MEMORANDUM

TO: Co-Chairs of the Federal Interagency Climate Change and Water Resources Workgroup

From: Co-Chairs; Advisory Committee on Water Information (ACWI); Water Resources Adaptation to Climate Change Workgroup (WRACCW) /s/

Subj: Comments on Proposed "Refresh" of the 2011 *National Action Plan: Priorities for Managing Freshwater Resource in a Changing Climate*

Date: October 27, 2015

Thank you for the opportunity to provide early input to the interagency effort to "refresh" the 2011 *National Action Plan: Priorities for Managing Freshwater Resource in a Changing Climate (NAP).*

In general, the Advisory Committee on Water Information (ACWI) Water Resources Adaptation to Climate Change Workgroup strongly commends the Federal interagency Water Resources and Climate Change Workgroup for the continuing effort to implement the October, 2011 NAP and to take a step back to look at progress to date and assess possible future actions that would "refresh" the NAP. We appreciate the "listening session" held by the interagency Workgroup in early September to describe the scope of this effort, the expected schedule for this work, and the initial ideas for future climate change adaptation tasks and actions.

The ACWI Climate Change Workgroup offers the following initial comments on the effort to "refresh" the NAP.

1) **NAP Refresh Needed:** In general, we agree that key actions in the 2011 NAP are now substantially implemented, that the new information on water resources provided in the third National Climate Assessment needs to be reviewed and reflected in a revised NAP, and that insights gained over the past several years of implementing the NAP need to be assembled and assessed. ***To accomplish this, we recommend that the proposed effort to "refresh" the document proceed.***

2) **Proposed Refresh Process Appropriate:** The proposed process for revising the NAP proposed in the recent "listening session" seems reasonable and appropriate. The adjustment of the focus areas to be more streamlined, and the reorganization of Federal agency teams, makes sense. The general schedule for conducting the work, leading to a final, refreshed NAP in the spring of 2016 also seems reasonable. ***We recommend that the work to refresh the NAP proceed along the lines proposed in the recent "listening session".***

3) **Consider *Next Steps* Report:** In 2014, the ACWI Climate Change Workgroup held a two day meeting in Crystal City, Va. A product of that meeting was a report describing "next steps" for managing freshwater resources in a changing climate (see: http://acwi.gov/climate_wkg/climate_water_recommendations_report_4_21_14_final_draft.pdf). A summary of recommendations in the report is provided as an attachment to this memorandum. ***Many of the suggested "next steps" are not yet accomplished and we recommend that they be considered among other ideas for advancing work to help water resource managers adapt to climate change.*** For example:

- A recommendation included in the *Next Steps* report called for evaluation of expanding the existing Federal-State cooperation in westerns states, known as the Western States Federal Agency Support Team (WESTFast) into other Regions of the country. This evaluation work is presently underway under the leadership of the Army Corps of Engineers and should be continued and recognized in a refreshed NAP.

- A recommendation in the *Next Steps* report calls for bolstering critical data sets, such as data on water use. The US Geological Survey is leading an interagency effort to improve water use data and this effort should be continued and recognized in the refreshed NAP.

4) **Maintain Support of NAP Implementation During the "Refresh" Process**: The interagency Workgroup published an implementation plan for 2015 describing key actions various Federal agencies are taking to implement the NAP (see: http://acwi.gov/climate_wkg/nap_fy1415-version9_hw_clean_final508c.pdf). ***The ACWI Climate Change Workgroup endorses the actions described in the 2015 implementation plan, recommends development of a comparable implementation plan for 2016, and encourages Federal agencies to maintain focus on effective implementation efforts even as the proposed planning to identify new work needed in the long-term proceeds.***

5) **Coordination with Related Climate Change Adaptation Planning Efforts:** A refreshed NAP should reflect consideration of themes and actions already identified in climate adaptation planning efforts related to water resources. For example:

   A. Link to Agency-Specific Climate Change Adaptation Plans: The revised NAP should have a strong connection to the Agency-specific climate change

adaptation plans recently developed in response to EO 13653. Agency plans can be an important tool for marshalling the resources to address pressing needs related to water resources and climate change. Useful summaries of Federal agency plans can be found at http://www.corpsclimate.us/20150611news.cfm and https://www.fas.org/sgp/crs/misc/R43915.pdf. ***We recommend that agencies with water resource management responsibilities be asked to identify elements of their plan that should be included in the revised NAP*.**

B. Coordination Among Federal Crosscutting Climate Change Adaptation Strategies: The NAP is one of several interagency climate adaptation plans addressing a sector where multiple Federal agencies have significant roles. Other plans that address crosscutting topics include the *Fish, Wildlife and Plants Climate Adaptation Strategy* and the climate section of the *National Ocean Policy* implementation plan. ***As there is some overlap in the topics addressed by these strategies, and opportunities for coordinated actions, we recommend that key leaders implementing these strategies be asked to provide input to the work to refresh the NAP. We also recommend that a more formal mechanism for ongoing coordination among principals leading implementation of these crosscutting plans be established.***

C. Water Resource Related Actions in Recent Climate Adaptation Plans: Several recent reports identify needed actions related to climate change and water resources, including the *Report to the President* by the State, Local and Tribal Leaders Task Force and the *Priority Agenda: Enhancing the Resilience of America's Natural Resources* developed in response to EO 13653. ***Many of these water related actions are now included in the 2015 implementation plan for the Federal Interagency Water Resources and Climate Change Workgroup and we recommend that these actions should be carried forward to the revised NAP where appropriate.***

6) Suggestions for Data/Research/Vulnerability Theme Team: Several suggestions of topics that should be considered by the interagency Data/Research/Vulnerability Team are provided below:

A. Address Projected Impacts of Climate Change in Water Resource Engineering Tools: the Federal government provides water resource engineers and planners with critical hydrological information in documents such as USGS Bulleting 17B (addressing stream flood frequency) and in NOAA Atlas 14 (addressing precipitation). These key documents inform the design of water infrastructure that may be in place for decades or longer but do not now address projected changes in hydrologic conditions as a result of climate change. ***We recommend that Federal agencies work together to define a process for strengthening statistical methods for evaluating nonstationarity conditions and, where possible, develop an appropriate method for including statistically-based nonstationarity conditions in decision making.***

B. **Improve Statistics for Use of Observed Stream Flow Data:** The translation of stream flow data into engineering designs and requirements (e.g.; determining flow as an element of a Clean Water Act discharge permit) requires tools that interpret basic observational monitoring data using statistical methods. In some cases, trends in flow over time as a result of climate change may not be fully identified due to lack of strong statistical methods. ***We recommend that the Team identify key decision points where flow data needs to be translated for decisions using statistical methods and define a process for strengthening statistical methods to support these decision points where possible.***

C. **Stand-Up Proposed Flood Flow Frequency Workgroup:** The New Federal Flood Risk Management Standard (FFRMS) includes a call for development of research needed to support implementation of the new flood standard (see page 11; http://www.fema.gov/media-library-data/1422649643416-c0ff9e51d11442790ab18bae8dc5df4b/Federal_Flood_Risk_Management_Standard.pdf). Specifically, the FFRMS calls for "convening a working group that produces a new method to estimate projected future flood flow frequencies." Additionally, there is a need for mapping tools that help Federal agencies determine the horizontal extent of a floodplain area that is 2 feet and 3 feet above base flood elevation. ***We recommend that the revised NAP describe the approach that Federal agencies will follow in developing this flow information, including coordination with related flow and precipitation tool changes.***

D. **Cooperation with Climate Change and Water Working Group:** The Federal Climate Change and Water Working Group (CCAWWG) has developed useful assessment of user information and data needs for climate change and water resources management (see: http://www.ccawwg.us/). ***We recommend that the Team review CCAWWG reports and engage CCAWWG members in considering needed actions.***

7) **Suggestions for Policy/Planning/Decision Support Team:** Several suggestions of topics that should be considered by the interagency Policy/Planning and Decision Support Team are provided below:

A. **Maintain Support for ACWI Climate Workgroup:** The ACWI Water Resources Adaptation to Climate Change Workgroup was established, in response to a recommendation of the 2011 NAP, as a means to engage diverse stakeholders in the climate adaptation and water resources related work of Federal agencies. ***We recommend that the ACWI continue to support the climate change Workgroup.***

B. **Build Capacity of Federal Interagency Water Resources and Climate Change Adaptation Workgroup:** The Federal Interagency Water Resources and Climate Adaptation Workgroup has been meeting regularly since 2010 and worked to

both develop the 2011 NAP and oversee its implementation. The operational support of the Workgroup is shared among co-chair agencies (i.e.; CEQ, EPA, USGS) and staff from diverse additional Federal agencies chair teams or participate on teams. Staff from agencies do this work in addition to extensive other duties.

Expanding the operational capacity of the Workgroup would provide significant benefits in terms of improved policy development and coordination, more affirmative implementation, and avoidance of duplication among agencies. ***We recommend that the participating Federal agencies review options for expanding the operational capacity of the Workgroup, including additional staff support through short-term detail assignments.***

C. **Federal Agency Regional Climate Adaptation Deployments:** The *Priority Agenda: Enhancing the Resilience of America's Natural Resources* identifies the need for Federal agency offices at the regional level to strengthen coordination and present a more unified service to climate change decision-makers and the public. Many of these regional Federal organizations work on climate adaptation issues related to water. ***We recommend that the revised NAP address the question of how water resources related climate change adaptation needs can best be addressed within cooperative interagency climate adaptation teams at the regional level.***

D. **Expand Reference to Recent Federal Flood Standards and Executive Order:** A key recent development related to climate change and water resources is the publication by the Federal Emergency Management Agency (FEMA) of a new Federal Flood Risk Management Standard and the request to Federal agencies to develop guidelines to implement the new standard. ***We recommend that this topic, and the impacts this work may have for climate change resilience, be more fully addressed in the refreshed NAP.***

For example:

- The Federal Flood Risk Management Standards call for elevation of some structures above base flood elevation or designing the structure "to withstand or otherwise quickly recover from a flood event". Determining what specific actions are needed to meet the "withstand or quickly recover" standard is an important policy decision and is the responsibility of each Agency. Cooperation among agencies to reach common understanding of key terms would be helpful.

- The Federal Flood Risk Management Standard applies to select Federal investments in structures and does not apply to most existing Federal buildings or to comparable structures not owned by the Federal government. Whether, to what extent, and by what means Federal flood standards should

be adopted in non-Federal engineering and related design codes and standards is a key policy decision. Engagement with stakeholder groups such as the American Society of Civil Engineers, could generate progress in this area.

E. National Flood Insurance Program Community Rating System: The Community Rating System (CRS) provides incentives for local communities to adopt flood protection standards and practices that will reduce flood damage and cost. Communities that adopt specific practices are given points that reduce the annual rates that homeowners with flood insurance policies pay. ***We recommend that the revised NAP provide a process for the CRS program to evaluate options for providing points for adoption of climate resilience plans by water infrastructure facilities within the community and adopting watershed scale plans for managing flooding that consider projected climate changes.***

F. Identify and Advance Innovative Watershed Resilience Policies: New policies to build water resources resilience on a watershed basis are needed. ***We recommend that new watershed resilience policies be identified and evaluated in the revision of the NAP.*** For example:

- Policies that promote the watershed scale implementation of green infrastructure practices to manage stormwater should be considered and advanced where appropriate (e.g.; new authority for green infrastructure practices to implement watershed scale stormwater management permits under the Clean Water Act).

- Policies to promote use of natural infrastructure for building resilience to extremes in hydrologic conditions, such as use of beaver management practices in targeted locations, should be evaluated.

- As noted above, policies that provide points within the FEMA community Rating System for the development of watershed scale plans for managing flooding that consider projected climate changes should be evaluated.

8) Suggestions for Training and Outreach Team: Several suggestions of topics that should be considered by the interagency Training and Outreach Team are provided below:

A. Federal Government Climate Adaptation Training: New training programs related to climate change and water resources management are being developed but there is little consensus with respect to which Federal government employees should take a given training program. ***We recommend that the revised NAP identify categories of Federal employees engaged in water resource management decisions and the training that would be***

appropriate for these employees. New training should be developed where it is needed.

B. Climate Adaptation Certification Program for Water Resources Decision-Makers: Although climate adaptation training is generally available to Federal water resource managers, climate training programs designed for non-Federal water resource managers are more limited. ***We recommend that the revised NAP identify critical water resource decision-makers and planners and suggest existing or needed training programs that are appropriate. Development of a water resource climate adaptation certification program for classes of decision-makers (e.g.; water utility managers) related to climate change adaptation should be considered.***

Thank you again for the opportunity to provide initial input to the effort to refresh the NAP. We look forward to working with you in this important effort.

Attachment:

- Summary of Recommendations in *Next Steps* Report

cc: Members of ACWI Water Resources Adaptation to Climate Change Workgroup

Next Steps Report
Summary of Recommendations

The next steps in implementing the National Action Plan identified by the WRACC Workgroup are presented in summary below and described in greater detail in the reports of the subgroups provided in the next section.

Water Data and Information Subgroup: This subgroup focused on the sufficiency and accessibility of data and information needed to make decisions related to preparedness for climate change.

> **Recommendation 1**: Ensure continuity and viability of long-term hydro-climate observations and data management systems by establishing a coordinated process in which each Federal agency develops a plan and budget for its key observing system(s) showing how that agency will dedicate resources to evaluate data and information adequacy and then sustain and upgrade its system(s) to meet those needs.
>
> **Recommendation 2**: Enhance data access and interoperability of data systems, including encouraging the Subcommittee on Water Availability and Quality (SWAQ) to develop and oversee implementation of a plan for improved water data access and interoperability across agency boundaries. This includes the development of an integrative tool to assist in the access to data and information from multiple sources.
>
> **Recommendation 3**: Bolster critical data sets, including those related to groundwater, stream/river flow, health data (waterborne disease), water use, and paleoclimate reconstruction.

Assessment of Vulnerability Subgroup: This subgroup focused on evaluating the adequacy of infrastructure needed to adapt to changing climate and our abilities to make this assessment and/or plan and design for improvements.

> **Recommendation 1**: Develop guidance for, and provide assistance to, communities and water utilities of all sizes on how to use existing climate and extreme weather data, information, and tools in order to build capacity

for assessing vulnerability and implementing responses to increase resilience.

Recommendation 2: Create a strategic plan for engagement and collaboration with non-Federal water institutions or partners to enhance messaging, improve the use of climate information, and cultivate a collaboration to inform and improve future climate tool development.

Water Use Efficiency Subgroup: This subgroup focused on a review of options to improve water use efficiency.

Recommendation 1: Agriculture should be prioritized for development of "nationally consistent metrics for water use efficiency," a recommendation contained in the National Action Plan.

Recommendation 2: The Department of Energy should update Federal efficiency standards for showerheads, faucets, toilets, and urinals and consider incorporating a performance standard for products.

Recommendation 3: The Federal government should promote programs and legislation to develop a national funding program for water efficiency and reuse/reclamation that would mirror but not replace existing programs managed in western States by the Bureau of Reclamation.

Integrated Water Resources Management Subgroup: This subgroup considered issues and opportunities for improvements to water resources management.

Recommendation 1: Facilitate Federal agency coordination to achieve Integrated Water Resources Management and climate resiliency by:

- considering the reestablishment of an interagency Water Resources Council, such as authorized by the Water Resources Planning Act of 1965;

- creating a Federal Water Coordinator with authority at the Executive Office of the President; or

- creating regional Federal Agency Support Teams consisting of Federal agencies with water resources responsibilities to facilitate collaboration between the states and Federal government regarding water and climate issues, using the Western States Federal Agency Support Team (WestFAST) as a possible template and model.

Recommendation 2: Expand existing programs and create new incentives to empower State, interstate, local and tribal governments to assess and plan on a watershed or aquifer basis for preparedness and resilience of their water resources.

Recommendation 3: Incentivize use and protection of ecosystem services (i.e., natural capital) by expanding and coordinating existing efforts, including adapting or creating new funding programs to promote planning and implementation.

Training and Capacity Building Subgroup: This subgroup assessed ideas and options related to use of training and other educational tools to build capacity for adapting water resources management to a changing climate.

Recommendation 1: Identify the information sharing needs for National Action Plan actions, and develop mechanisms to facilitate sharing, such as expanding the role and resources of Water Resources Research Institutes at State Land Grant Colleges to include both research and capacity building for climate change adaptation.

Recommendation 2: Support education and training to build response capability, including expanding existing workforce training and college traineeships, requiring training of technical service providers, such as planners, engineers and consultants, and highlighting existing layperson training on climate change.

Additional Recommendations Derived from February Workgroup Meeting: Several recommendations arose from general discussions at the meeting of the Workgroup.

Recommendation 1: Consider establishing a Natural Infrastructure State Revolving Loan Fund or other programs to enable State planning and

investment in natural system infrastructure to adapt to more extreme weather and a changing climate.

Recommendation 2: Consider promoting "premium sharing" with local governments by the National Flood Insurance Program to strengthen community-wide, preventative actions to reduce flood risks and the economic and human costs of flooding.

Recommendation 3: Consider supporting a nonprofit organization to promote integrated water resources management professional training/accreditation and project recognition on a voluntary basis.