

## APPENDIX B

### Stream Reach Summaries for Coho Salmon Life History Pathways in the Hood Canal Basin

Appendix B1. Spawning reach descriptions and restoration benefit categories for stream reaches analyzed in the Hood Canal basin, listed in the order (by subregional groups) in which they appear in Appendix B.

STREAM	Benefit Category	STREAM SPAWNING REACH DESCRIPTION
<b>North Hood Canal:</b> Donovan Cr. Donovan Cr. Donovan Cr. 17.0118 (Tributary to Donovan Cr.) Donovan Cr. 17.0116 (Tributary to Donovan Cr.)	D C * D D	Mouth - confluence w/ 17.0116 (RM 0.0-0.1 from Hood Canal) Confluence w/ 17.0116 - confluence w/ 17.0118 (RM 0.1-1.0 from Hood Canal) Confluence w/ 17.0118 - waterfall (RM1.0-1.9 from Hood Canal) Mouth - Rice Lk Mouth - end of anadromous reach (RM 0.1 -1.1 from Hood Canal)
Tarboo Cr. Tarboo Cr. Tarboo Cr. Tarboo Cr. 17.0130 (Tributary to Tarboo Cr.)	B C A C B	Mouth - confluence w/ 17.0130 (RM 0.0-1.1 from Hood Canal) Confluence w/ 17.0130 - confluence w/ 17.0134 (RM 1.1-2.5 from Hood Canal) Confluence w/ 17.0134 - confluence w/ 17.0136 (RM 2.5 - 4.3 from Hood Canal) Confluence w/ 17.0136 - headwaters (RM 4.3 - 7.1 from Hood Canal) Mouth to headwater (RM 1.1 - 4.4 from Hood Canal)
Thorndyke Cr. Thorndyke Cr. Thorndyke Cr.  Thorndyke Cr.  Thorndyke Cr. Thorndyke Cr. 17.0171 (Tributary to Thorndyke Cr.) 17.0174 (Tributary to Thorndyke Cr.)	F D D  C  F F D D	Mouth to confluence w/ 17.0171 (RM 0.0 - 0.7 from Hood Canal) Confluence w/ 17.0171 - confluence w/ 17.0174 (RM 0.7 - 1.1 from Hood Canal) Conflu. w/ 17.0174 - ~200m dwnstrm of 17.0170.10 (RM 1.1-2.4 from Hood Canal)  ~200m dwnstrm of 17.0170.10 - ~200m upstrm of 17.0170.20 (RM 2.4-3.8 from Hood Canal)  ~200m upstrm of 17.0170.20 - outlet of Sandy Shore Lk (RM 3.8 - 6.1 from HC) Sandy Shore Lake (RM 6.1 - 6.6 from Hood Canal) Mouth to confluence w/ 17.0173 (RM 0.7 - 1.9 from Hood Canal)  Mouth to headwater (RM 1.1 - 1.9 from Hood Canal)
Shine Cr. Shine Cr.  Shine Cr.  Shine Cr.	F D  F  C	Mouth to ~480m upstrm of confluence w/ 17.0182 (RM 0.0 - 0.5 from Hood Canal) ~480m upstrm of confluence w/ 17.0182 to 100m upstrm of Hwy 104 (RM 0.5-1.1 from HC)  100m upstrm of Hwy 104 to 100m upstrm of 17.0181.30 (RM 1.1 - 1.8 from Hood Canal)  100m upstrm of 17.0181.30 - Port Ludlow golf course (RM 1.8 - 3.0 from Hood Canal)
Miller Lake Cr. Miller Lake Cr.	C C	Mouth to outlet of Miller Lake (RM 0.0 - 1.3 from Hood Canal) Outlet of Miller Lake to inlet of Miller Lake (RM 1.3 - 1.6 from Hood Canal)
Gamble Cr. Gamble Cr.	D D	Mouth to confluence w/ 15.0357 (RM 0.0 - 2.7 from Hood Canal) Confluence w/ 15.0357 to headwater (RM 2.7 - 4.9 from Hood Canal)
<b>EAST HOOD CANAL:</b>  Little Anderson Cr. Little Anderson Cr. 15.0382 (tributary to L. Anderson Cr.)	  D C C	  Mouth to confluence w/ 15.0379 (RM 0.0 - 0.4 from Hood Canal) Confluence w/ 15.0379 to confluence w/ 15.0382 (RM 0.4 - 1.3 from Hood Canal) Mouth to headwater (RM 1.3 - 3.4 from Hood Canal)
Big Beef Cr. Big Beef Cr. Big Beef Cr.	A C B	Mouth to outlet of Lake Symington (RM 0.0 - 6.3 from Hood Canal) Outlet of Lake Symington to inlet of Lake Symington (RM 6.3 - 6.8 from HC) Inlet of Lake Symington to confluence w/ 15.0397 (RM 6.8 - 7.4 from Hood Canal)

STREAM	Benefit Category	STREAM SPAWNING REACH DESCRIPTION
Big Beef Cr.	B	Confluence w/ 15.0397 to marsh upstrm of Cantu Ln (RM 7.4 - 7.8 from HC)
Big Beef Cr.	A	Outlet of marsh to Turnstone Rd. (RM 7.8 - 8.9 from Hood Canal)
Big Beef Cr.	E	Turnstone Rd. to Lewis Rd. (RM 8.9 - 10.1 from Hood Canal)
Big Beef Cr.	C	Lewis Rd. to upstrm end of marsh (RM 10.1 - 10.5 from Hood Canal)
Big Beef Cr.	F	Upstrm end of marsh to headwater (RM 10.5 - 11.1 from Hood Canal)
15.0397 (Tributary to Big Beef Cr.)	D	Mouth to headwater (RM 7.4 - 8.4 from Hood Canal)
15.0398 (Tributary to Big Beef Cr.)	B	Mouth to outlet of Morgan marsh (RM 8.9 - 11.5 from Hood Canal)
15.0398 (Tributary to Big Beef Cr.)	E	Outlet of Morgan marsh to upper end of marsh (RM 11.5 - 12.7 from Hood Canal)
Seabeck Cr.	D	Mouth to confluence w/ 15.0401 (RM 0.0 - .9 from Hood Canal)
Seabeck Cr.	D	Confluence w/ 15.0401 to confluence w/ 15.0402 (RM 0.9 - 1.5 from Hood Canal)
Seabeck Cr.	C	Confluence w/ 15.0401 to headwaters (RM 1.5 - 3.6 from Hood Canal)
Stavis Cr.	F	Mouth to confluence w/ 15.0405 (RM 0.0 - 0.6 from Hood Canal)
Stavis Cr.	B	Confluence w/ 15.0405 to headwater (RM 0.6 - 5.8 from Hood Canal)
Boyce Cr.	F	Mouth to AMB MON RM 2.0 (RM 0.0 - 2.0 from Hood Canal)
Boyce Cr.	D	AMB MON RM 2.0 - headwater marsh (RM 2.0 - 3.5 from Hood Canal)
Harding Cr.	F	Mouth to 600m upstrm of mouth (RM 0.0 - 0.4 from Hood Canal)
Harding Cr.	D	600m upstrm of mouth to confluence w/ 15.0409 (RM 0.4 - 0.8 from Hood Canal)
Harding Cr.	F	Confluence w/ 15.0409 to headwater (RM 0.8 - 1.5 from Hood Canal)
Anderson Cr.	F	Mouth to confluence w/ 15.0413 (RM 0.0 - 0.6 from Hood Canal)
Anderson Cr.	D	Confluence w/ 15.0413 to confluence w/ 15.0414 (RM 0.6 - 1.8 from Hood Canal)
Anderson Cr.	C	Confluence w/ 15.0414 to headwater marsh (RM 1.8 - 4.6 from Hood Canal)
<b>SOUTH HOOD CANAL:</b>		
Dewatto R.	B	Mouth to RM 2.3 (RM 0.0 - 2.3 from Hood Canal)
Dewatto R.	B	RM 2.3 to ~200m dwnstrm from confluence w/ 15.0428 (RM 0.0 - 3.6 from HC)
Dewatto R.	E	~200m dwnstrm from 15.0428 to confluence w/ 15.0429 (RM 3.6 - 4.3 from HC)
Dewatto R.	F	Confluence w/ 15.0429 to ~300m upstrm from 15.0429 (RM 4.3 - 4.6 from HC)
Dewatto R.	E	~300m upstrm from 15.0429 to confluence w/ 15.0435 (RM 4.6 - 6.5 from HC)
Dewatto R.	E	Confluence w/ Ludvick Lk Cr (15.0435) to end of marsh (RM 6.5 - 7.5 from HC)
Dewatto R.	E	Upstrm end of marsh to confluence w/ 15.0436 (Windship Cr) (RM 7.5 - 8.3 from Hood Canal)
Dewatto R.	F	Confluence w/ 15.0436 to ~400m upstrm of Dewatto Bay Rd (RM 8.3 - 8.7 from Hood Canal)
Dewatto R.	E	~400m upstrm of Dewatto Bay Rd to end of marsh (RM 8.7 - 9.4 from HC)
15.0420.10(Tributary to Dewatto R.)	B	Mouth to headwater (RM 9.4 - 10.4 from Hood Canal)
15.0424 (Tributary to Dewatto R.)	D	Mouth to outlet of Shoe Lk (RM 2.3 - 4.5 from Hood Canal)
15.0424 (Tributary to Dewatto R.)	C	Shoe Lk (RM 4.5 - 4.7 from Hood Canal)
15.0429 (Tributary to Dewatto R.)	C	Mouth to confluence w/ 15.0430 (RM 4.3 - 4.7 from Hood Canal)
15.0436 (Tributary to Dewatto R.)	D	Mouth to end anadromous (RM 8.3 - 9.3 from Hood Canal)
Tahuya R.	B	Mouth to confluence w/ 15.0449 (RM 0.0 - 4.5 from Hood Canal)
Tahuya R.	A	Confluence w/ 15.0449 to confluence w/ 15.0454 (RM 4.5 - 8.6 from Hood Canal)
Tahuya R.	A	Confluence w/ 15.0454 to confluence w/ 15.0460 (RM 8.6 - 10.2 from Hood Canal)
Tahuya R.	B	Confluence w/ 15.0460 to confluence w/ 15.0468 (RM 10.2 - 13.3 from HC)
Tahuya R.	B	Confluence w/ 15.0468 to confluence w/ 15.0470 (RM 13.3 - 16.1 from HC)
Tahuya R.	B	Confluence w/ 15.0470 to RM 20.73 (RM 16.08 - 20.73 from Hood Canal)
Tahuya R.	A	RM 20.73 to outlet of Tahuya Lake (RM 20.73 - 22.43 from Hood Canal)
Tahuya R.	D	Tahuya Lake (RM 22.43 - 23.33 from Hood Canal)
Tahuya R.	B	Inlet of Tahuya Lk to headwater (RM 23.33 - 24.33 from Hood Canal)

STREAM	Benefit Category	STREAM SPAWNING REACH DESCRIPTION
15.0460 (Tributary to Tahuya R.)	D	Mouth to confluence w/ 15.0461 (RM 10.2 - 10.4 from Hood Canal)
15.0461 (Tributary to 15.0460/Tahuya)	D	Mouth to outlet of Haven Lk (RM 10.4 - 11.4 from Hood Canal)
15.0461 (Tributary to 15.0460/Tahuya)	D	Haven Lake (RM 11.4 - 12.2 from Hood Canal)
15.0461 (Tributary to 15.0460/Tahuya)	D	Inlet of Haven Lk to end of anadromous area (RM 12.2 - 12.3 from Hood Canal)
15.0454 (Little Tahuya Cr, tributary to Tahuya R.)	B	Mouth to Tahuya-Dewatto Rd. (RM 8.6 - 9.9 from Hood Canal)
15.0454 (Little Tahuya Cr, tributary to Tahuya R.)	B	Tahuya-Dewatto Rd. to outlet of 1st marsh (RM 9.9 - 10.9 from Hood Canal)
15.0454 (Little Tahuya Cr, tributary to Tahuya R.)	B	Outlet of 1st marsh to headwater marsh (RM 10.9 - 15.2 from Hood Canal)
15.0460 (Tributary to Tahuya R.)	B	Confluence w/ 15.0461 to outlet of Twin Lk (RM 11.1 - 13.7 from Hood Canal)
15.0460 (Tributary to Tahuya R.)	D	Twin Lk (RM 13.7 - 14.1 from Hood Canal)
Big Mission Cr.	A	Mouth to confluence w/ 15.0496 (RM 0.0 - 3.0 from Hood Canal)
Big Mission Cr.	B	Confluence w/ 15.0496 to confluence w/ 15.0498 (RM 3.0 - 4.1 from Hood Canal)
Big Mission Cr.	A	Confluence w/ 15.0498 to AMB MON RM 7.1 (RM 4.1 - 7.1 from Hood Canal)
Big Mission Cr.	C	AMB MON RM 7.1 to outlet of Mission Lk (RM 7.1 - 9.5 from Hood Canal)
Big Mission Cr.	D	Mission Lake (RM 9.5 - 10.5 from Hood Canal)
Big Mission Cr.	C	Inlet of Mission Lk to headwater (RM 10.5 - 11.5 from Hood Canal)
15.0496 (Tributary to Big Mission Cr.)	D	Mouth to crossing of Sandhill Rd. (RM 3.0 - 4.1 from Hood Canal)
15.0496 (Tributary to Big Mission Cr.)	D	Sandhill Rd. to headwater (RM 4.1 - 5.3 from Hood Canal)
15.0498 (Tributary to Big Mission Cr.)	D	Mouth to headwater (RM 4.1 - 5.8 from Hood Canal)
Union R.	A	Mouth to confluence w/ 15.0505 (Courtney Cr.) (RM 0.0 - 2.9 from Hood Canal)
Union R.	B	Confluence w/ 15.0505 to confluence w/ 15.0510 (Bear Cr) (RM 2.9 - 5.4 from Hood Canal)
Union R.	D	Confluence w/ 15.0510 to confluence w/ 15.0512 (RM 5.4 - 5.8 from Hood Canal)
Union R.	B	Confluence w/ 15.0510 to confluence w/ 15.0514 ( (RM 5.4 - 6.9 from Hood Canal)
Union R.	B	Confluence w/ 15.0514 to AMB MON RM 8.8 (RM 6.9 - 8.9 from Hood Canal)
Union R.	F	AMB MON RM 8.9 to confluence w/ 15.0517 (RM 8.9 - 9.3 from Hood Canal)
Courtney Cr. (Tributary to Union )	D	Mouth to confluence w/ 15.0506 (RM 2.9 - 5.1 from Hood Canal)
Courtney Cr. (Tributary to Union )	D	Confluence w/ 15.0506 to headwater (RM 5.1 - 6.1 from Hood Canal)
15.0512 (Tributary to Union )	C	Mouth to confluence w/ 15.0513 (RM 5.8 - 6.7 from Hood Canal)
15.0512 (Tributary to Union )	C	Confluence w/ 15.0513 to end anadromous (RM 6.7 - 6.8 from Hood Canal)
15.0510 (Bear Cr., Tributary to Union )	D	Mouth to end anadromous (RM 5.4 - 7.0 from Hood Canal)
15.0514 (East Fork, Tributary to Union )	C	Mouth to AMB MON RM 0.3 (RM 6.9 - 7.2 from Hood Canal)



STREAM	Benefit Category	STREAM SPAWNING REACH DESCRIPTION
Hill Cr.	F	Mouth to end of anadromous zone (RM 0.0 - 0.6 from Hood Canal)
Clark Cr.	F	Mouth to end of anadromous zone (RM 0.0 - 0.7 from Hood Canal)
Miller Cr.	D	Mouth to end of anadromous zone (RM 0.0 - 1.0 from Hood Canal)
McDonald Cr.	D	Mouth to end of anadromous zone (RM 0.0 - 0.6 from Hood Canal)
Hamma Hamma R.	B	Mouth to anadromous barrier (falls) (RM 0.0 - 2.6 from Hood Canal)
John Cr. (Tributary to Hamma Hamma R.)	D	Mouth to anadromous barrier (falls) (RM 1.4 - 3.2 from Hood Canal)
Fulton Cr.	F	Mouth to anadromous barrier (falls) (RM 0.0 - 0.9 from Hood Canal)
Duckabush R.	D	Mouth to gradient change at RM 0.7 (RM 0.0 - 0.7 from Hood Canal)
Duckabush R.	B	RM 0.7 to the "Ranger Hole" (RM 0.7 - 2.5 from Hood Canal)
Duckabush R.	B	"Ranger Hole" to RM 4.5 (RM 2.5 - 4.5 from Hood Canal)
Duckabush R.	B	RM 4.5 to confluence w/ 16.0366 (end anadromous)(RM 4.5 - 7.0 from Hood Canal)
Marple Cr.	F	Mouth to end anadromous (RM 0.0 - 0.6 from Hood Canal)

\* Summary tables for these reaches were deleted due to data errors.

**Stream Reach Summary for Coho Salmon Life Histories**

Stream: Donovan Cr. (mainstem)  
 Reach: Mouth - confluence w/ 17.0116 (RM 0.0-0.1 from Hood Canal)

**Improvement benefit category:** D      **Coho usage score:** 2.2      **Habitat productivity loss score:** -223.4

Life stage	Months	No. life history pathways (total across weeks) by abundance level				Key habitat change		Habitat productivity loss score	
		Total no.	1	2	3	4	Patient quantity		% change
1,2	Oct-Nov	28	28	0	0	0	1.9	0.0	0.0
1,2,3	Nov-Jan	44	44	0	0	0	1.2	-33.9	-36.0
3	Feb-Mar	36	36	0	0	0	0.7	-46.6	-80.9
4,5	Mar-Oct	12	12	0	0	0	0.6	-37.6	-57.1
5	May-Oct	46	46	0	0	0	1.1	-17.6	-39.1
6	Oct-Mar	22	22	0	0	0	0.8	-10.5	-10.4
7	Mar-Jun	29	29	0	0	0	2.0	0.0	0.0

Life stage	Months	Highest productivity impact attributes (% change in impact from template)											
		Att 1	% change	Att 2	% change	Att 3	% change	Att 4	% change	Att 5	% change	Att 6	% change
1,2	Oct-Nov												
1,2,3	Nov-Jan	FLOW	38.8	CSTAB	19.4	SEDL	19.4						
3	Feb-Mar	FLOW	38.8	CSTAB	19.4	HABD	19.4	SEDL	19.4				
4,5	Mar-Oct	FLOW	35.1	HABD	27.6	CSTAB	17.5	TEMP	13.8				
5	May-Oct	HABD	27.6	FLOW	13.8	TEMP	13.8						
6	Oct-Mar	HABD	10.9	FLOW	7.3	CSTAB	3.6						
7	Mar-Jun												

**Abundance level** refers to potential relative abundance of spawners that utilize the natal stream reaches that populated the life history pathways using the reach in this table:  
 Level 1: Exceptionally low (relative to other reaches) abundance potential.  
 Level 2: Low to moderate (relative to other reaches) abundance potential.  
 Level 3: Moderate to high (relative to other reaches) abundance potential.  
 Level 4: Exceptionally high (relative to other reaches) abundance potential.

**Life stages:** 1 - prespawner; 2 - spawner; 3 - incubation; 4 - fry colonization; 5 - summer rearing; 6 - overwintering; 7 - yearling presmolt/smolt

**Attributes:** CHEM - chemicals      NUTLD - nutrient load      RIPCN - riparian condition  
 CSTAB - channel stability      OBST - obstructions      SEDLD - sediment load  
 COMP - competition (with other species)      OXYG - dissolved oxygen      TEMP - water temperature  
 FLOW - flow      PATHO - pathogens      WITH - water withdrawals  
 HABD - habitat diversity      PRED - predators (includes fishing-related losses)

**NOTES:** "NA" means that the indicated life history stage(s) did not occur in this reach for any life history pathway analyzed.  
 Blank cells under attributes indicate no additional attributes with negative effects on productivity were evident compared to those present in the Template.  
 Life stages with a small productivity loss score and no corresponding attribute effect means the change in productivity between Template and Patient was insufficient to warrant a change in the attribute rating.  
 Life stages with a positive productivity loss score indicate an improvement in productivity between Template and Patient; positive changes in attributes are not shown.

Stream Reach Summary for Coho Salmon Life Histories

Stream: Donovan Cr. (mainstem)

Reach: Confluence w/ 17.0116 - confluence w/ 17.0118 (RM 0.1-1.0 from Hood Canal)

Improvement benefit category:	C	Coho usage score:	22.6	Habitat productivity loss score:	-836.5
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Life stage	Months	No. life history pathways (total across weeks) by abundance level				Key habitat change		Habitat productivity loss score
		Total no.	1	2	3	4	Patient quantity	
1,2	Oct-Nov	NA	NA	NA	NA	NA	NA	NA
1,2,3	Nov-Jan	30	0	0	0	0	1.2	-42.7
3	Feb-Mar	18	0	0	0	0	0.7	-60.0
4,5	Mar-Oct	19	0	0	0	0	0.6	-60.0
5	May-Oct	92	0	0	0	0	1.1	-31.8
6	Oct-Mar	144	0	0	0	0	0.8	-72.7
7	Mar-Jun	71	0	0	0	0	2.1	0.0

Life stage	Months	Highest productivity impact attributes (% change in impact from template)											
		Att 1	% change	Att 2	% change	Att 3	% change	Att 4	% change	Att 5	% change	Att 6	% change
1,2	Oct-Nov	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3	Nov-Jan	FLOW	25.0	CSTAB	12.5	SEDLD	12.5						
3	Feb-Mar	FLOW	50.0	CSTAB	50.0	HABD	25.0	SEDLD	25.0				
4,5	Mar-Oct	FLOW	50.0	HABD	50.0	CSTAB	25.0	TEMP	25.0				
5	May-Oct	HABD	75.0	FLOW	50.0	CSTAB	25.0	TEMP	25.0				
6	Oct-Mar	HABD	75.0	FLOW	50.0	CSTAB	25.0						
7	Mar-Jun												

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- Level 3: Moderate to high (relative to other reaches) abundance potential.
- Level 4: Exceptionally high (relative to other reaches) abundance potential.

Life stages: 1 - prespawner; 2 - spawner; 3 - incubation; 4 - fry colonization; 5 - summer rearing; 6 - overwintering; 7 - yearling presmolt/smolt

- Attributes:
- |   |  |                            |
|---|--|----------------------------|
| CHEM - chemicals                        | NUTLD - nutrient load                              | RIPCN - riparian condition |
| CSTAB - channel stability               | OBST - obstructions                                | SEDLD - sediment load      |
| COMP - competition (with other species) | OXYG - dissolved oxygen                            | TEMP - water temperature   |
| FLOW - flow                             | PATHO - pathogens                                  | WITH - water withdrawals   |
| HABD - habitat diversity                | PRED - predators (includes fishing-related losses) |                            |

NOTES: "NA" means that the indicated life history stage(s) did not occur in this reach for any life history pathway analyzed. Blank cells under attributes indicate no additional attributes with negative effects on productivity were evident compared to those present in the Template. Life stages with a small productivity loss score and no corresponding attribute effect means the change in productivity between Template and Patient was insufficient to warrant a change in the attribute rating. Life stages with a positive productivity loss score indicate an improvement in productivity between Template and Patient; positive changes in attributes are not shown.

Stream Reach Summary for Coho Salmon Life Histories

Stream: Tributary 17.0118 (Donovan Cr.)  
 Reach: Mouth - Rice Lk

Improvement benefit category: D Coho usage score: 5.3 Habitat productivity loss score: -585.2

Life stage	Months	No. life history pathways (total across weeks) by abundance level				Key habitat change Patient quantity	Habitat productivity loss score
		Total no.	1	2	3		
1,2	Oct-Nov	NA	NA	NA	NA	NA	NA
1,2,3	Nov-Jan	40	0	0	1.0	-10.8	-154.2
3	Feb-Mar	36	0	0	0.7	-3.3	-90.1
4,5	Mar-Oct	16	0	0	0.2	-60.0	-121.6
5	May-Oct	69	0	0	0.1	-60.0	-157.3
6	Oct-Mar	43	0	0	0.9	-31.8	-62.1
7	Mar-Jun	15	0	0	0.9	0.0	0.0

Life stage	Months	Highest productivity impact attributes (% change in impact from template)											
		Att 1	% change	Att 2	% change	Att 3	% change	Att 4	% change	Att 5	% change	Att 6	% change
1,2	Oct-Nov	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3	Nov-Jan	CSTAB	50.0	HABD	50.0	SEDLD	50.0	SEDLD	50.0	FLOW	25.0	OBST	25.0
3	Feb-Mar	CSTAB	50.0	FLOW	50.0	SEDLD	50.0	SEDLD	50.0				
4,5	Mar-Oct	FLOW	50.0	HABD	25.0								
5	May-Oct	FLOW	50.0	HABD	25.0								
6	Oct-Mar												
7	Mar-Jun												

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- Level 2: Low to moderate (relative to other reaches) abundance potential.
- Level 3: Moderate to high (relative to other reaches) abundance potential.
- Level 4: Exceptionally high (relative to other reaches) abundance potential.

Life stages: 1 - prespawner; 2 - spawner; 3 - incubation; 4 - fry colonization; 5 - summer rearing; 6 - overwintering; 7 - yearling presmolt/smolt

Attributes: CHEM - chemicals  
 CSTAB - channel stability  
 COMP - competition (with other species)  
 FLOW - flow  
 HABD - habitat diversity  
 NUTLD - nutrient load  
 OBST - obstructions  
 OXYG - dissolved oxygen  
 PATHO - pathogens  
 PRED - predators (includes fishing-related losses)  
 RIPCN - riparian condition  
 SEDLD - sediment load  
 TEMP - water temperature  
 WITH - water withdrawals

NOTES: "NA" means that the indicated life history stage(s) did not occur in this reach for any life history pathway analyzed. Blank cells under attributes indicate no additional attributes with negative effects on productivity were evident compared to those present in the Template. Life stages with a small productivity loss score and no corresponding attribute effect means the change in productivity between Template and Patient was insufficient to warrant a change in the attribute rating. Life stages with a positive productivity loss score indicate an improvement in productivity between Template and Patient; positive changes in attributes are not shown.

**Stream Reach Summary for Coho Salmon Life Histories**

**Stream:** Tributary 17.0116 (Donovan Cr.)

**Reach:** Mouth - end of anadromous reach (RM 0.1 -1.1 from Hood Canal)

**Improvement benefit category:** D      **Coho usage score:** 6.6      **Habitat productivity loss score:** -268.6

Life stage	Months	No. life history pathways (total across weeks) by abundance level				Key habitat change Patient quantity	Habitat productivity loss score
		Total no.	1	2	3		
1,2	Oct-Nov	2	2	0	0	0.5	-3.3
1,2,3	Nov-Jan	22	22	0	0	0.2	-126.9
3	Feb-Mar	18	18	0	0	0.1	-15.0
4,5	Mar-Oct	10	10	0	0	0.1	-29.0
5	May-Oct	46	46	0	0	0.2	-50.0
6	Oct-Mar	42	42	0	0	0.3	-44.4
7	Mar-Jun	19	19	0	0	0.4	0.0

Life stage	Months	Highest productivity impact attributes (% change in impact from template)											
		Att 1	% change	Att 2	% change	Att 3	% change	Att 4	% change	Att 5	% change	Att 6	% change
1,2	Oct-Nov	HABD	35.7										
1,2,3	Nov-Jan	CSTAB	50.0	HABD	32.1	SEDL	25.0						
3	Feb-Mar	CSTAB	50.0	SEDL	25.0								
4,5	Mar-Oct	HABD	50.0										
5	May-Oct	HABD	50.0										
6	Oct-Mar	FLOW	25.0	HABD	25.0								
7	Mar-Jun												

**Abundance level** refers to potential relative abundance of spawners that utilize the natal stream reaches that populated the life history pathways using the reach in this table:

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- Level 3: Moderate to high (relative to other reaches) abundance potential.
- Level 4: Exceptionally high (relative to other reaches) abundance potential.

**Life stages:** 1 - prespawner; 2 - spawner; 3 - incubation; 4 - fry colonization; 5 - summer rearing; 6 - overwintering; 7 - yearling presmolt/smolt

- Attributes:** CHEM - chemicals      NUTLD - nutrient load      RIPCN - riparian condition  
 CSTAB - channel stability      OBST - obstructions      SEDLD - sediment load  
 COMP - competition (with other species)      OXYG - dissolved oxygen      TEMP - water temperature  
 FLOW - flow      PATHO - pathogens      WITH - water withdrawals  
 HABD - habitat diversity      PRED - predators (includes fishing-related losses)

**NOTES:** "NA" means that the indicated life history stage(s) did not occur in this reach for any life history pathway analyzed. Blank cells under attributes indicate no additional attributes with negative effects on productivity were evident compared to those present in the Template. Life stages with a small productivity loss score and no corresponding attribute effect means the change in productivity between Template and Patient was insufficient to warrant a change in the attribute rating. Life stages with a positive productivity loss score indicate an improvement in productivity between Template and Patient; positive changes in attributes are not shown.

**Stream Reach Summary for Coho Salmon Life Histories**

**Stream:** Tarboo Cr. (mainstem)  
**Reach:** Mouth - confluence w/ 17.0130 (RM 0.0-1.1 from Hood Canal)

**Improvement benefit category:** B      **Coho usage score:** 265.9      **Habitat productivity loss score:** -272.4

Life stage	Months	No. life history pathways (total across weeks) by abundance level				Key habitat change		Habitat productivity loss score	
		Total no.	1	2	3	4	Patient quantity		% change
1,2	Oct-Nov	91	36	41	12	2	4.0	0.0	-30.4
1,2,3	Nov-Jan	38	12	1	24	1	3.2	-16.7	-71.4
3	Feb-Mar	27	9	0	18	0	2.7	-20.7	-68.7
4,5	Mar-Oct	18	1	0	13	4	3.5	0.0	-28.0
5	May-Oct	92	0	0	69	23	3.1	0.0	-23.2
6	Oct-Mar	259	38	78	122	21	4.1	0.0	-50.7
7	Mar-Jun	193	52	67	64	10	3.5	0.0	0.0

Life stage	Months	Highest productivity impact attributes (% change in impact from template)											
		Att 1	% change	Att 2	% change	Att 3	% change	Att 4	% change	Att 5	% change	Att 6	% change
1,2	Oct-Nov												
1,2,3	Nov-Jan	CSTAB	17.3	SEDL	17.3	FLOW	8.6						
3	Feb-Mar	CSTAB	34.5	SEDL	34.5	FLOW	17.3	HABD	17.3				
4,5	Mar-Oct	HABD	17.3	FLOW	13.8	TEMP	13.8						
5	May-Oct	FLOW	13.8	HABD	13.8	TEMP	13.8						
6	Oct-Mar	FLOW	9.8	HABD	9.8								
7	Mar-Jun												

*Abundance level* refers to potential relative abundance of spawners that utilize the natal stream reaches that populated the life history pathways using the reach in this table:  
 Level 1: Exceptionally low (relative to other reaches) abundance potential.  
 Level 2: Low to moderate (relative to other reaches) abundance potential.  
 Level 3: Moderate to high (relative to other reaches) abundance potential.  
 Level 4: Exceptionally high (relative to other reaches) abundance potential.

*Life stages:* 1 - prespawner; 2 - spawner; 3 - incubation; 4 - fry colonization; 5 - summer rearing; 6 - overwintering; 7 - yearling presmolt/smolt

*Attributes:* CHEM - chemicals      NUTLD - nutrient load      RIPCN - riparian condition  
 CSTAB - channel stability      OBST - obstructions      SEDLD - sediment load  
 COMP - competition (with other species)      OXYG - dissolved oxygen      TEMP - water temperature  
 FLOW - flow      PATHO - pathogens      WITH - water withdrawals  
 HABD - habitat diversity      PRED - predators (includes fishing-related losses)

**NOTES:** "NA" means that the indicated life history stage(s) did not occur in this reach for any life history pathway analyzed.  
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 Life stages with a small productivity loss score and no corresponding attribute effect means the change in productivity between Template and Patient was insufficient to warrant a change in the attribute rating.  
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**Stream Reach Summary for Coho Salmon Life Histories**

**Stream:** Tarboo Cr. (mainstem)  
**Reach:** Confluence w/ 17.0130 - confluence w/ 17.0134 (RM 1.1-2.5 from Hood Canal)

**Improvement benefit category:** C      **Coho usage score:** 73.9      **Habitat productivity loss score:** -1373.0

Life stage	Months	No. life history pathways (total across weeks) by abundance level				Key habitat change		Habitat productivity loss score	
		Total no.	1	2	3	4	Patient quantity		% change
1,2	Oct-Nov	20	2	16	2	0	1.5	0.0	-6.6
1,2,3	Nov-Jan	95	74	10	11	0	0.5	-33.3	-285.7
3	Feb-Mar	63	54	0	9	0	0.1	-78.8	-289.9
4,5	Mar-Oct	42	32	8	2	0	0.9	-24.6	-324.2
5	May-Oct	184	138	46	0	0	0.8	-21.5	-272.8
6	Oct-Mar	174	146	26	2	0	0.4	-33.7	-193.9
7	Mar-Jun	82	59	23	0	0	1.4	0.0	0.0

Life stage	Months	Highest productivity impact attributes (% change in impact from template)											
		Att 1	% change	Att 2	% change	Att 3	% change	Att 4	% change	Att 5	% change	Att 6	% change
1,2	Oct-Nov	HABD	3.9										
1,2,3	Nov-Jan	SEDL	25.0	HABD	18.8								
3	Feb-Mar	HABD	50.0	RIPCN	50.0	SEDL	50.0						
4,5	Mar-Oct	HABD	45.0	RIPCN	45.0	TEMP	16.9						
5	May-Oct	FLOW	50.0	HABD	50.0	RIPCN	50.0	TEMP	16.4				
6	Oct-Mar	FLOW	23.3	HABD	23.3	RIPCN	23.3						
7	Mar-Jun												

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- Level 1: Exceptionally low (relative to other reaches) abundance potential.
- Level 2: Low to moderate (relative to other reaches) abundance potential.
- Level 3: Moderate to high (relative to other reaches) abundance potential.
- Level 4: Exceptionally high (relative to other reaches) abundance potential.

**Life stages:** 1 - prespawner; 2 - spawner; 3 - incubation; 4 - fry colonization; 5 - summer rearing; 6 - overwintering; 7 - yearling presmolt/smolt

- Attributes:**
- |   |  |                            |
|---|--|----------------------------|
| CHEM - chemicals                        | NUTLD - nutrient load                              | RIPCN - riparian condition |
| CSTAB - channel stability               | OBST - obstructions                                | SEDL - sediment load       |
| COMP - competition (with other species) | OXYG - dissolved oxygen                            | TEMP - water temperature   |
| FLOW - flow                             | PATHO - pathogens                                  | WITH - water withdrawals   |
| HABD - habitat diversity                | PRED - predators (includes fishing-related losses) |                            |

**NOTES:** "NA" means that the indicated life history stage(s) did not occur in this reach for any life history pathway analyzed. Blank cells under attributes indicate no additional attributes with negative effects on productivity were evident compared to those present in the Template. Life stages with a small productivity loss score and no corresponding attribute effect means the change in productivity between Template and Patient was insufficient to warrant a change in the attribute rating. Life stages with a positive productivity loss score indicate an improvement in productivity between Template and Patient; positive changes in attributes are not shown.

Stream Reach Summary for Coho Salmon Life Histories

Stream: Tarboo Cr. (mainstem)  
 Reach: Confluence w/ 17.0134 - confluence w/ 17.0136 (RM 2.5 - 4.3 from Hood Canal)

Improvement benefit category: A Coho usage score: 242.8 Habitat productivity loss score: -1550.7

Life stage	Months	No. life history pathways (total across weeks) by abundance level				Key habitat change		Habitat productivity loss score	
		Total no.	1	2	3	4	Patient quantity		% change
1,2	Oct-Nov	10	1	8	1	0	1.0	0.0	0.0
1,2,3	Nov-Jan	109	45	63	1	0	1.1	0.0	-162.4
3	Feb-Mar	81	36	45	0	0	1.0	-4.8	-343.4
4,5	Mar-Oct	62	23	35	4	0	0.4	-70.1	-324.4
5	May-Oct	276	92	161	23	0	0.8	-31.8	-424.7
6	Oct-Mar	181	48	131	2	0	1.0	-30.9	-295.8
7	Mar-Jun	70	19	51	0	0	1.4	0.0	0.0

Life stage	Months	Highest productivity impact attributes (% change in impact from template)											
		Att 1	% change	Att 2	% change	Att 3	% change	Att 4	% change	Att 5	% change	Att 6	% change
1,2	Oct-Nov												
1,2,3	Nov-Jan	SEDLD	37.5	CSTAB	12.5	FLOW	12.5						
3	Feb-Mar	SEDLD	75.0	CSTAB	25.0	FLOW	25.0	HABD	25.0	RIPCN	25.0		
4,5	Mar-Oct	HABD	50.0	RIPCN	50.0	TEMP	25.0						
5	May-Oct	HABD	50.0	RIPCN	50.0	TEMP	25.0						
6	Oct-Mar	HABD	48.4	RIPCN	48.4								
7	Mar-Jun												

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- Level 1: Exceptionally low (relative to other reaches) abundance potential.
- Level 2: Low to moderate (relative to other reaches) abundance potential.
- Level 3: Moderate to high (relative to other reaches) abundance potential.
- Level 4: Exceptionally high (relative to other reaches) abundance potential.

Life stages: 1 - prespawner; 2 - spawner; 3 - incubation; 4 - fry colonization; 5 - summer rearing; 6 - overwintering; 7 - yearling presmolt/smolt

Attributes: CHEM - chemicals  
 CSTAB - channel stability  
 COMP - competition (with other species)  
 FLOW - flow  
 HABD - habitat diversity  
 NUTLD - nutrient load  
 OBST - obstructions  
 OXYG - dissolved oxygen  
 PATHO - pathogens  
 PRED - predators (includes fishing-related losses)  
 RIPCN - riparian condition  
 SEDLD - sediment load  
 TEMP - water temperature  
 WITH - water withdrawals

NOTES: "NA" means that the indicated life history stage(s) did not occur in this reach for any life history pathway analyzed.  
 Blank cells under attributes indicate no additional attributes with negative effects on productivity were evident compared to those present in the Template.  
 Life stages with a small productivity loss score and no corresponding attribute effect means the change in productivity between Template and Patient was insufficient to warrant a change in the attribute rating.  
 Life stages with a positive productivity loss score indicate an improvement in productivity between Template and Patient; positive changes in attributes are not shown.

**Stream Reach Summary for Coho Salmon Life Histories**

**Stream:** Tarboo Cr. (mainstem)

**Reach:** Confluence w/ 17.0136 - headwaters (RM 4.3 - 7.1 from Hood Canal)

**Improvement benefit category:** C Coho usage score: 145.4 Habitat productivity loss score: -878.2

Life stage	Months	No. life history pathways (total across weeks) by abundance level				Key Patient quantity	Habitat productivity loss score
		1	2	3	4		
1,2	Oct-Nov	NA	NA	NA	NA	NA	
1,2,3	Nov-Jan	100	80	10	0	-382.2	
3	Feb-Mar	90	72	9	0	-179.1	
4,5	Mar-Oct	34	9	24	1	-88.4	
5	May-Oct	138	46	92	0	-150.0	
6	Oct-Mar	66	22	44	0	-78.5	
7	Mar-Jun	22	7	15	0	0.0	

Life stage	Months	Highest productivity impact attributes (% change in impact from template)											
		Att 1	% change	Att 2	% change	Att 3	% change	Att 4	% change	Att 5	% change	Att 6	% change
1,2	Oct-Nov	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3	Nov-Jan	OBST	75.0	SEDL	50.0	HABD	25.0						
3	Feb-Mar	SEDL	50.0	HABD	25.0								
4,5	Mar-Oct	HABD	25.0	RIPCN	25.0								
5	May-Oct	HABD	25.0	RIPCN	25.0								
6	Oct-Mar	HABD	25.0	RIPCN	25.0								
7	Mar-Jun												

*Abundance level* refers to potential relative abundance of spawners that utilize the natal stream reaches that populated the life history pathways using the reach in this table:

- Level 1: Exceptionally low (relative to other reaches) abundance potential.
- Level 2: Low to moderate (relative to other reaches) abundance potential.
- Level 3: Moderate to high (relative to other reaches) abundance potential.
- Level 4: Exceptionally high (relative to other reaches) abundance potential.

*Life stages:* 1 - prespawner; 2 - spawner; 3 - incubation; 4 - fry colonization; 5 - summer rearing; 6 - overwintering; 7 - yearling presmolt/smolt

- Attributes:*
- CHEM - chemicals
  - CSTAB - channel stability
  - COMP - competition (with other species)
  - FLOW - flow
  - HABD - habitat diversity
  - NUTLD - nutrient load
  - OBST - obstructions
  - OXYG - dissolved oxygen
  - PATHO - pathogens
  - PRED - predators (includes fishing-related losses)
  - RIPCN - riparian condition
  - SEDL - sediment load
  - TEMP - water temperature
  - WITH - water withdrawals

**NOTES:** "NA" means that the indicated life history stage(s) did not occur in this reach for any life history pathway analyzed. Blank cells under attributes indicate no additional attributes with negative effects on productivity were evident compared to those present in the Template. Life stages with a small productivity loss score and no corresponding attribute effect means the change in productivity between Template and Patient was insufficient to warrant a change in the attribute rating. Life stages with a positive productivity loss score indicate an improvement in productivity between Template and Patient; positive changes in attributes are not shown.