

**Regional Stakeholder Workshop Summary**  
**Recommendations for a National Levee Safety Program**  
**Hosted by the National Committee on Levee Safety**  
**Boise, Idaho**

**7 February 2011**

**I. Purpose of Workshop**

The National Committee on Levee Safety (NCLS) held a one-day workshop to share information about its recommendations to Congress for a proposed National Levee Safety Program (NLSP). The NCLS invited representatives from local and state agencies and elected officials who are engaged in levee safety issues. In addition, the workshop invited levee owners and operators, planners, emergency managers, local and regional business interests, environmental interests, economic development interests, public health and safety interests. The objectives of the NCLS workshop were to:

- Learn more about the NCLS and their recommendations for a NLSP;
- Discuss the implications of adopting the NCLS recommendations for local and state governments and other stakeholders; and
- Provide feedback to the NCLS on the recommendations.

Congress created the NCLS to develop recommendations for a NLSP, including a strategic plan for implementation of the program. The NCLS adopted the vision of an involved public and reliable levee systems working as part of an integrated approach to protect people and property from floods, and has been working toward this goal since October 2008. The NCLS recommendations for a NLSP are based on three central concepts:

1. Leadership via a National Levee Safety Commission that provides for state programs, national technical standards, risk communication, and coordination of environmental and safety concerns;
2. Strong levee safety programs in all states that, in turn, provides oversight and critical levee safety processes; and
3. A foundation of well-aligned federal agency programs and processes.

**II. Opening Presentations**

**A. Fred Abt, Idaho Bureau of Homeland Security**

Mr. Abt discussed the increasingly common trend of recognizing levees as critical infrastructure and the risk posed to the public by unknown levee safety issues. Mr. Abt noted that while recognition of the issues by federal and state governments is a positive trend, to date there has been a fragmented approach to addressing the concerns. Compared to first responder communities that operate within an established Incident Command structure, levee safety is inconsistently executed by several different agencies and responsibility varies regionally.

Mr. Abt described the situation in Idaho, where no single state agency is responsible for levees and the burden and cost of levee safety issues falls to local governments. The costs associated with operating and maintaining a levee system is a critical problem as local governments have few options for funding beyond local tax assessments.

The recommendations from the NCLS aim to address these concerns. They are recommendations that Congress has not yet acted on, so the NCLS encourages input on the proposed recommendations. The issues discussed at this stakeholder meeting are complex and are not easily resolved. These issues also have financial impacts on flood insurance customers and local governments alike.

Mr. Abt concluded with a discussion of ongoing state level partnerships in Idaho, with the goal of extending the partnership to the local level to help implement some of the recommendations on levee safety.

### **III. Introduction and Update on NCLS Activities – Eric Halpin and Paul Perri, NCLS Members**

Members of the NCLS provided an overview of the history of levee development in the U.S., including the factors that led to the need for a NLSP, the lack of awareness about the risks that levees pose, the charge and membership of the NCLS, and key points included in the 20 recommendations further described in the report, *Recommendations for a National Levee Safety Program: A Report to Congress from the National Committee on Levee Safety, January 15, 2009*. NCLS members indicated that copies of the report, information papers, presentations from the workshop, and other information about the NCLS can be found on the NCLS website, [www.leveesafety.org](http://www.leveesafety.org).

Mr. Halpin explained that the NCLS pursued holding a workshop in Boise, Idaho because of the feedback the NCLS has received about concerns of the NCLS recommendations regarding structures along canals. The NCLS developed a presentation tailored to the topic of canals and was shared with workshop participants.

Following the introduction and update, the NCLS members engaged audience members, providing them an opportunity to ask questions and/or provide comments. The following provides a summary of the questions and comments and the NCLS members respective responses.

### **IV. Question and Answer Session**

**Question:** Has the NCLS conducted any financial projections on how much a NLSP would cost and where the money will come from?

**NCLS Response:** In the NCLS Report, there is a section detailing the costs and benefits of establishing a NLSP, what the primary elements of the program would consist of, how the program would provide assistance to states, the establishment of a national Levee Safety Fund, and others. A majority of the money to pay for the NLSP would be made via grants to states and to the Fund. The NCLS is recommending a small federal investment in communications, training, and leveraging state programs. The argument is that this is a good investment for the nation. Rather than continuing to operate in a disaster relief environment, the NCLS are looking at making wise investments that will save significant costs in avoided disaster relief in the future. The taxpayer would fund the program and would largely replace the current disaster relief funding.

**Question:** Is the NCLS recommending an independent agency? Would U.S. Bureau of Reclamation (USBR) be a key player?

**NCLS Response:** The recommendation for an independent commission is in no way intended to exclude federal agencies. The national program and board would include major players and USBR is certainly a key agency.

**Question:** Regarding the definition of a levee stemming from the January 20, 2010 NCLS letter to USBR, since USBR was not included in the original makeup of the NCLS, why would their irrigation canals be included? I would like to understand how flood control structures were extended to include irrigation canals.

**NCLS Response:** The NCLS committee indicated that this topic has been discussed at length and indicated that a special presentation would be provided later in the meeting.

**Comment:** Regarding harmonizing federal agencies, there does not appear to be any representation from U.S. Fish and Wildlife (USFWS) or National Marine Fisheries Service (NMFS) in the NCLS membership or activities. While the NMFS and USFWS can have some nexus with flood control structures (levees) and floodplain management, these agencies do not have a role with considering the public safety impacts associated with the performance of flood control structures, which conflicts with other federal agencies such as the United States Army Corps of Engineers (USACE) who are responsible for maintaining public safety as it relates to flood control structures.

**NCLS Response:** Those agencies have had representatives at previous meetings and expressed agreement on the need to change the current approach in how federal agencies work together in protecting environmental interests and public safety.

**Question:** In terms of a single agency lead, since USACE has responsibility for maintaining a portion of the nation's levee systems, why are they not also responsible for the fish and habitat in leveed areas?

**NCLS Response:** USACE has a broad set of responsibilities though no one agency has universal authority over all issues (e.g., environmental and critical infrastructure). As such, all federal agencies must work cooperatively to systematically address such interests. The NCLS members also explained how the NCLS recommendations are integrated and explained that the benefit of an independent commission is that no one agency is dictating to another; they are all aligned.

**Question:** What are you going to do with the feedback? Will you use it to inform or change the recommendations? What will it lead to?

**NCLS response:** Our commitment is to listen carefully to stakeholders concerns and to give serious consideration to the ideas. While the NCLS does not necessarily want to rewrite the draft Report to Congress, the overarching goal is to effectively implement the recommendations including establishing the governance process, proposed legislative language, how rules might be developed, etc. The NCLS members also explained that they will report back to the Administration and Congress and tell them what we heard, whether or not we agree with it.

**Comment:** USACE Representative: a former District Engineer for USACE in New Orleans expressed frustration over the amount of blame directed at the USACE following Hurricane Katrina's; namely that the flooding was largely the result of a system failure and that one of the reasons the system failed was because resource agencies and interests precluded USACE from building a more resilient and robust system.

**NCLS Response:** There is enough blame to go around and that there are folks that are living with that blame and living with those consequences every day. There is a lot of shared responsibility.

**Comment, FEMA Representative:** I advocate for strong state programs. I noticed in the cost estimate, it showed a shift over time from 75% federal cost to 50% after five years. With FEMA, we have been under 75% federal share for 30 years. It may be a tough sell for states to pick up more of that cost.

**NCLS response:** The goal for the five-year period is to highly incentivize states to establish programs; however the NCLS recommends the inclusion of disincentives as well. Federal investment should be directed toward good behavior, and is in the best interests for states.

**Question:** Is there a method for local communities to input their own data into the National Levee Database (NLD)?

**NCLS Response:** There will be. Currently USACE has the authority to create and input data related to federal levee systems and programs. We are able to take voluntary data from states or other sources; later this year the NLD will be launched to states.

**Question:** It sounded like the recommendation was to shift from disaster relief funding to disaster preparedness. However, given that these things are not foolproof and disasters will happen, how will you persuade people to give up on disaster relief? You can't get away from disaster relief funding.

**NCLS Response:** The NCLS is not suggesting reducing emergency response in any way. The suggestion is to make smart federal investments to mitigate future disaster response costs; for example, not building back what was there before a disaster but making it better. Cleaning up after a disaster is more expensive than preventing them, so the NCLS recommends a more proactive approach.

FEMA has realized is that the investment they are making provides a 3:1 ration of investment return, which was validated by an independent study. We will not be able to mitigate all risk, but levee safety works hand in hand with reducing that residual risk, stabilizing the system, and knowing how it will perform for the events it is built for.

### **Governance of a National Levee Safety Program**

Following the general questions and discussions, participants were asked to specifically discuss the governance of a NLSP. Participant questions and comments are followed by the NCLS member's responses.

**Question:** How much room for state involvement is there? Every time we have ever had an issue, the USACE works directly with locals, or the local government does it.

**NCLS Response:** The NCLS envisions the NLSP providing oversight, while the state programs would act as conduits for funds. In order for this to function properly, the state would institute requirements for all state entities requesting access to the funds. Levee owners or levee districts will still conduct O&M activities; however the state may provide oversight or have authority for enforcement.

There is a misperception across the country that the USACE will assess levee system problems, inspect it, and maybe provide funding to fix it. This is only true for a small portion of levees in the nation. There are tens of thousands of miles of levee systems that we don't know about, that USACE is not looking at, nor are state or local communities. It is those situations where a state levee safety program could have a great impact. The NCLS recommends that most of the funding be delivered at the community level.

**Question:** Can you bring us up to date on the USACE Engineer Research and Development Center (ERDC) vegetation study and when we expect to see that published? It is a huge issue for stakeholders trying to find a balance with that vegetation issue.

**NCLS Response:** The research is ongoing. There is broad agreement that where there are endangered species, there should be options to not cut down trees; a system-wide improvement plan or a variance process for vegetation standards. We have gotten a lot of feedback on those two things. Those will each emerge later in 2011. This issue has been raised to the NCLS and it highlights the importance of a national approach.

**Question:** What has USACE done in looking at PL 84-99 (Flood Control and Coastal Emergency Act)? Do you see that as part of the NLSP? Are there changes that you might see as needed?

**NCLS Response:** There are no recommendations specifically related to the Rehabilitation & Inspection Program (RIP). What the NCLS said is that the requirements of PL 84-99, HUD block grants, mitigation grants, the NFIP, etc. should all be aligned to reduce risk and ensure good investment of federal dollars. The NCLS recommended that a federal interagency committee address these issues.

**Comment:** Here in the valley we have some agencies requiring mitigation with vegetation on canals and levees – planting things is not the answer. I’m familiar with national standards through the fire department and national standards can be very important as well. When you create a national standard, you will throw a lot of communities who today have satisfactory levees to be thrown out of the program. Communities need time and funding to meet new standards.

**Question:** You used the comment of 100,000 miles of levees – does that include irrigation canals?

**NCLS Response:** The preliminary estimate is based on the extrapolation of data from a few states so we cannot yet be sure of its accuracy.

**Question:** Does the NCLS Report to Congress explain how you deal with encroachments on levee right of ways?

**NCLS Response:** There are some recommendations that can offer a solution, having national O&M standards, having funds to help mitigate when you do have those problems, and help communicating to the public regarding why encroachments are so important. Encroachments are probably one of the top four problems we see on levees nationwide.

**Comment:** Through the National Flood Insurance Program (NFIP), the communities most at risk are paying premiums reflecting the risk. If the responsibility is placed back on the communities, they may have more incentive to take care of their infrastructure.

**Comment:** It was recommended that the federal government work with the communities rather than directly with the state. Small communities will lose out when competing with big cities in a state.

**NCLS Response:** It should be kept in mind that levees exist in systems and often cross community boundaries.

**Comment:** It was noted that using the stimulus program as a model for the NLSP is not recommended as there is too much red tape and funding is tied up in state administrations.

**Comment:** Another participant stated that with federal road construction grants, the state keeps 20% of funds; therefore working directly with local governments is preferable.

**Comment:** A participant shared the concern that with limited staffing and financial resources, the requirements involved in accessing federal funding would be a severe burden.

## **V. Definition of Levee and Canal Structures**

Following the governance question and answer session, Eric Halpin presented the NCLS position on canals as they pertain to the recommendations to Congress for a National Levee Safety Program.

The NCLS recognizes that there are significant similarities as well as differences between canals and traditional flood levees. Among the more notable similarities between canals and traditional levees is that unmitigated development behind infrastructure (e.g., dams, levees, and canal structures) causes significant increases in risk. The NCLS is interested in enhancing awareness and preparedness in order to mitigate that risk.

The NCLS recognizes that canals have shutoff capabilities, unlike riverine levees where a breach will allow water to flow until the river stage recedes. Levees and canals do have many of the same issues impacting safety and performance including vegetation (which may impact engineering in addition to inspection, flood fighting and emergency access), seepage, encroachments, structural penetration, stability, and maintenance.

The NCLS included canal structures, regardless of type, in the definition of levees to be included in a NLSP. The NCLS believes it was the intent of Congress to include canals as it was written into the authorizing legislation. The NCLS has periodically discussed the issue with the staff of the authorizing committee, sharing the NCLS's interpretation and the proposed definition of "levee" for a national levee safety program that includes some canal structures.

In addition, the NCLS believes the inclusion of canals is appropriate because of the public safety concerns. Failures do occur on both levees and canals, and from a safety perspective the source of the hazard is irrelevant. Many structures built in agricultural or rural areas have since become urbanized and the risks of failure have therefore increased. Public safety is in the mission and vision of the NCLS, which is why the NCLS determined canal inclusion was necessary.

However, in acknowledging the differences of canals, the NCLS recognizes a need to treat them differently than other structures regarding standards and safety programs, and the canal stakeholders are the appropriate group to shape those differences.

The NCLS does not intend for any duplication of federal effort or programs, and the recommendations and draft legislative framework provide exclusions for infrastructure addressed by other federal safety programs. For example, power structures that fit the definition of a levee which fall within the Federal Energy Regulatory Commission (FERC) dam safety program would be exempt from the proposed NLSP.

In addition, as recommended by the NCLS, the NLSP would not apply to low-risk structures that are:

- not part of a federal flood damage reduction system; and
- not an accredited levee by FEMA; and
- not greater than 3 feet high; and
- not protecting a population greater than 50 people; and
- not protecting an area greater than 1,000 acres.

The NCLS has recommended that canals that do not meet the exclusions above should meet the standards of a National Levee Safety Code once it is developed. However it is not the intent to force the rebuilding of canal structures as soon as a Code is in place. The NCLS has recommended using the International Code Council approach: the code will be developed by an independent body, using a consensus approach. The final product will not be a national mandatory standard, but a set of codes, akin to the National Building Code, that federal agencies, states, and local agencies can adapt and adopt voluntarily. As with most codes, there will be a recommended standard when “major improvements” would require bringing the structure “up to code.” The NCLS expects structures would be grandfathered regular maintenance and minor improvements.

There is an understanding that there is no “one-size-fits-all” solution, and that there are social equity issues involved, however the value of standards is extremely high. For example, there was a 7.0 earthquake in Haiti that killed an estimated 215,000 people, while a month later an 8.8 earthquake struck Chile killing 500 people. The major difference between these two disasters was that Chile had building codes that made their buildings more earthquake resistant.

The NCLS recognizes that enforcement is critical for standards to be implemented, and also that it takes time to comply with new codes and standards. Ultimately it comes down to wise federal investment. Standards do not necessarily equate to more regulation, but it is important to have the correct regulation.

**Comment:** Do you envision standards for operation and maintenance? Many of us operate federally owned projects, with federal right of ways, but when it comes to encroachments, the federal government won't enforce that or give us authority to enforce it (from Department of Justice (DOJ) direction). We're caught in the middle. We see things that need to be done to have more safety, but don't have the authority to enforce it.

**NCLS Response:** The NCLS does envision operation and maintenance standards. One reason the recommendations discuss federal alignment is to bring all federal agencies to the table to help resolve these problems.

**Comment:** Was USBR invited to testify before Congress on the NLSP?

**NCLS Response:** There have been two hearings held on the recommendations for a National Levee Safety Program, and it is the Committee that invites testimony. To our knowledge USBR has not testified.

**Comment:** Canal structures are only discussed in a single paragraph in the entire report, focusing mostly on flood levees. There has not been enough input from irrigation districts or USBR on this issue.

**NCLS Response:** While a focused discussion of canal structures is only in the section of the Report that addresses definitions (pages 33-34), at the end of that section the Report states that “throughout this report, the term “levee” refers to a levee system inclusive of canal structures as defined above.”

The NCLS believes the risk, especially loss of life, is significant enough that it needs to be addressed. Canal interests did participate in the review group and we are conducting workshops such as this one today in order to get this feedback.

The NCLS also believes in exemptions where appropriate. If a canal safety program exists, there is good reason to exempt those canals. Public Law 111-11 (facilities near urban areas) and PL 111-5 (inspection)

have directed an inventory and inspection of canals. Regarding flood insurance, the recommendation does not require mandatory risk based flood insurance behind canals. The NCLS wants to avoid risk transference, and that those benefiting from the infrastructure should be the ones managing the risk. In the instance of canals, often times people living behind canals are not the direct recipient of benefits.

**Question:** What about federal highway embankments? Why are canals, which are not part of the flood damage reduction system, included, but the highway embankments are excluded?

**NCLS Response:** The NCLS has recommended that highway embankments that function as part of a flood damage reduction system should be included under a national levee safety program. There is a definitional issue and it is difficult to determine where to draw the line – the NCLS has done that by recommending a risk-based approach. The NCLS has recommended that levees, canals, or highway embankments (that function as part of a flood damage reduction system) would be excluded from the National Levee Safety Program if they protect a population of less than 50 people or an area of less than 1,000 acres (see exclusion criteria above).

**Comment:** It is an individual's decision to live by a canal or a river, so the individual is taking on that risk. The canal owner should not bear the costs of improvements because someone decided to live below it.

**NCLS Response:** The NCLS is very aware that risk changes over time and that must be factored into risk assessments.

**Comment:** It is unlikely that nationally developed program standards will be the same as existing safety program standards which will make it more difficult for owners and operators to get insurance.

**NCLS Response:** National standards that apply to canals will be developed with significant involvement of canal owners and operators.

**Question:** The person that lives below a canal doesn't care if the canal runs or not. Do we want to deal with the national issue of levees and broaden the issue to canals knowing the impact it will have on irrigation districts or start with levees and then bring canals in down the road?

**NCLS Response:** That approach will simply kick the can down the road and not address the risk to public safety and property. Currently risk is often managed through lawsuits, which is probably not the best way to handle things.

**Question:** There are a lot of differences between levees and irrigation canals. How did they get put in the same basket?

1. The risks are significantly different. There are enormous populations and property at risk in the levee systems and while, absolutely, there are people and property at risk below embankment canals, the number at risk pales in comparison to levees.
2. There are institutional differences. Levees were meant to protect; that's not what embankment sections of canals represents. Levees are a 50-state issue; canals are a western state issue. There are very different community interests. The levee problem at the national level is real; it is an issue in all 50 states.
3. Practical politics. If you take a bill to the Hill that includes canals, you trigger two committee jurisdictions, which will bog it down and maybe kill it, and that would be a shame. If there are issues and standards and a more uniform approach is appropriate, maybe thought needs to be given to a different institutional system to just deal with canals.

**NCLS Response:** Canals were specifically mentioned in the regulation. The very critical national issue of levees and public safety issues related to levees ought to have canals coupled for the reasons already discussed.

## **VI. Comments, Questions and Suggestions Related to the Recommendations for a National Levee Safety Program**

Following the presentation and question and answer session, participants were asked to choose three out of four topics for 45-minute, breakout group discussions. These four tables represented clusters of the key recommendations (20 in total) made by the NCLS. NCLS members at each of the six breakout groups provided a brief introduction to the recommended elements of a NLSP and moderated an open-ended conversation with workshop participants, answering questions, soliciting feedback, and providing additional information. Following the conversations, members of the NCLS shared some of the major themes discussed at the tables.

A summary of the comments and discussion are included below and are organized in the following categories from the breakout tables and one overall category. Comments are organized by topic regardless of the tabletop session in which the comment was made:

- A. Shared Risk / Shared Responsibility: Risk-based flood insurance & liability concerns
- B. National inventory of levees and national levee safety standards
- C. Environmental protection and levee safety
- D. The proposed National Levee Rehabilitation, Improvement, and Flood Mitigation Fund

### **A. Shared Risk / Shared Responsibility: Risk-based flood insurance and liability concerns**

- Several participants noted that while insurance is a valuable contribution to risk awareness, it is only one of many risk awareness and outreach methods that should be utilized.
- It was noted that flood insurance can help share risk and is beneficial, however a missing component is sharing the burden of cost for improvements in levees in order to help reduce flood insurance premiums – a funding mechanism or taxing authority to help pay for this would be beneficial.
- Others commented that in some instances homeowners are taxed for the operation and maintenance of levees and requiring them to pay for flood insurance is perceived as a double tax.
- The NFIP could model areas with and without levees and for those protected by a levee would be required to contribute funds to the operation and maintenance of that levee.
- Several participants commented that the cost of levee improvements and safety in general should be funded by those receiving the benefits.
- The example of North Dakota was given, where conservancy districts collect taxes that pay for flood control, regardless of where in the district individuals live.
- Homeowners, developers, and/or the city governments should be responsible for increased risk from development behind existing infrastructure. Canal owners should not be responsible for the risk a homeowner assumes by buying or building in a hazard zone. Rather, it should be up to the individual homeowner to insure themselves.
- FEMA RiskMAP should be mapping canals as a Special Flood Hazard Area (SFHA) to ensure communities share in responsibility. There could also be extra points in the CRS for communities that designate SFHAs. There are ways to encourage flood insurance and it does not necessarily mean including canals in the NLSP.

- Irrigation districts have a service area from which they could collect an assessment for maintenance.
- Some participants noted concern about requiring individuals (through taxes etc.) to help finance structural improvements if they are not going to benefit from those improvements (e.g. living uphill from a canal structure).
- It was noted that flood insurance should be encouraged without necessarily singling out a risk factor, e.g. a community may get flooded from sources not associated with the canal in their area.
- SFHA's need to be mapped.
- If canals are included in the definition of levees, there is potential that federal funding for maintenance and repairs of canals would be diverted. Canals will be viewed as low-risk in comparison with levees and will therefore remain a lower priority. Any program must ensure that current funding for canals and USBR is not diverted.
- There are possibilities for synergy at the state level with both dam safety and floodplain administrators.
- Liability limitations for certifiers are a concern because costs can be extremely limiting. There are firms that will conduct levee certifications but it is an expensive process that a lot of communities cannot afford.
- If FEMA administers flood insurance behind non-accredited levees then they should also provide pre-disaster mitigation grants for maintenance and repairs.
- Conveying risk is very important but also somewhat difficult, in that when people have insurance they assume they are paying to reduce their risk.
- Repetitive loss needs to be better addressed/managed.
- There should be an ability to reduce flood insurance premiums for levee system owners who demonstrate good operations and maintenance activities.
- If flood insurance premiums collected from within a community was held locally, it could be used for local solutions such as improving operations and maintenance or buying out high-risk homes.
- Lack of historical knowledge of levees can also be a certification challenge in that often times there is no performance history or even how it was built. The unknowns make predicting the level of protection very difficult if not impossible.
- Determining risk of flooding from a levee is different than determining a risk from a canal – since FEMA does not map areas below canals this risk-based insurance could be a challenge to determine. NFIP is based on areas inside the 500-year floodplain, so those individuals not in the floodplain but below canals will not be eligible for NFIP insurance.

## **B. National Inventory of Levees & National Levee Safety Standards**

### Establishing a National Levee Database (NLD):

- USBR does not currently have a complete inventory of canals however they are currently conducting an urban canal inventory and should be involved in the database process.
- Concern was raised about the potential of repeating inventory and inspection work already done by USBR.
- A NLD could increase efficiency of local and state governments and would be a good tool for hazard assessments.
- A NLD would be a good tool for raising public awareness on levee safety issues.

- The NLD should be GIS-based and include qualitative information from tribes, the NFIP, etc.

#### Establishing National Levee Safety Standards:

- In addition to physical characteristics, risk should be included in the definition of a levee.
- Concern was raised that the current definition of a levee in the recommendations to Congress will make the exclusion of canal structures difficult. Inventory and inspection of these types of structures is expensive.
- The definition of a levee needs to better clarify the differences between levees and canals.
- It was noted that creating standards for the existing use of structures may be problematic in that people may move in behind structures, increasing risk.
- Canals are a public safety concern and including large canal structures in a National Levee Safety Program will help to raise awareness as well as provide some funding.
- There is concern that small irrigation companies will be unable to afford inspections required under a safety program.
- Standards should be developed for non-structural components (e.g. evacuation, land use, etc.)

#### **C. Environmental Protection and Levee Safety**

- Levee vegetation is a big concern for levee owners in this area as USACE policies intended to assure a levees structural integrity conflict with Endangered Species Act (ESA) requirements. Many levee owners and operators have difficulty securing permits from federal agencies with opposing opinions; federal alignment and coordination would be very helpful to local operators.
- A good process for engaging all stakeholders, including environmental interests, is critical to reaching palatable solutions. Problems will also have valuable local knowledge, therefore focusing at the local level to find solutions are important.
- There are environmentally beneficial methods to reducing flood hazards (e.g. wetland creation) that should be part of the solution. Several participants noted the importance of approaching solutions from an entire floodplain perspective in order to determine the best management options.
- In instances of federal agency conflict, it was suggested that an independent science review be conducted to help determine the best path forward.
- The Missouri River Recovery Implementation Committee (MRRIC) was offered as a good example of establishing and running a decision-making body for these issues. For example, the committee decisions are made by consensus and in order to vote against a proposal, the no voter must provide an alternate solution.
- The Columbia County Levee Roundtable was also mentioned as a good example of organizing to solve local levee issues.
- The Coordinated Resource Management Council in Wyoming is a body that allows all federal agencies to collaborate.
- Many participants noted the importance of sound science for decision-making.

#### **D. Create a National Levee Rehabilitation, Improvement, and Flood Mitigation Fund**

- Some participants raised concern that any congressionally approved funding for levees would then be taken away from existing programs.

- The proper justification needs to clearly articulate that improvements now will cost less than disaster recovery in at a future date.
- State control of programs may be problematic for local entities. States may absorb some of the funds and there will be another level of bureaucracy for locals to navigate.
- State administration of programs could work if the correct state agency is the administrator and funding is not diverted to state program maintenance (overhead costs).
- Insurance companies should contribute to the fund from flood insurance premiums.
- Locals who benefit from protection should pay more into the fund. There is a fairness issue in expecting all taxpayers to pay into a cost-share arrangement.
- FEMA mitigation grants could be looked at as a template as they have a minimum level of funding for each state and then a blind competition is held to provide additional funding to where need is the greatest.
- The fund needs to have a built-in mechanism to ensure poor operations and maintenance of levees is not rewarded with financing.
- In addition to grants, the fund should also offer loans and bond guarantees.
- There may be opportunities in leveraging existing federal and state funding programs.
- Small communities consistently have difficulty meeting cost-share requirements.
- The fund needs to emphasize the importance non-structural solutions.
- The fund should consider different cost-share arrangements than the standard 65-35.
- Local contributions to a fund should remain local.
- Concern was raised that only large; high-impact communities will receive funding.

## **VII. Wrap-up**

Mr. Halpin thanked participants for providing comments to help improve the development of a NLSP. He acknowledged the many issues associated with the inclusion of canal structures in recommendations for a program, thanked participants for their input, and noted that the NCLS understands the issues and will take all comments under advisement.

Mr. Halpin noted that the comments captured at each stakeholder meeting will be provided to Congress and the Administration, regardless of whether or not the NCLS supports or agrees with the comments.

NCLS members also are working to define the costs and benefits of a NLSP, considering refinements of the recommendations, and building smart implementation steps around the recommendations.

For more information, or to sign up for the electronic mailing list for updates from the NCLS, please visit, [www.leveesafety.org](http://www.leveesafety.org).

## Appendix A: Boise Idaho Regional Stakeholder Workshop Attendees

Fred Abt, Idaho Bureau of Homeland Security	Charles Ifft, USACE Seattle District
John Anderson, Nampa & Meridian Irrigation District	David Jackson, Idaho Bureau of Homeland Security
James Ashley, Payette County Road/Bridge	Merle Jackson, Columbia County Levee Roundtable
Andy Berg, City of Sioux Falls, SD	Dan Jonasson, City of Minot, ND
Ellen Berggren, U.S. Army Corps of Engineers	Mike Kasberger, Ochoco Irrigation District
Tom Berkland, City of Sioux Falls, SD	Jim Keith, US Bureau of Reclamation
Herb Bessey, U.S. Army Corps of Engineers	Mike Knight, MID
Lloyd Brown	Tom Knutson, Loup Basin Reclamation District Farwell Irrigation District
Neal Capps, Gem County Road & Bridge Department	Kenneth Koebberling, Walla Walla District
Ray Carino, Ada County EMA	Greg Lanning, City of Pocatello, ID
Daren Coon, Nampa & Meridian Irrigation District	Bob Larchick, Salt River Project
Mark Davis, Payette County	Roy Maxwell, Black Canyon Irrigation District
Paul Deveau, Boise Project Board of Control	Ryan McDaniel, Idaho Department of Water Resources, Resource Protection Bureau
Mark Dietrich, ID Department of Environmental Quality	Bill McDonald
Brian Drake, CH2M HILL	Mary McGown, Idaho Dept of Water Resources
Joyce Dunning, U.S. Army Corps of Engineers Lucky Peak Lake	Dave Meldrum, Parametrix
Eric Dursteler, Sunrise Engineering	Larry Mires, St. Mary Rehabilitation Working Group
Gary Esslinger, Elephant Butte Irrigation District	Michael Murray, HDR Inc.
Bruce Evans, City of Emmett, ID	Thomas Myrum, Washington State Water Resources Assoc
Darvin Fales, Quincy-Columbia Basin Irrigation District	Dave O'Day, O'Day Consulting Engineering
John Falk, IDWR Dam Safety	Tim Page, Boise Project Board of Control
Robert Feeley, ID Boise Homeland Security	Liz Paul, Idaho Rivers United
Sally Ferguson, Student Conservation Association	Kris Polly, Water Strategies LLC
Dennis Galinato, Murray, Smith & Associates, Inc.	Brian Sauer, US Bureau of Reclamation, Snake River Office
April Garnder, Boise Project Board of Control	Norm Semanko, Idaho Water Users Association
Ron Gearhart, City of Emmett, ID	Dave Shaw, Idaho Water Users Association
Venetia Gempler, US Bureau of Reclamation	Craig Simpson
Craig George, Columbia County Levee Roundtable (WA)	Norm Suenkel, Benewah County

Bill Gray, US Bureau of Reclamation	Steve Sweet, Boise River Flood Control District #10 & District #11
Jerry Gregg, US Bureau of Reclamation	Bill Thompson, Minidoka Irrigation District
Walter Greggs, USBR Ephreta Field Office	Jen Thornborrow, Garden City
Brad Hawkins-Clark, Gem County / City of Emmett, ID	Jim Trull, Sunnyside Valley Irrigation District
Karl Hays, North Side Canal Company and Jerome County, ID	Phil Tschida, City of Horseshoe Bend, ID
Gail Heath, Idaho National Laboratory	Lee Vandeberg, City of Caldwell
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Mike Homza, GeoEngineers, Inc	Michael Williams, City of Eagle, ID
Sam Hopkins-Hubbard, Milton Freewater Water Control District, OR	Molly Wood, U.S. Geological Survey
Keith Hyde, U.S. Army Corps of Engineers Lucky Peak Lake	

### **Members of the National Committee on Levee Safety**

Eric Halpin, NCLS Vice Chair, USACE	Terry Zien, NCLS (support)
Paul Peri, State Agency Representative	Linda Manning, Council Oak (support)
Bob Turner, State Representative	Liz Rettenmaier, Council Oak (support)
Dusty Williams, Local/Regional Representative	Nick Brubaker, Council Oak (support)
Carol Sanders, NCLS (support)	

## Appendix B: Breakout Group Discussion Summaries

The discussions held at the breakout tables served as an opportunity to answer participants' questions, clarify recommendations for a NLSP, and solicited feedback from participants on the recommendations. These ideas, and others received during other regional stakeholder workshops and interactions across the country will be used to inform the NCLS as they shape their implementation strategy for establishing a NLSP.

### Shared Risk / Shared Responsibility: Risk-based flood insurance and liability concerns

- One of the common themes is that the responsibility for ensuring safety is a shared responsibility; each of us have a part to play – federal, state, local governments, and even the individual.
- One recommendation closely related to this is that flood insurance be required by those living behind levees to address some of the residual risk. Under this risk-based system, levees that were designed and maintained for a 0.2% chance event would be lower than a 1% level of protection. Similarly, those with a 2% level of protection would also be provided flood insurance with proportionally higher premiums.
- The NFIP program protects homeowners and reduces governmental disaster assistance expenditures. However, it is not entirely clear how risk is shared among those who benefit from levee safety improvements and those who bear the costs of improving the levee. Are there a funding mechanism / taxing authority to reduce that risk and reduce those premiums?
- Shouldn't the people that benefit from increased safety (improvements on the levee) pay for it?
- North Dakota has created conservancy districts; it doesn't matter where you live in the district, you pay a tax, and it pays for levees, canals, and flood control. There isn't that same mechanism for taxing authority in Idaho.
- The canals were constructed first, followed by the development. Rather than the canal owner being responsible for the increased risk, shouldn't the homeowner / city be responsible for that?
- Risk was not included as part of the property value from the developer so individuals bought in without any understanding of the need to pay for risk reduction.
- If you're living below a canal bank, you are often within that canal district, and the district could use assessments on that population to subsidize the cost of maintaining that canal so that it's not just folks far away that benefit.
- FEMA is initiating a flood map modernization effort known as RiskMAP, and I have been advocating that they map canals as a SFHA so that people in the community share the responsibility. There are other mechanisms through NFIP to encourage flood insurance; it shouldn't necessarily integrate canals in the NLSP.
- There could be extra points in the CRS for communities that designate SFHAs and encourage insurance in those areas. I think FEMA could address some of this through the NFIP without including canals in the NLSP.
- People in neighborhoods used to be part of irrigation districts and now they aren't. These people were eventually removed from the irrigation districts because they were not receiving water from the district anymore and they petitioned to get out. Those that left may represent a missed opportunity to have those people assist in subsidizing the costs associated with O&M; for those districts, if people realize they are paying in, they might start participating more in the district business.
- Irrigation districts have a service area, like any other utility district and they could collect an assessment for maintenance.

- Rights of way are a prominent issue; you get a temporary easement to build a canal, but the permanent easement is usually only toe to toe.
- I work for an irrigation district here in the Valley; we can bring people back into the district. We have had a hand in land use change for years. We have had a lot of growth over the last 35 years. We are very experienced and we take a lot of care with what we do. We don't get much help (a little from USBR), and we don't want it now. People told me they are paying \$1500/year because they are in a floodplain next to a drainage canal that will never flood.
- I would agree with risk-based fees for flood insurance. But I'm concerned about the transfer of risk. I am uphill from the ditch and don't get a drop of water from the NY canal; I don't want to pay more to improve those structures because I'm not benefitting from that reduced risk.
- You can get flooded from any number of sources. You could live next to the canal and get flooded from nothing having to do with the canal. It's one way of drawing down risk. Tying flood insurance to one specific thing can backfire in communicating risk. Communities should encourage individuals to be covered; special flood hazard areas should be mapped.
- Rather than being required, it should be strongly encouraged.
- For higher value properties, which tend to be located along the water, the value of flood insurance doesn't cover the entire value of the home.
- Flooding occurs everywhere; about one-third of flood claims come from areas outside SFHAs.
- Reclamation's canals in urban areas can be very high profile and we treat it that way until we get to a solution. My concern when I look at the classification system; if you include canals, this would be a low hazard. If you roll western canals in with levees, we would never be able to compete with levees for federal dollars because we are always going to be low hazard based on risk and population / loss of life. It stacks the deck against canals for federal funding. What definitely should not happen is that funding that exists now for USBR is diverted to this – and then canals would never qualify.
- Reclamation operates a little differently; we take our canals and transfer full maintenance and repair (M&R) to the operating entity. They have to come up with all the funds to maintain, operate, and replace the canals. They operate a lot differently than a lot of other agencies as far as how they are handled.
- Technology has been changing. The floodplain insurance program should model systems with and without the levees. Those folks that are in protected should be responsible for contributing funds to a national flood insurance program and a special operations and maintenance fund for levees that protect them.
- The flood district doesn't have any levees along the Boise River, but there are privately held and maintained levees. People in the district benefit from it – until it floods - but can't improve on it.
- The money that is generated from those policies should be directed to the people that maintain that levee.
- A lot of state laws might preclude communities from having the authority to offer flood insurance and changes to this may have to be resolved through federal legislation (new authorities).
- If people really started paying insurance that reflected their real risk, they would be aghast. The current system is extremely subsidized.
- There are possibilities for synergy at the state level, not just with dam safety, but with floodplain administrators. The flood insurance program is creating a whole new bureaucracy.
- There is some sort of cover needed even for inspections; we are seeing this with canals and levees. One canal failure can wipe out a small company.

- You have to limit the liability of the person that is going to put his stamp on that levee, if you don't, it will cost so much to get it certified that the district would be better off to not have it certified and pay for the insurance itself. We can't get people to even talk to us about certification services.
- In many cases, the protected areas behind a levee are the same people that are taxed for O&M for the levee, and now you are asking those same people to pay for flood insurance as well. In general, that is the most valuable properties. Your proposal to require flood insurance is like a double whammy; would much rather see those funds go to maintenance of that levee.
- If the money generated stayed within the district or the community for O&M of the levee, then most people would agree with that. The money goes back to FEMA or someplace else to get spent elsewhere.
- Apply pre-disaster mitigation grants to storm walls, levees, levee maintenance. If FEMA is going to be administering NFIP behind non-accredited levees, they should also be providing pre-disaster mitigation grants.
- We have levees in our area that are authorized by International Boundary and Water Commission (IBWC). They are now found deficient and have been de-accredited. They now have to pay insurance for a levee that has been there for ages. Now, they are pressuring the IBWC to repair the levee and get it certified so they don't have to pay insurance anymore.
- We are very concerned because we don't want our tort claims protection taken away from us. If a canal fails, we aren't liable for damages due.
- In our area, we have drain ditches 30 feet deep. The flooding doesn't come from breaching; it comes from overtopping because floodwater gets into the ditch.
- We irrigate 154,000 acres and there isn't a single floodplain in the area. I can't charge anybody for flood insurance. Who pays when a canal breaks? We carry insurance to cover damages. Ratepayers don't necessarily pay for it. If you flood out some homes, will your insurance cover their damage?
- As a flood insurance payer, I do not think that you are going to get your biggest bang for the buck in conveying risk in requiring insurance. They buy insurance and think their risk is less. You have to convey risk, and I completely agree you should do that, but flood insurance isn't the best way.
- The way that FEMA mass blanked the nation, when we hear shared risk; we hear that we are paying flood insurance to cover New Orleans and the Mississippi river. It gives FEMA a bad look and a bad name. We feel like we are paying for those areas that are constantly flooding – and that's not a problem for us.
- How big do you make those levees – the bigger and safer you build them, the bigger the consequence is when they do fail?
- When do people are told they are unable to be insured because the risk of flooding is deemed too high– that is what gets their attention.
- The liability to planning and zoning and the city council and commissioner for allowing development in hazard zones.
- I got my car insurance premium the other day. I pay insurance, and there is an uninsured motorist charge. My fear with any national program is that people who are responsible and take care of their property, their levees, will end up paying for those that don't.
- Risk is not just associated with a particular disaster event; It's a continuum of risk. We need to show that there is a continuum of risk from disaster to recovery to planning to mitigation to insurance. Insurance is only capturing a fraction of the full risk continuum.

- We have many communities where levees are in place, providing some level of protection, and built up behind them.
- You need to go to the local level. You need to start with the people in the room. Right now we have a coalition of cities, counties, small towns, irrigation districts, soil and water districts, and flood control districts, trying to figure out how we can regionalize storm-water issues. The city doesn't want to share its flood control money with the county. I pay a flood commissioner for some protection, and he doesn't have enough money to share with the soil and water districts that have even less money. We are sharing local resources and fixing the most important problem first, and then we'll go to the next one.
- You have to deal with it locally and move it up, not top down.
- If you have a house at the end of the runway, are you surprised that a plane hit it? When do you say enough is enough and it's a bad idea to build here? You need to address repetitive loss.
- Relying on insurance or liability concern isn't a plan. That's what you do when a plan fails. In advance of that failure, you need good planning. There is an inherent risk no matter where you are; you have to plan for the outcomes.
- Flexibility with flood insurance – are there benefits to having group policies held by the communities or levee districts that can then charge it back to their district? Or, what would provide incentives for the levee owner to maintain their levee and ensure that those insurance rates remain low.
- Canal companies today aren't paying for the policies that would protect the inundation area.
- As a canal owner, I need to be protected against the tort claim if my canal harms somebody. If they move there, they need to buy the insurance to cover their risk. That shouldn't be my responsibility.
- In flood control districts, the majority carry liability insurance for personal protection. But there is no insurance to pay back their constituents.
- In our area, in 1970 the water control district was maintaining \$26,000 per year to maintain the levee. Today we receive \$21,000 per year. We could increase taxes, but that would take money away from somewhere else. If we do insurance within a watershed, that would satisfy our area, and that fund builds up and reduces our rates.
- When the big disaster comes, will the federal government come in and bail out what you can't do?
- You can't just to buy NFIP insurance from anybody. Your community needs to be in the NFIP, which means you will take some risk mitigation measures. So if your community declines to do that, you are out.
- If a community leaves the NFIP and the homeowner cannot purchase insurance, that individual should be able to make the case that that constitutes a regulatory taking (because the community took away value from the property given the property wasn't able to be insured).
- If you have a lot of repetitive losses, rates go up (that happens now because CRS ratings go down with repetitive losses).
- From a board's position, if we go and ask for more funding – telling them that doing that reduces their flood insurance costs – that could make the case.
- The premiums should be risk based.
- Affordability is an issue. New rates on communities will need to be phased in; it will be a serious issue. There has to be a social safety net for those. The best solution would be to move those people out of the floodplain. If the flood insurance program money was kept locally, that money could be spent to buy people out of the floodplain. You can still do that through the FEMA mitigation funds – but usually only after repetitive losses.

- I know of numerous private sector architecture and engineering firms that would gladly conduct levee certifications. The problem isn't with the supply; it's with the cost. They won't put their stamp on it unless they actually believe it will hold – and they need a lot of tests to do that. It's expensive. Communities say they can't find one; they can, they just can't afford it.
- The word "certify" just needs to be moved away from.
- If I build a two-story building in downtown Boise, it is unlikely to fail. If I build a levee, it will overtop. It may not breach, but it will fail. You have to be very clear to what you are certifying. If you say it's safe because it meets a 1% level, you're in trouble, because that will overtop.
- NRCS criterion is 100-year. We have a lot of levees, and we just don't have the room to make them any bigger. The question is, do you leave what's there, or breach it, and build something upstream that may not be in the best interests of the environmental community. There is a big liability question, but I don't know what the answer is. It's all economic based. Even if you had the money, could you build it to a standard that an engineer would stamp?
- You don't know how that levee is built, even if you have a record. You often don't know what's in the levee; don't have a good performance history. There may be unknown seepage issues. It's hard to figure out what the real failure risk is. It's hard for an engineer to look at something built 50 years ago and I feel comfortable saying there is a one in 'x' chance of it failing; and if you do say you know what that number is, you're probably lying. I don't know how you get around those unknowns.
- One of the things I hear that scares me is saying look at funding to the states and the states will administer that. I see the federal government, whether the USACE or environmental agencies wanting to avoid liability, push it toward the states. States push it to the districts. The USACE will tell you your levee is out of the program, but won't put their stamp on it because they are avoiding the liability, so somebody else needs to pay for that. Liability is driving everything, from us having to remove all the vegetation to us not being able to remove a single tree.
- Everybody is trying to get out of liability.
- Since there are no national standards, would it be difficult for engineers to stand up and say in court they did their due diligence? Would national standards provide some cover as far as liability is concerned?
- We can have a standard that the slope should be 1.2; but if that fails, it shouldn't have been 1.2! If you have a standard that you're going to do 10 explorations and then make your best judgment, that might work.
- As a canal district, it is difficult to gain support for the fact that I charge a fee to cover O&M costs to those who are not my 'users'. I am in a district that has no mapped floodplains; nobody will want to have insurance. The insurance my district carries will cover small failures. If there is a significant break in an urban area, it is possible that my insurance won't cover it, but the risk of that is very small.
- Flood insurance becomes an issue of education. If there is a problem, let's fix the problem. More of the effort should go into building awareness – if you know there is a problem, flood insurance shouldn't be the only mitigation approach; put the money into education and improving the levee.
- What are the elements of risk that are being used to develop the premiums – level of protection, condition, and consequence? That is a good approach, but there is a lot of science and analysis to get to that could be pretty expensive – is the benefit worth that cost?
- FEMA has a good method for determining flood areas, but it's not risk based, doesn't include probably risk / risk failure modes.

- Communicating risk via insurance premiums is one viable way of communicating risk. There are other ways too, such as outreach programs.
- I was curious about liability. As an example, people who live behind a levee and are unaware of it may be victims of flooding at some point and will look to seek remedy from damages. Such a scenario would be made worse if the local levee owner/entity stated to the landowners in the floodplain that the levee was in great condition and later the levee breaches following a flood event. USACE will repair the levee (provided it is eligible), but they won't pay for the damage at Wal-Mart.
- In our community, I think there would be a lot more support for addressing the risk rather than paying for insurance for something that is such low risk.
- Start with the highest risk categories first. Phase it in, starting with the highest risk areas.

### **National Inventory of Levees & National Levee Safety Standards**

- Reclamation does not have database for all of canals, only for a portion.
- Risk (consequences) must be part of definition/description of levees.
- Where do you measure road gates, head gates, etc? We didn't have a canal expert on the NCLS and we need to look at the definition, possibly use the Bureau Design Standard 3. These are well defined and established.
- As you make choices about developing canals, do it right the first time. There are population changes, increased development, etc. There is a need to communicate risk and a need for recommendations on standards and other activities that increase risk.
- Who pays for it is a big question. The owner pays for hazard creep, is that right?
- What is the process for developing standards? When? Is ASCE involved? ICC has contacts with ASCE, SAME, others as well as locals.
- With the New York Canal we are struggling with encroachments.
- Based on your hazard category the canals won't compete very well for funding.
- If general public knew conditions of canals they would go to the Governor.
- Inspection is a liability issue. There is a need to establish reasonable standards.
- If we want to make any progress, we must have standards and they must be met. How do we address the findings from the levee inspections? Should people below be assessed the money to fix problems?
- Include USGS for monitoring-they can bring good science to the table.
- Is there some kind of process that differentiates upper and lower part of the system that acknowledges different risks?
- Include qualitative data in the National Levee Database.
- Flooding from canals has different characteristics than that from levees, different velocity, etc.
- Align the level of effort so that the urbanized areas are first.
- People who work in consequence areas should help define the problem.

### **Environmental Protection and Levee Safety**

- What is environmental protection? Endangered Species? Superfund sites? Habitats?
- There is a major problem at the federal level with direction on levee vegetation. Fish and Game wants vegetation to remain in order to protect habitats of any endangered species but USACE wants the levees cleared of vegetation for structural reasons. How is the local operator supposed to make both parties happy?

- In Oregon, FWS told the operator if they complied with direction from USACE then FWS would encourage lawsuits against the operator for ESA violations.
- A well maintained levee or canal should not be a habitat for anything environmental – if they are maintained properly then they shouldn't be a habitat. If public safety is the overriding issue for levees then that should trump environmental issues.
- Incentives/disincentives should be employed: if you offer a program for states and then the ratio of sticks/carrots changes, then what if states opt out then communities opt out what are the ramifications going to be? If you try and do it through NFIP then there are going to be serious ramifications that will be overkill.
- Levees are an environmental disaster, they are all in environmentally sensitive areas, the rivers themselves are integral to the community, and the issue of healthy rivers has been ignored. Environmental groups really need to be at the table, and need to work at the local level.
- Create a process whereby a levee can be expedited for accreditation.
- The term “streamlined” process is often perceived by environmental groups as getting around environmental laws.
- It is important to get people involved early in the process and for them to have the support of their respective Headquarters.
- The economic situation is hugely important but meanwhile the levee system is in genuine need of a repair and people remain at risk while the fight carries on. There is a need to look for places to adjust and compromise.
- Boise has a bunch of parks, rafting, and other recreational activities that seems like a good source of financing rather than burdening the taxpayer.
- Money should be used to build wetlands that can help with flood risk reduction.
- If this becomes a standard will it end up just be another box to check? There needs to be flexibility, a broad structure.
- Remove levees when: 1) more destruction of human habitat will occur by retaining the levee, 2) greater economic damage will occur by retaining the levee as opposed to removal.
- USACE built our levees 40 years ago, but the city is now required to remove all vegetation down to the low watermark and beyond (even though it is only a 3 foot levee), and the land-side is actually the same level as levee.
- If both agencies are right, then an independent science review should be conducted to determine the path forward.
- The Missouri River Recovery Implementation Committee should be used as an example of what works. The MRRIC aims to recover the river to its natural state. It is composed of 8 states, 11 federal agencies, 28 tribes, and 28 other stakeholders. All decisions are made by consensus. Those who vote no must propose alternative discussion topics that might solve the issue. The group has achieved 36 substantive decisions in the last 2 years.
- Columbia county levee roundtable is another example of a well-functioning group. The 32 representatives are from federal, state, local, and Non-governmental organization (NGO) communities.
- The Wyoming Coordinated Resource Management Council brings all federal entities together at same table to solve problems.
- We've identified areas of flood maps to decide how we can route water (e.g. parks)
- There is a need to also recognize the larger floodplain issues, it's not just levees.
- The solutions are at the local level, it is addressing regional issues through all of those regional locals' entities that get to workable solutions.
- Having all of the stakeholders at the table is critical to get common support rather than dissent.

- Getting the states involved is going to be a mistake. Adding too many additional organizations to deal with these issues will create more problems.
- States would likely fold a program into existing state agencies.
- Standards need to be thought of more as a baseline that you then regionalize.
- Needs to be more flexibility for recognizing local conditions, especially in regards to the endangered species act.
- There is no liability on the part of protestors – if a group opposes increasing risk they should be forced into buying into it somehow.
- A solution needs to start with a long-term vision, how do you develop the range of alternatives and negotiate trade-offs?
- Mitigation should be based on a system-wide approach.

### **Create a National Levee Rehabilitation, Improvement, and Flood Mitigation Fund**

- In 2006, Congress authorized a loan guarantee program for irrigation structure / districts – but nothing was appropriated.
- No funds are available, even loans, for infrastructure. This is just back-up for loans and bonds, not a direct contribution, and even that is not available.
- Must be in President’s budget, but would that reduce funding for other entities? There is concern about a “zero sum game.”
- This needs to be viewed as preventative health care – need to convince congress to appropriate, make the case for cost savings, the funding must come from what would have been used for recovery.
- Levee Districts can originate user fees.
- Aligning federal agencies is critical with respect to funding and authority.
- There should be impact fees for new development.
- Have insurance companies kick in something from flood insurance premiums; also the loaning institutions.
- Standards for O&M would help reduce future losses.
- Levee Districts already taxing; many won’t have the money for increases in costs.
- State control of program won’t work for local entities.
- In cost share structure, is it fair for taxpayers to foot 65% of the cost, when the benefits are local? Locals who benefit should pay more; they have a vested interest. It is not a good idea to have States administer the program. Rather, you should have federal agencies work directly with local entities, Set up local cooperative program, and don’t allow states to absorb any of the funds
- FEMA mitigation grants provide minimum funded amount for each state levels the playing field; additional funding based on blind competition
- Need to make sure bad levee behavior isn’t rewarded for lack of O&M
- Consider loan / bond guarantees, not just grants. Government would only be on the hook for defaults.
- To make this program work, it is important to recognize hazards, Evaluate risk, evaluate and local planning. Related questions may include: (1) What flood level is planned for? (2) Is existing infrastructure considered a system?
- State could be the best administrator of the program if the correct state agency was given the task and the state didn’t skim too much for overhead

- Some success has been achieved when smaller entities join together to represent a larger group of people
- Leverage existing federal / state programs.
- Join together different funds, if possible.
- Increase funding sources by expanding NFIP.
- Small communities can't meet cost share match.
- Those who benefit in the floodplain should pay.
- FEMA maps are not a good tool to define risk.
- Local flooding has regional impacts so the larger impacted area should pay.
- Use the "Wal-Mart" model – economies of scale, cooperative efforts in purchasing / acquisition, materials, design work, etc.
- Emphasize nonstructural solutions, good use of the fund, e.g., evacuate flood plain, combine with setback levees, etc.
- Use funds to move / remove encroachments.
- Consider different cost share formulas – 35% cost share likely too high.
- Financing should come from local taxes; insurance payments to remain locally based.
- Use more favorable cost share formula where regional cooperation brings more resources to the table.
- Give credit to regions and communities that bring more to the table.
- Need dedicated funds.
- There is concern that only large, high impact communities will get funding.