

Susitna-Watana Hydroelectric Project Document ARLIS Uniform Cover Page

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APPENDIX 1. LOWER RIVER HABITAT TYPE AREA TABLES

**Susitna-Watana Hydroelectric Project
(FERC No. 14241)**

**Synthesis of the 1980s Lower Susitna River Segment
Aquatic Habitat Information**

2012 Study Technical Memorandum

Prepared for
Alaska Energy Authority



Prepared by
Tetra Tech Inc.

February 2013

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Table 1-1. SC IV-4 wetted surface area (ft²x10³) for each habitat type by month for the Pre-Project and Max LF OS-1 conditions for median monthly discharge for the Susitna River at Sunshine.

Wetted surface area (ft ² x10 ³) for each habitat type								
	Main Channel		Primary Side Channel		Secondary Side Channel		Turbid Backwater	
Month	Pre-Project	Max LF OS-1	Pre-Project	Max LF OS-1	Pre-Project	Max LF OS-1	Pre-Project	Max LF OS-1
Oct	5,448	5,466	0	0	2,532	2,906	0	0
Nov	5,386	5,431	0	0	1,583	2,234	0	0
Dec	5,373	5,428	0	0	1,434	2,192	0	0
Jan	5,366	5,429	0	0	1,362	2,206	0	0
Feb	5,363	5,432	0	0	1,327	2,248	0	0
Mar	5,360	5,414	0	0	1,298	1,960	0	0
Apr	5,365	5,412	0	0	1,347	1,937	0	0
May	5,746	5,622	0	0	5,213	4,572	70	62
Jun	6,577	6,074	0	0	7,006	6,892	4	200
Jul	6,261	6,036	0	0	7,852	6,708	472	167
Aug	6,160	6,040	0	0	7,320	6,724	297	170
Sep	5,768	5,751	0	0	5,333	5,240	71	70
	Clearwater		Side Slough		Tributary Mouth		Tributary	
Month	Pre-Project	Max LF OS-1	Pre-Project	Max LF OS-1	Pre-Project	Max LF OS-1	Pre-Project	Max LF OS-1
Oct	0	0	85	1	0	0	0	0
Nov	0	0	85	85	0	0	0	0
Dec	0	0	85	85	0	0	0	0
Jan	0	0	85	85	0	0	0	0
Feb	0	0	85	85	0	0	0	0
Mar	0	0	85	85	0	0	0	0
Apr	0	0	85	85	0	0	0	0
May	1	0	0	0	0	0	0	0
Jun	4	406	0	0	0	0	0	0
Jul	426	402	0	0	0	0	0	0
Aug	415	403	0	0	0	0	0	0
Sep	2	1	0	0	0	0	0	0

Table 1-2. Willow Creek wetted surface area (ft²x10³) for each habitat type by month for the Pre-Project and Max LF OS-1 conditions for median monthly discharge for the Susitna River at Sunshine.

Wetted surface area (ft ² x10 ³) for each habitat type								
	Main Channel		Primary Side Channel		Secondary Side Channel		Turbid Backwater	
Month	Pre-Project	Max LF OS-1	Pre-Project	Max LF OS-1	Pre-Project	Max LF OS-1	Pre-Project	Max LF OS-1
Oct	2,021	2,091	0	0	4,931	5,620	64	96
Nov	1,799	1,959	0	0	3,158	4,379	17	45
Dec	1,755	1,950	0	0	2,875	4,301	12	42
Jan	1,733	1,953	0	0	2,738	4,327	11	43
Feb	1,722	1,962	0	0	2,671	4,405	10	46
Mar	1,712	1,896	0	0	2,616	3,867	9	31
Apr	1,728	1,891	0	0	2,709	3,824	10	30
May	2,700	2,467	0	0	9,173	8,375	293	269
Jun	3,102	2,980	0	0	11,547	11,611	214	281
Jul	2,990	2,978	0	0	13,219	11,303	248	288
Aug	2,984	2,978	0	0	12,329	11,331	265	287
Sep	2,742	2,709	0	0	9,319	9,205	297	294
	Clearwater		Side Slough		Tributary Mouth		Tributary	
Month	Pre-Project	Max LF OS-1	Pre-Project	Max LF OS-1	Pre-Project	Max LF OS-1	Pre-Project	Max LF OS-1
Oct	0	0	762	6	123	192	2,040	1,974
Nov	0	0	762	762	27	82	2,040	2,040
Dec	0	0	762	762	20	78	2,040	2,040
Jan	0	0	762	762	17	79	2,040	2,040
Feb	0	0	762	762	15	84	2,040	2,040
Mar	0	0	762	762	14	54	2,040	2,040
Apr	0	0	762	762	16	52	2,040	2,040
May	172	175	0	0	361	453	1,628	1,715
Jun	100	161	0	0	580	475	900	1,220
Jul	153	162	0	0	767	430	983	1,276
Aug	157	162	0	0	593	434	1,104	1,271
Sep	172	172	0	0	347	358	1,613	1,624

Table 1-3. Goose Creek wetted surface area (ft²x10³) for each habitat type by month for the Pre-Project and Max LF OS-1 conditions for median monthly discharge for the Susitna River at Sunshine.

Wetted surface area (ft ² x10 ³) for each habitat type								
	Main Channel		Primary Side Channel		Secondary Side Channel		Turbid Backwater	
Month	Pre-Project	Max LF OS-1	Pre-Project	Max LF OS-1	Pre-Project	Max LF OS-1	Pre-Project	Max LF OS-1
Oct	0	0	0	0	2,823	3,268	14	19
Nov	0	0	0	0	1,714	2,471	6	11
Dec	0	0	0	0	1,543	2,422	5	11
Jan	0	0	0	0	1,461	2,439	4	11
Feb	0	0	0	0	1,421	2,488	4	12
Mar	0	0	0	0	1,388	2,150	4	9
Apr	0	0	0	0	1,444	2,123	4	9
May	2,234	1,427	0	0	4,381	4,519	152	72
Jun	7,320	5,050	0	0	6,719	5,199	224	244
Jul	6,935	4,728	0	0	6,284	4,998	181	260
Aug	5,848	4,756	0	0	5,675	5,016	212	259
Sep	2,414	2,273	0	0	4,358	4,376	173	157
	Clearwater		Side Slough		Tributary Mouth		Tributary	
Month	Pre-Project	Max LF OS-1	Pre-Project	Max LF OS-1	Pre-Project	Max LF OS-1	Pre-Project	Max LF OS-1
Oct	0	0	751	664	0	0	2,260	1,519
Nov	0	0	751	751	0	0	2,260	2,260
Dec	0	0	751	751	0	0	2,260	2,260
Jan	0	0	751	751	0	0	2,260	2,260
Feb	0	0	751	751	0	0	2,260	2,260
Mar	0	0	751	751	0	0	2,260	2,260
Apr	0	0	751	751	0	0	2,260	2,260
May	250	190	580	521	50	39	464	483
Jun	1	143	0	0	99	97	543	497
Jul	65	169	0	0	139	90	550	486
Aug	100	166	0	0	114	91	521	487
Sep	262	252	591	583	52	51	461	463

APPENDIX 2. LOWER RIVER HABITAT TYPE AREA BAR CHARTS

Susitna-Watana Hydroelectric Project (FERC No. 14241)

Synthesis of the 1980s Lower Susitna River Segment Aquatic Habitat Information

2012 Study Technical Memorandum

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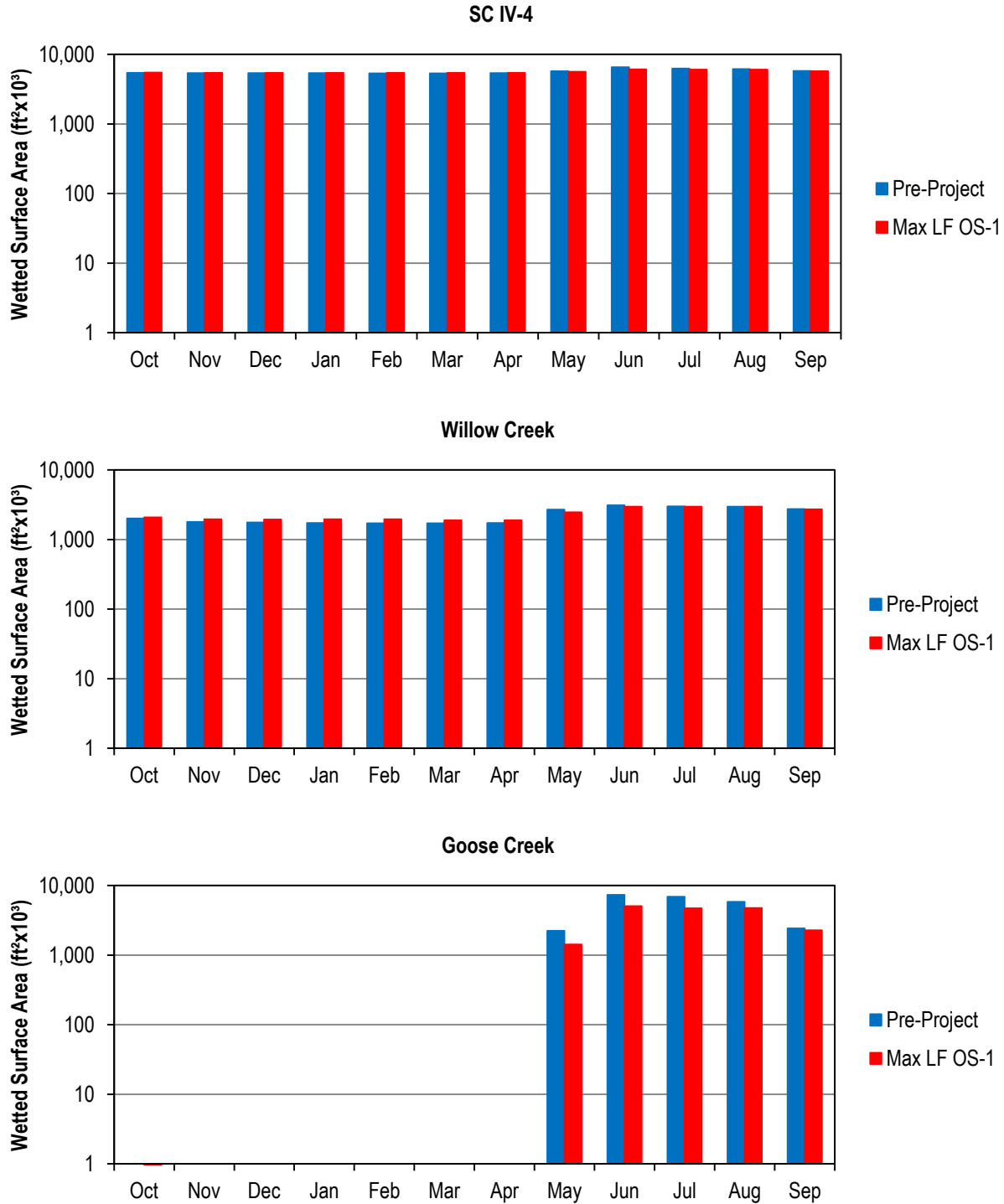


Figure 2-1. Main Channel habitat wetted surface area (ft²x10³) for median monthly discharge for the Susitna River at Sunshine for Pre-Project and Max LF OS-1 conditions.

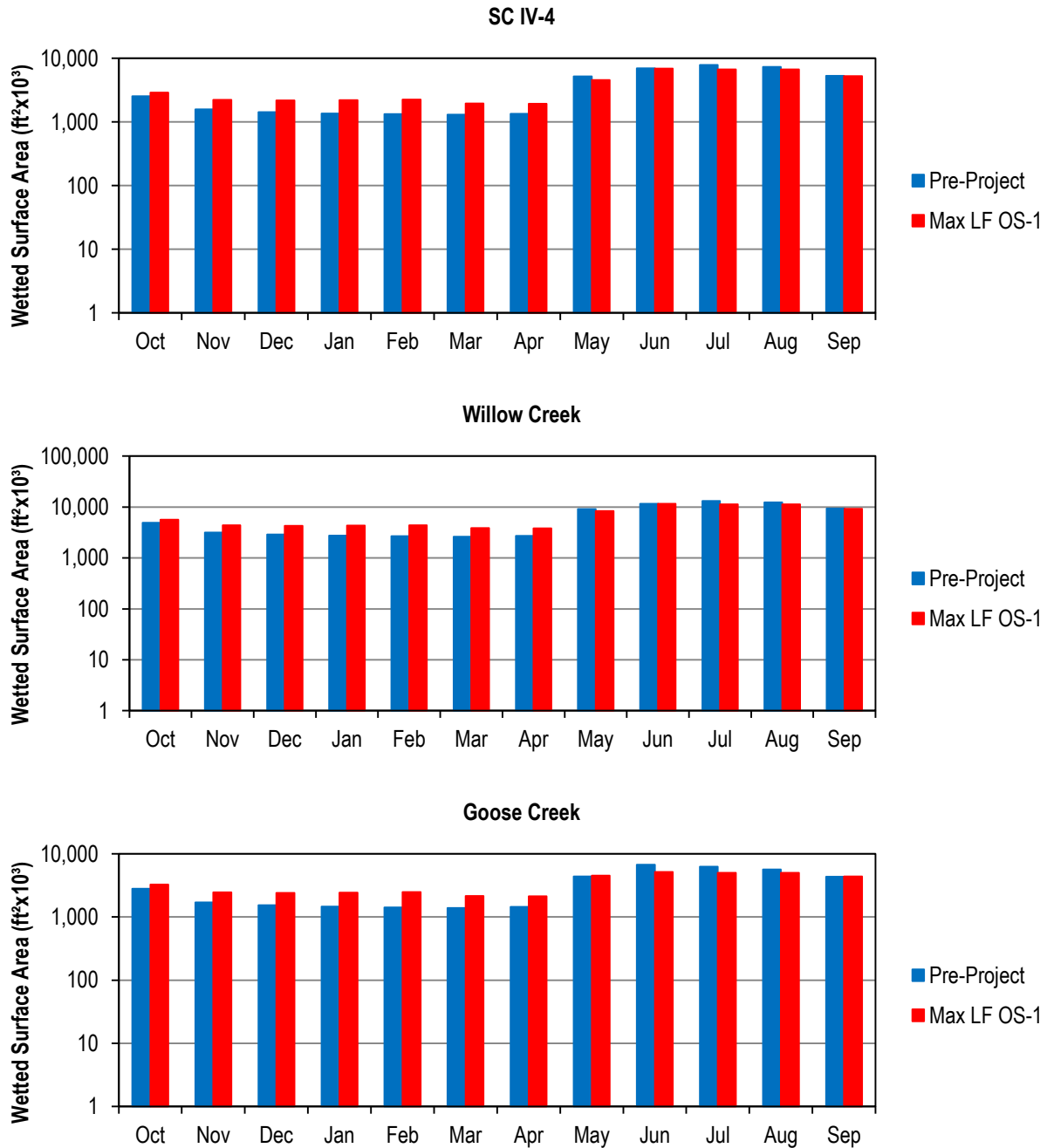


Figure 2-2. Secondary Side Channel habitat wetted surface area (ft²x10³) for median monthly discharge for the Susitna River at Sunshine for Pre-Project and Max LF OS-1 conditions.

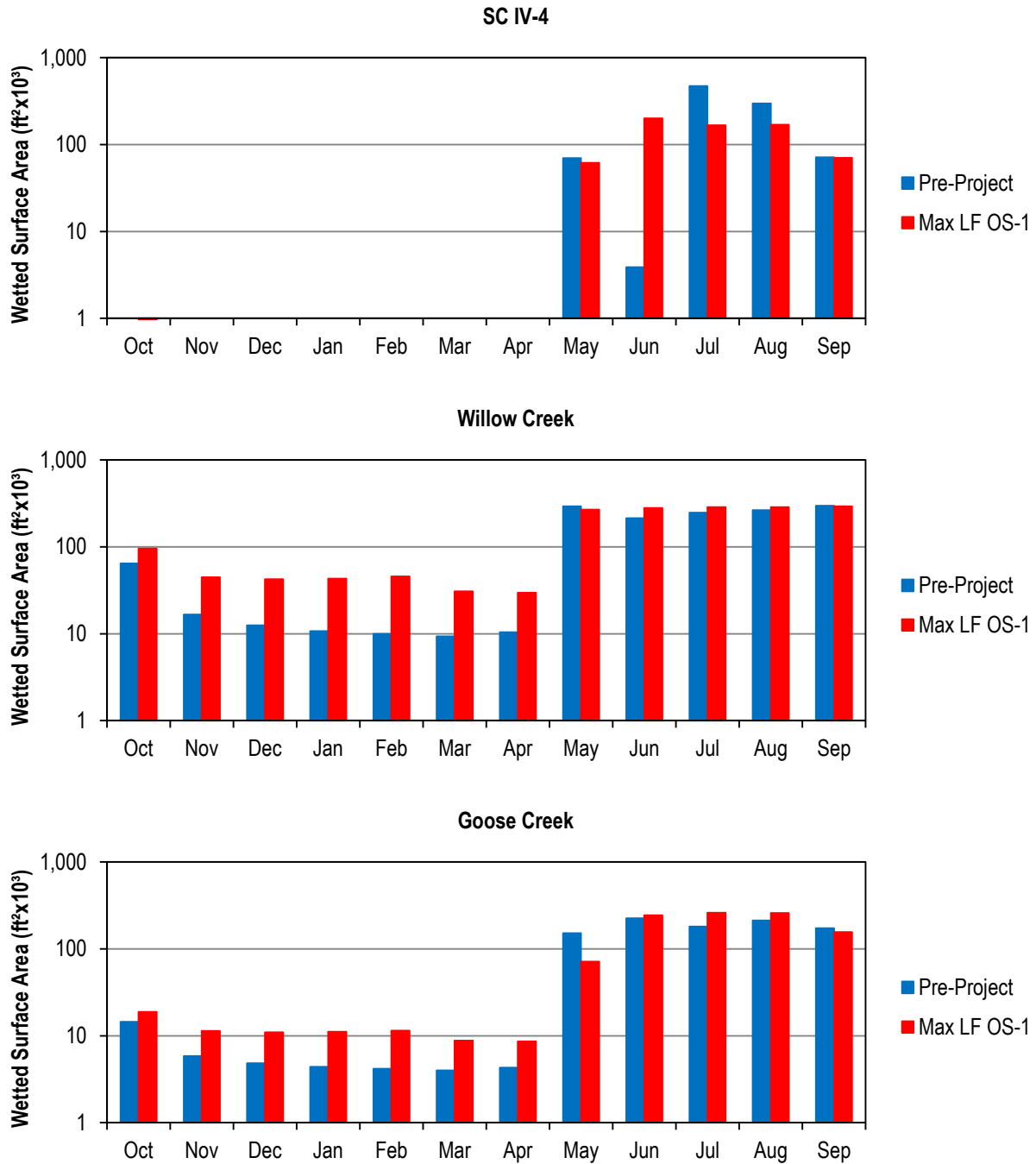


Figure 2-3. Turbid Backwater habitat wetted surface area ($\text{ft}^2 \times 10^3$) for median monthly discharge for the Susitna River at Sunshine for Pre-Project and Max LF OS-1 conditions.

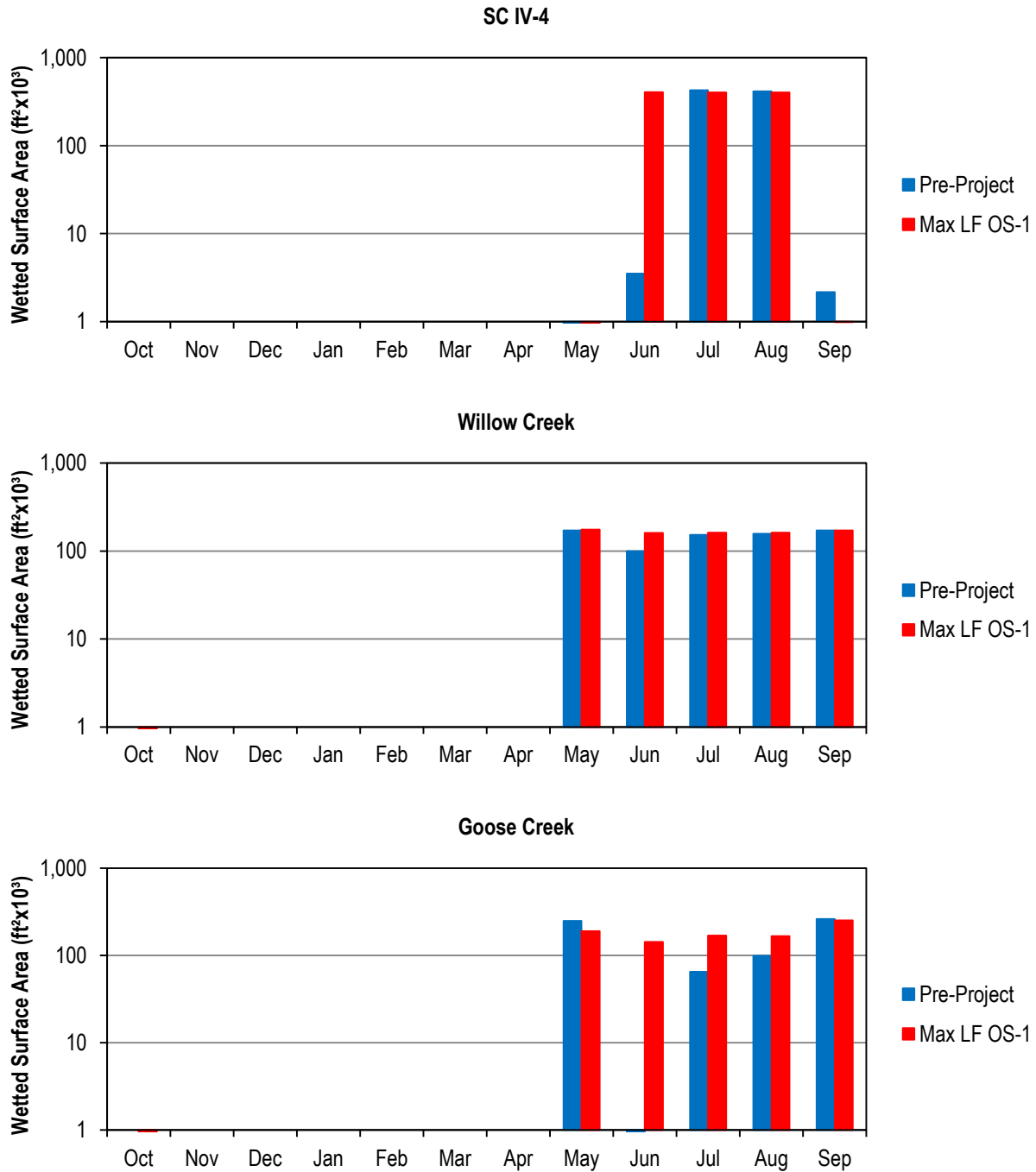


Figure 2-4. Clearwater habitat wetted surface area (ft²x10³) for median monthly discharge for the Susitna River at Sunshine for Pre-Project and Max LF OS-1 conditions.

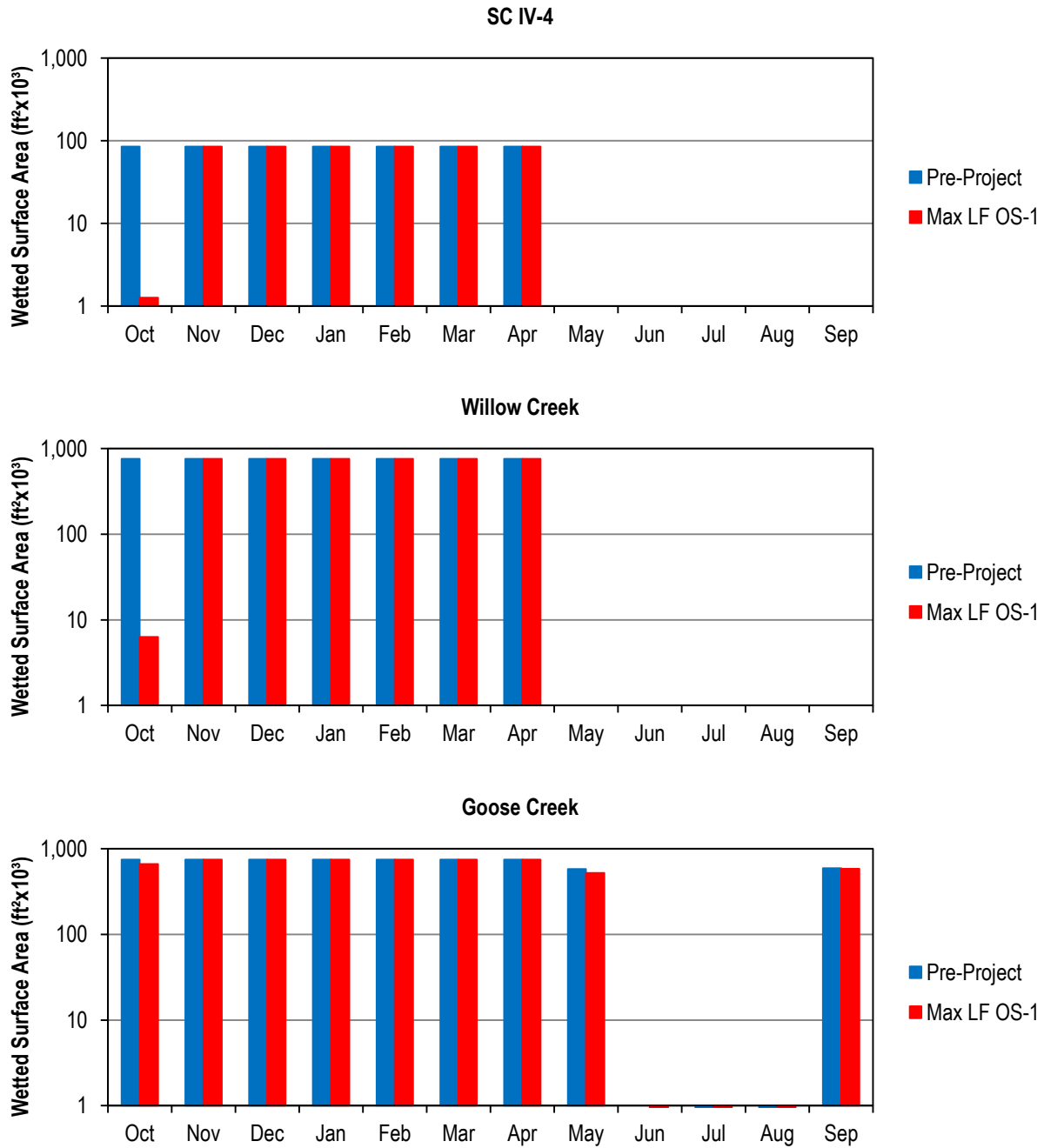


Figure 2-5. Side Slough habitat wetted surface area (ft²x10³) for median monthly discharge for the Susitna River at Sunshine for Pre-Project and Max LF OS-1 conditions.

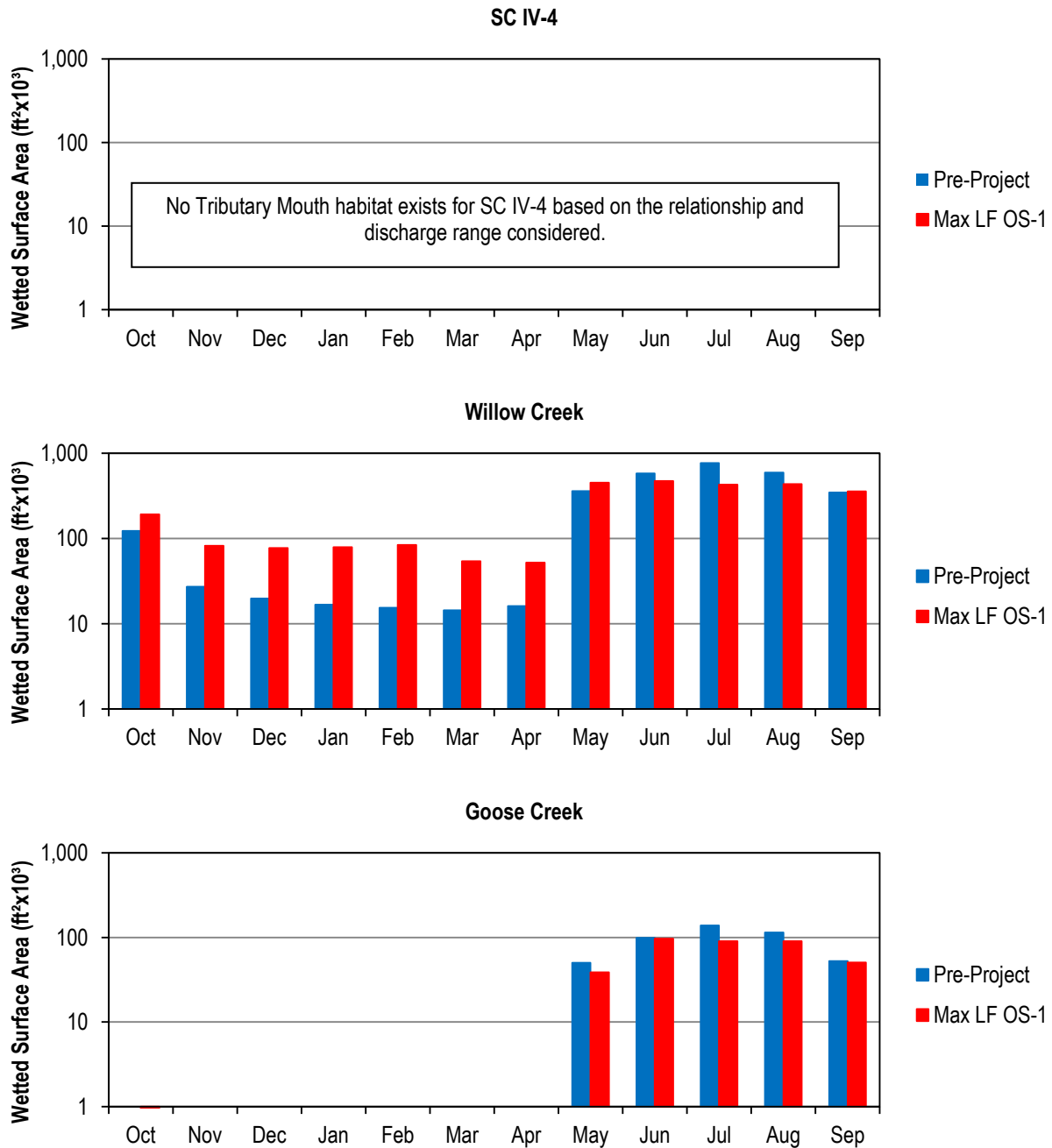


Figure 2-6. Tributary Mouth habitat wetted surface area ($\text{ft}^2 \times 10^3$) for median monthly discharge for the Susitna River at Sunshine for Pre-Project and Max LF OS-1 conditions.

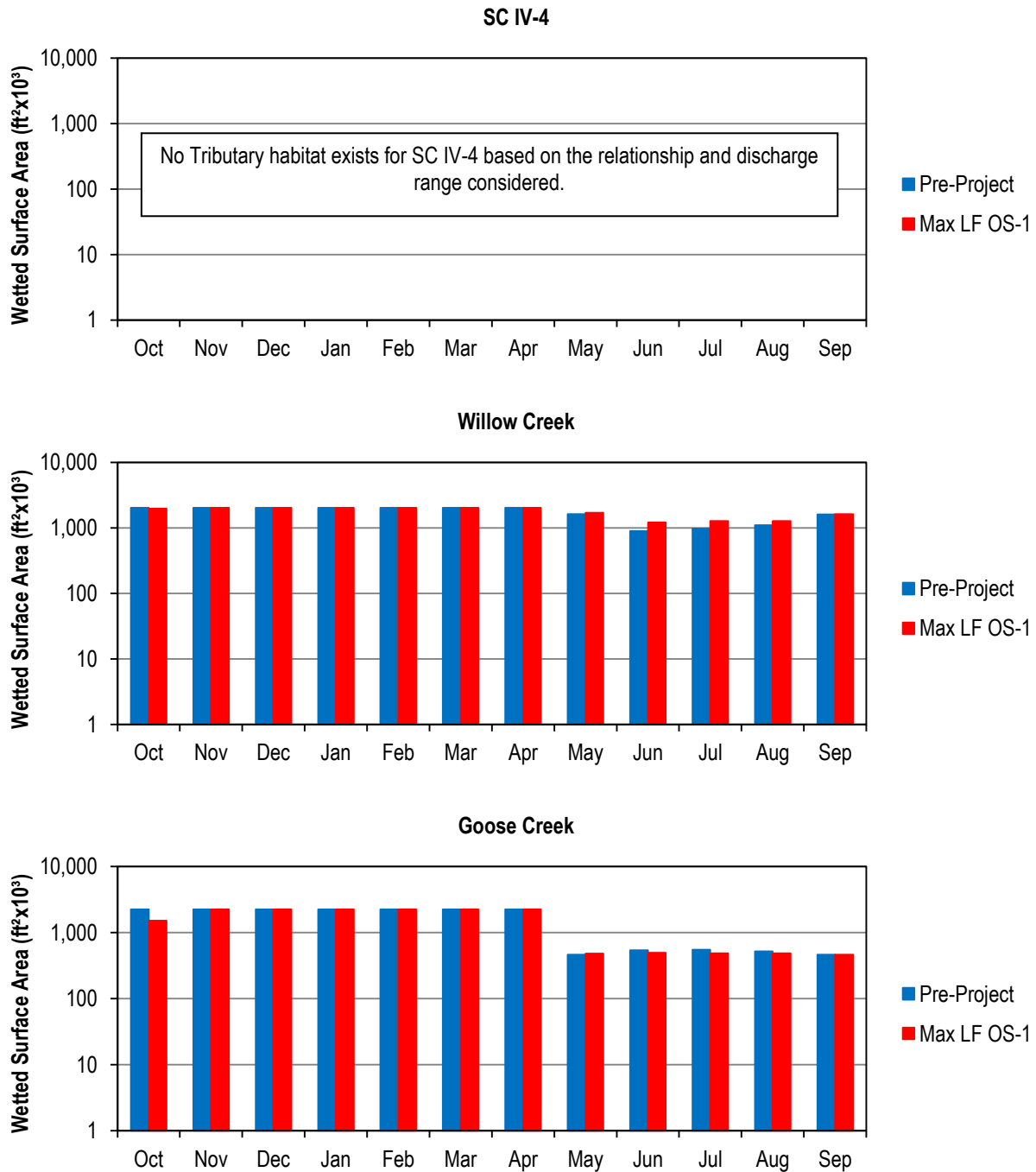


Figure 2-7. Tributary habitat wetted surface area ($\text{ft}^2 \times 10^3$) for median monthly discharge for the Susitna River at Sunshine for Pre-Project and Max LF OS-1 conditions.