

Introduction

Introduction

“Our aim is to develop a toolkit that is succinct, practical, and specific to North Carolina’s needs.”

Drinking Water Working Group Project Summary

Reliable and safe drinking water is a basic need. It is essential not only to individual health, but also to the health of the population. When drinking water systems fail or become unsafe, individual and public health may be at risk.

Incidents affecting drinking water occur with regularity throughout the United States. A North Carolina local government may not be able to predict exactly what, when, or how something will happen to its community’s drinking water, but all of the state’s local governments can and should anticipate that they will have an incident at some point.

Public and investor-owned water utilities are critical to managing drinking water incidents, but local government officials and agencies may need to be involved as well. North Carolina residents may look to their local governments for everything from information about the incident, to practical support in obtaining drinking water from an alternate source, to assistance with restoring the function of private drinking water wells. Local public health departments, emergency management officials, city or county administration, and communications professionals all may be called upon to respond to community needs.

The North Carolina Drinking Water Incident Response Toolkit (“Toolkit”) is intended to assist North Carolina local governments to prepare for and respond to incidents affecting drinking water in their communities. The Toolkit reflects the deliberation and guidance of the Drinking Water Working Group (DWWG), a committee of 22 professionals convened by the University of North Carolina School of Government (School) and charged with making recommendations for the toolkit. The School and the DWWG recognized that many excellent resources on drinking water already existed. However, locating the right resource at the moment needed can be challenging. In developing the Toolkit, we focused on curating existing resources as well as creating new ones that are North Carolina-specific.

The ultimate goal of our work was to develop a toolkit that is succinct, practical, and specific to North Carolina’s needs.

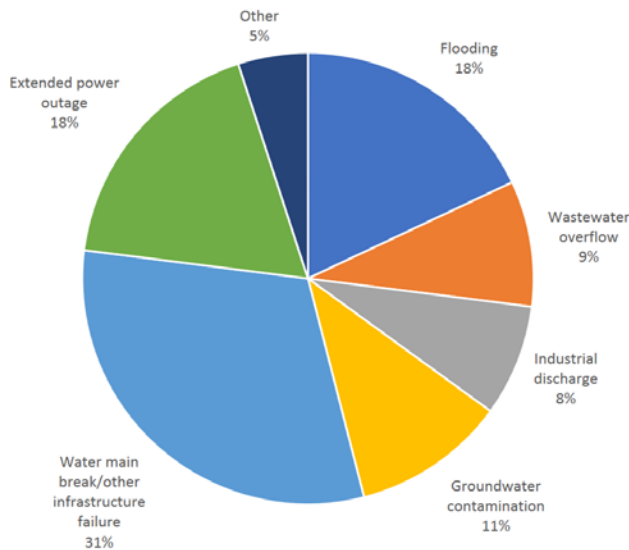
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Drinking Water Incidents

The Toolkit defines a “drinking water incident” as a situation in which a hazard, either natural or human-made, threatens the safety of drinking water. Examples of incidents include:

- Utility infrastructure failures, such as water main breaks,
- Hurricanes or other storms causing flooding that affects private wells or damages drinking water distribution systems, and
- Contamination of a drinking water source from wastewater overflows, industrial discharges, or other causes.

In February and March 2019, the Drinking Water Working Group conducted a survey of North Carolina stakeholders, in which we asked respondents to characterize any drinking water incidents experienced in their communities. We received 86 completed surveys and 8 partial responses that were sufficiently complete to be recorded. Seventy-six of these respondents identified a total of 247 incidents.



Data from the Drinking Water Working Group survey of North Carolina stakeholders, February-March 2019. 76 respondents reported 247 incidents.

About one-third of the incidents were associated with water main breaks or other infrastructure failure. Eighteen percent (18%) were attributed to power outages. Another 18 percent were described as flooding incidents. Groundwater contamination

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accounted for 11 percent of the incidents reported, wastewater overflow for 9 percent, and industrial discharges for 8 percent.¹

Using the Toolkit

TARGET AUDIENCE

The Toolkit is intended for use in North Carolina. In developing the Toolkit, we focused on the needs of local government professionals who may be involved in responding to drinking water incidents in their communities, as well as the public and investor-owned drinking water utilities that may experience incidents.

GUIDING PRINCIPLES

The Drinking Water Working Group identified the following principles to guide development of the Toolkit:

- ***Local preparation for incidents is crucial.*** Local governments should prepare for drinking water incidents before they happen by engaging in pre-incident planning and local exercises. The core component of the Toolkit is the Pre-Incident Planning Guide. Other components were chosen to support pre-incident planning.
- ***Local processes should be inclusive and collaborative.*** Communities should identify and include local stakeholders in pre-incident planning. The process of planning requires coordination and collaboration among a variety of agencies and individuals.
- ***Local issues and needs vary.*** We recognize that different communities will have different assets and different challenges. We intended the Toolkit to be flexible and anticipate that communities will adapt it to meet local needs.

Finally, we recognize that local stakeholders, resources, challenges, and even incident types may change over time. We encourage communities to maintain their pre-incident plans and working relationships through regular reviews of plans and local exercises.

¹ These data are useful for understanding the variety of incident types that occur in North Carolina, but there are limitations. Information was self-reported and provided by voluntary participants in the survey. The survey respondents primarily represented public health departments, other local government departments, and drinking water utilities. It is possible that there are important differences between the survey respondents who provided information about drinking water incidents and those who chose not to respond.

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SUMMARY OF TOOLKIT SECTIONS

The toolkit is composed of seven sections:

- **Introduction.** This section addresses the purpose and audience for the toolkit, outlines the contents of each section, and explains how to use the toolkit.
- **Pre-Incident Planning.** This section is the heart of the toolkit. It includes a pre-incident planning guide and tools to help communities hold local pre-incident planning meetings and tabletop exercises.
- **Local Information.** This section includes worksheets for communities to use to gather local information needed for pre-incident planning and effective incident response.
- **Mutual Aid.** This section describes the mutual aid systems that serve North Carolina local governments and drinking water utilities.
- **Communication.** This section identifies and links to resources that communities may find useful in planning how to communicate about local drinking water incidents.
- **Essential Information about Drinking Water.** This section includes basic information about drinking water sources, suppliers, and the laws and regulations intended to keep drinking water safe. It also provides North Carolina case studies that communities may wish to incorporate into their pre-incident planning.
- **Additional Resources.** This section includes a directory of federal, state, and local agencies involved in drinking water incident response, as well as several other resources that communities may find useful.

GETTING STARTED

After reading this introduction, we anticipate that the next step for many Toolkit users will be to review the Pre-Incident Planning Guide (“Planning Guide”). The Planning Guide reflects the core guiding principle that local preparation for drinking water incidents is crucial. It refers to other sections of the Toolkit and explains how to incorporate them in your planning. The other sections of the Toolkit support the Planning Guide and provide additional resources.

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A user who is new to the topic of drinking water may wish to review the Essential Information section before reading the Planning Guide.

Maintaining the Toolkit Locally

Local communities should consider who will maintain the toolkit locally, in what format, and where.

The toolkit includes several worksheets for completion locally. Communities should determine which offices or individuals should maintain the locally completed copies of those tools. Communities should also make a plan for regularly reviewing the worksheets, updating them as needed, and ensuring the updated information is provided to every office or individual who is responsible for maintaining a copy of the tools.

We anticipate local communities may want to maintain one or more hard copies of the information so the toolkit will be available during incidents that affect power or internet access as well as drinking water. All toolkit items may be downloaded and printed for maintaining in a binder. The toolkit also includes a printable cover sheet that can be found under the Introduction section of the online toolkit.

Acknowledgments

The North Carolina Drinking Water Incident Response Kit was developed by faculty and staff of the University of North Carolina's School of Government (School). The project was coordinated by the School's nIMPACT Initiative with support from the NC Policy Collaboratory at the University of North Carolina at Chapel Hill.

The School convened the 22-member Drinking Water Working Group (DWWG) to study drinking water incidents in North Carolina, identify local government needs for incident response, and advise the School on practical tools to address those needs. During five meetings held between January and June 2019, the DWWG hosted expert presentations about drinking water in North Carolina and local response to incidents, conducted a survey of North Carolina stakeholders, discussed issues and tools in a variety of formats, and made recommendations for the overall toolkit plan and specific toolkit items.

A steering committee composed of five university faculty and staff members approved DWWG meeting agendas, identified issues and the experts to address them, developed survey questions and identified respondent groups, and made preliminary recommendations for the toolkit and tools.

NC DRINKING WATER INCIDENT RESPONSE TOOLKIT

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Students serving as program fellows, interns, and research assistants provided invaluable assistance to the project.

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