

# **Appendix C**

## **2021 Fish Operations Plan Spill**

## **Introduction**

This appendix provides an evaluation of the target spill described in the 2021 Fish Operations Plan ([http://pweb.crohms.org/tmt/documents/fpp/2021/final/FPP21\\_AppE\\_03-31-21.pdf](http://pweb.crohms.org/tmt/documents/fpp/2021/final/FPP21_AppE_03-31-21.pdf)) compared to the actual spill during the 2021 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.

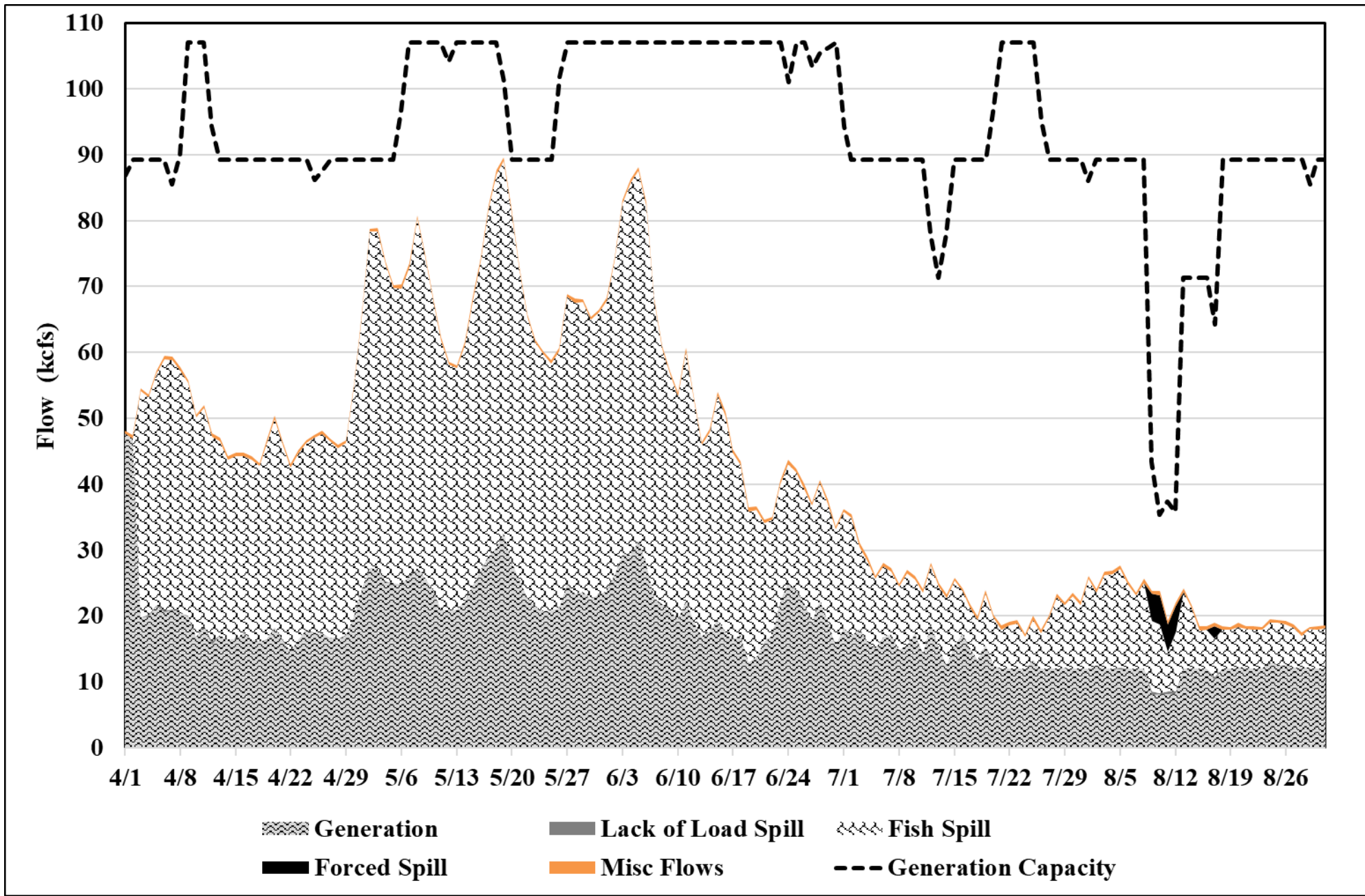


Figure C- 1: Lower Granite daily average project flows, WY 2021

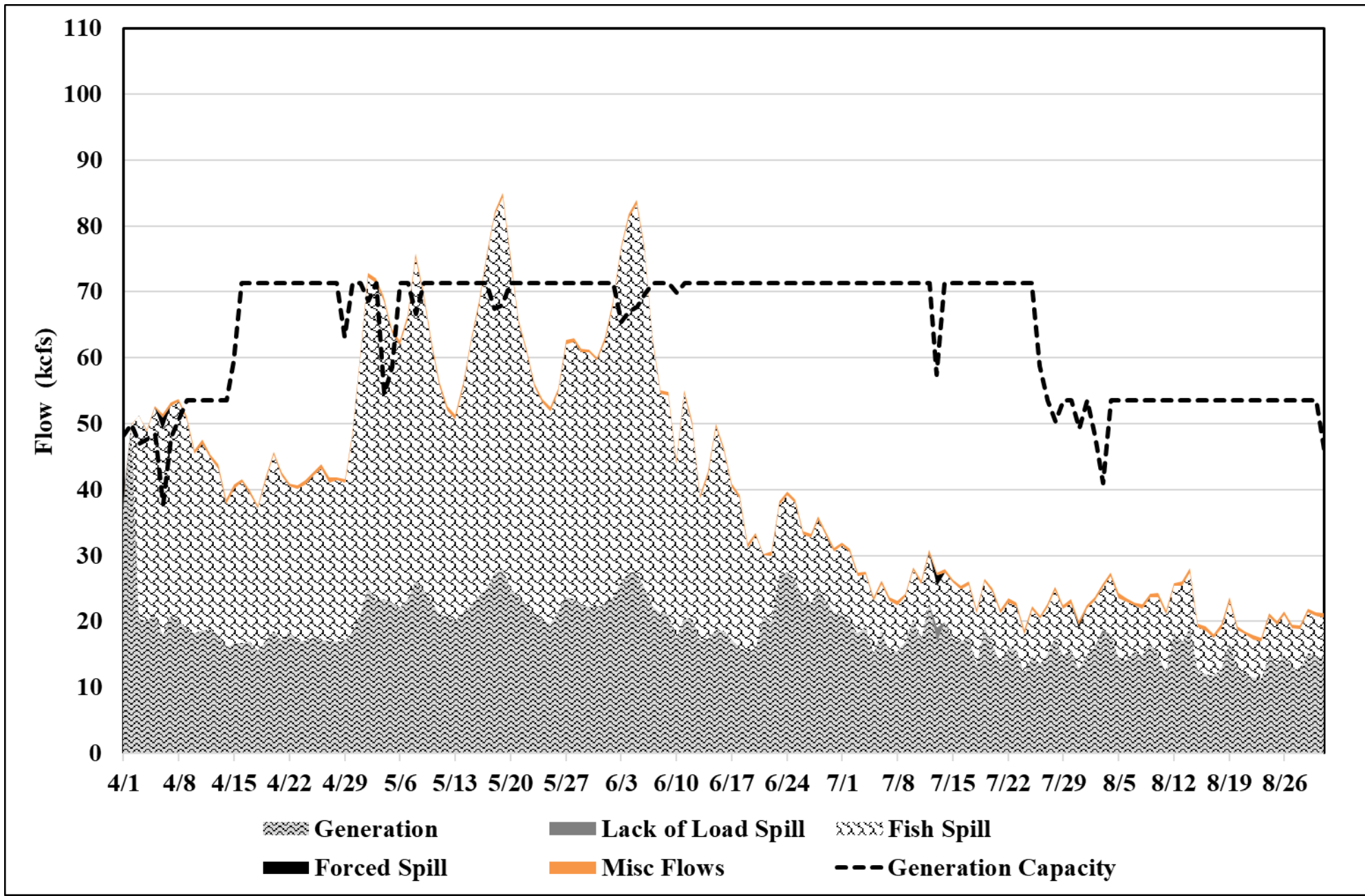


Figure C- 2: Little Goose daily average project flows, WY 2021

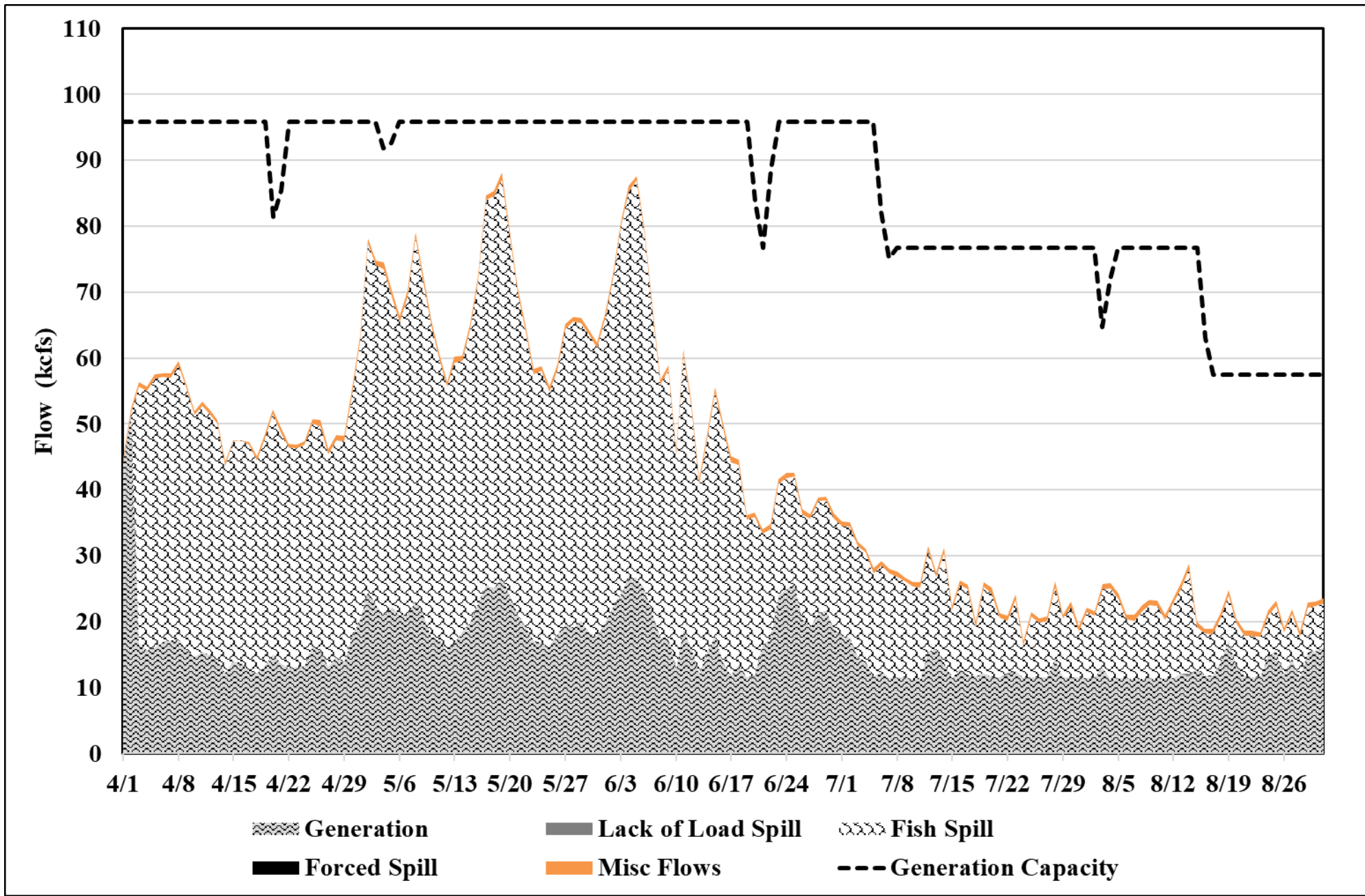


Figure C- 3: Lower Monumental daily average project flows, WY 2021

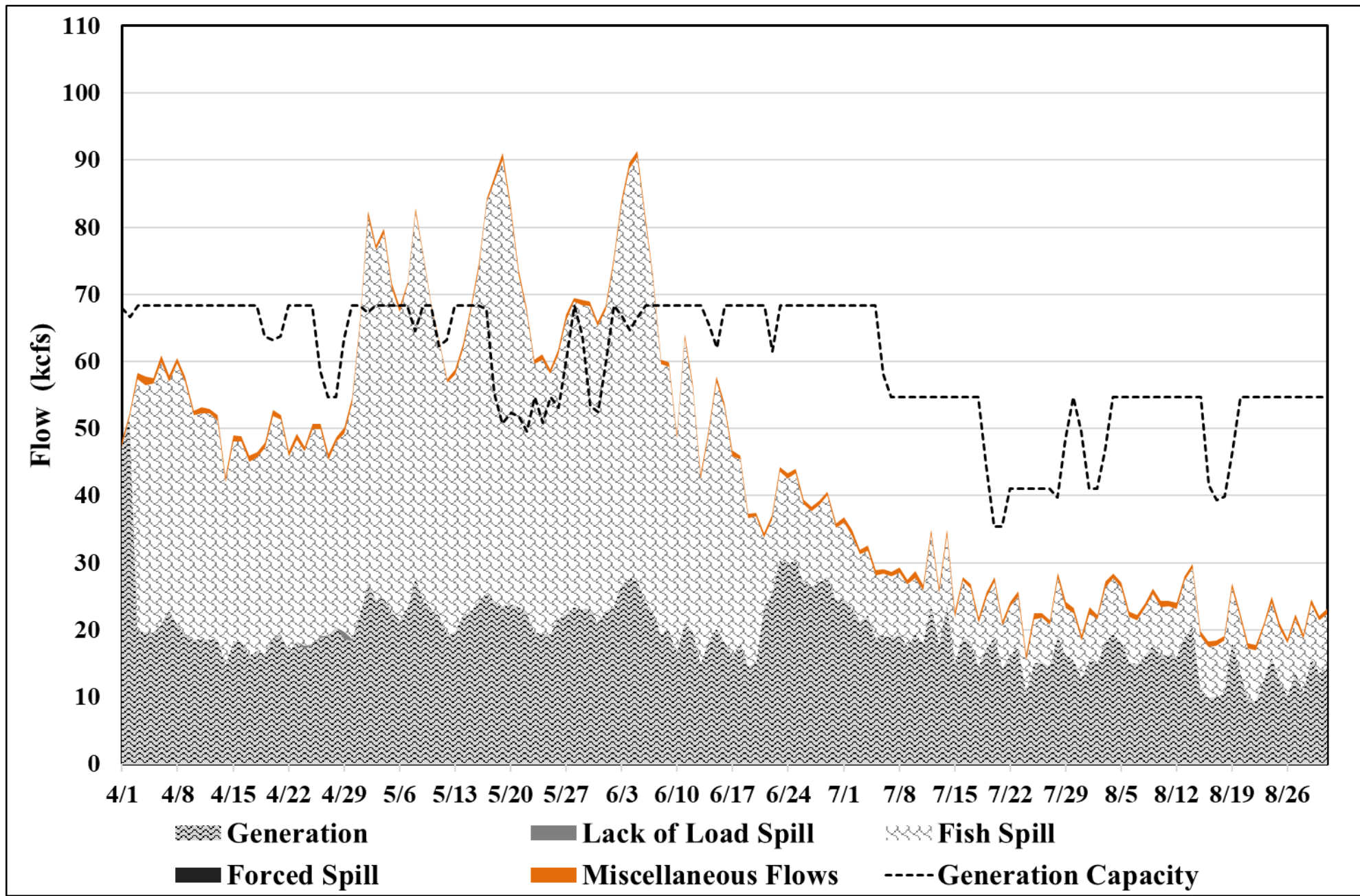


Figure C- 4: Ice Harbor daily average project flows, WY 2021

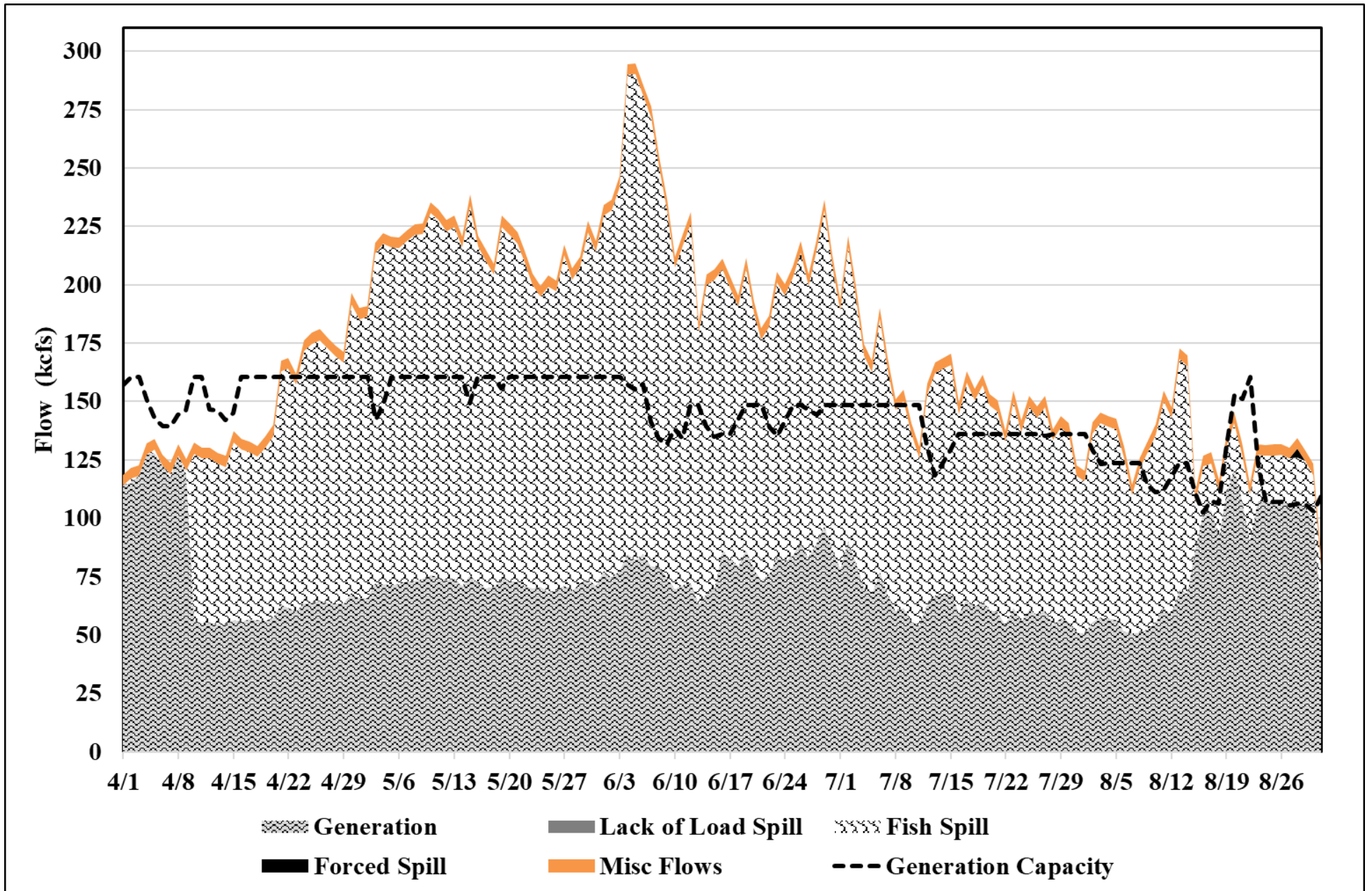


Figure C- 5: McNary daily average project flows, WY 2021

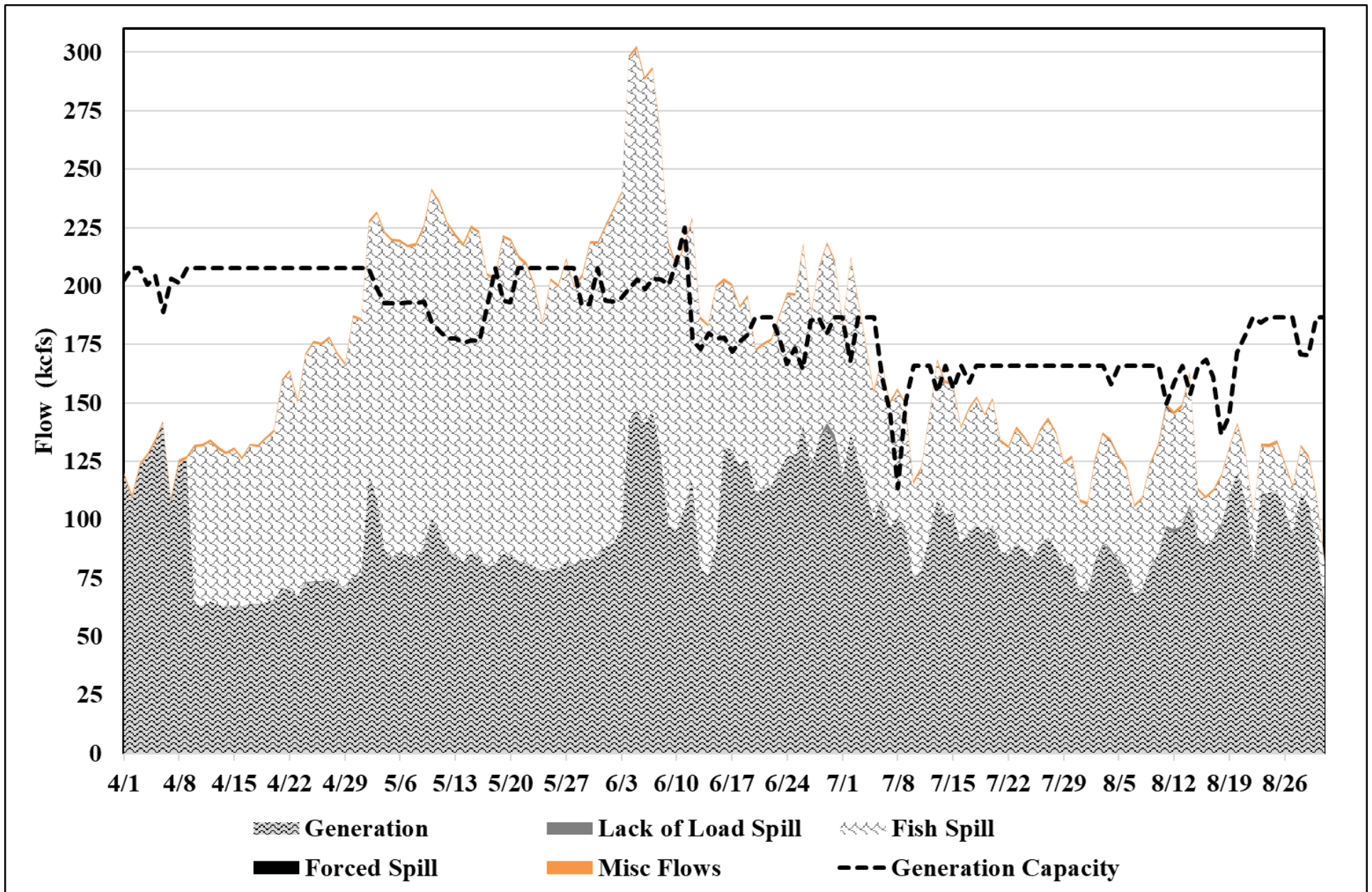


Figure C- 6: John Day daily average project flows, WY 2021

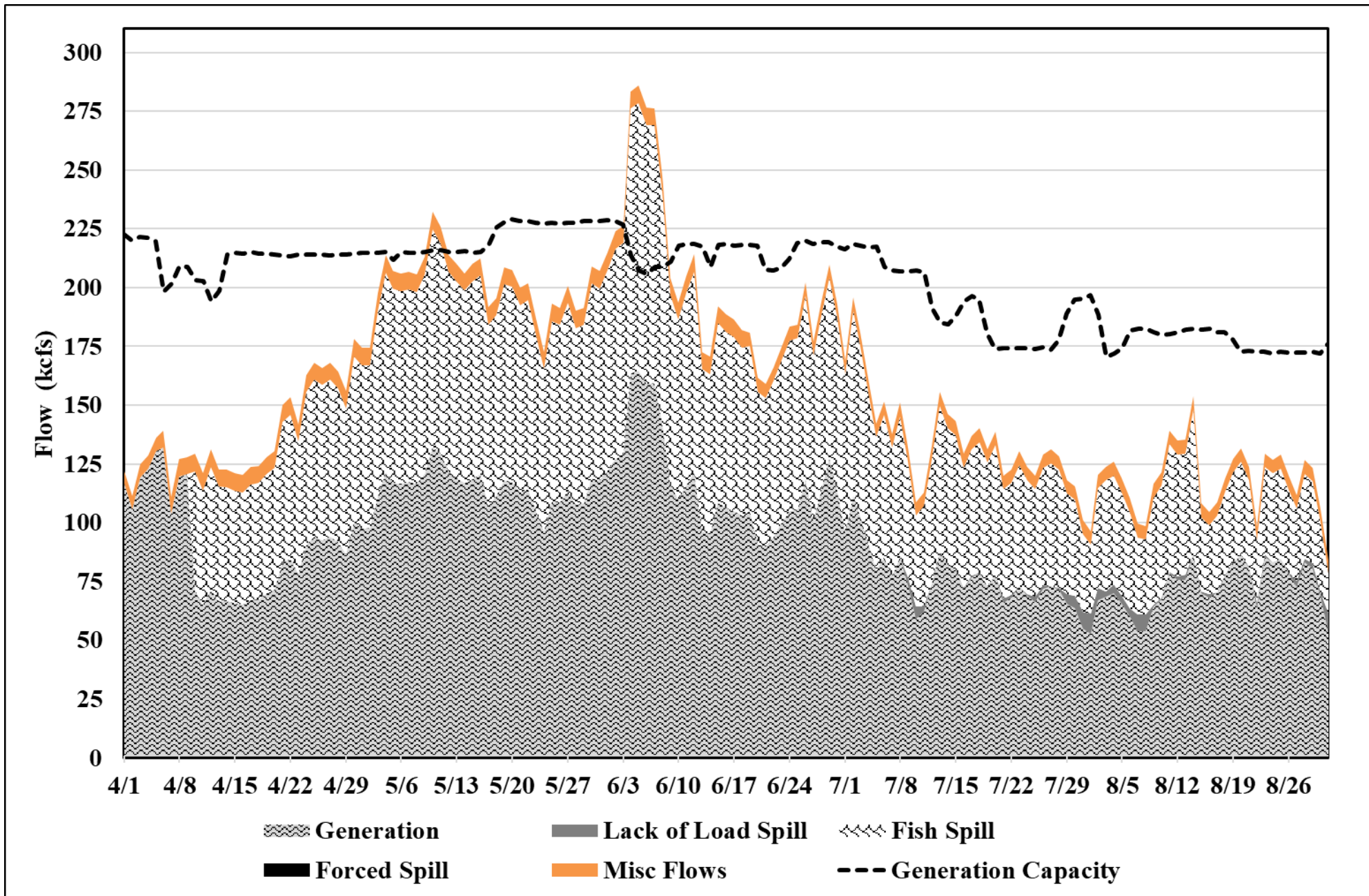


Figure C- 7: The Dalles daily average project flows, WY 2021

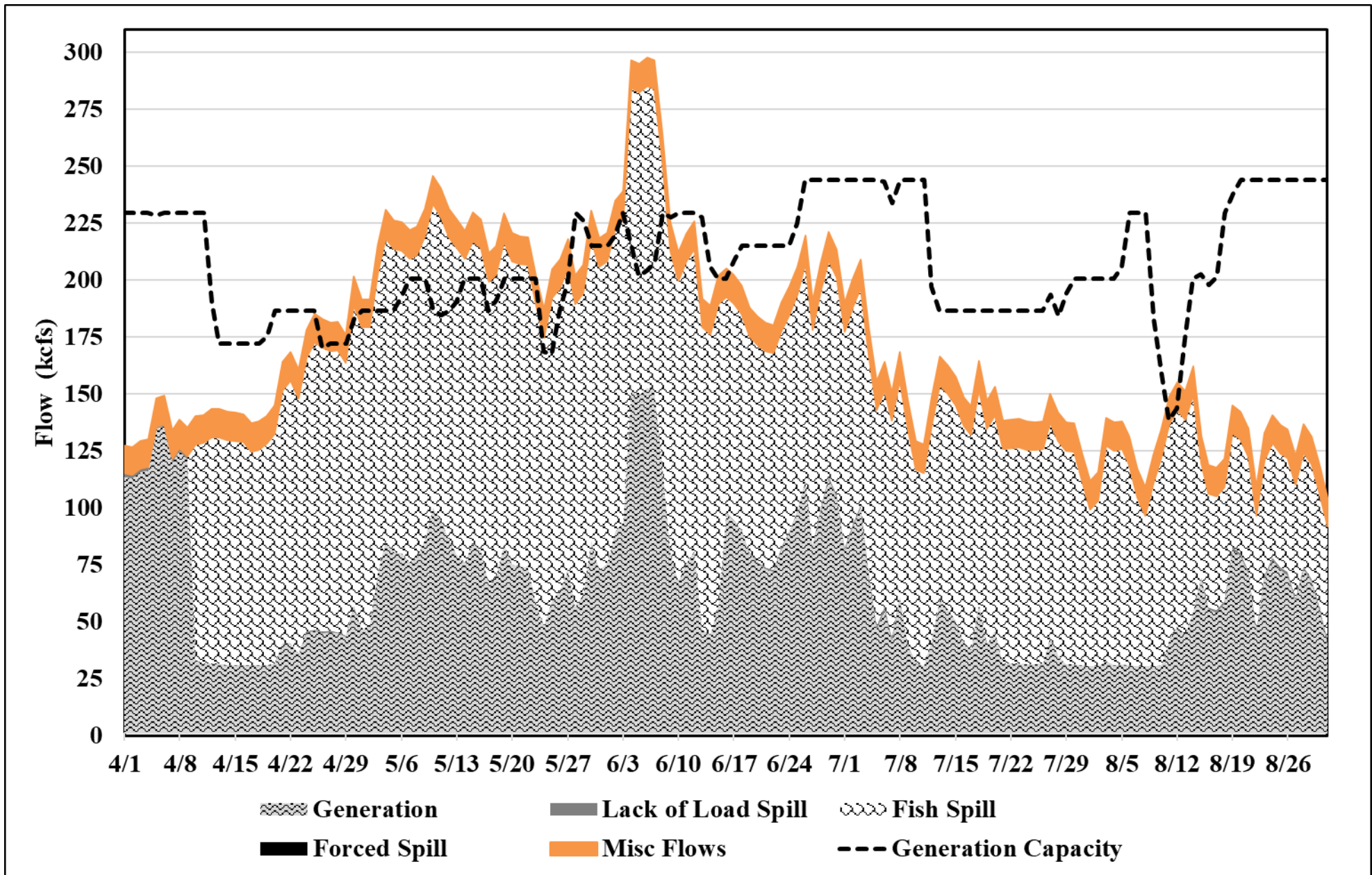


Figure C- 8: Bonneville daily average project flows, WY 2021

**Table C- 1: Lower Granite daily average project flows, WY 2021**

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
04/01/21	48	48	0	0	05/22/21	66	23	43	43	7/12/2021	29	19	10	15
04/02/21	47	47	0	0	05/23/21	62	22	40	40	7/13/2021	26	15	10	12
04/03/21	55	20	35	35	05/24/21	61	21	40	39	7/14/2021	24	12	11	10
04/04/21	54	20	34	33	05/25/21	59	21	38	38	7/15/2021	26	16	10	12
04/05/21	58	22	36	35	05/26/21	61	21	39	39	7/16/2021	25	17	7	11
04/06/21	60	21	39	38	05/27/21	69	25	44	44	7/17/2021	23	15	7	9
04/07/21	60	21	39	38	05/28/21	69	23	45	44	7/18/2021	21	13	7	7
04/08/21	59	21	38	37	05/29/21	69	24	45	44	7/19/2021	24	16	8	11
04/09/21	56	20	36	35	05/30/21	66	23	43	42	7/20/2021	21	13	8	7
04/10/21	51	17	34	33	05/31/21	67	23	43	43	7/21/2021	20	12	7	6
04/11/21	53	18	34	33	06/01/21	69	24	45	44	7/22/2021	21	12	8	7
04/12/21	49	16	32	31	06/02/21	75	26	48	48	7/23/2021	20	12	8	6
04/13/21	48	17	30	29	06/03/21	84	29	54	54	7/24/2021	18	12	6	5
04/14/21	45	16	28	27	06/04/21	87	29	57	57	7/25/2021	21	13	7	7
04/15/21	45	17	28	28	06/05/21	89	31	57	56	7/26/2021	19	12	6	5
04/16/21	45	17	27	27	06/06/21	83	28	55	54	7/27/2021	21	12	9	8
04/17/21	45	16	28	27	06/07/21	68	23	45	44	7/28/2021	24	12	12	11
04/18/21	44	16	28	27	06/08/21	61	22	39	39	7/29/2021	23	12	11	10
04/19/21	47	16	31	30	06/09/21	57	21	36	36	7/30/2021	24	12	12	11
04/20/21	51	18	32	32	06/10/21	55	19	35	34	7/31/2021	23	12	11	10
04/21/21	47	16	31	30	06/11/21	61	22	38	38	8/1/2021	27	12	15	14
04/22/21	44	15	29	28	06/12/21	53	19	33	33	8/2/2021	25	13	12	11
04/23/21	46	16	29	28	06/13/21	47	17	30	29	8/3/2021	28	12	16	14
04/24/21	47	18	29	28	06/14/21	49	18	31	30	8/4/2021	28	12	15	14
04/25/21	48	17	30	29	06/15/21	55	20	35	34	8/5/2021	29	12	16	15
04/26/21	49	17	31	30	06/16/21	51	18	33	32	8/6/2021	26	12	14	13
04/27/21	48	17	31	30	06/17/21	46	16	29	28	8/7/2021	25	12	12	11
04/28/21	47	17	30	29	06/18/21	44	17	26	26	8/8/2021	27	12	14	13
04/29/21	48	17	30	29	06/19/21	37	13	23	23	8/9/2021	24	8	16	11
04/30/21	56	20	35	35	06/20/21	37	14	23	22	8/10/2021	24	8	15	10
05/01/21	66	24	42	41	06/21/21	35	16	18	18	8/11/2021	20	8	11	6
05/02/21	79	27	51	51	06/22/21	36	17	18	18	8/12/2021	23	8	14	9
05/03/21	79	27	52	51	06/23/21	41	22	18	18	8/13/2021	25	12	13	12
05/04/21	74	25	49	48	06/24/21	44	25	18	18	8/14/2021	23	12	10	9
05/05/21	71	25	45	45	06/25/21	42	24	18	18	8/15/2021	20	12	7	6
05/06/21	71	25	45	45	06/26/21	40	22	18	17	8/16/2021	20	12	7	6
05/07/21	74	26	47	47	06/27/21	38	19	18	18	8/17/2021	20	10	9	6

05/08/21	81	27	54	53	06/28/21	41	22	18	18	8/18/2021	20	12	7	6
05/09/21	75	26	49	49	06/29/21	38	19	18	18	8/19/2021	20	12	7	6
05/10/21	69	24	45	44	06/30/21	34	16	18	17	8/20/2021	20	12	7	6
05/11/21	63	21	41	41	07/01/21	37	18	18	18	8/21/2021	19	12	7	6
05/12/21	59	21	38	37	07/02/21	35	17	18	18	8/22/2021	20	12	7	6
05/13/21	58	21	37	37	07/03/21	31	18	12	16	8/23/2021	19	12	7	6
05/14/21	62	22	39	39	07/04/21	30	16	13	15	8/24/2021	20	13	7	6
05/15/21	69	25	44	43	07/05/21	26	15	11	13	8/25/2021	20	13	7	6
05/16/21	75	27	47	47	07/06/21	28	17	11	15	8/26/2021	20	12	7	6
05/17/21	83	29	53	53	07/07/21	28	17	10	13	8/27/2021	20	12	7	6
05/18/21	88	30	57	57	07/08/21	25	15	10	12	8/28/2021	18	12	6	5
05/19/21	90	33	57	57	07/09/21	27	16	11	13	8/29/2021	19	12	7	6
05/20/21	82	28	53	53	07/10/21	27	17	9	13	8/30/2021	20	12	7	6
05/21/21	73	26	47	47	07/11/21	25	14	10	11	8/31/2021	20	12	7	6

**Table C- 2: Little Goose daily average project flows, WY 2021**

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
04/01/21	38	37	1	0	05/22/21	62	22	39	39	7/12/2021	31	23	8	8
04/02/21	50	50	0	0	05/23/21	56	21	35	35	7/13/2021	27	17	10	6
04/03/21	51	20	31	31	05/24/21	54	20	33	33	7/14/2021	28	20	8	8
04/04/21	49	20	29	29	05/25/21	53	20	32	32	7/15/2021	26	17	9	9
04/05/21	53	21	32	32	05/26/21	55	22	33	33	7/16/2021	25	17	8	8
04/06/21	52	18	33	31	05/27/21	63	24	39	39	7/17/2021	26	18	8	8
04/07/21	53	21	32	32	05/28/21	63	23	39	39	7/18/2021	22	13	8	8
04/08/21	54	20	33	33	05/29/21	62	23	39	39	7/19/2021	27	19	7	7
04/09/21	51	19	32	32	05/30/21	61	22	39	39	7/20/2021	25	17	8	8
04/10/21	46	18	27	27	05/31/21	60	22	38	38	7/21/2021	22	13	8	8
04/11/21	48	19	28	28	06/01/21	63	23	40	40	7/22/2021	24	16	7	7
04/12/21	45	19	26	26	06/02/21	69	24	45	45	7/23/2021	23	16	7	7
04/13/21	44	18	25	25	06/03/21	77	26	50	50	7/24/2021	19	12	6	6
04/14/21	39	16	22	22	06/04/21	82	27	54	54	7/25/2021	23	15	7	7
04/15/21	41	17	24	24	06/05/21	84	27	56	56	7/26/2021	21	13	7	7
04/16/21	42	17	25	25	06/06/21	77	25	51	51	7/27/2021	23	15	7	7
04/17/21	40	17	23	23	06/07/21	63	22	40	40	7/28/2021	25	18	7	7
04/18/21	38	15	22	22	06/08/21	55	21	33	33	7/29/2021	22	15	7	7
04/19/21	42	17	25	25	06/09/21	55	21	33	33	7/30/2021	24	16	7	7
04/20/21	46	19	27	27	06/10/21	45	17	27	27	7/31/2021	20	13	7	6
04/21/21	43	17	25	25	06/11/21	55	21	34	34	8/1/2021	23	15	7	7

04/22/21	41	18	22	22	06/12/21	51	21	29	29	8/2/2021	24	16	7	7
04/23/21	41	17	23	23	06/13/21	39	17	22	22	8/3/2021	26	18	7	7
04/24/21	42	17	24	24	06/14/21	43	17	25	25	8/4/2021	27	18	9	9
04/25/21	43	18	25	25	06/15/21	50	19	31	31	8/5/2021	24	15	9	9
04/26/21	44	17	26	26	06/16/21	46	19	27	27	8/6/2021	24	14	9	9
04/27/21	42	17	25	25	06/17/21	41	17	23	23	8/7/2021	23	15	7	7
04/28/21	42	17	25	25	06/18/21	39	16	23	23	8/8/2021	23	15	7	7
04/29/21	42	17	24	24	06/19/21	32	15	16	16	8/9/2021	24	17	7	7
04/30/21	49	18	30	30	06/20/21	34	16	17	17	8/10/2021	25	15	9	9
05/01/21	61	21	39	39	06/21/21	30	21	9	9	8/11/2021	22	12	9	9
05/02/21	73	25	47	47	06/22/21	31	20	10	10	8/12/2021	26	18	7	7
05/03/21	72	23	48	48	06/23/21	38	27	11	11	8/13/2021	26	17	8	8
05/04/21	69	23	45	45	06/24/21	40	27	12	12	8/14/2021	28	19	8	8
05/05/21	65	23	41	41	06/25/21	39	26	12	12	8/15/2021	20	13	7	7
05/06/21	63	22	40	40	06/26/21	34	23	10	10	8/16/2021	19	12	7	7
05/07/21	67	23	43	43	06/27/21	33	23	10	10	8/17/2021	18	12	6	6
05/08/21	76	26	49	49	06/28/21	36	25	11	11	8/18/2021	20	13	6	6
05/09/21	70	25	45	45	06/29/21	34	23	10	10	8/19/2021	24	17	6	6
05/10/21	63	23	39	39	06/30/21	31	21	9	9	8/20/2021	19	13	6	6
05/11/21	57	21	35	35	07/01/21	32	21	10	10	8/21/2021	19	12	6	6
05/12/21	53	21	31	31	07/02/21	31	20	11	11	8/22/2021	18	12	6	6
05/13/21	51	20	31	31	07/03/21	27	18	9	9	8/23/2021	18	11	6	6
05/14/21	56	21	34	34	07/04/21	28	19	8	8	8/24/2021	22	15	6	6
05/15/21	63	22	40	40	07/05/21	24	15	8	8	8/25/2021	20	13	6	6
05/16/21	69	24	44	44	07/06/21	27	19	7	7	8/26/2021	22	15	6	6
05/17/21	76	25	50	50	07/07/21	24	15	8	8	8/27/2021	20	13	6	6
05/18/21	82	27	54	54	07/08/21	23	16	7	7	8/28/2021	19	13	6	6
05/19/21	85	28	57	57	07/09/21	24	17	7	7	8/29/2021	22	15	6	6
05/20/21	75	25	50	50	07/10/21	28	20	8	8	8/30/2021	21	15	6	6
05/21/21	66	24	42	42	07/11/21	26	17	8	8	8/31/2021	21	14	6	6

**Table C- 3: Lower Monumental daily average project flows, WY 2021**

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
04/01/21	45	44	0	0	05/22/21	65	19	45	45	7/12/2021	32	15	16	15
04/02/21	52	52	0	0	05/23/21	59	17	41	41	7/13/2021	28	16	12	11
04/03/21	56	17	39	39	05/24/21	59	17	42	41	7/14/2021	32	14	17	17

04/04/21	56	16	39	39	05/25/21	56	16	39	40	7/15/2021	23	11	11	10
04/05/21	58	16	41	40	05/26/21	60	18	41	40	7/16/2021	27	13	13	13
04/06/21	58	17	40	40	05/27/21	66	20	45	46	7/17/2021	27	12	14	13
04/07/21	58	17	40	40	05/28/21	67	19	47	47	7/18/2021	21	12	8	7
04/08/21	59	17	42	41	05/29/21	67	20	46	46	7/19/2021	27	12	14	13
04/09/21	56	16	40	39	05/30/21	65	18	46	45	7/20/2021	26	12	14	13
04/10/21	52	15	37	36	05/31/21	63	18	44	45	7/21/2021	22	12	10	9
04/11/21	53	15	37	37	06/01/21	67	20	46	46	7/22/2021	22	12	9	8
04/12/21	52	15	37	36	06/02/21	73	22	50	51	7/23/2021	25	12	11	11
04/13/21	51	14	36	35	06/03/21	81	24	56	56	7/24/2021	18	12	6	5
04/14/21	44	12	31	31	06/04/21	87	27	59	59	7/25/2021	22	12	10	9
04/15/21	48	14	34	33	06/05/21	88	27	61	60	7/26/2021	21	12	9	8
04/16/21	47	14	34	33	06/06/21	80	25	54	55	7/27/2021	22	12	9	8
04/17/21	47	13	34	34	06/07/21	68	21	46	46	7/28/2021	27	14	11	11
04/18/21	45	12	32	32	06/08/21	57	18	39	39	7/29/2021	22	12	10	9
04/19/21	48	13	35	34	06/09/21	60	18	41	41	7/30/2021	24	12	12	11
04/20/21	52	15	36	36	06/10/21	47	13	33	33	7/31/2021	20	12	8	7
04/21/21	49	14	35	35	06/11/21	62	19	43	42	8/1/2021	23	11	11	10
04/22/21	47	13	34	33	06/12/21	54	16	37	37	8/2/2021	23	12	10	9
04/23/21	47	13	33	33	06/13/21	42	12	29	29	8/3/2021	26	13	13	12
04/24/21	47	13	34	33	06/14/21	49	15	33	33	8/4/2021	27	11	15	14
04/25/21	51	16	34	34	06/15/21	56	18	37	37	8/5/2021	25	11	13	12
04/26/21	51	16	34	34	06/16/21	51	14	36	36	8/6/2021	22	11	10	9
04/27/21	46	13	32	32	06/17/21	46	12	33	32	8/7/2021	22	11	10	9
04/28/21	48	15	33	33	06/18/21	45	14	31	31	8/8/2021	24	11	11	10
04/29/21	48	14	34	34	06/19/21	37	12	25	24	8/9/2021	24	11	12	11
04/30/21	55	18	37	37	06/20/21	37	12	25	24	8/10/2021	24	11	12	11
05/01/21	64	20	43	43	06/21/21	34	16	17	17	8/11/2021	22	11	10	9
05/02/21	79	24	53	54	06/22/21	35	17	17	17	8/12/2021	25	11	12	11
05/03/21	75	23	52	53	06/23/21	42	24	17	17	8/13/2021	27	12	14	13
05/04/21	75	21	53	53	06/24/21	43	25	17	17	8/14/2021	30	12	17	16
05/05/21	71	22	48	48	06/25/21	43	26	17	16	8/15/2021	21	13	7	6
05/06/21	67	21	45	45	06/26/21	38	20	16	16	8/16/2021	20	12	7	6
05/07/21	71	21	49	49	06/27/21	37	19	17	17	8/17/2021	20	12	7	6
05/08/21	80	23	55	56	06/28/21	39	21	17	17	8/18/2021	22	14	7	7
05/09/21	73	21	51	51	06/29/21	39	22	17	17	8/19/2021	25	17	7	7
05/10/21	66	18	48	48	06/30/21	37	19	17	17	8/20/2021	21	13	7	7
05/11/21	61	17	43	43	07/01/21	36	18	17	17	8/21/2021	20	12	7	6
05/12/21	57	15	41	41	07/02/21	35	18	17	17	8/22/2021	20	12	7	6
05/13/21	61	17	43	43	07/03/21	32	15	17	17	8/23/2021	19	12	7	6

05/14/21	61	18	42	42	07/04/21	31	14	17	17	8/24/2021	22	15	7	6
05/15/21	66	20	45	46	07/05/21	29	12	17	16	8/25/2021	23	16	7	7
05/16/21	73	23	49	49	07/06/21	30	12	17	16	8/26/2021	20	12	7	6
05/17/21	85	26	59	60	07/07/21	29	11	17	16	8/27/2021	22	14	7	7
05/18/21	86	25	60	60	07/08/21	29	12	16	15	8/28/2021	19	12	7	6
05/19/21	89	27	61	61	07/09/21	28	12	15	15	8/29/2021	23	15	7	7
05/20/21	80	24	55	55	07/10/21	27	11	15	14	8/30/2021	23	16	7	7
05/21/21	71	21	49	50	07/11/21	27	11	15	14	8/31/2021	24	16	7	7

**Table C- 4: Ice Harbor daily average project flows, WY 2021**

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
04/01/21	48	47	0	0	05/22/21	68	23	45	45	7/12/2021	35	24	10	10
04/02/21	52	51	0	0	05/23/21	61	20	40	40	7/13/2021	26	18	8	8
04/03/21	58	20	38	38	05/24/21	61	19	41	41	7/14/2021	35	24	10	10
04/04/21	58	20	37	37	05/25/21	59	19	39	39	7/15/2021	23	15	7	7
04/05/21	58	19	37	37	05/26/21	62	22	40	40	7/16/2021	28	19	8	8
04/06/21	61	21	39	39	05/27/21	67	22	44	44	7/17/2021	27	18	8	8
04/07/21	58	23	34	34	05/28/21	70	23	46	46	7/18/2021	22	15	6	6
04/08/21	61	21	39	39	05/29/21	69	23	46	46	7/19/2021	26	17	8	8
04/09/21	58	19	38	38	05/30/21	69	23	45	45	7/20/2021	28	19	8	8
04/10/21	53	19	34	34	05/31/21	66	21	44	44	7/21/2021	21	14	6	6
04/11/21	54	19	34	34	06/01/21	69	23	45	45	7/22/2021	24	16	7	7
04/12/21	53	18	34	34	06/02/21	76	23	51	51	7/23/2021	26	17	8	8
04/13/21	52	19	33	33	06/03/21	84	27	57	57	7/24/2021	16	11	5	5
04/14/21	43	15	28	28	06/04/21	90	28	61	61	7/25/2021	22	15	7	7
04/15/21	49	18	30	30	06/05/21	92	27	63	63	7/26/2021	23	15	7	7
04/16/21	49	18	30	30	06/06/21	82	24	57	57	7/27/2021	21	14	6	6
04/17/21	46	16	29	29	06/07/21	73	23	50	50	7/28/2021	29	19	9	9
04/18/21	47	17	29	29	06/08/21	61	19	41	41	7/29/2021	24	16	7	7
04/19/21	48	16	31	31	06/09/21	60	20	40	40	7/30/2021	23	16	7	7
04/20/21	53	19	34	34	06/10/21	49	17	32	32	7/31/2021	19	13	6	6
04/21/21	52	19	32	32	06/11/21	64	21	43	43	8/1/2021	23	16	7	7
04/22/21	47	17	30	30	06/12/21	57	20	37	37	8/2/2021	22	15	7	7
04/23/21	50	18	30	30	06/13/21	44	15	28	28	8/3/2021	27	18	8	8
04/24/21	48	17	30	29	06/14/21	50	18	31	31	8/4/2021	28	19	8	8
04/25/21	51	18	33	32	06/15/21	58	20	37	37	8/5/2021	27	18	8	8
04/26/21	51	19	32	32	06/16/21	54	18	35	35	8/6/2021	23	15	7	7

04/27/21	48	19	27	27	06/17/21	47	16	30	30	8/7/2021	22	15	7	7
04/28/21	50	20	29	29	06/18/21	46	18	28	28	8/8/2021	24	16	7	7
04/29/21	51	18	31	30	06/19/21	38	15	22	22	8/9/2021	26	18	8	8
04/30/21	55	18	35	35	06/20/21	38	15	22	22	8/10/2021	24	16	7	7
05/01/21	67	22	43	43	06/21/21	34	23	10	10	8/11/2021	24	16	7	7
05/02/21	83	27	55	55	06/22/21	37	25	11	11	8/12/2021	24	16	7	7
05/03/21	78	24	53	53	06/23/21	44	30	13	13	8/13/2021	28	19	8	8
05/04/21	80	25	55	55	06/24/21	43	30	13	13	8/14/2021	30	20	9	9
05/05/21	72	23	48	48	06/25/21	44	30	13	13	8/15/2021	21	11	8	8
05/06/21	68	21	46	46	06/26/21	39	27	12	12	8/16/2021	19	10	8	8
05/07/21	72	23	48	48	06/27/21	38	26	11	11	8/17/2021	19	10	8	8
05/08/21	83	28	55	55	06/28/21	39	27	12	12	8/18/2021	20	11	9	9
05/09/21	76	24	52	52	06/29/21	41	28	12	12	8/19/2021	27	18	9	9
05/10/21	69	23	45	45	06/30/21	36	24	11	11	8/20/2021	23	14	8	8
05/11/21	64	22	41	41	07/01/21	37	25	11	11	8/21/2021	19	10	8	8
05/12/21	58	19	38	38	07/02/21	35	23	11	11	8/22/2021	19	9	9	9
05/13/21	59	20	39	39	07/03/21	32	21	10	10	8/23/2021	22	13	9	9
05/14/21	63	22	40	40	07/04/21	33	22	10	10	8/24/2021	25	16	8	8
05/15/21	68	23	45	45	07/05/21	29	19	9	9	8/25/2021	22	12	8	8
05/16/21	75	24	50	50	07/06/21	29	19	9	9	8/26/2021	19	10	9	9
05/17/21	85	25	58	58	07/07/21	29	19	9	9	8/27/2021	23	14	9	9
05/18/21	88	24	63	63	07/08/21	29	19	9	9	8/28/2021	20	11	9	9
05/19/21	91	23	67	67	07/09/21	27	18	9	9	8/29/2021	25	16	9	9
05/20/21	84	24	59	59	07/10/21	29	19	8	8	8/30/2021	23	14	9	9
05/21/21	74	23	50	50	07/11/21	27	18	8	8	8/31/2021	24	14	8	8

**Table C- 5: McNary daily average project flows, WY 2021**

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
04/01/21	119	114	0	0	05/22/21	214	71	139	139	7/12/2021	158	63	90	90
04/02/21	122	116	1	1	05/23/21	205	70	130	130	7/13/2021	167	67	96	95
04/03/21	123	118	0	0	05/24/21	200	71	124	124	7/14/2021	169	68	97	96
04/04/21	132	127	0	0	05/25/21	204	68	131	131	7/15/2021	171	68	98	97
04/05/21	134	128	2	1	05/26/21	202	69	128	128	7/16/2021	150	59	86	85
04/06/21	127	123	0	0	05/27/21	217	71	142	142	7/17/2021	163	65	93	93
04/07/21	124	117	2	2	05/28/21	207	69	134	134	7/18/2021	155	62	89	89
04/08/21	132	127	0	0	05/29/21	212	72	135	135	7/19/2021	162	65	92	92
04/09/21	125	119	2	2	05/30/21	227	74	148	148	7/20/2021	153	61	88	87
04/10/21	132	56	71	71	05/31/21	219	71	143	143	7/21/2021	151	60	86	86

04/11/21	130	55	71	71	06/01/21	234	77	152	152	7/22/2021	138	54	79	79
04/12/21	130	55	70	70	06/02/21	236	74	157	157	7/23/2021	155	62	88	88
04/13/21	128	55	69	69	06/03/21	246	77	164	164	7/24/2021	142	56	81	81
04/14/21	127	54	68	68	06/04/21	295	85	205	205	7/25/2021	153	61	87	87
04/15/21	137	56	76	76	06/05/21	295	82	208	208	7/26/2021	148	59	85	85
04/16/21	134	56	74	74	06/06/21	285	85	196	196	7/27/2021	153	61	87	87
04/17/21	133	57	72	72	06/07/21	276	79	192	192	7/28/2021	138	55	79	79
04/18/21	131	56	70	70	06/08/21	255	78	172	172	7/29/2021	144	57	82	82
04/19/21	135	56	74	74	06/09/21	237	75	158	158	7/30/2021	141	55	81	81
04/20/21	140	57	78	78	06/10/21	212	70	138	138	7/31/2021	123	51	67	67
04/21/21	168	63	100	100	06/11/21	222	72	145	145	8/1/2021	121	51	65	65
04/22/21	169	62	102	102	06/12/21	231	72	154	154	8/2/2021	142	56	81	81
04/23/21	162	60	97	97	06/13/21	184	63	117	117	8/3/2021	146	58	84	83
04/24/21	176	63	108	108	06/14/21	205	68	132	132	8/4/2021	144	57	83	82
04/25/21	179	64	111	111	06/15/21	207	70	132	132	8/5/2021	143	57	82	81
04/26/21	181	65	112	112	06/16/21	212	86	121	121	8/6/2021	131	51	75	74
04/27/21	177	64	109	109	06/17/21	203	83	116	116	8/7/2021	114	51	59	59
04/28/21	174	63	106	106	06/18/21	196	79	112	112	8/8/2021	126	51	71	71
04/29/21	171	63	103	103	06/19/21	212	86	121	121	8/9/2021	133	52	76	76
04/30/21	196	68	124	124	06/20/21	193	78	110	110	8/10/2021	141	56	80	80
05/01/21	190	66	119	119	06/21/21	182	73	104	104	8/11/2021	155	62	88	88
05/02/21	191	66	121	121	06/22/21	187	75	107	107	8/12/2021	148	59	84	84
05/03/21	218	72	141	141	06/23/21	206	84	118	118	8/13/2021	173	69	99	99
05/04/21	222	72	146	146	06/24/21	201	81	115	115	8/14/2021	170	68	98	97
05/05/21	221	71	145	145	06/25/21	208	84	119	119	8/15/2021	112	87	20	20
05/06/21	220	72	144	144	06/26/21	219	89	125	125	8/16/2021	127	102	20	20
05/07/21	223	73	146	146	06/27/21	205	83	117	117	8/17/2021	128	104	20	20
05/08/21	226	73	148	148	06/28/21	220	89	126	126	8/18/2021	116	92	20	20
05/09/21	226	74	148	148	06/29/21	237	97	136	136	8/19/2021	135	110	20	20
05/10/21	235	76	155	155	06/30/21	213	87	122	122	8/20/2021	146	121	20	20
05/11/21	232	75	153	153	07/01/21	194	78	111	111	8/21/2021	132	108	20	20
05/12/21	228	73	150	150	07/02/21	221	90	126	126	8/22/2021	115	90	20	20
05/13/21	230	75	150	150	07/03/21	199	81	114	114	8/23/2021	132	107	20	20
05/14/21	221	71	145	145	07/04/21	175	70	100	100	8/24/2021	131	107	20	20
05/15/21	239	75	158	158	07/05/21	168	67	96	95	8/25/2021	132	107	20	20
05/16/21	221	72	144	144	07/06/21	190	77	109	108	8/26/2021	132	107	20	20
05/17/21	215	70	140	140	07/07/21	169	67	97	96	8/27/2021	130	106	20	20
05/18/21	209	71	134	134	07/08/21	151	60	87	86	8/28/2021	135	106	24	20
05/19/21	230	74	151	151	07/09/21	155	62	89	89	8/29/2021	129	104	20	20
05/20/21	226	73	148	148	07/10/21	141	56	81	81	8/30/2021	123	99	20	20

05/21/21	222	73	145	145	07/11/21	131	54	72	72	8/31/2021	84	60	20	20
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**Table C- 6: John Day daily average project flows, WY 2021**

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
04/01/21	120	119	0	0	05/22/21	210	81	127	127	7/12/2021	145	93	51	51
04/02/21	110	109	0	0	05/23/21	201	80	119	119	7/13/2021	169	109	59	59
04/03/21	124	123	0	0	05/24/21	184	78	105	105	7/14/2021	160	103	56	56
04/04/21	129	128	0	0	05/25/21	203	80	123	123	7/15/2021	159	102	55	55
04/05/21	135	134	0	0	05/26/21	201	79	120	120	7/16/2021	141	90	49	49
04/06/21	142	141	0	0	05/27/21	212	82	129	129	7/17/2021	148	95	52	52
04/07/21	109	108	0	0	05/28/21	200	80	119	119	7/18/2021	153	99	53	53
04/08/21	126	124	0	0	05/29/21	205	83	121	121	7/19/2021	146	94	51	51
04/09/21	127	126	0	0	05/30/21	219	83	135	135	7/20/2021	152	98	53	53
04/10/21	132	64	67	67	05/31/21	219	85	133	133	7/21/2021	135	87	47	47
04/11/21	133	63	69	69	06/01/21	227	88	137	137	7/22/2021	132	85	46	46
04/12/21	135	65	68	68	06/02/21	234	90	142	142	7/23/2021	140	90	49	49
04/13/21	132	64	67	67	06/03/21	241	97	142	142	7/24/2021	136	87	48	48
04/14/21	129	63	65	65	06/04/21	299	143	155	155	7/25/2021	131	84	46	46
04/15/21	131	63	66	66	06/05/21	303	148	154	154	7/26/2021	139	90	48	48
04/16/21	127	63	63	63	06/06/21	289	141	147	147	7/27/2021	144	93	50	50
04/17/21	133	64	68	68	06/07/21	294	147	146	146	7/28/2021	138	88	49	49
04/18/21	132	64	67	67	06/08/21	265	129	135	135	7/29/2021	125	80	44	44
04/19/21	136	65	70	70	06/09/21	219	98	120	120	7/30/2021	128	82	45	45
04/20/21	139	66	72	72	06/10/21	209	96	112	112	7/31/2021	109	70	38	38
04/21/21	160	71	88	88	06/11/21	218	105	112	112	8/1/2021	108	69	37	37
04/22/21	164	70	93	93	06/12/21	229	117	111	111	8/2/2021	126	81	44	44
04/23/21	151	67	83	83	06/13/21	187	80	106	106	8/3/2021	138	89	48	48
04/24/21	172	73	98	98	06/14/21	184	76	107	107	8/4/2021	135	87	47	47
04/25/21	177	73	102	102	06/15/21	200	89	110	110	8/5/2021	128	82	45	45
04/26/21	176	73	102	102	06/16/21	203	131	71	71	8/6/2021	122	79	43	43
04/27/21	178	75	103	103	06/17/21	201	130	70	70	8/7/2021	107	68	38	38
04/28/21	172	73	97	97	06/18/21	192	124	67	67	8/8/2021	110	70	39	39
04/29/21	167	70	96	96	06/19/21	197	127	69	69	8/9/2021	125	80	44	44
04/30/21	188	77	110	110	06/20/21	173	112	61	61	8/10/2021	133	85	46	46
05/01/21	187	76	109	109	06/21/21	176	114	61	61	8/11/2021	150	97	52	52
05/02/21	185	76	108	108	06/22/21	178	115	62	62	8/12/2021	147	94	51	51

05/03/21	208	86	121	121	06/23/21	188	121	66	66	8/13/2021	149	96	52	52
05/04/21	223	87	135	135	06/24/21	198	128	69	69	8/14/2021	164	105	57	57
05/05/21	220	84	135	135	06/25/21	197	127	69	69	8/15/2021	115	92	21	21
05/06/21	220	86	132	132	06/26/21	218	141	76	76	8/16/2021	111	89	21	21
05/07/21	218	85	132	132	06/27/21	190	122	66	66	8/17/2021	115	92	21	21
05/08/21	218	84	133	133	06/28/21	209	135	73	73	8/18/2021	120	98	22	20
05/09/21	226	88	136	136	06/29/21	219	138	79	76	8/19/2021	132	111	20	20
05/10/21	242	101	140	140	06/30/21	212	133	77	74	8/20/2021	142	121	20	20
05/11/21	236	95	140	140	07/01/21	184	118	65	64	8/21/2021	130	109	20	20
05/12/21	228	87	139	139	07/02/21	213	138	74	74	8/22/2021	104	83	20	20
05/13/21	223	84	137	137	07/03/21	195	126	68	68	8/23/2021	133	112	20	20
05/14/21	218	82	135	135	07/04/21	177	114	61	61	8/24/2021	133	111	20	20
05/15/21	226	86	139	139	07/05/21	155	100	54	54	8/25/2021	134	113	20	20
05/16/21	224	85	138	138	07/06/21	169	109	59	59	8/26/2021	125	104	20	20
05/17/21	206	79	125	125	07/07/21	151	97	53	53	8/27/2021	115	94	20	20
05/18/21	204	81	121	121	07/08/21	156	101	54	54	8/28/2021	133	111	20	20
05/19/21	222	86	135	135	07/09/21	150	97	52	52	8/29/2021	128	106	20	20
05/20/21	220	84	135	135	07/10/21	117	75	41	41	8/30/2021	111	90	20	20
05/21/21	213	83	129	129	07/11/21	123	78	43	43	8/31/2021	83	62	20	20

**Table C- 7: The Dalles daily average project flows, WY 2021**

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
04/01/21	122	116	0	0	05/22/21	202	114	80	81	7/12/2021	133	74	53	53
04/02/21	111	106	0	0	05/23/21	187	105	75	75	7/13/2021	156	88	62	62
04/03/21	125	119	0	0	05/24/21	173	96	70	69	7/14/2021	146	82	59	59
04/04/21	129	123	0	0	05/25/21	193	109	77	77	7/15/2021	143	80	57	57
04/05/21	136	130	0	0	05/26/21	191	109	75	77	7/16/2021	130	72	52	51
04/06/21	139	132	0	0	05/27/21	201	113	81	81	7/17/2021	138	77	55	54
04/07/21	111	104	0	0	05/28/21	190	108	75	76	7/18/2021	140	79	56	56
04/08/21	127	120	0	0	05/29/21	192	108	76	77	7/19/2021	132	73	53	53
04/09/21	128	121	0	0	05/30/21	209	119	83	84	7/20/2021	139	78	55	56
04/10/21	129	71	51	52	05/31/21	207	118	82	83	7/21/2021	121	66	49	47
04/11/21	121	65	49	49	06/01/21	215	122	85	86	7/22/2021	123	68	49	48
04/12/21	132	72	53	53	06/02/21	224	127	90	90	7/23/2021	131	73	52	52
04/13/21	123	67	49	49	06/03/21	227	129	90	91	7/24/2021	124	69	49	49
04/14/21	123	67	49	49	06/04/21	284	164	113	113	7/25/2021	120	66	48	46
04/15/21	121	66	48	48	06/05/21	286	165	114	114	7/26/2021	129	72	52	50
04/16/21	121	65	48	48	06/06/21	277	159	110	111	7/27/2021	132	73	53	52
04/17/21	124	67	49	49	06/07/21	277	159	110	111	7/28/2021	129	72	51	51

04/18/21	124	68	50	50	06/08/21	248	142	98	99	7/29/2021	118	65	47	43
04/19/21	128	70	51	51	06/09/21	204	116	81	82	7/30/2021	116	64	46	41
04/20/21	131	71	52	52	06/10/21	194	110	77	77	7/31/2021	101	55	41	33
04/21/21	150	83	60	60	06/11/21	205	116	82	82	8/1/2021	96	53	38	29
04/22/21	154	85	62	61	06/12/21	214	122	85	86	8/2/2021	120	67	47	42
04/23/21	142	78	57	57	06/13/21	173	96	70	69	8/3/2021	124	69	50	47
04/24/21	163	91	65	65	06/14/21	171	95	69	68	8/4/2021	126	70	50	46
04/25/21	168	94	67	67	06/15/21	192	109	76	77	8/5/2021	119	66	48	44
04/26/21	166	92	66	66	06/16/21	189	106	75	75	8/6/2021	111	60	45	41
04/27/21	168	94	67	67	06/17/21	186	105	74	75	8/7/2021	100	54	40	33
04/28/21	164	92	65	66	06/18/21	182	103	72	72	8/8/2021	99	54	39	32
04/29/21	156	86	62	62	06/19/21	181	105	70	70	8/9/2021	117	64	47	46
04/30/21	178	100	71	71	06/20/21	162	91	65	65	8/10/2021	122	68	49	48
05/01/21	175	98	70	70	06/21/21	159	90	63	64	8/11/2021	140	79	55	55
05/02/21	175	98	69	70	06/22/21	166	94	66	67	8/12/2021	135	76	54	52
05/03/21	198	111	79	79	06/23/21	175	100	69	69	8/13/2021	136	76	54	52
05/04/21	214	122	85	86	06/24/21	184	105	73	73	8/14/2021	154	86	62	62
05/05/21	207	117	83	83	06/25/21	184	106	73	73	8/15/2021	109	70	33	32
05/06/21	206	117	82	82	06/26/21	203	119	78	78	8/16/2021	105	68	31	30
05/07/21	207	117	82	83	06/27/21	177	101	71	71	8/17/2021	109	70	33	33
05/08/21	206	117	82	82	06/28/21	194	114	75	75	8/18/2021	119	78	36	35
05/09/21	213	121	85	85	06/29/21	210	127	77	74	8/19/2021	127	83	38	38
05/10/21	232	132	93	93	06/30/21	193	113	74	73	8/20/2021	132	87	40	40
05/11/21	226	129	90	90	07/01/21	169	96	68	68	8/21/2021	124	81	38	37
05/12/21	214	122	85	86	07/02/21	196	112	79	78	8/22/2021	99	64	30	26
05/13/21	210	119	83	84	07/03/21	181	103	73	72	8/23/2021	130	85	38	38
05/14/21	206	117	82	82	07/04/21	161	91	64	65	8/24/2021	127	83	38	38
05/15/21	211	119	85	84	07/05/21	142	80	57	57	8/25/2021	129	85	39	39
05/16/21	213	121	85	85	07/06/21	152	86	61	61	8/26/2021	120	78	36	36
05/17/21	192	107	78	77	07/07/21	138	77	55	55	8/27/2021	112	73	33	31
05/18/21	195	111	77	78	07/08/21	151	85	60	61	8/28/2021	127	83	38	36
05/19/21	209	118	83	84	07/09/21	132	73	53	49	8/29/2021	124	81	37	35
05/20/21	208	117	83	83	07/10/21	109	59	44	39	8/30/2021	106	69	31	30
05/21/21	200	113	80	80	07/11/21	113	62	45	43	8/31/2021	84	53	25	17

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

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
04/01/21	127	114	1	0	05/22/21	219	74	132	132	7/12/2021	149	42	95	95
04/02/21	127	113	1	0	05/23/21	202	58	131	131	7/13/2021	166	60	94	95
04/03/21	129	116	1	0	05/24/21	187	48	127	127	7/14/2021	162	56	94	95

04/04/21	130	116	1	0	05/25/21	204	60	132	132	7/15/2021	157	50	95	95
04/05/21	148	135	1	0	05/26/21	209	64	133	133	7/16/2021	148	41	95	95
04/06/21	149	136	1	0	05/27/21	218	73	132	132	7/17/2021	145	38	95	95
04/07/21	134	120	1	0	05/28/21	202	57	133	133	7/18/2021	164	58	94	95
04/08/21	139	125	1	0	05/29/21	207	62	133	133	7/19/2021	147	40	94	95
04/09/21	135	121	1	3	05/30/21	230	85	133	133	7/20/2021	153	46	94	95
04/10/21	140	33	95	96	05/31/21	218	73	133	133	7/21/2021	138	32	94	95
04/11/21	141	32	97	98	06/01/21	221	75	133	133	7/22/2021	139	32	95	95
04/12/21	143	32	99	101	06/02/21	235	90	133	133	7/23/2021	139	32	95	95
04/13/21	143	32	99	101	06/03/21	239	94	133	133	7/24/2021	138	31	94	95
04/14/21	142	31	99	100	06/04/21	296	151	133	133	7/25/2021	138	31	94	95
04/15/21	142	31	99	99	06/05/21	295	149	133	133	7/26/2021	138	32	94	95
04/16/21	141	31	98	99	06/06/21	298	153	132	132	7/27/2021	150	43	94	95
04/17/21	137	31	94	95	06/07/21	296	151	133	133	7/28/2021	142	35	94	95
04/18/21	138	31	95	95	06/08/21	264	119	132	133	7/29/2021	138	31	94	95
04/19/21	140	31	97	98	06/09/21	225	81	132	132	7/30/2021	137	31	94	95
04/20/21	145	32	101	102	06/10/21	212	67	132	139	7/31/2021	124	31	81	82
04/21/21	164	41	111	112	06/11/21	220	76	132	141	8/1/2021	112	30	69	69
04/22/21	168	40	115	117	06/12/21	226	81	133	133	8/2/2021	116	31	73	73
04/23/21	160	36	112	113	06/13/21	192	47	133	133	8/3/2021	140	33	94	95
04/24/21	178	45	121	122	06/14/21	189	44	132	135	8/4/2021	137	31	94	95
04/25/21	185	46	127	128	06/15/21	202	57	132	143	8/5/2021	138	31	94	95
04/26/21	183	45	125	127	06/16/21	205	98	95	95	8/6/2021	131	31	88	89
04/27/21	181	45	123	125	06/17/21	202	95	95	95	8/7/2021	117	31	74	75
04/28/21	182	45	124	125	06/18/21	198	90	95	95	8/8/2021	109	31	66	66
04/29/21	176	43	120	121	06/19/21	188	80	95	95	8/9/2021	123	31	80	80
04/30/21	201	56	133	133	06/20/21	184	76	96	95	8/10/2021	134	31	91	92
05/01/21	191	47	132	132	06/21/21	181	73	96	95	8/11/2021	149	42	95	95
05/02/21	191	48	131	131	06/22/21	180	72	96	95	8/12/2021	155	48	95	95
05/03/21	215	71	132	132	06/23/21	190	82	96	95	8/13/2021	151	44	94	95
05/04/21	231	85	133	133	06/24/21	197	89	95	95	8/14/2021	162	55	95	95
05/05/21	226	81	133	133	06/25/21	206	98	95	95	8/15/2021	132	69	51	50
05/06/21	225	80	133	133	06/26/21	220	112	96	95	8/16/2021	119	56	51	50
05/07/21	222	76	133	133	06/27/21	190	82	96	95	8/17/2021	117	54	51	50
05/08/21	223	78	133	133	06/28/21	207	99	96	95	8/18/2021	121	58	51	50
05/09/21	231	86	133	133	06/29/21	221	112	96	95	8/19/2021	145	82	51	50
05/10/21	246	100	133	133	06/30/21	213	105	96	95	8/20/2021	142	79	51	50
05/11/21	240	95	133	133	07/01/21	190	81	96	95	8/21/2021	135	71	51	50
05/12/21	231	86	133	133	07/02/21	200	91	96	95	8/22/2021	109	45	51	50
05/13/21	226	79	135	135	07/03/21	209	100	97	95	8/23/2021	133	69	51	50
05/14/21	222	76	133	133	07/04/21	179	71	96	95	8/24/2021	141	77	51	50

<b>05/15/21</b>	230	84	133	133	07/05/21	155	47	96	95	8/25/2021	136	73	51	50
<b>05/16/21</b>	226	81	133	133	07/06/21	164	55	96	95	8/26/2021	134	70	51	50
<b>05/17/21</b>	212	66	133	133	07/07/21	150	41	97	95	8/27/2021	123	59	51	50
<b>05/18/21</b>	215	70	133	133	07/08/21	168	60	96	95	8/28/2021	137	73	51	50
<b>05/19/21</b>	229	84	133	133	07/09/21	147	40	95	95	8/29/2021	131	68	51	50
<b>05/20/21</b>	220	75	133	133	07/10/21	129	32	85	86	8/30/2021	119	55	52	50
<b>05/21/21</b>	219	74	133	133	07/11/21	128	31	85	85	8/31/2021	104	41	51	50