BACKGROUND: Pursuant to State Guide Plan Element 724: The Rhode Island Drought Management Plan, the Water Resources Board is required to assess water conditions monthly. Staff has assembled climate information from a variety of sources to monitor the potential for drought conditions in Rhode Island.

The USGS Water Conditions Statement is summarized in three tables (Surface Water Runoff, Ground-water Level Conditions, and Summary of Rhode Island Ground-Water Levels) imbedded in this memorandum.

Surface-water flows at the end of December 2005 were above normal (highest 25 percent of flows for December) for all Rhode Island river basins (Table 1). Flows were considered normal in southeastern Massachusetts and central and northern Rhode Island. No new maximum or minimum monthly mean discharge values for December were recorded at any stream-gaging stations in Massachusetts and Rhode Island. This assessment is based on monthly flow statistics (30-year period from 1971 to 2000) from 22 near-real-time stations with 30 or more years of record.

Ground-water levels at the end of December 2005 were above normal in eastern and southern Rhode Island (Table 2). A new high ground-water-level record for the month of December was measured in 6 of 125 wells that have records of 10 or more years in Massachusetts and Rhode Island. In Rhode Island, measured ground-water levels in 5 wells set new record highs for the month of December. One well in Rhode Island (Burrillville 395) set a new record low ground-water level for December (Table 3). This assessment is based on the evaluation of 125 wells with 10 or more years of record.

Reservoir conditions improved slightly during December 2005. Borden Brook/Cobble Mountain, Quabbin, and Scituate (Rhode Island) Reservoirs were 92-, 100-, and 104-percent full, respectively, at the end of December. In comparison, these reservoirs were 87-, 99-, and 97-percent full, respectively, at the end of November.

The NOAA National Weather Service (NWS) Drought Severity Index for the period ending 28 January 2006 shows extremely moist conditions for the region (Table 4). The Crop Moisture Index for the same time period shows wet conditions (Table 5). The RI Precipitation Report will be distributed at the Committee meeting.
Table 1: Surface Water Runoff

Surface-Water Runoff
December 2005

COMPARISON WITH MONTHLY NORMAL RANGE

- ABOVE NORMAL – within the highest 25 percent of record for this month
- NORMAL RANGE
- BELOW NORMAL – within the lowest 25 percent of record for this month
- NO STREAM DATA

INDEX STREAM GAGE AND IDENTIFIER LETTER

NOTE: Additional sites not shown are used to determine ranges

Table 2: Ground Water-Level Conditions

MASSACHUSETTS AND RHODE ISLAND USGS GROUND-WATER-LEVEL CONDITIONS - DECEMBER 2005

EXPLANATION

COMPARISON WITH MONTHLY NORMAL RANGE

- ABOVE NORMAL
- BELOW NORMAL
- NORMAL

- INDEX STREAM GAGE AND IDENTIFIER LETTER

NOTE: Additional sites not shown are used to determine ranges
TABLE 3: SUMMARY OF GROUND-WATER LEVELS     December     2005     PROVISIONAL

(NOTE: Wells with * also available in real-time at top of Ground-Water Data page; OWc, monthly measured value used in high ground-water level stimation report, USGS Open-File Report 80-1205.)

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**BURRILLVILLE** 187    TS 1968      -  0.15   +   0.45    +  0.49    14.65    19
**BURRILLVILLE** 395    UT 1992      -  1.12   -   4.87    -  5.12    11.02 <  28
**BURRILLVILLE** 396    VT 1992      -  0.63   -   0.22    -  0.17     5.08    29
**BURRILLVILLE** 397    HT 1992      -  5.43   -   2.08    -  1.23    16.41    29
**BURRILLVILLE** 398    HT 1992      -  1.70   +   1.04    -  0.03     7.21    29
**CHARLESTOWN** 18      FS 1946      +  0.61   +   0.72    +  3.80    14.63    21
**CHARLESTOWN** 586     VT 1992        -----      -----      -----    -----  
**CHARLESTOWN** 587     ST 1992        -----      -----      -----    -----  
**COVENTRY** 342        VS 1991      +  0.17   +   0.14    +  0.25     7.81    19
**COVENTRY** 411        SS 1961      -  0.25   +   0.52    +  1.39    20.34    19
**COVENTRY** 466        VT 1992      +  0.06   +   0.24    +  0.05     2.58    28
**CUMBERLAND** 265      SS 1946      +  1.20   +   1.56    +  2.31     9.31    19
**EXETER** 6            VS 1948      +  0.26   +   0.68    +  1.07     4.68    19
**EXETER** 158          ST 1991      +  0.60   +   1.20    +  1.58     5.08    19
**EXETER** 238          FT 1991      -  0.02   +   0.33    +  0.21    11.40    19
**EXETER** 278          HT 1991      +  1.17   +   3.58    +  6.84     6.84    21
**EXETER** 475          VS 1981      +  0.43   +   0.80    +  1.47    13.51    19
**FOSSTER** 40          HT 1991      +  0.06   +   0.72    +  2.23     4.53    28
**FOSSTER** 290         HT 1992      +  0.25   +   0.64    +  2.45     5.33    28
**HOPKINTON** 67        ST 1991      +  1.29   +   2.47    +  2.96    13.47    19
**LINCOLN** 84          VS 1946      -  0.15   +   0.50    +  0.98     4.07    19
**LITTLE COMPTON** 142  ST 1992      -  3.84   -   0.09    -  0.59    10.50    27
**NEW SHOREHAM** 258    UT 1991      +  0.04   +   0.72    +  2.27    10.28 > 21
**NORTH KINGSTOWN** 255 VS 1954      +  0.26   +   1.22    +  2.33    6.11 > 21
**NORTH SMITHFIELD** 21 TS 1947      -  0.36   +   0.08    +  1.06     6.55    19
**PORTSMOUTH** 551     HT 1992      -  5.38   +   1.00    +  1.68    30.62    27
**PROVIDENCE** 48      TS 1944      -  0.10   +   0.02    +  3.35     3.23 > 21
**RICHMOND** 417       VS 1976      +  0.10   +   0.22    +  1.05     5.73    21
**RICHMOND** 600*       TS 1977      +  0.53   +   1.23    +  2.08    32.21 > 31
**RICHMOND** 785       FS 1989      +  0.61   +   1.71    +  2.83    22.46    19
**SOUTH KINGSTOWN** 6   VS 1955      +  0.55   +   1.24    +  2.74    9.80 > 21
**SOUTH KINGSTOWN** 1198 FS 1988      +  0.26   +   0.86    +  2.46    6.44    21
**TIVERTON** 274        TT 1990        -----      -----      -----    -----  
**WARWICK** 59         ST 1991      -  0.03   +   0.09    +  0.60     4.43    21
**WESTERLY** 522       FS 1969      +  0.03   +   0.46    +  0.83    11.11    21
**WEST GREENWICH** 181  US 1969      -  0.25   -   0.03    +  0.51    14.72    19
**WEST GREENWICH** 206  ST 1991      +  0.00   +   0.21    +  0.19     3.79    21

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**>> SET NEW HIGH OR EQUALED HIGHEST RECORDED WATER LEVEL FOR PERIOD OF RECORD**
**> SET NEW HIGH OR EQUALED HIGHEST RECORDED WATER LEVEL FOR END OF NOVEMBER**
**<< SET NEW LOW OR EQUALED LOWEST RECORDED WATER LEVEL FOR PERIOD OF RECORD**
**< SET NEW LOW OR EQUALED LOWEST RECORDED WATER LEVEL FOR END OF NOVEMBER**
**------ - DATA NOT AVAILABLE**

**TOPOGRAPHIC (TOPO) SETTING:** F=FLAT, G=FLOOD PLAIN, H=HILLTOP, S=HILLSIDE, T=TERRACE, U=UNDULATING, V=VALLEY, W=UPLAND DRAW

**Table LITHOLOGY (LITHO):** G=GRAVEL, R=ROCK, S=SAND, T=TILL

Table 4: Drought Severity Index by Divsion
DISCUSSION
Water conditions for Rhode Island have remained wet during this winter period of water recharge and includes 15.7 inches of snowfall received between December 1, 2005 through January 31, 2006, a 1.4 inch departure from normal. Water conditions will continue to be monitored over the next month.

**RECOMMENDATIONS**: Information only.

**Additional Information on Water Conditions:**