Urban Flood Damage Reduction And Channel Restoration Workshop

Breakout Session

Las Vegas Tropicana

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Breakout Session Members

Districts/Divisions/Guests

Jerry Webb, Facilitator	Huntington District
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Bill Espey	Espey Consultants, Inc.
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Introduction

- The present group is a limited representation of the inland flood damage reduction community - therefore, more widespread dissemination and input is required before this list can be considered to represent Corps-wide needs and priorities
- The results presented here derive from this brainstorming session and the earlier LAN brainstorming

Topic Categories

1. H&H Modeling
2. Geospatial/Information Management
3. Sediment
4. Channel Restoration
5. Economic
6. Policy from a Federal perspective

Voting Procedure

- Consider all issues raised with the understanding that some may belong elsewhere
- Votes by all but ERDC/HEC/HQ personnel
- No opinion = no vote

H&H Modeling Issues

1. Improving Urban Flood Frequency estimates (resampling) (6-3-0)
2. Provide Guidance Manning coefficients and storage considerations for urban overbank areas (4-5-0)
3. Improving water surface profile computations for steep boulder streams (2-5-0)
4. Provide Software connection between FLO2D and Flood Damage Analysis (2-6-0)
5. Improve visualization and quantification of Sheet flow and street ponding (5-3-0)
6. Integrate Storm Water Mgmt and surface run-off modeling capabilities into HMS/RAS (6-2-0)

H&H Modeling Issues

7. Better pump simulation curves in models (3-4-0)
8. Better pump routines for small areas w/ little sump (2-3-1)
9. Improved methods for solving pocket interior flooding issues (1-6-1)
10. Integrate snow-melt model into HMS with applicability to all terrain (3-2-0)
11. Improved Remote Sensing capabilities for snow forecasting (SWE) and rainfall (include hail and wind corrections) (1-6-0)
12. Need more stable HMS model – improved trouble shooting – error messaging (5-4-0)

H&H Modeling Issues

13. Better analytical tools for stage frequency curve development (0-8-0)
14. Tools for stage frequency curve development under ice conditions (0-4-2)
15. Holistic approach to PMF determination for areas with orographic effects (1-2-4)
16. Utility to improve efficiency to georeference existing x-section surveys (3-5-0)
17. Model output formatted to FEMA requirements/FEMA acceptance of existing format (8-1-0)
18. Tools and guidance for extrapolation beyond 100 yr flood for Risk Analysis (9-0-0)

H&H Modeling Issues

19. Better tools for predicting ice jam locations and frequency (2-2-1)
20. Identify low-cost construction methods for increased capacity of existing underground conduits (3-4-2)
21. Ice jam mitigation guidance – how to apply measures (2-2-0)
22. Improve design and implementation guidance of Flood warning systems (6-3-0)
23. Incorporate Water Quality features in Flood Control design (detention basins, etc) (3-4-1)
24. Coincidental frequency tools for interior drainage and storm surge (9-0-0)

Geospatial/Info Mgmt Issues

1. Better coordination of public information dissemination (3-3-3)
2. Life-cycle consistent database concept (1-5-2)
3. Corporate multi-discipline spatial datasets for model input (2-6-1)
4. Rapid and cost-efficient processes for converting paper documents to digital (2-3-4)
5. Improve archival data dissemination capability (3-4-2)
6. Better tools for explaining Risk Analysis to general public (6-1-1)
7. Innovative methods for Technology Transfer (3-6-0)

Geospatial/Info Mgmt Issues

8. Tools to simplify Projections/Datums conversion (5-3-0)
9. Software system compatibility (Intergraph/ESRI) (5-4-0)
10. National contract for LIDAR, IFSAR, and other survey acquisition and analysis – consider regional/local needs (5-2-0)

Sediment Issues

1. Debris flows – frequency and quantity tools (2-6-1)
2. Economical/reliable method of removing sand blockage at stream mouths (2-5-1)
3. Better sediment transport/geomorphic assessment tools for planning and environmental issues (0-8-0)
4. Update and Improve sediment transport tools for channel stability/maintenance (include silt/clay) (6-3-0)
5. Sediment data collection procedures for full-range of flows (2-3-4)
6. Establish National (interagency) sediment database (0-6-2)

Sediment Issues

7. Develop flood control maintenance techniques for sediment removal in channels (3-5-0)
8. Tools for Sediment transport through reservoirs to improve downstream channel conditions (3-5-0)
9. Establish tools for determining sediment removal based on water quality, O&M, and risk aspects (2-6-1)
10. Better tools for unsteady flow 2D for movable bed streams for field level use (3-4-0)

Channel Restoration Issues

1. Incorporate environmental features in alternative flood control channel cross-sections (3-5-1)
2. N-values for environmental plantings (3-4-2)
3. Instream structure design guidance for environmental restoration projects (6-3-0)
4. Environmental restoration guidance relative to biological goals and engineering reality (4-4-0)
5. Environmental restoration guidance for concrete channels (4-5-0)
6. Develop monitoring and evaluation program (6-3-0)

Economic Issues

1. Rapid Economic Damage Assessment tool for Recon and pre-feasibility using available data (9-0-0)
2. Better tools for projecting future project economic impact (1-3-5)
3. Expand use of Risk Analysis (6-3-0)
4. Damage functions for debris and landslide (0-8-0)
5. Economic evaluation of water quality benefits (2-4-1)
6. Methods for quantifying socio-psychological benefits (0-0-9)
7. Ice jam mitigation guidance - how to claim economic benefit (1-5-0)
8. Tools to quantify Environmental benefits (2-6-1)

POLICY Issues

1. Increased Funding for E&D&Construction (5-4-0)
2. Reduce time-line for study thru construction (9-0-0)
3. LERDS cost-share needs flexibility/up-front credit (0-6-0)
4. Incorporate Water Quality benefits into projects (2-6-1)
5. Incorporate Loss of Life (3-2-3)
6. Locals need better understanding of types of funding available and requirements (2-5-1)

POLICY Issues

7. Recognize (in policy) that every area is unique (4-3-1)
8. “800 CFS” rule needs to be revisited (6-2-0)
9. Collateral damage outside project limits (1-8-0)
10. Cost-share policy – ability to pay issues for small/poor communities (5-4-0)
11. Economic justification for economically depressed areas (5-4-0)
12. More Training, workshops and cross-training (1-4-3)
13. Coordinate requirements for FEMA and EPA acceptance (2-6-0)