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# City and County of Honolulu Participation in FEMA NFIP Community Rating System

***Summary of Study Findings for the City and County of Honolulu and State of Hawai‘i***

**August 2016**

## *Project Purpose and Findings*

This summary report reviews the potential for the City and County of Honolulu (Honolulu) to join the Federal Emergency Management Agency (FEMA) National Flood Insurance Program (NFIP) Community Rating System (CRS), a comprehensive floodplain management program. During the summer of 2016, the University of Hawai‘i Sea Grant College Program (Hawai‘i Sea Grant) conducted a “what-if” audit of Honolulu’s current flood control and hazards preparedness activities. This study was initiated to evaluate Honolulu’s potential CRS ranking if an application to the program were to be submitted, assess the potential impacts of participation, and provide suggestions for future floodplain management initiatives.

Hawai‘i Sea Grant’s analysis was conducted in partnership with the Honolulu Department of Planning and Permitting (DPP) and the Hawai‘i Department of Land and Natural Resources (DLNR) Engineering Division, National Flood Insurance Program.

**Taking into account Honolulu’s current floodplain management, it is expected to rank as a 9 in the CRS program, with an estimated 521 points earned. This status would equate to a 5% reduction in flood insurance premiums in the Special Flood Hazard Area (SFHA) and the Non-Special Flood Hazard Area (NSFHA).** *However, many opportunities exist for Honolulu to bolster its standing within the CRS program and earn additional insurance discounts.*

## *What is the CRS?*

The CRS is an element of the NFIP, administered by FEMA. Adherence to NFIP minimum floodplain management standards is required in order to qualify for federally supported flood insurance. The CRS program provides guidance for communities that choose to voluntarily go above and beyond the basic NFIP requirements.

FEMA recognizes accomplishments in comprehensive floodplain management in order to increase community resilience to flooding, thereby reducing the need for large insurance payouts after flooding events. The NFIP encourages participation in the CRS program by offering the financial incentive of flood insurance premium discounts. Success in the program is evaluated on a class-based scale and rewarded with corresponding insurance premium discount levels (Table 1).

The official goals of the CRS program are:

1. Reduce flood damage to insurable property
2. Strengthen and support the insurance aspects of the NFIP, and
3. Encourage a comprehensive approach to floodplain management[1].

*Table 1. Class-Based Flood Insurance Premium Discounts*[2]

| CRS Class | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
|---|---|---|---|---|---|---|---|---|---|---|
| In SFHA* | - | 5% | 10% | 15% | 20% | 25% | 30% | 35% | 40% | 45% |
| Outside SFHA** | 0 | 5% | 5% | 5% | 10% | 10% | 10% | 10% | 10% | 10% |

**The Special Flood Hazard Area (SFHA) denotes the boundary of the 100-year flood plain and is generally regarded as 'high risk'. This zone has a 1% annual chance flooding and includes the NFIP Flood Insurance Rate Map (FIRM) Zones V and A.*

***The Non-Special Flood Hazard Area (NSHFA) represents the 500-year floodplain, the area of the 0.2% annual chance flood. The NSFHA is a 'low to moderate' risk area and includes NFIP FIRM Zones B, C, and X. The CRS refers to the NSFHA as 'Outside SFHA'.*

### *Benefits of Joining the CRS*

The CRS program offers guidance for communities across the country to become informed and proactive about their varying levels of flooding risk. While the CRS Coordinator's Manual provides national and state benchmarks for program effectiveness, communities can tailor programs to their local needs. Supplemental guides offer additional specialization for particularly vulnerable or unique communities. Insurance Services Office, Inc. (ISO), a company that conducts the administration of the CRS program on FEMA's behalf, provides free technical assistance to participating communities.

Positive co-benefits of the CRS program include environmental protection, extreme storm and climate change preparedness, and civic education regarding flooding issues. Discounted insurance premiums keep funds in the local community and reduced flooding damage allows communities to avoid prolonged economic interruptions after flooding events. Regulations incentivized by the CRS program may allow the participants to recover from flooding events in a reformative way, towards a more resilient future.

### *Barriers to Joining the CRS*

Participation in the CRS program requires an extensive review of current procedures, including ordinances, reports, and other community documentation. The current CRS Coordinator's Manual is over 615 pages and includes many contingencies and prerequisite elements. Other features such as

[1] *National Flood Insurance Program Community Rating System Coordinator's Manual* (2013). Federal Emergency Management Agency. Retrieved from: https://www.fema.gov/media-library/assets/documents/8768

[2] *National Flood Insurance Program Community Rating System Coordinator's Manual* (2013).

impact adjustments, calculations, and mapping requirements may be perceived as onerous to planners and floodplain managers, particularly in smaller communities. However, ISO representatives are available to assist with the initial application process and simplify each step of the assessment.

After acceptance into the CRS program, communities are required to annually recertify their continued implementation of credit-granting flood control management programs. New activities may be initiated in order to improve CRS rankings after the initial application process. Communities may lose their CRS ranking and corresponding flood insurance premium reductions if credit-granting regulations fall short of CRS standards or are discontinued.

***Hawai‘i and CRS***

While all four counties of the state of Hawai‘i are current participants in the NFIP, only the Counties of Maui and Hawai‘i are active CRS communities. Both enjoy a Class 8 ranking, which earns a 10% flood insurance premium discount in SFHAs and 5% discount in NSHFAs. Maui joined the CRS program in 1995 and Hawai‘i was accepted in 2011. As of 2016, Honolulu has the greatest potential CRS program impact in the state with more than three times as many flood insurance policy holders as the next largest county, Maui (Table 2).

The 2004 Five-Year Floodplain Management Plan for the State of Hawai‘i proposed a ‘CRS State Assistance Program’ to increase CRS participation and achievement. However, the report stated that the initiative could not be implemented unless additional staffing and funding for the project was procured[3]. Thus, the assistance program was never enacted. Honolulu’s 2012 Multi-Hazard Pre-Disaster Mitigation Plan and the flood news periodical *Wai Halana*, produced by DLNR, have also noted the benefits of CRS membership. Additional support for CRS participation in Hawai‘i has been suggested by Hawai‘i Sea Grant’s Center for Island Climate Adaptation and Policy (ICAP) in their publications, including *Climate Change and Coastal Regulatory Takings in Coastal Hawai‘i* and *Sea Level Rise and Coastal Land Use in Hawai‘i: A Policy Toolkit for State and Local Governments.*

*Table 2. Hawai‘i NFIP Participants*[4]

| Community ID | County Name | Number of Flood Insurance Policies | CRS Class |
|---|---|---|---|
| 150001 | City and County of Honolulu | 37,702 | Not Participating |
| 150003 | Maui County | 12,356 | 8 |
| 150002 | Kaua‘i County | 5,391 | Not Participating |
| 155166 | Hawai‘i County | 4,295 | 8 |
| State Total | 59,744 | | |

[3] *Five-Year Floodplain Management Plan* (2004). State of Hawai‘i Department of Land and Natural Resources Engineering Division. Retrieved from: https://www.floods.org/PDF/5_Year_Plans/5yr_HI.pdf

[4] *Policy Statistics: State of Hawai‘i* (2016). National Flood Insurance Program. Retrieved from: http://bsa.nfipstat.fema.gov/reports/1011.htm#HIT

### *Honolulu and CRS*

**Notable Prerequisites and Assumptions**

Certain standards are required as prerequisites to joining the CRS. In order to enter the program as a Class 9, communities must adhere to several stipulations. Additional prerequisites apply to communities pursuing advanced rankings, with additional prerequisites when rising to classes 6, 4, and 1. For the purposes of this assessment, the City and County of Honolulu *was assumed to be willing to come into compliance with these prerequisites in order to join the CRS program*.

As of this assessment, three prerequisites have been accomplished or are regular procedures of Honolulu. In order to become a participant, a community must be in the Regular Phase of the NFIP for at least 1 year prior to their CRS application. Participants must use FEMA Elevation Certificates for buildings and substantial improvements in the SFHA. Applications require the identification of the first 500 points of potential CRS activity credits for the community. Additional credit-granting activities may be identified in concert with the community's regional ISO representative during the certification process.

Several prerequisites still need to be addressed by Honolulu in order to apply for the CRS program. Firstly, participants are required to have flood insurance policies for properties owned by the community. The Limit of Moderate Wave Action (LiMWA), the inland limit of the area affected by waves greater than 1.5 feet (also known as the Coastal A Zone), must be demarcated on the community's Flood Insurance Rate Map (FIRM)[5].

A Community Assistance Visit (CAV) is compulsory to ensure the area is in compliance with the NFIP's baseline requirements. In order to evaluate a community's standing, FEMA and state representatives will plan a community visit. After conducting an assessment with local officials, a 'clean CAV' will be issued if the community is in good standing. If a community is found to be out of compliance with the NFIP, FEMA will produce a report enumerating issues that must be resolved in order to remain qualified for federally supported flood insurance. Once the community initiates CAV proceedings, any issues that are discovered must be addressed whether or not the community chooses to proceed with their CRS application.

The CRS program aims to reduce repetitive loss properties, which are defined as a property with two or more NFIP losses greater than or equal to $1,000 each paid within any 10-year rolling period since 1978[6]. According to ISO, repetitive loss properties must be listed, the cause of flooding must be cataloged, the locations of repetitive loss areas must be mapped, and annual outreach must occur with repetitive loss property owners. As a "Category C" community with greater than 10 repetitive loss properties, Honolulu must also prepare a plan for addressing its repetitive loss problem as a prerequisite of CRS. Honolulu currently has 106 repetitive loss properties[7]. Specific locations of repetitive loss properties are not listed because the Privacy Act of 1974 protects private property information and repetitive loss flood insurance data[8].

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[5] *National Flood Insurance Program Community Rating System Coordinator's Manual* (2013).
[6] *National Flood Insurance Program Community Rating System Coordinator's Manual* (2013).
[7] *Personal communication with Scott Cofoid, ISO Technical Coordinator (2016).*
[8] *Mapping Repetitive Loss Areas for CRS* (2015). Federal Emergency Management Agency.

## Study Methodology

The 2013 CRS Coordinator's Manual, the primary guide for CRS participation, is composed of 19 activities, which are detailed further into sub-elements. There are also supplementary CRS guides for special hazards, such as tsunami and erosion risk. In order to conduct Honolulu's "what-if" audit, the Revised Ordinances of Honolulu as well as several city, county, and state reports were compared with the Coordinator's Manual requirements in order to determine which of the county and state's regulations and current activities would qualify for credit in the CRS program. In addition, several representatives from ISO provided consultation and advice over the course of the project. Table 3 depicts the currently active elements that are likely to receive credit under a CRS application, should Honolulu choose to initiate application proceedings.

*Table 3. Current Activities Creditable under CRS*[9]

| Series | | Activity | | Maximum Points | Honolulu's Points |
|---|---|---|---|---|---|
| 300, Public Information Activities | 310 | Elevation Certificates | | | |
| | | | Elevation Certificates after CRS application | 38 | 38 |
| | 340 | Hazard Disclosure | | | |
| | | | Other disclosure requirements | 25 | 5 |
| 400, Mapping and Regulations* | 410 | Floodplain Mapping | | | |
| | | | New Study | 290 | 6 |
| | 420 | Open Space Preservation | | | |
| | | | Preserved open space | 1,450 | 124 |
| | 430 | Higher regulatory standards | | | |
| | | | Cumulative substantial improvements | 90 | 60 |
| | | | Local drainage protection | 120 | 10 |
| | | | Regulations administration | 67 | 5 |
| | 440 | Flood Data Maintenance | | | |
| | | | Additional Map Data | 160 | 131 |
| | 450 | Stormwater Management | | | |
| | | | Erosion and sedimentation control | 40 | 11 |
| | | | Water Quality regulations | 20 | 21 |
| 600, Warning and Response | 630 | Dams | | | |
| | | | State dam safety program | 45 | 45 |
| Total | | | | 3830 | 521 |

**The 400 Series is modified by a community growth adjustment (CGA) multiplier of 1.07, based upon a 7% growth rate provided by ISO. This 10-year rate is determined by the United States Census as the number of dwelling units 5 years into the past and projected 5 years into the future. The CGA may account for discrepancies between listed maximum and calculated values.*

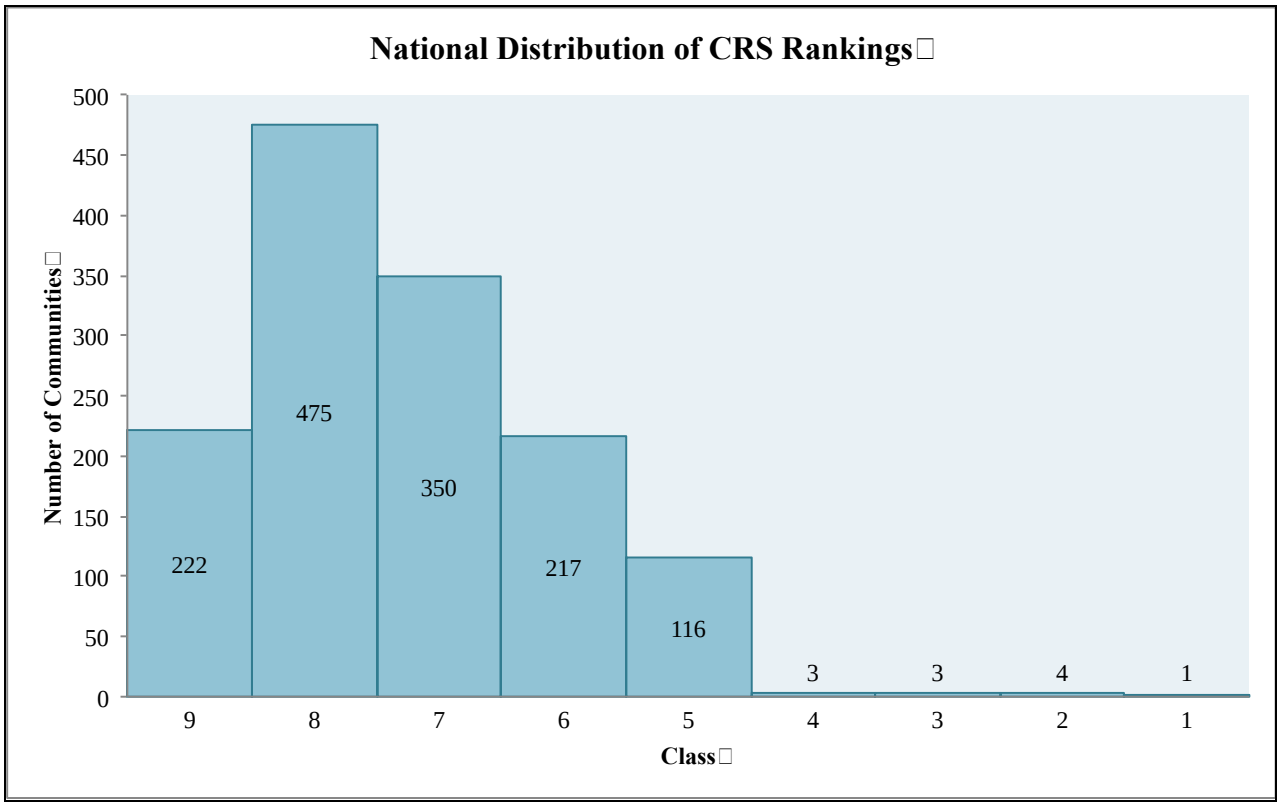
[9] Appendix

**'Ranking'**

Credit points earned in each activity are summed to determine the community ranking. Every 500 points elevates the applicant into a new class. For example, 0-499 points falls within Class 10 and 500-999 points falls within class 9, the minimum threshold for CRS insurance premium discounts. One community in the United States, Roseville, California, has earned a Class 1 ranking with over 4,500 credit points and local policyholders receive a 45% reduction in flood insurance premiums within the SFHA[10]. Like Maui and Hawai'i counties, the majority of CRS communities are ranked as 'introductory' classes of 8 or 9 (Figure 1).

**Taking into account Honolulu's current floodplain management, it is expected to rank as a 9 in the CRS program, with an estimated 521 points earned. This status would equate to a 5% reduction in flood insurance premiums in the SFHA and the NSFHA.** *However, many opportunities exist for Honolulu to bolster its standing within the CRS program and earn additional insurance discounts.*

*Figure 1. CRS Communities by Class*[11]




[10] Weiser, Matt. *Water Warrior* (2015). The Magazine of the American Planning Association. Retrieved from: https://www.planning.org/planning/2015/aug/waterwarrior.htm

[11] *Data provided by Scott Cofoid, ISO Technical Coordinator (2016).*

### *Suggestions*

Options for the expansion of credit-granting CRS initiatives in the community are extensive, but vary in their complexity and breadth. If Honolulu were interested in increasing its potential program ranking, several activities would provide credit opportunities that are likely within the reach of Honolulu's current administrative capacity. Table 4 proposes CRS activities that Honolulu may wish to consider in the future. Additional information about activity requirements can be found in the Appendix and 2013 CRS Coordinator's Manual.

*Table 4. Suggestions for Future CRS Participation*[12]

| Series | | Activity | Maximum Potential Points | Suggested Actions |
|---|---|---|---|---|
| 300, Public Information Activities | 320 | Map Information Service | 90 | Provide inquirers with information from the community's FIRM and other sources of information about the local flood hazard and natural floodplain functions.<br><br>Map tsunami run-up areas outside of the SFHA, or map areas in the SFHA where the tsunami regulatory elevation is higher than the base flood elevation on the FIRM. |
| | 350 | Flood Protection Information | 125 | Provide the pubic with more detailed information about flood protection measures in libraries and on the Internet. |
| | 360 | Flood Protection Assistance | 110 | Provide one-on-one help to people who are interested in protecting their property from flooding. |
| 400, Mapping and Regulations | 430 | Adopt updated International Code Council 'I-Codes' | 100 | The International Code Series (I-Codes) includes provisions that incorporate all NFIP minimum floodplain construction requirements and a number of provisions that exceed the NFIP minimum requirements. Adopted 'I-Codes' must be no more than 6 years old. |
| | | Require additional development restrictions in Coastal A Zones | 650 | Designate a coastal A-Zone and enforce V-Zone and/or enclosure limitation regulations in the designated area. |
| | | Coastal Erosion Supplement | Varies | Adopt stronger erosion setbacks for new development.<br><br>Prohibit all new buildings from the area expected to erode over the next 30 years. |
| 600, Warning and Response | 610 | Flood Warning and Response | 395 | A Flood Warning and Response Program is required to be written and adopted containing the following elements:<br>– Flood threat recognition system<br>– Emergency warning dissemination<br>– Flood response operations plan<br>– Critical facilities planning |

[12] Appendix

### *Next Steps*

As displayed in Table 3, the requisite identification of a minimum of 500 potential credits has been completed for Honolulu. As such, if Honolulu addresses the remaining Class 9 CRS prerequisites, an application for CRS program participation may be initiated. The process of becoming a CRS participant includes an initial application and a verification visit by ISO staff, which involves an audit of current floodplain management activities.

After acceptance into the program annual recertification is required. Recertification does not require a visit by ISO and is largely an exchange of paperwork. Communities may choose to modify their standing after introducing new floodplain management activities that may qualify for additional CRS credit. Class 9, 8, 7, and 6 communities require a cycle verification every five years. Class 5, 4, 3, 2, and 1 communities require a cycle verification every three years. Cycle verifications entail an ISO representative visiting the community and conducting a thorough review of ongoing CRS activities. These reviews require documentation such as ordinances, permit files, and community records to be provided by the community in order to validate activity proceedings and may necessitate field verification[13].

An update of the 2013 Coordinator's Manual is expected in 2017, however no major content overhauls are expected in the next iteration. Rather, the 2017 Coordinator's Manual will focus on providing clarification to certain activities and consolidating the manual with its supplementary guides. The 2020 Coordinator's Manual is expected to include additional materials on resiliency and actions communities can take to prepare for climate change.

### *Conclusions*

The City and County of Honolulu is currently conducting numerous important activities to mitigate flooding and hazards. However, many opportunities exist to provide additional services to citizens, update regulations, enhance natural areas, and heighten local protection from flooding. The attached Appendix suggests several floodplain management activities for Honolulu to consider in the future. Several proposed credit-gaining activities, such as the enactment of community engagement and outreach programs, do not require regulatory action or the adoption of new legislation. Other activities may require updating ordinances or regulations in order to better suit the requirements of the CRS program.

Though the CRS has the potential to help areas become more resilient, it is up to individual communities to initiate activities that educate citizens, identify issues, mitigate risks, and respond to flooding events. Focusing on only one section of the CRS program in order to gain flood insurance premium discounts, such as solely investing in post-flooding event response, will not achieve the official goals of the CRS program.

The CRS program structure, particularly components like prerequisites, aims to promote a holistic and balanced approach to community flooding protection. While there are many avenues in the pursuit of community resilience, the CRS program may provide the incentives, guidance, and support necessary to foster best practices in comprehensive floodplain management.

[13] *National Flood Insurance Program Community Rating System Coordinator's Manual* (2013).

***Important Contacts***

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***Resources***

Bender, B. and Heinrichs, G. *Flood Insurance is a Good Thing: CRS Communities can Encourage Purchase of Policies (2011).* Wai Halana. Department of Land and Natural Resources Engineering Division. Retrieved from: http://dlnreng.hawaii.gov/nfip/wp-content/uploads/sites/11/2013/03/2011_jan.pdf

Codiga, D., Delaunay, D. and Hwang, D. *Climate Change and Coastal Regulatory Takings in Coastal Hawai'i* (2011). University of Hawai'i Sea Grant College Program Center for Island Climate Adaptation and Policy. Retrieved from: http://www.islandclimate.net/wp-content/uploads/2012/05/Codiga-Hwang-Delaunay_2011_Regulatory-Takings.pdf

Codiga, D. and Wagner, K. *Sea Level Rise and Coastal Land Use in Hawai'i: A Policy Toolkit for State and Local Governments* (2011). University of Hawai'i Sea Grant College Program Center for Island Climate Adaptation and Policy. Retrieved from: http://seagrant.soest.hawaii.edu/sites/default/files/publications/icap-sealevelrisetoolkit_web-1_2.pdf

*Community Rating System National Level* (2012). The Federal Emergency Management Agency's National Flood Insurance Program. Retrieved from: http://www.fema.gov/media-library-data/20130726-1842-25045-5428/usa_crs_may_2012_508.pdf

*Five-Year Floodplain Management Plan* (2004). State of Hawai'i Department of Land and Natural Resources Engineering Division. Retrieved from: https://www.floods.org/PDF/5_Year_Plans/5yr_HI.pdf

*Honolulu Multi-Hazard Mitigation Plan* (2012). Department of Emergency Management. Retrieved from: https://www.honolulu.gov/rep/site/dem/dem_docs/plans/Executive_Summary_2012.pdf

*Interpreting FEMA Flood Maps and Studies in the Coastal Zone* (2015). Massachusetts Office of Coastal Zone Management. Retrieved from: http://www.mass.gov/eea/docs/czm/stormsmart/interpreting-fema-flood-maps.pdf

*Mapping Repetitive Loss Areas for CRS* (2015). Federal Emergency Management Agency. Retrieved from: http://crsresources.org/files/500/mapping_repetitive_loss_areas.pdf

*National Flood Insurance Program Community Rating System Coordinator's Manual* (2013). Federal Emergency Management Agency. Retrieved from: https://www.fema.gov/media-library/assets/documents/8768

*National Flood Insurance Program Community Rating System Tsunami Hazards* (2013). Federal Emergency Management Agency. Retrieved from: http://crsresources.org/manual/

*National Flood Insurance Program Community Rating System Coastal Erosion Hazards* (2013). Federal Emergency Management Agency. Retrieved from: http://crsresources.org/manual/

*Policy Statistics: State of Hawai'i* (2016). National Flood Insurance Program. Retrieved from: http://bsa.nfipstat.fema.gov/reports/1011.htm#HIT

*Recommended Residential Construction for Coastal Areas* (2009). Federal Emergency Management Agency. Retrieved from: http://www.mass.gov/eea/docs/czm/stormsmart/interpreting-fema-flood-maps.pdf

*Reducing Flood Losses Through International Codes* (2014). International Code Council. Retrieved from: http://www.fema.gov/media-library-data/1411731781834-d0c7d7f9ff0d195ce3c33901ba73daac/ReducingFloodLosses_4thED_Final_508.pdf

*Revised Ordinances of Honolulu* (1990). City and County of Honolulu. Retrieved from: https://www.honolulu.gov/ocs/roh.html

Weiser, Matt. *Water Warrior* (2015). The Magazine of the American Planning Association. Retrieved from: https://www.planning.org/planning/2015/aug/waterwarrior.htm