

Appendix C

2022 Fish Operations Plan Spill

Introduction

This appendix provides an evaluation of the target spill described in the 2022 Fish Operations Plan (https://pweb.crohms.org/tmt/documents/fpp/2022/final/FPP22_AppE.pdf) compared to the actual spill during the 2022 fish spill season from April 1 through August 31. Daily data including FOP spill, actual spill, total river flow, and generation flow are displayed graphically (Figures C-1 through C-8) and in tabular form (Tables C-1 through C-8) for the eight fish passage projects on the lower Snake River and the Lower Columbia River.

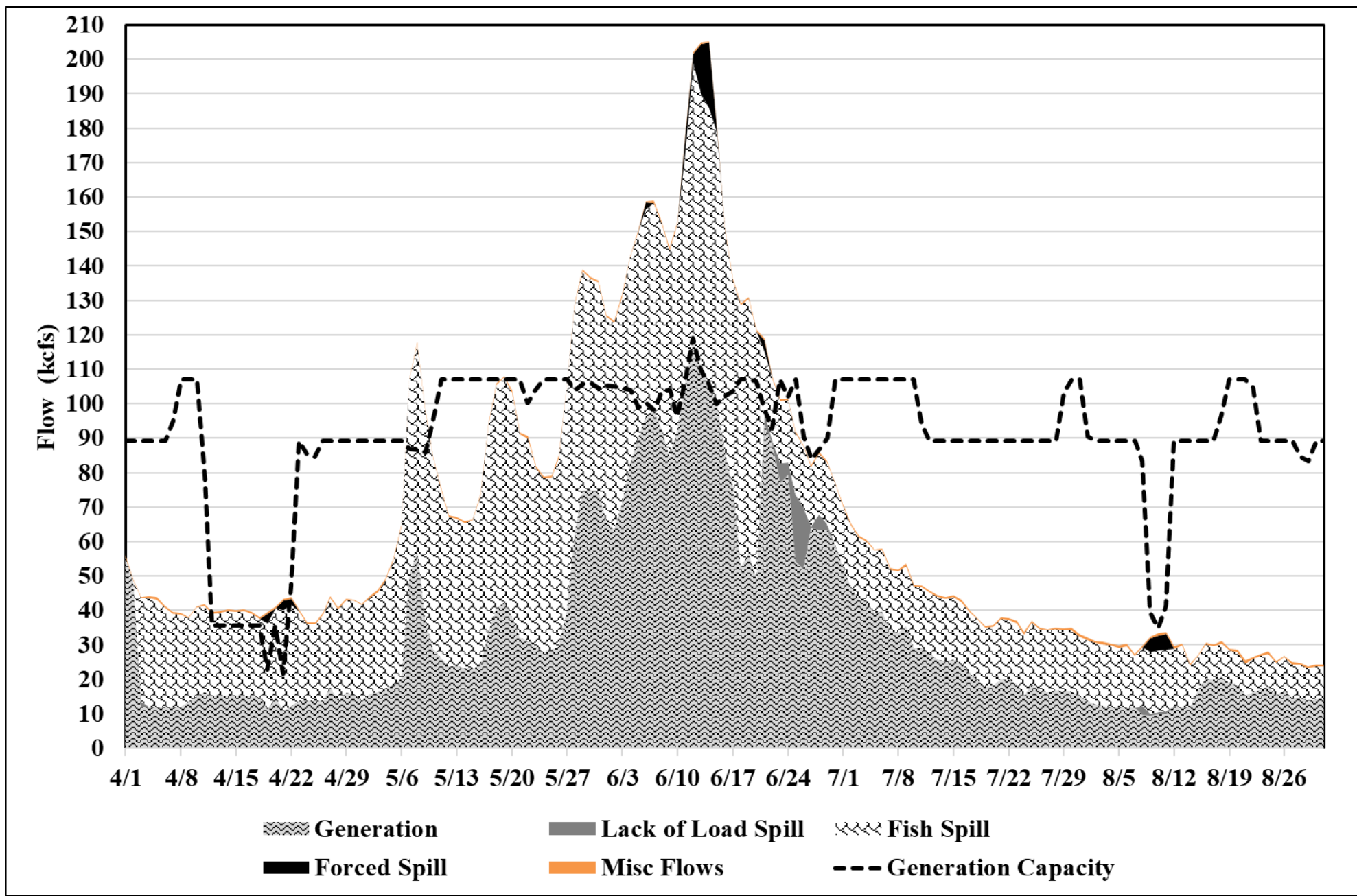


Figure C- 1: Lower Granite daily average project flows, WY 2022

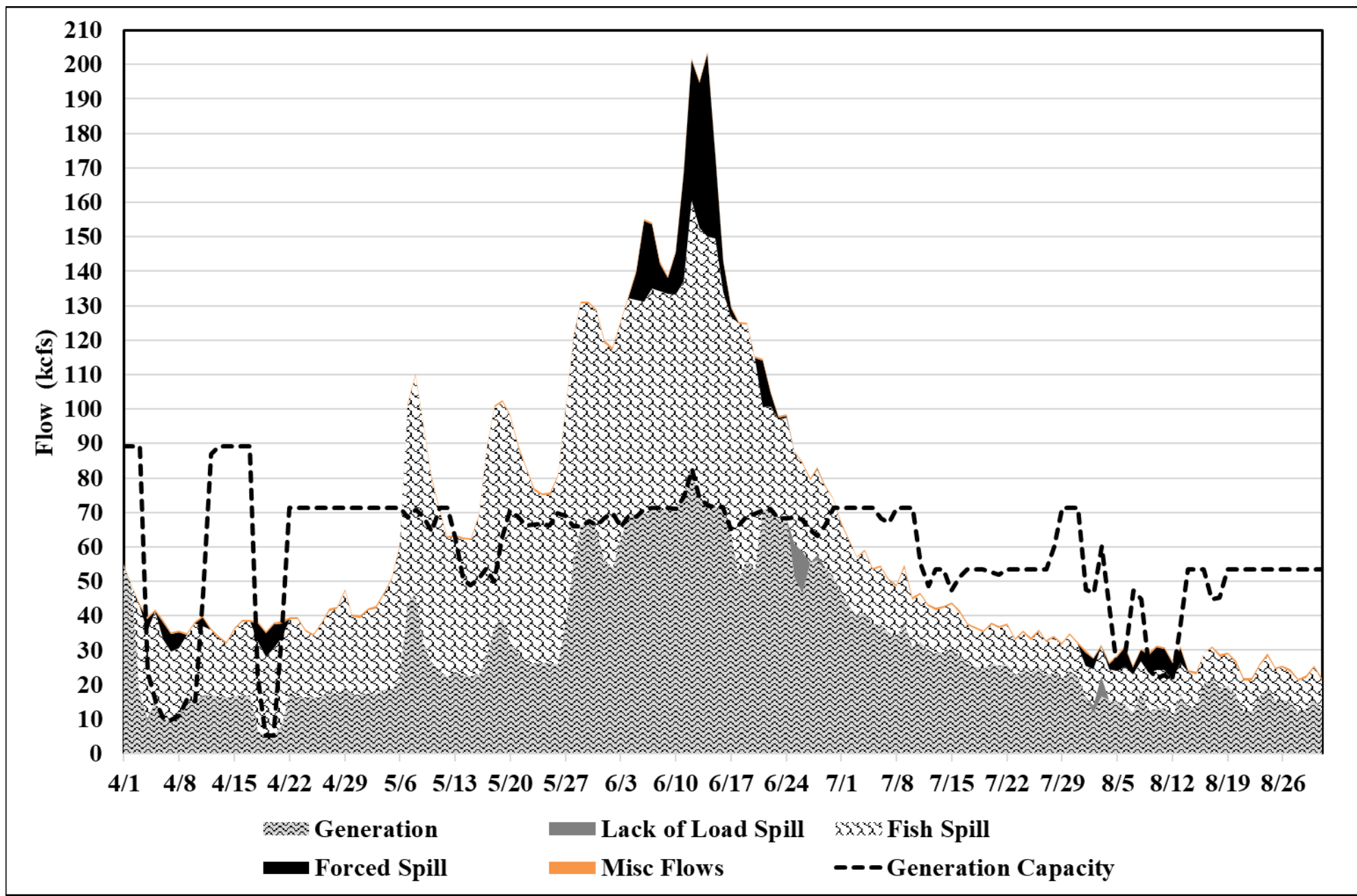


Figure C- 2: Little Goose daily average project flows, WY 2022

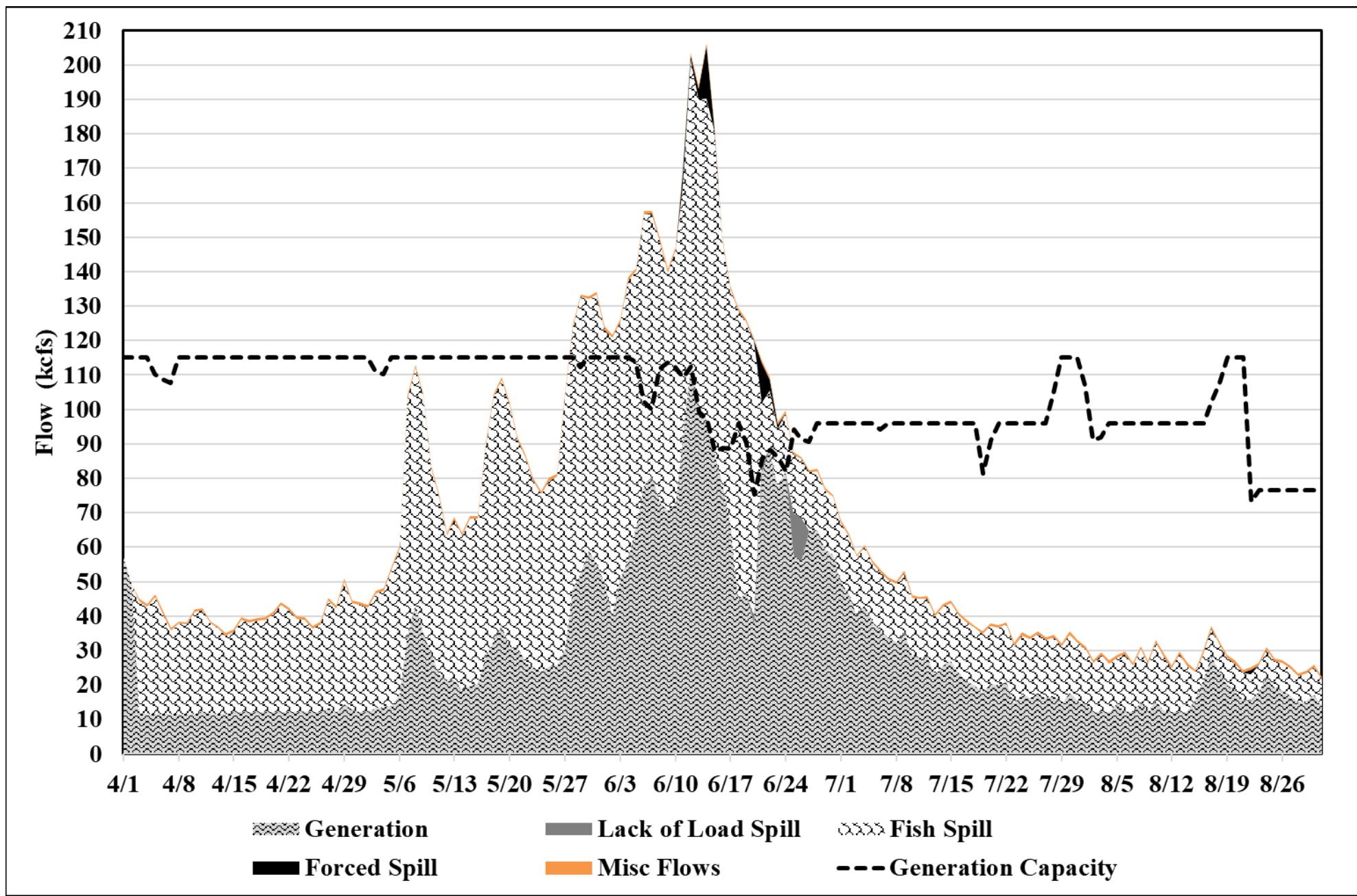


Figure C- 3: Lower Monumental daily average project flows, WY 2022

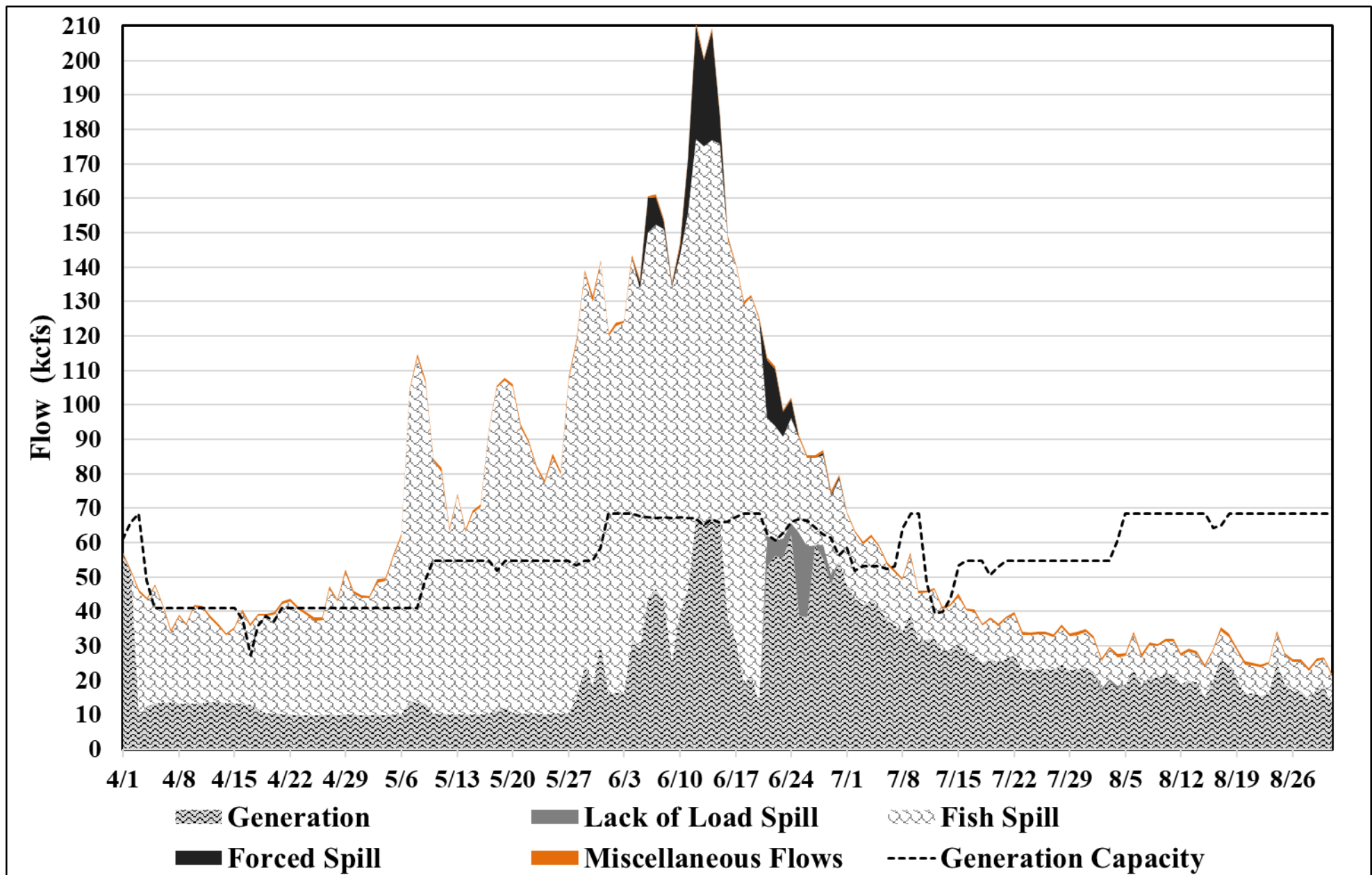


Figure C- 4: Ice Harbor daily average project flows, WY 2022

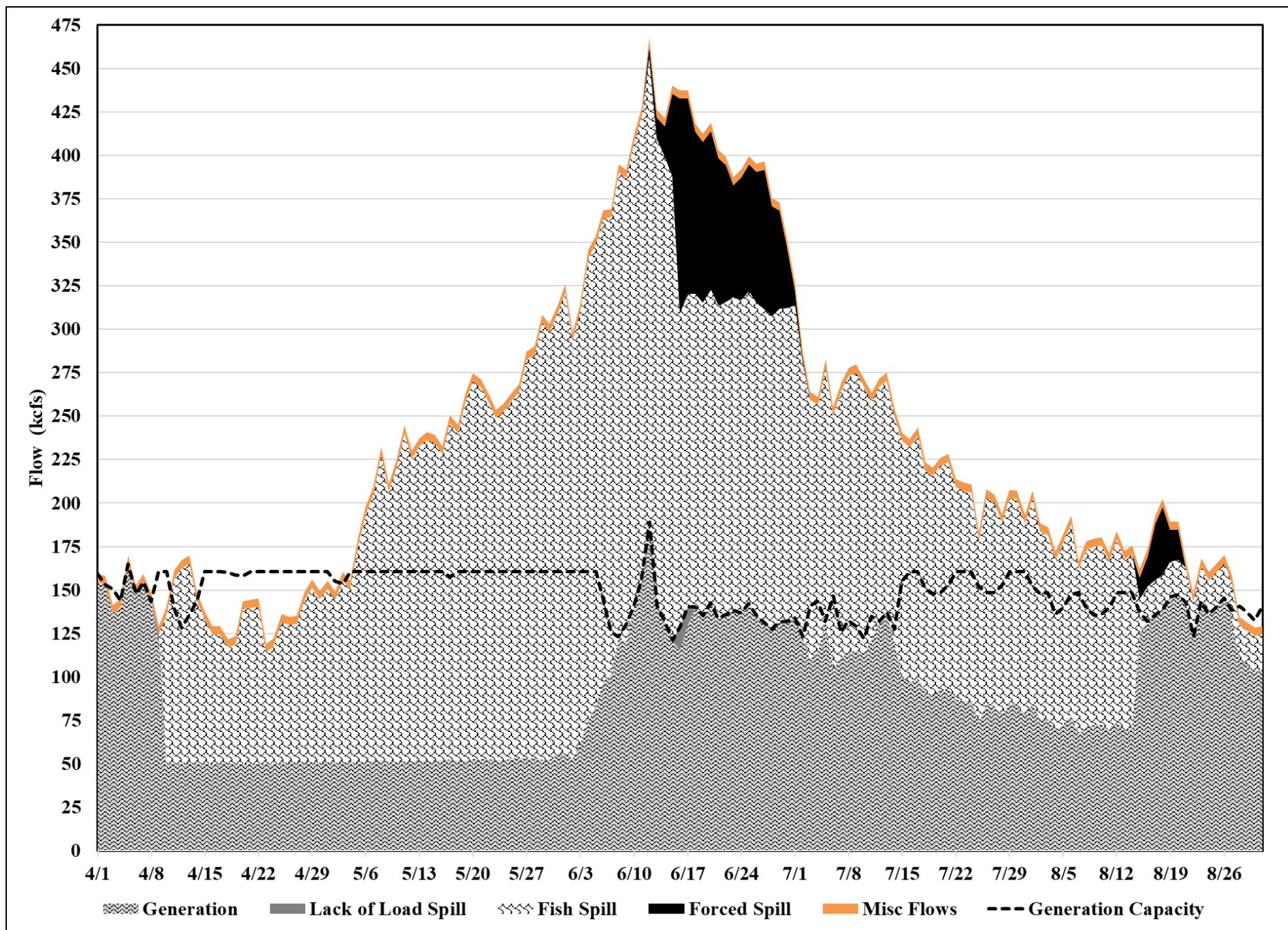


Figure C- 5: McNary daily average project flows, WY 2022

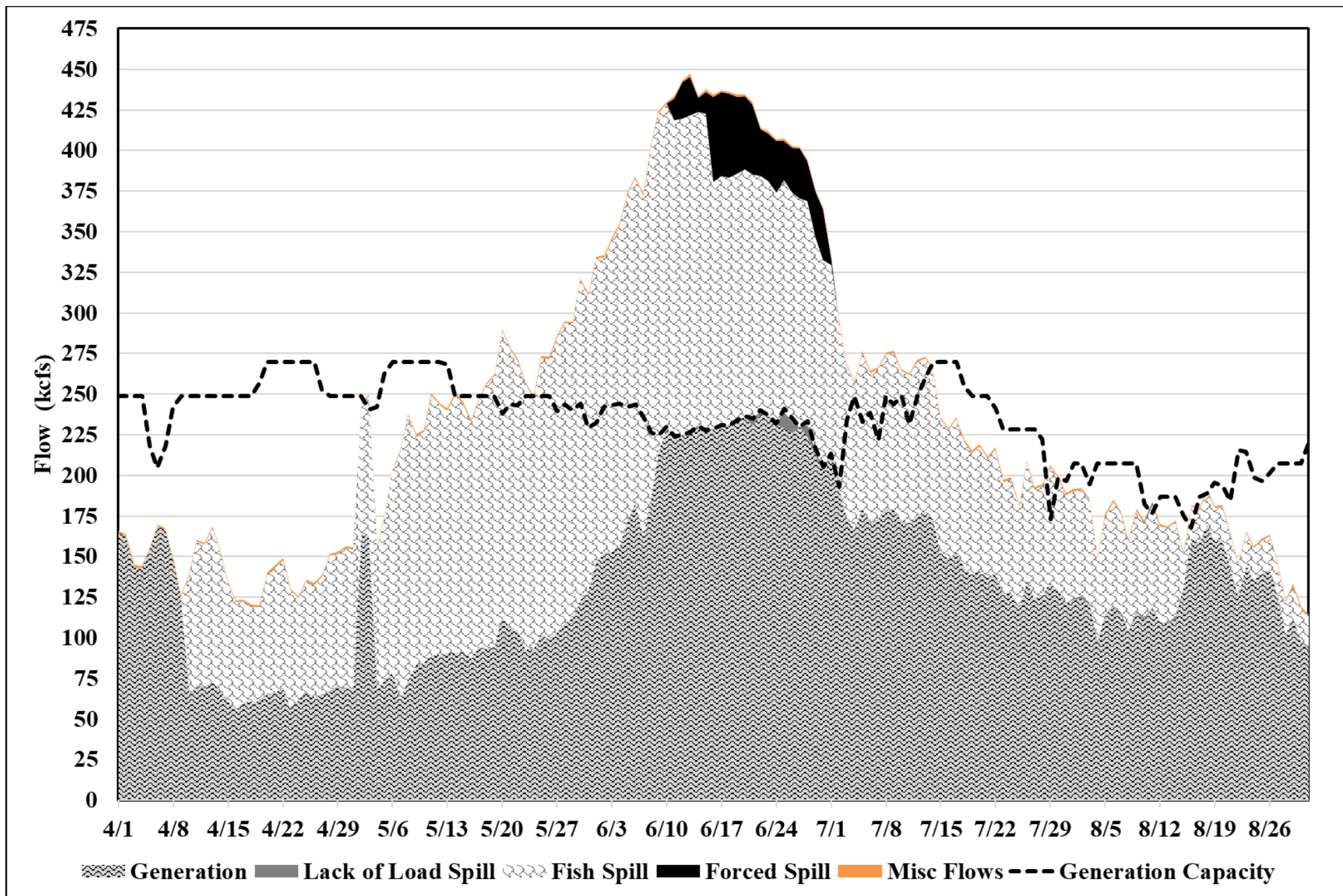


Figure C- 6: John Day daily average project flows, WY 2022

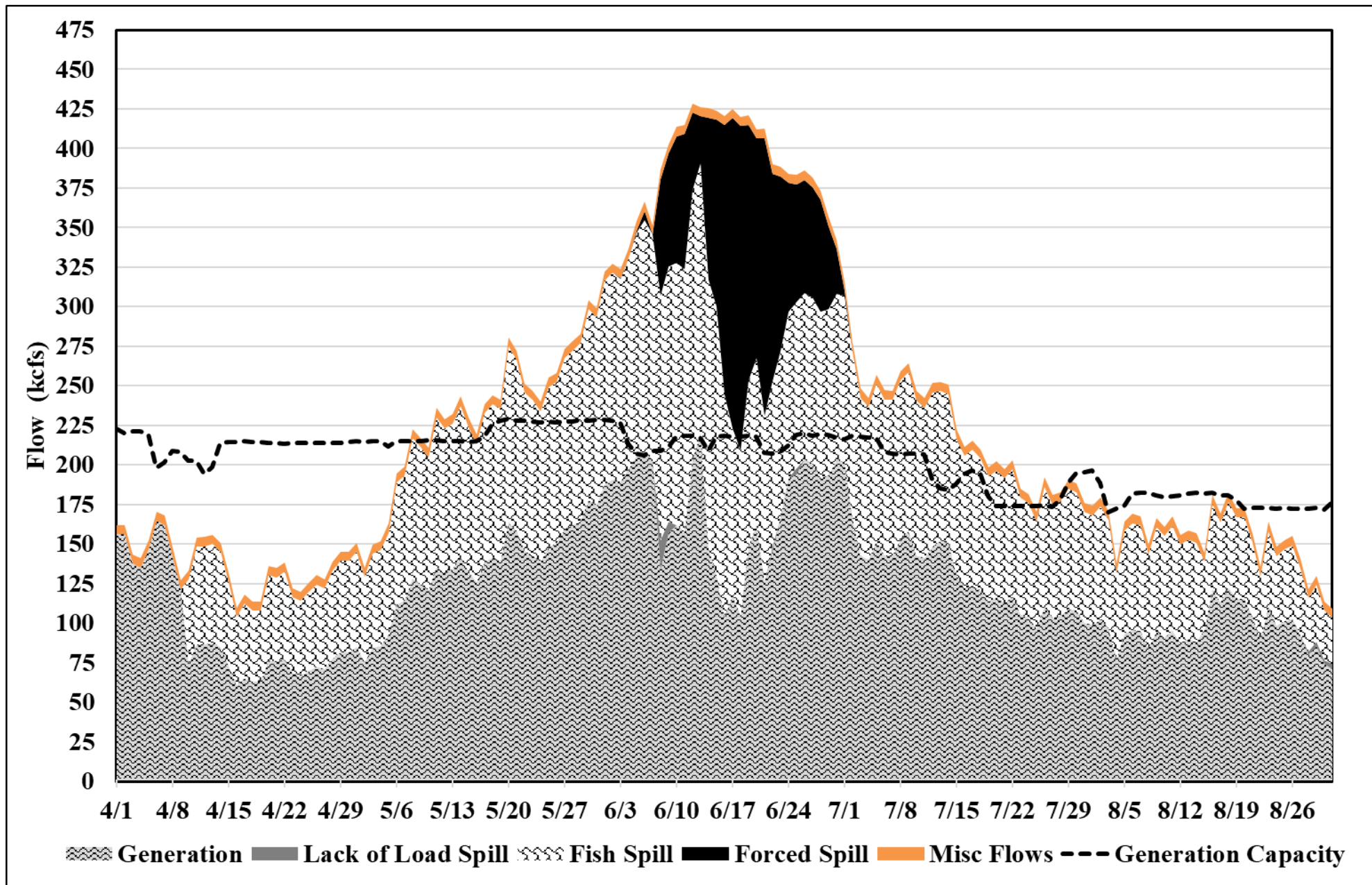


Figure C- 7: The Dalles daily average project flows, WY 2022

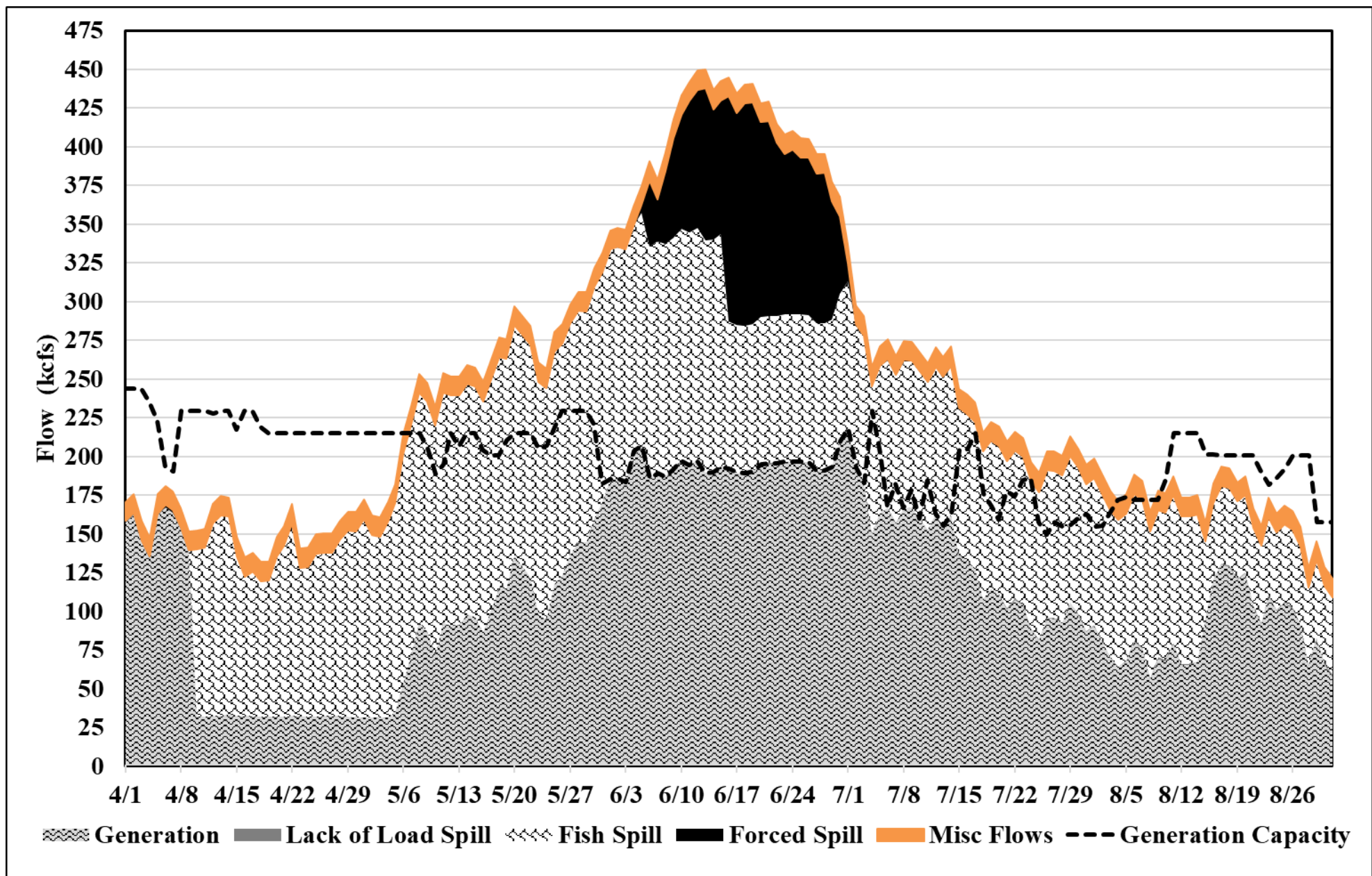


Figure C- 8: Bonneville daily average project flows, WY 2021

Table C- 1: Lower Granite daily average project flows, WY 2022

Date	Outflow KCFS	Generation Flow KCFS	Actual Spill KCFS	FOP Spill KCFS		Date	Outflow KCFS	Generation Flow KCFS	Actual Spill KCFS	FOP Spill KCFS		Date	Outflow KCFS	Generation Flow KCFS	Actual Spill KCFS	FOP Spill KCFS
04/01/22	56	56	0	0		05/22/22	91	31	60	59		07/12/22	45	27	18	18
04/02/22	49	49	0	0		05/23/22	83	29	53	52		07/13/22	44	26	18	18
04/03/22	45	12	33	30		05/24/22	80	28	51	51		07/14/22	45	25	19	18
04/04/22	45	12	33	32		05/25/22	80	29	51	50		07/15/22	45	26	19	18
04/05/22	45	12	33	31		05/26/22	86	30	55	55		07/16/22	43	24	18	18
04/06/22	43	12	30	29		05/27/22	105	40	65	66		07/17/22	40	22	18	18
04/07/22	41	12	28	27		05/28/22	129	63	66	67		07/18/22	38	20	18	18
04/08/22	41	12	28	27		05/29/22	139	75	64	64		07/19/22	36	18	18	17
04/09/22	39	14	25	24		05/30/22	137	75	61	62		07/20/22	36	18	18	17
04/10/22	42	15	27	26		05/31/22	136	75	61	61		07/21/22	38	20	18	18
04/11/22	42	16	26	25		06/01/22	126	66	60	60		07/22/22	38	20	18	18
04/12/22	40	15	24	25		06/02/22	124	64	60	60		07/23/22	38	19	18	18
04/13/22	40	15	24	25		06/03/22	132	72	60	60		07/24/22	34	15	19	18
04/14/22	41	15	25	25		06/04/22	144	83	60	60		07/25/22	38	19	19	18
04/15/22	40	15	25	25		06/05/22	150	90	60	61		07/26/22	36	17	18	18
04/16/22	41	15	25	25		06/06/22	159	97	62	61		07/27/22	35	16	18	18
04/17/22	40	15	24	25		06/07/22	159	98	60	61		07/28/22	36	17	18	18
04/18/22	38	15	23	23		06/08/22	152	91	60	60		07/29/22	35	16	18	18
04/19/22	40	11	28	25		06/09/22	146	85	60	60		07/30/22	36	17	19	18
04/20/22	41	15	26	26		06/10/22	153	93	60	60		07/31/22	34	15	18	17
04/21/22	44	11	32	30		06/11/22	180	107	72	67		08/1/22	33	14	18	18
04/22/22	44	12	32	29		06/12/22	203	120	83	80		08/2/22	32	13	19	18
04/23/22	41	14	27	26		06/13/22	206	109	96	80		08/3/22	31	12	18	18
04/24/22	38	14	23	22		06/14/22	204	106	98	80		08/4/22	31	12	18	18
04/25/22	38	14	23	22		06/15/22	179	99	79	80		08/5/22	30	12	18	17
04/26/22	40	14	26	25		06/16/22	151	86	65	65		08/6/22	30	12	18	18
04/27/22	45	18	27	26		06/17/22	136	75	60	60		08/7/22	27	12	15	15
04/28/22	42	14	28	27		06/18/22	129	52	77	77		08/8/22	30	10	20	17
04/29/22	44	16	28	27		06/19/22	131	57	74	74		08/9/22	33	10	22	18
04/30/22	44	16	28	27		06/20/22	121	50	70	70		08/10/22	34	10	23	18
05/01/22	43	14	29	28		06/21/22	119	94	25	18		08/11/22	34	10	23	18
05/02/22	45	16	28	28		06/22/22	107	87	19	18		08/12/22	30	12	17	17
05/03/22	47	16	30	29		06/23/22	102	77	24	18		08/13/22	30	12	18	18
05/04/22	50	17	32	31		06/24/22	101	80	21	18		08/14/22	24	12	12	12
05/05/22	56	18	37	36		06/25/22	92	53	38	18		08/15/22	27	17	10	10
05/06/22	66	20	45	44		06/26/22	88	53	35	18		08/16/22	31	20	10	10
05/07/22	108	50	57	57		06/27/22	83	64	19	18		08/17/22	30	20	10	10
05/08/22	118	57	60	60		06/28/22	86	64	21	18		08/18/22	31	21	10	10
05/09/22	99	38	61	61		06/29/22	83	63	20	18		08/19/22	29	19	10	10

05/10/22	86	29	56	55		06/30/22	78	59	18	17		08/20/22	28	18	10	10
05/11/22	77	26	50	49		07/01/22	70	52	18	18		08/21/22	26	15	9	10
05/12/22	68	24	44	44		07/02/22	66	47	18	18		08/22/22	27	16	10	10
05/13/22	68	24	44	43		07/03/22	62	43	18	18		08/23/22	27	17	10	10
05/14/22	67	23	43	42		07/04/22	60	42	18	18		08/24/22	28	18	10	10
05/15/22	67	23	44	43		07/05/22	58	39	18	18		08/25/22	25	15	10	10
05/16/22	75	24	50	49		07/06/22	58	39	18	18		08/26/22	27	17	10	10
05/17/22	95	34	60	60		07/07/22	52	33	18	18		08/27/22	25	15	10	10
05/18/22	106	41	65	65		07/08/22	52	34	18	18		08/28/22	25	15	10	10
05/19/22	108	42	65	66		07/09/22	54	36	18	18		08/29/22	24	14	9	10
05/20/22	104	38	66	66		07/10/22	47	29	18	18		08/30/22	24	14	9	10
05/21/22	92	32	60	59		07/11/22	47	29	18	18		08/31/22	24	14	10	10

Table C- 2: Little Goose daily average project flows, WY 2022

Date	Outflow KCFS	Generation Flow KCFS	Actual Spill KCFS	FOP Spill KCFS		Date	Outflow KCFS	Generation Flow KCFS	Actual Spill KCFS	FOP Spill KCFS		Date	Outflow KCFS	Generation Flow KCFS	Actual Spill KCFS	FOP Spill KCFS
04/01/22	55	55	0	0		05/22/22	83	26	57	57		07/12/22	43	30	13	13
04/02/22	49	49	0	0		05/23/22	77	26	50	50		07/13/22	42	29	13	13
04/03/22	44	18	25	25		05/24/22	76	27	48	48		07/14/22	43	30	13	13
04/04/22	40	9	30	25		05/25/22	76	26	49	49		07/15/22	44	30	13	13
04/05/22	42	15	26	26		05/26/22	81	26	54	54		07/16/22	42	29	12	12
04/06/22	39	10	28	23		05/27/22	101	38	62	62		07/17/22	38	26	11	11
04/07/22	35	10	25	20		05/28/22	122	56	65	65		07/18/22	37	25	11	11
04/08/22	36	10	26	20		05/29/22	131	66	65	65		07/19/22	36	24	11	11
04/09/22	35	15	19	19		05/30/22	131	68	63	63		07/20/22	38	26	11	11
04/10/22	38	15	23	23		05/31/22	129	65	63	63		07/21/22	37	26	11	11
04/11/22	40	16	23	20		06/01/22	120	56	63	63		07/22/22	38	26	11	11
04/12/22	36	17	19	19		06/02/22	118	54	63	63		07/23/22	33	23	10	10
04/13/22	34	17	17	17		06/03/22	125	62	63	63		07/24/22	36	25	11	11
04/14/22	32	16	16	16		06/04/22	133	69	63	63		07/25/22	34	23	10	10
04/15/22	36	16	19	19		06/05/22	140	69	71	63		07/26/22	36	25	11	11
04/16/22	39	17	21	21		06/06/22	155	70	85	62		07/27/22	33	23	10	10
04/17/22	39	17	21	21		06/07/22	154	71	82	64		07/28/22	34	23	10	10
04/18/22	38	7	31	26		06/08/22	143	71	71	63		07/29/22	32	22	10	10
04/19/22	35	5	30	23		06/09/22	139	71	67	63		07/30/22	35	24	10	10
04/20/22	38	5	33	26		06/10/22	146	71	75	62		07/31/22	32	22	10	10
04/21/22	38	8	30	26		06/11/22	169	75	94	62		08/1/22	30	17	13	9

04/22/22	40	18	21	21		06/12/22	202	83	119	78		08/2/22	28	12	16	10
04/23/22	40	16	23	23		06/13/22	195	75	120	78		08/3/22	32	17	14	9
04/24/22	36	16	19	19		06/14/22	204	72	131	78		08/4/22	27	15	11	9
04/25/22	35	16	18	18		06/15/22	174	72	102	78		08/5/22	29	15	13	9
04/26/22	38	16	21	21		06/16/22	143	72	71	63		08/6/22	32	14	17	11
04/27/22	42	19	23	23		06/17/22	130	64	65	63		08/7/22	26	12	13	11
04/28/22	43	17	25	25		06/18/22	125	51	74	74		08/8/22	31	18	13	9
04/29/22	48	19	28	28		06/19/22	125	57	68	68		08/9/22	29	12	16	11
04/30/22	40	17	23	23		06/20/22	115	53	62	62		08/10/22	31	13	18	11
05/01/22	40	17	22	22		06/21/22	115	71	44	30		08/11/22	31	13	17	11
05/02/22	42	17	24	24		06/22/22	106	71	34	30		08/12/22	27	10	16	11
05/03/22	43	17	25	25		06/23/22	98	68	30	30		08/13/22	31	17	14	9
05/04/22	47	19	28	28		06/24/22	99	68	30	30		08/14/22	24	13	11	11
05/05/22	51	19	32	32		06/25/22	88	51	36	26		08/15/22	24	14	10	10
05/06/22	61	21	39	39		06/26/22	85	46	38	26		08/16/22	30	20	10	10
05/07/22	101	44	57	57		06/27/22	80	55	24	24		08/17/22	32	22	10	10
05/08/22	110	46	63	63		06/28/22	83	56	26	25		08/18/22	29	19	10	10
05/09/22	96	33	63	63		06/29/22	78	54	24	24		08/19/22	30	20	10	10
05/10/22	81	26	54	54		06/30/22	75	52	23	23		08/20/22	28	17	10	10
05/11/22	71	24	47	47		07/01/22	67	47	20	20		08/21/22	23	12	10	10
05/12/22	63	22	40	40		07/02/22	62	43	19	19		08/22/22	23	12	10	10
05/13/22	64	24	39	39		07/03/22	57	40	17	17		08/23/22	27	16	10	10
05/14/22	63	23	40	40		07/04/22	59	41	18	18		08/24/22	30	19	10	10
05/15/22	63	23	39	39		07/05/22	54	37	16	16		08/25/22	26	15	10	10
05/16/22	69	23	46	46		07/06/22	55	38	16	16		08/26/22	26	16	10	10
05/17/22	89	28	60	60		07/07/22	51	35	15	15		08/27/22	25	15	10	10
05/18/22	101	37	63	63		07/08/22	49	34	14	14		08/28/22	22	12	10	10
05/19/22	103	39	63	63		07/09/22	55	38	16	16		08/29/22	24	13	10	10
05/20/22	98	32	65	65		07/10/22	46	31	14	14		08/30/22	26	16	10	10
05/21/22	89	29	60	60		07/11/22	47	32	14	14		08/31/22	22	12	10	10

Table C- 3: Lower Monumental daily average project flows, WY 2022

Date	Outflow KCFS	Generation Flow KCFS	Actual Spill KCFS	FOP Spill KCFS		Date	Outflow KCFS	Generation Flow KCFS	Actual Spill KCFS	FOP Spill KCFS		Date	Outflow KCFS	Generation Flow KCFS	Actual Spill KCFS	FOP Spill KCFS
04/01/22	57	57	0	0		05/22/22	87	27	60	60		07/12/22	46	28	17	17
04/02/22	49	49	0	0		05/23/22	80	25	54	54		07/13/22	41	23	17	17

04/03/22	45	12	32	32		05/24/22	76	24	51	51		07/14/22	44	26	17	17
04/04/22	44	12	31	30		05/25/22	80	25	54	54		07/15/22	45	27	17	17
04/05/22	46	12	34	33		05/26/22	81	26	55	55		07/16/22	41	23	17	17
04/06/22	41	12	29	28		05/27/22	105	30	74	74		07/17/22	39	21	17	17
04/07/22	37	12	24	23		05/28/22	125	48	76	78		07/18/22	38	20	17	17
04/08/22	38	12	26	25		05/29/22	134	52	80	80		07/19/22	36	18	17	17
04/09/22	38	12	26	25		05/30/22	133	59	73	77		07/20/22	38	20	17	17
04/10/22	42	12	30	29		05/31/22	134	55	78	79		07/21/22	38	20	17	17
04/11/22	42	12	29	29		06/01/22	124	50	74	76		07/22/22	38	21	17	17
04/12/22	39	12	26	25		06/02/22	122	41	81	80		07/23/22	32	15	17	17
04/13/22	37	11	25	24		06/03/22	126	51	74	78		07/24/22	35	17	17	17
04/14/22	35	12	23	22		06/04/22	138	56	81	81		07/25/22	34	16	17	17
04/15/22	36	12	23	23		06/05/22	141	66	74	80		07/26/22	36	18	17	17
04/16/22	40	12	27	26		06/06/22	158	78	79	79		07/27/22	34	16	17	17
04/17/22	39	12	26	26		06/07/22	158	80	77	76		07/28/22	35	17	17	17
04/18/22	39	12	27	26		06/08/22	150	73	76	76		07/29/22	32	14	17	17
04/19/22	40	12	27	26		06/09/22	141	71	69	75		07/30/22	36	18	17	17
04/20/22	41	12	28	28		06/10/22	147	73	74	74		07/31/22	33	16	17	17
04/21/22	44	12	31	31		06/11/22	169	92	77	73		08/1/22	32	14	16	16
04/22/22	42	12	29	29		06/12/22	204	113	90	89		08/2/22	28	12	15	14
04/23/22	40	12	27	27		06/13/22	194	99	94	91		08/3/22	30	12	17	17
04/24/22	40	12	27	26		06/14/22	206	97	108	93		08/4/22	28	12	15	14
04/25/22	37	12	24	24		06/15/22	182	88	94	93		08/5/22	29	15	14	13
04/26/22	38	12	25	25		06/16/22	150	78	71	71		08/6/22	30	12	17	16
04/27/22	45	13	31	31		06/17/22	136	67	68	69		08/7/22	27	12	14	13
04/28/22	43	12	30	30		06/18/22	130	45	84	84		08/8/22	31	15	16	15
04/29/22	51	14	36	35		06/19/22	126	47	79	79		08/9/22	27	12	14	14
04/30/22	44	13	31	31		06/20/22	121	38	82	80		08/10/22	33	15	17	17
05/01/22	44	12	31	31		06/21/22	114	82	32	17		08/11/22	30	13	16	16
05/02/22	44	12	31	30		06/22/22	110	88	20	17		08/12/22	26	12	13	13
05/03/22	48	13	33	33		06/23/22	97	77	19	17		08/13/22	30	12	17	17
05/04/22	48	14	34	34		06/24/22	100	82	17	17		08/14/22	27	12	14	13
05/05/22	55	14	40	40		06/25/22	88	58	29	17		08/15/22	25	16	8	8
05/06/22	61	18	42	42		06/26/22	86	56	30	17		08/16/22	30	21	8	8
05/07/22	104	35	69	69		06/27/22	82	65	17	17		08/17/22	37	28	8	8
05/08/22	113	43	69	70		06/28/22	83	65	17	17		08/18/22	33	24	8	8
05/09/22	105	35	69	69		06/29/22	77	59	17	17		08/19/22	29	20	8	8
05/10/22	84	29	54	56		06/30/22	75	58	17	17		08/20/22	27	18	8	8
05/11/22	75	23	51	51		07/01/22	68	50	17	17		08/21/22	25	16	8	8
05/12/22	64	21	43	42		07/02/22	64	46	17	17		08/22/22	25	16	9	7
05/13/22	69	22	47	47		07/03/22	58	40	17	17		08/23/22	27	18	8	8
05/14/22	64	19	45	45		07/04/22	61	43	17	17		08/24/22	31	22	8	8

05/15/22	69	20	49	48	07/05/22	56	39	17	17	08/25/22	28	19	8	8
05/16/22	69	20	48	48	07/06/22	54	36	17	17	08/26/22	27	18	8	8
05/17/22	90	29	61	61	07/07/22	51	33	17	17	08/27/22	26	17	8	8
05/18/22	105	33	71	72	07/08/22	50	32	17	17	08/28/22	24	15	8	7
05/19/22	109	37	71	74	07/09/22	53	35	17	17	08/29/22	24	16	8	8
05/20/22	102	31	71	71	07/10/22	46	28	17	17	08/30/22	26	17	8	8
05/21/22	92	31	60	60	07/11/22	46	28	17	17	08/31/22	23	14	8	8

Table C- 4: Ice Harbor daily average project flows, WY 2022

Date	Outflow w KCFS	Generation n Flow KCFS	Actual Spill KCFS	FOP Spill KCFS	Date	Outflow w KCFS	Generation n Flow KCFS	Actual Spill KCFS	FOP Spill KCFS	Date	Outflow w KCFS	Generation n Flow KCFS	Actual Spill KCFS	FOP Spill KCFS
04/01/22	57	57	0	0	05/22/22	90	10	79	79	07/12/22	47	32	14	14
04/02/22	52	51	0	0	05/23/22	82	10	71	71	07/13/22	41	28	12	12
04/03/22	47	10	36	36	05/24/22	78	10	67	67	07/14/22	42	29	13	13
04/04/22	45	12	32	32	05/25/22	86	10	74	74	07/15/22	45	31	13	13
04/05/22	49	13	35	35	05/26/22	81	10	70	70	07/16/22	41	28	12	12
04/06/22	43	13	29	29	05/27/22	108	10	96	96	07/17/22	41	28	12	12
04/07/22	35	14	21	21	05/28/22	119	15	104	104	07/18/22	37	25	11	11
04/08/22	40	13	26	26	05/29/22	139	24	114	114	07/19/22	38	26	11	11
04/09/22	38	13	24	24	05/30/22	132	19	111	111	07/20/22	36	25	11	11
04/10/22	43	13	29	29	05/31/22	142	31	111	111	07/21/22	39	27	11	11
04/11/22	43	13	29	29	06/01/22	121	16	104	104	07/22/22	40	27	12	12
04/12/22	39	14	25	25	06/02/22	124	17	106	106	07/23/22	34	23	10	10
04/13/22	37	14	23	23	06/03/22	124	16	107	107	07/24/22	34	23	10	10
04/14/22	35	14	20	20	06/04/22	144	31	111	111	07/25/22	34	23	10	10
04/15/22	36	13	23	23	06/05/22	136	29	106	104	07/26/22	34	23	10	10
04/16/22	42	13	28	28	06/06/22	161	44	116	106	07/27/22	33	23	10	10
04/17/22	38	13	24	24	06/07/22	161	47	114	106	07/28/22	36	25	11	11
04/18/22	40	12	28	28	06/08/22	154	43	110	108	07/29/22	34	23	10	10
04/19/22	39	10	28	28	06/09/22	136	25	110	109	07/30/22	34	23	10	10
04/20/22	40	11	29	29	06/10/22	147	39	107	104	07/31/22	35	24	10	10
04/21/22	43	10	33	33	06/11/22	172	46	125	109	08/1/22	33	22	10	10
04/22/22	44	10	33	33	06/12/22	211	67	143	110	08/2/22	27	17	9	8
04/23/22	42	10	31	31	06/13/22	201	65	135	110	08/3/22	30	20	10	9
04/24/22	40	10	30	30	06/14/22	209	67	142	110	08/4/22	28	18	9	8
04/25/22	39	10	28	28	06/15/22	184	66	118	110	08/5/22	28	19	8	8
04/26/22	39	10	28	28	06/16/22	149	38	110	110	08/6/22	34	23	10	10
04/27/22	48	10	37	37	06/17/22	141	32	109	109	08/7/22	28	19	8	8

04/28/22	44	10	33	33		06/18/22	130	19	110	110		08/8/22	31	21	9	9
04/29/22	52	10	41	41		06/19/22	132	21	110	110		08/9/22	31	21	9	9
04/30/22	46	10	36	36		06/20/22	126	13	112	112		08/10/22	32	22	10	10
05/01/22	45	10	34	34		06/21/22	114	53	60	34		08/11/22	32	22	9	9
05/02/22	45	10	34	34		06/22/22	111	56	54	33		08/12/22	28	19	8	8
05/03/22	50	10	39	39		06/23/22	99	56	42	30		08/13/22	29	20	9	9
05/04/22	50	10	39	39		06/24/22	102	62	39	31		08/14/22	28	19	8	8
05/05/22	57	10	46	46		06/25/22	91	39	52	28		08/15/22	25	15	9	9
05/06/22	63	10	52	52		06/26/22	86	38	47	26		08/16/22	29	20	8	8
05/07/22	105	14	90	90		06/27/22	85	59	26	26		08/17/22	35	26	8	8
05/08/22	115	13	100	100		06/28/22	87	55	31	26		08/18/22	34	24	8	8
05/09/22	107	13	93	93		06/29/22	75	48	27	23		08/19/22	29	20	8	8
05/10/22	84	10	73	73		06/30/22	80	55	25	24		08/20/22	26	16	8	8
05/11/22	82	10	70	70		07/01/22	69	48	21	21		08/21/22	25	16	8	8
05/12/22	64	10	53	53		07/02/22	63	44	19	19		08/22/22	25	16	8	8
05/13/22	74	10	63	63		07/03/22	60	42	18	18		08/23/22	25	16	8	8
05/14/22	64	10	53	53		07/04/22	62	43	19	19		08/24/22	34	25	8	8
05/15/22	69	10	58	58		07/05/22	59	41	18	18		08/25/22	28	19	8	8
05/16/22	71	10	60	60		07/06/22	54	38	16	16		08/26/22	26	17	8	8
05/17/22	93	10	82	82		07/07/22	52	36	15	15		08/27/22	26	17	8	8
05/18/22	106	11	94	94		07/08/22	50	34	15	15		08/28/22	24	15	8	8
05/19/22	108	12	95	95		07/09/22	57	39	17	17		08/29/22	27	18	8	8
05/20/22	106	11	95	95		07/10/22	46	32	14	14		08/30/22	27	18	8	8
05/21/22	94	10	83	83		07/11/22	46	32	14	14		08/31/22	22	13	8	8

Table C- 5: McNary daily average project flows, WY 2022

Date	Outflow w KCFS	Generation n Flow KCFS	Actual Spill KCFS	FOP Spill KCFS		Date	Outflow w KCFS	Generation n Flow KCFS	Actual Spill KCFS	FOP Spill KCFS		Date	Outflow w KCFS	Generation n Flow KCFS	Actual Spill KCFS	FOP Spill KCFS
04/01/22	159	155	0	0		05/22/22	263	53	206	206		07/12/22	272	132	135	135
04/02/22	158	153	0	0		05/23/22	254	52	197	197		07/13/22	275	137	133	133
04/03/22	141	137	0	0		05/24/22	257	52	201	201		07/14/22	254	119	130	130
04/04/22	145	140	0	0		05/25/22	263	53	205	205		07/15/22	241	99	137	137
04/05/22	170	165	0	0		05/26/22	268	53	210	210		07/16/22	238	97	136	135
04/06/22	153	148	0	0		05/27/22	287	53	230	230		07/17/22	244	100	140	139
04/07/22	159	155	0	0		05/28/22	290	53	233	233		07/18/22	224	91	128	128
04/08/22	148	143	0	0		05/29/22	308	52	251	251		07/19/22	221	90	127	126
04/09/22	129	119	5	0		05/30/22	303	52	246	246		07/20/22	226	92	129	129
04/10/22	140	51	85	85		05/31/22	314	55	254	254		07/21/22	229	93	131	130

04/11/22	162	50	107	107		06/01/22	326	56	265	265		07/22/22	215	87	123	122
04/12/22	167	51	112	112		06/02/22	298	53	240	240		07/23/22	212	86	121	121
04/13/22	170	51	114	114		06/03/22	314	61	248	248		07/24/22	211	86	120	120
04/14/22	149	51	93	93		06/04/22	346	75	266	266		07/25/22	184	74	105	105
04/15/22	137	50	82	82		06/05/22	354	83	266	266		07/26/22	208	84	119	119
04/16/22	130	50	75	75		06/06/22	369	97	267	267		07/27/22	206	83	118	117
04/17/22	129	51	74	74		06/07/22	369	101	263	263		07/28/22	194	78	111	111
04/18/22	122	51	67	67		06/08/22	395	123	267	267		07/29/22	208	84	119	118
04/19/22	123	50	68	68		06/09/22	392	120	267	267		07/30/22	208	84	119	118
04/20/22	144	50	89	89		06/10/22	413	141	267	267		07/31/22	194	78	111	110
04/21/22	144	50	90	90		06/11/22	428	156	267	267		08/1/22	208	84	119	118
04/22/22	145	50	90	90		06/12/22	467	189	273	267		08/2/22	189	76	109	108
04/23/22	119	50	64	64		06/13/22	426	143	279	267		08/3/22	186	75	106	106
04/24/22	122	50	68	68		06/14/22	421	132	285	267		08/4/22	172	69	99	98
04/25/22	136	51	81	81		06/15/22	440	121	314	267		08/5/22	182	73	105	104
04/26/22	135	51	79	79		06/16/22	437	115	317	180		08/6/22	193	78	111	110
04/27/22	135	51	79	79		06/17/22	437	130	303	180		08/7/22	167	67	95	95
04/28/22	149	51	94	94		06/18/22	418	140	273	180		08/8/22	178	72	101	101
04/29/22	156	51	100	100		06/19/22	412	135	272	180		08/9/22	180	72	103	102
04/30/22	150	51	94	94		06/20/22	419	143	271	180		08/10/22	181	73	103	103
05/01/22	155	51	100	100		06/21/22	403	134	265	180		08/11/22	172	69	98	98
05/02/22	149	51	94	94		06/22/22	399	136	259	180		08/12/22	184	74	106	105
05/03/22	160	51	105	105		06/23/22	388	138	245	180		08/13/22	173	69	99	99
05/04/22	155	51	100	100		06/24/22	392	137	250	180		08/14/22	176	71	101	100
05/05/22	181	51	125	125		06/25/22	400	142	253	180		08/15/22	162	123	34	20
05/06/22	198	51	142	142		06/26/22	395	135	255	180		08/16/22	174	132	37	20
05/07/22	209	52	153	153		06/27/22	396	131	260	180		08/17/22	193	136	52	20
05/08/22	232	52	176	176		06/28/22	375	128	243	180		08/18/22	203	139	59	20
05/09/22	211	52	155	155		06/29/22	373	132	237	180		08/19/22	189	146	38	20
05/10/22	224	51	168	168		06/30/22	352	132	215	180		08/20/22	189	147	37	20
05/11/22	245	52	188	188		07/01/22	327	134	188	180		08/21/22	168	143	20	20
05/12/22	230	52	174	174		07/02/22	288	123	160	158		08/22/22	148	123	20	20
05/13/22	237	52	181	181		07/03/22	264	110	150	149		08/23/22	168	143	20	20
05/14/22	241	52	184	184		07/04/22	261	115	142	142		08/24/22	161	136	20	20
05/15/22	239	52	183	183		07/05/22	283	132	146	146		08/25/22	165	140	20	20
05/16/22	233	52	176	176		07/06/22	256	104	147	146		08/26/22	170	145	20	20
05/17/22	251	52	194	194		07/07/22	271	110	155	154		08/27/22	158	134	20	20
05/18/22	245	52	188	188		07/08/22	278	115	159	158		08/28/22	135	110	20	20
05/19/22	263	52	206	206		07/09/22	281	115	161	160		08/29/22	132	107	20	20

05/20/22	275	53	217	217		07/10/22	272	112	156	155		08/30/22	129	104	20	20
05/21/22	271	53	214	214		07/11/22	264	122	138	138		08/31/22	129	104	20	20

Table C- 6: John Day daily average project flows, WY 2022

Date	Outflow w KCFS	Generation n Flow KCFS	Actual Spill KCFS	FOP Spill KCFS		Date	Outflow w KCFS	Generation n Flow KCFS	Actual Spill KCFS	FOP Spill KCFS		Date	Outflow w KCFS	Generation n Flow KCFS	Actual Spill KCFS	FOP Spill KCFS
04/01/22	166	165	0	0		05/22/22	272	105	165	165		07/12/22	271	176	94	94
04/02/22	163	162	0	0		05/23/22	258	93	164	164		07/13/22	273	177	95	95
04/03/22	145	144	0	0		05/24/22	249	93	154	154		07/14/22	267	173	92	92
04/04/22	144	143	0	0		05/25/22	273	102	170	170		07/15/22	236	153	82	82
04/05/22	155	154	0	0		05/26/22	273	99	172	172		07/16/22	229	148	80	80
04/06/22	170	168	0	0		05/27/22	286	103	181	181		07/17/22	236	153	82	82
04/07/22	168	167	0	0		05/28/22	295	108	185	185		07/18/22	222	143	78	78
04/08/22	149	147	0	0		05/29/22	295	112	181	181		07/19/22	215	139	75	75
04/09/22	126	125	0	0		05/30/22	321	123	197	197		07/20/22	219	142	76	76
04/10/22	140	65	74	74		05/31/22	312	129	182	182		07/21/22	212	137	74	74
04/11/22	160	70	89	89		06/01/22	335	147	187	187		07/22/22	218	140	76	76
04/12/22	159	69	88	88		06/02/22	336	153	182	182		07/23/22	197	127	69	69
04/13/22	169	73	95	95		06/03/22	346	153	192	192		07/24/22	199	128	69	69
04/14/22	155	67	86	86		06/04/22	354	156	197	197		07/25/22	182	118	63	63
04/15/22	135	61	72	72		06/05/22	375	172	201	201		07/26/22	209	136	73	73
04/16/22	123	56	66	66		06/06/22	384	183	200	200		07/27/22	193	125	67	67
04/17/22	124	61	62	62		06/07/22	374	162	210	210		07/28/22	195	126	68	68
04/18/22	120	60	59	59		06/08/22	403	185	217	217		07/29/22	207	134	72	72
04/19/22	120	61	58	58		06/09/22	424	214	209	209		07/30/22	200	129	70	70
04/20/22	141	65	74	74		06/10/22	430	230	199	199		07/31/22	189	122	66	66
04/21/22	145	66	77	77		06/11/22	433	224	208	194		08/1/22	192	124	67	67
04/22/22	149	69	79	79		06/12/22	443	225	217	195		08/2/22	193	124	67	67
04/23/22	130	56	73	73		06/13/22	447	227	219	195		08/3/22	186	120	65	65
04/24/22	126	61	63	63		06/14/22	434	230	202	194		08/4/22	150	97	52	52
04/25/22	136	66	68	68		06/15/22	437	228	208	195		08/5/22	176	114	61	61
04/26/22	134	64	69	69		06/16/22	435	229	204	152		08/6/22	185	120	64	64
04/27/22	139	65	73	73		06/17/22	437	231	205	153		08/7/22	178	115	62	62
04/28/22	152	67	84	84		06/18/22	436	231	204	153		08/8/22	161	104	56	56
04/29/22	153	70	82	82		06/19/22	434	234	199	152		08/9/22	179	116	62	62
04/30/22	156	69	86	86		06/20/22	435	236	197	152		08/10/22	172	111	60	60

05/01/22	156	68	86	86	06/21/22	430	231	198	150	08/11/22	184	119	64	64
05/02/22	148	67	79	79	06/22/22	414	237	176	145	08/12/22	170	110	59	59
05/03/22	157	70	86	86	06/23/22	412	237	173	144	08/13/22	169	109	59	59
05/04/22	156	68	87	87	06/24/22	407	232	174	142	08/14/22	172	111	60	60
05/05/22	176	74	101	101	06/25/22	407	229	177	142	08/15/22	153	131	21	21
05/06/22	203	79	124	124	06/26/22	403	226	176	141	08/16/22	183	161	21	21
05/07/22	216	63	152	152	06/27/22	402	230	171	141	08/17/22	180	159	21	21
05/08/22	238	74	163	163	06/28/22	395	224	169	138	08/18/22	192	170	21	21
05/09/22	225	83	141	141	06/29/22	376	212	162	132	08/19/22	182	160	20	20
05/10/22	228	85	142	142	06/30/22	365	203	161	128	08/20/22	183	161	21	21
05/11/22	250	89	160	160	07/01/22	334	214	119	116	08/21/22	164	142	21	21
05/12/22	245	89	154	154	07/02/22	298	193	103	103	08/22/22	147	125	21	21
05/13/22	241	91	149	149	07/03/22	269	174	95	95	08/23/22	167	145	21	21
05/14/22	251	91	159	159	07/04/22	258	167	90	90	08/24/22	157	135	21	21
05/15/22	246	92	152	152	07/05/22	277	179	96	96	08/25/22	161	140	21	21
05/16/22	234	87	146	146	07/06/22	264	171	92	92	08/26/22	164	142	21	21
05/17/22	247	95	151	151	07/07/22	266	173	92	92	08/27/22	149	127	21	21
05/18/22	257	93	162	162	07/08/22	276	180	95	95	08/28/22	124	102	21	21
05/19/22	263	94	167	167	07/09/22	277	179	97	96	08/29/22	134	112	21	21
05/20/22	290	113	176	176	07/10/22	266	172	92	92	08/30/22	120	98	21	21
05/21/22	279	106	172	172	07/11/22	263	171	91	91	08/31/22	115	93	20	20

Table C- 7: The Dalles daily average project flows, WY 2022

Date	Outflow w KCFS	Generation n Flow KCFS	Actual Spill KCFS	FOP Spill KCFS	Date	Outflow KCFS	Generation n Flow KCFS	Actual Spill KCFS	FOP Spill KCFS	Date	Outflow w KCFS	Generation n Flow KCFS	Actual Spill KCFS	FOP Spill KCFS
04/01/22	162	156	0	0	05/22/22	252	146	100	101	07/12/22	252	148	98	98
04/02/22	162	156	0	0	05/23/22	247	143	98	99	07/13/22	253	152	95	95
04/03/22	143	138	0	0	05/24/22	240	139	96	96	07/14/22	251	151	94	94
04/04/22	141	135	0	0	05/25/22	255	148	101	102	07/15/22	223	130	86	86
04/05/22	153	147	0	0	05/26/22	258	151	102	103	07/16/22	212	122	84	84
04/06/22	170	165	0	0	05/27/22	274	159	108	109	07/17/22	216	124	86	86
04/07/22	168	162	0	0	05/28/22	278	162	110	111	07/18/22	210	121	83	84
04/08/22	148	142	0	0	05/29/22	283	164	113	113	07/19/22	199	114	79	79
04/09/22	127	121	0	0	05/30/22	305	178	121	122	07/20/22	202	116	80	81
04/10/22	134	74	54	53	05/31/22	299	174	119	120	07/21/22	198	113	79	79
04/11/22	154	87	62	62	06/01/22	323	188	129	129	07/22/22	204	116	81	81
04/12/22	155	87	62	62	06/02/22	328	191	132	131	07/23/22	185	106	74	74

04/13/22	156	88	62	62		06/03/22	324	189	129	130		07/24/22	182	103	73	73
04/14/22	151	85	60	60		06/04/22	337	198	133	135		07/25/22	170	97	67	68
04/15/22	132	73	53	53		06/05/22	354	206	142	142		07/26/22	192	110	76	77
04/16/22	110	61	43	44		06/06/22	366	208	152	147		07/27/22	181	103	72	72
04/17/22	118	65	47	47		06/07/22	357	204	147	143		07/28/22	183	104	73	73
04/18/22	114	63	45	46		06/08/22	387	134	247	155		07/29/22	191	109	76	76
04/19/22	114	63	45	45		06/09/22	403	157	240	161		07/30/22	188	108	74	75
04/20/22	136	77	54	54		06/10/22	414	162	246	165		07/31/22	176	100	71	71
04/21/22	135	76	53	54		06/11/22	415	158	251	166		08/1/22	174	99	70	70
04/22/22	139	77	56	56		06/12/22	429	203	220	171		08/2/22	180	102	71	72
04/23/22	122	69	48	49		06/13/22	426	220	201	171		08/3/22	171	97	68	68
04/24/22	120	67	47	48		06/14/22	425	147	273	170		08/4/22	138	78	55	55
04/25/22	126	70	50	50		06/15/22	424	131	288	170		08/5/22	164	93	65	66
04/26/22	131	72	53	52		06/16/22	421	103	312	141		08/6/22	169	96	68	68
04/27/22	128	71	52	51		06/17/22	425	118	301	105		08/7/22	168	95	67	67
04/28/22	140	78	56	56		06/18/22	420	104	310	105		08/8/22	150	84	60	60
04/29/22	145	82	58	58		06/19/22	421	149	266	105		08/9/22	167	95	66	67
04/30/22	145	82	58	58		06/20/22	412	163	244	105		08/10/22	161	91	64	64
05/01/22	151	85	60	60		06/21/22	412	126	281	105		08/11/22	168	95	67	67
05/02/22	135	75	54	54		06/22/22	390	145	239	105		08/12/22	156	88	62	62
05/03/22	150	84	60	60		06/23/22	388	167	216	105		08/13/22	159	90	63	63
05/04/22	152	85	61	61		06/24/22	384	192	186	105		08/14/22	157	88	63	63
05/05/22	163	93	65	65		06/25/22	383	194	183	105		08/15/22	145	96	43	43
05/06/22	195	112	77	78		06/26/22	386	204	177	105		08/16/22	181	121	54	54
05/07/22	200	114	80	80		06/27/22	382	201	175	105		08/17/22	169	113	51	51
05/08/22	223	128	89	89		06/28/22	373	192	176	105		08/18/22	183	122	54	55
05/09/22	217	125	87	87		06/29/22	357	193	158	105		08/19/22	173	115	52	52
05/10/22	211	121	85	84		06/30/22	343	203	134	105		08/20/22	173	116	52	52
05/11/22	236	136	95	94		07/01/22	316	202	109	105		08/21/22	157	104	47	47
05/12/22	229	132	92	92		07/02/22	277	167	105	105		08/22/22	135	89	40	41
05/13/22	232	134	92	93		07/03/22	249	143	100	100		08/23/22	164	110	48	49
05/14/22	243	141	96	97		07/04/22	243	140	97	97		08/24/22	149	98	45	45
05/15/22	230	133	92	92		07/05/22	257	152	99	99		08/25/22	153	101	46	46
05/16/22	219	126	88	88		07/06/22	248	143	99	99		08/26/22	155	103	46	46
05/17/22	239	138	95	95		07/07/22	247	143	98	99		08/27/22	141	92	42	42
05/18/22	244	142	96	98		07/08/22	259	153	101	101		08/28/22	122	80	36	34
05/19/22	242	140	97	97		07/09/22	264	158	100	101		08/29/22	130	86	39	36
05/20/22	281	163	112	112		07/10/22	247	143	98	98		08/30/22	115	74	35	31
05/21/22	272	158	108	109		07/11/22	243	141	97	95		08/31/22	110	71	33	29

Table C- 8: Bonneville daily average project flows, WY 2022

Date	Outflow w KCFS	Generation n Flow KCFS	Actual Spill KCFS	FOP Spill KCFS		Date	Outflow w KCFS	Generation n Flow KCFS	Actual Spill KCFS	FOP Spill KCFS		Date	Outflow w KCFS	Generation n Flow KCFS	Actual Spill KCFS	FOP Spill KCFS
04/01/22	171	157	1	0		05/22/22	284	122	150	150		07/12/22	270	163	95	95
04/02/22	176	162	1	0		05/23/22	261	99	150	150		07/13/22	264	155	96	95
04/03/22	158	145	1	0		05/24/22	257	94	150	150		07/14/22	271	163	96	95
04/04/22	148	134	1	0		05/25/22	280	118	150	150		07/15/22	244	135	96	95
04/05/22	176	162	2	0		05/26/22	285	123	149	149		07/16/22	240	132	95	95
04/06/22	181	167	2	0		05/27/22	298	136	149	149		07/17/22	235	128	95	95
04/07/22	178	164	2	0		05/28/22	306	145	149	149		07/18/22	215	108	95	95
04/08/22	167	153	2	0		05/29/22	306	145	149	149		07/19/22	222	114	96	95
04/09/22	152	138	2	5		05/30/22	322	160	149	149		07/20/22	219	111	96	95
04/10/22	152	32	107	110		05/31/22	331	171	148	148		07/21/22	209	101	96	95
04/11/22	153	32	109	111		06/01/22	346	185	148	148		07/22/22	216	107	97	95
04/12/22	169	33	124	127		06/02/22	348	186	150	149		07/23/22	212	104	96	95
04/13/22	174	33	129	132		06/03/22	346	184	150	150		07/24/22	196	89	96	95
04/14/22	174	34	128	131		06/04/22	361	199	150	150		07/25/22	189	81	96	95
04/15/22	148	33	103	106		06/05/22	375	207	155	150		07/26/22	203	96	95	95
04/16/22	135	32	90	92		06/06/22	391	186	193	150		07/27/22	203	95	96	95
04/17/22	138	32	93	95		06/07/22	378	189	177	150		07/28/22	200	92	96	95
04/18/22	132	32	88	90		06/08/22	397	187	197	150		07/29/22	213	105	95	95
04/19/22	132	32	88	90		06/09/22	418	191	214	150		07/30/22	205	98	94	95
04/20/22	148	32	104	106		06/10/22	433	197	224	150		07/31/22	194	87	95	95
04/21/22	155	32	111	112		06/11/22	442	194	235	150		08/1/22	199	91	96	95
04/22/22	169	33	124	127		06/12/22	449	197	239	150		08/2/22	188	81	95	95
04/23/22	141	32	96	98		06/13/22	450	189	248	150		08/3/22	178	70	96	95
04/24/22	141	32	97	99		06/14/22	437	190	234	150		08/4/22	171	64	95	95
04/25/22	150	32	105	107		06/15/22	442	193	237	150		08/5/22	176	68	96	95
04/26/22	150	32	106	108		06/16/22	445	192	240	95		08/6/22	188	80	96	95
04/27/22	150	32	106	108		06/17/22	434	190	232	95		08/7/22	184	76	96	95
04/28/22	159	33	114	116		06/18/22	440	189	239	95		08/8/22	164	56	96	95
04/29/22	164	32	120	122		06/19/22	441	190	238	95		08/9/22	178	69	96	95
04/30/22	164	31	120	121		06/20/22	428	195	221	95		08/10/22	176	68	96	95
05/01/22	172	31	128	128		06/21/22	429	194	222	95		08/11/22	187	79	96	95
05/02/22	162	31	118	118		06/22/22	415	195	207	95		08/12/22	173	66	95	95
05/03/22	161	31	117	117		06/23/22	408	197	199	95		08/13/22	173	65	96	95
05/04/22	170	32	126	126		06/24/22	410	197	201	95		08/14/22	175	67	95	95

05/05/22	182	35	135	135		06/25/22	405	197	196	95		08/15/22	157	95	50	50
05/06/22	214	53	148	148		06/26/22	405	196	196	95		08/16/22	182	120	50	50
05/07/22	233	72	148	148		06/27/22	395	191	192	95		08/17/22	193	130	50	50
05/08/22	253	93	148	148		06/28/22	395	191	192	95		08/18/22	192	129	51	50
05/09/22	248	87	148	148		06/29/22	377	193	171	95		08/19/22	183	120	51	50
05/10/22	232	72	148	148		06/30/22	368	210	145	95		08/20/22	187	124	51	50
05/11/22	254	93	148	148		07/01/22	337	218	106	95		08/21/22	166	103	51	50
05/12/22	252	91	148	148		07/02/22	298	190	95	95		08/22/22	155	92	50	50
05/13/22	252	91	148	148		07/03/22	290	183	95	95		08/23/22	173	110	51	50
05/14/22	259	98	148	148		07/04/22	258	151	95	95		08/24/22	163	100	51	50
05/15/22	257	96	149	149		07/05/22	271	164	95	95		08/25/22	168	106	50	50
05/16/22	248	87	149	149		07/06/22	275	167	96	95		08/26/22	165	101	51	50
05/17/22	262	101	149	149		07/07/22	265	157	96	95		08/27/22	154	92	50	50
05/18/22	277	115	149	149		07/08/22	275	166	96	95		08/28/22	128	65	51	50
05/19/22	276	114	149	149		07/09/22	274	167	95	95		08/29/22	145	82	51	50
05/20/22	297	136	149	149		07/10/22	267	160	95	95		08/30/22	129	65	51	50
05/21/22	291	129	149	149		07/11/22	260	152	95	95		08/31/22	121	58	51	50