



5	C:\QADJ\MONSTART.93	FORMATTED	OLD		
6	C:\QADJ\QADJ.PRN	FORMATTED	UNKNOWN		
7	C:\REFILL93\STCHAR93.STY	UNFORMATTED	OLD		
10	C:\QADJ\QADJFLO.93	FORMATTED	UNKNOWN		
14	C:\REFILL93\TABOUB.93	UNFORMATTED	OLD	DIRECT	104

The input data file defines the program options to be used and project runoff volumes for the flow adjustment. This data is input on 80 column records using the standard HYSSR format. A sample of the input follows the input record formats below.

Record code 01: This record type defines the basic program options as follows:

<u>Identifier</u>	<u>Definition</u>	<u>Default</u>
ASP	Period number to begin accumulating flows to calculate historical runoff volume for each year	1
AEP	Period number to end flow accumulation for historical volume 14	
NSY	Starting year of flow adjustment (use only last 2 digits (e.g. 29))	none
NSP	Period of starting year to begin flow adjustment (e.g. 1 for January)	none
NLY	Last year of flow adjustment (use only last 2 digits (e.g. 78))	none
NLP	Period of last year to end flow adjustment	none
PRJ	Project number where runoff volume is measured All project's natural flows are adjusted to the same volume ratio as this project unless there is a record "06" for the project.	The Dalles
VOL	Runoff volume in MAF at project named by the "PRJ" value for time period "ASP" - "AEP" (accumulation period).	none

**Note:** The accumulation period **ASP through AEP must match the runoff volume period.** For example if the runoff volume forecast is for February through July then ASP must be 2 and AEP must be 8. If the runoff volume forecast is for January through July then ASP must be 1 and AEP must be 8.

Record code 06: This record defines projects and runoff volumes which differ from the "PRJ" project and

"VOL" volume specified on record code "01". The runoff volume, in MAF, for the external project number input in columns 8 - 10 on this record is specified in the data field following the "VOL" identifier in columns

21 - 23. Any projects which share this runoff volume are defined in the data fields following the "PRJ" identifier. See the sample input below.

SAMPLE INPUT.

```

01          NSY          29NSP          1NLY          88NLP          8
01          VOL          77.3ASP          1AEP          8
99          MICA , ARROW , LIBBY , DUNCAN , CORRALINN ( KOOTENAY ) ,
06          1          VOL          7.55
06          2          VOL          16.00
06          3          VOL          4.62
06          5          VOL          1.49
06          6          VOL          12.00PRJ          49PRJ          169
06          10         VOL          1.80

```

Record code 99: This record contains comments for the user. Columns 1 - 2 must contain "99", and columns 3 - 80 may contain any combination of alphabetic and numeric characters. The contents of this record are not read by the program.

OUTPUT. The Flow Adjustment (QADJ) program creates two output files: a list of the input data and project runoff volume information and error messages; and a file containing the resulting adjusted natural flows. The first output file listing the input data gives information about the data used to compute the adjusted natural flows. This file also contains project volume information, both computed and input. In the sample output which follows, the "PRJ" value from record code "01" is The Dalles (the default project) and its "VOL" is 60.0 MAF. The sample output lists the accumulated runoff volume in KAF at the "PRJ" project for each year during the accumulation period of "ASP" through "AEP". This output then indicates which projects will be adjusted to a runoff volume other than the record code "01" "VOL" value and the runoff volume to which these projects will be adjusted.

The other output file contains the resulting adjusted flows for each project beginning with the starting year and period, indicated as "NSY" and "NSP" on record code "01", and ending with the last year and period, "NLY" and "NLP". These records use the standard HYSSR format with "60" in columns 1 - 2, the external project number in columns 8 - 10, the study year "90" in columns 17 - 18, the flow year in columns 19 - 20, and the period identifier and data values in columns 21 - 80. The study year is "90" (meaning 1990) so that these

adjusted flows will not be depleted again by HYSSR (the QADJ program read depleted natural flows from the TABOUT file). See the glossary for a discussion of depleted flows. A sample output file follows.

Sample adjusted flows:

```

60      3      9029AP1      2660.APR      4795.MAY      20618.JUN      38414.JUL
14729.
60      3      9030AP1      6388.APR      13566.MAY      18525.JUN      32198.JUL
17305.
.
.
60      3      9077      ...
60      3      9078      ...

```

EXECUTION ON THE PC. To execute the QADJ program, have a copy of **QADJ.EXE** in the local **C:\HYSSR\PGM** subdirectory, and the program will execute using the datasets named in **QADJ.CON**. This control file must be in the **C:\HYSSR\CONFILES** subdirectory and changed to meet the data file naming conventions being used. The existing format of the confile may not be altered.

```

G061M                                FLOW ADJUSTMENT PROGRAM
                                01/28/97

                                INPUT DATA
1      NSY      29.NSP      1.NLY      88.NLP      10.      0.
1      VOL      138.ASP      1.AEP      8.      0.      0.
99     MICA,ARROW,LIBBY,DUNCAN,CORRALINN(KOOTENAY),HORSE,
99     KERR(FLATHEAD),ALBENI(PEND OREILLE),POST(COEUR DALENE)
99     COULEE,CHELAN,ROCK,MAYFIELD,BROWNLEE,DWORSHAK,GRANITE
6      1      VOL      9.95      0.00      0.00      0.00      0.00
6      2      VOL      21.30     0.00      0.00      0.00      0.00
6      3      VOL      7.16      0.00      0.00      0.00      0.00
6      5      VOL      1.84      0.00      0.00      0.00      0.00
6      6      VOL      19.80PRJ  49.00PRJ  169.00PRJ  50.00      0.00
6      10     VOL      2.97      0.00      0.00      0.00      0.00
6      11     VOL      9.39PRJ  54.00PRJ  38.00PRJ  56.00      0.00
6      16     VOL      21.70PRJ  57.00PRJ  58.00PRJ  59.00      0.00
6      18     VOL      5.98PRJ  61.00PRJ  62.00PRJ  63.00      0.00
6      18     PRJ      64.00PRJ  65.00      0.00      0.00      0.00
6      19     VOL      76.80PRJ  67.00PRJ  68.00      0.00      0.00
6      20     VOL      1.39      0.00      0.00      0.00      0.00
6      69     VOL      85.30PRJ  70.00PRJ  71.00      0.00      0.00
6      164    VOL      4.02PRJ  163.00    0.00      0.00      0.00
6      21     VOL      17.40PRJ  72.00PRJ  84.00      0.00      0.00
6      31     VOL      5.23      0.00      0.00      0.00      0.00
6      76     VOL      45.40PRJ  78.00PRJ  79.00      0.00      0.00

TOTAL ACCUMULATED RUNOFF AT THE DALLES  JAN - JUL (KAF)
29 68883.  30 70208.  31 64498.  32 106561.  33 108424.  34 110635.  35 91008.  36
89425.  37 69423.
38 107341.  39 81263.  40 81549.  41 69943.  42 90972.  43 118495.  44 60201.  45
83315.  46 111772.
47 106672.  48 131223.  49 102512.  50 124892.  51 125031.  52 113321.  53 106764.  54
118313.  55 96899.
56 140807.  57 112737.  58 107560.  59 118814.  60 102283.  61 111447.  62 97228.  63
94683.  64 107134.

```

65 126093.	66 89343.	67 113662.	68 95248.	69 122412.	70 97011.	71 138906.	72
152192.	73 71223.						
74 156945.	75 111935.	76 122427.	77 53810.	78 104663.	79 82580.	80 97651.	81
104524.	82 134916.						
83 123372.	84 123481.	85 90479.	86 112890.	87 79225.	88 75879.		

ALL FLOWS HAVE BEEN ADJUSTED TO 138.00 MAF EXCEPT AS NOTED BELOW :

FLOWS ADJUSTED TO	9.95 MAF AT PROJECT(S) :	1					
FLOWS ADJUSTED TO	21.30 MAF AT PROJECT(S) :	2					
FLOWS ADJUSTED TO	7.16 MAF AT PROJECT(S) :	3					
FLOWS ADJUSTED TO	1.84 MAF AT PROJECT(S) :	5					
FLOWS ADJUSTED TO	19.80 MAF AT PROJECT(S) :	6	49	169	50		
FLOWS ADJUSTED TO	2.97 MAF AT PROJECT(S) :	10					
FLOWS ADJUSTED TO	9.39 MAF AT PROJECT(S) :	11	54	38	56		
FLOWS ADJUSTED TO	21.70 MAF AT PROJECT(S) :	16	57	58	59		
FLOWS ADJUSTED TO	5.98 MAF AT PROJECT(S) :	18	61	62	63	64	65
FLOWS ADJUSTED TO	76.80 MAF AT PROJECT(S) :	19	67	68			
FLOWS ADJUSTED TO	1.39 MAF AT PROJECT(S) :	20					
FLOWS ADJUSTED TO	85.30 MAF AT PROJECT(S) :	69	70	71			
FLOWS ADJUSTED TO	4.02 MAF AT PROJECT(S) :	164	163				
FLOWS ADJUSTED TO	17.40 MAF AT PROJECT(S) :	21	72	84			
FLOWS ADJUSTED TO	5.23 MAF AT PROJECT(S) :	31					
FLOWS ADJUSTED TO	45.40 MAF AT PROJECT(S) :	76	78	79			