

Appendix 3.1: MEFs, TIFs, Minimum Reservoir Pool Elevations

This appendix specifies Minimum Enforceable Instream Flows (MEFs) and Target Instream Flows (TIFs), and Minimum Reservoir Pool Elevations which are a part of the Tribal Water Right. MEFs are based on dry water year conditions. TIFs are based on normal and wet water year conditions and are reported for normal and wet years. Wet, normal and dry water year types were determined using natural streamflow information for the April through July runoff forecasting period using streamflow information spanning the 1983-2002 period. Details on the definition of wet, normal and dry years are reported in Appendix 3.7. Details on the annual, or seasonal, determination of water year types – wet, normal, or dry, are in the Adaptive Management Appendix to the Compact (Appendix 3.5). Instream flow locations are found on the attached map. All instream flow values reported in tables below are in cubic feet per second.

Jocko Area

Middle Fork Jocko River below Tabor Feeder Canal near mouth

<i>all values in cfs</i>	<i>Jan</i>	<i>Feb</i>	<i>Mar</i>	<i>Apr</i>	<i>May</i>	<i>Jun</i>	<i>Jul</i>	<i>Aug</i>	<i>Sep</i>	<i>Oct</i>	<i>Nov</i>	<i>Dec</i>
MEF	9	9	10	18	26	22	20	9	9	9	9	9
TIF Normal Year	9	9	11	21	26	26	44	72	44	25	14	10
TIF Wet Year	11	11	12	20	52	96	92	60	58	38	12	9

North Fork Jocko River below Tabor Feeder Canal near mouth

<i>all values in cfs</i>	<i>Jan</i>	<i>Feb</i>	<i>Mar</i>	<i>Apr</i>	<i>May</i>	<i>Jun</i>	<i>Jul</i>	<i>Aug</i>	<i>Sep</i>	<i>Oct</i>	<i>Nov</i>	<i>Dec</i>
MEF	3	4	9	25	40	30	22	8	6	6	6	6
TIF Normal Year	4	4	14	26	70	44	24	12	10	10	12	8
TIF Wet Year	10	8	9	30	110	210	60	14	8	8	12	7

Falls Creek below Tabor Feeder Canal near mouth

<i>all values in cfs</i>	<i>Jan</i>	<i>Feb</i>	<i>Mar</i>	<i>Apr</i>	<i>May</i>	<i>Jun</i>	<i>Jul</i>	<i>Aug</i>	<i>Sep</i>	<i>Oct</i>	<i>Nov</i>	<i>Dec</i>
MEF	1	1	1	1	4	5	4	3	3	2	2	1

S-14 Creek below Tabor Feeder Canal near mouth

<i>all values in cfs</i>	<i>Jan</i>	<i>Feb</i>	<i>Mar</i>	<i>Apr</i>	<i>May</i>	<i>Jun</i>	<i>Jul</i>	<i>Aug</i>	<i>Sep</i>	<i>Oct</i>	<i>Nov</i>	<i>Dec</i>
MEF	0.1	0.1	0.1	0.2	0.4	0.7	0.4	0.3	0.2	0.1	0.1	0.1

Jocko River below Upper Jocko S Canal

<i>all values in cfs</i>	<i>Jan</i>	<i>Feb</i>	<i>Mar</i>	<i>Apr</i>	<i>May</i>	<i>Jun</i>	<i>Jul</i>	<i>Aug</i>	<i>Sep</i>	<i>Oct</i>	<i>Nov</i>	<i>Dec</i>
MEF	20	20	25	60	100	75	50	25	20	20	20	20

Cold Creek below Upper Jocko S Canal near mouth

<i>all values in cfs</i>	<i>Jan</i>	<i>Feb</i>	<i>Mar</i>	<i>Apr</i>	<i>May</i>	<i>Jun</i>	<i>Jul</i>	<i>Aug</i>	<i>Sep</i>	<i>Oct</i>	<i>Nov</i>	<i>Dec</i>
MEF	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3

Gold Creek below Upper Jocko S Canal near mouth

<i>all values in cfs</i>	<i>Jan</i>	<i>Feb</i>	<i>Mar</i>	<i>Apr</i>	<i>May</i>	<i>Jun</i>	<i>Jul</i>	<i>Aug</i>	<i>Sep</i>	<i>Oct</i>	<i>Nov</i>	<i>Dec</i>
MEF	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3

Big Knife Creek below Upper Jocko S Canal near mouth

<i>all values in cfs</i>	<i>Jan</i>	<i>Feb</i>	<i>Mar</i>	<i>Apr</i>	<i>May</i>	<i>Jun</i>	<i>Jul</i>	<i>Aug</i>	<i>Sep</i>	<i>Oct</i>	<i>Nov</i>	<i>Dec</i>
MEF	3	3	3	5	7	8	5	5	4	4	3	3

Jocko River below Jocko K Canal

<i>all values in cfs</i>	<i>Jan</i>	<i>Feb</i>	<i>Mar</i>	<i>Apr</i>	<i>May</i>	<i>Jun</i>	<i>Jul</i>	<i>Aug</i>	<i>Sep</i>	<i>Oct</i>	<i>Nov</i>	<i>Dec</i>
MEF	40	45	50	100	140	90	42	42	42	42	40	40
Normal Year	54	51	68	123	294	303	87	77	94	105	85	64
Wet Year	68	64	79	176	516	758	222	68	96	111	83	58

Agency Creek below Upper Jocko J Canal

<i>all values in cfs</i>	<i>Jan</i>	<i>Feb</i>	<i>Mar</i>	<i>Apr</i>	<i>May</i>	<i>Jun</i>	<i>Jul</i>	<i>Aug</i>	<i>Sep</i>	<i>Oct</i>	<i>Nov</i>	<i>Dec</i>
MEF	3	3	4	8	15	14	10	6	6	4	4	3

East Fork Finley Creek below Jocko N Canal near Mouth

<i>all values in cfs</i>	<i>Jan</i>	<i>Feb</i>	<i>Mar</i>	<i>Apr</i>	<i>May</i>	<i>Jun</i>	<i>Jul</i>	<i>Aug</i>	<i>Sep</i>	<i>Oct</i>	<i>Nov</i>	<i>Dec</i>
MEF	3	3	3	7	15	10	7	5	4	4	3	3

Schley Creek below Doney Ditch near Mouth

<i>all values in cfs</i>	<i>Jan</i>	<i>Feb</i>	<i>Mar</i>	<i>Apr</i>	<i>May</i>	<i>Jun</i>	<i>Jul</i>	<i>Aug</i>	<i>Sep</i>	<i>Oct</i>	<i>Nov</i>	<i>Dec</i>
MEF	0.3	0.3	0.4	1.0	3.0	1.9	1.1	0.6	0.5	0.4	0.4	0.3

Finley Creek below Finley E Canal near Mouth

<i>all values in cfs</i>	<i>Jan</i>	<i>Feb</i>	<i>Mar</i>	<i>Apr</i>	<i>May</i>	<i>Jun</i>	<i>Jul</i>	<i>Aug</i>	<i>Sep</i>	<i>Oct</i>	<i>Nov</i>	<i>Dec</i>
MEF	9	9	11	23	50	28	15	12	11	11	11	10
Normal Year	12	13	16	31	90	67	30	17	22	23	20	15
Wet Year	15	15	16	60	128	156	37	18	20	24	21	16

Jocko River below Lower Jocko S Canal

<i>all values in cfs</i>	<i>Jan</i>	<i>Feb</i>	<i>Mar</i>	<i>Apr</i>	<i>May</i>	<i>Jun</i>	<i>Jul</i>	<i>Aug</i>	<i>Sep</i>	<i>Oct</i>	<i>Nov</i>	<i>Dec</i>
MEF	78	78	104	168	310	242	135	95	110	80	80	80
Normal Year	79	76	96	169	425	462	183	134	165	167	140	98
Wet Year	98	92	108	253	686	983	324	123	162	176	141	93

Jocko River below Lower Jocko J Canal

<i>all values in cfs</i>	<i>Jan</i>	<i>Feb</i>	<i>Mar</i>	<i>Apr</i>	<i>May</i>	<i>Jun</i>	<i>Jul</i>	<i>Aug</i>	<i>Sep</i>	<i>Oct</i>	<i>Nov</i>	<i>Dec</i>
MEF	95	95	110	175	325	250	145	130	115	110	105	100
Normal Year	111	106	125	212	507	530	235	185	228	224	188	136
Wet Year	133	127	141	321	778	1,075	395	190	232	241	191	132

Revais Creek below Revais R Canal below Highway 200

<i>all values in cfs</i>	<i>Jan</i>	<i>Feb</i>	<i>Mar</i>	<i>Apr</i>	<i>May</i>	<i>Jun</i>	<i>Jul</i>	<i>Aug</i>	<i>Sep</i>	<i>Oct</i>	<i>Nov</i>	<i>Dec</i>
MEF	3	3	3	6	10	6	4	3	3	3	3	3

Mission Area**Mission Creek below Pablo Feeder Canal**

<i>all values in cfs</i>	<i>Jan</i>	<i>Feb</i>	<i>Mar</i>	<i>Apr</i>	<i>May</i>	<i>Jun</i>	<i>Jul</i>	<i>Aug</i>	<i>Sep</i>	<i>Oct</i>	<i>Nov</i>	<i>Dec</i>
MEF	11	10	10	20	94	115	102	85	45	20	20	11
Normal Year	11	10	10	20	94	160	150	128	120	80	20	11
Wet Year	14	13	13	22	100	200	190	136	130	100	20	14

Post Creek below McDonald Reservoir above Pablo Feeder Canal

<i>all values in cfs</i>	<i>Jan</i>	<i>Feb</i>	<i>Mar</i>	<i>Apr</i>	<i>May</i>	<i>Jun</i>	<i>Jul</i>	<i>Aug</i>	<i>Sep</i>	<i>Oct</i>	<i>Nov</i>	<i>Dec</i>
MEF	20	20	20	30	60	140	120	80	40	40	30	20
Normal Year	20	20	30	35	88	160	184	128	92	45	38	28
Wet Year	35	22	32	48	96	155	268	155	106	46	36	28

Middle Crow Creek below Pablo Feeder Canal near mouth

<i>all values in cfs</i>	<i>Jan</i>	<i>Feb</i>	<i>Mar</i>	<i>Apr</i>	<i>May</i>	<i>Jun</i>	<i>Jul</i>	<i>Aug</i>	<i>Sep</i>	<i>Oct</i>	<i>Nov</i>	<i>Dec</i>
MEF	2	2	2	2	9	9	2	2	2	2	2	2

North Crow Creek below Pablo Feeder Canal near mouth

<i>all values in cfs</i>	<i>Jan</i>	<i>Feb</i>	<i>Mar</i>	<i>Apr</i>	<i>May</i>	<i>Jun</i>	<i>Jul</i>	<i>Aug</i>	<i>Sep</i>	<i>Oct</i>	<i>Nov</i>	<i>Dec</i>
MEF	9	9	14	23	56	27	11	10	10	10	9	9
Normal Year	9	9	14	23	67	37	19	12	12	10	15	10
Wet Year	9	9	15	23	61	125	78	20	15	10	15	10

Mission Creek below Mission 6C Canal above Post Creek

<i>all values in cfs</i>	<i>Jan</i>	<i>Feb</i>	<i>Mar</i>	<i>Apr</i>	<i>May</i>	<i>Jun</i>	<i>Jul</i>	<i>Aug</i>	<i>Sep</i>	<i>Oct</i>	<i>Nov</i>	<i>Dec</i>
MEF	13	13	20	24	50	65	35	25	25	25	20	15
Normal Year	13	13	22	24	72	130	80	56	56	50	50	24
Wet Year	14	14	22	24	85	174	130	70	65	60	55	26

Post Creek below Post F Canal

<i>all values in cfs</i>	<i>Jan</i>	<i>Feb</i>	<i>Mar</i>	<i>Apr</i>	<i>May</i>	<i>Jun</i>	<i>Jul</i>	<i>Aug</i>	<i>Sep</i>	<i>Oct</i>	<i>Nov</i>	<i>Dec</i>
MEF	20	20	22	26	55	60	35	26	24	22	22	22
Normal Year	22	22	22	26	76	130	90	70	65	52	35	28
Wet Year	30	26	22	30	88	178	178	75	70	52	42	30

Marsh Creek below Marsh Creek Feeder Canal near mouth

<i>all values in cfs</i>	<i>Jan</i>	<i>Feb</i>	<i>Mar</i>	<i>Apr</i>	<i>May</i>	<i>Jun</i>	<i>Jul</i>	<i>Aug</i>	<i>Sep</i>	<i>Oct</i>	<i>Nov</i>	<i>Dec</i>
MEF	2	2	2	2	2	2	2	2	2	2	2	2

South Crow Creek below South Crow Feeder Canal near mouth

<i>all values in cfs</i>	<i>Jan</i>	<i>Feb</i>	<i>Mar</i>	<i>Apr</i>	<i>May</i>	<i>Jun</i>	<i>Jul</i>	<i>Aug</i>	<i>Sep</i>	<i>Oct</i>	<i>Nov</i>	<i>Dec</i>
MEF	5	5	5	10	12	13	10	9	7	7	7	6
Normal Year	6	6	9	10	14	30	20	12	10	9	9	6
Wet Year	8	8	8	14	18	55	30	16	12	10	10	8

Crow Creek below Crow Pump Canal

<i>all values in cfs</i>	<i>Jan</i>	<i>Feb</i>	<i>Mar</i>	<i>Apr</i>	<i>May</i>	<i>Jun</i>	<i>Jul</i>	<i>Aug</i>	<i>Sep</i>	<i>Oct</i>	<i>Nov</i>	<i>Dec</i>
MEF	25	25	25	40	60	55	22	22	25	25	25	25
Normal Year	30	30	36	40	70	80	36	36	36	36	36	36
Wet Year	35	35	40	40	90	156	110	40	40	40	40	40

Mud Creek below Ronan B Canal

<i>all values in cfs</i>	<i>Jan</i>	<i>Feb</i>	<i>Mar</i>	<i>Apr</i>	<i>May</i>	<i>Jun</i>	<i>Jul</i>	<i>Aug</i>	<i>Sep</i>	<i>Oct</i>	<i>Nov</i>	<i>Dec</i>
MEF	3	3	4	5	13	9	5	3	3	3	3	3

Crow Creek below Moiese A Canal near Mouth

<i>all values in cfs</i>	<i>Jan</i>	<i>Feb</i>	<i>Mar</i>	<i>Apr</i>	<i>May</i>	<i>Jun</i>	<i>Jul</i>	<i>Aug</i>	<i>Sep</i>	<i>Oct</i>	<i>Nov</i>	<i>Dec</i>
MEF	30	30	30	35	50	30	21	21	21	21	21	21
Normal Year	45	45	50	50	100	75	35	22	25	50	50	45
Wet Year	50	50	50	70	100	190	116	30	40	60	60	60

Hellroaring Creek below Twin Feeder Canal near Mouth

<i>all values in cfs</i>	<i>Jan</i>	<i>Feb</i>	<i>Mar</i>	<i>Apr</i>	<i>May</i>	<i>Jun</i>	<i>Jul</i>	<i>Aug</i>	<i>Sep</i>	<i>Oct</i>	<i>Nov</i>	<i>Dec</i>
MEF	1	1	1	1	1	1	1	1	1	1	1	1

Little Bitterroot Area

Little Bitterroot River below Camas A Canal Headworks and above Mill Creek

<i>all values in cfs</i>	<i>Jan</i>	<i>Feb</i>	<i>Mar</i>	<i>Apr</i>	<i>May</i>	<i>Jun</i>	<i>Jul</i>	<i>Aug</i>	<i>Sep</i>	<i>Oct</i>	<i>Nov</i>	<i>Dec</i>
MEF	1	1	1	1	1	1	1	1	1	1	1	1

Little Bitterroot River below Camas A Canal Headworks and below Mill Creek

<i>all values in cfs</i>	<i>Jan</i>	<i>Feb</i>	<i>Mar</i>	<i>Apr</i>	<i>May</i>	<i>Jun</i>	<i>Jul</i>	<i>Aug</i>	<i>Sep</i>	<i>Oct</i>	<i>Nov</i>	<i>Dec</i>
MEF	6	6	6	6	6	6	6	6	6	6	6	6

Mill Creek below Camas A Canal near Mouth

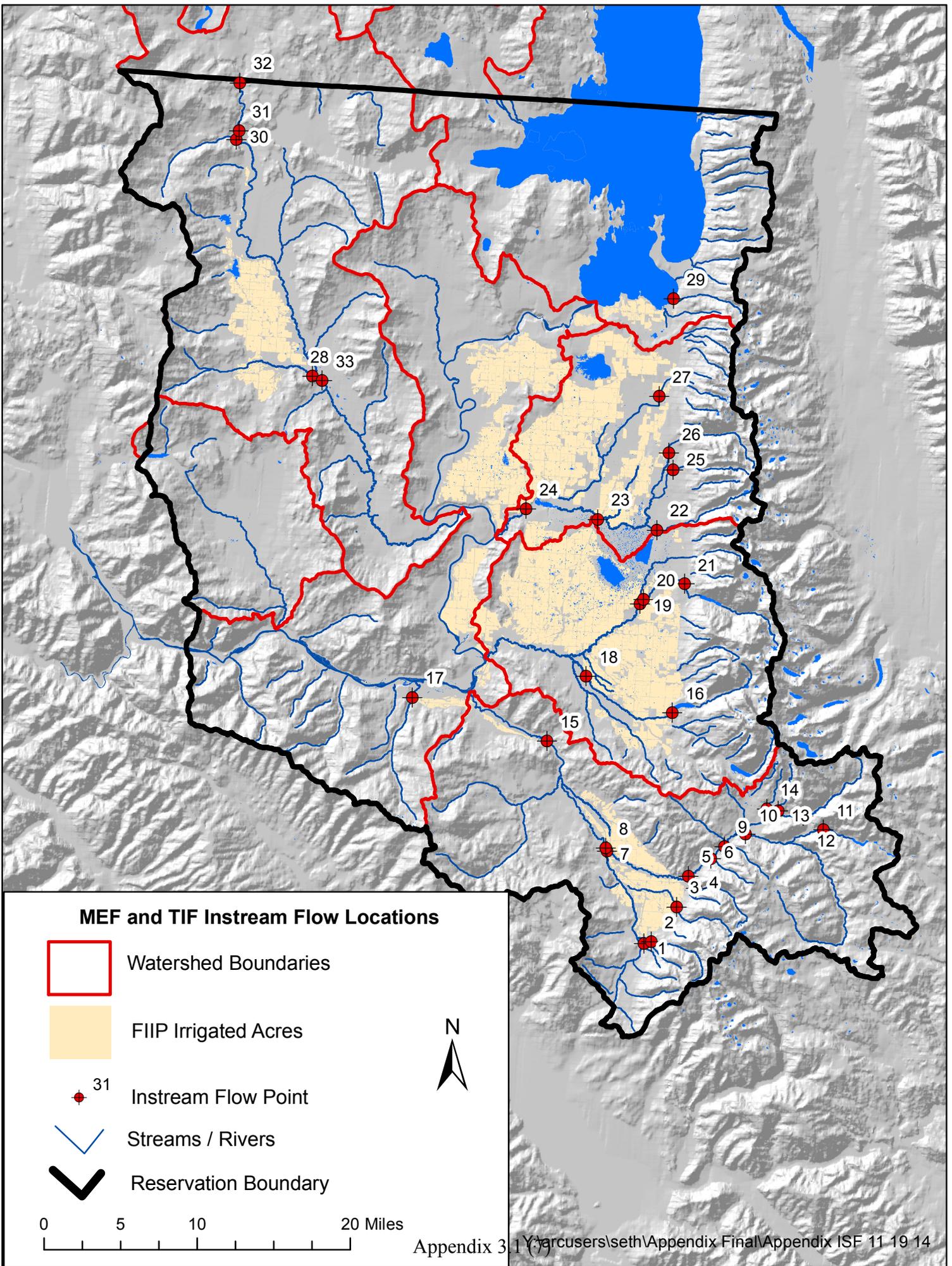
<i>all values in cfs</i>	<i>Jan</i>	<i>Feb</i>	<i>Mar</i>	<i>Apr</i>	<i>May</i>	<i>Jun</i>	<i>Jul</i>	<i>Aug</i>	<i>Sep</i>	<i>Oct</i>	<i>Nov</i>	<i>Dec</i>
MEF	1	1	1	1	1	1	1	1	1	1	1	1

Hot Springs Creek below Camas C Canal near Mouth

<i>all values in cfs</i>	<i>Jan</i>	<i>Feb</i>	<i>Mar</i>	<i>Apr</i>	<i>May</i>	<i>Jun</i>	<i>Jul</i>	<i>Aug</i>	<i>Sep</i>	<i>Oct</i>	<i>Nov</i>	<i>Dec</i>
MEF	1	1	1	1	1	1	1	1	1	1	1	1

Little Bitterroot River below Hot Springs Creek (no mef or tif values)

<i>all values in cfs</i>	<i>Jan</i>	<i>Feb</i>	<i>Mar</i>	<i>Apr</i>	<i>May</i>	<i>Jun</i>	<i>Jul</i>	<i>Aug</i>	<i>Sep</i>	<i>Oct</i>	<i>Nov</i>	<i>Dec</i>
Water Right	75	106	116	198	176	108	28	47	35	32	37	26



32

31

30

28

33

29

27

26

25

24

23

22

21

20

19

18

17

15

16

14

8

7

9

10

13

11

12

5

6

3

4

2

1

Table associating instream flow labels with instream flow point name on map

Point	Instream flow location	Point	Instream flow location
1	Schley Creek below Doney Ditch near mouth	18	Mission Creek below 6C Canal above Post Creek
2	East Fork Finley Creek below Jocko N Canal near mouth	19	Post Creek below F Canal
3	Agency Creek below Upper Jocko J Canal	20	Marsh Creek below Marsh Creek Feeder Canal near mouth
4	Big Knife Creek below Upper Jocko S Canal near mouth	21	Post Creek below McDonald Reservoir above Pablo Feeder Canal
5	Jocko River below Jocko K Canal	22	South Crow Creek below South Crow Feeder near mouth
6	Gold Creek below Upper Jocko S Canal near mouth	23	Crow Creek below Crow Pump Canal
7	Finley Creek below Finley E Canal near mouth	24	Crow Creek below Moiese A Canal near mouth
8	Jocko River below lower Jocko S Canal	25	Middle Crow Creek below Pablo Feeder Canal near mouth
9	Cold Creek below Upper Jocko S Canal near mouth	26	North Crow Creek below Pablo Feeder Canal near mouth
10	Jocko River below Upper Jocko S Canal	27	Mud Creek below Ronan B Canal
11	Middle Fork Jocko River below Tabor Feeder Canal near mouth	28	Hot Springs Creek below Camas C Canal near mouth
12	North Fork Jocko River below Tabor Feeder Canal near mouth	29	Hellroaring Creek below Twin Feeder Canal near mouth
13	Falls Creek below Tabor Feeder Canal near mouth	30	Mill Creek below Camas A Canal near mouth
14	S-14 Creek below Tabor Feeder Canal near mouth	31	Little Bitterroot River below Camas A Canal and above Mill Creek
15	Jocko River below Lower J Canal	32	Little Bitterroot River below Camas A Canal Headworks and above Mill Creek
16	Mission Creek below Pablo Feeder Canal	33	Little Bitterroot River below Hot Springs Creek
17	Revais Creek below Revais R Canal below Highway 200		

Minimum Reservoir Pool Elevations

<i>Reservoir</i>	<i>Minimum reservoir pool elevation (feet*)</i>	<i>Minimum pool volume (AF)</i>
Mission Reservoir	3,379	1,006
McDonald Reservoir	3,549	385
Kicking Horse Reservoir	3,049	1,230
Ninepipe Reservoir	2,998	1,905
Pablo Reservoir	3,188	1,425
Lower Crow Reservoir	2,839	2,039
Turtle Lake	3,068	96
Upper Dry Fork Reservoir	2,915	413
Lower Dry Fork Reservoir	2,842	636
Hubbart Reservoir	3,150.4	27

Tabor Reservoir Minimum Reservoir Pool Elevations

<i>Date(s)</i>	<i>Minimum pool elevation (feet*)</i>	<i>Minimum pool volume (AF)</i>	<i>Frequency of occurrence (Years)</i>
Up to Aug 1 st	4,006	18,162	Target for each year, required one in four years
Aug 1 up to Aug 15	3,980	12,119	Target for each year, required three in four years
Aug 15 up to Nov 15	3,927	2,416	Required every year

*elevations are in feet above mean sea level as determined by reference to a certain U.S. Geological Survey bench mark, elevation 2910.882 feet, stamped "2900 N", as now located and established at Somers, Flathead County, or to such other bench marks as may be established by the U.S. Geological Survey having the same datum.