Risk Awareness Communication –
A Model for Flood Risk Reduction
Community Outreach
Levee Safety Program

- Levee Safety Program Implementation Guidance provided by HQ USACE in 2007 (Post Hurricane Katrina)
  - Designate Levee Safety Officer (LSO) – John Bertino, Jr., PE
  - Designate Levee Safety Program Manager (LSPM) – Andrew Barry, PE (Acting)
  - Implement Levee Inspection Tool and Levee Inspection Checklist
  - Create District National Levee Database (NLD)

- Subsequent Levee Safety Guidance
  - Vertical Datum (2006)
  - Section 408 Alterations (2008, 33 USC 408 replaces 33 CFR 208.10)
    - Further guidance in July 2014 (EC 1165-2-216)
  - Levee Screening Assessments (2009)
  - System Wide Improvement Framework (2011)

- As new guidance is issued by HQ USACE, levee sponsors will be notified how this new guidance will impact them
System Wide Improvement Framework

• Policy for Development and Implementation of System-Wide Improvement, dated 29 Nov 2011.

• Intended for projects that are “Inactive” in the Rehabilitation Program and ineligible for rehab assistance.

• Now, with the System Wide Improvement Framework (SWIF), there is a process for which projects can stay conditionally active in the Rehabilitation Program, while the sponsor plans and works to correct the deficiencies.

• A SWIF provides committed sponsors the opportunity to restore their levees, over time, back to USACE standards.
System Wide Improvement Framework

1. Existing Condition Assessment
2. Risk Prioritization
3. Resolution Alternative
4. Project Recommendation with Plan and Schedule
5. Interim Risk Reduction Measures (IRRM)
6. System Wide Improvement Framework (SWIF)
History of Salt Creek Levees

- Congress authorized project in 1958
- Current system constructed by USACE 1964-1968
  - Constructed from reshaping spoil banks from earlier channel straightening and new levees from local soils (dispersive clays) in the gaps
  - System owned and operated by LPSNRD
  - Originally design to contain the 100-year flood, but downgraded later to at least 50-year during a FEMA restudy in the 1980s
  - Prevented ~$125M damages
History of Salt Creek Levees

7 Independent Systems
Flood risk reduction with a focus on robustness, resiliency, and redundancy

1. Develop a framework that meets the immediate needs of the LPSNRD and Lincoln to remain eligible in the PL 84-99 program

2. Utilize opportunity to identify long term strategies to address maintenance needs

3. Provide a dynamic plan that can flex with an evolving physical system and regulatory environment
LPSNRD SWIF Planning

Assess

- System Performance
- Interior Drainage
- Animal Activity
- Vegetation

Compile

- Projects
- Costs/Budgeting
- Stakeholder Engagement
- Prioritize

SWIF Plan

- Schedule
- Interim Risk Reduction Measures
- Stakeholder & Public Engagement

Creek Channel

- Geotechnical
- Encroachments
Modifying Consequences

Risk = f(Hazard, Performance, Consequences)

What are the hazards and how likely are they to occur?

How will the infrastructure perform in the face of these hazards?

Who and what are in harms way? How susceptible to harm are they? How much harm is caused?

Source: USACE
Non-Structural Risk Reduction

Emergency Preparedness Planning
- Risk Awareness Communication Plan
- Flood Warning and Action Triggers
- Emergency Action Plans
- Evacuation Planning
- Training and Exercise

Shared Flood Risk Management: Buying Down Risk

All stakeholders contribute to reducing risk!
Risk Awareness Activities

• Provide information of flood risk to local officials for communicating to the public
• Involve the public as a partner in communicating risk associated to the flood risk management project (e.g., levees) and other risk awareness factors (http://saltcreeklevee.jeo.com/)
• Plan carefully and evaluate efforts relative to managing risk including identification of vulnerable areas and activities to mitigate the risk
• Listen to the public’s specific concern regarding the risk
• Coordinate and collaborate with other credible sources
• Meet the needs of the media
Risk Awareness Communication Plan: Message Timing

• **Ideal:** Communicate to Mitigate

• **Essential Component:** Communicate to Prepare

• **Critical Component:** Communicate During Response
Communication Environment

- The imminent threat (hazard and outrage are perceived as low)
- Denial and the blame game
- Overwhelming task and limited resources
Risk Communication Definition

**Risk communication:** a science-based approach for communicating effectively in:
- High concern and low trust situations
- Sensitive or controversial situations

Source: Dr. Covello, Director Center for Risk Communication
Risk communication, further defined

- Any purposeful exchange of information about risk or perceptions about risk
- Any public or private communication that informs individuals about the existence, nature, form, severity, or acceptability of risk
- The probability of losing something of value, such as health, safety, job security, self-esteem, wealth, natural resources or community

Source: Dr. Covello, Director Center for Risk Communication
Risk Communication - Another Perspective

AIHA presents

Dr. Peter Sandman
Risk Communication Principles

• Practical concepts of risk communication
  – Perception = Reality
  – Communication = Skill
  – Goal = Trust + Credibility

Source: Dr. Covello, Director Center for Risk Communication
Risk Communication Principles

• Risk communication goals
  – Create a communications environment based on trust and credibility
  – Produce an informed audience that is involved, interested, reasonable, thoughtful, solution-oriented, and collaborative
  – Build confidence in your organization’s professionalism, commitment and expertise

Source: Dr. Covello, Director Center for Risk Communication
Risk Communication Principles

• Practical concepts of risk communication
  – Disciplined and sustained use of risk communication principles and skills
  – Consistent application among all stakeholders and in all formats
    General public  Elected officials  News media
    Presentations  Phone calls  Written correspondence
  – Incorporate situational and cultural awareness

Source: Dr. Covello, Director Center for Risk Communication
# Risk Communication Principles

## Risk Communication Summary

<table>
<thead>
<tr>
<th>Theory</th>
<th>Effect</th>
<th>Solution</th>
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</thead>
<tbody>
<tr>
<td>Mental noise</td>
<td>Blocks communication</td>
<td>Use clear, concise messages and active listening</td>
</tr>
<tr>
<td>Trust determination</td>
<td>Enhances or detracts from message</td>
<td>Show that you care</td>
</tr>
<tr>
<td>Risk (threat) perception</td>
<td>Frustration and outrage</td>
<td>Recognize and respond to RP factors</td>
</tr>
<tr>
<td>Negative dominance</td>
<td>Distorts communication</td>
<td>Develop positive messages</td>
</tr>
</tbody>
</table>

Source: Dr. Covello, Director Center for Risk Communication
Risk Communication Principles

Seven Cardinal Rules of Risk Communication

1. Accept and involve the public as a legitimate partner
2. Plan carefully and evaluate efforts
3. Listen to the public’s specific concerns
4. Be honest, frank, and open
5. Coordinate and collaborate with other credible sources
6. Meet the needs of the media
7. Speak clearly and with compassion

Source: Dr. Covello, Director Center for Risk Communication
Tools for Success

- Proactive
- Team work
- Preparation
Team Work

GLENN

1. Carin / Emp
2. Org Commit

We have local risks in Lincoln. Part of our mission is to focus on:

1. We have a history of flooding and we have taken steps to reduce this risk.
2. Despite efforts in building levees and structures, we have seen some risk remain.

Developing a Plan to Reduce Risk:

USACE has updated its models to reflect current conditions. We need to improve our levee system to address the residual risk.

Future Action:

Body Control: Please visit the displays and visit with our project team to learn more about the flood risks we face and what we can do about those risks.

For Information, Website: Attend our meetings.
Results

- 35 federal, state, municipal government and private sector utilities reps attend interagency meetings
- Public Open House well attended 2 television news stations covered the meeting
- Additional outreach with other key stakeholders affected by Levee System… 85 contractors, 52 engineering consultants, 40 public works employees

• [http://saltcreeklevee.jeo.com](http://saltcreeklevee.jeo.com)