

**FINAL Meeting Notes**  
**Lewis River License Implementation**  
**Aquatic Coordination Committee (ACC) Meeting**  
**Aquatic Fund Subgroup**  
**July 11, 2016**  
**Merwin Hydro Control Center**  
**Ariel, WA**

**ACC Participants Present (9)**

Frank Shrier, PacifiCorp  
 Kim McCune, PacifiCorp  
 Ruth Tracy, USDA Forest Service  
 Bryce Michaelis, USDA Forest Service  
 Peggy Miller, WDFW  
 Michelle Day, NMFS  
 Steve Manlow, LCFRB  
 Eli Asher, Cowlitz Indian Tribe  
 Pat Frazier, WDFW

**Calendar:**

August 15, 2016	Aquatic Fund Sub-Group Meeting	HCC
<b>Assignments from July 11, 2016</b>		<b>Status</b>
McCune: Email Aquatic Fund announcement cover letter and process document to the ACC for review and edits no later than August 1, 2016.		<b>Complete – 7/12/16</b>
Shrier: Write narrative for historical reference regarding how the ACC Aquatic Fund Subgroup arrived at this tool; reference Cramer Fish Sciences and add link to EDT studies.		
Shrier: Double check numbers on Cumulative Tornado Graphs.		<b>Complete – 8/15/16</b>
Shrier: Add the following three tables to the Lewis River Aquatic Fund Priority Reaches: <ul style="list-style-type: none"> <li>• Lewis River basin upstream of Swift dam and downstream of Merwin dam (Phase I)</li> <li>• Yale Reservoir Tributaries (Phase II)</li> <li>• Merwin Reservoir Tributaries (Phase III)</li> </ul>		<b>Complete – 8/15/16</b>
Shrier: Email revised Lewis River Aquatic Fund Priority Reaches document to the Subgroup prior to the August 15, 2016 meeting.		<b>Complete – 8/15/16</b>
Shrier: Confirm if Phil Roni (Cramer Fish Sciences) considered the SRP Recovery Plan reach potentials; if so remove from the Lewis River Aquatic Fund Priority Reaches document.		<b>Complete – 8/15/16</b>
McCune: Insert language in the Aquatic Fund Announcement letter to address these concerns such as... “emphasis will be placed on Chinook recovery but not to the exclusion of other ESA-listed salmonid species”		<b>Complete – 7/12/16</b>
McCune: Even though Pine Creek and Rush Creek are shown in the priority reaches, the Subgroup prefers that salmon and steelhead restoration proposals not be submitted for those two watersheds. McCune will add certain language in the Aquatic Fund Announcement		<b>Complete – 7/12/16</b>

letter to address this topic.	
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<b>Assignments from June 22, 2016</b>	<b>Status</b>
McCune: Email Aquatic Fund announcement documents in redline form to the ACC for review and edits.	<b>Complete – 6/22/16</b>

### **Opening, Review of Meeting Notes**

Frank Shrier (PacifiCorp) called the meeting to order at 12:10 p.m. and reviewed the June 22, 2016 meeting notes and assignments. The meeting notes were approved without change.

Steve Manlow (LCFRB) provided a cursory review of his email dated July 8, 2016 (**Attachment A**) and the fundamental question - are we double counting? Do we want to use Phil Roni's potential for restoration as acceptable for general priorities? Shrier will check with Phil on what he considered in his analysis.

### **Meeting Purpose**

Continued review and edits of the Lewis River Aquatic Fund Priority Reaches document and Cumulative Tornado Graphs (**Attachment B**) and the aquatic fund announcement materials in order to meet the Aquatic Fund announcement deadline of September 2, 2016.

### **Intended outcomes:**

- The Aquatic Fund Subgroup is to take a look at the updated Lewis River Aquatic Fund Priority Reaches document and continue to refine.
- Insure uniformity between resources so as not to confuse the project proponents.
- Update and modify the Aquatics Fund – Strategic Plan and Administrative Procedures, Announcement Letter and associated appendices no later than August 1, 2016.

**Decisions made at the meeting** - Next steps : Shrier will modify the Lewis River Aquatic Fund Priority Reaches document to include:

- Agreed to eliminate the reaches that should not apply (i.e. Rush and Pine Creek and Siouxon Template)
- Agreed to remove the old status vs the new status but maintain the data for Subgroup reference as an additional evaluation tool/guidance document.
- Leave recovery plan details in the spreadsheet
- Remove HUC column
- Add tier ranking
- Remove Synthesis Subgroup restoration potential
- Leave Reach Recovery Plan by species
- Add Steelhead, Coho & Chinook limiting factor ranking and remove general Limiting Factors column
- Did Phil Roni (Cramer Fish Sciences) consider the SRP Recovery Plan reach potentials? If so take them out of the Lewis River Aquatic Fund Priority Reaches document

- Double check numbers on Cumulative Tornado Graphs
- Add the following three tables to the Lewis River Aquatic Fund Priority Reaches:
  - Lewis River basin upstream of Swift dam and downstream of Merwin dam (Phase I)
  - Yale Reservoir Tributaries (Phase II)
  - Merwin Reservoir Tributaries (Phase III)

Subgroup discussion took place around placing projects proposal emphasis on Chinook and the intent of the Settlement Agreement specific to *priority given to federal ESA-listed species*. McCune will insert language in the Aquatic Fund Announcement letter to address these concerns such as... “emphasis will be placed on Chinook recovery but not to the exclusion of other ESA-listed salmonid species”

The subgroup also discussed that there is a parallel effort taking place that is addressing recovery needs for bull trout that is not yet complete. Even though Pine Creek and Rush Creek are shown in the priority reaches, the Subgroup prefers that salmon and steelhead restoration proposals not be submitted for those two watersheds. McCune will add certain language in the Aquatic Fund Announcement letter to address this topic.

*< Meeting adjourned at 2:30 p.m. >*

**Agenda items for August 15, 2016**

- Review July 11, 2016 Meeting Notes
- Review revised priority reach spreadsheet
- Review Aquatic Fund Administrative Procedures

**Meeting Handouts & Attachments:**

- June 22, 2016 Meeting Notes
- Attachment A – Steve Manlow (LCFRB) email dated July 8, 2016
- Attachment B - Lewis River Aquatic Fund Priority Reaches document and Cumulative Tornado Graphs

## McCune, Kimberly

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**From:** Steve Manlow <smanlow@lcfrib.gen.wa.us>  
**Sent:** Friday, July 08, 2016 9:53 AM  
**To:** Shrier, Frank; McCune, Kimberly  
**Cc:** Frazier, Patrick A (DFW); Brett Raunig  
**Subject:** [INTERNET] Aquatic Subgroup Meeting

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Frank and Kimberly:

I wanted to follow-up on the June 22, 2016 Aquatic Fund Subgroup meeting with some additional thoughts.

- As noted during the meeting, the reach tiers need to be verified as some did not seem accurate.
- One of the questions I brought up was how Cramer Fish Sciences limiting factor rank at the end of the table related to EDT ratings. In looking closer at the draft Cramer report, it appears that as a first step reaches were screened down to only Tier 1 and 2 reaches. The Tiering was from the previous LCFRB EDT. Species Reach Potential (SRP) is already one of the two primary components in of a Tier designation, and reflects the importance of the reach from a population performance perspective. The second component is the recovery priority of the species (e.g., primary, contributing, or stabilizing). Both of these factors relate directly to the ACCs project evaluation criteria. By using reach Tier as a screening factor, the EDT metrics that go into the tornado charts have therefore already been considered, and it may be duplicative to consider them again in the prioritization process. However, as we discussed, they could be used to further prioritize the 26 reaches if ranked by reach, from highest to lowest % change in NEQ. We believe that some form of “binning” into high, medium and low SRP’s may also be helpful – it has helped simplify the review in the LCFRB scoring process. That being said, the existing tiers were based on the previous EDT efforts, so the updated tornado charts may be beneficial to look at, especially to see if “High, Medium or Low” ratings (which requires binning) may differ.
- There was discussion about summing % change in NEQ across species, to provide a multi-species perspective. Since each species EDT model is different, it may be akin to comparing apples to oranges. Also, you may lose the ability to evaluate whether you are really targeting the correct limiting factor for a particular species in a specific reach if you lump NEQ. It may be more helpful to simply align the species bars side by side as you did for the handout. That form of presentation may be more useful from a project design and evaluation standpoint, and would more clearly answer evaluation questions regarding salmonid species and stocks, and key life history stages, that would benefit from a project. This topic may warrant some further discussion.
- From the “benefits to fish” perspective , it seems like the fundamental questions we need to address to help prioritize projects are whether a project targets the correct species, the highest priority reaches for those species (from a population performance standpoint), and the most important limiting factors. In the LCFRB’s scoring process, we evaluate the population and species focus in the “Population/Reach” rating, and the limiting factor focus in the “Protection/Access/Restoration” rating. The analysis conducted to date, including the limiting factor work conducted by Cramer Fish Sciences, will help answer these questions, but it is a bit unclear how all the emerging pieces would fit together in the project review process. Perhaps at the next meeting we can discuss this in more detail. After looking in more detail at the Cramer report, we believe that the as a roll-up metric, the “Limiting Factor Rank” will be very helpful in focusing projects on key limiting factors.

- The group may want to discuss in the big picture how the synthesis matrix, updated priorities from Cramer, etc, will be used in the project evaluation and scoring process. It seems that there may be duplication in evaluation factors as more columns are simply added to the table. Since the Cramer work was essentially a roll-up of EDT parameters combined with a watershed-specific analysis to focus work on key life history stages and limiting factors based on a literature review, perhaps that should be the focus for identifying and evaluating projects. With a little further prioritization across reaches, we think it could be a great stand-alone tool to guide restoration work. I'm concerned we may be overcomplicating the process. Perhaps Phil Roni could help with a discussion of this?

Hope this helps, and feel free to forward to the group.

Thanks.

*Steve Manlow*

*Executive Director*

*Lower Columbia Fish Recovery Board*

*360-425-1553*

[www.lcfrb.gen.wa.us](http://www.lcfrb.gen.wa.us)

[www.lowercolumbiasalmonrecovery.org](http://www.lowercolumbiasalmonrecovery.org)

<u>Reach Name</u>	<u>Location</u>	<u>6th Field HUC</u>	<u>Hydrologic Regime</u>	<u>Length of habitat (miles)<sup>1</sup></u>	<u>Steelhead Life History Use</u>	<u>Primary Species Present in this Reach</u>	<u>Steelhead Synthesis Group Restoration Potential<sup>2</sup></u>	<u>WSTHD Reach Potential (Recovery Plan)</u>	<u>Coho Life History Use</u>	<u>Coho Synthesis Group Restoration Potential<sup>2</sup></u>	<u>Coho Reach Potential (Recovery Plan)</u>	<u>SPCH Chinook Life History Use</u>	<u>Chinook Synthesis Group Restoration Potential<sup>2</sup></u>	<u>SPCH Reach Potential (Recovery Plan)</u>	<u>LCFRB Restoration Potential (%)</u>	<u>Limiting Factor Rank</u>
Lewis 1 Tidal A Tier 4	Mouth to Allen Creek		Rain.snow	1.9	Rearing, Migration, Holding	Coho, Chum, Fall Chinook, cutthroat, steelhead	Low	Low	Rearing, Migration, Holding	Low	Low			Not Available (NA)	61	
Lewis 2 Tidal B Tier 4	:B Trib 1 to LB Trib 2		Rain.snow	1.5	Rearing, Migration, Holding	Coho, Chum, Fall Chinook, cutthroat, steelhead	Low	Low	Rearing, Migration	Low	Low			NA	36	
Lewis 2 Tidal D Tier 2	LB Trib 3 to Robinson Cr		Rain.snow	0.9	Rearing, Migration	Coho, Chum, Fall Chinook, cutthroat, steelhead	Low	Low	Rearing, Migration	Low	Low			NA	32	
Lewis 3 Tier1	Robinson Cr to Ross Cr		Rain.snow	1	Rearing, Migration	Coho, Chum, Fall Chinook, cutthroat, steelhead	Low	Low	Spawning, Rearing, Migration	Low	High			NA	53	
Lewis 4 A Tier1	Ross Cr to Hayes Cr		Rain.snow	2.2	Rearing, Migration, Holding	Coho, Chum, Fall Chinook, cutthroat, steelhead	Low	Low	Spawning, Rearing, Migration	Low	High			NA	36	
Lewis 4 C Tier 1	Staples Cr to Houghton Cr		Rain.snow	0.46	Rearing, Migration, Holding	Coho, Chum, Fall Chinook, cutthroat, steelhead	Low	Low	Spawning, Rearing, Migration	Low	High			NA	42	
Ross Cr 1 E Tier 4	Bearwaller Falls to end of '04 reach		Rain	0.85	Rearing, Migration	Coho, Chum, Fall Chinook, cutthroat	Low	Low	Rearing, Migration	Low	Low			NA	67	
John Creek 1 Tier 3	Mouth to Top of '04 reach		Rain.snow	1.1	Spawning, rearing, migration	Coho, Chum, Fall Chinook, cutthroat, steelhead	Low	Low	Spawning, Rearing, Migration	Low	Low			NA	41	
Cedar Creek 1 B Tier 2	LB Trib 1 to Grist Mill		Rain	0.9	Rearing, migration	Coho, Chum, Fall Chinook, Steelhead, Cutthroat	Low	High	Rearing, migration	Low	Low			NA	59	
Cedar Creek 1 C Tier 2	Grist Mill to Pup Creek		Rain	1.9	Rearing, migration	Coho, Chum, Fall Chinook, Steelhead, Cutthroat	Low	High	Rearing, migration	Low	Medium			NA	64	

Cedar Creek 2 C Tier 3	Beaver Cr. to RB Trib 1		Rain	0.7	Rearing, migration	Coho, Chum, Fall Chinook, Steelhead, Cutthroat	Low	Medium	Rearing, migration	Low	Medium			NA	75	
Cedar Creek 5 Tier 2	Bitter Cr to Chelatchie Cr		Rain	0.6	Rearing, migration	Coho, Chum, Fall Chinook, Steelhead, Cutthroat	Low	High	Rearing, migration	Low	Medium			NA	63	
Cedar Creek 6 B Tier 3	LB Trib 3 to RB Trib 2		Rain	1.7	Rearing, migration	Coho, Chum, Fall Chinook, Steelhead, Cutthroat	Low	Medium	Rearing, migration	Low	Low			NA	74	
Cedar Creek 6 C Tier 4	RB trib 2 to RB Trib 3		Rain	0.72	Rearing, migration	Coho, Chum, Fall Chinook, Steelhead, Cutthroat	Low	Low	Rearing, migration	Low	Low			NA	56	
Clearwater Creek Tier 2	Mouth to RM 8.7	170800020202 Clearwater Creek	Rain, Glacier	8.7	Holding, rearing, migration	Coho, Rainbow, Cutthroat, Bull trout, Mt. Whitefish, Suckers, Spring Chinook, steelhead	UNK	Medium	Rearing, migration	UNK	High	Spawning, rearing, migration		Medium	57	
Clearwater Tribs. Tier 2	Small Tribs to Clearwater Creek	170800020201 Smith Creek	Rain, Glacier	0.8	Holding, Spawning, rearing, migration	Coho, Rainbow, Cutthroat, Bull trout, Mt. Whitefish, Suckers, Spring Chinook, steelhead	UNK	Low	Holding, Spawning, rearing, migration	UNK	Medium			NA	49	
Cougar Creek2																
Crab Creek Tier 2	Mouth to 0.4	170800020109 Cussed Hollow Creek	Rain, Glacier, Spring	0.4	Spawning, rearing, migration	Coho, Rainbow, Cutthroat, Bull trout, Mt. Whitefish, Suckers, Spring Chinook, Steelhead	Medium	High	Spawning, rearing, migration	Low	Medium	Spawning, rearing, migration	Low	Medium	42	
Dog Creek Tier 4	Head of Yale Lake to R.M. 2.0	170800020405 Upper Yale Reservoir	Rain, Spring	2	Rearing, migration	Cutthroat	Low	Low	Holding, Rearing, Migration	Low	Low				10	

Cougar Creek (incorrectly labeled as Panemaker Cr. on the LCFRB map) Tier 3	Trib to Yale Lake	170800020405 Upper Yale Reservoir	Rain, Glacier, Spring	2.1	Spawning, rearing, migration	Bull trout, Cutthroat, Kokanee, Mt. Whitefish, coho	UNK	Low	Spawning, Rearing, Migration	UNK	Medium	Spawning, rearing, migration			37	
Lewis 12 Not Ranked	Swift Bypass Reach from Yale Lake to Swift dam	170800020405 Upper Yale Reservoir	Rain	3.3	Spawning, rearing, migration	Cutthroat, Rainbow, Kokanee, bull trout	Low	NA	Spawning, Rearing, Migration	Medium	NA	Spawning, rearing, migration	Medium	NA	Not rated	
Lewis 18 Tier 1	Head of Swift Reservoir to Pine Creek	170800020303 Upper Swift Reservoir	Rain, Glacier, Spring	0.7	Rearing, migration	Coho, Rainbow, Cutthroat, Bull trout, Mt. Whitefish, Suckers, Spring Chinook, steelhead	High	High	Rearing, migration		High	Holding, rearing, migration	Medium	High	52	
Lewis 21 Tier 2	Rush Creek to Little Creek	170800020113 Little Creek	Spring, Rain	1	Rearing, migration	Coho, Rainbow, Cutthroat, Bull trout, Mt. Whitefish, Suckers, Spring Chinook, steelhead	High	High	Holding, rearing, migration	Medium	Medium	Spawning, rearing, migration	Low	Low	45	
Lewis 19 Tier 1	Pine Creek to Muddy River	170800020301 Pine Creek	Spring, Glacier	0.5	Rearing, migration	Coho, Rainbow, Cutthroat, Bull trout, Mt. Whitefish, Suckers, Spring Chinook, steelhead	High	High	Holding, rearing, migration	Medium	High	Holding, rearing, migration	Medium	High	35	
Little Creek Tier 3	Mouth to RM 1.0	170800020113 Little Creek	Rain, Glacier, Spring	1	Holding, rearing, migration	Coho, Rainbow, Cutthroat, Bull trout, Mt. Whitefish, Suckers, Spring Chinook, steelhead	Low	Low	Rearing, migration	Low	Medium	Spawning, rearing, migration	Low	NA	51	



Muddy R3 Tier 4	Smith Creek to RM 13.8	170800020204 Clear Creek	Rain, Glacier	3.5	Rearing, migration	Coho, Rainbow, Cutthroat, Bull trout, Mt. Whitefish, Suckers, Spring Chinook, steelhead	Low	Medium	Spawning, rearing, migration	Medium	Low	Spawning, rearing, migration	Medium	Low	43	
NF Siouxon Tier 4	Mouth to RM 2.1	170800020403 North Siouxon Creek	Rain	2.1	Rearing, Migration	Cutthroat, Rainbow	Low	Low	Rearing, Migration	Medium	Low		Medium	NA	39	
Muddy R1 Tier 2	Mouth to Clear Creek	170800020205 Muddy River	Rain, Glacier	4.4	Rearing, migration	Rainbow, Cutthroat, Coho	Medium	Medium	Rearing, migration	Medium	High	Spawning, holding, rearing, migration	Medium/High	Low	55	
Muddy R1A Tier 2	Clear Creek to Clearwater Creek	170800020205 Muddy River	Rain, Glacier	4.4	Rearing, migration	Coho, Rainbow, Cutthroat, Bull trout, Mt. Whitefish, Suckers, Spring Chinook, steelhead	Medium	Medium	Rearing, migration	Medium	High	Spawning, holding, rearing, migration	Medium/High	Low	64	
Rain Creek Tier 3	Head of Yale Lake to RM 0.89	170800020405 Upper Yale Reservoir	Ephemeral	0.89	Spawning, rearing, migration	Cutthroat, Rainbow	Low	Low	Spawning, Holding, rearing, migration	Low	Medium	Spawning, rearing, migration	Low	NA	36	
Rush Creek Tier 3	Mouth to RM 2.5	170800020113 Little Creek	Rain	2.5	Holding, rearing, migration	Coho, Rainbow, Cutthroat, Bull trout, Mt. Whitefish, Suckers, Spring Chinook, steelhead	Medium	Medium	Holding, rearing, migration	Low	Low	Spawning, Rearing, Migration	Low	Low	31	
Siouxon 1 Tier 2	Mouth to NF Siouxon	170800020403 North Siouxon Creek	Rain	1.2	Holding, rearing, migration	Cutthroat, Rainbow	Low	Low	Rearing, Migration	Low	Low	Rearing, Migration	Medium	Medium	34	
Siouxon2 Not Ranked																
Siouxon 1 Template Tier 4	Entire Siouxon drainage	170800020403 North Siouxon Creek	Rain	2.3	Rearing, migration	Cutthroat, Rainbow	Low	Low		Medium	NA		Medium	NA	50	
Speelyai 2 Tier 4	Upstream of diversion dam	170800020603 Lake Merwin	Rain	2.8	Rearing, migration	Cutthroat, Rainbow	Low	Low	Rearing, migration	Medium	Low		Medium	NA	43	

Speelyai Canal Tier 4	Yale Lake to Diversion																
Swift Campground Creek Tier 3	Reservoir to RM 0.3	170800020303 Upper Swift Reservoir	Rain, Glacier, Spring	1.2	Holding, rearing, migration	Coho, Cutthroat	Low	Low	Rrearing, migration	Medium	Medium					50	
Spencer Creek Tier 2	Mouth to RM 0.4	170800020109 Cussed Hollow Creek	Rain, Glacier, Spring	0.6	Spawning, rearing, migration	Coho, Rainbow, Cutthroat, Bull trout, Mt. Whitefish, Suckers, Spring Chinook, steelhead	High	High	Spawning, rearing, migration	Low	Low					25	
Pine Creek 5 Tier 2	P8 to P10	170800020301 Pine Creek	Rain, Spring, Glacier	1	Rearing, migration	Coho, Rainbow, Cutthroat, Bull trout, Mt. Whitefish, Suckers, Spring Chinook, steelhead	High	High	Rearing, migration	Medium	Low	Spawning, Rearing, Migration	Medium	Low		44	
Pine Creek 6 Tier 2	P10 to upper extent	170800020301 Pine Creek	Rain, Spring, Glacier	2.75	Rearing, migration	Coho, Rainbow, Cutthroat, Bull trout, Mt. Whitefish, Suckers, Spring Chinook, steelhead	High	High	Rearing, migration	Medium	Low	Rearing, migration	Medium	Low		56	
1- Taken directly from EDT, Coho criteria was used as the basis for habitat lengths thus, may not be applicable to all species.																	
2- Our rating as a group showing how important we feel habitat improvements would be to this stream or stream reach.																	
3- What we feel as a group are the current conditions based on a good, marginal, or poor rating. Good would signify our belief that this stream or stream reach has relatively good current habitat conditions.																	
4- Habitat attributes taken directly from EDT and other sources to be used as a basis and comparison tool.																	
5- Low Impact is EDT's way of saying that this reach for this species if made to have habitat improvements would still, after habitat improvements, only have a low impact to the health and status of that specific species.																	
Grey cells Designate reaches downstream of Merwin dam. All other cells are upstream of Merwin dam																	

	Cumulative tornado graphs for the combined species (Chinook, coho, steelhead)											Cumulative			
	0%	0.50%	1.00%	1.50%	2.00%	2.50%	3.00%	3.50%	4.00%	4.50%	5.00%	total	SPCH	COHO	STHD
Lewis 18 Tier 1												4.108	2.07	1.75	0.288
Spencer Creek Tier 2												1.772	0.971	0.489	0.312
Lewis 19 Tier 1												1.635	0.632	0.57	0.433
Lewis 4 C Tier 1												1.63	0.318	0.767	0.545
Lewis 2 Tidal B Tier 4												1.497	0.567	0.493	0.437
Lewis 3 Tier1												1.308	0.289	0.428	0.591
Lewis 2 Tidal D Tier 2												1.116	0.319	0.542	0.255
Rush Creek Tier 3												1.025	0.819	0.14	0.066
Lewis 12 Not Ranked												0.995	0.96	0.006	0.029
Lewis 1 Tidal A Tier 4												0.86	0.384	0.062	0.414
Lewis 21 Tier 2												0.758	0.534	0.141	0.083
Swift Campground Creek Tier 3												0.741	0.611	0.08	0.05
Crab Creek												0.644	0.29	0.258	0.096
Lewis 4 A Tier1												0.627	0.317	0.153	0.157
Siouxon 1 Template Tier 4												0.624	0.477	0.088	0.059
Cougar Creek2												0.434	0.214	0.19	0.03
Clearwater Creek Tier 2												0.418	0.369	0.036	0.013
Muddy R3 Tier 4												0.348	0.298	0	0.05
Pine Creek 6 Tier 2												0.326	0.132	0.013	0.181
NF Siouxon Tier 4												0.315	0.146	0.012	0.157



Speelyai Canal Tier 4													0	0	0	0
Pine Creek 5 Tier 2													0	0	0	0