

<b>NWS Form E-5</b> (04-2006) (PRES. BY NWS Instruction 10-924)	<b>U.S. DEPARTMENT OF COMMERCE</b> <b>NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION</b> <b>NATIONAL WEATHER SERVICE</b>	HYDROLOGIC SERVICE AREA (HSA) Burlington VT
		<b>MONTHLY REPORT OF HYDROLOGIC CONDITIONS</b>
TO: Hydrologic Information Center, W/OS31 NOAA's National Weather Service 1325 East West Highway Silver Spring, MD 20910-3283		REPORT FOR: MONTH                      YEAR July                              2007
		SIGNATURE /s/ Gregory A. Hanson, SH WFO BTV DATE August 21 2007

*When no flooding occurs, include miscellaneous river conditions below the small box, such as significant rises, record low stages, ice conditions, snow cover, droughts, and hydrologic products issued (NWS Instruction 10-924).*

An X inside this box indicates that no flooding occurred within this hydrologic service area.

### Flooding occurred in BTV's HSA during July

July got off to a quiet start, then by mid month several days of strong to severe storms caused flash flooding. Damage from the July 11 flash flood event was widespread, and a Federal Disaster was declared for Orange, Washington, and Windsor counties in Vermont. Fortunately there was no loss of life or injury.

At the beginning of July an upper level northwest flow pattern shifted to high pressure as a ridge built in across the northeast. The first few days of the month had no notable precipitation. By the 4<sup>th</sup> of July, an approaching upper level low pressure system and surface warm front spread a quarter to three quarters inch of rain across the area, with local one inch amounts. The upper level low remained in place in the coming days, and the first week of July saw occasional surface troughs of low pressure that focused scattered showers over the region. Any rainfall accumulations were light.

Heading into the second week of July, warm, humid, and unstable air spread across the north country, and provided the fuel for several active days of convective storms.

On July 9, thunderstorms erupted along a stationary front near the Canadian border as an upper level disturbance moved across the region. Flash flooding in Franklin County, NY washed out portions of County Road 25 between Malone and Owls Head.

July 10 saw more severe thunderstorms develop in the warm, moist, and unstable air across the region. A flash flood warning was issued for Essex County NY, but there were no flood reports.

July 11 was by far the most active flash flood day of the month, and was some of the worst flash flooding seen in BTV's HSA in the past decade. The flooding was a result of training thunderstorms developing over the eastern slopes of the Green Mountains of Vermont. Spotter reports indicated rainfall amounts of 1.7" in 30 minutes, and portions of Orleans, Caledonia., Orange, and Washington Counties in Vermont received over 4 inches of rain over several hours.

The area that received the heaviest rainfall had also received 1 to 2 inches of rain in the thunderstorms on July 10, so conditions were more primed for flooding. The heavy rains resulted in severe flooding

across the area as areas streams and small rivers quickly became swollen. Ayers Brook in Randolph VT (RANV1) crested at 9.55 feet, the 3<sup>rd</sup> highest level on record for that gage. It is interesting to note however that this was the only gage in WFO Burlington's HSA to exceed flood stage, as all the flash flooding was limited to small creeks and streams that reacted quickly to the excessive rainfall and runoff. The larger rivers and streams had sufficient channel capacity to absorb the additional flows, and remained within their banks.

The Jail Branch along Route 302 between Barre and East Barre flooded homes and a restaurant near the confluence of Honey Brook. In Williamstown, the Stevens Branch flooded Route 14 in Williamstown Village. Brockway Road in Williamstown was also flooded, along with other sections of Route 14 between Williamstown and Barre. The Stevens Branch is joined by the Jail Branch in downtown Barre, and downtown businesses were flooded by several feet of water in the 200 to 600 blocks of North Main Street. The intersection of Route 62 and Main Street was also flooded by several feet of water. A state of emergency was declared for the city of Barre as some homes were evacuated.

The excessive rainfall also put dams at risk. In Williamstown, the threat of a dambreak forced the evacuation of over 100 people from their homes, although that particular dam held. One earthen dam impounding a very small pond failed, but no downstream damages resulted.

The other significant damage from July 11 was in Stockbridge VT, where Lilliesville Brook, a tributary to the White River, destroyed two summer homes along Lilliesville Road and a bridge on River Road.

Elsewhere across the region, flood damages were widespread but less extensive, mainly limited to inundation of roadways, flooding due to clogged or overwhelmed storm culverts, or washouts on dirt roads. Greensboro, Wolcott, and Hardwick Vermont all reported significant street and road flooding.

The next notable rainfall was July 19 and 20, when a surface low approached from the west. Rain spread into the Adirondacks late in the morning, with locally heavy rainfall in convective cells. The low tracked slowly across the region, then showers tapered off Saturday morning as the trailing upper level shortwave trough passed. Rivers remained well below flood stage, although Urban and Small Stream Flood Advisories were issued for portions of northern New York for the threat of ponding water in poor drainage areas.

On Friday July 27 showers and thunderstorms developed in warm humid air over the region. Heavy rain was mostly relegated to northern New York, and Urban and Small Stream Flood Advisories were again issued for northern New York.

The heavy rain threat continued into July 28, and a Flash Flood Watch was issued. Flash Flood Warnings were issued later in the day for portions of northern New York,

By July 29 a surface and upper level trough moved through the area, reducing humidity levels across the region, along with the potential for heavy rainfall. The last few days of July were sunny and warm.

**Non-Routine Hydrologic Products  
July 2007  
WFO Burlington VT**

<b>PIL</b>	<b>Time (UTC)</b>	<b>Date</b>	<b>Description</b>
FLS	1612	07/09/07	Urban & Small Stream Flood Advisory, Central VT, Southern Clinton Northern Essex Co NY until 1915.
FLS	1749	07/09/07	Cancel Advisory.
FLS	2143	07/09/07	Urban & Small Stream Flood Advisory, Clinton/Franklin Co NY til 10/0045.
FLS	2225	07/09/07	Urban & Small Stream Flood Advisory, Chittenden Co VT.
FFW	2318	07/09/07	Flash Flood Warning northern Franklin Co NY til 10/0115.
FLS	0019	07/10/07	Urban & Small Stream Flood Advisory, Orange & Windsor Co VT til 0315.
FFS	0050	07/10/07	Update FFW, Country Rte 25 closed from Owls Head to Malone Village.
FLS	0131	07/10/07	Urban & Small Stream Flood Advisory, Rutland Co VT til 0430.
FLS	0426	07/10/07	Expire Rutland Co Advisory.
FLS	1859	07/10/07	Urban & Small Stream Flood Advisory, Windsor Co VT til 2200.
FLS	1903	07/10/07	Urban & Small Stream Flood Advisory, Essex Co NY til 2200.
FFW	1947	07/10/07	Flash Flood Warning south central Essex Co NY til 2245.
FLS	2015	07/10/07	Update Windsor Co Advisory.
FFS	2050	07/10/07	Update Flash Flood Warning.
FLS	2158	07/10/07	Urban & Small Stream Flood Advisory, Windsor Co VT til 11/0045.
FLS	2207	07/10/07	Urban & Small Stream Flood Advisory, Franklin Co NY til 11/0100.
FFS	2247	07/10/07	End FFW Essex Co NY.
FLS	2321	07/10/07	Urban & Small Stream Flood Advisory, Central St. Lawrence Co NY til 11/0215.
FLS	0047	07/11/07	Expire Windsor Co VT Advisory
	0104	07/11/07	Expire Franklin Co NY Advisory
	0105	07/11/07	Cancel St. Lawrence Co NY Advisory.
FLS	0201	07/11/07	Urban & Small Stream Flood Advisory, Addison Co VT til 11/0500.
FLS	0458	07/11/07	Expire Addison Co VT Advisory.
FFW	1711	07/11/07	Flash Flood Warning NW Windsor Co VT til 2015

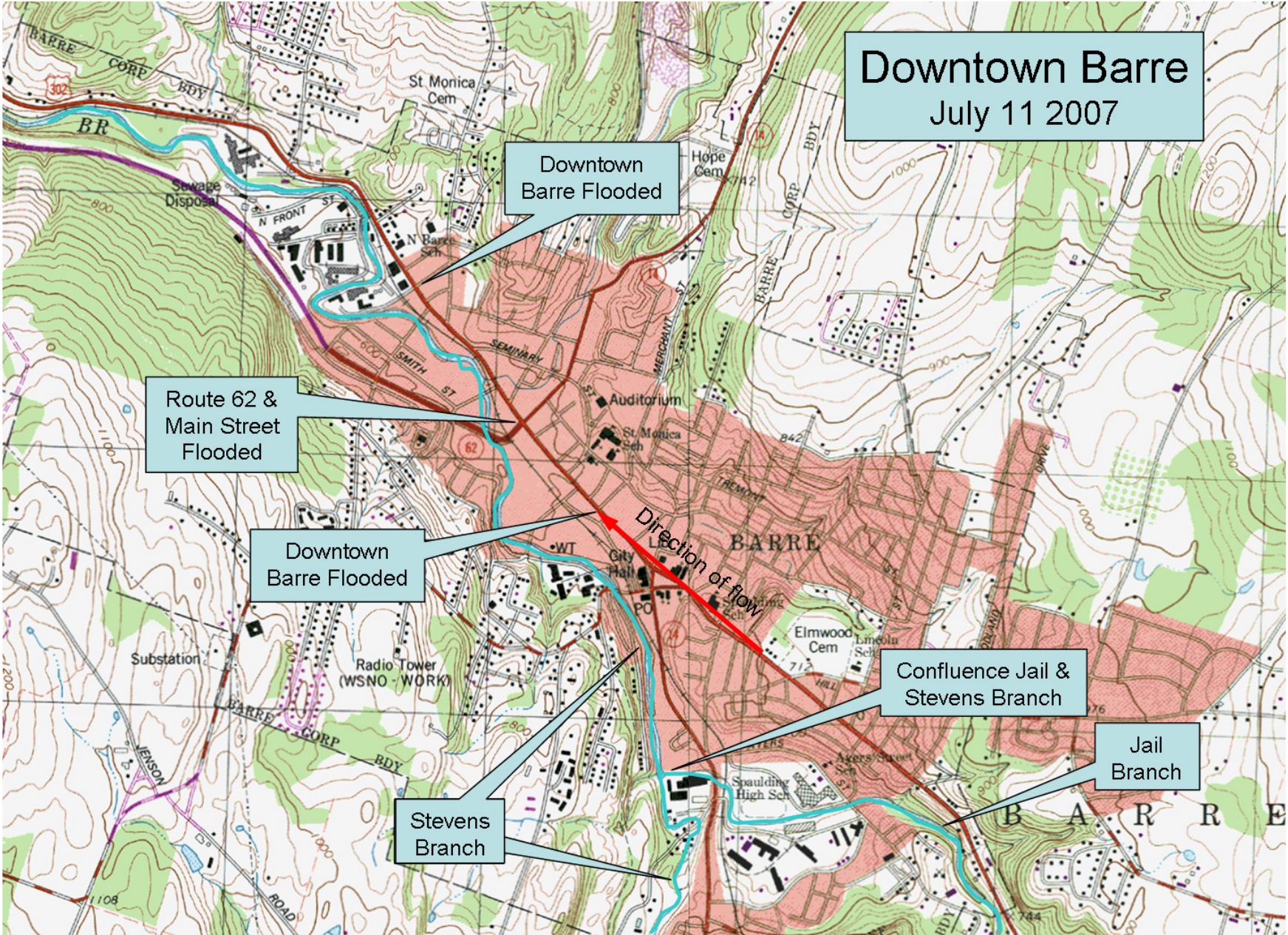
FFA	1716	07/11/07	Flash Flood Watch for VT except Grand Isle Co, & northern Adirondacks in NY til 12/0400
FFW	1735	07/11/07	Flash Flood Warning NE Washington & West Central Caledonia Co VT til 2030
FFS	1803	07/11/07	Continue FFW Windsor Co
FFS	1843	07/11/07	Continue FFW Washington/Caledonia Co
FFW	1915	07/11/07	Flash Flood Warning Western Orange Co VT til 2215
FFW	1918	07/11/07	Flash Flood Warning Orleans & southeast Lamoille Co VT til 2215
FFS	1928	07/11/07	Continue FFW Washington Caledonia Co
FFS	1940	07/11/07	Continue FFW Windsor Co
FFW	2015	07/11/07	Flash Flood Warning Northwest Windsor County (extend) til 2315
FLW	2028	07/11/07	Flood Warning Washington & Caledonia Co VT til 12/0830
FFS	2047	07/11/07	Continue FFW Orange Co VT
FFS	2053	07/11/07	Continue FFW Orleans & Lamoille Co VT
FFS	2150	07/11/07	Continue FFW Windsor Co VT
FLW	2205	07/11/07	Flood Warning Orleans & Lamoille Co VT til 12/0600.
FFW	2213	07/11/07	Flash Flood Warning western Orange Co VT (extend) til 12/0100.
FLS	2304	07/11/07	Continue Flood Warning Washington & Caledonia Co VT.
FLW	2311	07/11/07	Flood Warning Windsor Co VT til 12/0715
FLS	2329	07/11/07	Continue FLW Washington & Caledonia Co VT
FLW	0104	07/12/07	Flood Warning Orange Co VT til 12/0645
FLS	0127	07/12/07	Continue Flood Warning Washington & Caledonia Co VT
FFA	0132	07/12/07	Cancel Flash Flood Watch
FLS	0137	07/12/07	Continue FLW Windsor Co VT
FLS	0142	07/12/07	Continue FLW Orleans & Lamoille Co VT
FLS	0600	07/12/07	Cancel FLW Orleans & Lamoille Co VT
FLS	0637	07/12/07	Cancel FLW Orange Co VT
FLS	0642	07/12/07	Cancel FLW Windsor Co VT
FLS	0754	07/12/07	Cancel FLW Washington & Caledonia Co VT
FLS	1454	07/19/07	Urban & Small Stream Flood Advisory, Northern NY til 2045.
FLS	2115	07/19/07	Expire Advisory.
FLS	0845	07/20/07	Urban & Small Stream Flood Advisory,

			Franklin & St. Lawrence Co NY til 1430.
FLS	1135	07/20/07	Cancel advisory.
FLS	1846	07/20/07	Urban & Small Stream Flood Advisory, NW St. Lawrence Co NY til 2245.
FLS	2240	07/20/07	Expire advisory.
FLS	1817	07/27/07	Urban & Small Stream Flood Advisory, Clinton & Essex Co NY til 28/0015.
FLS	2037	07/27/07	Continue advisory.
FLS	2118	07/27/07	Urban & Small Stream Flood Advisory, Franklin & St. Lawrence Co NY til 28/0315.
FLS	2346	07/27/07	Cancel Advisory Clinton & Essex Co NY
FLS	0222	07/28/07	Cancel Advisory Franklin & St. Lawrence Co NY
FFA	0720	07/28/07	Flash Flood Watch northern Adirondacks NY and North & Central VT except Grand Isle Co VT 28/1600- 29/0100.
FLS	1653	07/28/07	Urban & Small Stream Flood Advisory, Northern Adirondacks NY til 1945.
FFW	1728	07/28/07	Flash Flood Warning Clinton Co NY til 2315.
FFW	1902	07/28/07	Flash Flood Warning Eastern Franklin Co NY til 2300.
FFA	1940	07/28/07	Cancel Flash Flood Watch VT Champlain Valley and eastern Essex Co NY. Continue Flash Flood Watch northern Adirondacks, and north and central VT.
FFS	1946	07/28/07	Continue Flash Flood Warning Clinton Co NY
FFS	2028	07/28/07	Continue Flash Flood Warning eastern Franklin Co NY
FFA	2250	07/28/07	Cancel remaining Flash Flood Watch
FFS	2255	07/28/07	Cancel Flash Flood Warning Eastern Franklin Co NY
FFS	2258	07/28/07	Cancel Flash Flood Warning Clinton Co NY.

**Significant River Crests  
July 2007  
WFO Burlington VT**

<b>Location</b>	<b>ID</b>	<b>Date</b>	<b>Time (UTC)</b>	<b>Crest Stage (ft)</b>	<b>Flood Stage (ft)</b>
Lamoille River near Johnson VT	JONV1	07/12/07	1115-1200	12.81	13.0
Winooski River at Montpelier VT	MONV1	07/12/07	0345-0400	10.58	15.0
Winooski River at Essex Junction VT	ESSV1	07/12/07	1345	9.85	15.0
Mad River near Moretown VT	MOOV1	07/12/07 07/20/07	0300 0300	6.35 7.05	9.0
Dog River at Northfield Falls VT	NFFV1	07/12/07 07/20/07	0300 0345	3.79 3.88	8.0
East Branch Passumpsic near East Haven VT	EHVV1	07/12/07	0330	4.90	6.0
Sleepers River near St. Johnsbury VT	STJV1	07/12/07	0100	4.31	n/a
White River at West Hartford VT	WEHV1	07/12/07	0930-0945	9.33	18.0
Ayers Brook at Randolph VT	RANV1	07/12/07	0045	9.55* 3 <sup>rd</sup> highest on record	8.0

# Downtown Barre July 11 2007



Downtown Barre Flooded

Route 62 & Main Street Flooded

Downtown Barre Flooded

Stevens Branch

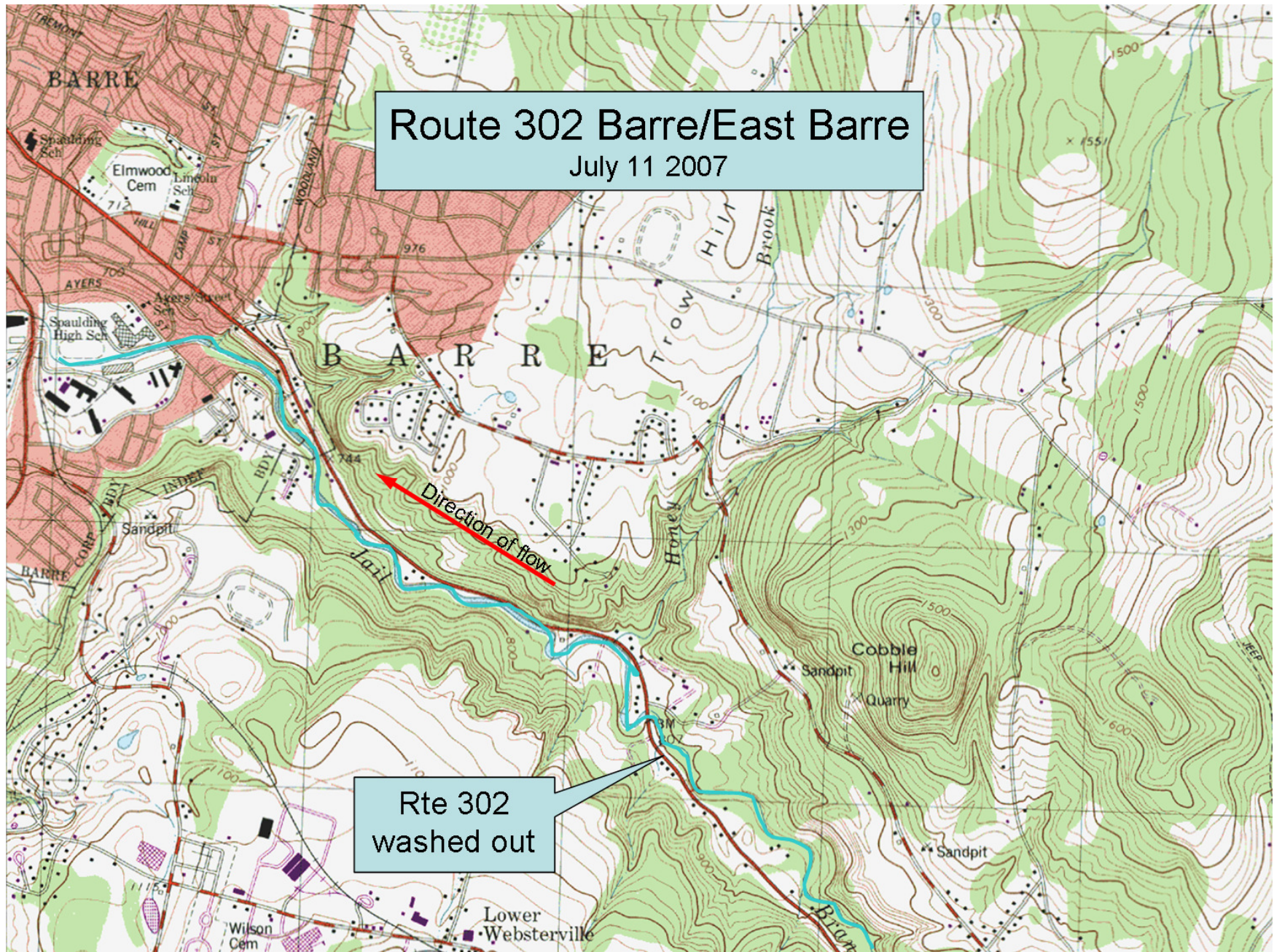
Confluence Jail & Stevens Branch

Jail Branch

Direction of flow

# Route 302 Barre/East Barre

July 11 2007

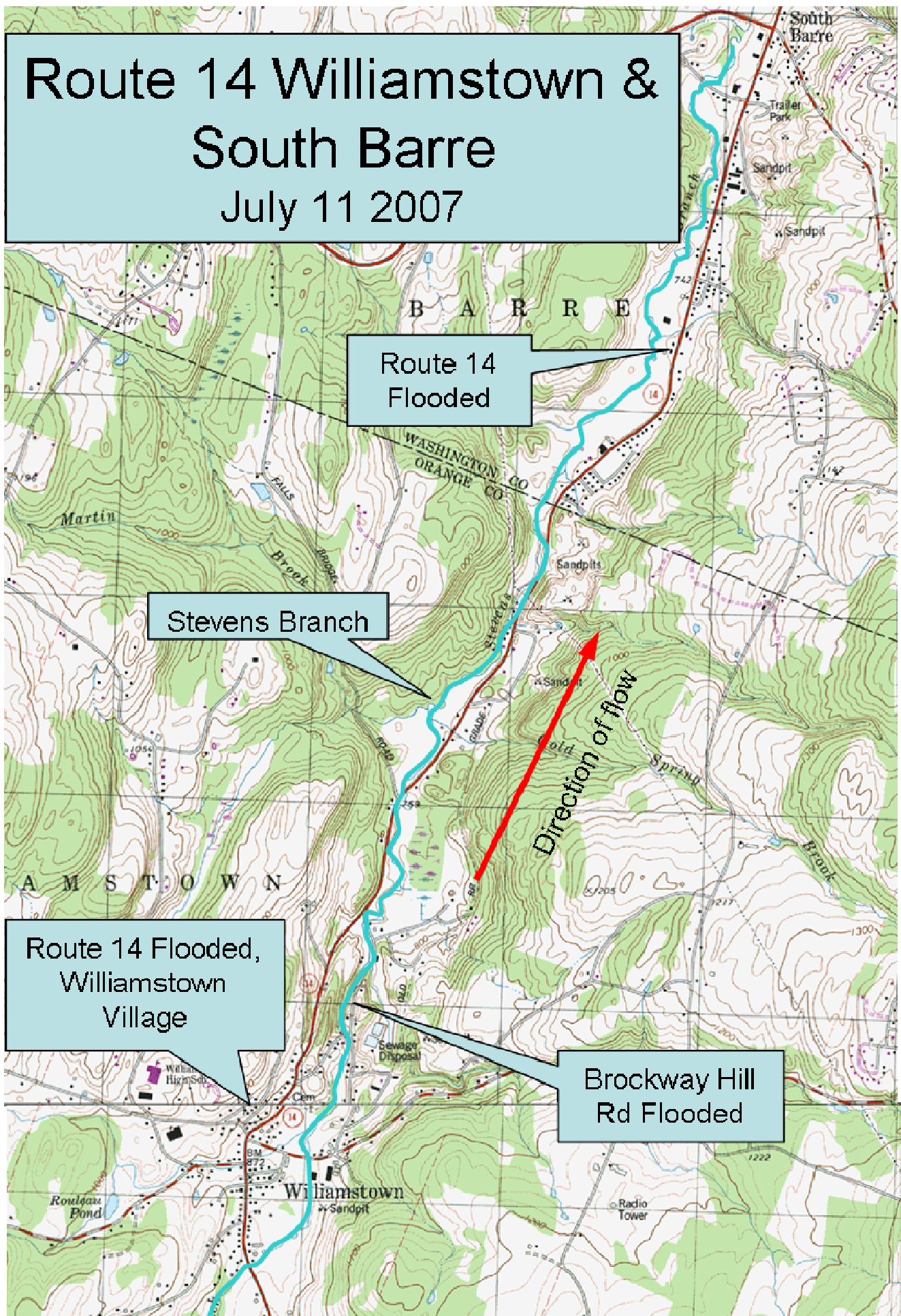


Rte 302  
washed out



# Route 14 Williamstown & South Barre

July 11 2007



Route 14  
Flooded

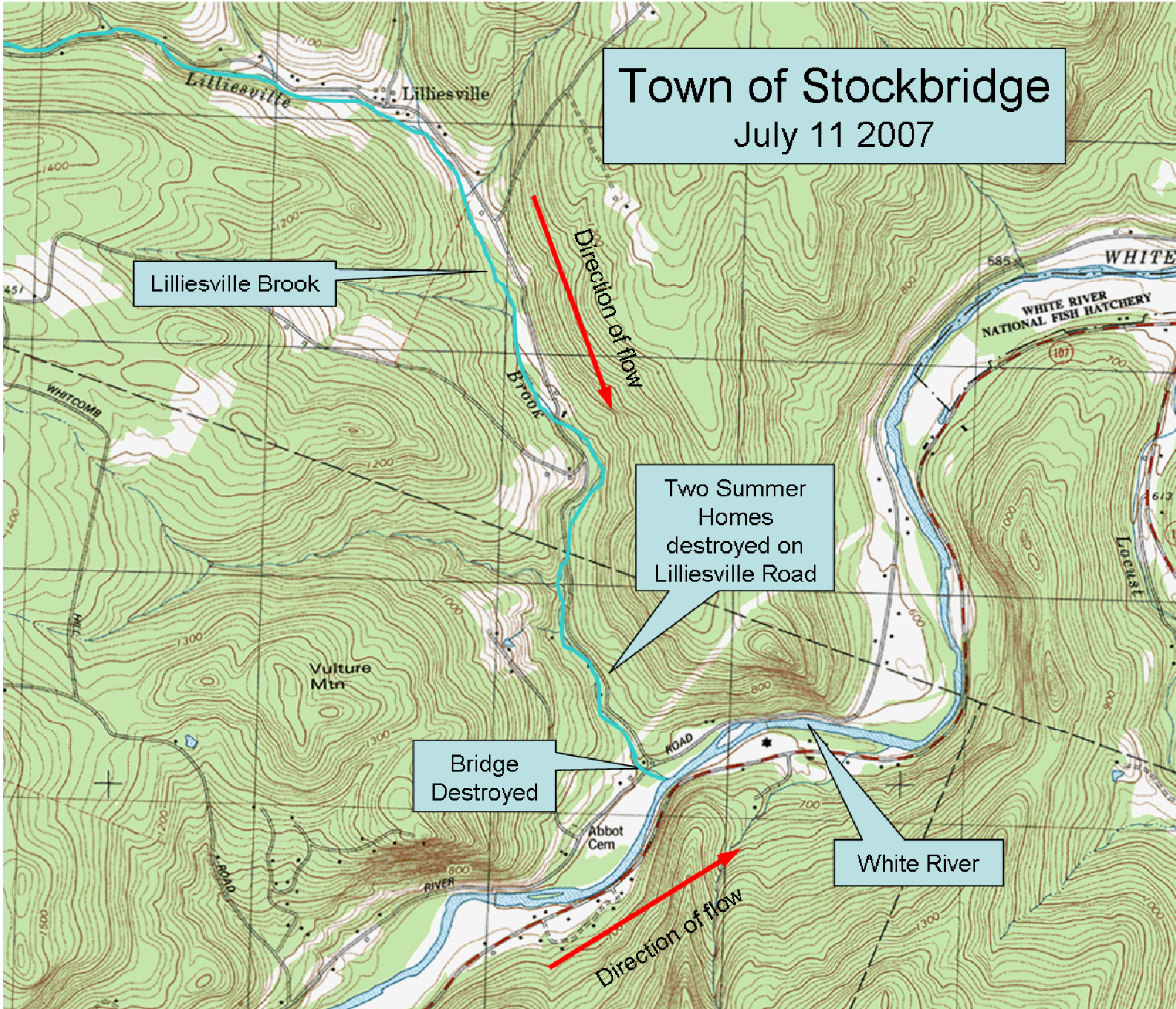
Stevens Branch

Route 14 Flooded,  
Williamstown  
Village

Brockway Hill  
Rd Flooded

Direction of flow

# Town of Stockbridge July 11 2007



Lilliesville Brook

Direction of flow

Two Summer Homes destroyed on Lilliesville Road

Bridge Destroyed

White River

Direction of flow



24hr Precipitation Ending 7/12/07 at 7 a.m. EDT

