Flood Response Part II:

Lessons Learned After Three Federal Disasters

Mike "Storm" Warner Joseph Hmieleski Jeff Laramy Glenn Westman



Gurnee, Illinois June 2008

- Knatt

Lake Barrington, Illinois August 2007

Zion, Illinois June 2009 Flash Flooding





Large number of homes reported flooding

SMC Flood Response Manual

Revised April 23, 2009

Lake County Stormwater Management <u>Commission</u> Flood Response Manual



FLOOD RESPONSE MANUAL Adopted April 6, 2006 Revised April 23, 2009

What is it?

An emergency action plan for SMC before, during, and after a significant flood event within Lake County.

Key Components

- (1) "Response Team" with clearly identified responsibilities
- (2) "Threat Alert Level" system
- (3) "Response Plan" for each Threat Alert Level

Where does SMC fit in? Incident Command Structure



SMC Actions: "Situational Awareness"

- *Modes* "Pre-Event", "During Event" & "Post Event"
- Situation Status:
 - Collect and direct calls
 - Document and verify flood stage, crest
 - Crest flood stage forecasting
 - Compile reports of flooding
 - Assist municipal, county, state, federal agencies
 - Share information with appropriate agencies
 - Assist LCEMA and County Board in declaring "Event"
- Damaged Property Assessment Assistance
- Post Event Flood Documentation



Flood Briefing

- Position
- Threat level
- Staffing
- Weather
- Flood status
- Public information
- Field coordination
- After hours coordination

SMC F Aeetir his ag rescri ads d Iornir 1. 2. 3.	Flood Alert Response ng Agenda genda document should be used at the mor ibed by the Flood Response Manual. Meeti debriefing meetings. Initials indicate who le: ng Meeting Agenda: Threat Alert Level Status – OM a. Current Threat Alert Level: (circle) C b. Staff Status Review Weather Forecast Summary – Bob a. Potential for additional rainfall (12, b. Likelihood that Precipitation Will C Current Flood Status – TC a. Fox - Mainstem Trend: ↑, – b. Fox – Chain of Lakes Trend: ↑, –	Position Title: Date: ning and afternoon meeting sessions as ing times are flexible. The Operations Manager ads the task report discussion. Green Yellow Orange Red 24, 48, 72 hours) ause Problems (circle) Low Medium High → , ↓ , Unk. Now:, Pred. Peak:
MC F Neetir his ag rescri ads d Iornir 1. 2. 3.	Flood Alert Response ng Agenda genda document should be used at the mor ibed by the Flood Response Manual. Meeti debriefing meetings. Initials indicate who le: ng Meeting Agenda: Threat Alert Level Status – OM a. Current Threat Alert Level: (circle) C b. Staff Status Review Weather Forecast Summary – Bob a. Potential for additional rainfall (12, b. Likelihood that Precipitation Will C Current Flood Status – TC a. Fox - Mainstem Trend: ↑, – b. Fox – Chain of Lakes Trend: ↑, –	Date: ning and afternoon meeting sessions as ing times are flexible. The Operations Manager ads the task report discussion. Green Yellow Orange Red 24, 48, 72 hours) ause Problems (circle) Low Medium High → , ↓ , Unk. Now:, Pred. Peak:
This ag rescrite ads d Iornir 1. 2. 3.	genda document should be used at the mor ibed by the Flood Response Manual. Meeti debriefing meetings. Initials indicate who let ng Meeting Agenda: Threat Alert Level Status – OM a. Current Threat Alert Level: (circle) C b. Staff Status Review Weather Forecast Summary – Bob a. Potential for additional rainfall (12, b. Likelihood that Precipitation Will C Current Flood Status – TC a. Fox - Mainstem Trend: ^, – b. Fox – Chain of Lakes Trend: ^, –	ning and afternoon meeting sessions as ing times are flexible. The Operations Manager ads the task report discussion. Green Yellow Orange Red 24, 48, 72 hours) ause Problems (circle) Low Medium High → , ↓ , Unk. Now:, Pred. Peak:
fornir 1. 2. 3.	ng Meeting Agenda: Threat Alert Level Status – OM a. Current Threat Alert Level: (circle) C b. Staff Status Review Weather Forecast Summary – Bob a. Potential for additional rainfall (12, b. Likelihood that Precipitation Will C Current Flood Status – TC a. Fox - Mainstem Trend: ^, – b. Fox – Chain of Lakes Trend: ^, –	Green Yellow Orange Red 24, 48, 72 hours) ause Problems (circle) Low Medium High → , ↓ , Unk. Now:, Pred. Peak:
1. 2. 3.	Threat Alert Level Status – OM a. Current Threat Alert Level: (circle) O b. Staff Status Review Weather Forecast Summary – Bob a. Potential for additional rainfall (12, b. Likelihood that Precipitation Will C Current Flood Status – TC a. Fox - Mainstem Trend: ¹ / ₇ , – b. Fox – Chain of Lakes Trend: ¹ / ₇ , –	Green Yellow Orange Red 24, 48, 72 hours) ause Problems (circle) Low Medium High → , ↓ , Unk. Now:, Pred. Peak:
2. 3.	 b. Stati Status Review Weather Forecast Summary – Bob a. Potential for additional rainfall (12, b. Likelihood that Precipitation Will C Current Flood Status – TC a. Fox - Mainstem Trend: ¹/₁, – b. Fox – Chain of Lakes Trend: ¹/₁, – 	24, 48, 72 hours) ause Problems (circle) Low Medium High → , ↓ , Unk. Now:, Pred. Peak:
3.	a. Fox - Mainstem Trend: ↑, - b. Fox - Chain of Lakes Trend: ↑, -	$ ightarrow$, \downarrow , Unk. Now:, Pred. Peak:
	b. Fox – Chain of Lakes Trend: ↑, –	, , , , , , , , , , , , , , , , , , ,
	D. TOX ONUM OF LONGS FIGHT.	Ink Now: Pred Peak:
	c. Des Plaines (+ tribs) Trend: ↑, -	→ , ↓ , Unk. Now:, Pred. Peak
4.	e. Lake Michigan (and tribs) Tree Public Information – PIC a. Need for Press Release (circ	nd:Up Steady Down Unk
5.	 b. Feedback on Previous Press Releases Intake Staff/Damaged Properties – DC a. Call Received Overnight (circle) Yes 	ase s, (Number) No
6.	 b. Anticipated Call Load Low Field Coordination – FC a. Field Crew Status 	v Medium High
7.	 Assess Need for Field Reports (Se Technical Data 	ee backside)
8	a. Assess Need for Data	
0.	a. Assess Need for Afternoon Meetin b. Set Daytime Threat Alert Level: (dr	g: (circle) Yes, (Time) No rcle) Green Yellow Orange Red
ftern	noon Meeting Agenda:	
9.	Threat Alert Level Status – OM	
10.	. Current Flood Status – TC	
	a. Fox (and tribs) Tree	nd: Up Steady Down Unknown
	 D. Des Plaines (and tribs) Tree North Branch (and tribs) Tree 	nd: Up Steady Down Unknown
	d. Lake Michigan (and tribs) Tre	nd: Up Steady Down Unknown
11.	. Weather Forecast Summary - Bob	
	a. Potential for additional rainfall (12,	24, 48, 72 hours)
12	 Likelinood that Raintali Will Cause Nevt Steps – 	Auditional Problems: (circle) LOW Medium High
12.	a. Assess Need for After-Hours Staffi	ing of Office: (circle) Yes No
	b. Set Threat Alert Level for Overnigh	nt/Next Day: (circle) Green Yellow Orange Re
	 b. Set Threat Alert Level for Overnight c. Identify SMC Staff to Be On-Call: 	nt/Next Day: (circle) Green Yellow Orange

U:\Flood Response\Briefing_agenda_043009.doc

Flood Briefing – Status/Predictions

	Name:						
STORMWATER MANAGEMENT COMMISSION	Position Title:						
SMC Flood Alert Response							
Meeting Agenda	Date:						
This agenda document should be used at the morning and afternoon meeting sessions as prescribed by the Flood Response Manual. Meeting times are flexible. The Operations Manager leads debriefing meetings. Initials indicate who leads the task report discussion.							
Morning Meeting Agenda:							
 Threat Alert Level Status – OM Current Threat Alert Level: (circle) Staff Status Review Weather Forecast Summary – Bob Potential for additional rainfall (12 Likelihood that Precipitation Will Current Flood Status – TC 	Green Yellow Orange Red 2, 24, 48, 72 hours) Cause Problems (circle) Low Medium High						
a. Fox - Mainstem Trend: ↑,	\rightarrow , \downarrow , Unk. Now:, Pred. Peak:						
b. Fox – Chain of Lakes Trend: ↑,	\rightarrow , \downarrow , Unk. Now:, Pred. Peak:						
c. Des Plaines (+ tribs) Trend: ↑,	\rightarrow , \downarrow , Unk. Now:, Pred. Peak:						
e. Lake Michigan (and tribs) Tr	rend: Up Steady Down Unk rend: Up Steady Down Unk						

4. Public Information - PIC

Flood Briefing – Targeted Field Objectives

Flood Problem Areas List (Assigned initials)	Date:
Fox River Basin	North Branch Basin
Fox River Elevation at 173 Bridge ()	
Fox River Springs () Riverside Drive ()	()
Fox Lake Area () Knollwood () Park Avenue () Atwater () Marine Drive ()	()
Four Corners ()	
Round Lake Drain ()	

02/16/2009	SMC Flood Alert Status>	GREEN	
Incident Name:	Potential Flood - February 09		
Operational Period:	2/16/09 1200hrs to 2/17/09 1200hrs		
Overall Objective:	Monitor potential for flooding in Lake County		
Objectives for Operational Period	Item:	Who:	
	 Monitor Stage Levels - Chain/Lake Villa Gage Monitor Precipitation Forecast for 24/48/72 hrs and assess potential for increase stages 	Bob Bob	
Flood Response Role	Staff Member	Title	
Flood Manager/LCEMA Contact	Mike Warner Kurt Woolford Joe Hmieleski	Executive Director Chief Engineer Wetland Specialist 1	
Operations Manager	TBD Joe Hmieleski Kurt Woolford	Chief Engineer Wetland Specialist 1 Reg Engineering Supv	
PIO	Susan Vancil		
	Patty Werner Mike Warner	PIO Planning Supv. Executive Director	

File Edit View Insert Format Tools Actions Table Click to Convert Help

🚑 <u>R</u>eply | 🚑 Reply to All | 🚑 For<u>w</u>ard | 🛃 🐚 | 🔫 | 🍅 | 🎦 🗙 | 🔺 - 🔹 - 🖉 - | 🖄 | 🖏 ¶ 100% 🛛 - @ 🖕 -

From: McKenzie, Kent

To: Wolff, Tony; McKenzie, Kent

Cc:

Subject: Lake County IL Flood and Weather Situation

How Do We Contact? Via Email

_ 8 ×

* *

Friday, May 1, 2009, 3:45 p.m.

Emergency Management & Stormwater Management Commission Partners:

SMC Flood Alert Level: Yellow

The Lake County Stormwater Management Commission is continuing the Yellow Flood Alert (Flood Might Occur or Minor Flooding Occurring). The National Weather Service (NWS) has continued the flood warning for Lake County based on the current Fox River stage at New Munster (Wisconsin) and current Des Plaines River stages at both Russell Road and Gurnee. Lake County received a trace of additional rainfall last night, but no significant additional rain is expected through the weekend. The Des Plaines River has receded at Russell from a crest of 8.43 feet Tuesday afternoon to the current level of 7.86 feet, and is forecast to continue the slow decline and drop below flood stage (7.0 feet) on Wednesday. It appears that the Des Plaines River in Gurnee at Route 120 is at crest now at 9.03 feet, and is also forecast to recede to a level below flood stage (7.0 feet) on Wednesday.

The Fox River at New Munster has been nearly steady at 12.46 feet for the past 36 hours and is expected to begin to slowly recede later this weekend, though it will likely be above flood stage (10.0 feet) well into next week. Water levels on the Lake County portion of the Fox above the Chain O'Lakes (as measured at Hwy 173) have now been steady since Wednesday evening, and should begin to slowly recede in the next few days.

Rainfall from the Fox River and other Tributaries is flowing into the Chain O'Lakes faster than it can be released, leading to the ongoing slow rise in the stage of the lakes. Based on information from the Illinois Department of Natural Resources, it appears that the Chain will continue to rise into the weekend, with a crest around 5.8 feet. Some low-lying yards and streets around the Chain O'Lakes are already being impacted, and more properties will be at risk as the water continues to rise.

The Fox River below the Chain O'Lakes is at or above bank-full, with some minor flooding occurring, and may also rise further as water in the Chain overtops the emergency spillway at Stratton Lock and Dam.

The Illinois Department of Natural Resources has restricted boating on the Fox River below the Chain O'Lakes to Algonquin, and all boating is prohibited on this stretch of the river. The Fox Waterway Agency has designated the remainder of the Fox Waterway system, from the Wisconsin State line through the Chain O'Lakes, as a no-wake zone because of the high water levels. Due to high water, the 2009 Fox Waterway Agency "Waterway Agency website at http://www.foxwaterway.org/ includes current River and Chain restrictions and links to a variety of useful information, including forecast and current water level measurements via the "Water Levels" link on the lower left side of their homepage.

The latest recorded river and lake stages are as follows:

Des Plaines River at Russell Road: 7.86 feet (crested at 8.43 ft Tuesday afternoon; flood stage = 7.0 ft) Des Plaines River at Gurnee: 9.03 feet (appears to be at crest now, flood stage = 7.0 ft) Fox River at New Munster: 12.46 feet (crested at 12.82 ft Tuesday night; flood stage = 10.0 ft) Fox Lake at Lake Villa: 5.69 feet (expected slow rise into the weekend; summer pool = 4.2 ft)

If you are in need of sandbags for protection of your property, please contact your local municipality or township highway department.

Please call Stormwater Management at 847-918-5260 to report local flooding conditions in your area. Contact Emergency Management at 847-377-7100 if you need resources or assistance.

Additional information will be provided during the afternoon of Monday, May 4.

Kent and Tony

C. Kent McKenzie, CEM® Emergency Management Coordinator Lake County Illinois EMA





SMC 2-Person Field Crews - Safety First!

Water Level Monitoring

FIELD OBSERVATIONS / DATA COLLECTION





High Water Marking for Reference

Initial Damage Assessment



WHY IS THE DATA COLLECTED?

- 1. Correlate field observations/measurements with available GIS information to <u>quickly</u> produce and distribute various map products (e.g., potentially affected areas, road closures, etc.)
- 2. Assist Communities with Initial Damage Property Assessments
 - applying for a state and federal disaster declaration
- 3. Better Identify Potential Problems in Future Events - add to existing GIS database
- 4. All Natural Hazards Mitigation Funding
 - flood proofing (flood gates, raising first floor elevations)
 - flood-prone structure buyouts (75/25 match)

Recording Field Observations & Measurements

Field info is transmitted from laptop computers in field vehicles, Nextel phones, or walkie-talkies to Field Coordinator

Man = 7	P-1 - May 1-	
R Willow c 6-13 worn 6-12 1 M		6-11 HOOM
RIVE PREDICISED CREST 12.6 742.71' 10.6' (746.52) (10.05 FALSON)		2.7 (732.2) (and Millowia)
FOX CUBRENIT STASE 9.20' @EBA (194.92) 9.21 @91/T (194.92)	5.0 738.0 C 71364 6-11	2.61 @ 8700A (112.17)A 270 @ 8100 A (732.20) 2.71 @ 9100 A (732.21)
LOC. NEW MUNSTER FLOOD STRAG: 10 FF.	CHANNEL LAKE FLOOD STARES	ALGON- QUIN FLOOD STAGE. 3 FT.

MARCH 2009 FLOOD EVENT

DATE	ACTIVITIES / OBSERVATIONS					
Sat, March 7	NWS issues Flood Warning for New Munster					
Mon, March 9	NWS predicted crests: Fox-New Nunster 13.3' on Wed/Thurs; DPR-Russell & Gurnee 7.8-7.9' Tues/Wed. Keeping close eye on another storm coming tonight/formgrow - possible 1+" more rain					
8:00am	Kent McKenzie-LCEMA reported Fox River Springs looking OK - about 20- 24" freeboard.					
10:00 AM	Flood Briefing at SMC 10. Yellow Alert level established. Field staff assigned to observe potential flooding at Four Corners, Fox R Springs, Russell/upper DPR; 9th Street/Delany, RL Drain & Pekara. 2 CIRS calls received so far: Venetian Village (uninc. Lake Co referred to PBD); 800 Russell Rd, Winthrop Harbor - resident reported several inches of water on street - JC contacted WHPW to look at this and TC will also investigate.					
12:10	JH: Pekara - No problem here right now. Some water in ditches but there is still more capacity. The Park south of Pekara is wet but not flooded by the creek.					
1:00 p.m.	McKenzie's flood status distributed.					
1:40 p.m.	Lisa Black, Tribune called. SV forwarded McKenzie's status report and SMC press release on flood tips to her.					
14:00	TC: 9th Street/Delany - The road is closed due to flooding. It is minor at this point, but sufficiently flooded for Wadsworth to close the road.					
14:15	TC: CIRS for 800 Russell Rd, Winthrop Harbor - No road flooding. It must have drained down by now.					
14:30	TC: Four Corners: The depression was full. Flow is draining. Tonight's rair will make this are worse and will need to be monitored. Fox River Springs: No flooding.					
15:00	BC: Fox R, at Rte.173 = 738.57'					
15:00	TC: CIRS for 42180 N. Highway 41- No flooding.					
15:00	BC: Round Lake Drain - drain is at bankfull; no water on Mayfield now, but may have been overtopped earler today; water quality basin has high water level; drainage ditches along trail are full, but not much standing water beyond ditches.					
16:00	TC: Hillside Drive in Antioch - The road is open to through traffic. They may have made the repairs, or at least made it passable for a time.					
Tues, March 10	About 1/2" add'l rain across County last night; possibly another 1/4-1/2" today, then cold blast. Latest NWS predictiions have crests at Fox-New Munster of 13,1' on Fri; 8.4' at DPR-Gurnee and 7.9' at DPR-Russell on Wed. IDNR predicting Fox Lake may go up to 6.0' later this week.					
7:45	JM: Fox R. in Barrington area - no water on road in 14/59 area.					
8:45 AM	TC: Four Corners area: system is draining OK. The entrance to Chris Swanson's house is flooded. No vehicle access. The pond behind the Johnson house is high, but has storage room left. The main four corners depression is also high, but not to historic levels.					
9:15	BC: Fox R, at 173 = 738.95'					

U:\Flood Response\2009 Flood Response\March 9\Flood Event Log

Initial Flood Damage Assessment

_ 8 × 🖲 File Edit View Insert Format Tools Data Window Documents To Go Help Adobe PDF A1 G A н Fox River Flood Event 081907 2 Primary Own Single Family Affected 3 Rent Secondary Multi-Family Minor 4 Unknown Unknow Manufactured Major 5 Business Б Government Nationa Height o Date of Homeowner's Flood Water in Inaccessible Qty Municipality Occupant/Property Owner & Address/Street Name Survey Home Status Household Type Level of Damage Insurance insurance Structure Notes 8 Schmidtke, Dorothy & Alfred 42547 Forest Lane Antioch 8/23/2007 Secondary Own Single Family Affected No <1 2 Antioch Retina, Ronadi & Sandra 40137 North Circle Avenue 8/26/2007 Single Family Affected <1 3 Antioch Kerekes, Ronald 42483 North Forest Lane 8/25/2007 Primary Single Family Major Yes 2+ 11 4 Antioch Kerekes, Ronald 42491 North Forest Lane 8/25/2007 Primary Single Family Major Yes 2+ Primary 5 Antioch Kerekes, Ronald 42493 North Forest Lane 8/25/2007 Single Family Minor Yes 2+ 13 6 Antioch Hahn, Douglas 42437 North Forest Lane 8/25/2007 Primary Single Family Minor Yes 2+ Primary 14 7 Antioch Montgomery, John 42501 North Forest Lane 8/25/2007 Single Famil Minor 2+ Yes Stenseth, Linda 42505 North Forest Lane 8/25/2007 <1 15 8 Antioch Primary Single Family Affected 16 3 Antioch Cooper, John 42605 North Forest Lane 8/25/2007 Primary Single Family Affected <1 10 Antioch Reynolds, Curt 42620 North Forest Lane 8/25/2007 Primary Single Family Affected <1 18 11 Antioch Robles, Alberto 42635 North Forest Lane 8/25/2007 Primary Single Family Affected <1 19 12 Langford, Daniel 42642 North Forest Lane 8/25/2007 Primary Affected <1 Antioch Single Family 20 13 Lung Viorel 42647 North Forest Lane Primary Affected <1 Antioch 8/25/2007 Single Family 14 <1 Antioch Fort, Richard 42657 North Forest Lane 8/25/2007 Primary Single Family Affected 15 Antioch Linscheid, Marc 43198 Kidd 8/27/2007 Primary Unknown Single Family Affected 23 16 Antioch Pluta, Lorraine 40466 North Lake Shore Drive 8/26/2007 Single Family Affected <1 24 Meisinger, Alois 40432 North Lake Shore Drive 17 Antioch 8/26/2007 Single Family Affected <1 25 18 Antioch Doroba, Frank 40434 North Lake Shore Drive 8/26/2007 Single Family Affected 11 26 19 Anderson, Gloria 40496 North Lake Shore Drive 8/26/2007 Affected <1 Antioch Single Family 27 20 Antioch Sepke, David 40516 North Lake Shore Drive 8/26/2007 Single Family Affected <1 28 21 Antioch Michal, Donald 40522 North Lake Shore Drive 8/26/2007 Single Family Affected <1 29 30 22 Nuzzo, Ralph 40534 North Lake Shore Drive Affected Antioch 8/26/2007 Single Family Brown, Perry 42466 North Park Avenue Primary 23 Antioch 8/25/2007 Single Family Affected <1 31 Voegele, Harry 39452 North Petite Pass 24 Antioch 8/26/2007 Single Family Affected <1 32 25 Antioch Anderson, Anna 33455 North Petite Pass 8/26/2007 Single Family Affected <1 33 26 Minor Antioch Kostos, Denise 39873 North Rena Avenue 8/26/2007 Single Family Yes >1 34 27 Antioch Herizon, First 41868 North Venn Road 8/26/2007 Single Family Affected <1 35 28 Antioch Hooper, Jones 41878 North Venn Road 8/26/2007 Single Family Minor Yes >1 36 29 Antioch Wright, Knut 41838 North Venn Boad 8/26/2007 Single Family Minor Yes >1 Single Family 37 30 Antioch Bonadonna, Joe 41900 North Venn Road 8/26/2007 Minor Yes >1 38 Single Family 31 Antioch Fridrich, Otto 41908 North Venn Road 8/26/2007 Major Yes 2+ 39 40 State Bank of the Lakes, 41928 North Venn Road 32 33 Antioch 8/26/2007 Single Family Affected <1 Betancourt, John 41334 North Venn Road Single Family Antioch 8/26/2007 Affected <1 41 34 Antioch Gomez, Randall 42085 North Venn Road 8/26/2007 Affected <1 Single Family 42 35 Antioch Revnolds, Paulette 42681 Park Avenue 8/25/2007 Single Family Affected <1 43 36 O'Donnell, Joseph 42685 Park Avenue Antioch 8/25/2007 Single Family Affected <1 44 37 38 Antioch Gotlibowski, Joseph 42715 Park Avenue 8/25/2007 Single Family Affected <1 45 Antioch Akers, Lila 42721 Park Avenue 8/25/2007 Single Family Affected <1 46 47 39 Antioch Quitshaw, Roy 42729 Park Avenu 8/25/2007 Single Family Affected <1 40 Antioch Mach, Leo 42739 Park Avenue 8/25/2007 Single Famil Affected 21 48 49 41 McKee, William 42759 Park Avenue Affected <1 Antioch 8/25/2007 Single Family 42 Antioch Magrini, Janice 42762 Park Avenue 8/25/2007 Single Family Affected <1 50 43 Antioch Kostadin, P 42765 Park Avenue 8/25/2007 Single Family Affected <1 51 44 Affected Antioch Magrini, Janice 42771 Park Avenue 8/25/2007 Single Family 52 45 Affected <1 Antioch Mancako, Michael 27938 Riverside Drive 8/25/2007 Primary Single Family 53 54 46 Primary <1 Antioch Todd, Vernon 27944 Riverside Drive 8/25/2007 Single Family Affected 47 Antioch Todd, Vernon 27950 Riverside Drive 8/25/2007 Primary Single Family Affected <1 55 56 48 Antioch Goddell, Bruce 27964 Riverside Drive 8/25/2007 Primary Single Family Affected <1 49 Antioch Northern State Trust \$ 10-291, 25276 West Grace Lane 8/26/2007 Mobile Home Affected <1 57 50 Antioch Falkiewicz, Tadeusz 25404 West Highwoods Drive 8/26/2007 Affected <1 Single Family 58 51 Antioch Fiasche, Margaret 25414 West Highwoods Drive 8/26/2007 Single Family Affected <1 59 52 Antioch Trinca, John 25426 West Highwoods Drive 8/26/2007 Single Family Affected <1 БU 53 Antioch Hartl, John 25275 West Old Grass Lake Road 8/26/2007 C.J. Smith's Resor Business Minor Yes >1 61 54 Antioch Smith, Charles 25319 West Old Grass Lake Road 8/26/2007 Single Family Minor Yes >1 62 55 Hamman, William 43446 Petite Terrace Unknowr Minor Antioch 8/28/2007 Primary Single Family 63 56 Antioch Scarpaci, Louis 43424 Park 8/28/2007 Primary Unknown Single Family Affected 64 57 Antioch Stecher, Robert 43386 Park 8/28/2007 Primary Unknown Single Family Affected 65 58 Antioch Harris, Lee 25871 Cook Street 8/28/2007 Primary Unknown Single Family Affected 66 59 Antioch Huskey, James 25853 Cook Street 8/28/2007 Primary Unknown Single Family Affected БΖ 60 Antioch Smoron, Geoffrey 25839 Cook Street 8282007 Primary Unknown Single Family Affected Unknown Single Family 68 61 Channel Lake Shores, 25829 Cook Street Affected Antioch 8/28/2007 Primary 69 62 Antioch Putkonin, Ronald 25817 Cook Street 8/28/2007 Primary Unknown Single Family Affected 70 63 Primary Antioch Roger, Arthur 25801 Cook Street 8/28/2007 Unknowr Single Family Affected 64 Antioch Jansen, Donald 25785 Cook Street 8/28/2007 Primary Unknown Single Family Single Family Affected Nacchio Dominic 25225 Cook Straat 1 b bl Unincorporated t"ar ыĖ

DA Part 1... 🖲 SMC_Floo... 🛛 Microsof...

🚺 iTunes

SMC's Excel Spreadsheet

🎜 Start 🛛 🗹 🏉 🖸 🕷 🧼 🐨 📀 🤮 🕠

🕒 Inbox - Mi...

🔍 🔍 🕮 🛄 🗐 😿 💭 💟 🇐 🖄 9:17 AM

Initial Flood Damage Assessment



22 AUG 2007

NY W

Information

SANDBAGGING INSTRUCTIONS



One Example of a Buyout Success Story



SMC Buyout Location Water would have been 1.4 feet above first floor elevation

Ζ



The Role of GIS in Flood Event Activities at SMC

Preparation for Flood Briefing

 \succ

 \succ

"Real-time" data entry and map production of events

🖉 AHPS Precipitatio	on Analysis - Micr	osoft Internet Explorer prov	ided by Lake County, IL					- 7 🗙
💮 🕞 👻 🙋 http:	://water.weather.gov	//download.php					🖌 🗲 🗙 Live Search	
<u>File E</u> dit <u>V</u> iew F <u>a</u> v	vorites <u>T</u> ools <u>H</u> elj	p 🗞 Conve	ert 👻 🔂 Select					
🚖 🚸 🌈 AHPS Pre	ecipitation Analysis						🟠 • 🔊 - 🖶 • 🗄	} <u>P</u> age → () Tools → *
								weather.gov 🔨
	Na	ational Weather Se	ervice					ALATHER.
	dvanced	Hydrologic Pre	diction Servic	-				
	avancea	nyarologie rie		-				THU 301
201880	Home	News	Organi	zation	Search for	: 🔹 🔍 NWS 🌒 All NOA	A Go	
Local weather	On October 16, 2	007. the latitude and longitude s	pecifying the position of each	arid in the AH	PS (Advanced			
forecast by	Hydrologic Predic	ction Service) observed precipita	tion shapefiles will be shifted	from the lowe	r left corner to the			
City, ST Go	geospatial analys	sis more		,	interriperary			
	Warnings &	Graphical National	Padar Water Air C		climate			
Warnings	Forecasts	Forecasts Maps	Radai Water Airo					
Current By State/County	River Observa	ations River Forecasts	Precipitation River Dow	nload Ot	her Information			
UV Alerts		About NWS	Other Useful Su	vev & F	eqional / RFC			
Observations Radar	images D	Precip Analysis	Information Fee	dback	Precip Data			
Satellite Snow Cover		Downloading	Gridded Rainfall D	ata				
Surface Weather Observed Precip		Last Update	: 03/01/2010 0907 GMT					
Forecasts								
Local Graphical	(1) Choose	(2) Select Download	(3) Select Date		(4) Press the "Download"			
Aviation Marine	Format		.,		Button			
Hurricanes Severe Weather	Shapefile setODE	Continental U.S. & Puerto Ri	co Mar 👻 1 💌	2010 💌	Download			
Fire Weather	Offecor							
By State		File Name	Files Included	Size				
By Message Type National		nws precip 20100301 tar oz	nws_precip_20100301.shp	Approx				
Forecast Models		hws_precip_zoroosor.tai.gz	nws_precip_20100301.dbf	0.5 to 7.0 MB				
Statistical Models								
Climate Past Weather	General Infor	mation						
Predictions Weather Safety	The precipitation	data are quality-controlled, mult	i-sensor (radar and rain gaug	e) precipitatio	n estimates			
Weather Radio	obtained from Na format and proje	ational Weather Service (NWS) F cted in the Hydrologic Rainfall Ar	River Forecast Centers (RFCs alysis Project (HRAP) grid co). The original ordinate syste	data are in XMRG m, a polar			
StormReady /	stereographic pro	ojection true at 60°N / 105°W. Or	ur software reads each partici HRAP grid cell	pating RFC's 3	(MRG file and			
IsunamiReady Education/Outreach	g. 300 the 24 mot							~
							😜 Internet	🔍 100% 🔹 💡
👭 start 🛛 🔯	Inbox - Microsoft Ou	ut 💽 Microsoft PowerPoint .	AHPS Precipitation An.					9:07 AM







The Role of GIS in Flood Event Activities at SMC



 \succ

"Real-time" data entry and inundation maps

Log Flood Event Reports into GIS Database



National Weather Service Advanced Hydrologic Prediction Service

www.weather.gov/ahps/



Observations courtesy of US Geological Survey .

NOTE: River forecasts for this location take into account past precipitation and the precipitation amounts expected approximately 24 hours into the future from the forecast issuance time.

Forecasts for the Fox River near New Munster are issued as needed during times of high water, but are not routinely available.







Port Barrington, Illinois



FOX

APR .



16



Port Barrington, Illinois



A

iot

RUE



Affected Properties

R

208 Eastwood Avenue 220 Eastwood Avenue 222 Eastwood Avenue 226 Eastwood Avenue 228 Eastwood Avenue 230 Eastwood Avenue 232 Eastwood Avenue

RA

Predicted Fox River Inundation in Unincorporated Lake and McHenry Counties on 26AUG2007 near Port Barrington, Illinois

Landmark Buildings

Fire Department

School

Buildings Predicted Inundation

Library







Cooperation With Other Agencies

IDNR

- Lake Co GIS
- Lake Co Forest Preserve
- Lake Co Health Dept
- Lake County Planning
- Lake County DOT
- Fox Waterway Agency
- > Municipalities





Lake County Flood Event August 19-27, 2007 Incident Reports and Field Observations



Lessons Learned – Part 2...

- The SMC Flood Manual is a living document there are always tweaks to be added based on real circumstances
- The use of existing GIS data PLUS our survey efforts allows us to readily identify potential problem areas and helps...think 3D
- Good communication and data exchange is critical during an event and leading up to event
 - Looking ahead Webinar
- Damage Assessments have resulted in several buyouts across the county

Contact Information

 Web site: <u>www.lakecountyil.gov/stormwater</u>

• Manual:

www.lakecountyil.gov/stormwater/publications/Flood Hazard Mitigation

