

ADF&G FISH PASSAGE UPDATE

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PRESENTATION GOALS

Introduction of new faces

Status update on projects

~Mat-Su Prioritization

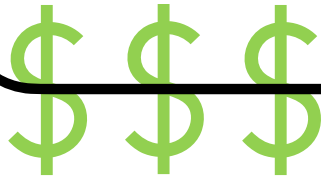
~Buddy Creek Pit Tag

~Culvert Stability Study



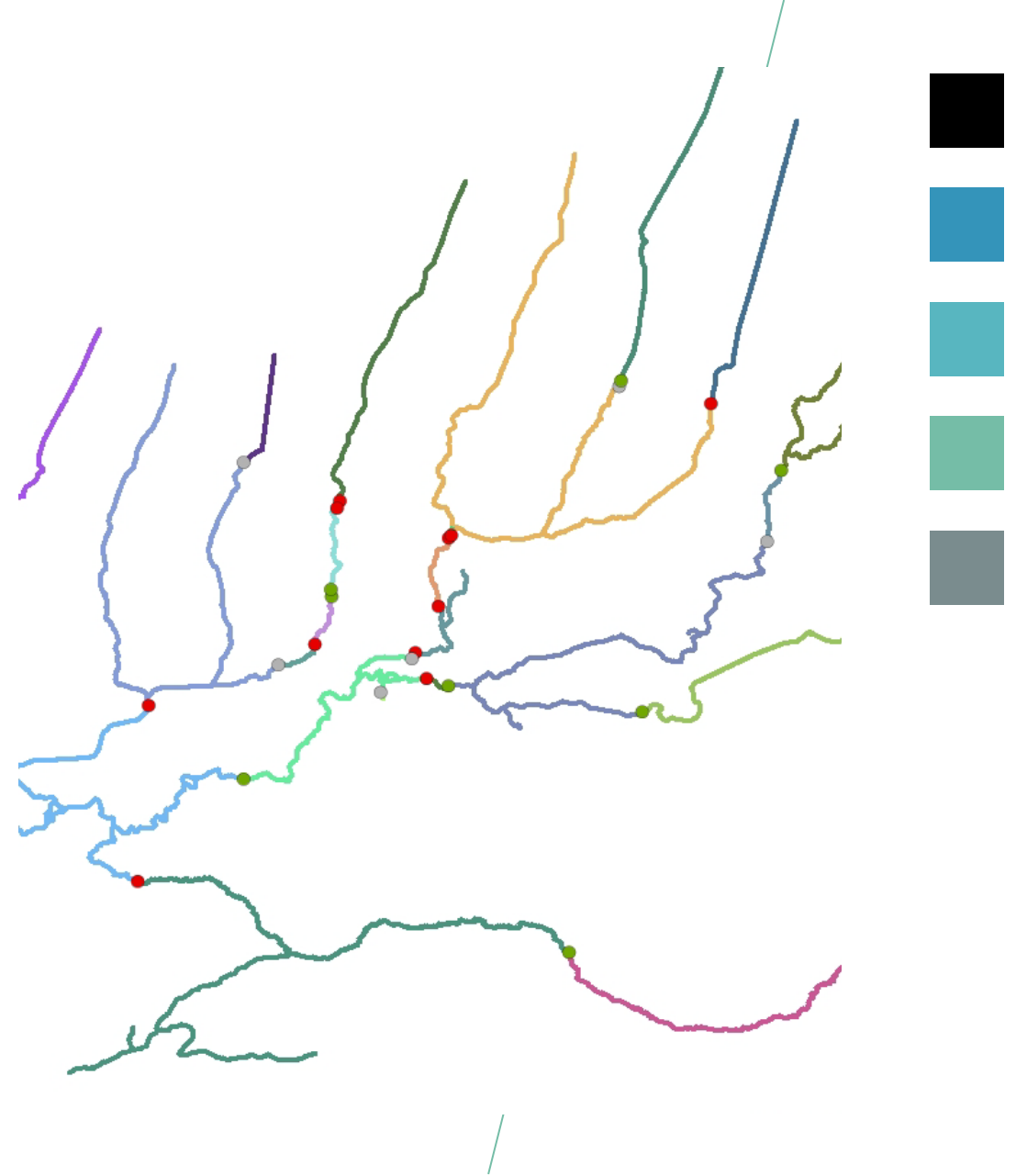
Mat-Su Culvert Prioritization

- So why update the prioritization?
 - The last prioritization was completed in 2014
 - 18 of top 100 have been replaced!!!!
- The Infrastructure Bill
 - Lots of money earmarked for fish passage
 - Upstream miles of habitat as a metric
- New spatial data available
 - NHD+ For the Mat-Su has elevation data



Prioritization

1. Made a stream mile map layer based on culvert locations
2. Used the HDH+ elevation data to help predict up extend of anadromy
 - 16% gradient over 35 meters
3. Calculates total upstream miles for each culvert to the next red culvert or end of anadromy



AREAS OF GROWTH

2014

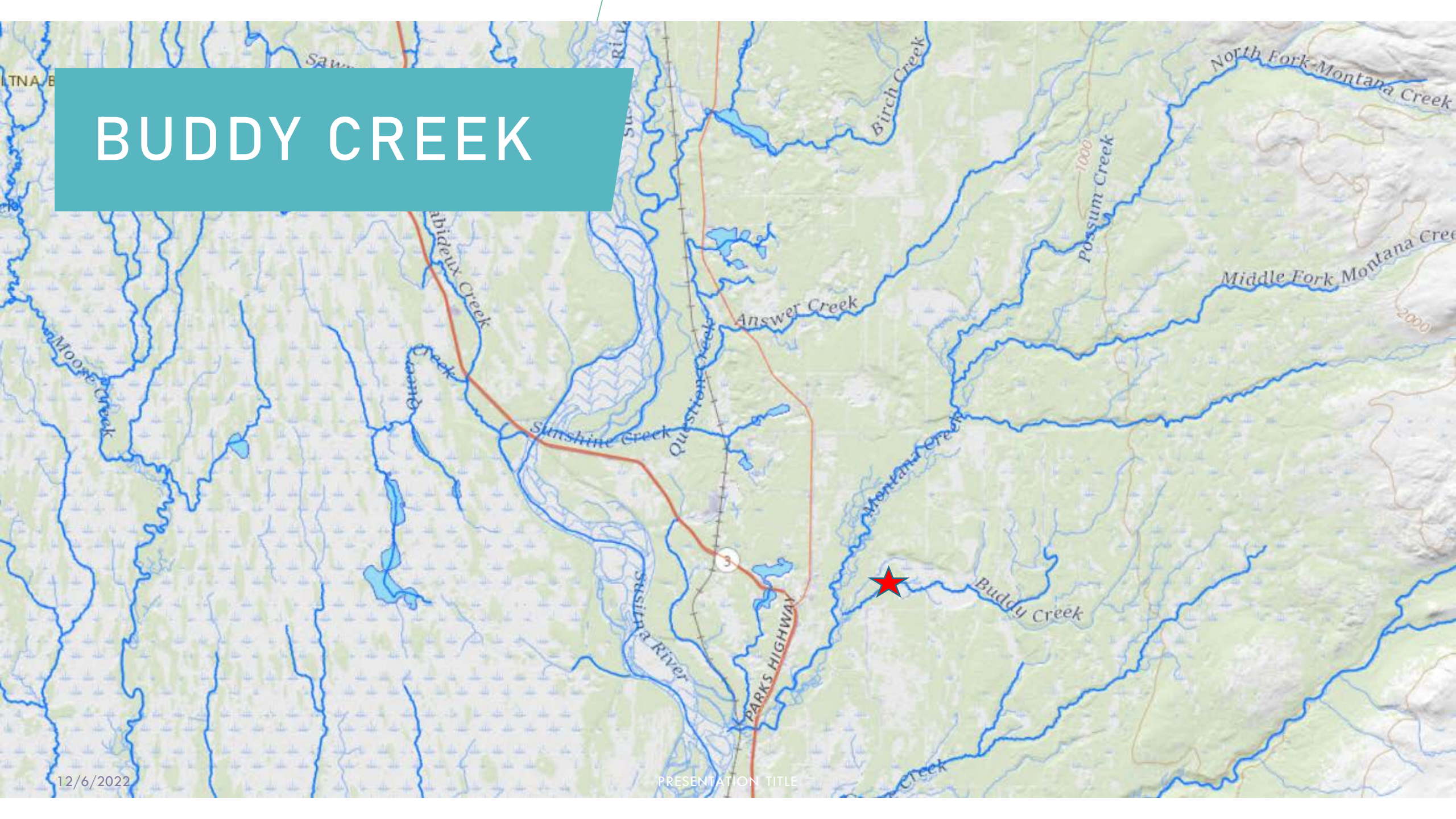
Rank	Road Name	Stream Name	Prioritization	U/S Miles
1	Parks Highway	Trapper Creek	33.8	21.3
2	Petersville Road	Ninemile Creek	20.3	13.1
3	Big Lake Road	Lucille Creek	17.4	10.8
4	Fishhook Road	Wasilla Creek	16.9	10.8
5	Talkeetna Spur Road	Answer Creek	14.9	14.2
6	Beaver Lake Road	Meadow Creek	10.2	7.2
7	Cameo Road	Goose Creek	10.1	7.0
8	Parks Highway	Chulitna River tributary	8.6	5.5
9	Willow Creek Parkway	Shirley Lake outlet	6.6	4.7
10	Alaska Railroad	Susitna River tributary	5.5	4.0
11	Parks Highway	Chulitna River tributary	5.3	3.4
12	Petersville Road	Seventeen Mile Creek	5.1	5.1
13	PARKS Highway	Unnamed	5.0	5.3
14	Parks Highway	Hardage Creek	4.9	4.6
15	Montana Creek Road	Buddy Creek	4.4	2.9

2022

Change	Rank	Road Name	Stream Name	Prioritization	U/S Miles
#N/A	1	Parks Highway	Cottonwood Creek	68.1	6.4
5	2	Talkeetna Spur Road	Answer Creek	64.9	28.7
1	3	Parks Highway	Trapper Creek	58.0	44.5
2	4	Petersville Road	Ninemile Creek	47.2	5.3
28	5	Alaska Railroad	Meadow Creek tributary	36.1	5.6
37	6	Alaska Railroad		29.1	2.1
26	7	Talkeetna Spur Road	Question Creek	28.2	3.7
#N/A	8	Alaska Railroad	Little Meadow Creek	27.1	9.3
61	9		Anderson Lake outlet	20.7	0.7
13	10	PARKS Highway	Unnamed	19.2	5.7
22	11	Parks Highway	Chulitna River tributary	18.6	7.7
#N/A	12	Jonesville Mine Road	Eska Creek	18.4	29.7
#N/A	13	Beaver Lake Road	Lynda Lake Portage	18.0	3.1
#N/A	14	Pittman Road		16.6	1.1
#N/A	15	PARKS Highway	Grey's Creek	16.1	17.2

Prioritization Score (PS) = WeightedRating((Upstream miles * 0.6)+(Lake Acres Rating * 0.2)+(No. of anadromous species * 0.15)+(No. of resident species * 0.05))

BUDDY CREEK



BUDDY CREEK



12/6/2022

Caswell Creek

BUDDY CREEK

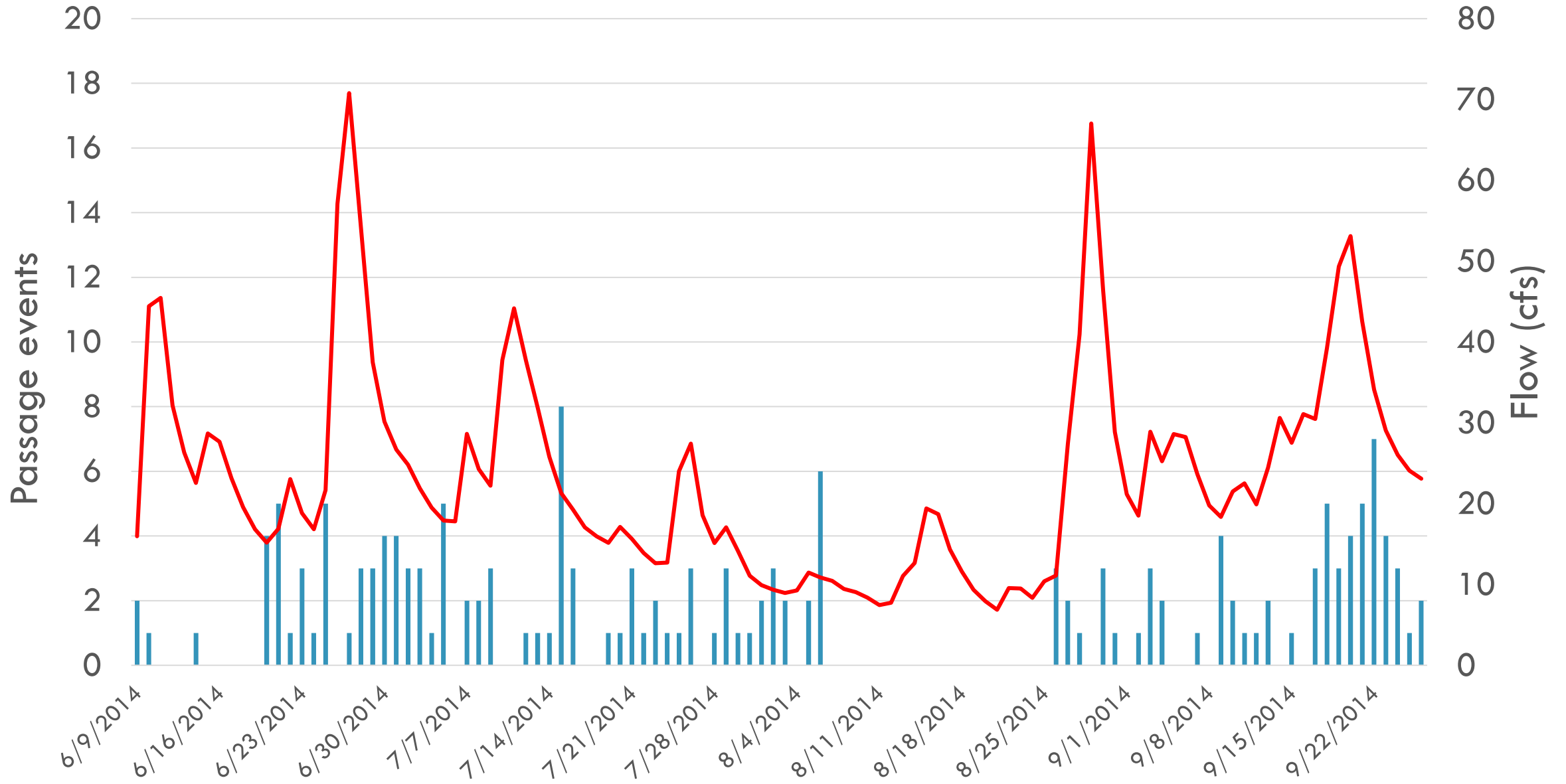


BUDDY CREEK

Tagged fish by species and year

Species	2013	2014	2015	2016	Total
Coho Salmon	135	90	84	200	509
Chinook Salmon	98	47	50	58	253
Rainbow Trout	7	30	6	2	45
Total	240	167	140	260	807

2014 (old culverts)



BUDDY CREEK

Coho salmon results

	Pre-Replacement			
	Size (mm)	Low Passage (cfs)	High Passage (cfs)	No. Of Passages
Upstream	65-110	6.4	63	107
Downstream	65-110	7.0	68	87

	Post-Replacement			
	Size (mm)	Low Passage (cfs)	High Passage (cfs)	No. of Passages
Upstream	64-119	2.9	91	144
Downstream	65-119	2.9	70	119

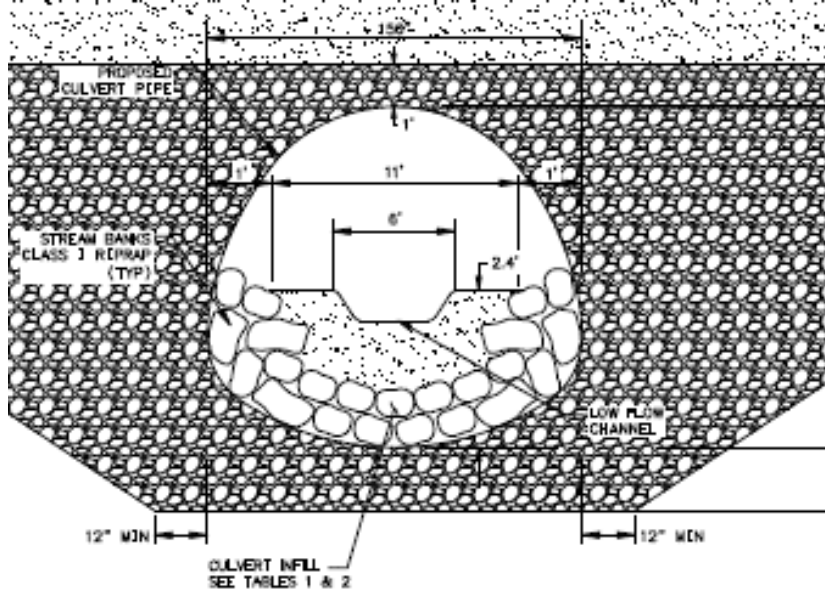


STABILITY STUDY

Goals

- Assess how stream simulation culverts changed overtime
- Document any failures in Stream simulation culverts

Design



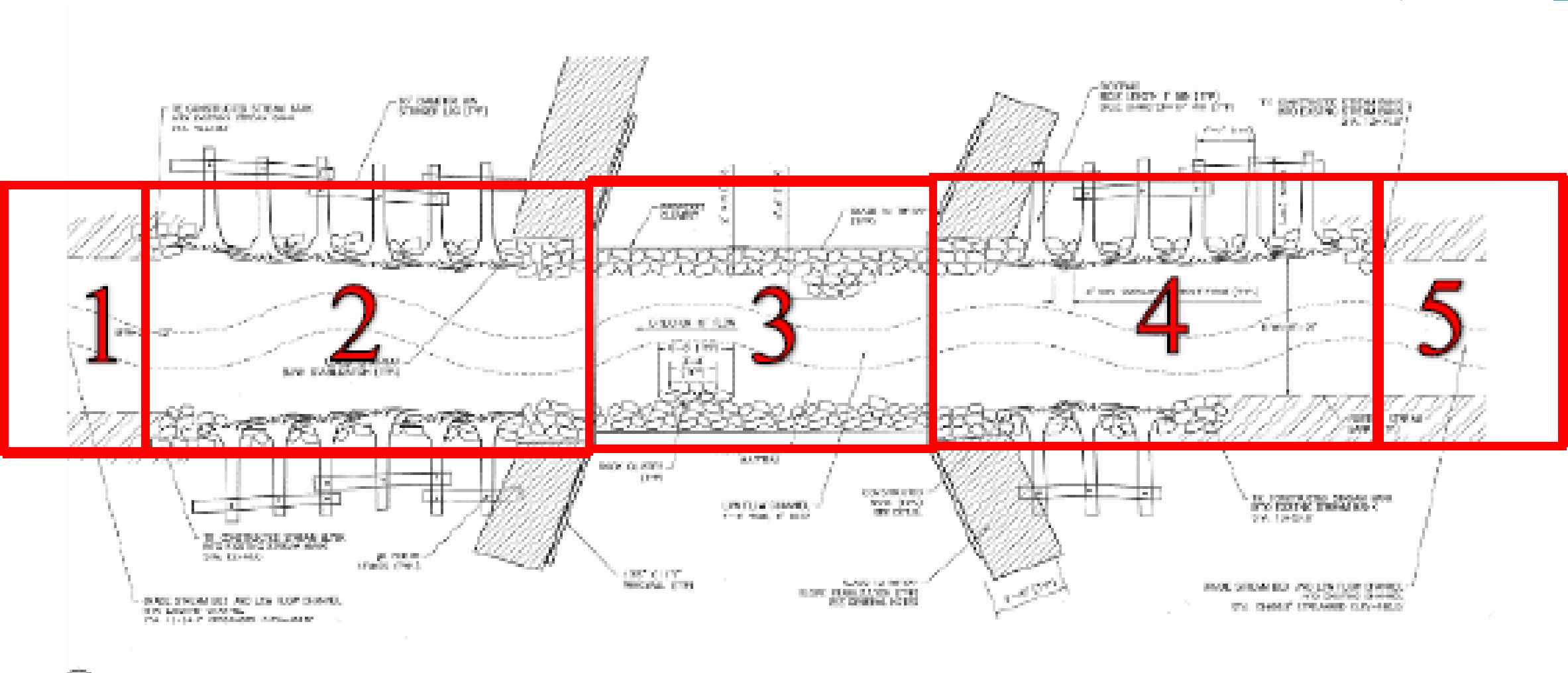
As Built



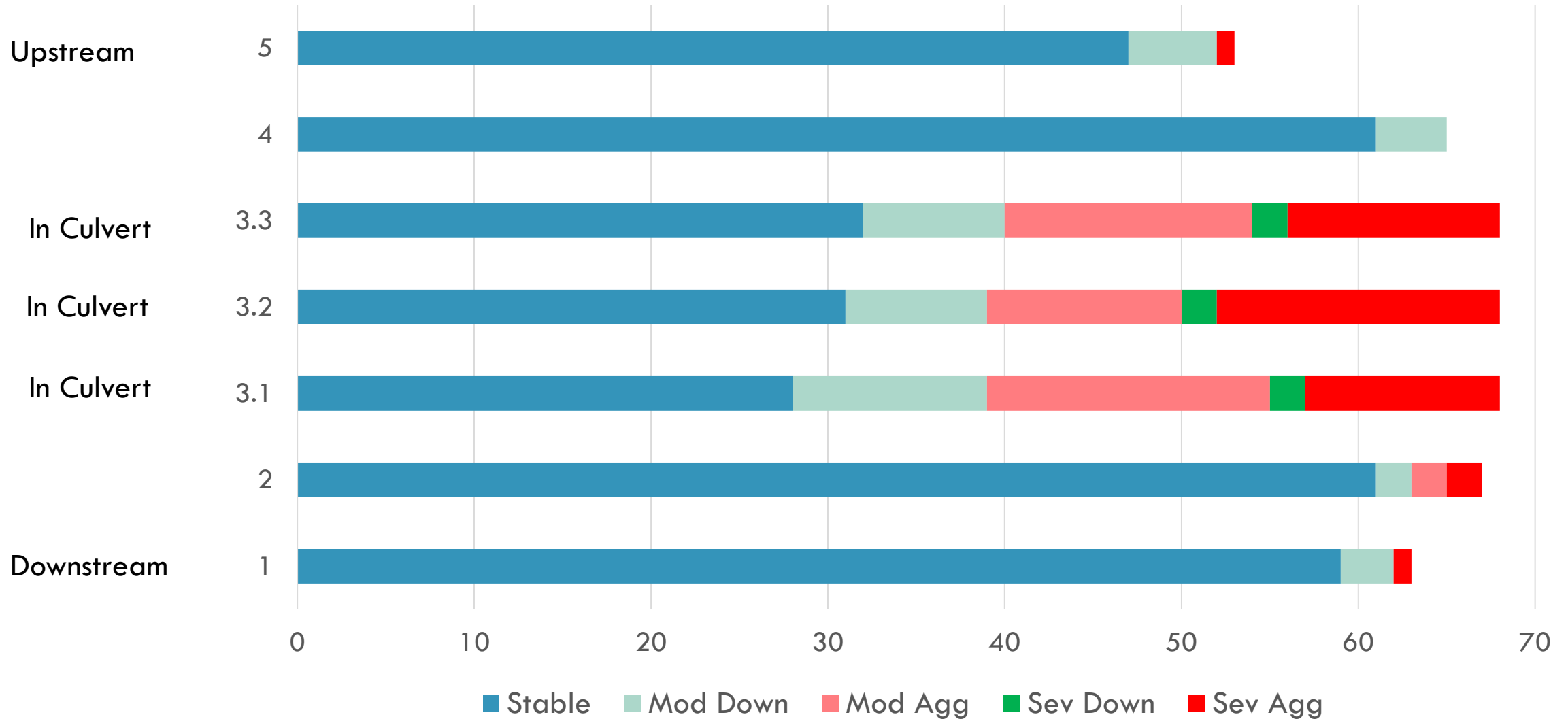
6 years after install



Stability Study



Stability Study Preliminary Results



THANK YOU



2016 (stream simulation culvert)

