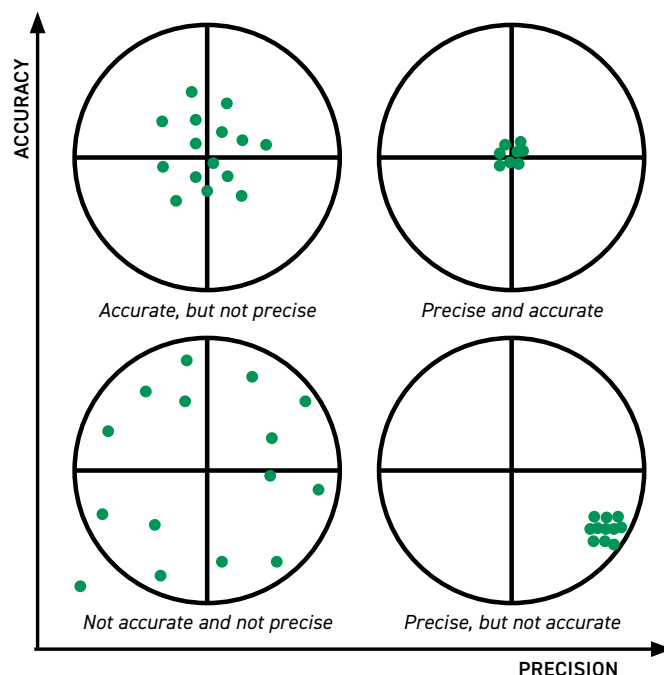
Legally imposed quality standards

If the data collected from the community science project is used to either provide information to a regulatory agency or used

as evidence in a court case, the information will be subject to legally imposed quality standards.

Regardless of the use of data, your audience will look for certain "indicators" to understand the quality of the data such as precision, accuracy, representativeness, completeness, comparability, and instrumentation.

TO BETTER UNDERSTAND ACCURACY V. PRECISION



Source: St. Olaf College, Information Technology, wp.stolaf.edu/it/gis-precision-accuracy/

Precision: Precision relates to the degree of agreement between multiple measurements taken from a single sample or measurements taken from multiple samples collected as close together in time and place as possible.

Accuracy: Accuracy ensures that your data represents what is actually true. You can facilitate the measurement of accuracy by collecting quality control samples that have known values.

Representativeness: Representativeness is related to whether a sample collected from a site is actually representative of that site. The central concern is to avoid biases in the generated information. How, when, where, and by whom samples are collected will influence the representativeness of your information.

Completeness: Completeness involves a comparison of the number of measurements you originally planned to collect and the number that you actually collected. Collecting more samples than you think will be necessary can help assure information completeness; this is an indication of high-quality information.

Comparability: Comparability refers to the relationship between results of multiple studies or a single study over time. Multiple studies that report similar conclusions suggest that the data collected is high quality. Information reported from a single study that presents results over time is of higher quality than information from a single study that presents sporadic, unexplained fluctuations in values.

Instrumentation: Instrumentation is used to analyze the samples you collect. Examples of instrumentation include surveys, questionnaires and scales.

The EPA has developed two reports, “**Templates for Citizen Science and Quality Assurance and Documentation**” and the “**Handbook for Citizen Science Quality Assurance and Documentation**” that help organizations employ specific strategies or activities to improve the credibility of their data.

The EPA has also created a “**Quality Assurance Project Plan (QAPP)**,” which discusses the steps a volunteer program might take to further ensure high quality data. This plan is required if you are looking to receive EPA grants or contracts or if your state has QAPP requirements. Even if the QAPP is not required, it may still be advantageous to create a QAPP and ensure high quality data that is consistent with and comparable to other data sets across geographies and the country.

4. INFORMATION COLLECTION

Now that you have a project, goals and plans in place, how do you go about collecting data? It may seem as simple as walking over to the pollutant source and gathering samples, however, there are laws that may limit your ability to gather data. The next step in your community science project process is to consider limitations such as property rights, ownership, and privacy.

If your project site is open to the public, there are no legal barriers in collecting samples of air, water, soil quality, or taking photographs. However, if the pollutant source is not on public land, you should

consider what your legal rights are to enter the property and take samples. Understanding who owns the land and the land surrounding the project site is important. It is beneficial to reach out to the property owner or managing agency or entity ahead of time to ask permission to conduct your community science project.

One way to determine the ownership status of your project’s site of interest is to use publicly accessible data from the local tax assessor’s office, which maintains a public database of local property ownership. Many of these offices maintain an online property map viewer with ownership data by parcel. Real estate apps like [Zillow.com](https://www.zillow.com) and hunter’s apps like OnX Hunt also pull this publicly accessible data into a user-friendly format.

Another resource to map socio-economic factors, visit EPA’s EJScreen: www.epa.gov/ejscreen

Public lands are owned by the government and have their own specific set of rules. It is important to know who is managing public lands so you can reach out to the correct entity when conducting a community science project. Below are descriptions of various public lands and who may be in charge of managing those lands.

Federal Land: Land owned by the federal government is often managed either by the Department of the Interior or by the Department of Agriculture’s Forest Service.

State Land: Each state has land holding agencies that oversee the use of state-owned property. Generally, land is managed by the



WATER PROJECT 3

DEMONSTRATING THE VALUE OF COMMUNITY-LED RESEARCH TO ADDRESS ENVIRONMENTAL JUSTICE ISSUES

MEBANE, NC

Not all community science projects are limited to scientific data; some may also collect social data. The West End Revitalization Association (WERA) is a great example of community science to address social issues and racial disparities, which are often connected to a community's relationship with their environment. In 1994, low-income residents from communities of color in Mebane, North Carolina, established the West End Revitalization Association (WERA). WERA was formed in response to a long history of being denied access to city water and sewer and a planned road that would destroy neighborhoods without mitigation.⁶⁷

To address residents' civil rights and environmental justice concerns, WERA created an innovative research paradigm

called community-owned and managed research (COMR). WERA combined COMR with collaborative problem-solving (CPS) to empower low-income residents in communities of color to produce scientific research and connect it to action. Citizen involvement included managing the research process, becoming certified monitors by conducting household surveys and community mapping and collecting drinking water and surface water for fecal pollution testing, and mentoring youth through a career development program. WERA ultimately facilitated the collection of data needed to advocate for legal compliance and enforcement of public health statutes by local, state, and federal actors.

To learn more, visit: www.wera-nc.org

Parks Department and/or a Department of Natural Resources.

Local and Municipal Land: Municipalities can rent and own land within their city limits. Many municipal lands include local parks, cemeteries, and waterways. Usually a municipality's Parks and Recreation Department manages such lands.

Even with due diligence, legal issues may arise. While conducting a community science project, consider local and state trespass, loitering, invasion of privacy, and stalking laws. It is important to do research and understand property and privacy rights prior to conducting a project in order to avoid any legal hardships. Given these legal challenges, it should be known that community science

is generally encouraged and supported by national and state governments.

5. ENGAGING WITH PARTNERS AND DEVELOPING A COMMUNITY SCIENCE MODEL

Engaging with experts in the field is incredibly helpful in developing a successful community science project. In order to address environmental hazards that have disproportionately burdened communities of color and low-income populations, a community-based participatory research (CBPR) model exists to establish a coordinated community effort that includes community organizations, individual leaders, universities, and government. Community-based participatory research (CBPR) emphasizes joint community partnership in all phases of the research

MEBANE, NORTH
CAROLINA / INDY BEETLE

process. This makes CBPR an appealing model for research with communities of color and low-income populations.

Characteristics of the CBPR approach include: ⁶⁵

- Recognizing the community as a unit of identity,
- Building on the strengths and resources of the community,
- Promoting co-learning among research partners,
- Achieving a balance between research and action that mutually benefits both science and the community,
- Emphasizing the relevance of community-defined problems,
- Employing a cyclical and iterative process to develop and maintain community/ research partnerships,
- Disseminating knowledge gained from the CBPR project to and by all involved partners, and
- Requiring long-term commitment on the part of all partners.

CBPR does involve its own set of challenges. When engaging in collaborative research, it is important to:

- Be flexible but recognize that everyone has limits,
- Be willing to collaborate by sharing leadership, responsibility, and credit for success,
- Give thoughtful attention to the ethical implications of your actions, and
- Apply the concept of culture in everyday working relationships.

We hope the steps laid out above provide helpful guidance on community science project development and engagement and will support you in your efforts to

address environmental injustices in your communities.

For more information on community science and examples of successful community science projects, visit EPA's website: www.epa.gov/citizen-science

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COVER:

**A high school science teacher gathers
water samples from an urban stream.**

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