

Lake Creek IFIM

Errata and Supplemental Information

July 19, 2007

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Lake Creek Fish Periodicity

Species	Lifestage	Oct	Nov	Dec	Jan	Feb	Mar	April	May	June	July	Aug	Sept
Spring Chinook	Spawning												
	Incubation												
	Rearing												
Coho	Spawning												
	Incubation												
	Rearing												
Steelhead	Spawning												
	Incubation												
	Rearing												
Cutthroat Trout	Spawning												
	Incubation												
	Rearing												
Rainbow Trout	Spawning												
	Incubation												
	Rearing												

Based on:

John Serl, WDFW Fish Biologist, Cowlitz Falls (May 10, 2007)

Table 5.1-1						
Streamflow for Lower Lake Creek, Apportioned Among Study Sites and Transect Groupings for January						
	Study Site 2			Study Site 1		
Drop Structure	Study Site 4	Study Site 3	Trans 2-8	Trans 1	Trans 5-9	Trans 1-4
Inflow	0	6.4	35.7	36.2	55.5	56.1
<i>Flow at Each Study Site and Transect Grouping</i>						
1	1	7.4	36.7	37.2	56.5	57.1
5	5	11.4	40.7	41.2	60.5	61.1
10	10	16.4	45.7	46.2	65.5	66.1
15	15	21.4	50.7	51.2	70.5	71.1
20	20	26.4	55.7	56.2	75.5	76.1
25	25	31.4	60.7	61.2	80.5	81.1
30	30	36.4	65.7	66.2	85.5	86.1
35	35	41.4	70.7	71.2	90.5	91.1
40	40	46.4	75.7	76.2	95.5	96.1
45	45	51.4	80.7	81.2	100.5	101.1
50	50	56.4	85.7	86.2	105.5	106.1
60	60	66.4	95.7	96.2	115.5	116.1
70	70	76.4	105.7	106.2	125.5	126.1
80	80	86.4	115.7	116.2	135.5	136.1
90	90	96.4	125.7	126.2	145.5	146.1
100	100	106.4	135.7	136.2	155.5	156.1
125	125	131.4	160.7	161.2	180.5	181.1
150	150	156.4	185.7	186.2	205.5	206.1
175	175	181.4	210.7	211.2	230.5	231.1
200	200	206.4	235.7	236.2	255.5	256.1
225	225	231.4	260.7	261.2	280.5	281.1
250	250	256.4	285.7	286.2	305.5	306.1
260	260	266.4	295.7	296.2	315.5	316.1

Table 5.1-2				
Percent of Study Site 2 That is Potentially Occupied by Salmon, Steelhead, and Trout in Lake Creek^{1/}				
Species	RM Begin	RM End	Total River Miles	% Reach 2 and Reach 3
Chinook Salmon	0.7	1.03	0.33	11.8%
Coho Salmon	0.7	1.03	0.33	11.8%
Cutthroat Trout	0.7	1.03	0.33	11.8%
Steelhead Trout	0.7	1.95	1.25	44.6%
Rainbow Trout	0.7	3.50	2.80	100.0%

1/ Reaches 2 and 3 extend from RM 0.7 to RM 3.5, for a total of 2.8 miles. IFIM Study Site 2 represents Reaches 2 and 3.

5.1 Monthly Fish WUA

Figures 5.2-1 to 5.2- 24 and Tables 5.2-1 to 5.2- 24 present WUA for fish for Lake Creek by month.

Table 5.3-1
Lake Creek IFIM January

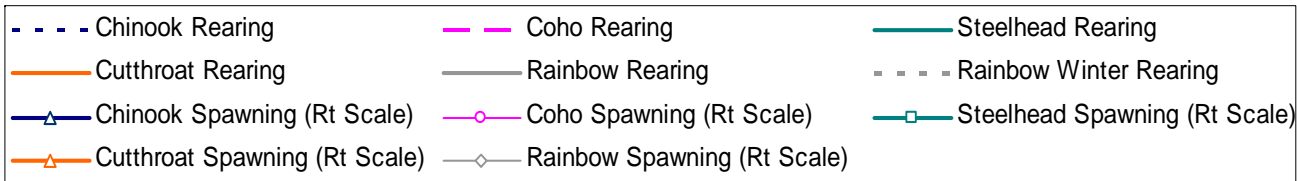
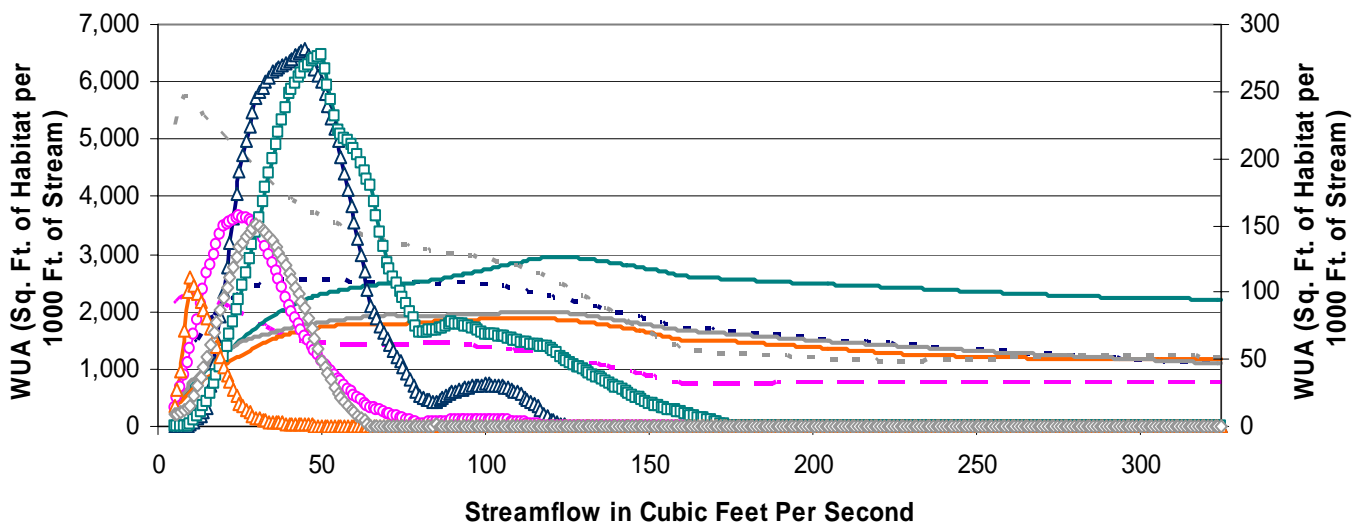
Flow	Giant Salamander Larvae	% of Max WUA	Giant Salamander Eggs	Tailed Frog Larvae	% of Max WUA	Torrent Salamander Larvae	% of Max WUA
2	623	55%	N/A	3,640	90%	55	4%
5	613	54%	N/A	3,827	95%	55	4%
10	643	57%	N/A	3,992	99%	62	5%
20	682	61%	N/A	4,040	100%	372	28%
30	638	57%	N/A	3,643	90%	927	70%
40	522	46%	N/A	3,427	85%	1,208	91%
50	385	34%	N/A	3,283	81%	1,324	100%
60	232	21%	N/A	3,075	76%	1,234	93%
70	136	12%	N/A	2,875	71%	413	31%
80	99	9%	N/A	2,693	67%	344	26%
90	69	6%	N/A	2,593	64%	359	27%
100	53	5%	N/A	2,536	63%	304	23%
110	46	4%	N/A	2,487	62%	355	27%
120	40	4%	N/A	2,413	60%	353	27%
130	37	3%	N/A	2,352	58%	338	25%
140	34	3%	N/A	2,300	57%	166	13%
150	32	3%	N/A	2,254	56%	82	6%
175	28	2%	N/A	2,154	53%	35	3%
200	364	32%	N/A	2,001	50%	56	4%
225	929	82%	N/A	1,892	47%	228	17%
250	1,127	100%	N/A	1,827	45%	485	37%
260	1,098	97%	N/A	1,788	44%	545	41%

Table 5.3-2
Lake Creek IFIM February

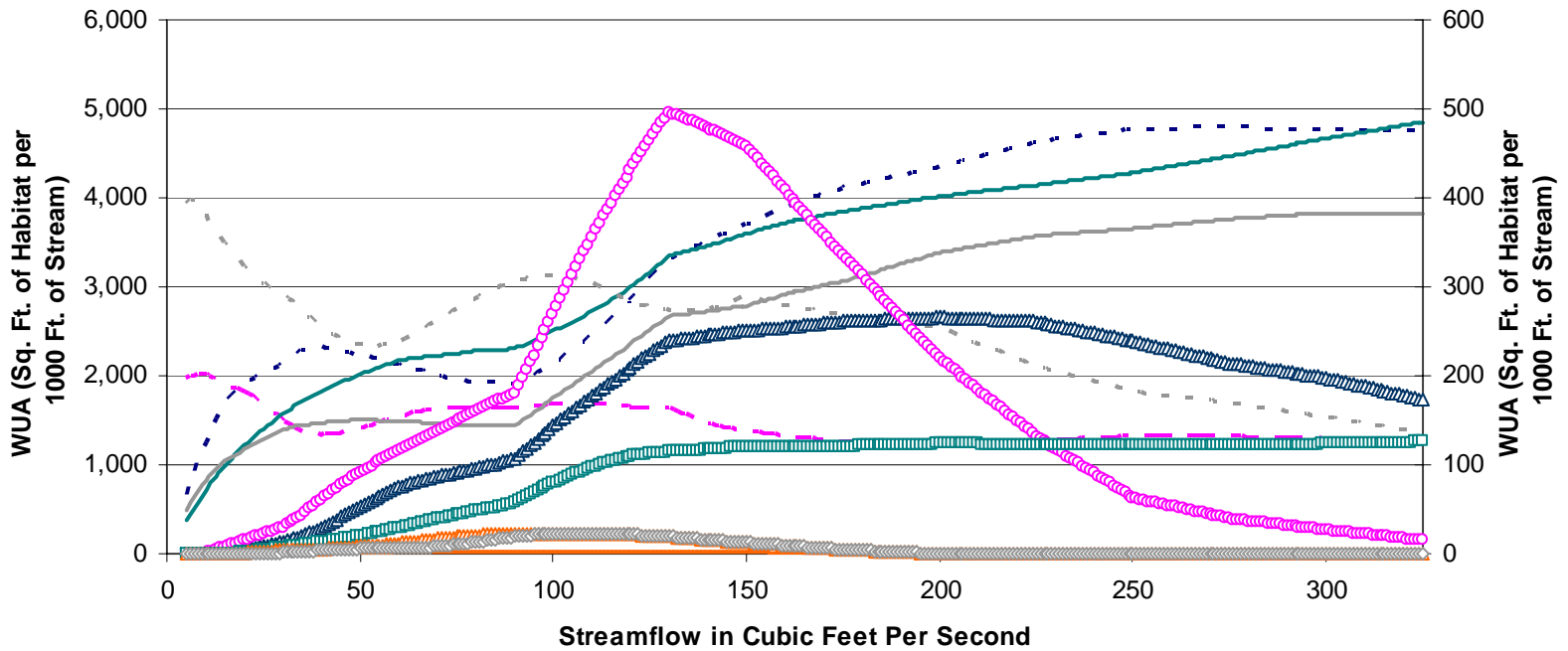
Amphibian Habitat WUA vs. Flow

Flow	Giant Salamander	% of Max	Giant Salamander	Tailed Frog	% of Max WUA	Torrent Salamander	
	Larvae	WUA	Eggs	Larvae		Larvae	% of Max WUA
2	632	55%	N/A	3,618	89%	57	4%
5	580	50%	N/A	3,763	93%	55	4%
10	574	50%	N/A	3,881	96%	57	4%
20	676	59%	N/A	4,057	100%	295	22%
30	687	60%	N/A	3,759	93%	801	60%
40	632	55%	N/A	3,491	86%	1,191	89%
50	501	43%	N/A	3,344	82%	1,291	97%
60	358	31%	N/A	3,209	79%	1,332	100%
70	200	17%	N/A	3,006	74%	511	38%
80	114	10%	N/A	2,816	69%	338	25%
90	77	7%	N/A	2,731	67%	381	29%
100	55	5%	N/A	2,562	63%	292	22%
110	48	4%	N/A	2,515	62%	355	27%
120	42	4%	N/A	2,445	60%	334	25%
130	38	3%	N/A	2,379	59%	372	28%
140	36	3%	N/A	2,327	57%	200	15%
150	33	3%	N/A	2,277	56%	87	7%
175	29	2%	N/A	2,180	54%	39	3%
200	58	5%	N/A	2,046	50%	39	3%
225	737	64%	N/A	1,919	47%	210	16%
250	1,152	100%	N/A	1,845	45%	474	36%
260	1,123	97%	N/A	1,806	45%	533	40%

Lake Creek IFIM: SS1, T1-4 Fish Habitat (WUA) vs. Flow

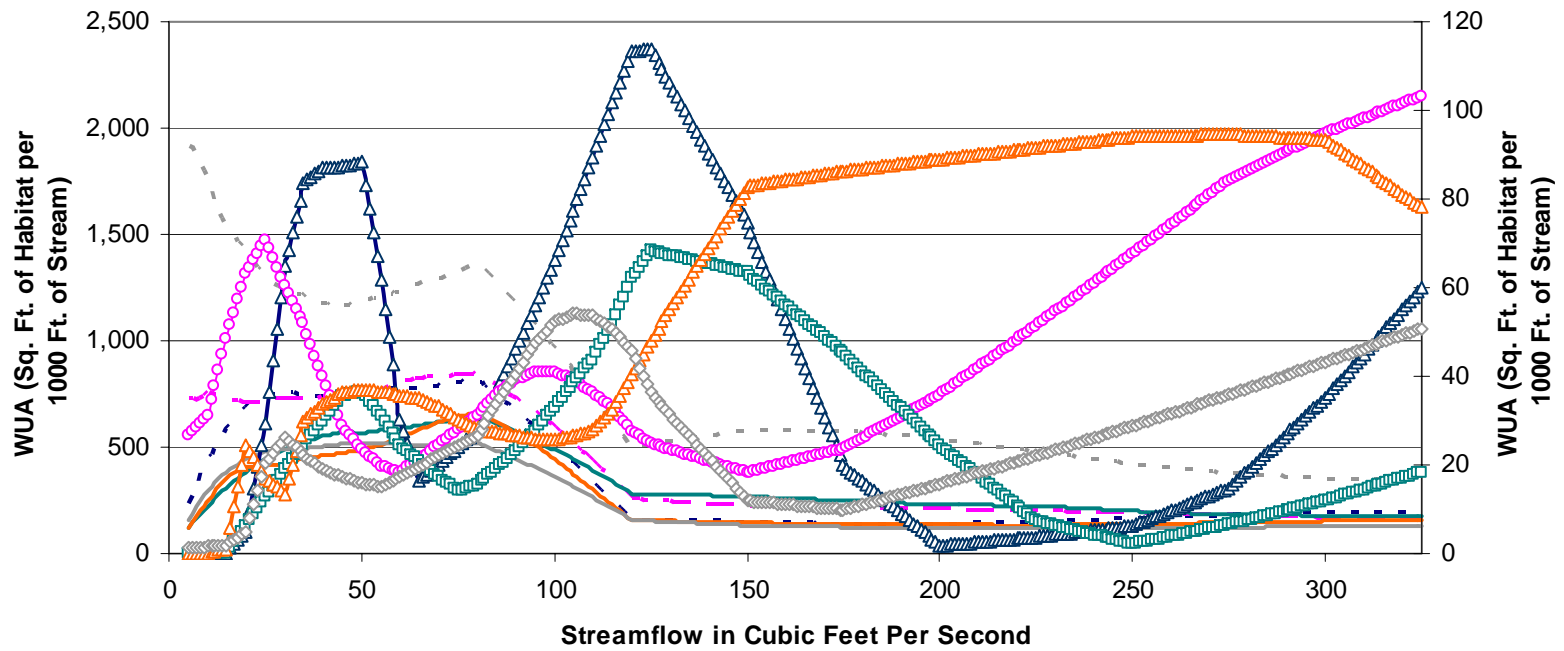


Lake Creek IFIM: SS1, T5-9 Fish Habitat (WUA) vs. Flow



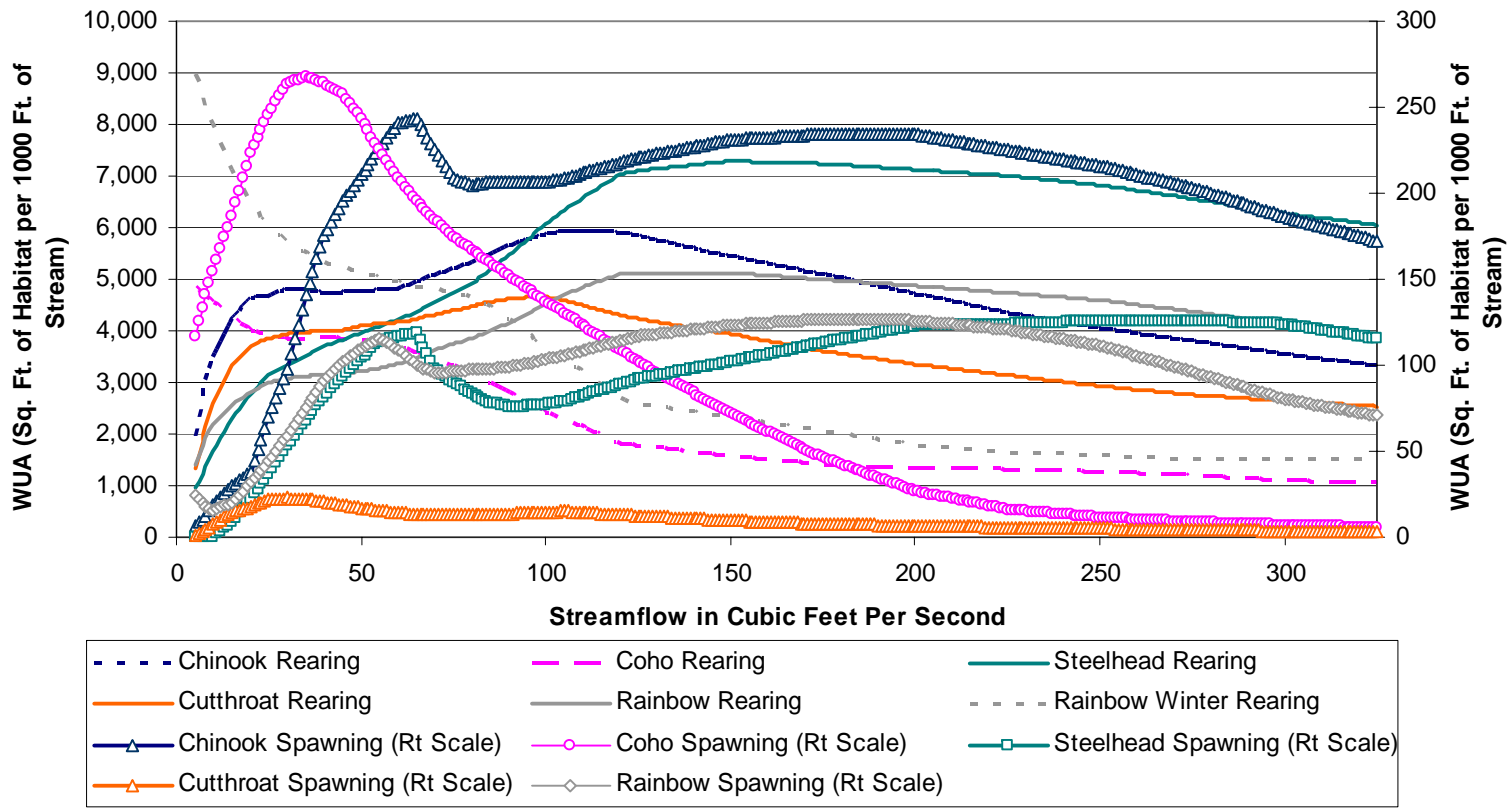
- | | | |
|-------------------------------------|-----------------------------------|-------------------------------------|
| - - - Chinook Rearing | - - - Coho Rearing | — Steelhead Rearing |
| — Cutthroat Rearing | — Rainbow Rearing | - - - Rainbow Winter Rearing |
| - - Δ Chinook Spawning (Rt Scale) | - - ○ Coho Spawning (Rt Scale) | - - □ Steelhead Spawning (Rt Scale) |
| - - Δ Cutthroat Spawning (Rt Scale) | - - ◇ Rainbow Spawning (Rt Scale) | |

Lake Creek IFIM: SS2, T1 Fish Habitat (WUA) vs. Flow

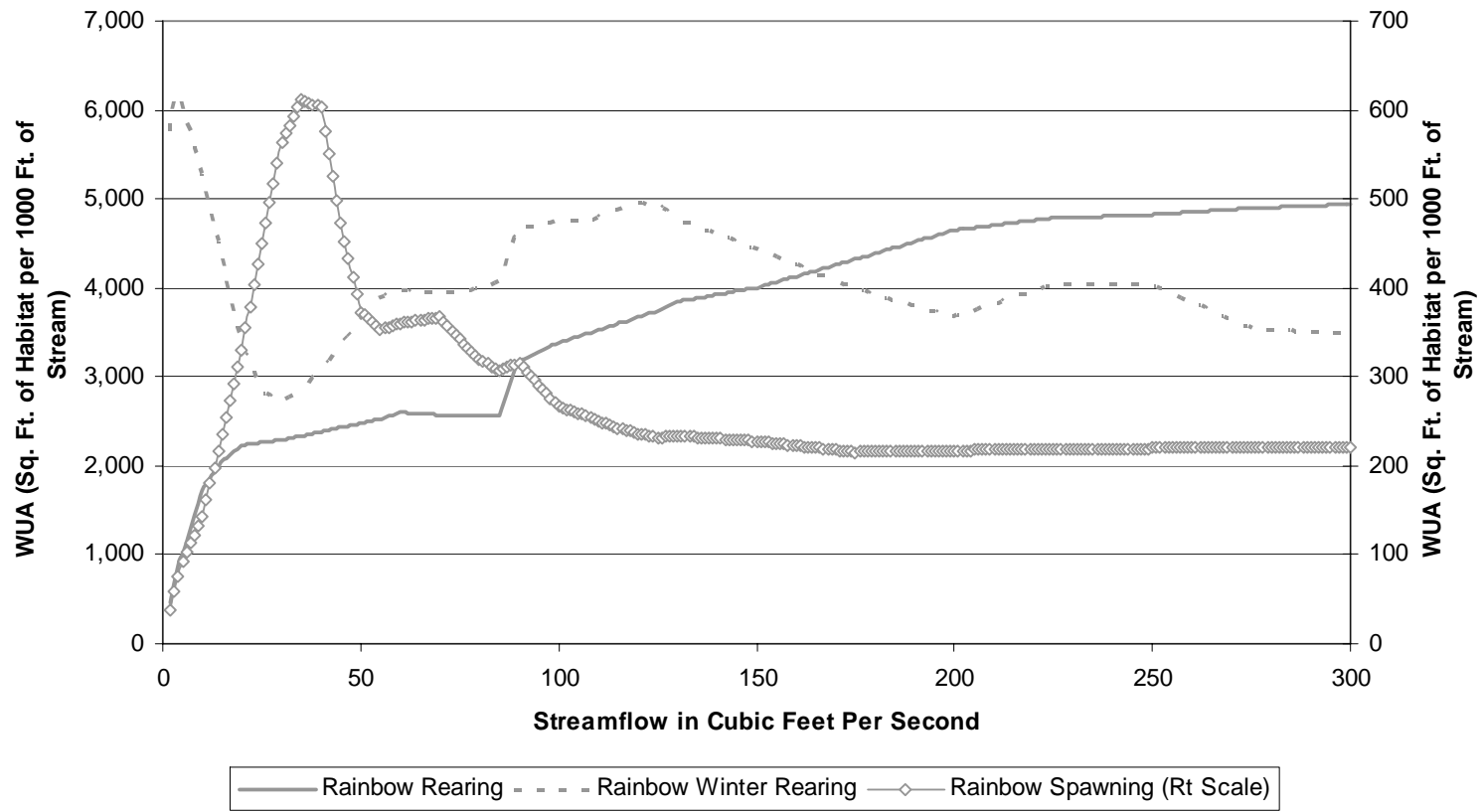


- | | | |
|-----------------------------------|---------------------------------|-----------------------------------|
| - - - Chinook Rearing | - - - Coho Rearing | — Steelhead Rearing |
| — Cutthroat Rearing | — Rainbow Rearing | - - - Rainbow Winter Rearing |
| —△— Chinook Spawning (Rt Scale) | —○— Coho Spawning (Rt Scale) | —□— Steelhead Spawning (Rt Scale) |
| —△— Cutthroat Spawning (Rt Scale) | —◇— Rainbow Spawning (Rt Scale) | |

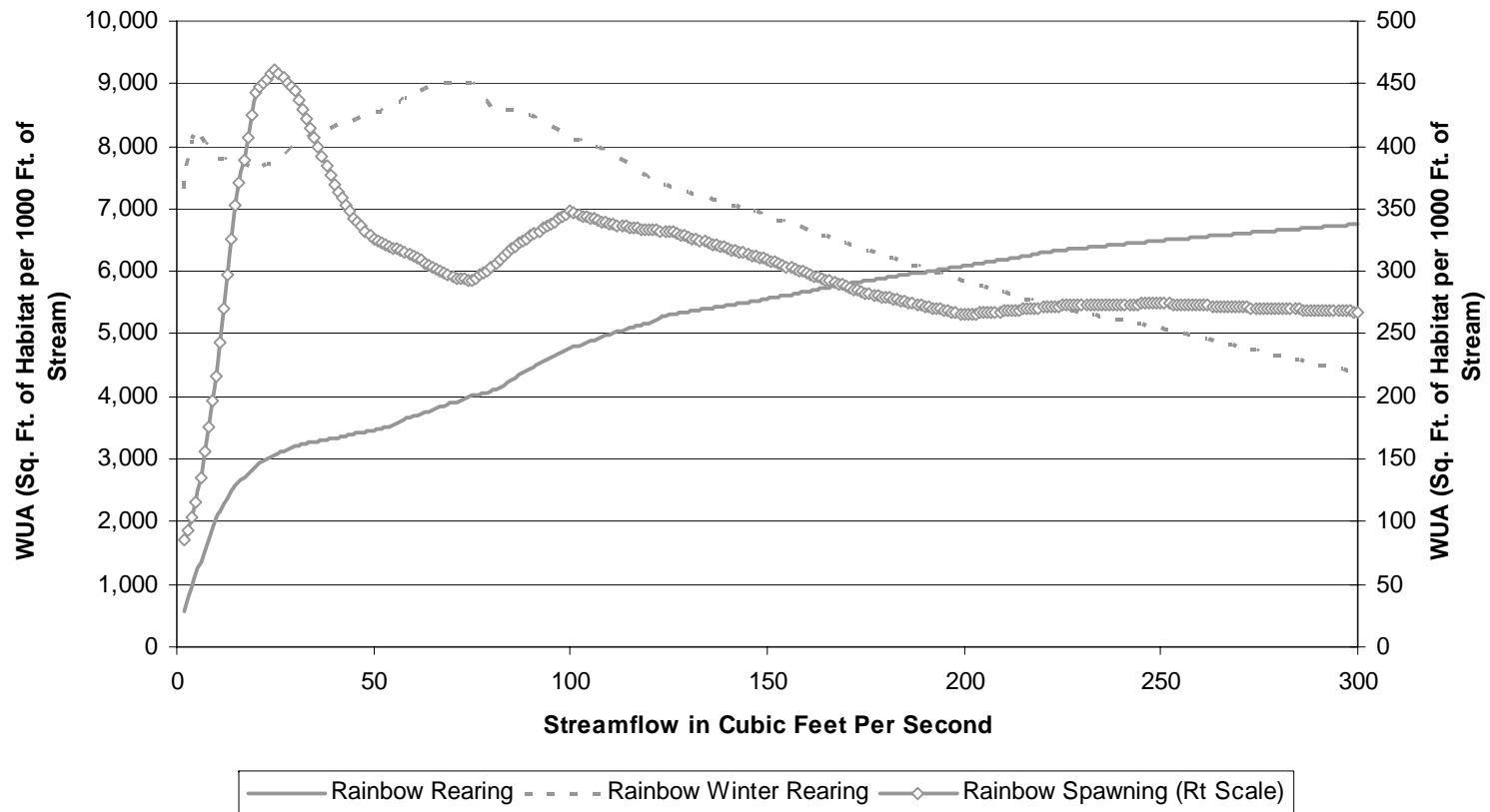
Lake Creek IFIM: SS2, T2-8 Fish Habitat (WUA) vs. Flow



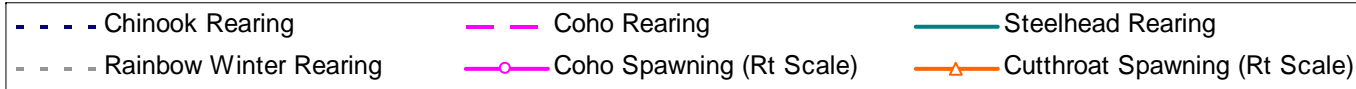
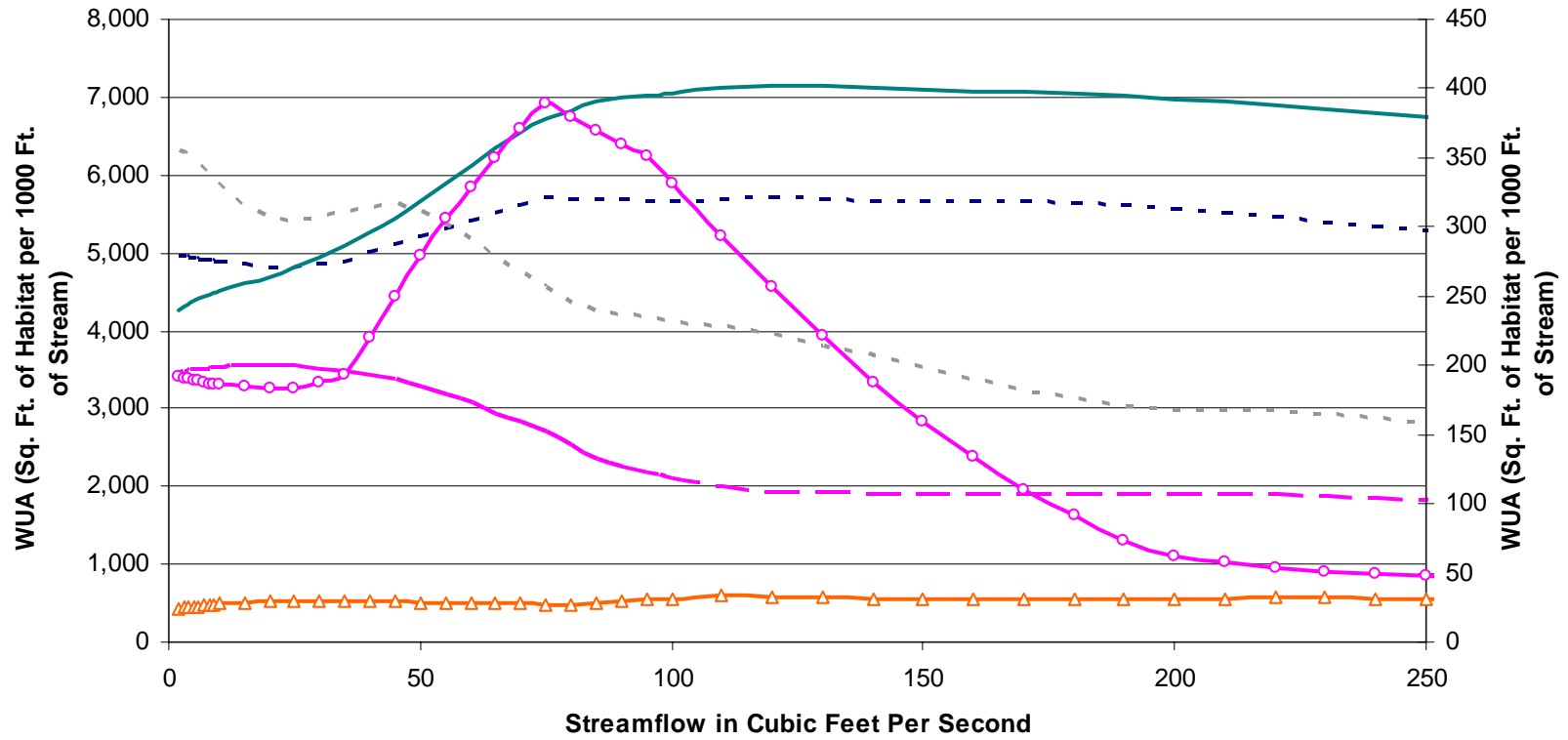
Lake Creek IFIM: SS3, Fish Habitat (WUA) vs. Flow



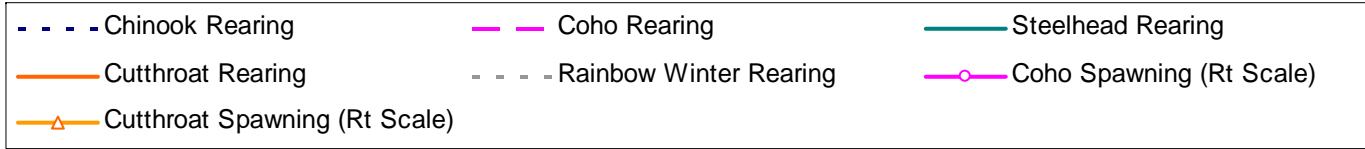
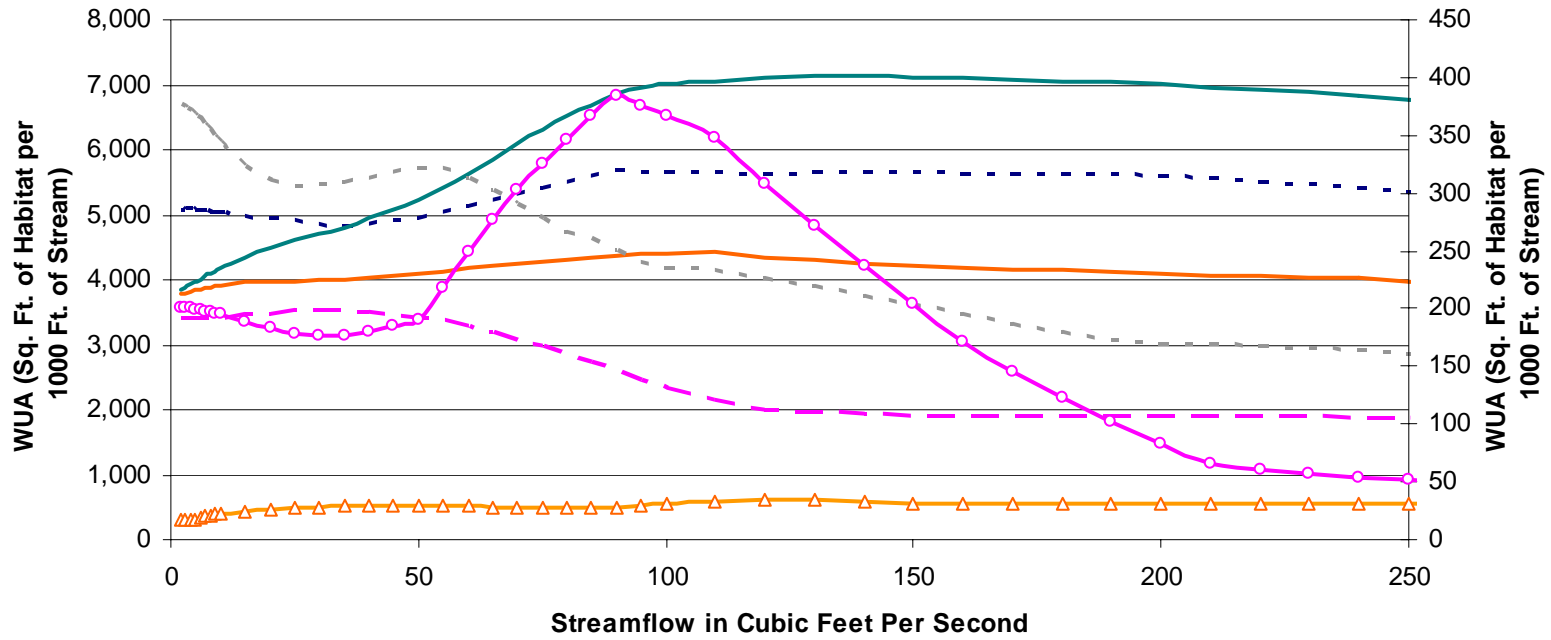
Lake Creek IFIM: SS4, Fish Habitat (WUA) vs. Flow



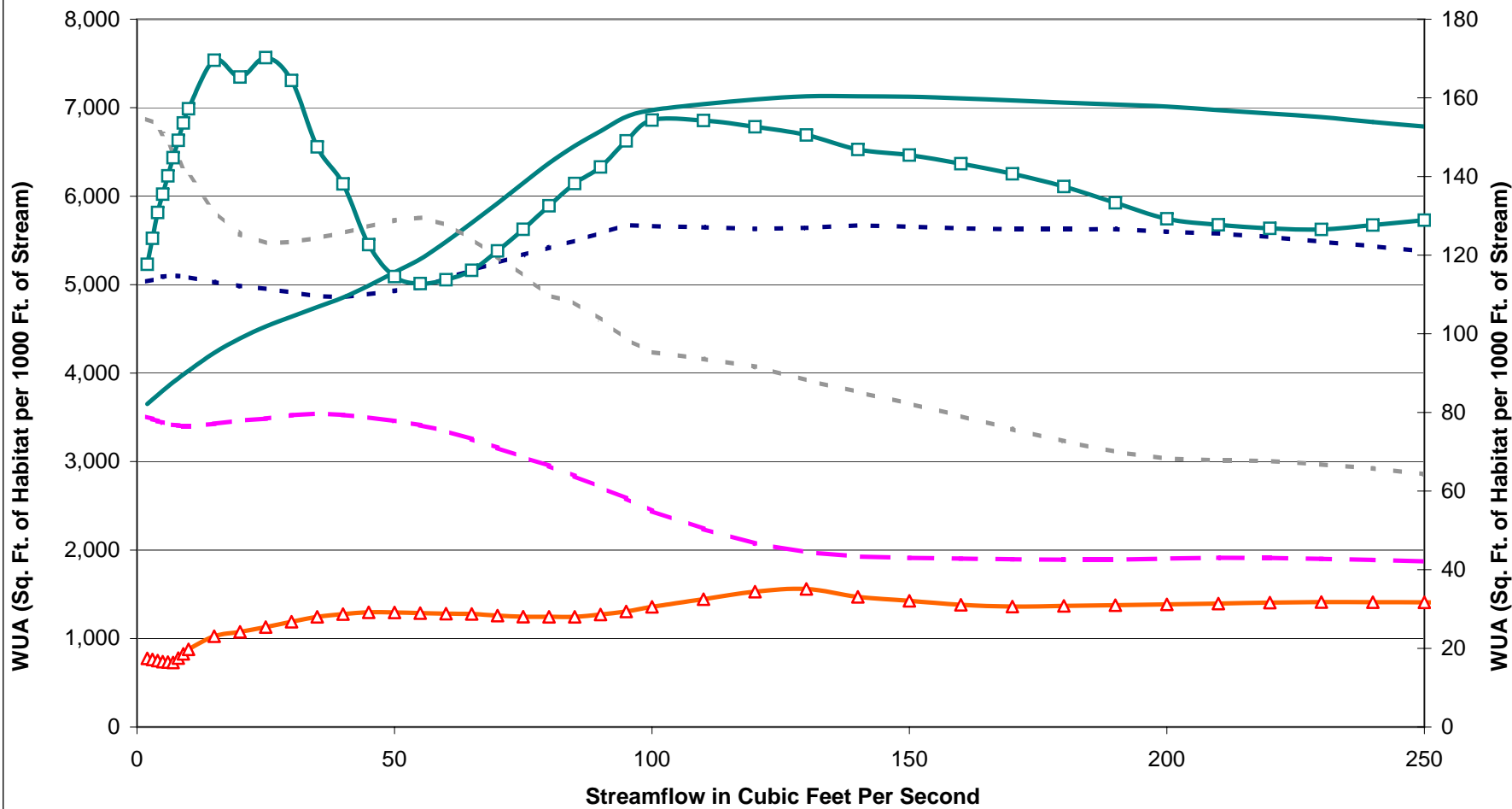
Lake Creek IFIM January: Fish Habitat (WUA) vs. Flow



Lake Creek IFIM February: Fish Habitat (WUA) vs. Flow

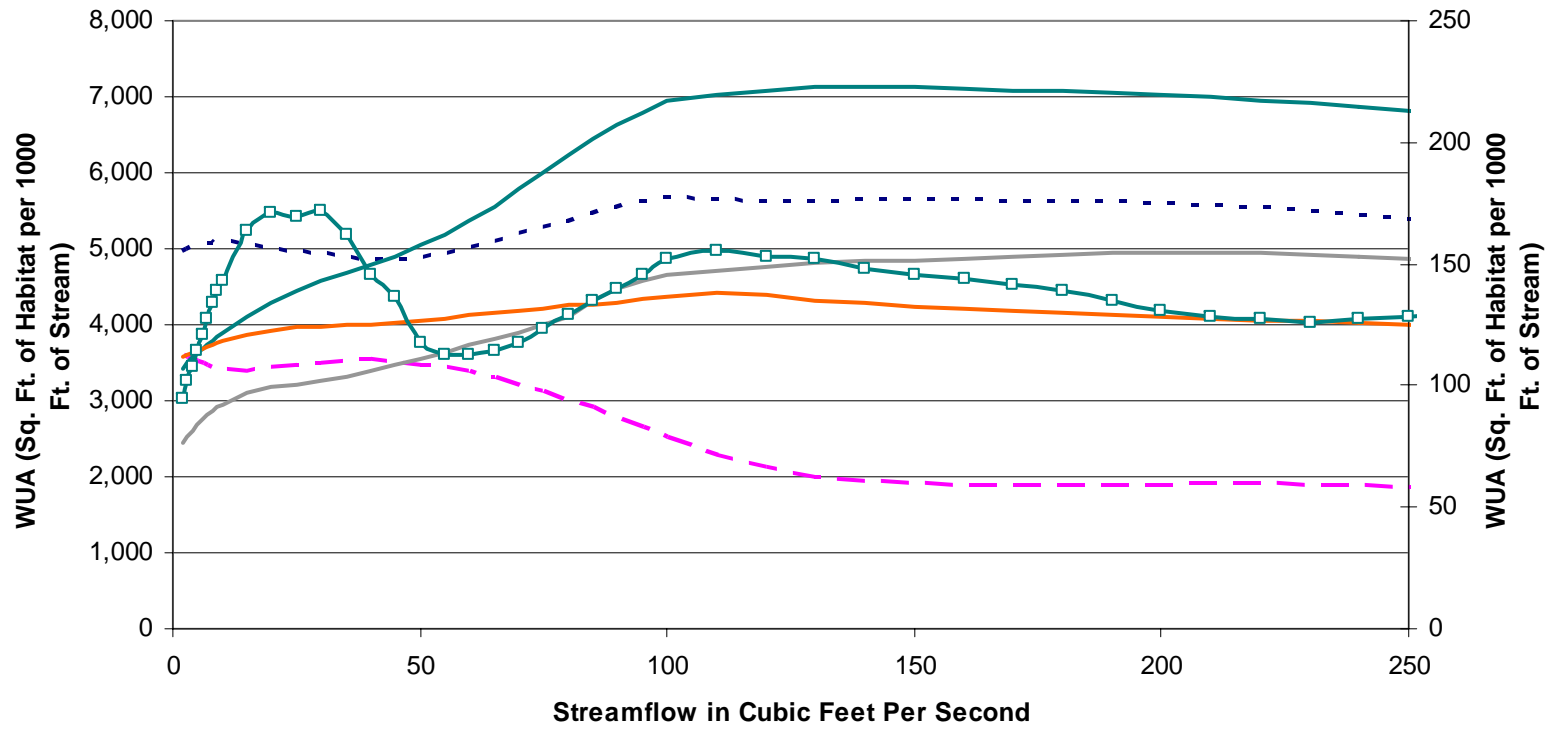


Lake Creek IFIM March: Fish Habitat (WUA) vs. Flow



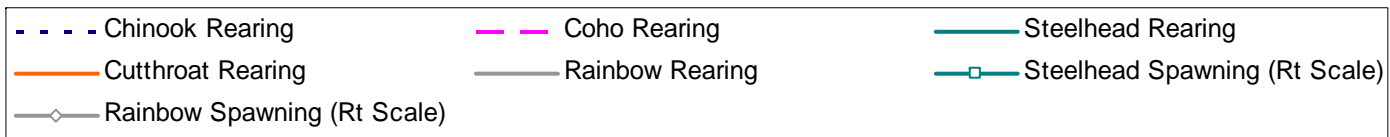
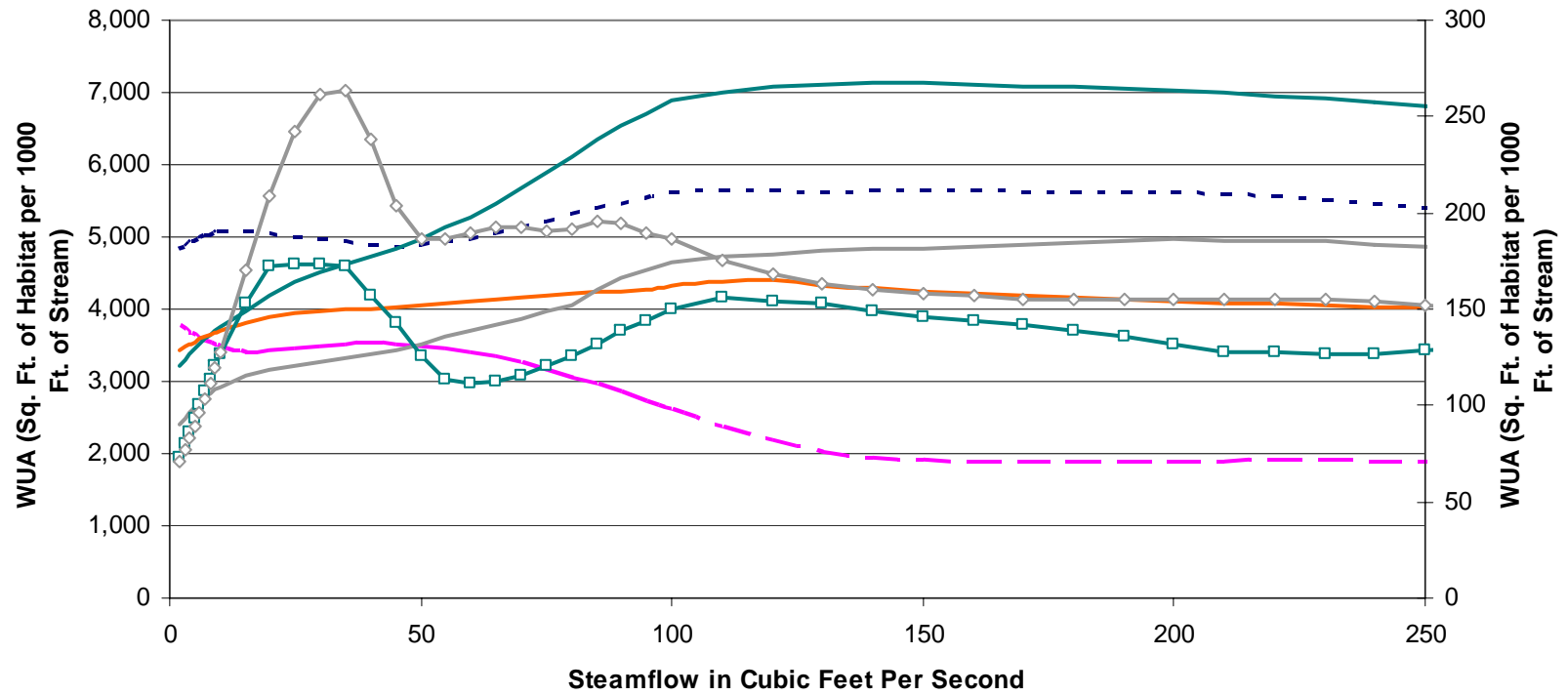
- Chinook Rearing
- Coho Rearing
- Steelhead Rearing
- Rainbow Winter Rearing
- Steelhead Spawning (Rt scale)
- Cutthroat Spawning (Rt Scale)

Lake Creek IFIM April: Fish Habitat (WUA) vs. Flow

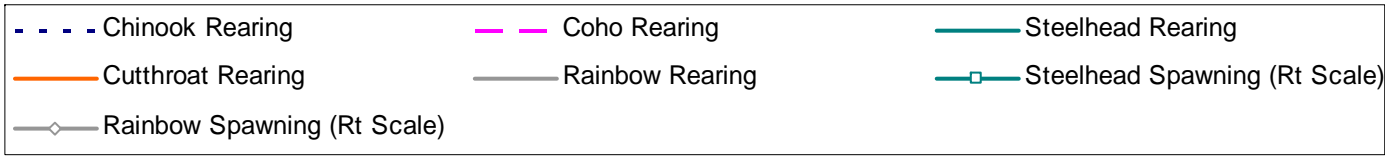
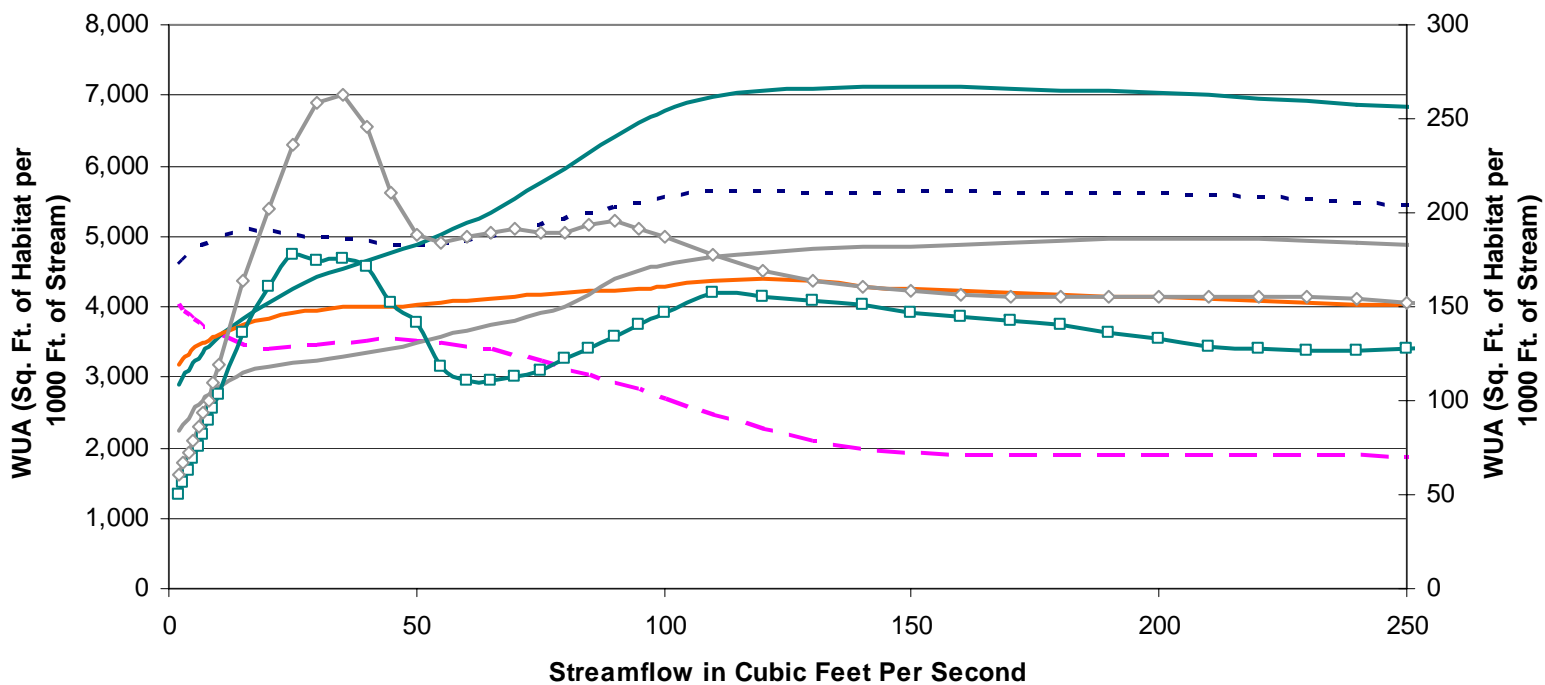


- Chinook Rearing
- Coho Rearing
- Steelhead Rearing
- Cutthroat Rearing
- Rainbow Rearing
- Steelhead Spawning (Rt Scale)

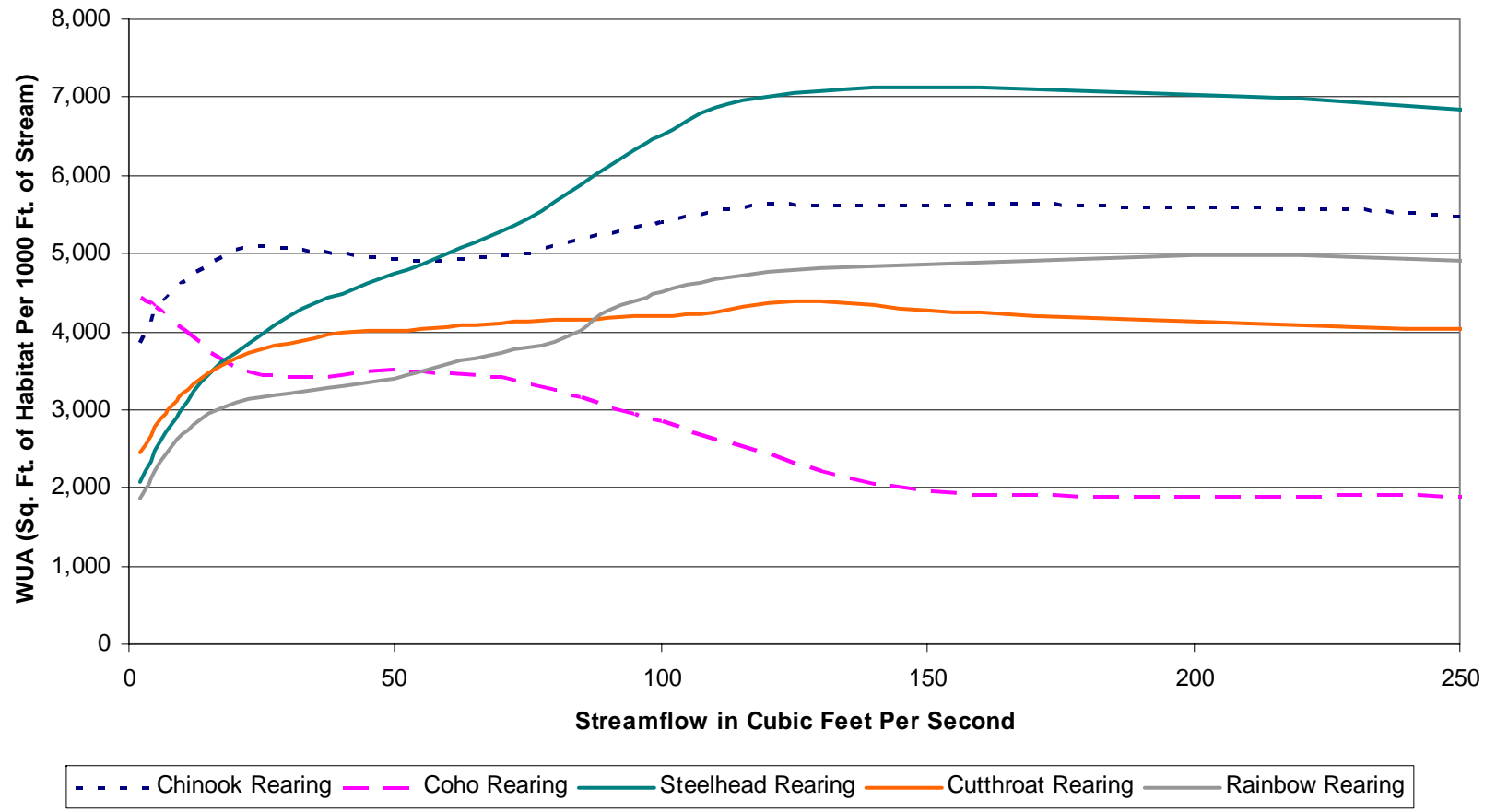
Lake Creek IFIM May: Fish Habitat (WUA) vs. Flow



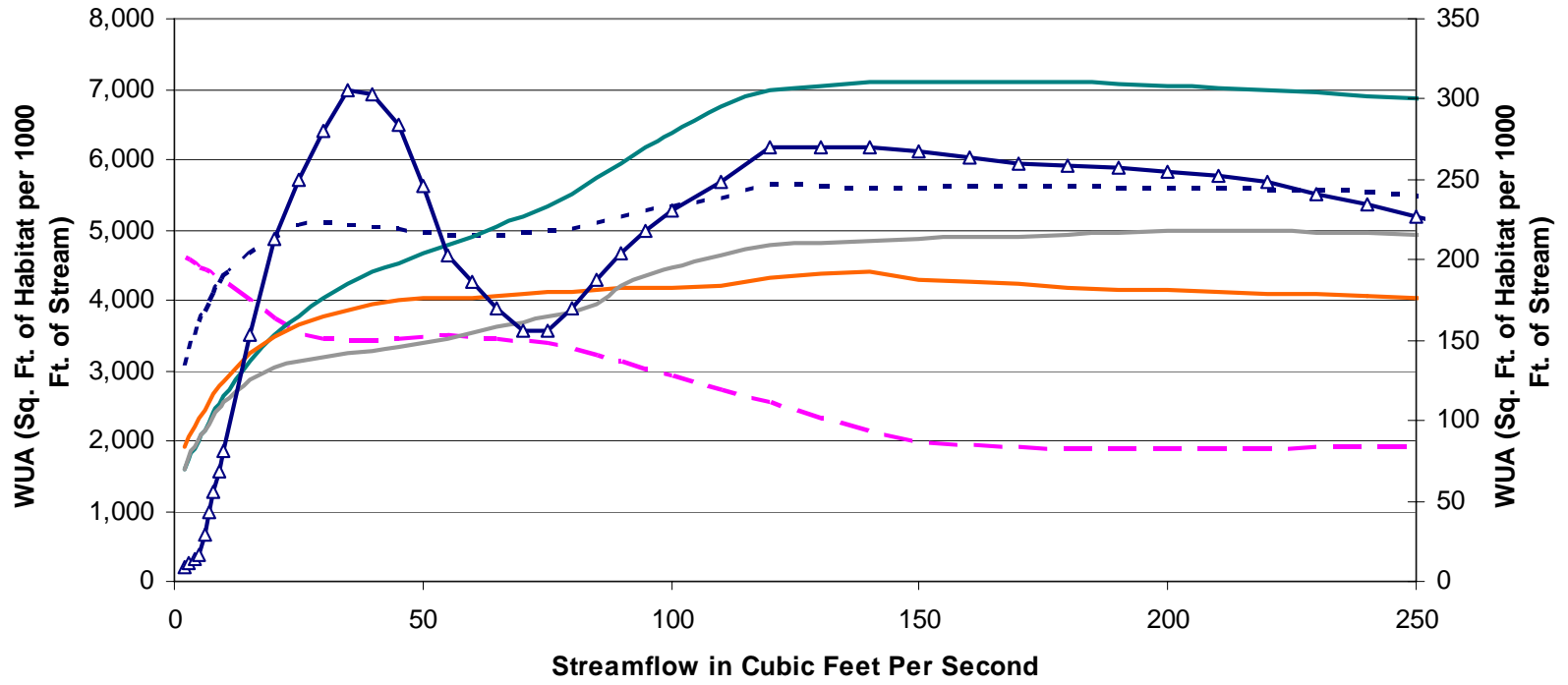
Lake Creek IFIM June: Fish Habitat (WUA) vs. Flow



Lake Creek IFIM July: Fish Habitat (WUA) vs. Flow

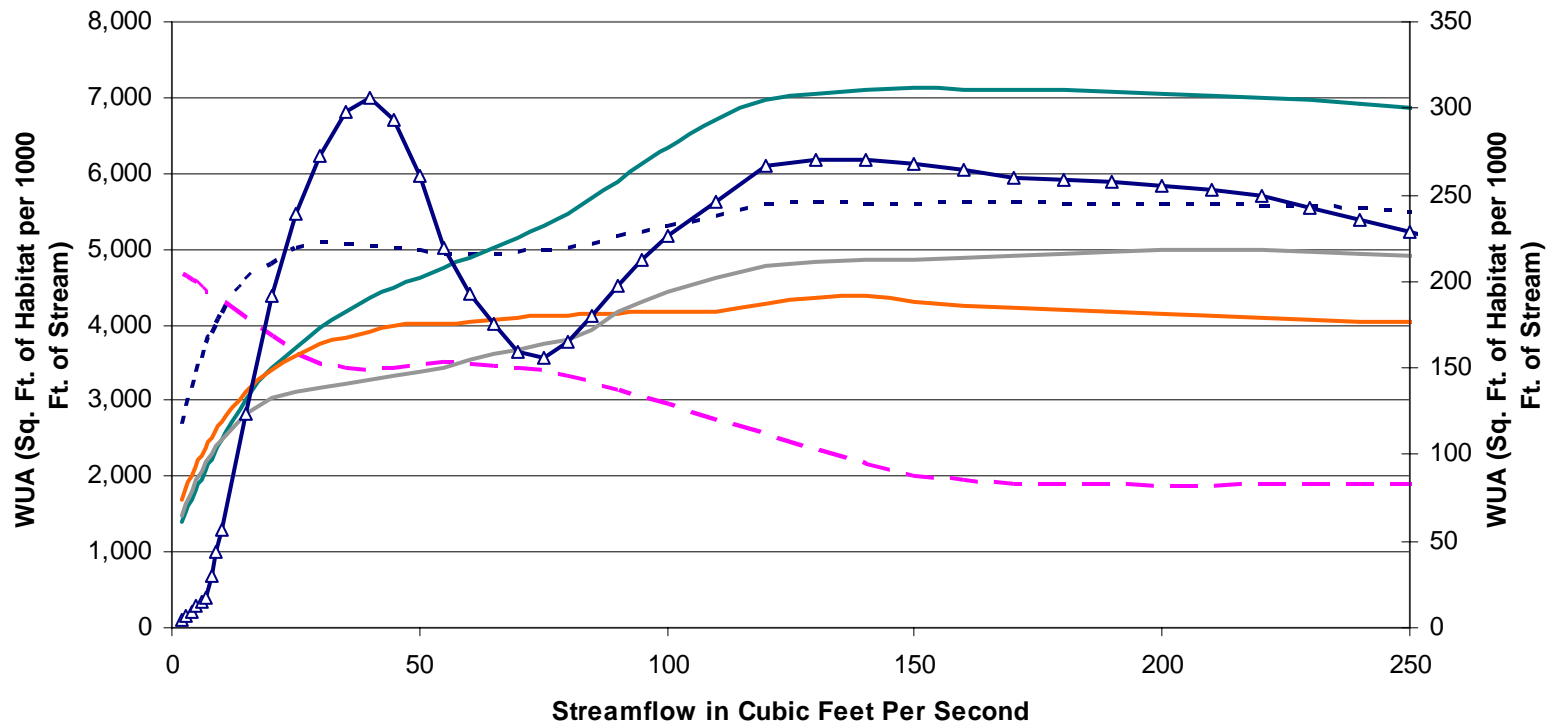


Lake Creek IFIM August: Fish Habitat (WUA) vs. Flow



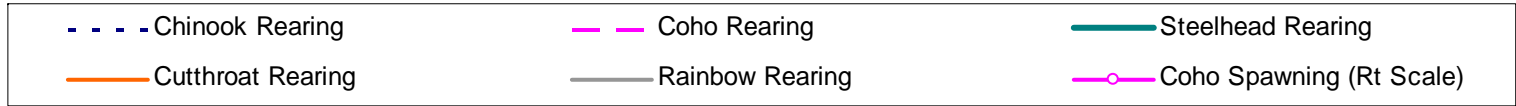
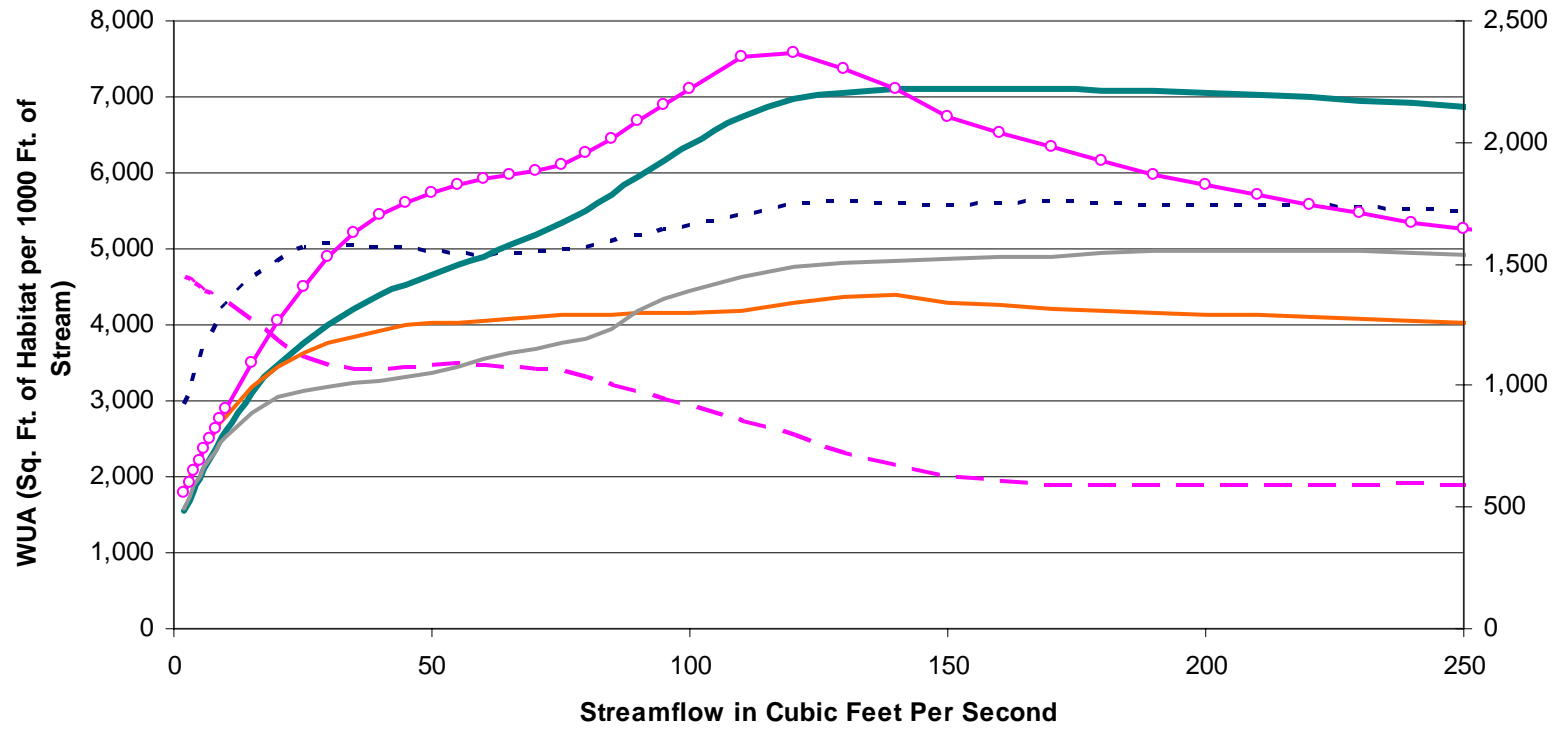
- Chinook Rearing
- Coho Rearing
- Steelhead Rearing
- Cutthroat Rearing
- Rainbow Rearing
- △— Chinook Spawning (Rt Scale)

Lake Creek IFIM September: Fish Habitat (WUA) vs. Flow

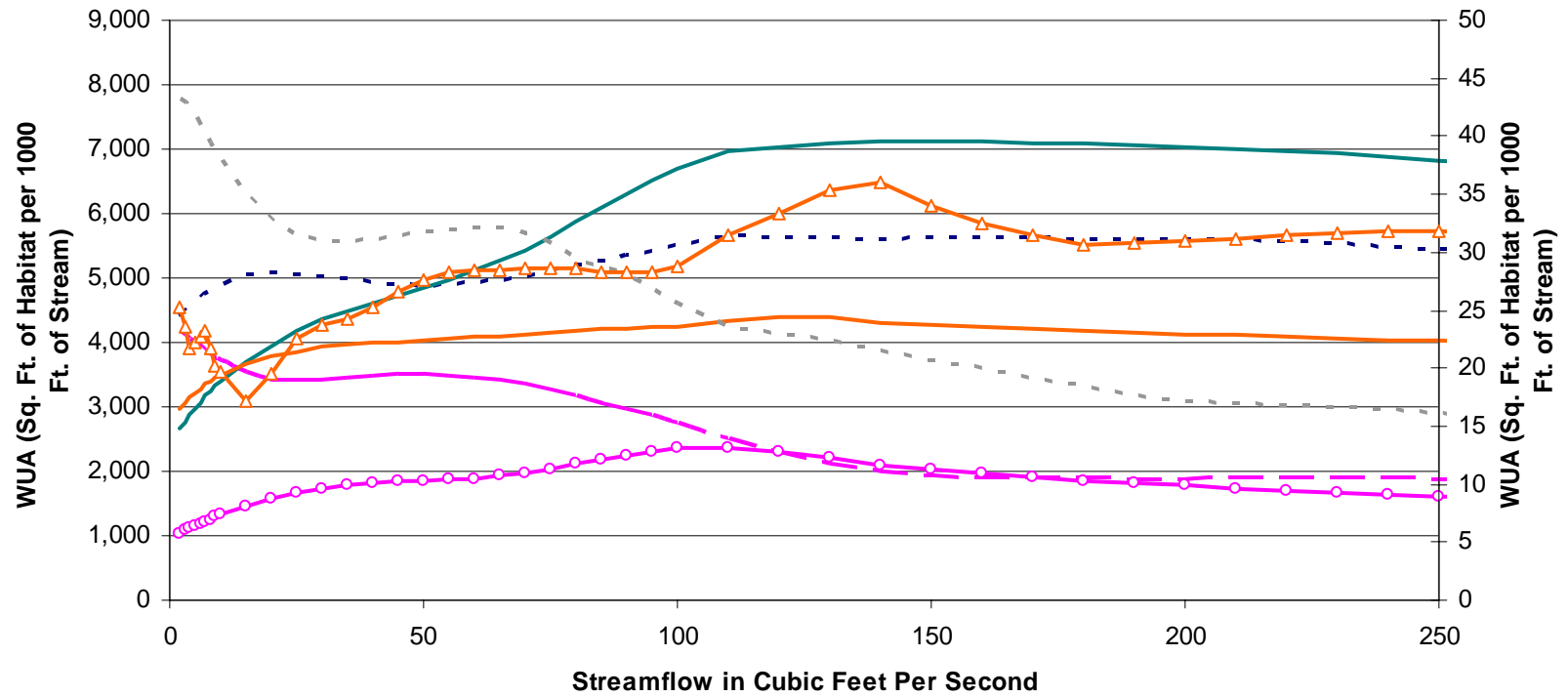


- Chinook Rearing
- Coho Rearing
- Steelhead Rearing
- Cutthroat Rearing
- Rainbow Rearing
- △— Chinook Spawning (Rt Scale)

Lake Creek IFIM October: Fish Habitat (WUA) vs. Flow

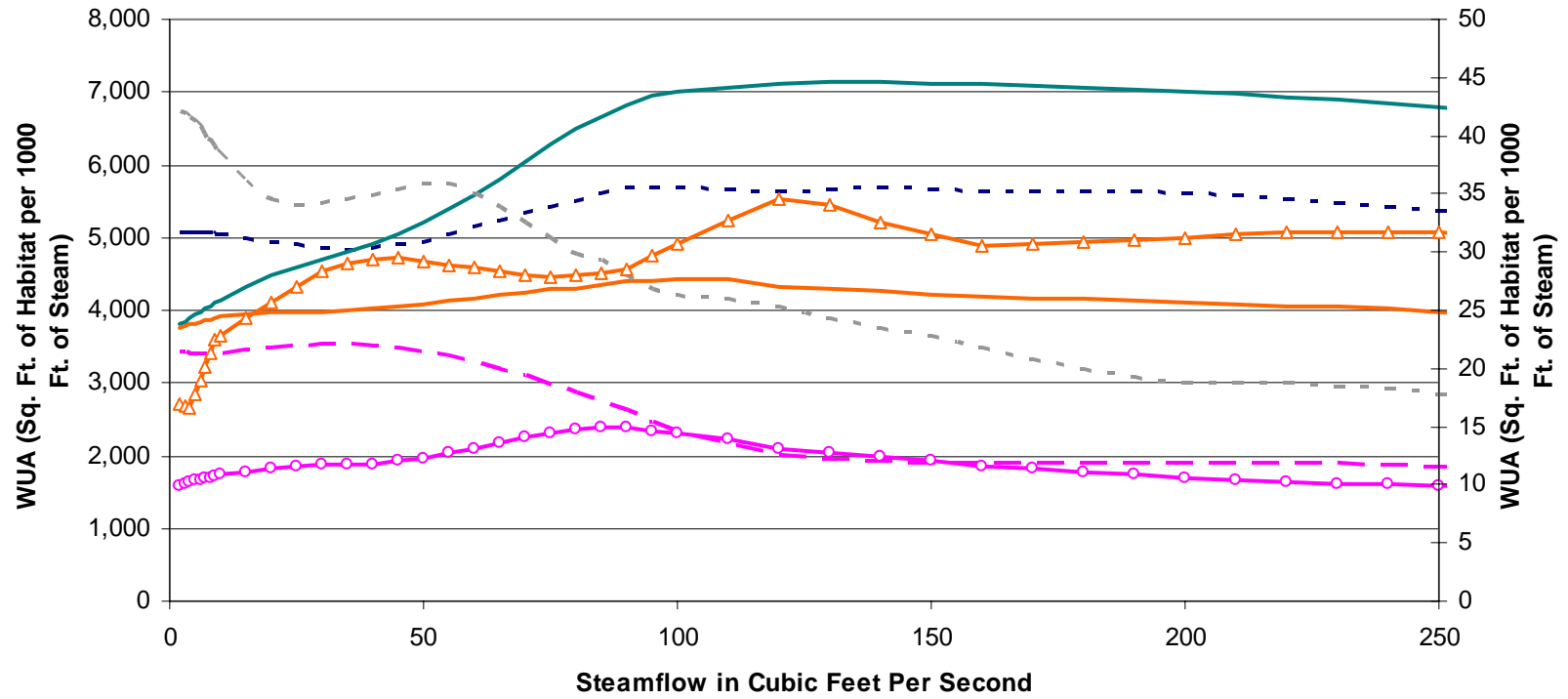


Lake Creek IFIM November: Fish Habitat (WUA) vs. Flow



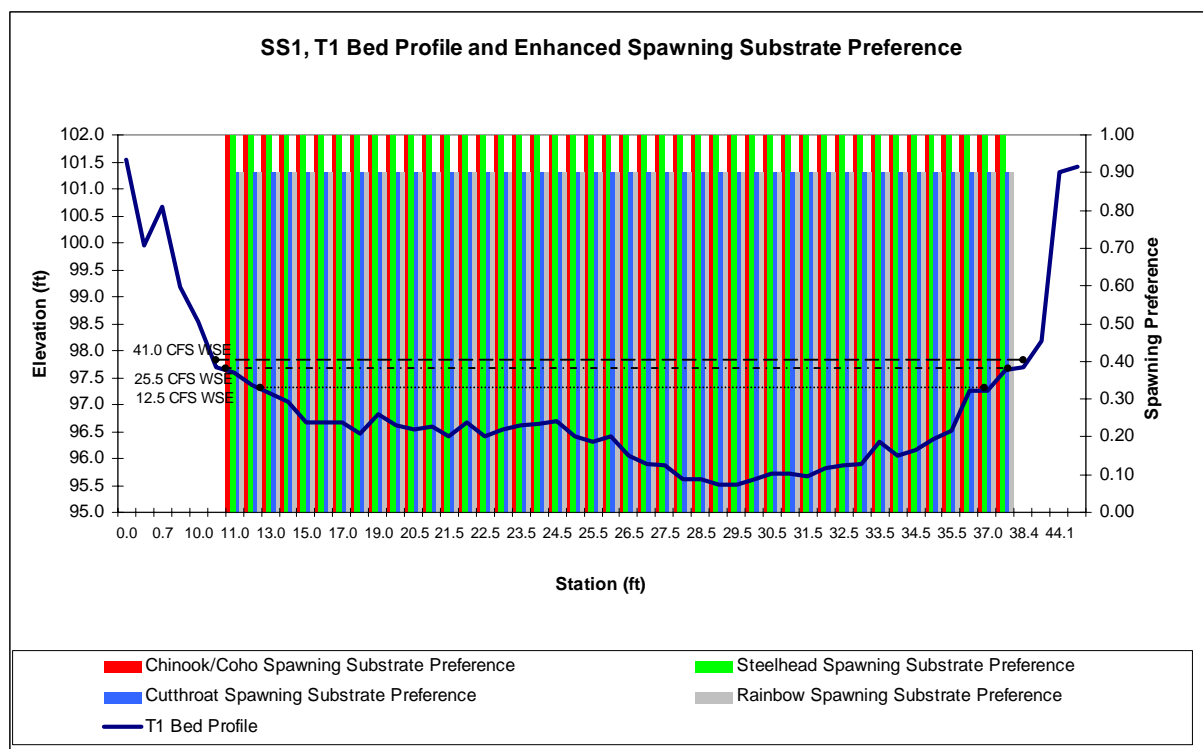
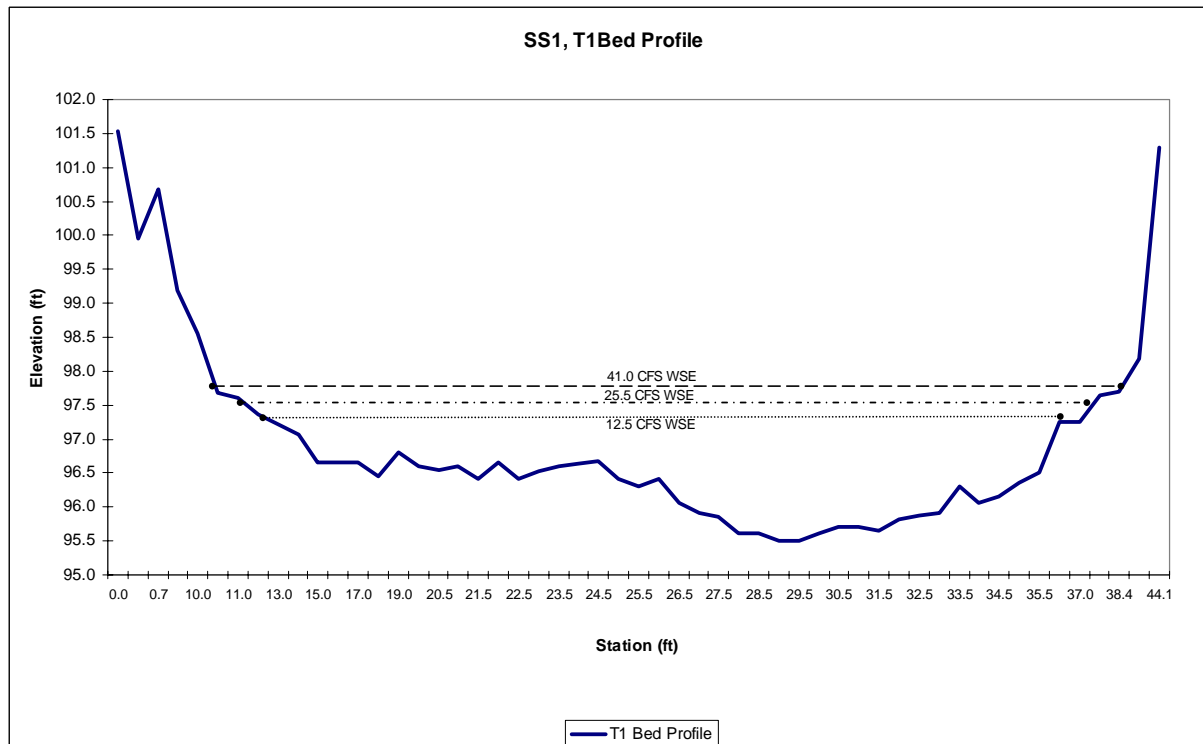
- - - Chinook Rearing
- Coho Spawning
- Coho Rearing
- Steelhead Rearing
- Cutthroat Rearing
- - - Rainbow Winter Rearing
- △— Cutthroat Spawning (Rt. Scale)

Lake Creek IFIM December: Fish Habitat (WUA) vs. Flow

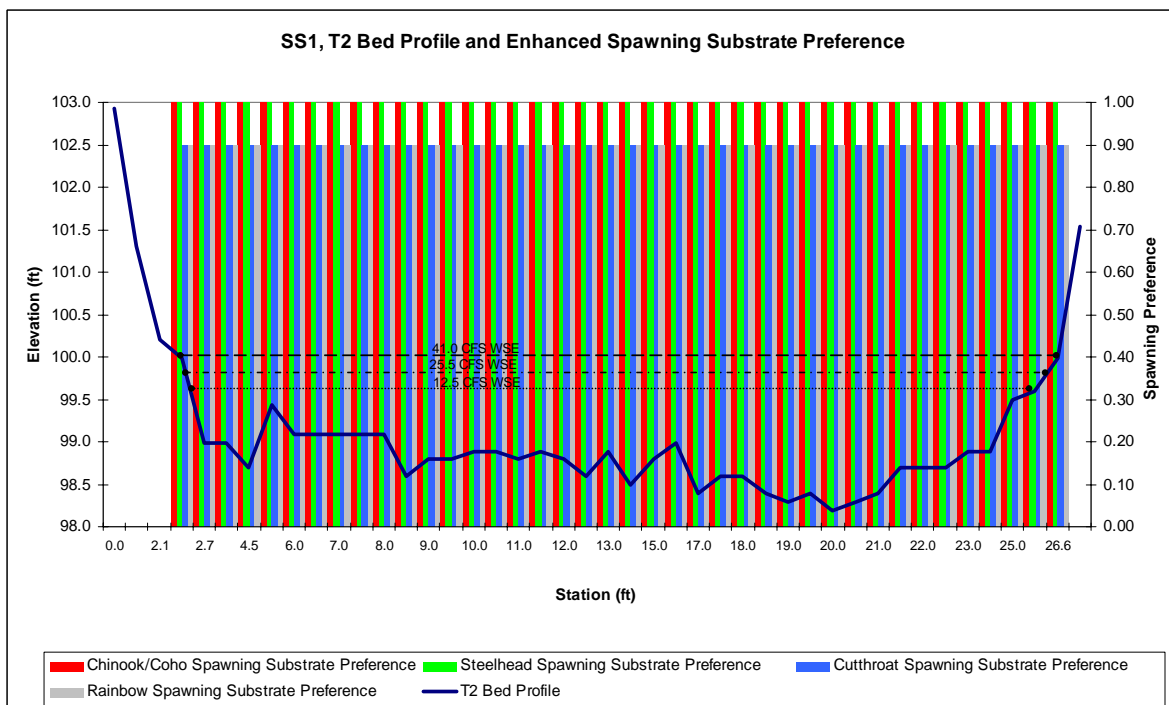
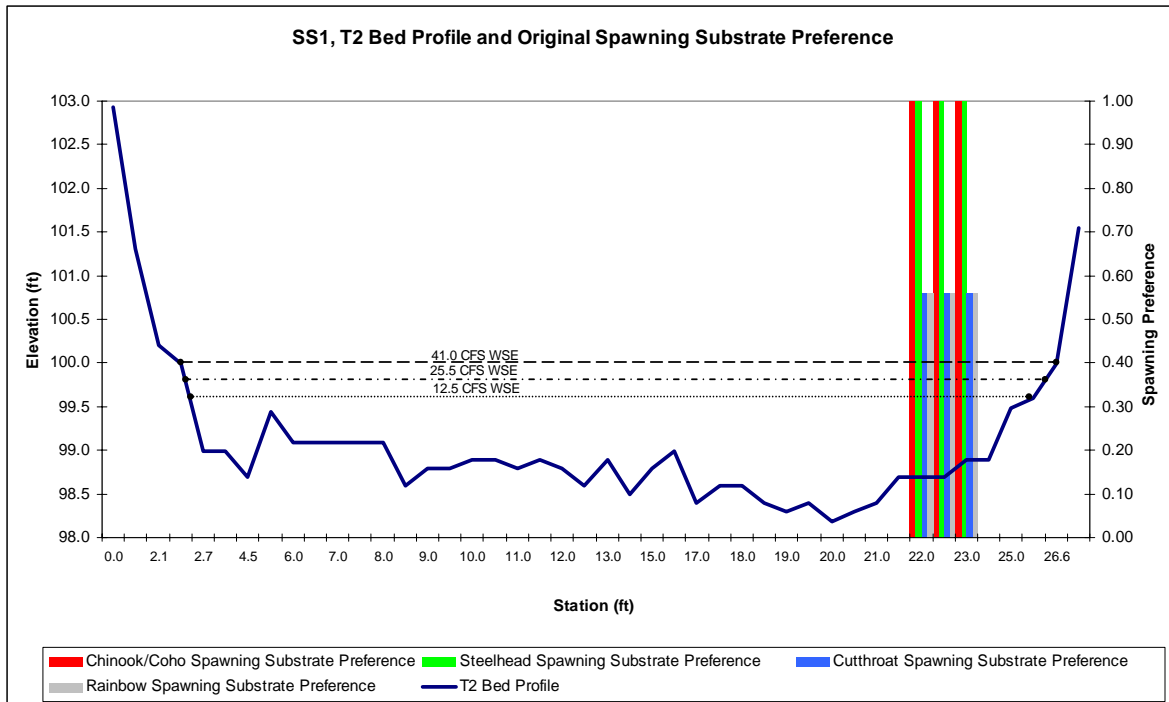


- Chinook Rearing
- Coho Spawning
- Coho Rearing
- Steelhead Rearing
- Cutthroat Rearing
- Rainbow Winter Rearing
- Cutthroat Spawning (Rt Scale)

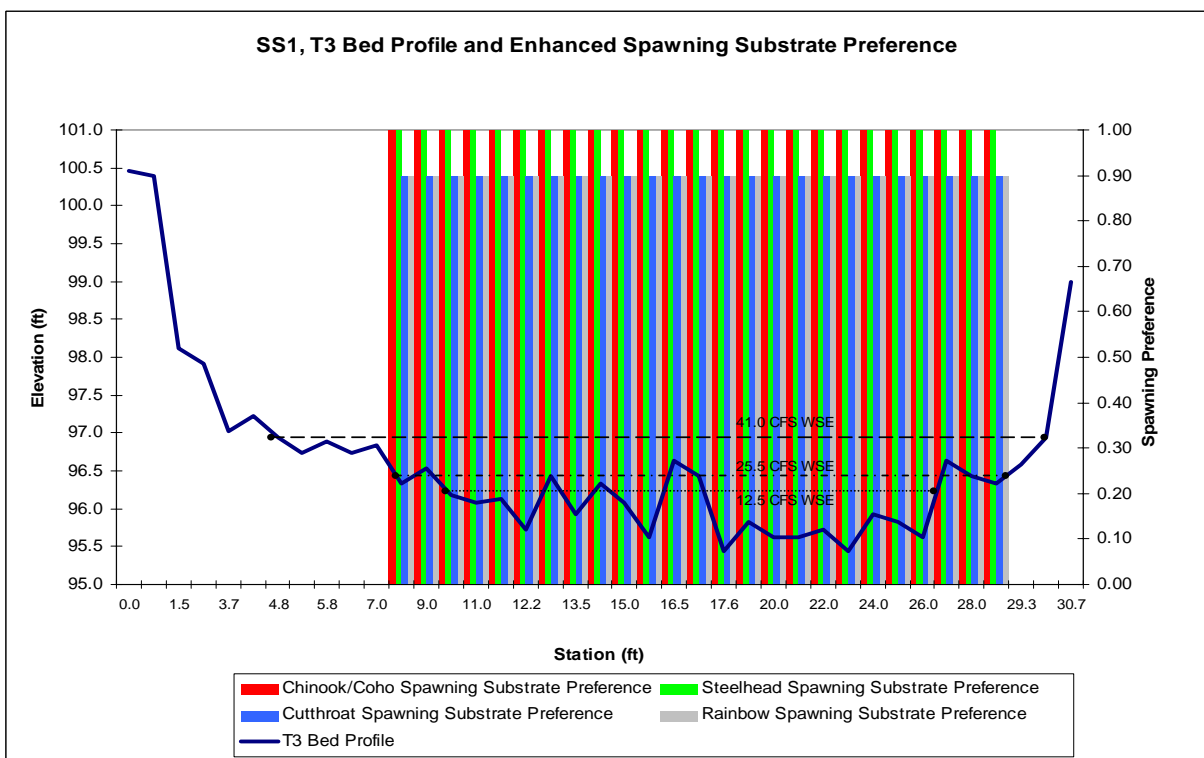
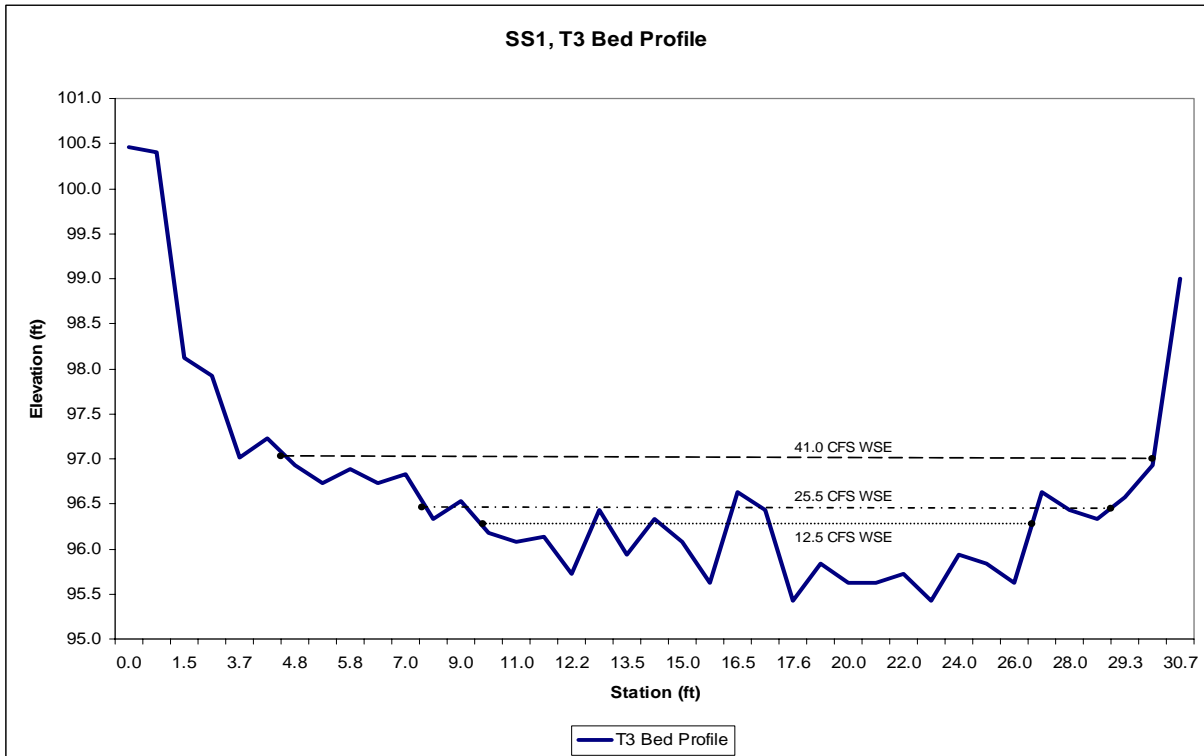
Study Site 1, Transect 1, Before and After Enhancement



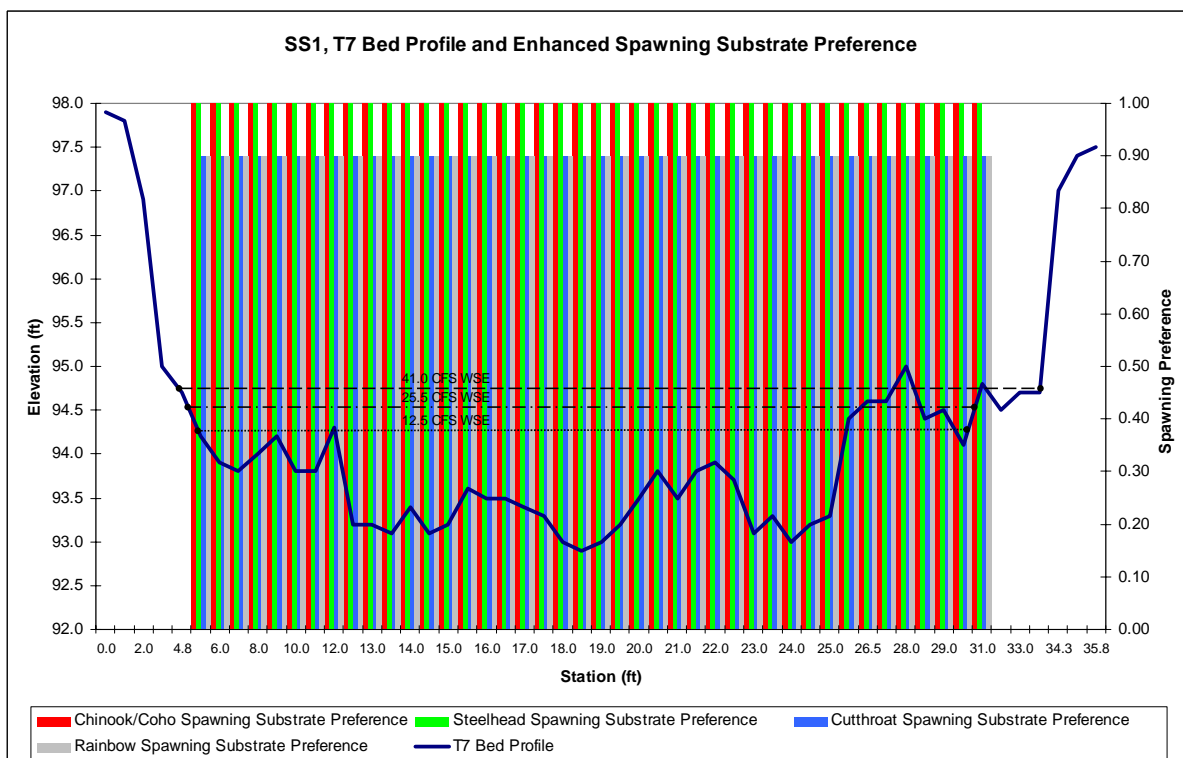
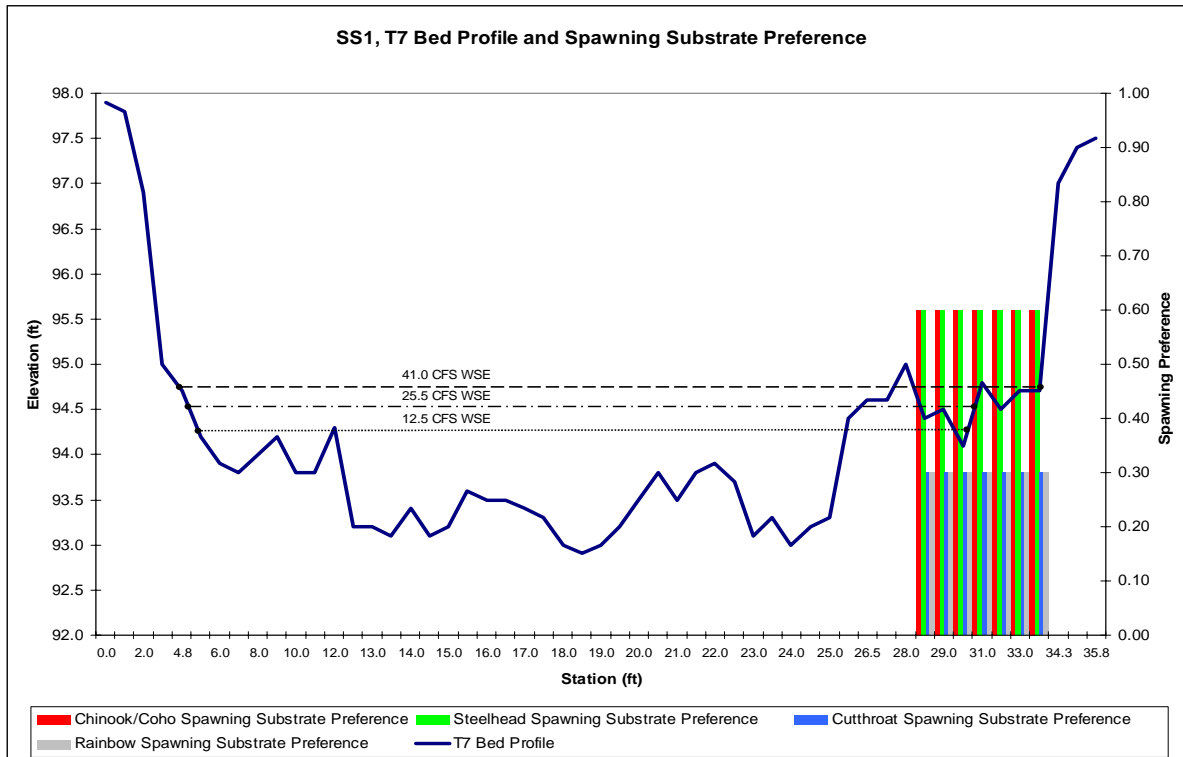
Study Site 1, Transect 2, Before and After Enhancement



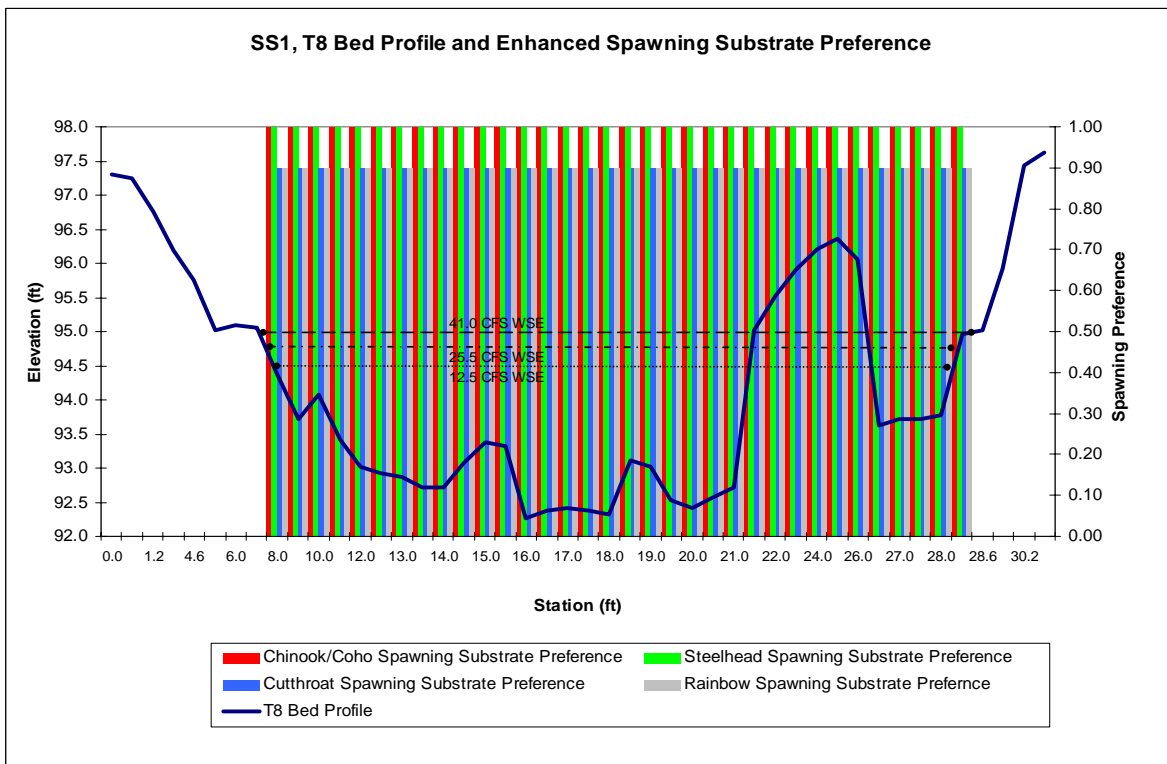
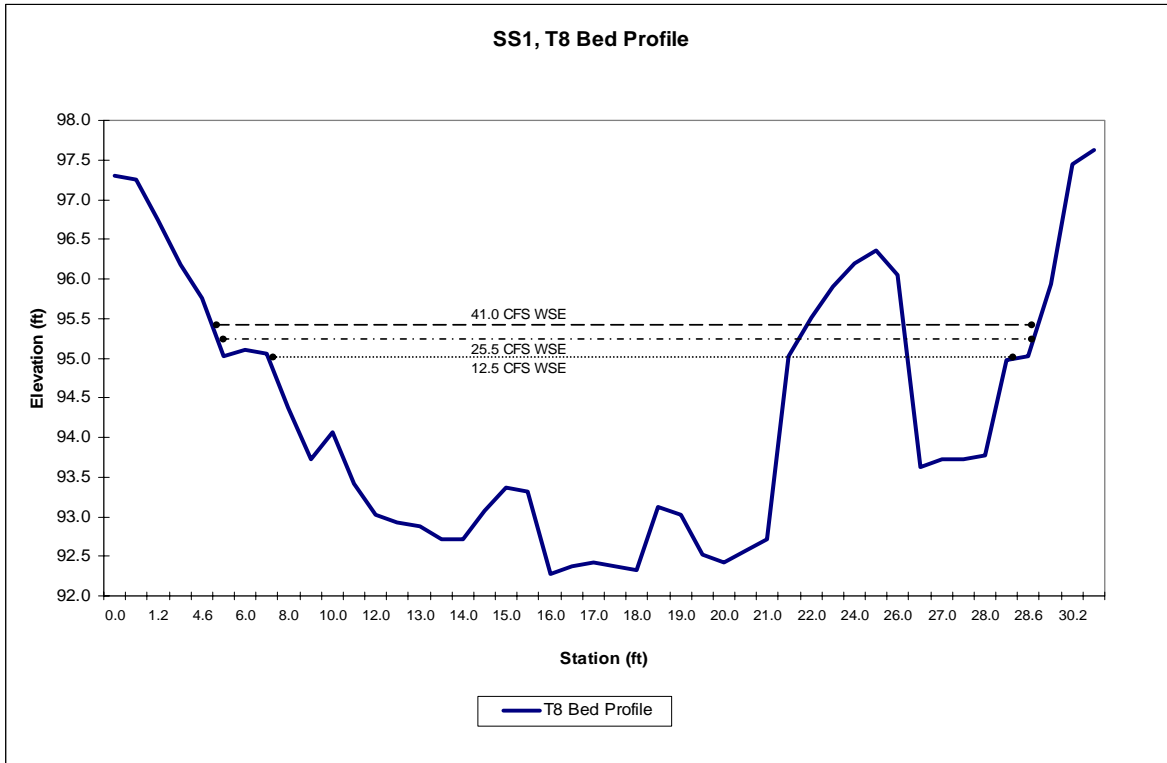
Study Site 1, Transect 3, Before and After Enhancement



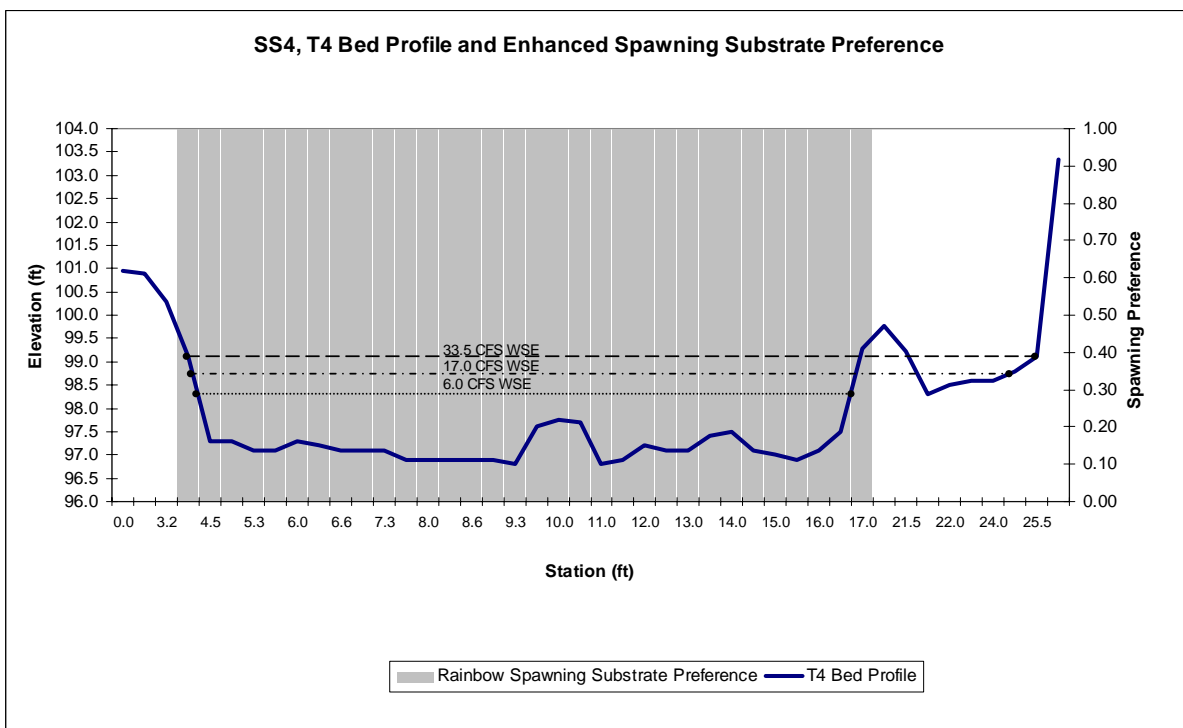
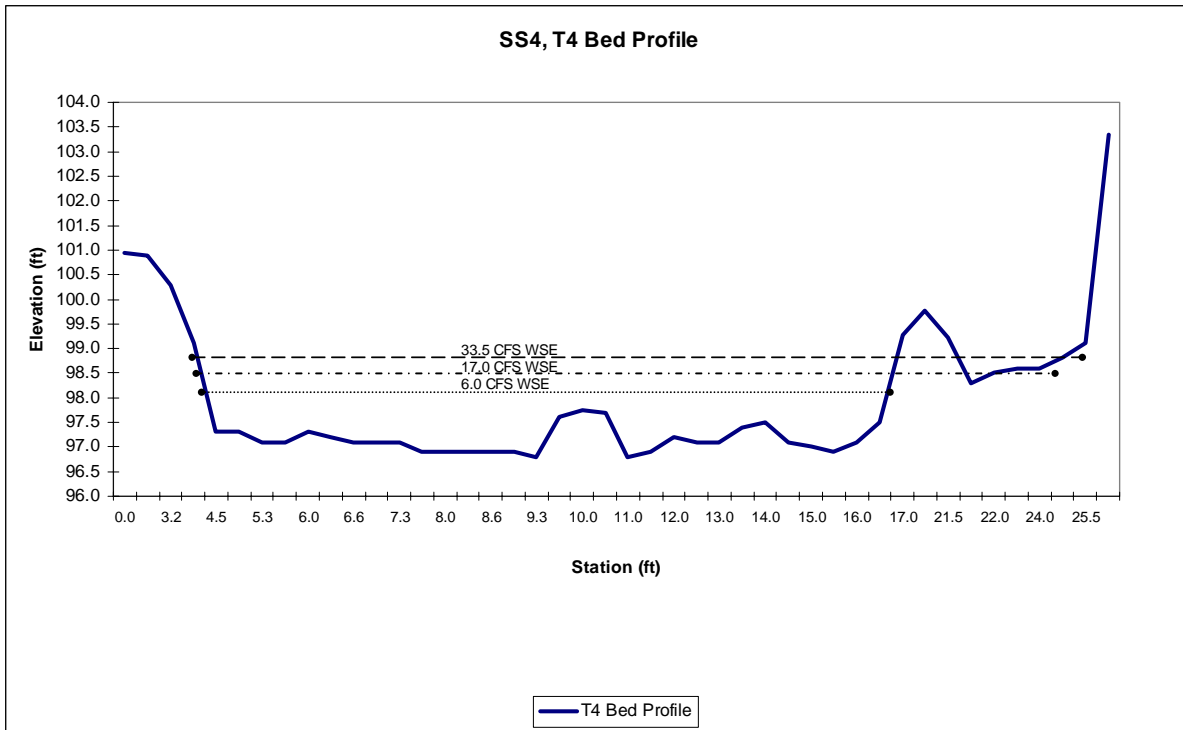
Study Site 1, Transect 7, Before and After Enhancement



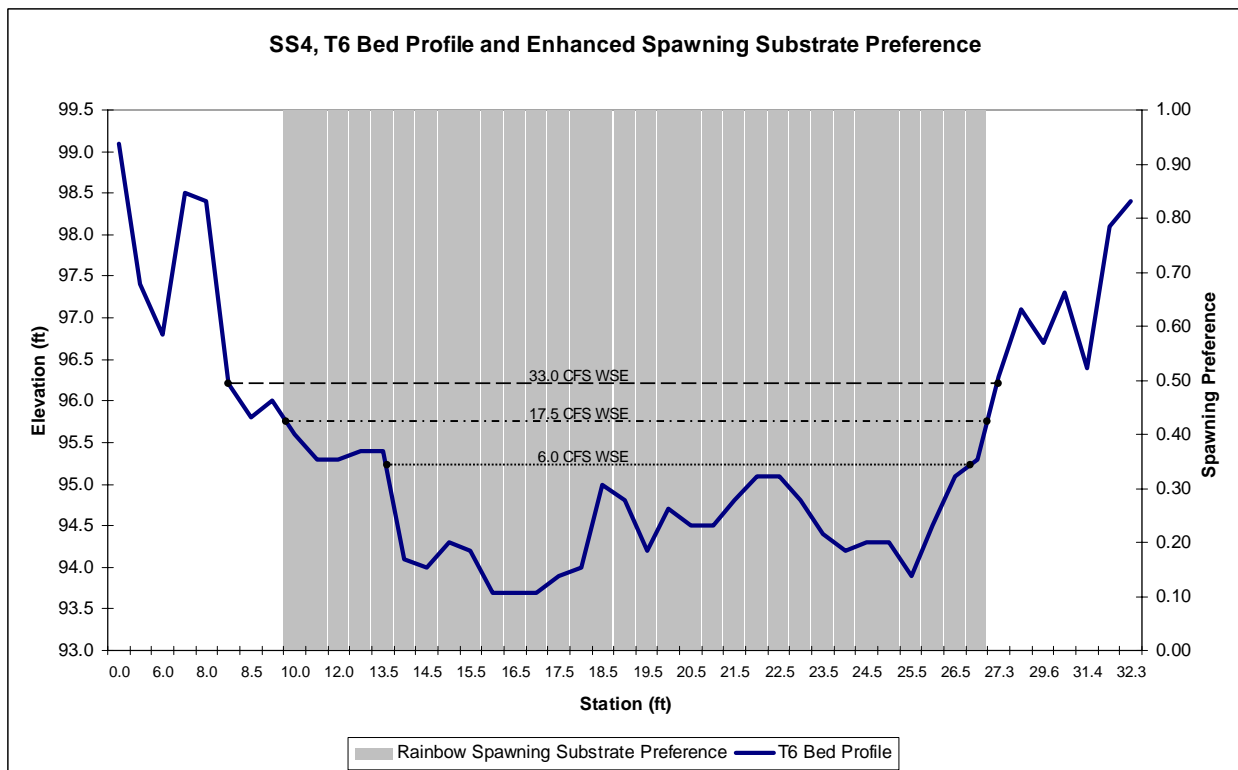
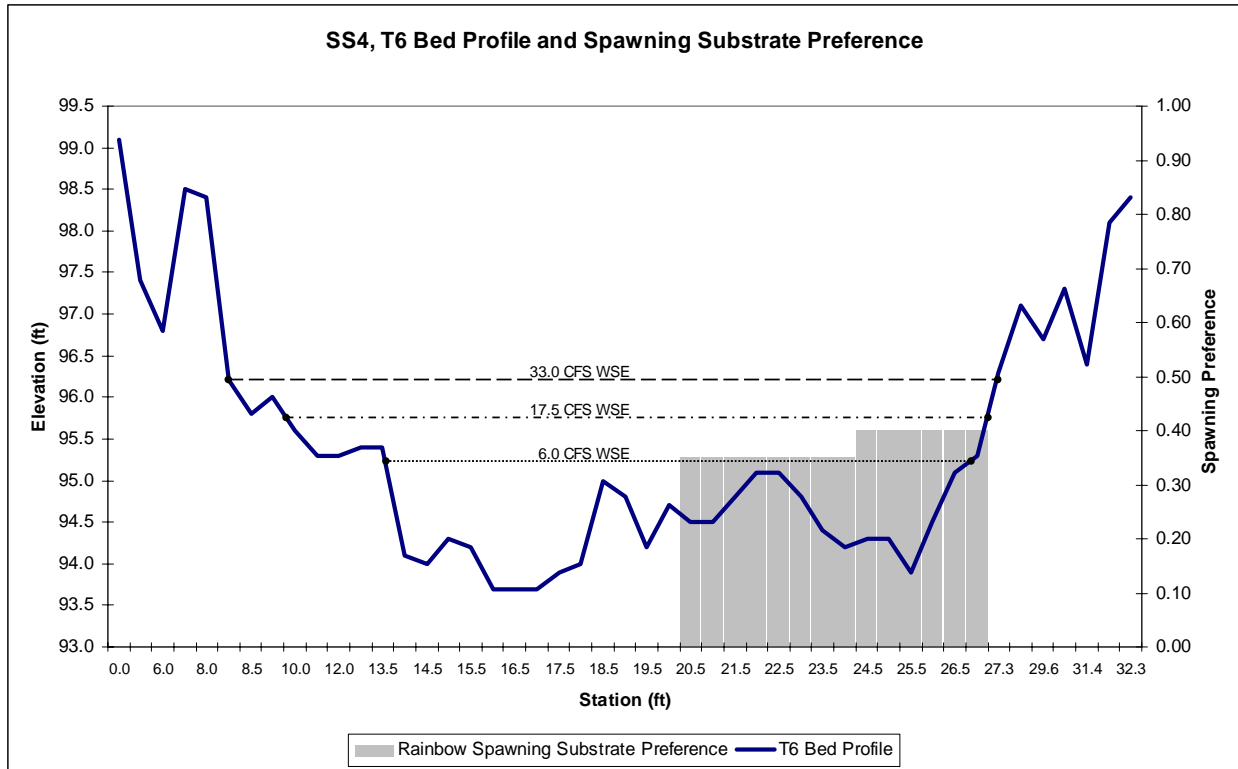
Study Site 1, Transect 8, Before and After Enhancement



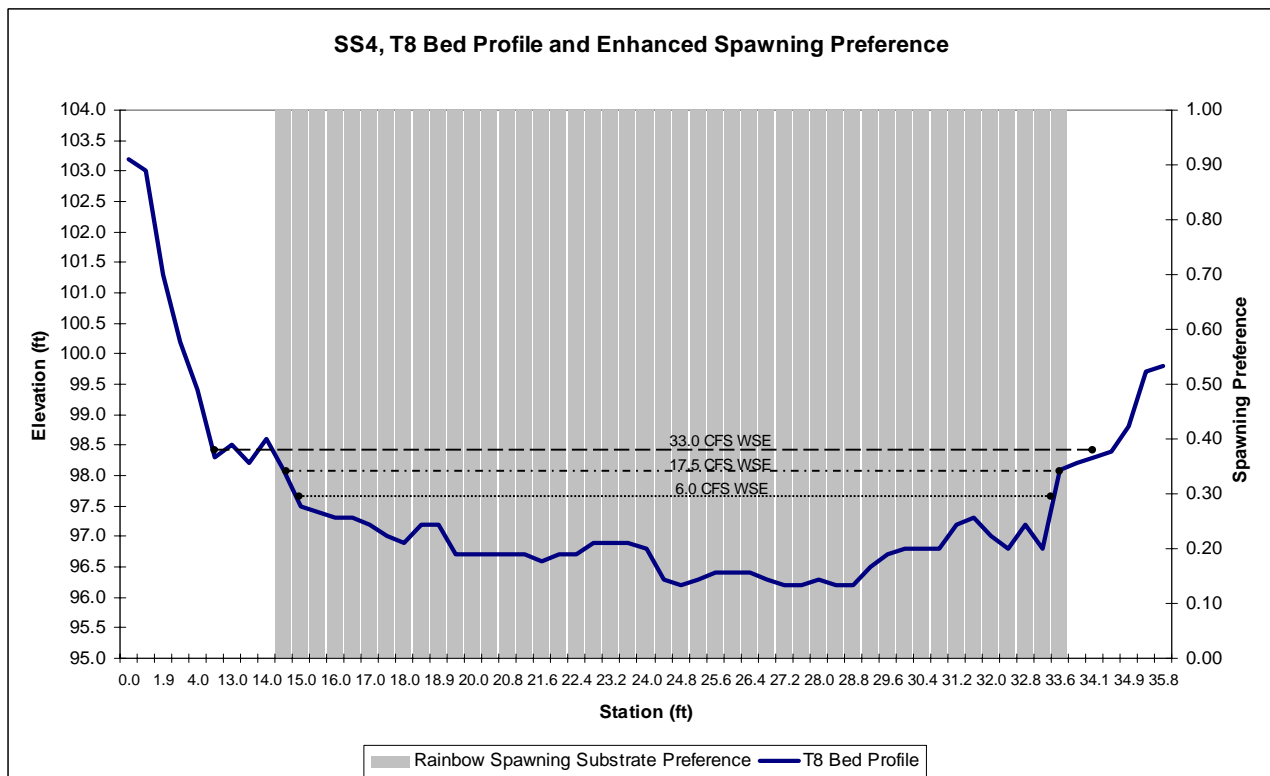
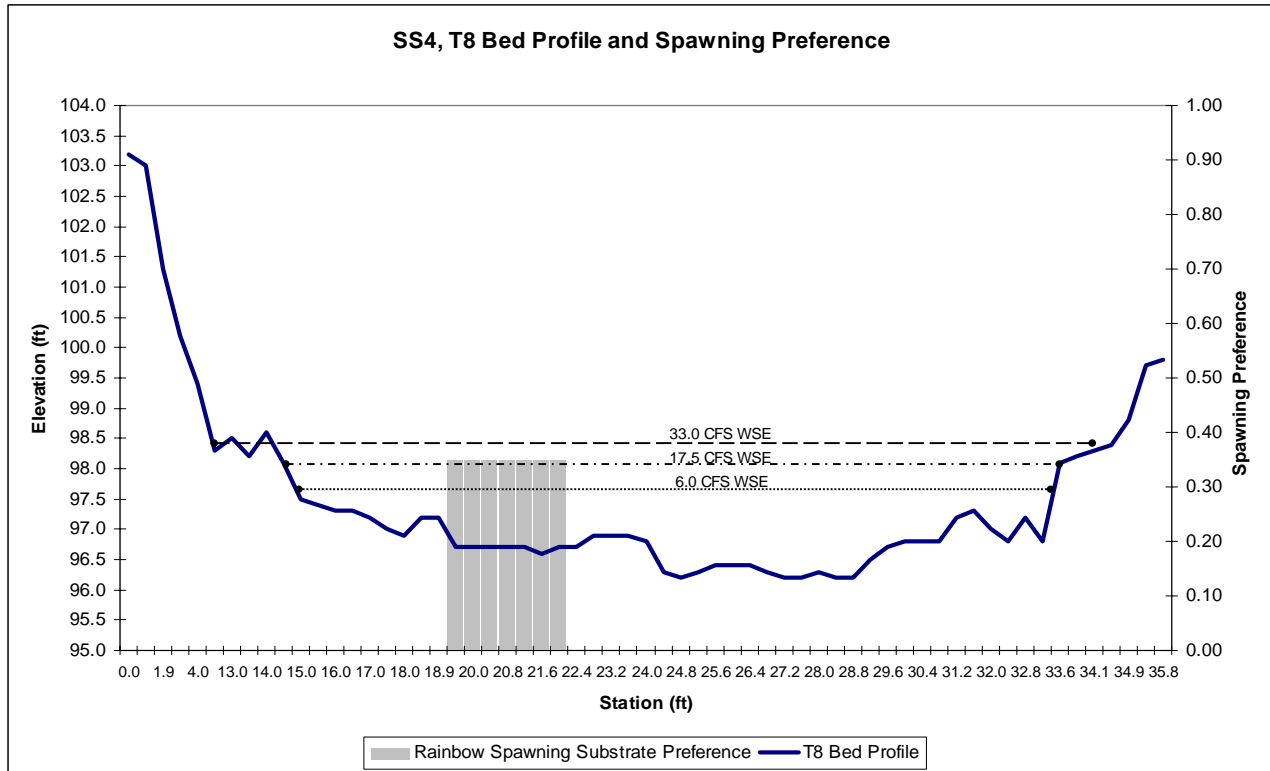
Study Site 2, Transect 4, Before and After Enhancement



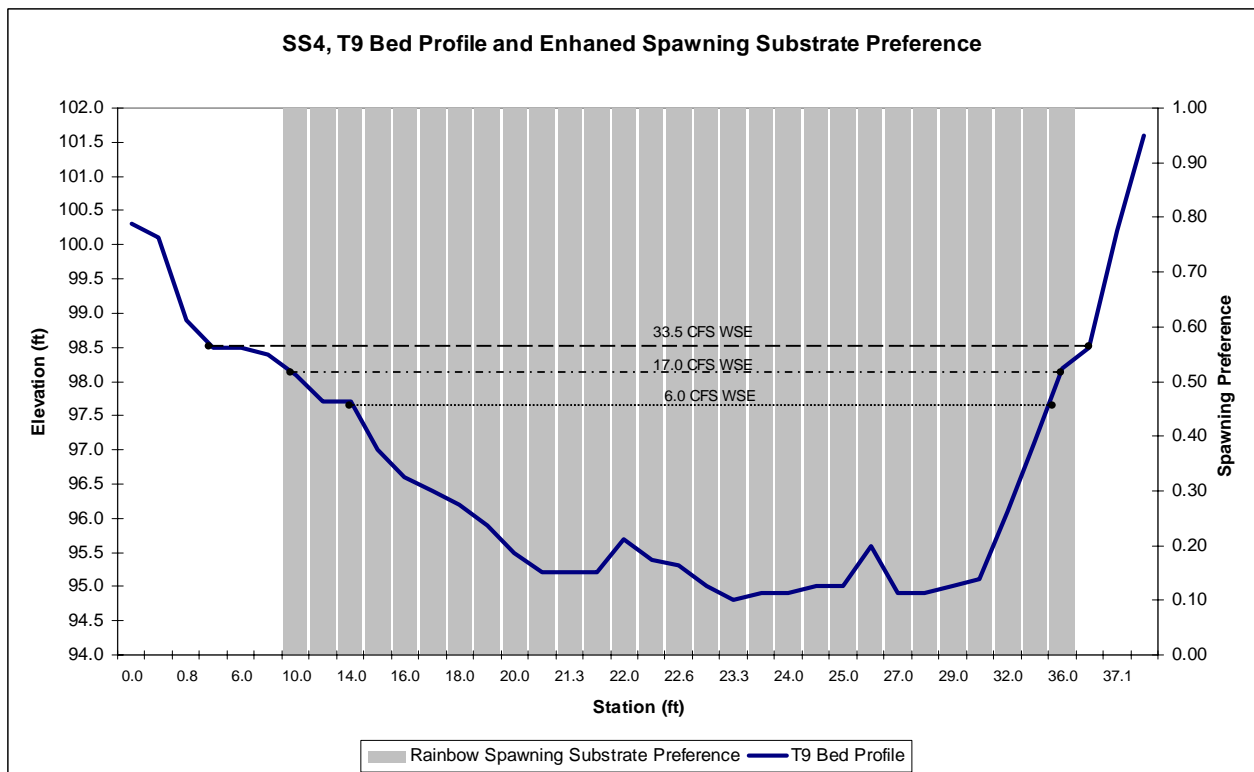
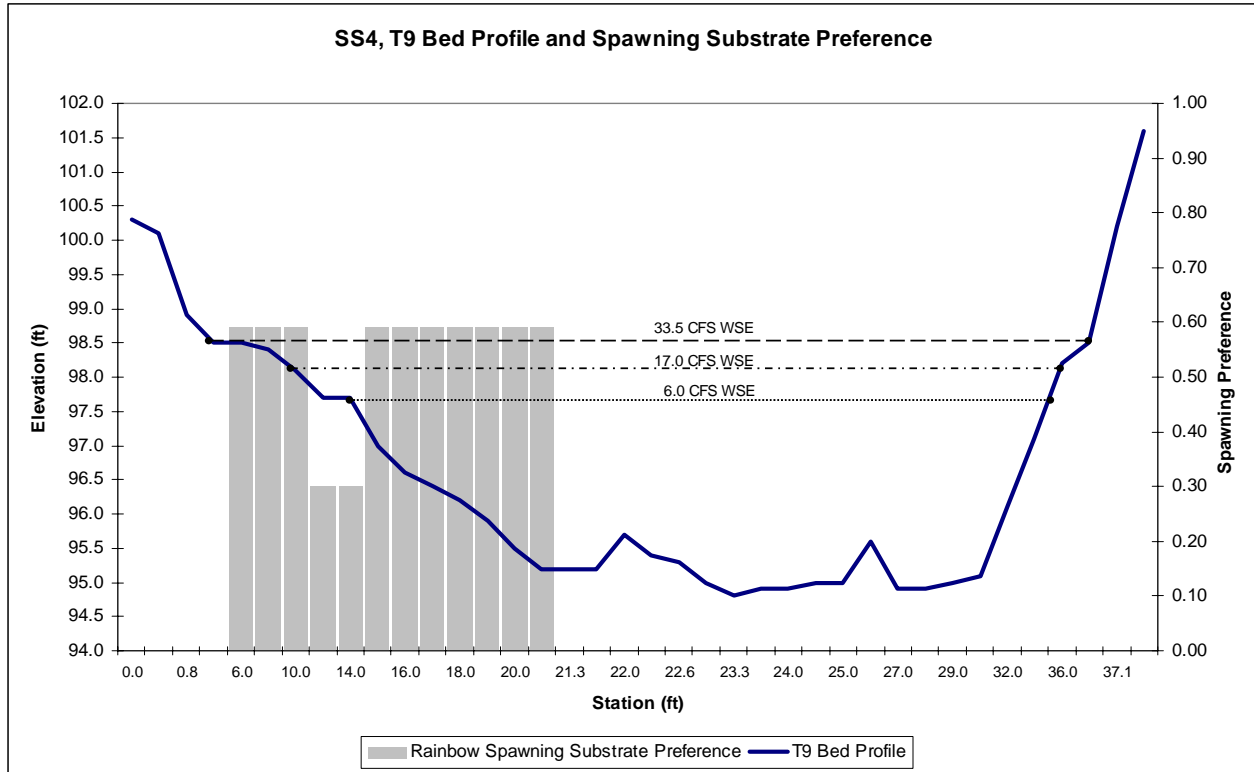
Study Site 2, Transect 6, Before and After Enhancement



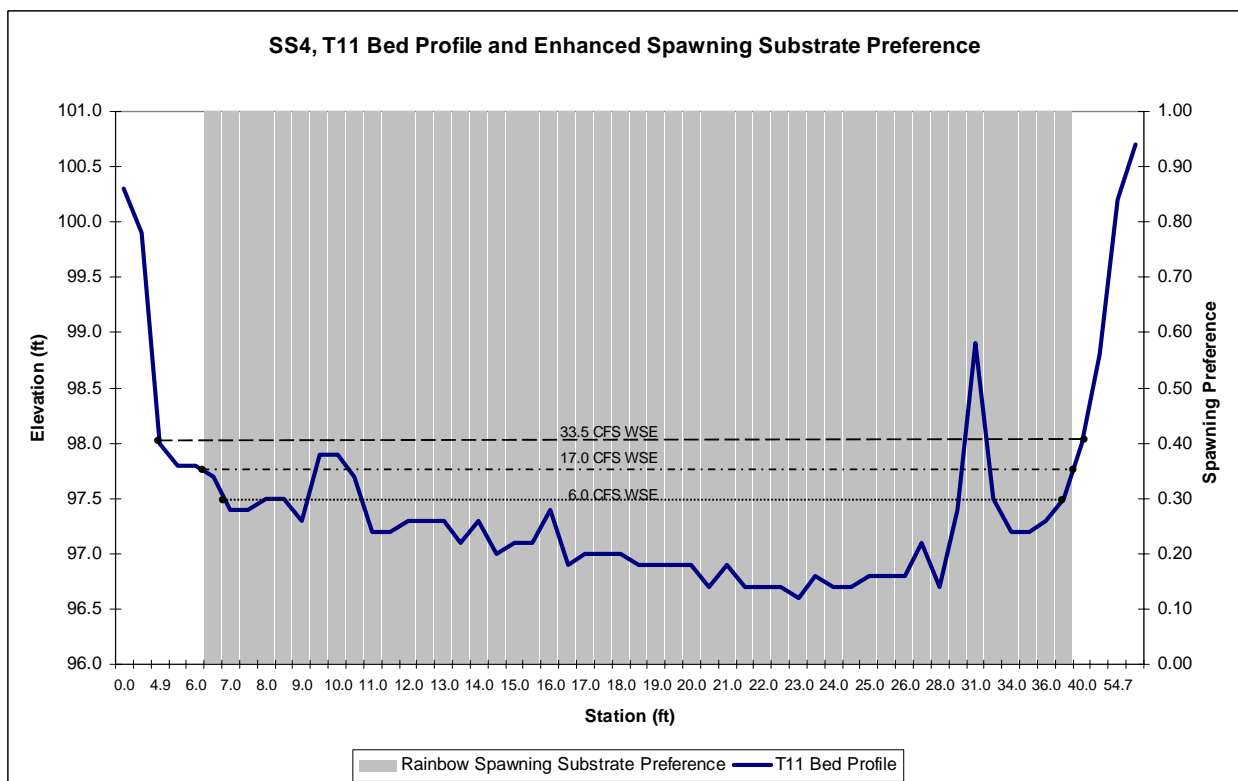
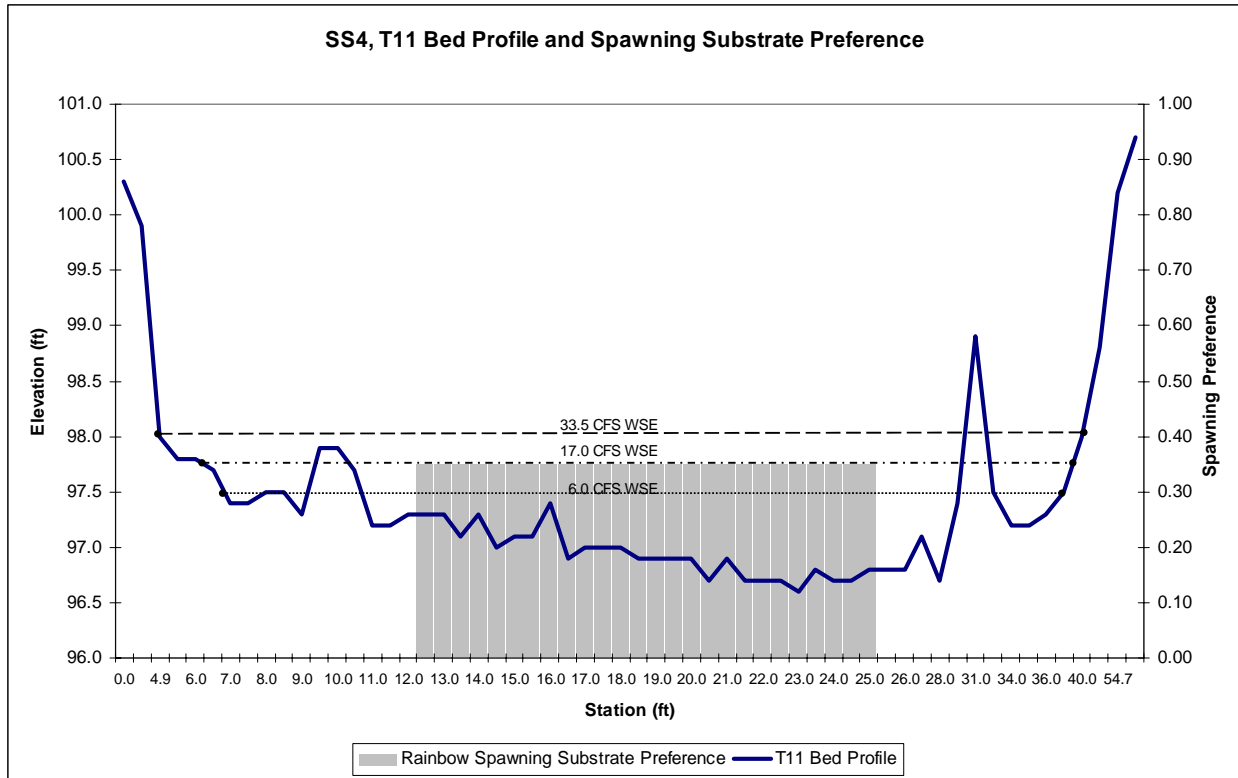
Study Site 2, Transect 8, Before and After Enhancement



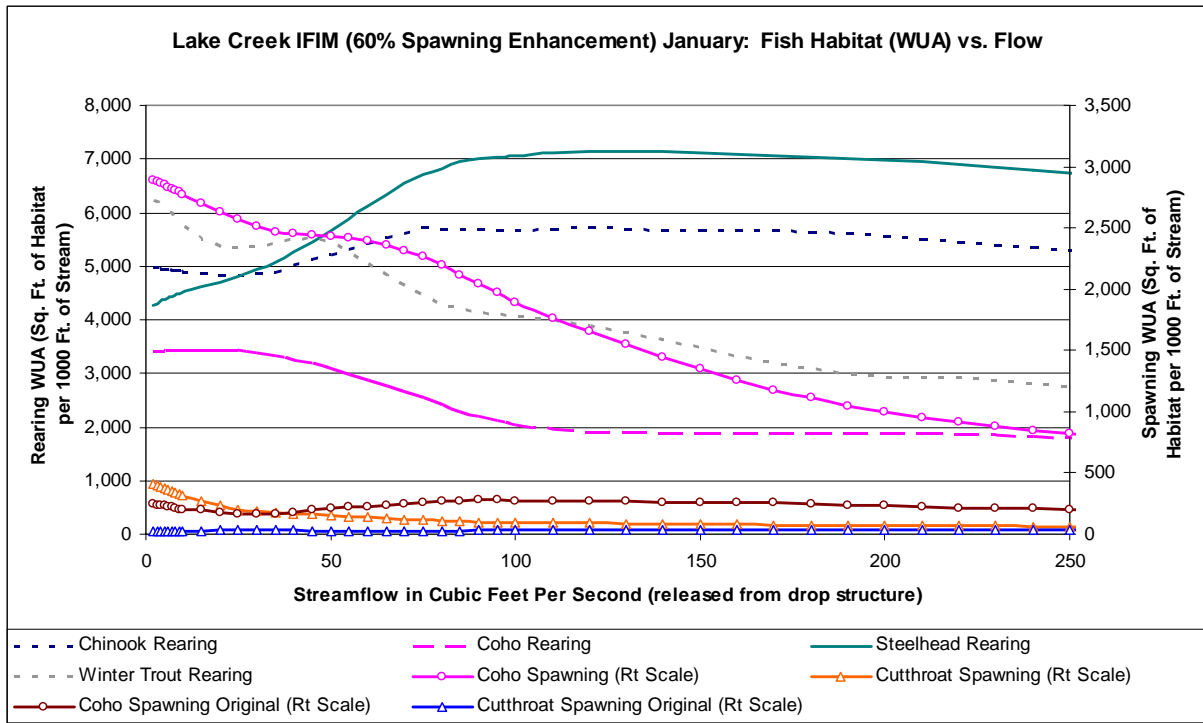
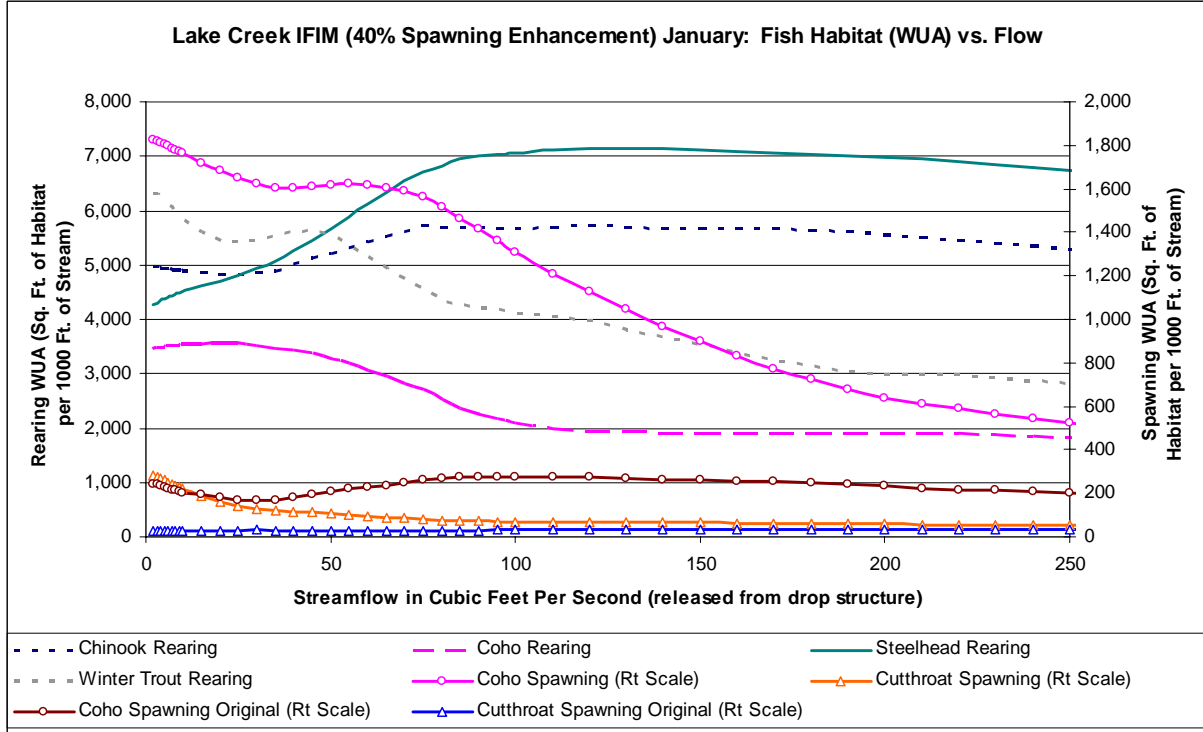
Study Site 2, Transect 9, Before and After Enhancement



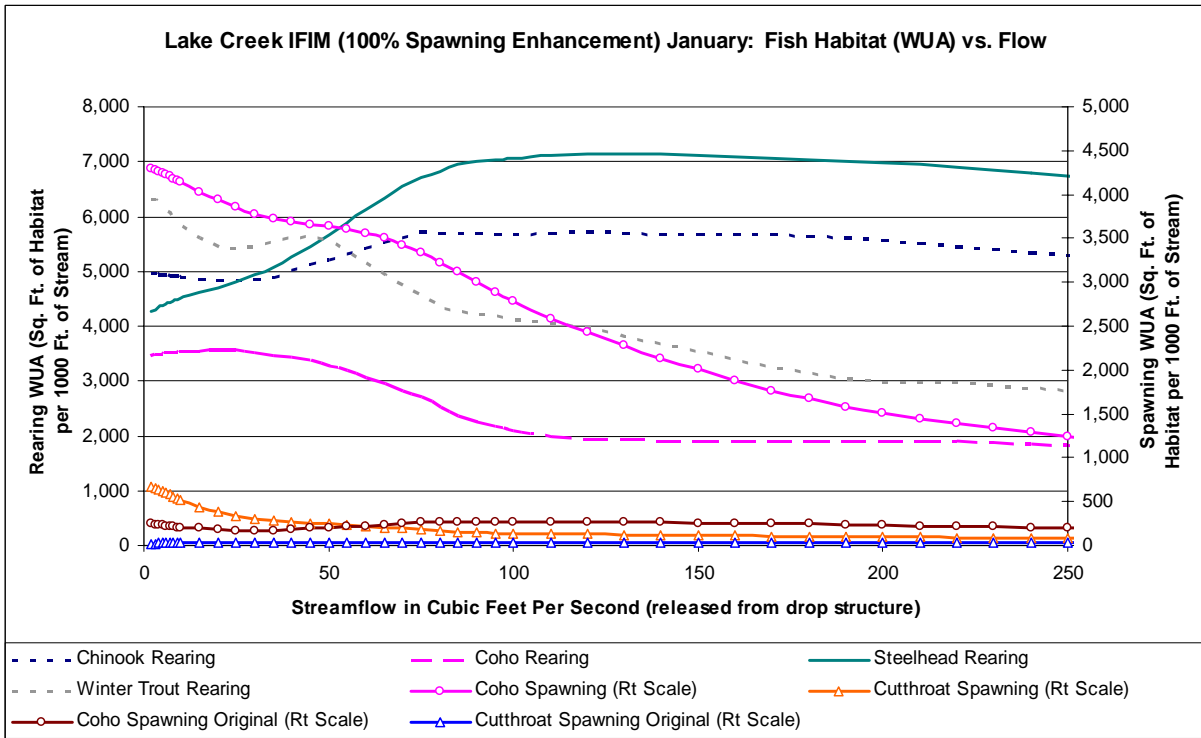
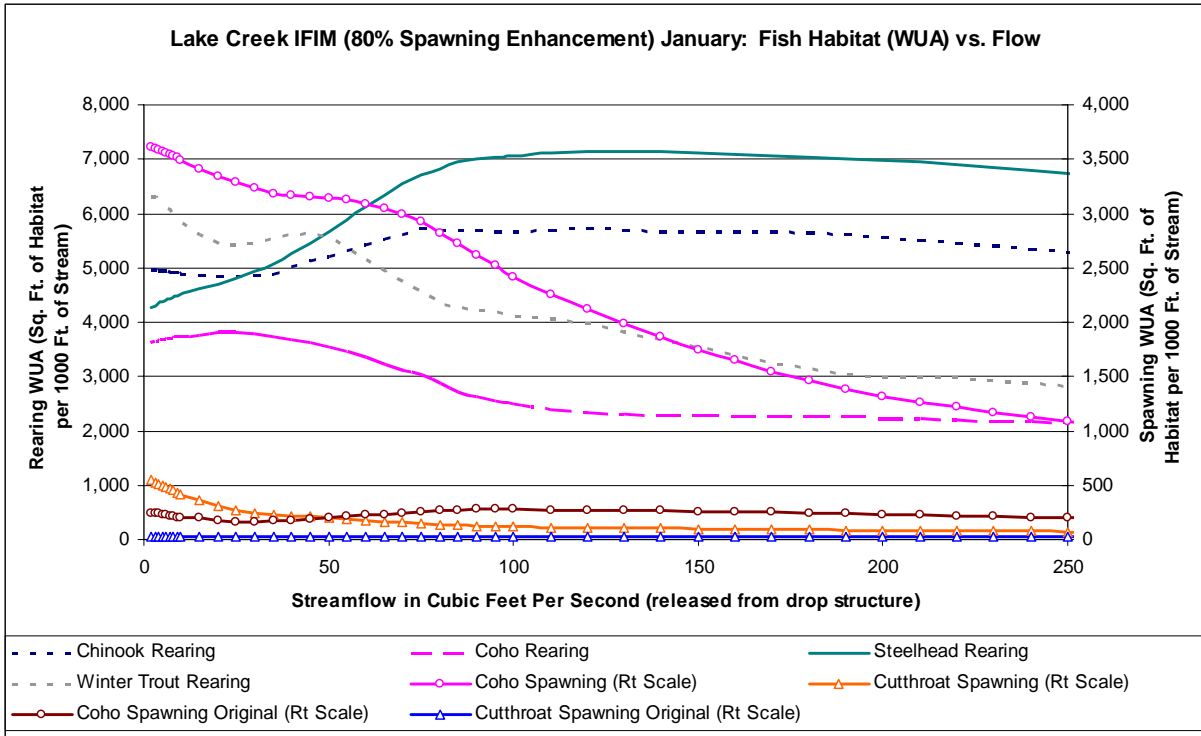
Study Site 2, Transect 11, Before and After Enhancement



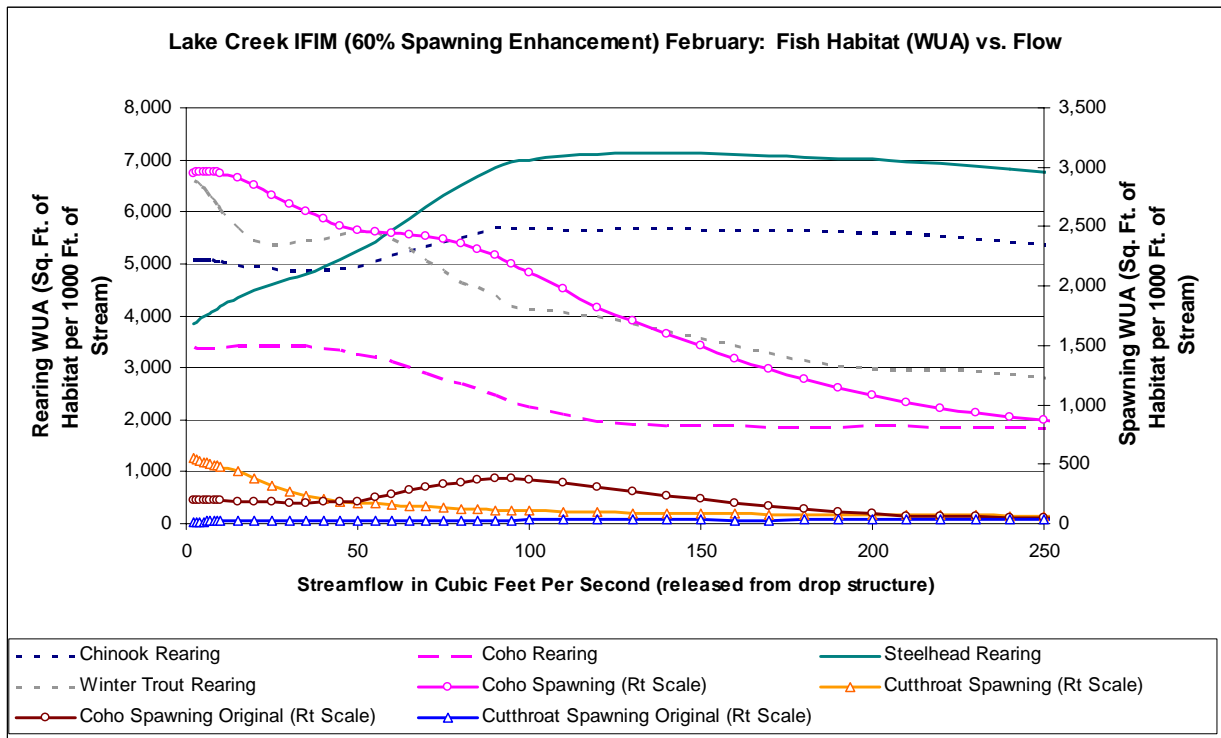
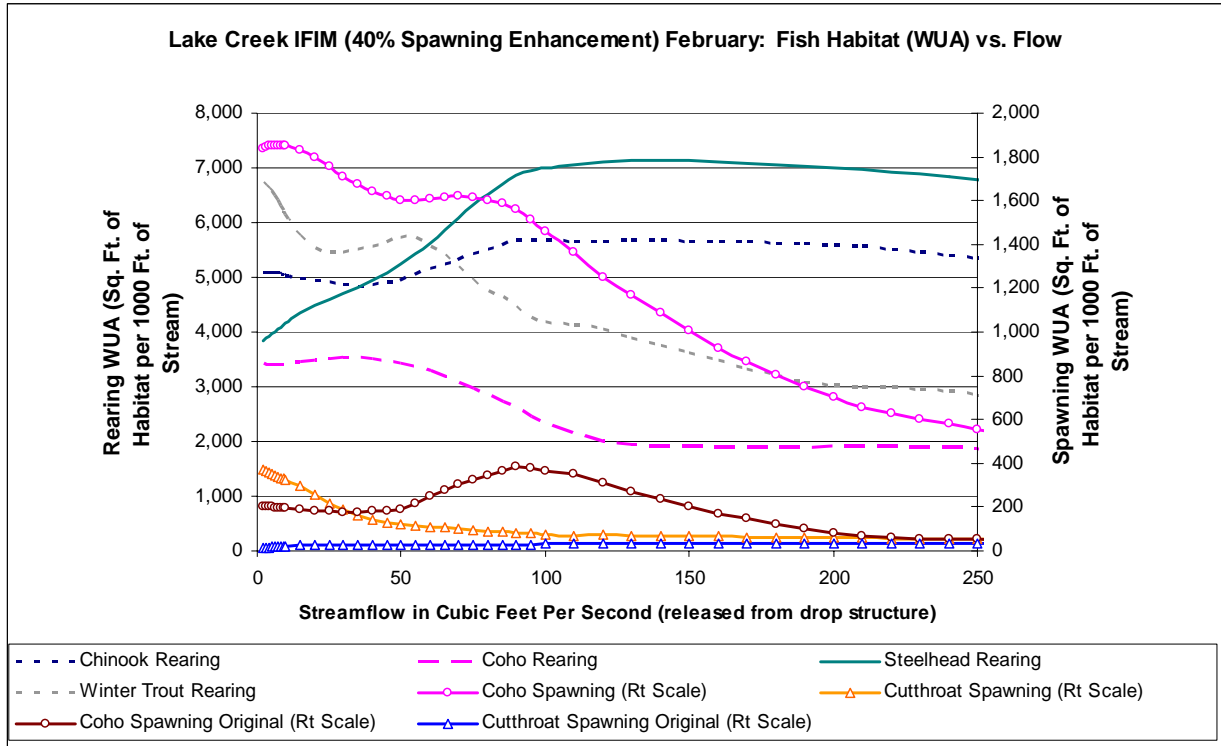
January WUA



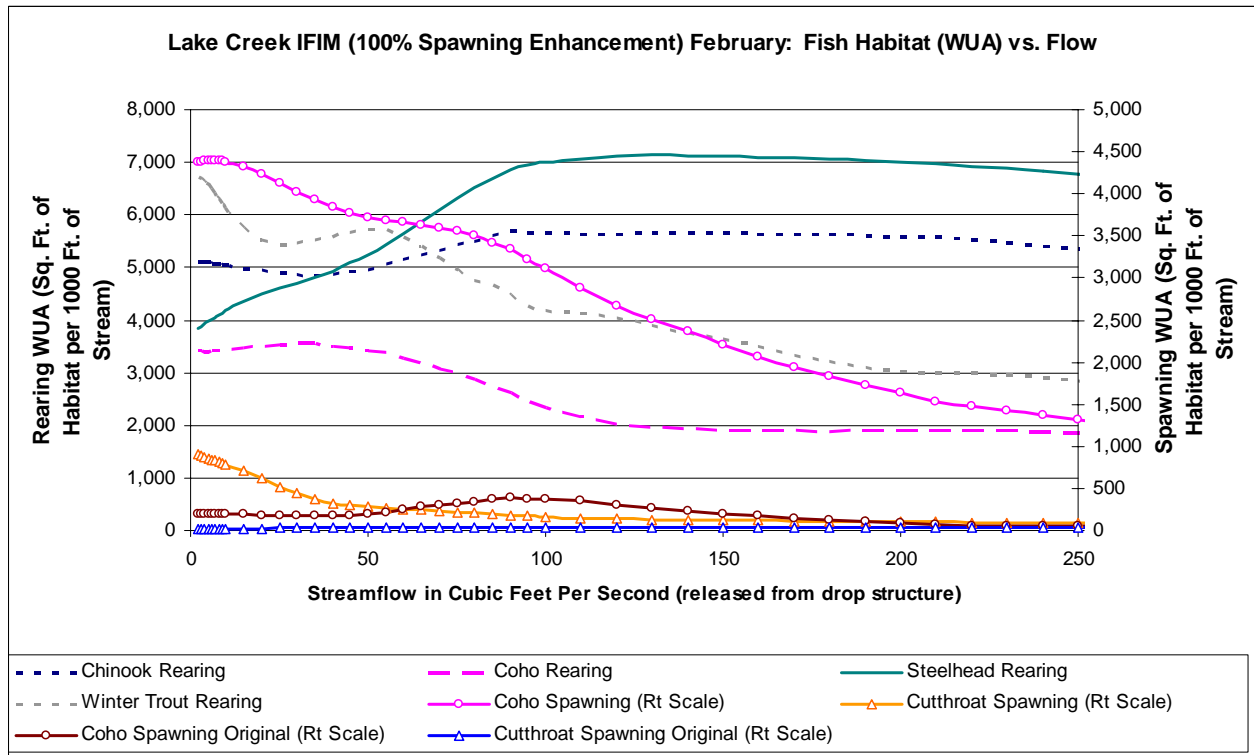
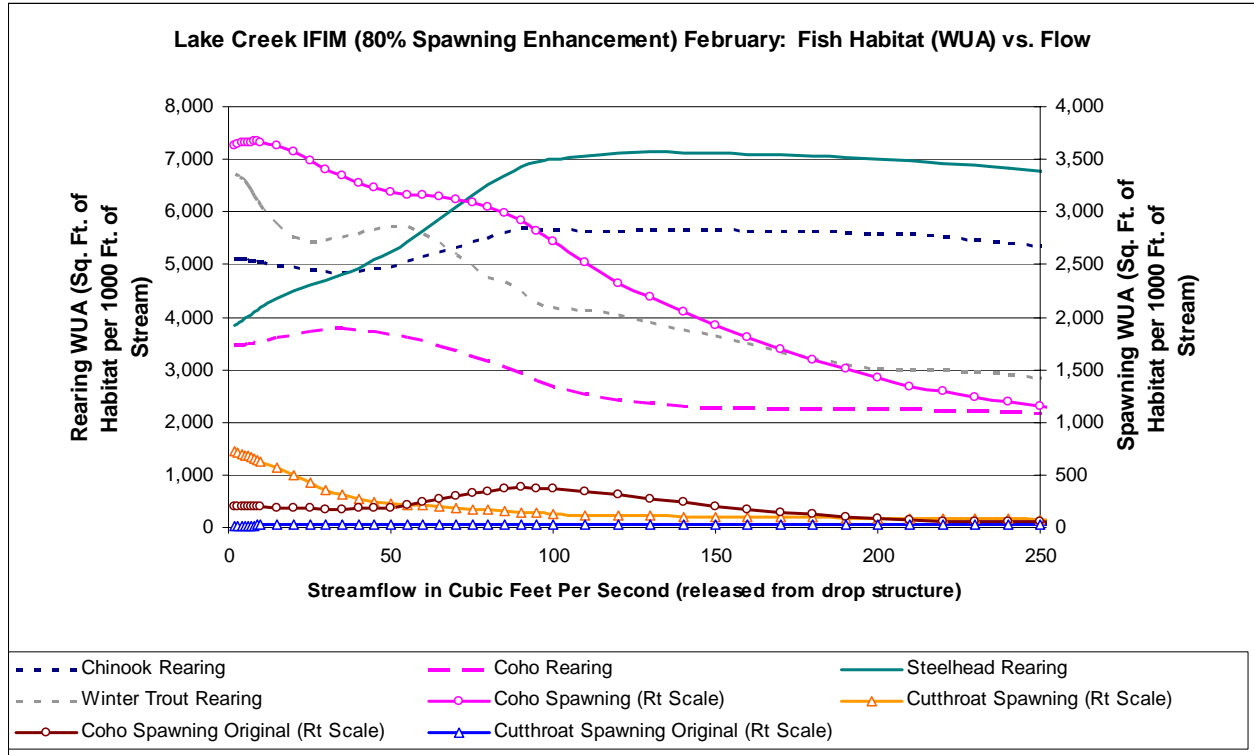
January WUA



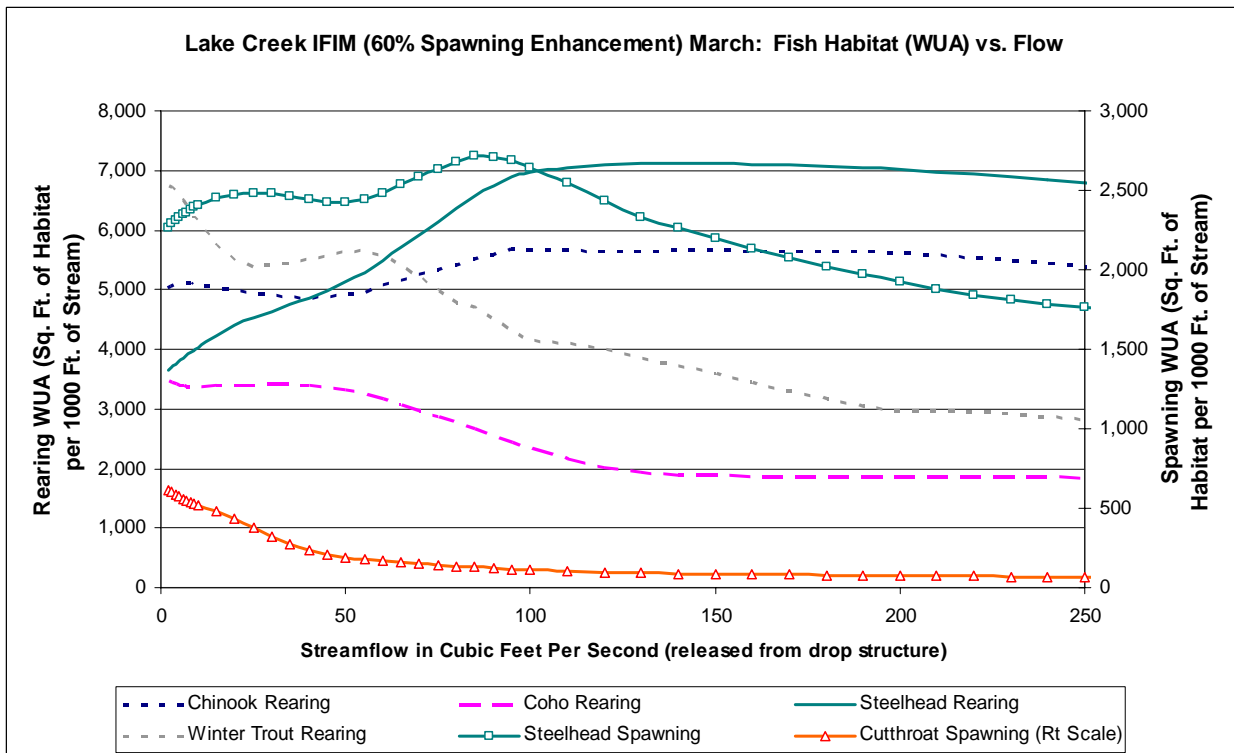
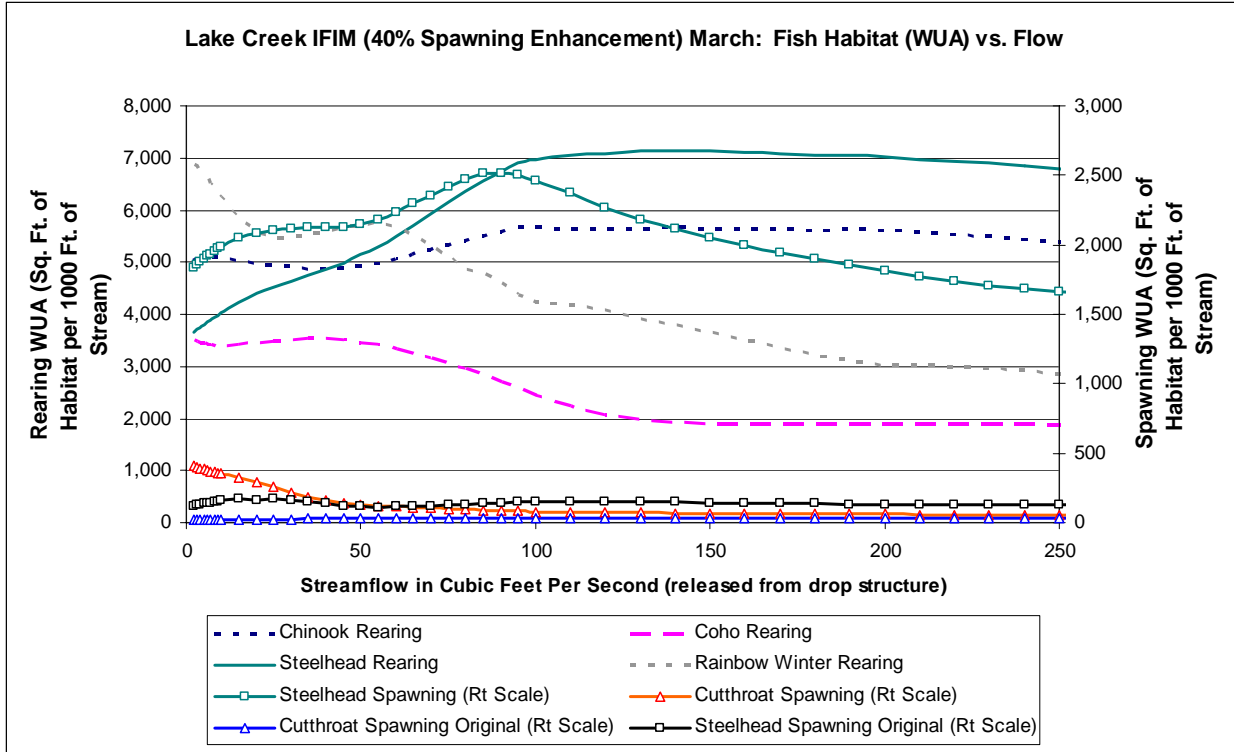
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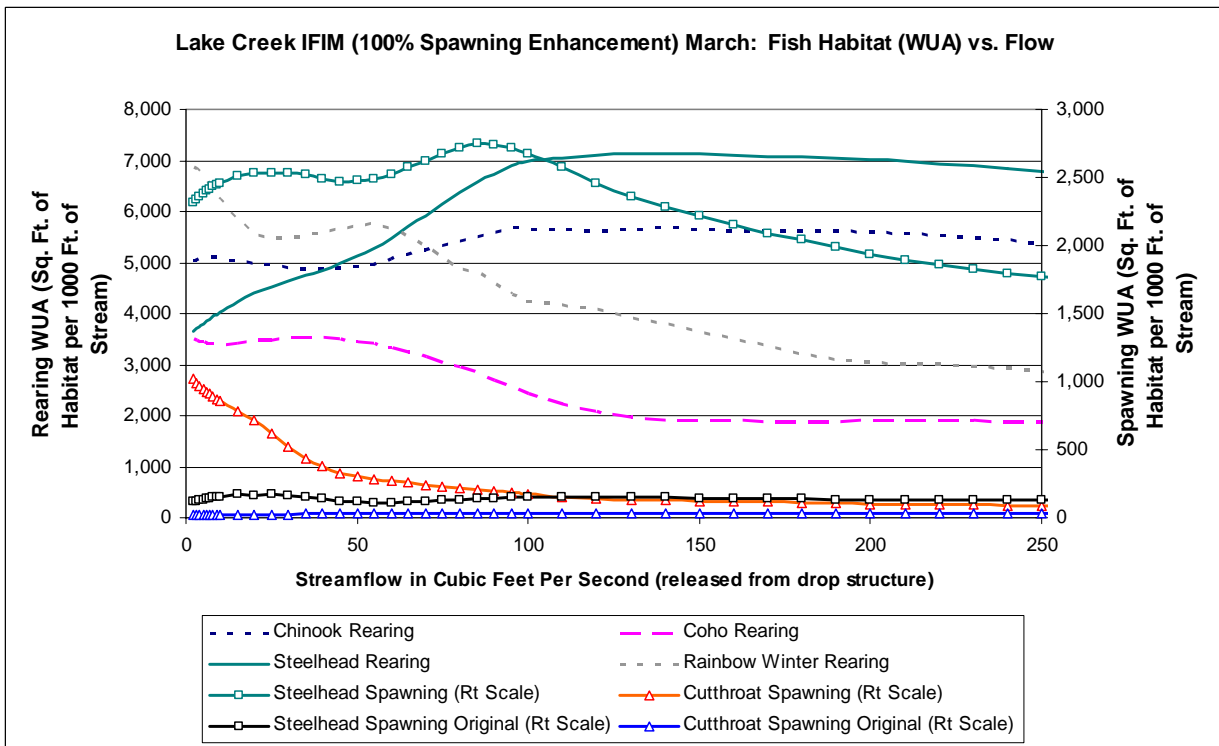
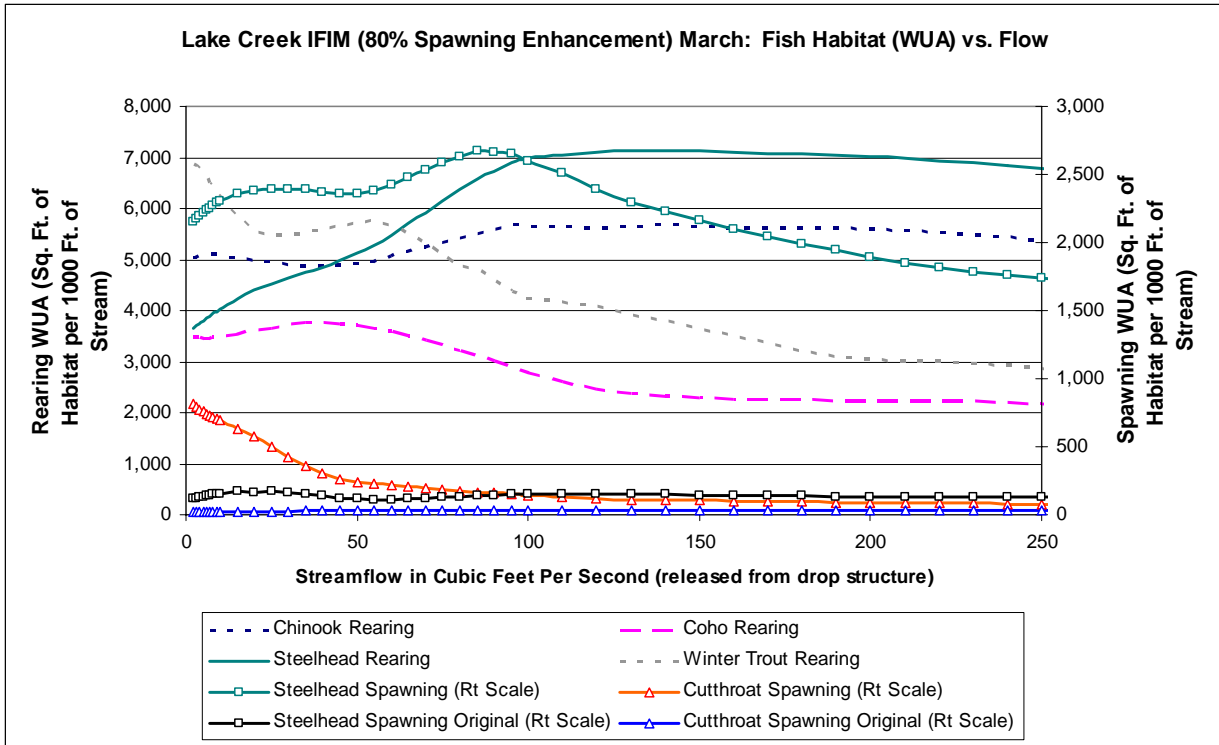
February WUA



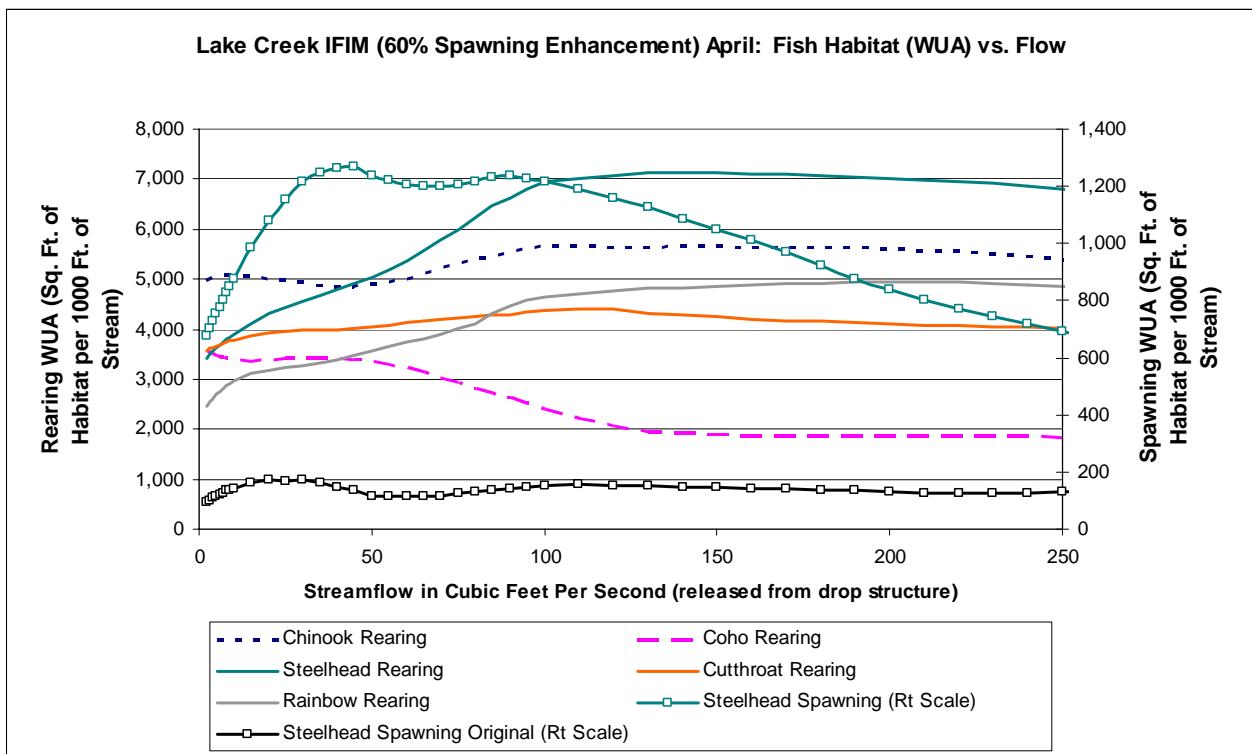
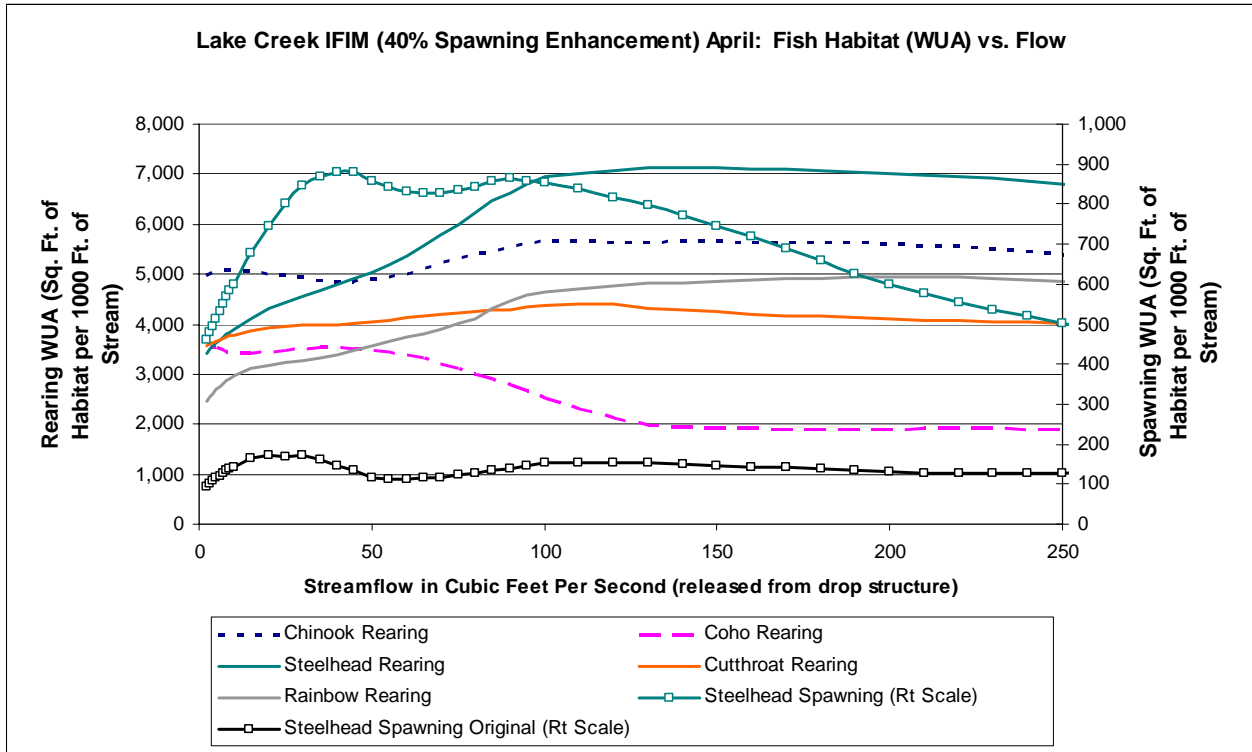
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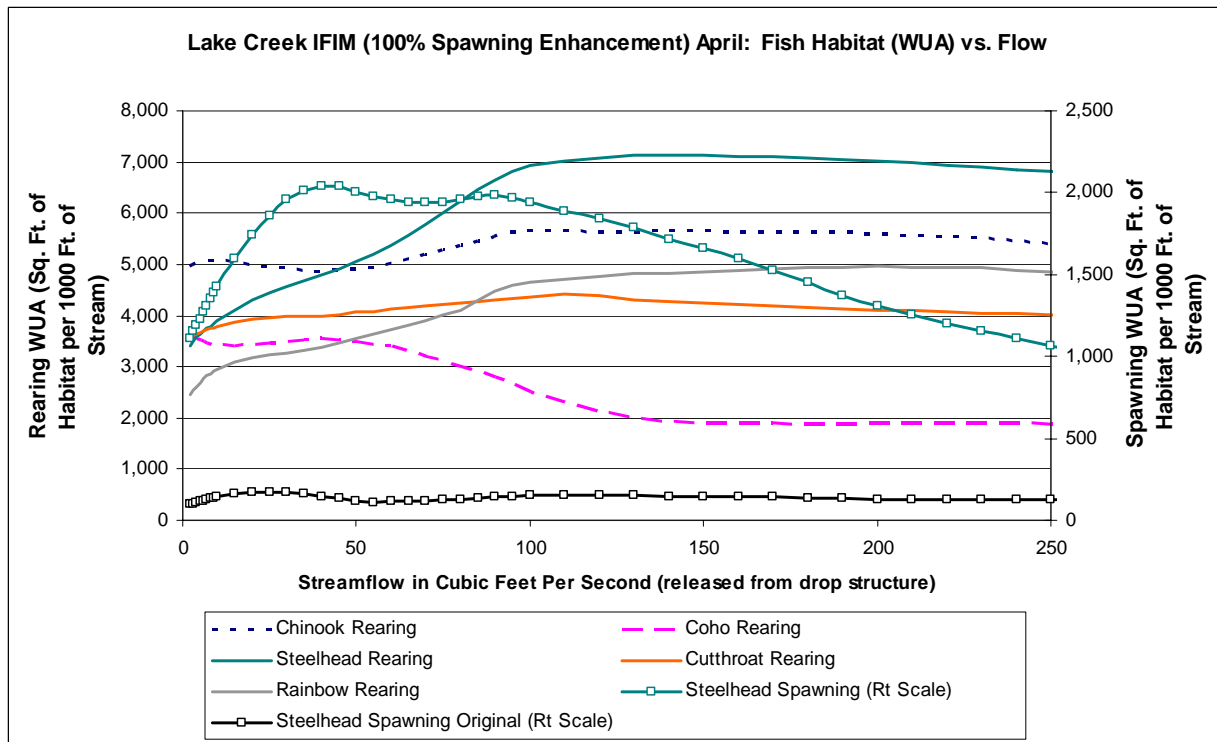
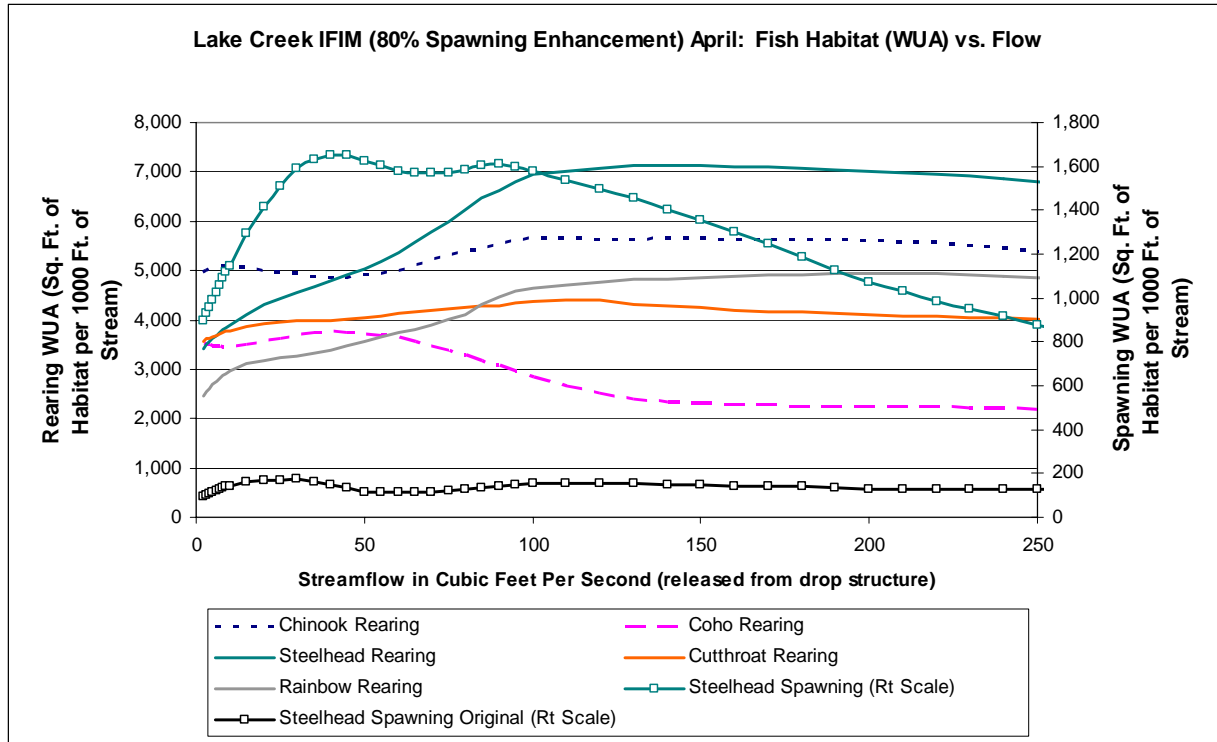
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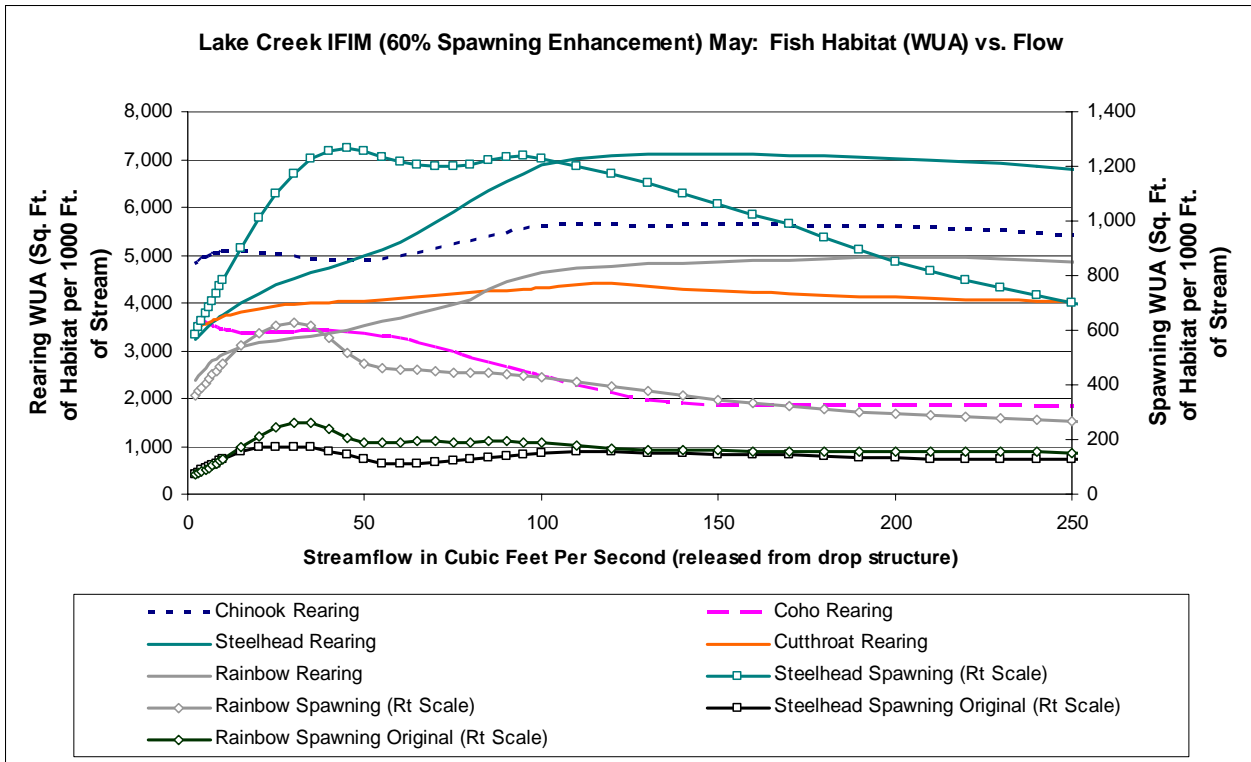
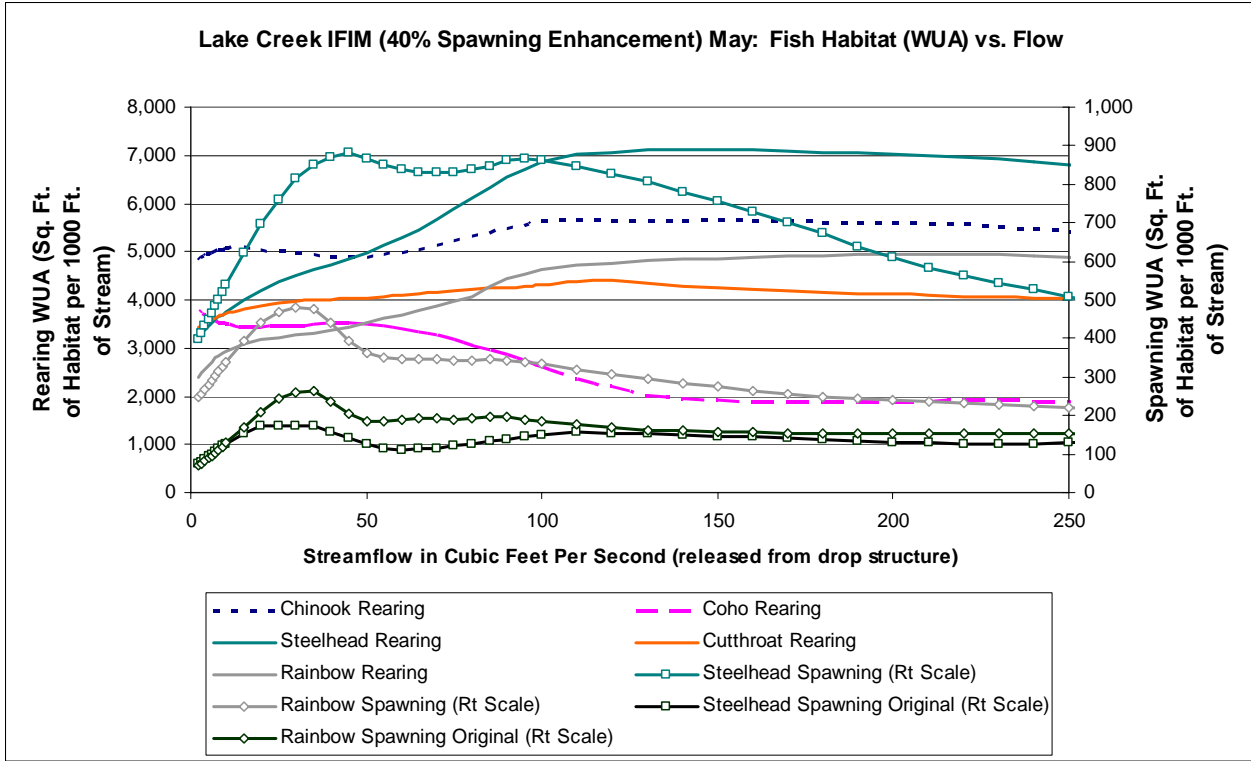
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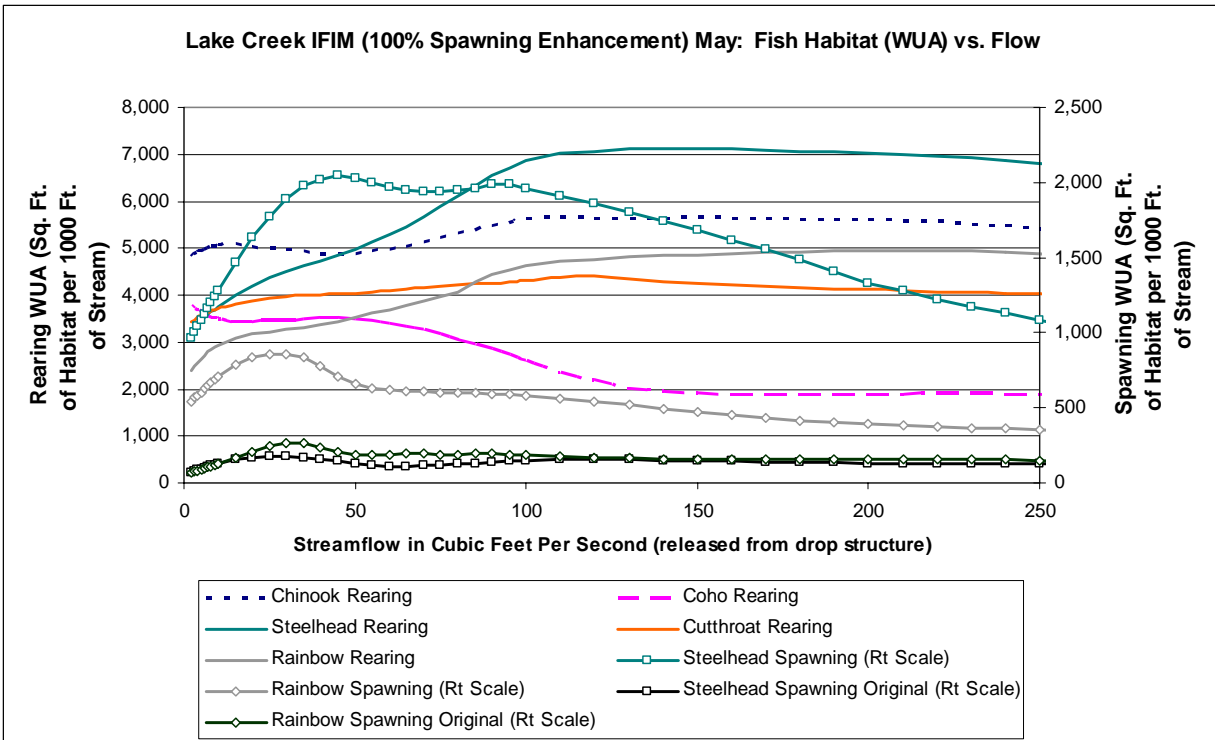
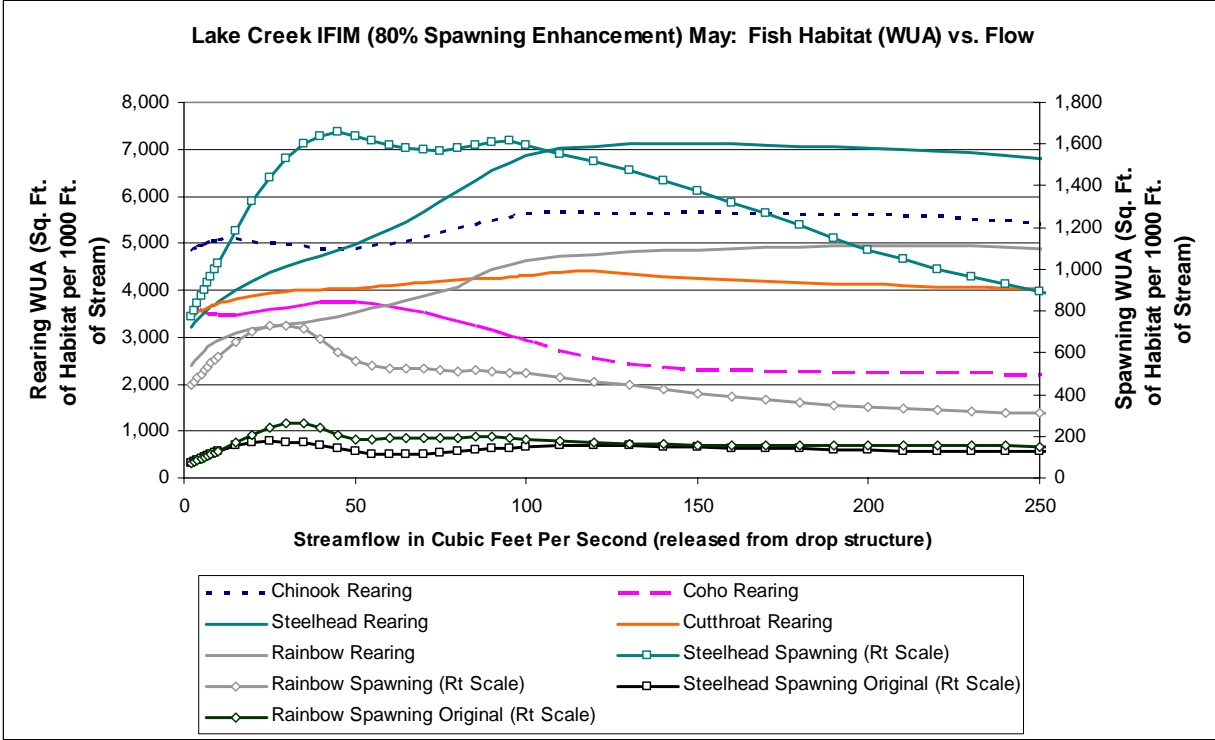
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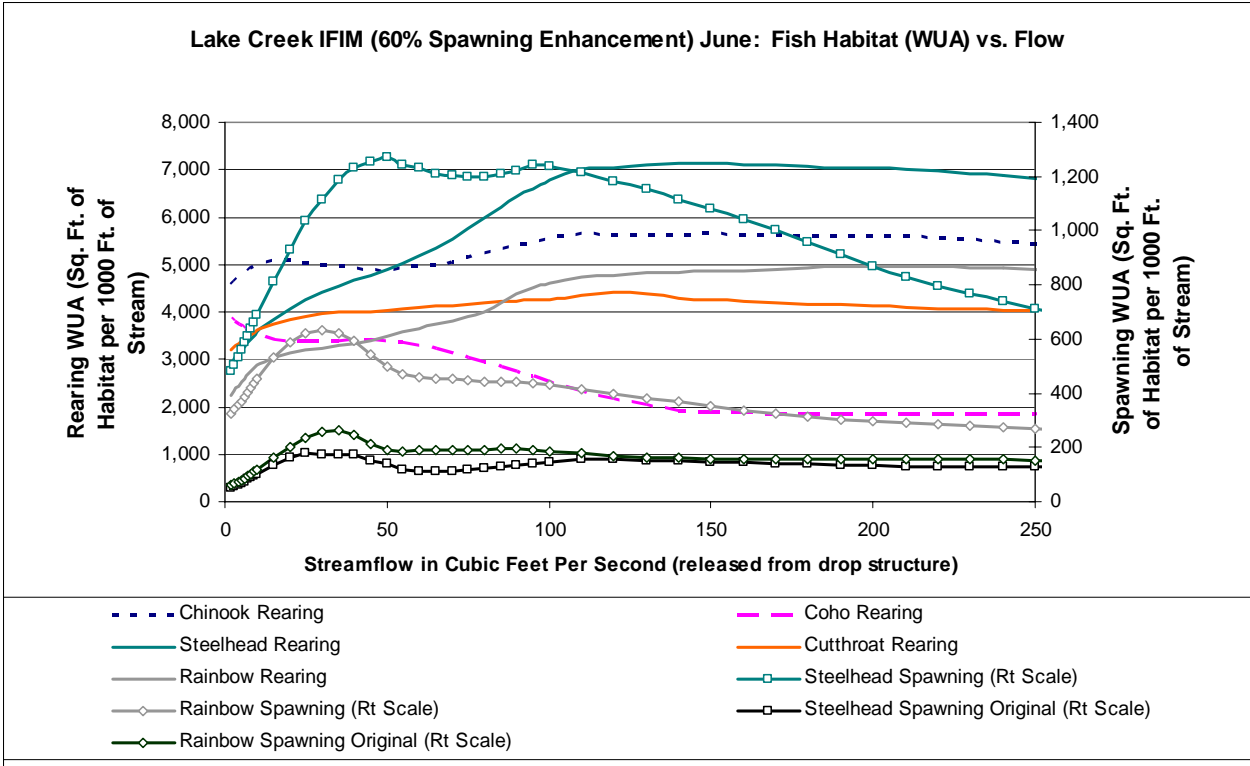
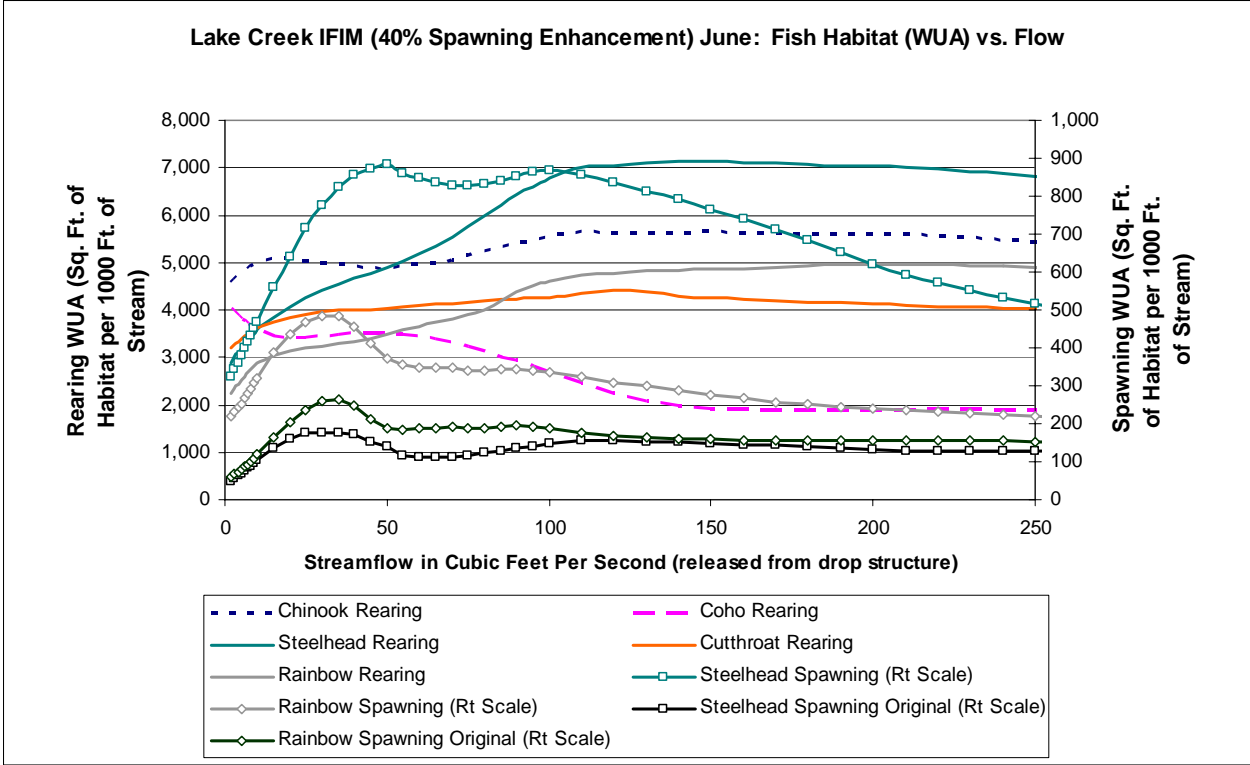
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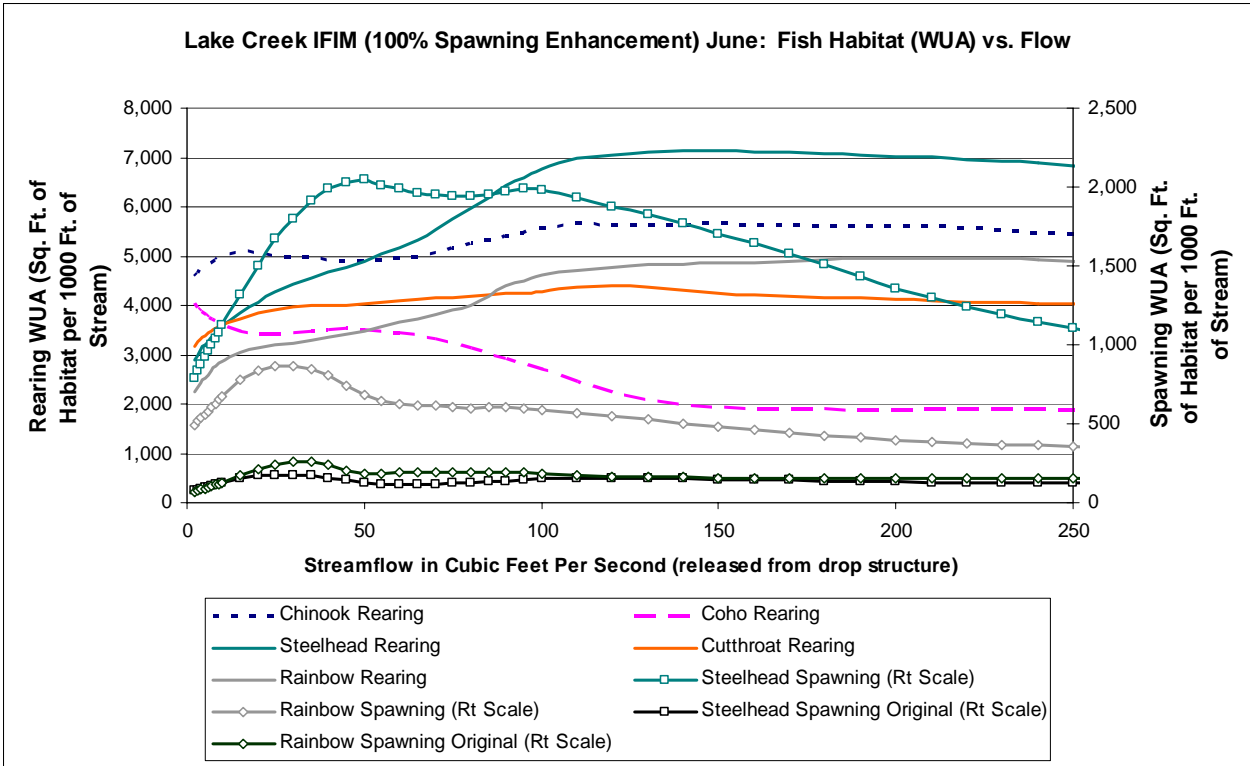
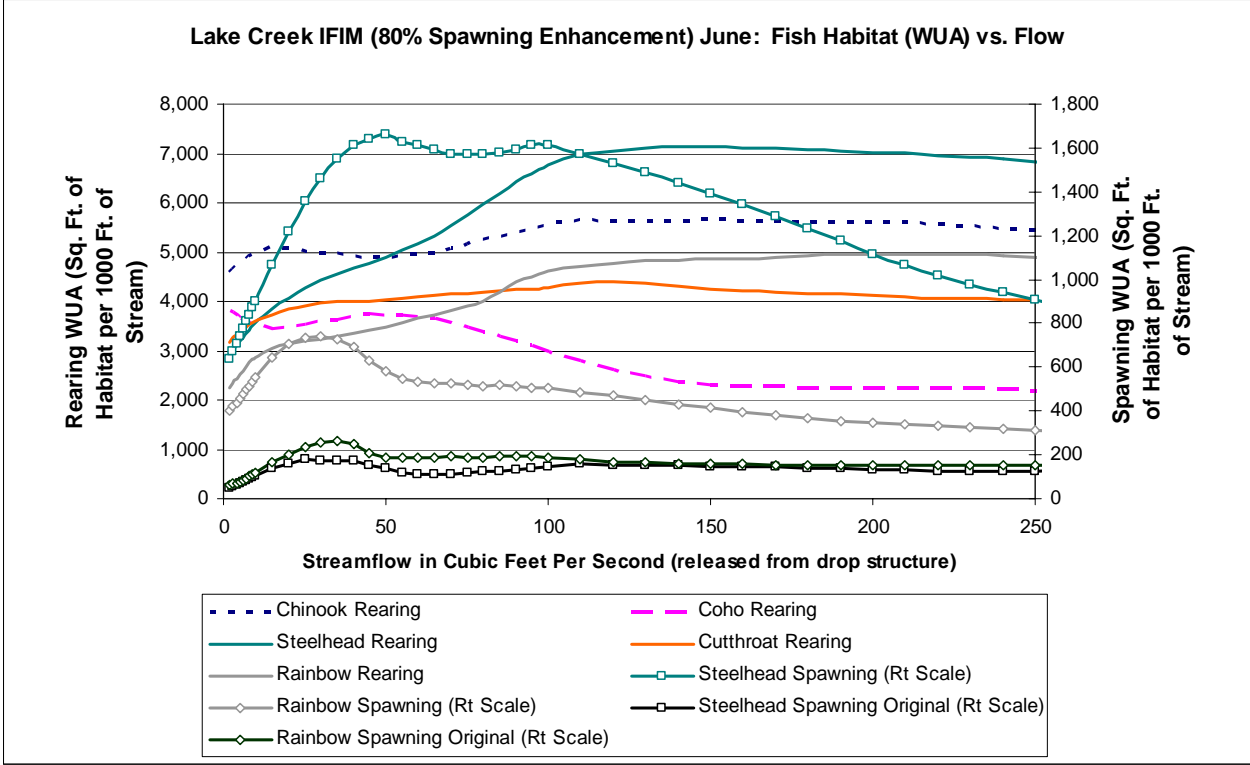
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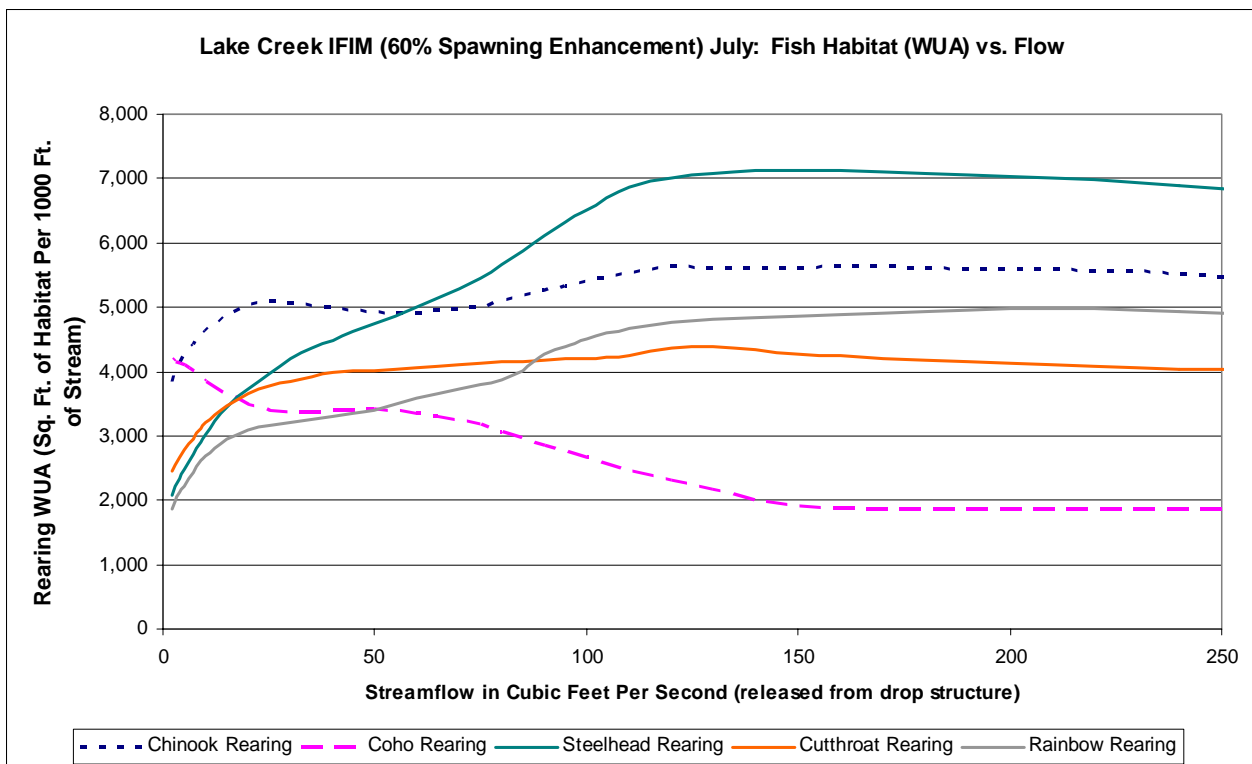
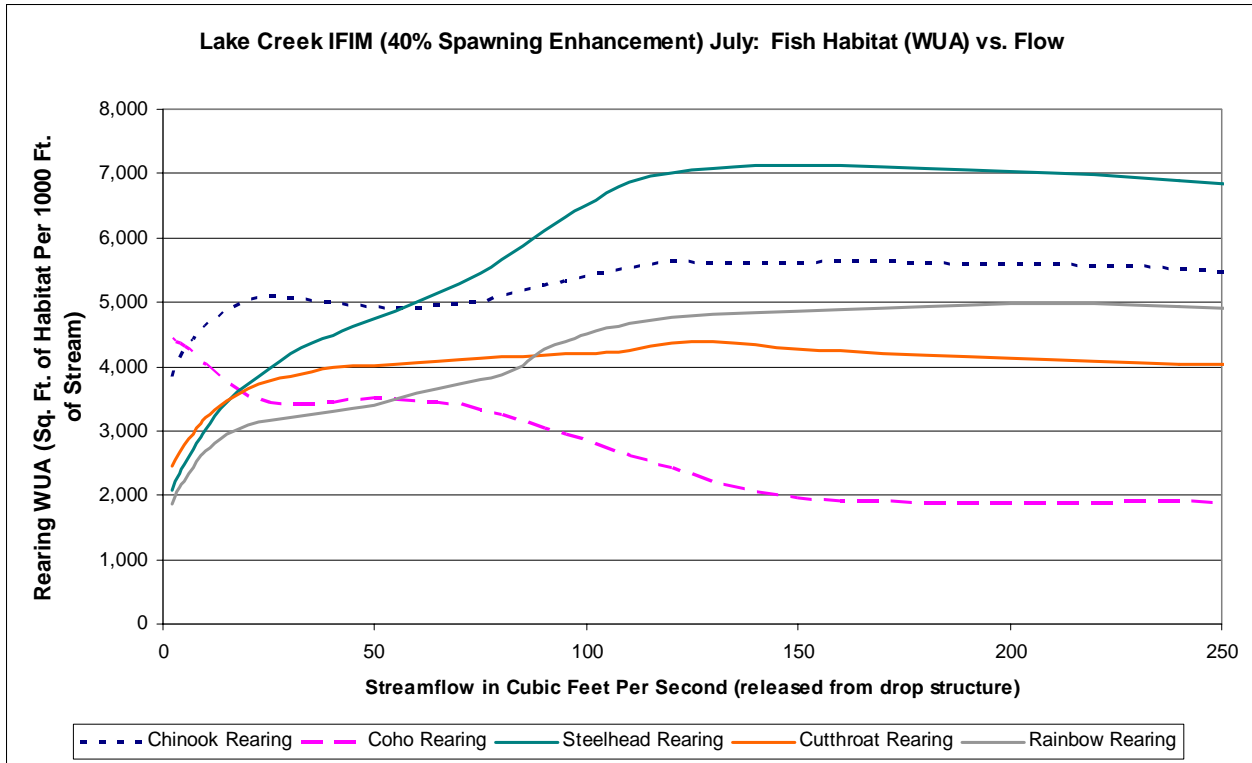
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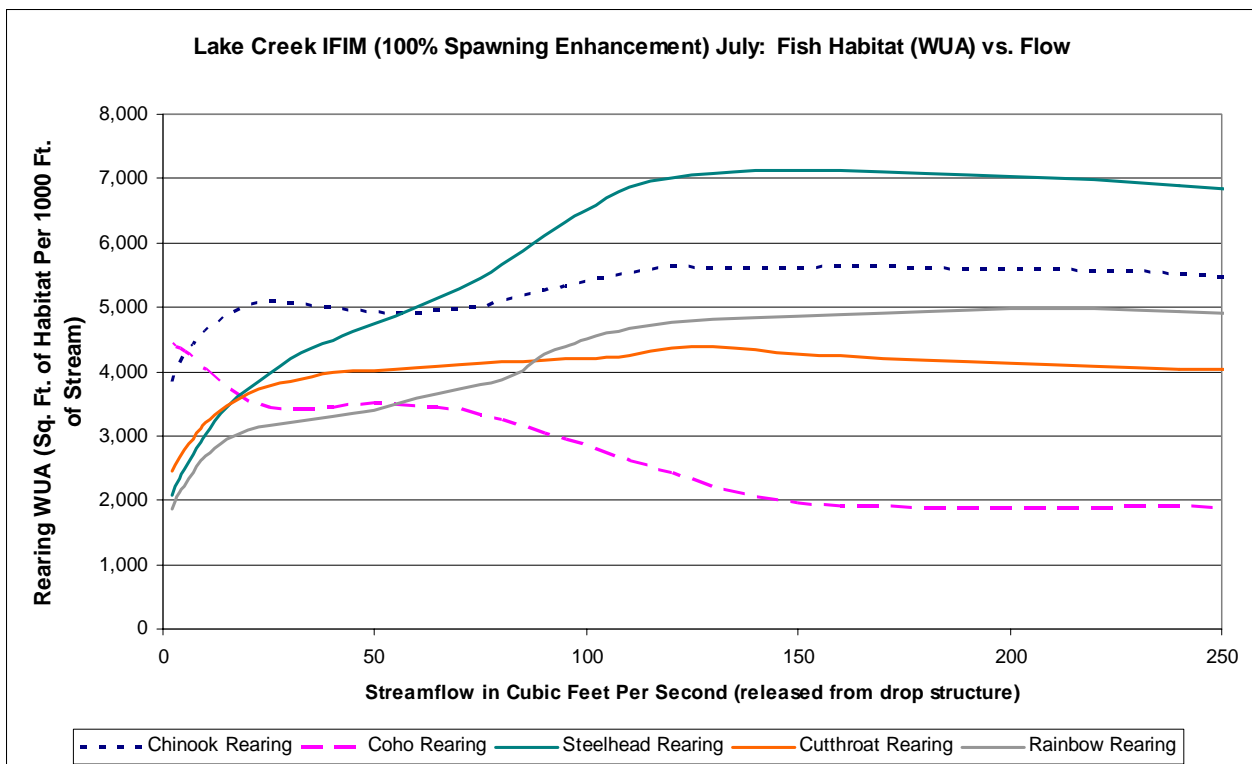
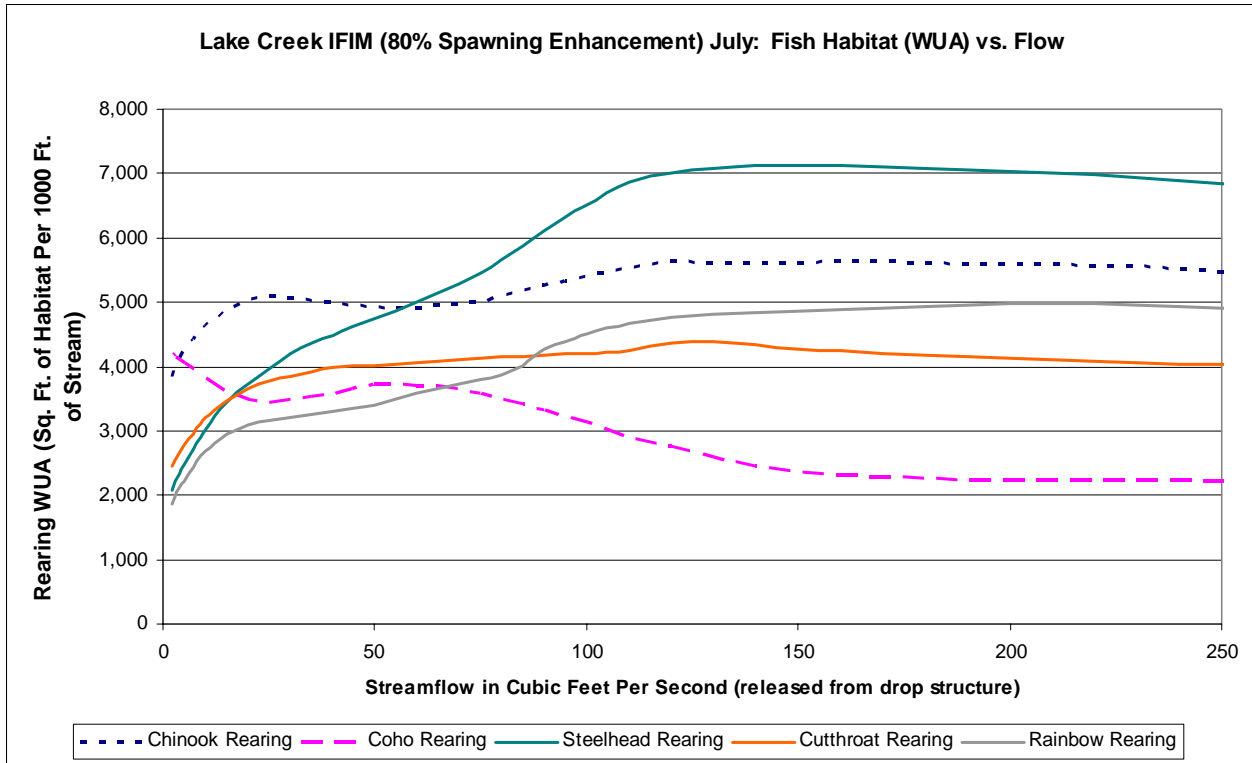
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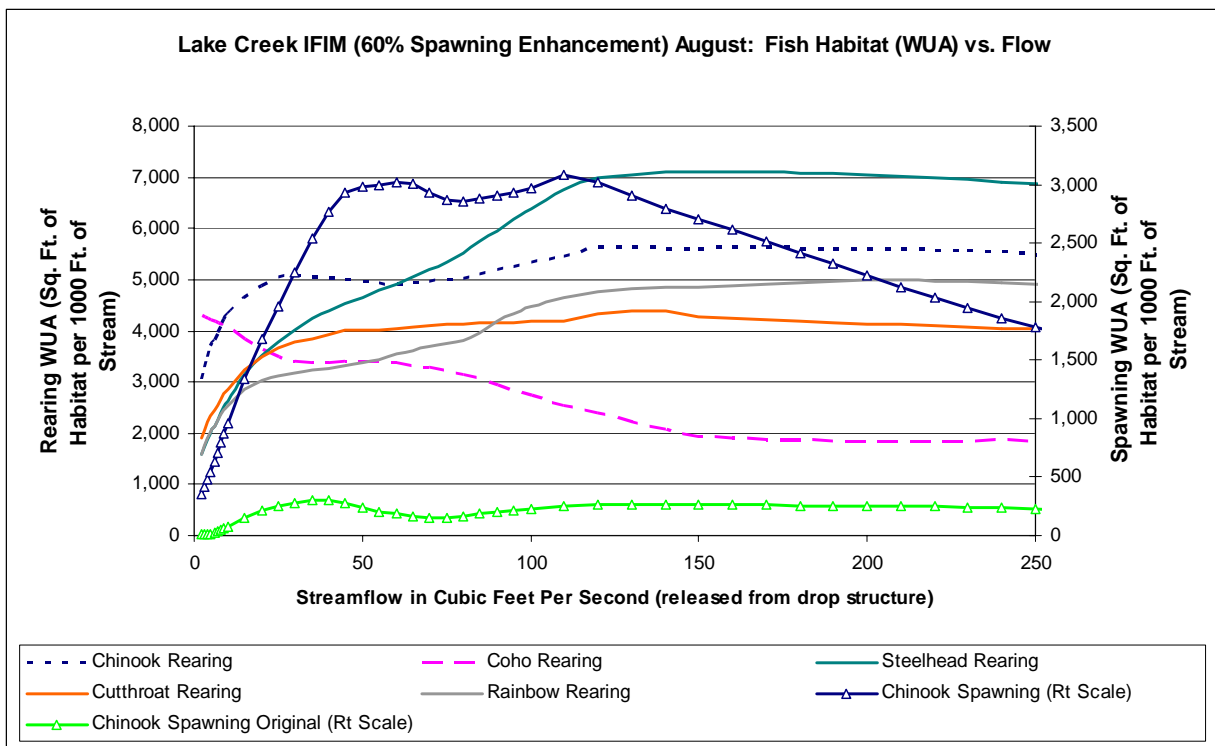
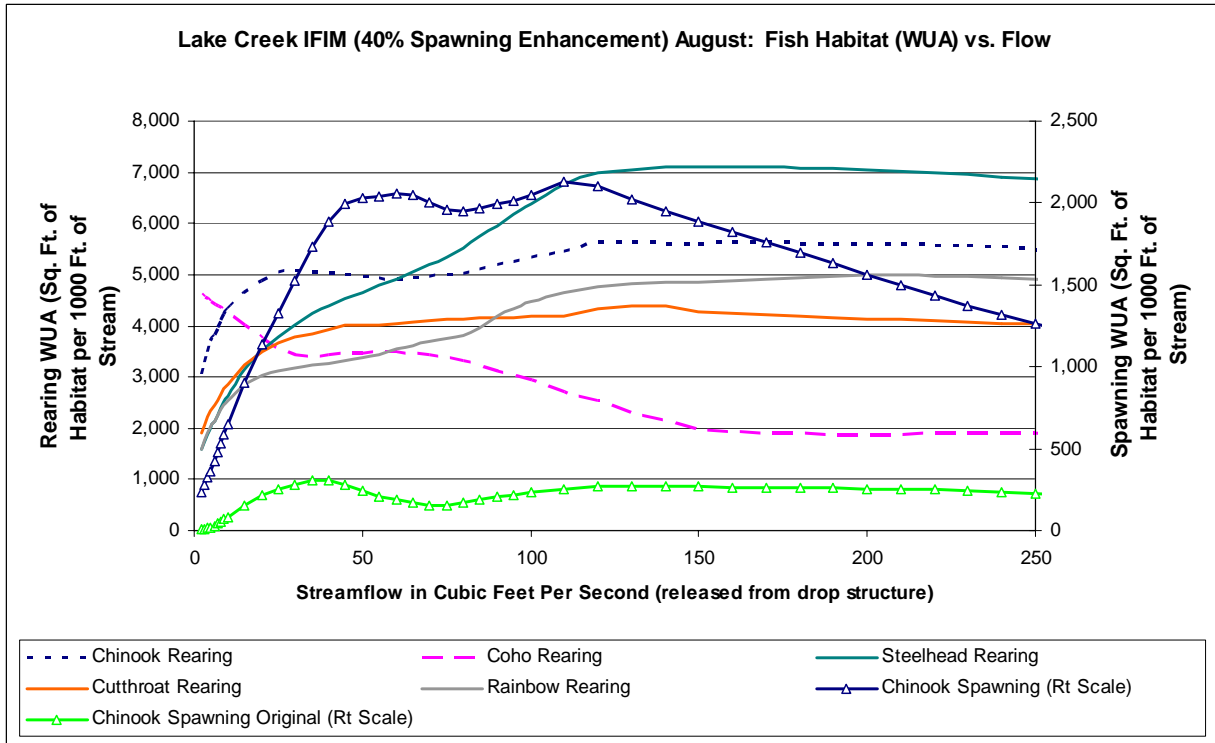
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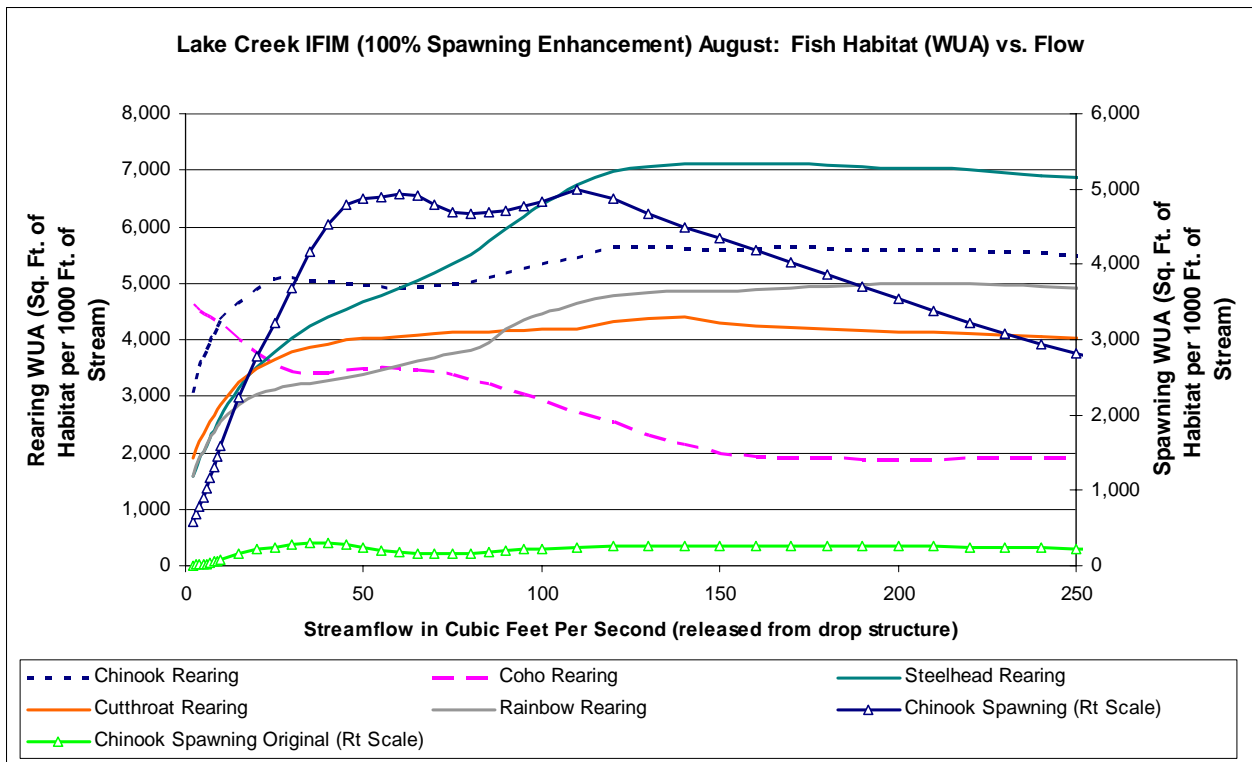
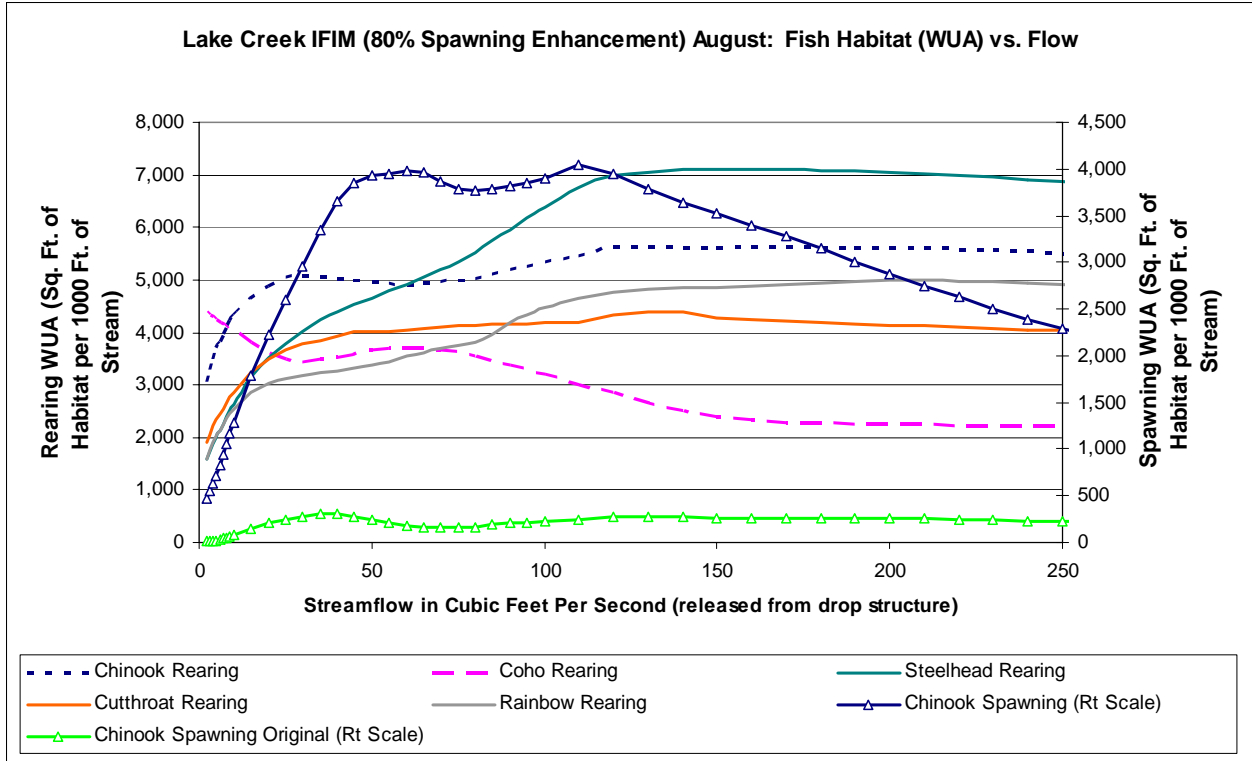
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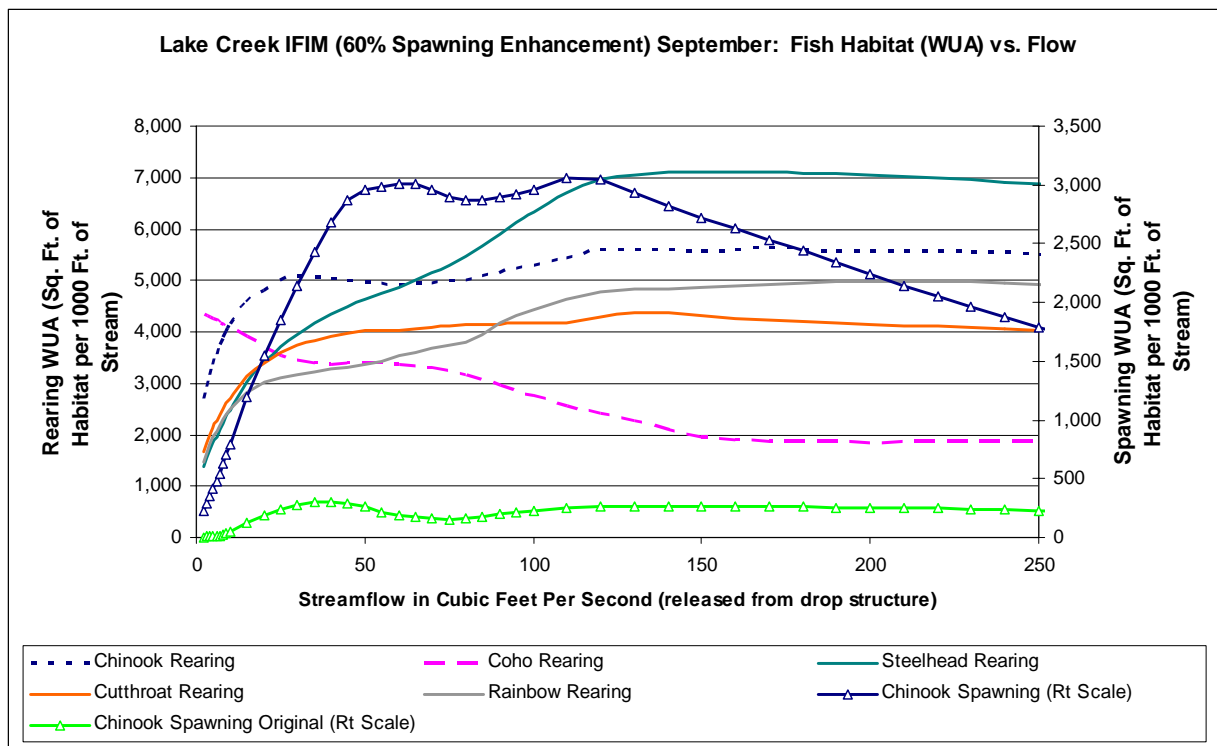
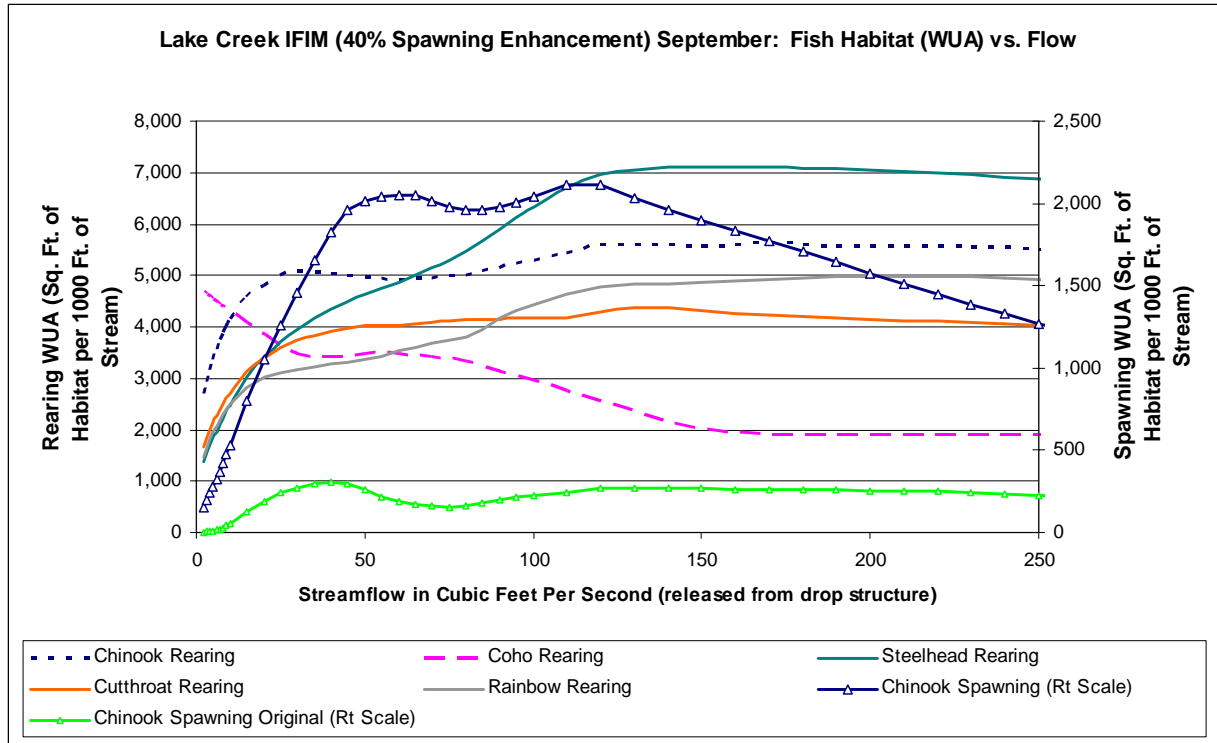
August WUA



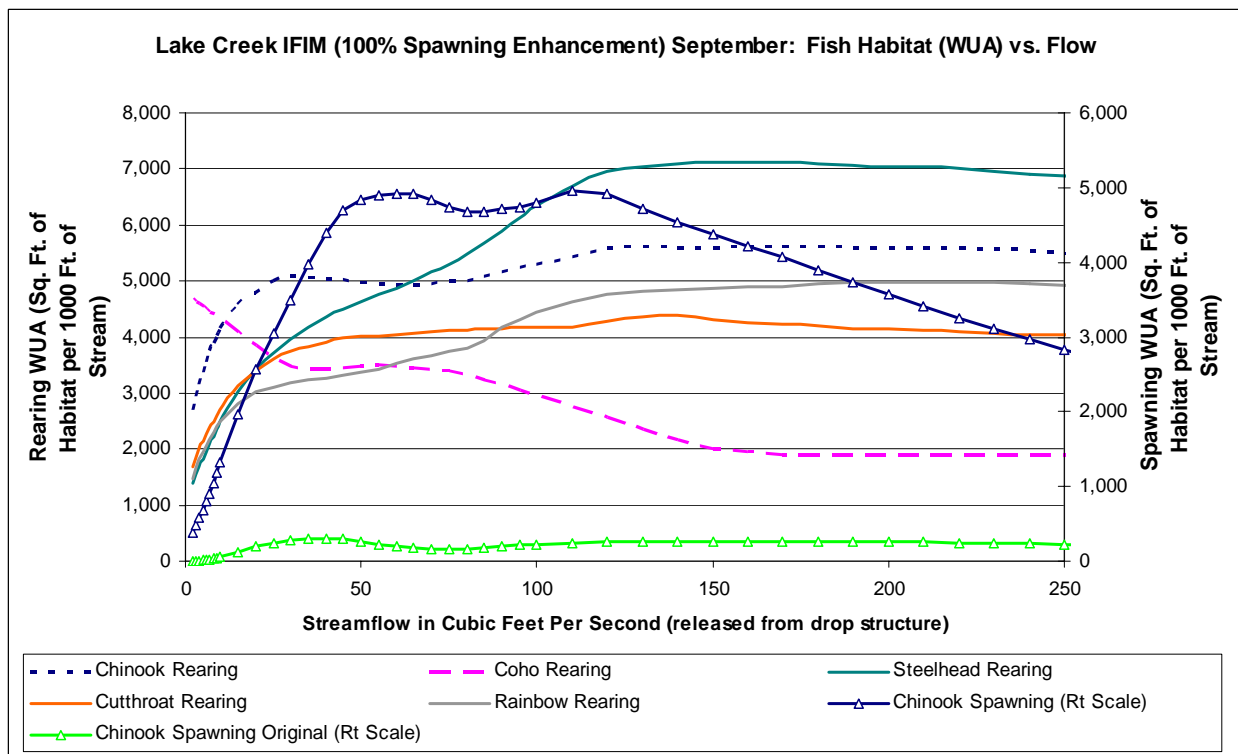
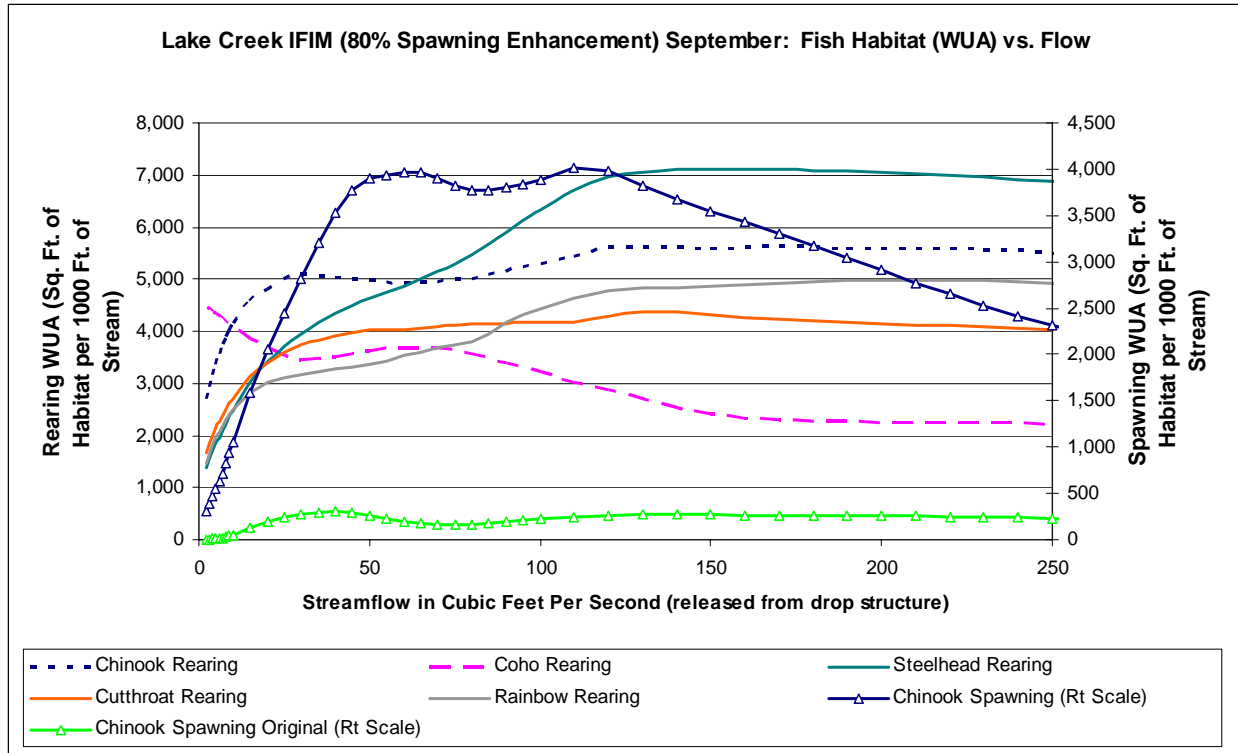
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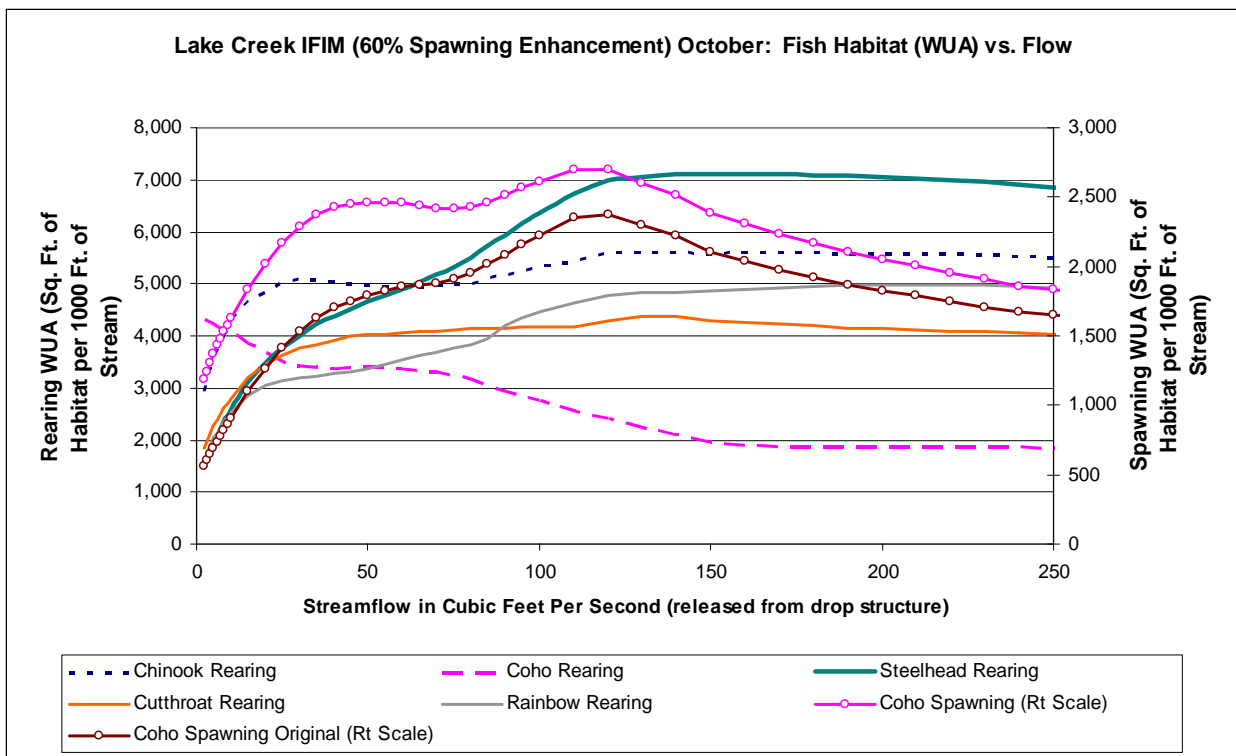
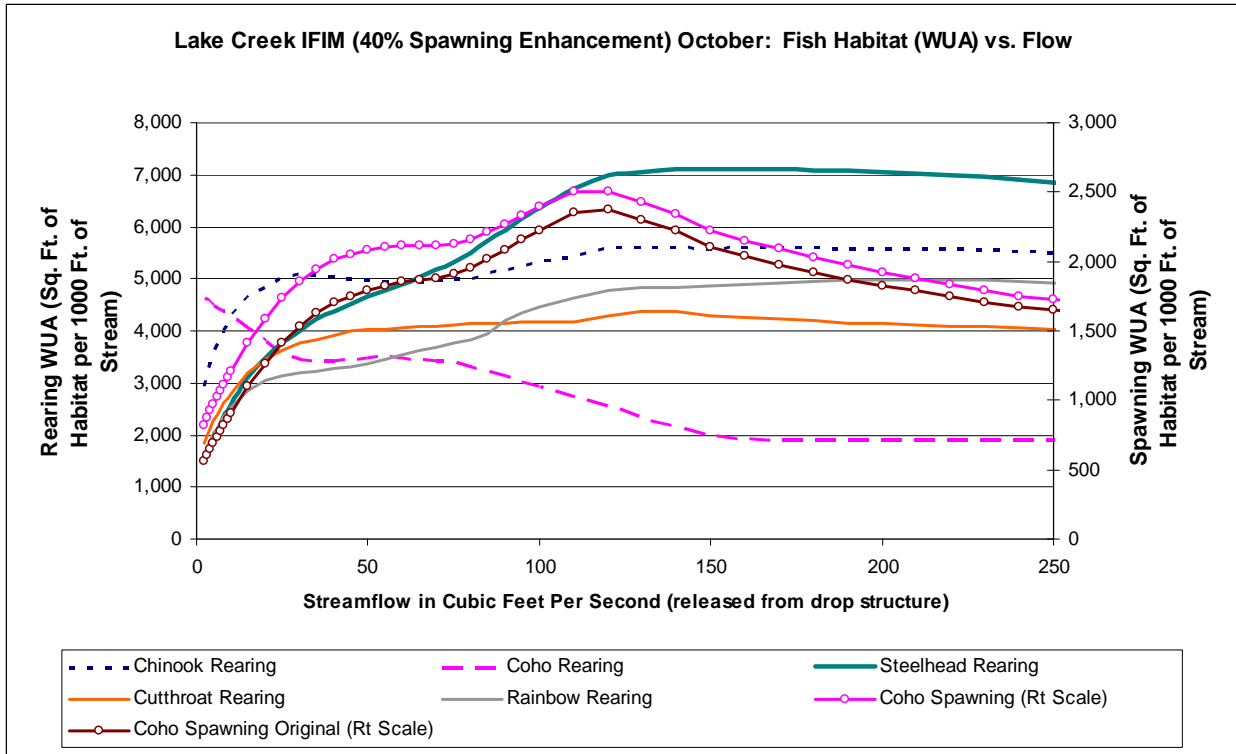
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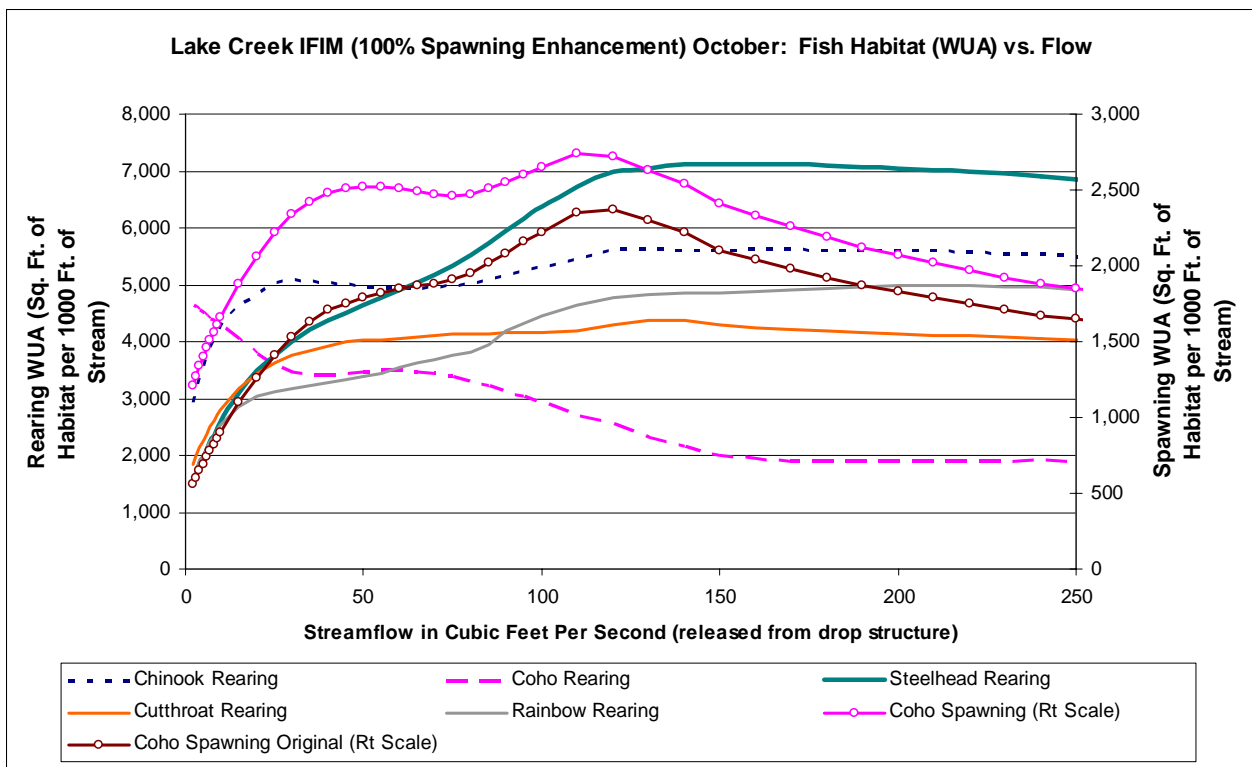
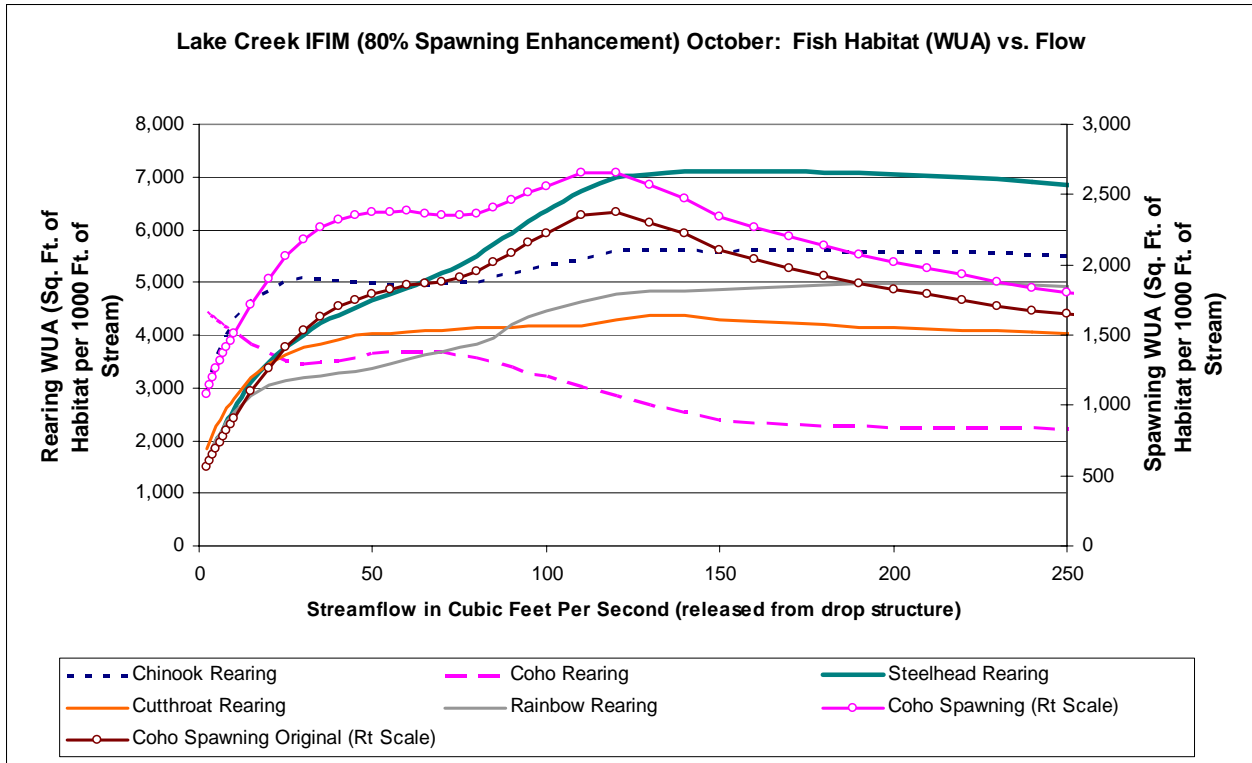
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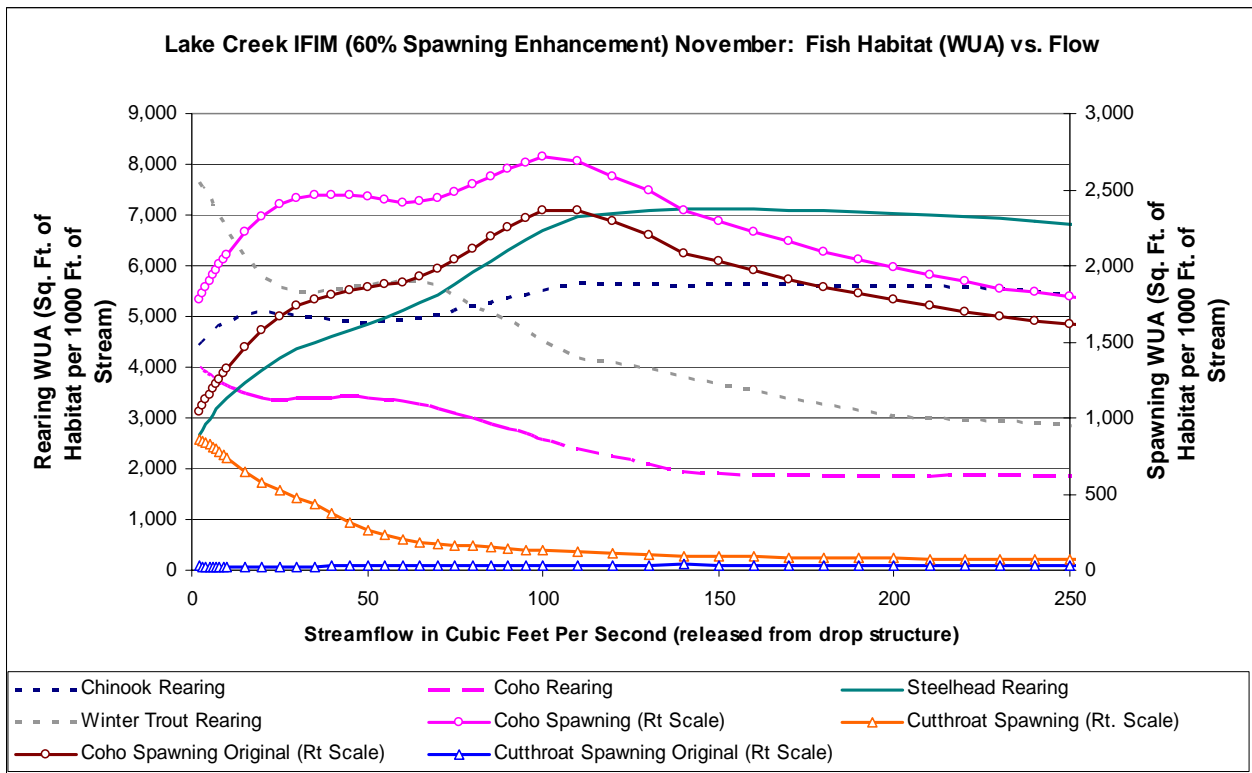
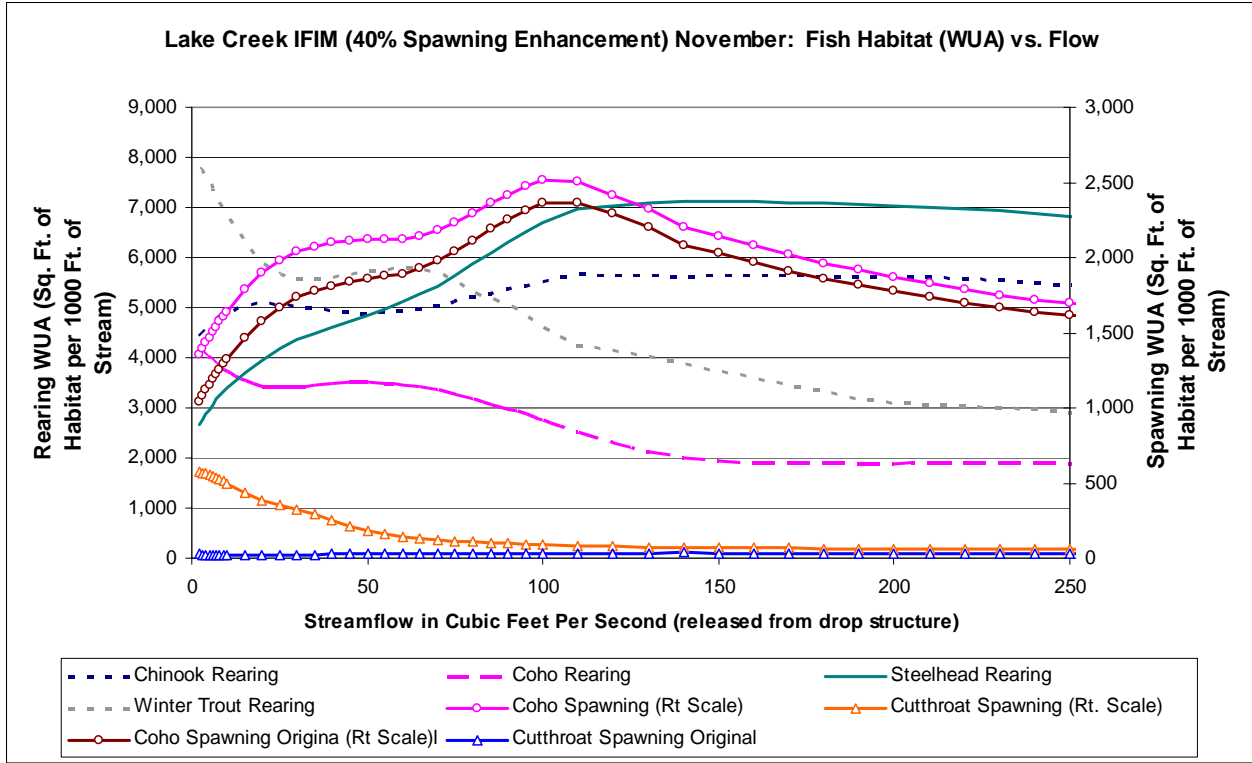
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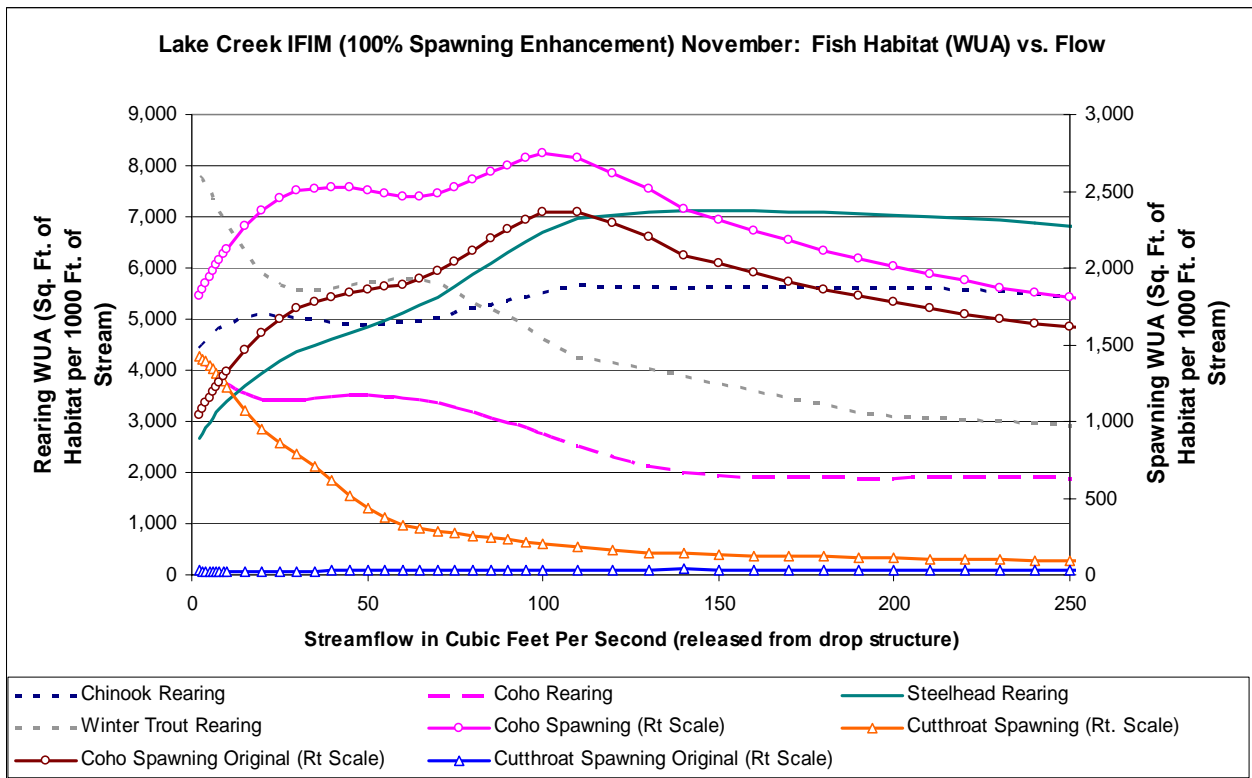
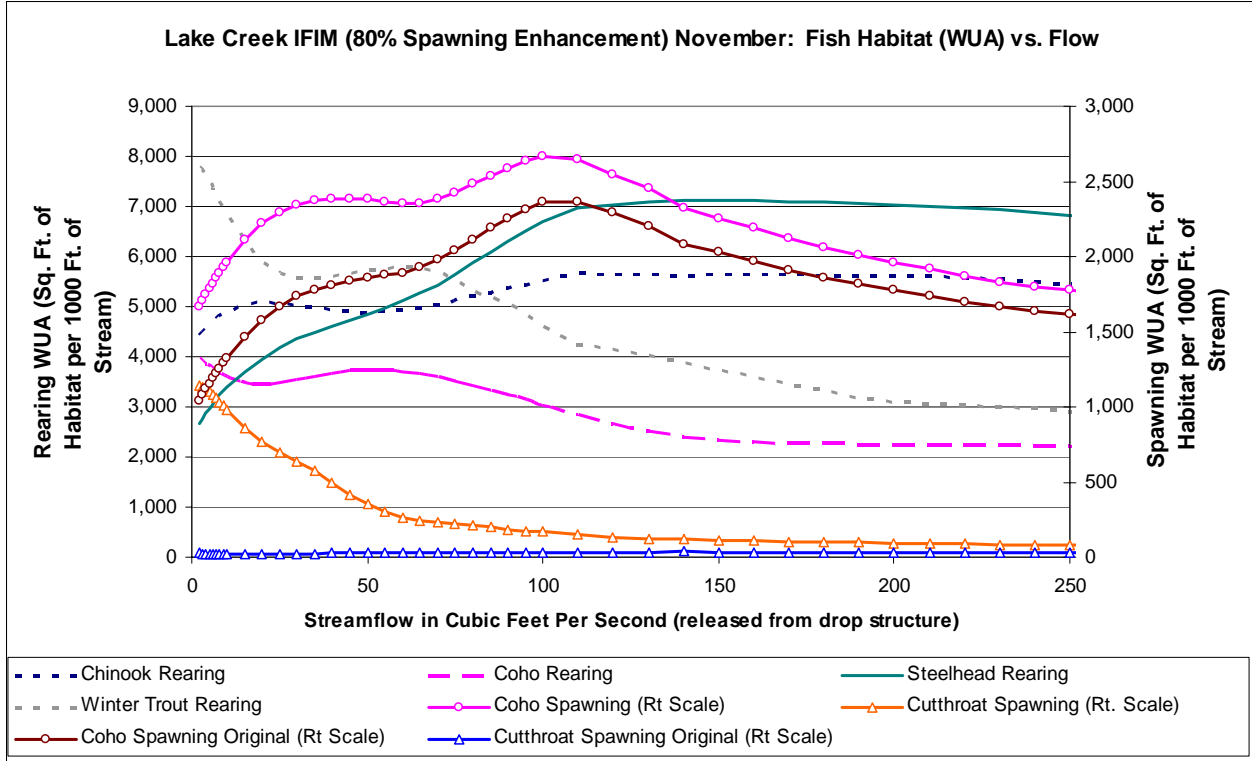
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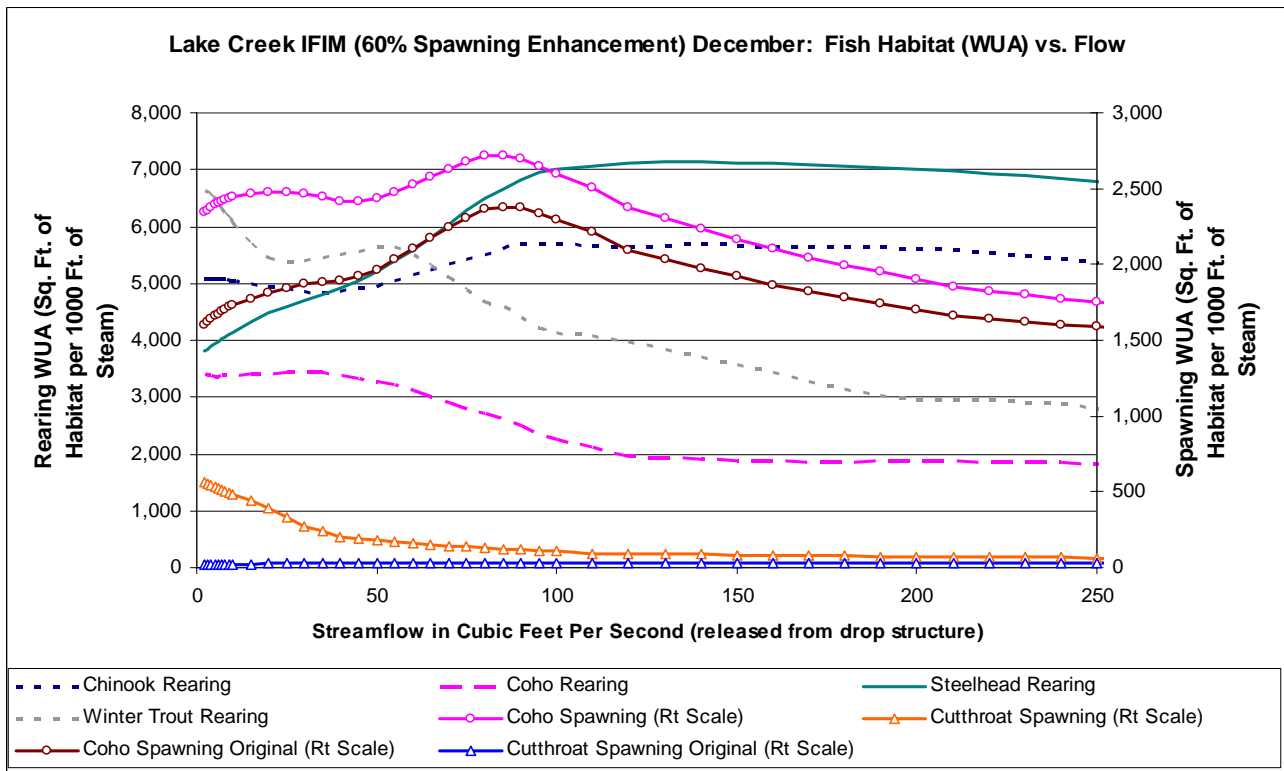
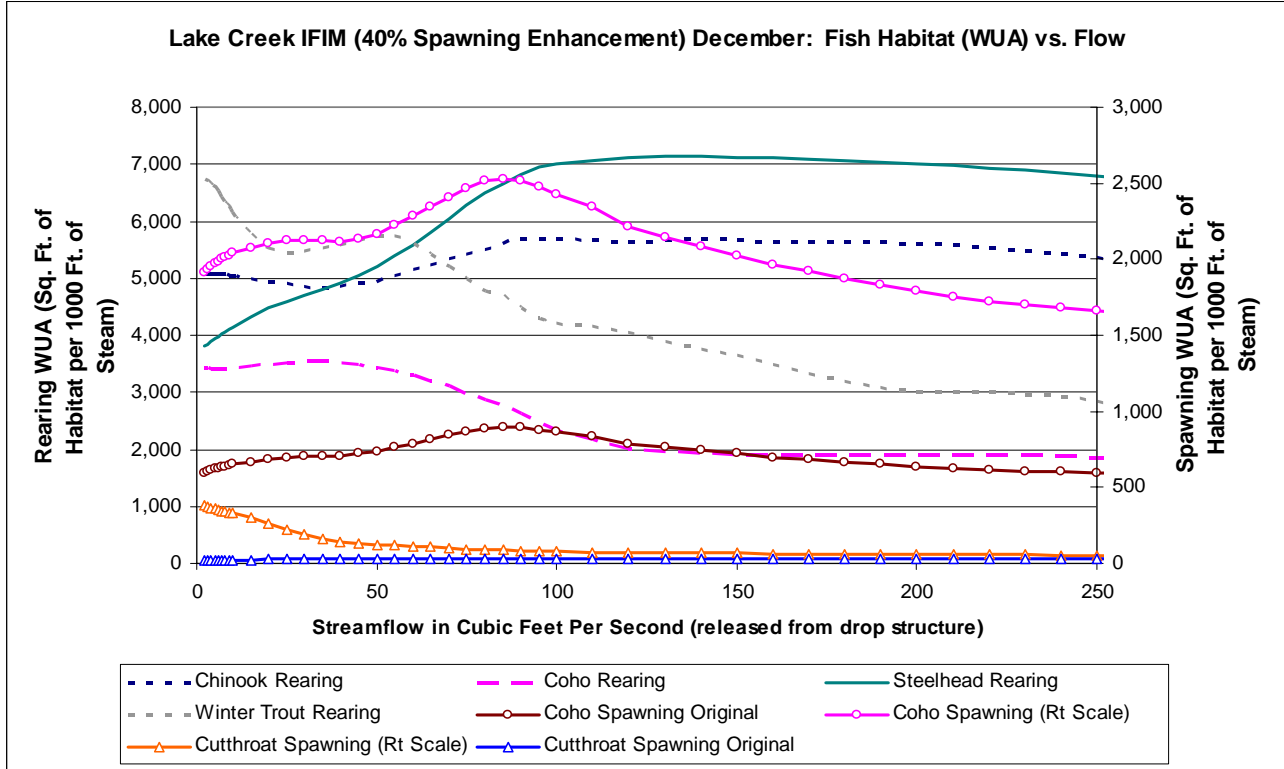
November WUA



November WUA



December WUA



December WUA

