

Chehalis Basin Strategy: Reducing Flood Damage and Enhancing Aquatic Species

Aquatic Species Enhancement Plan

Technical Committee Meeting

Olympia, Washington

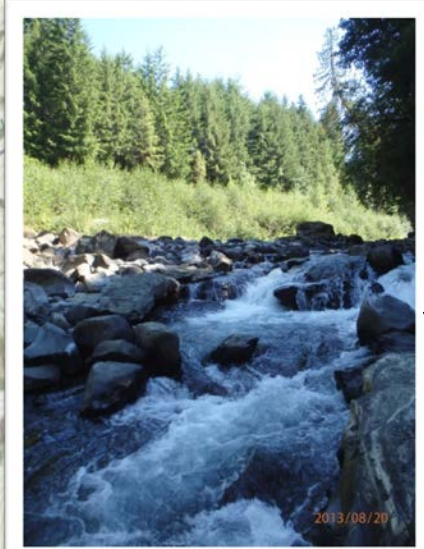
May 7-8, 2014



Study objectives – Summer 2013

- Gain an understanding of juvenile salmonid movements during their summer rearing period with a focus on fish movements at the proposed dam site in the Upper Chehalis sub-basin.

PIT Array Sites and Tagging Reaches - Chehalis River 2013

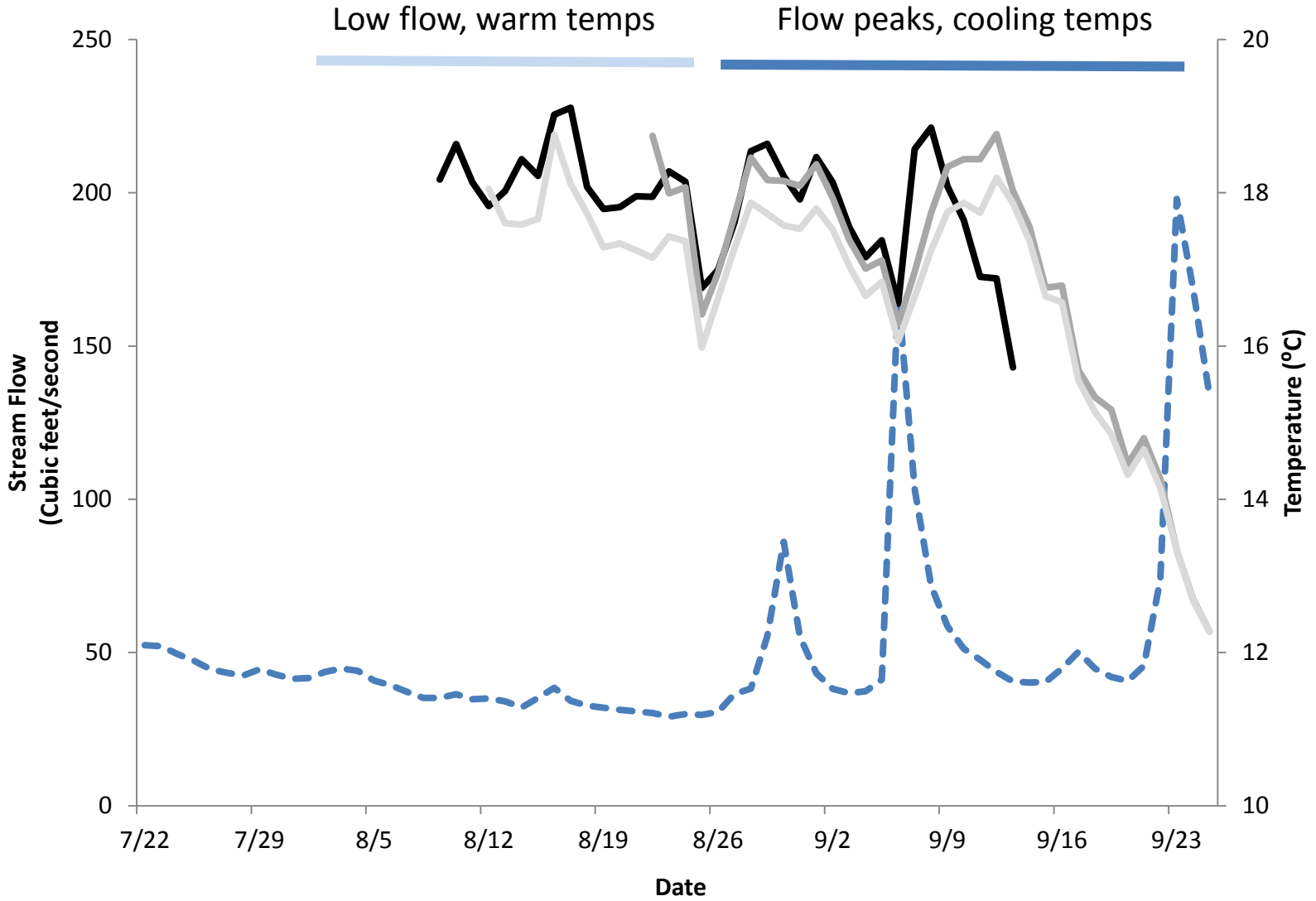


The total number of tagged juvenile coho and *O. mykiss* released by location and the total number detected at least once during the study period.

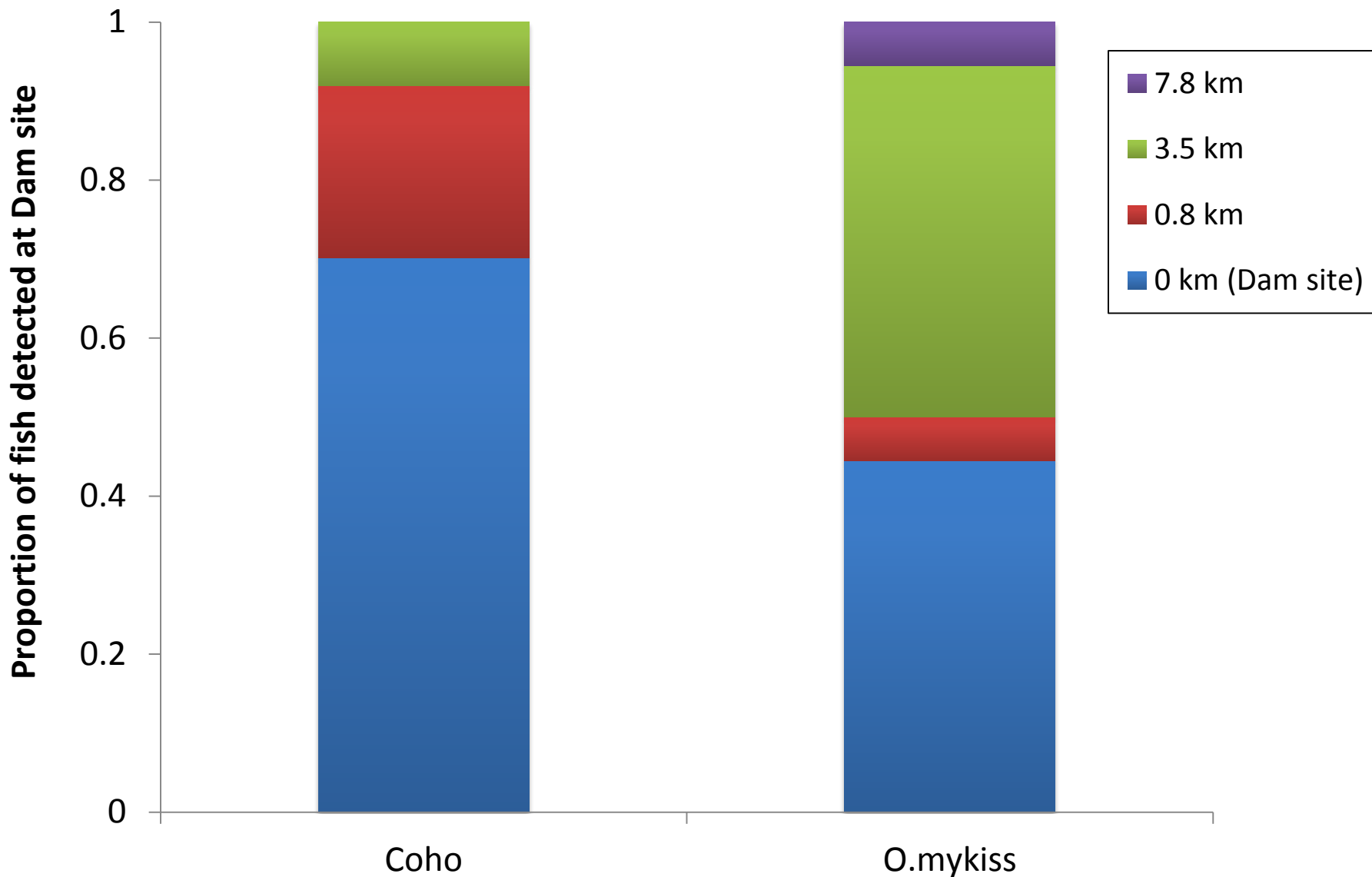
Release Sites – distance downstream from dam site	Coho		O. mykiss	
	65 - 97 mm		65 – 159 mm	
	Tagged	% Detected	Tagged	% Detected
Dam site (0 km)	214	53.7	21	38.1
0.8 km	456	11.4	39	5.1
3.5 km	539	29.5	144	12.5
7.8 km	405	9.1	27	7.4
Total	1614	21.6	231	13.0



2013/07/11

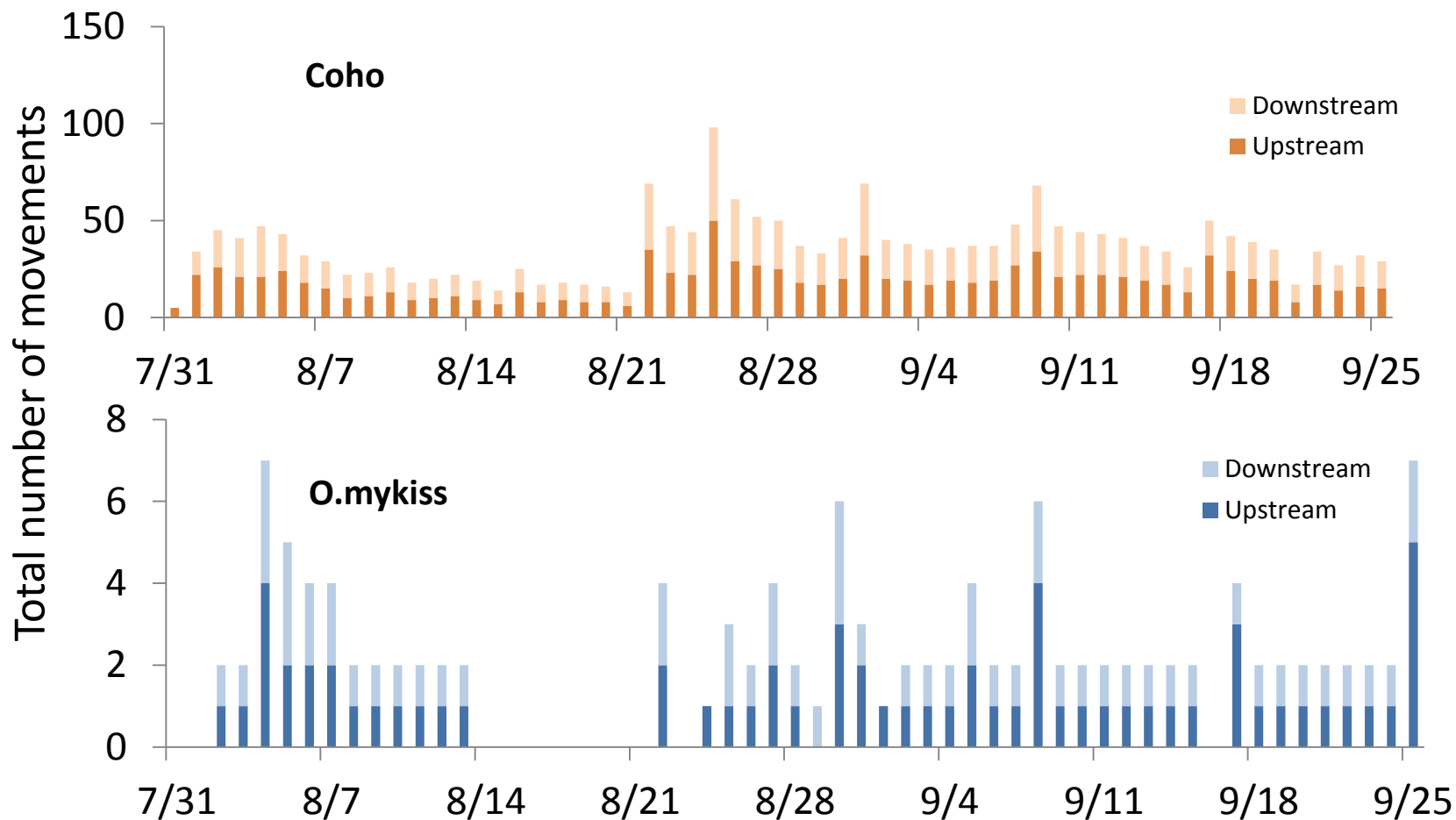


- 1) Proportionally more O.mykiss detected from Pe Ell area when compared to coho
- 2) O. mykiss moved up to 7.8 km upstream, coho 3.5 km



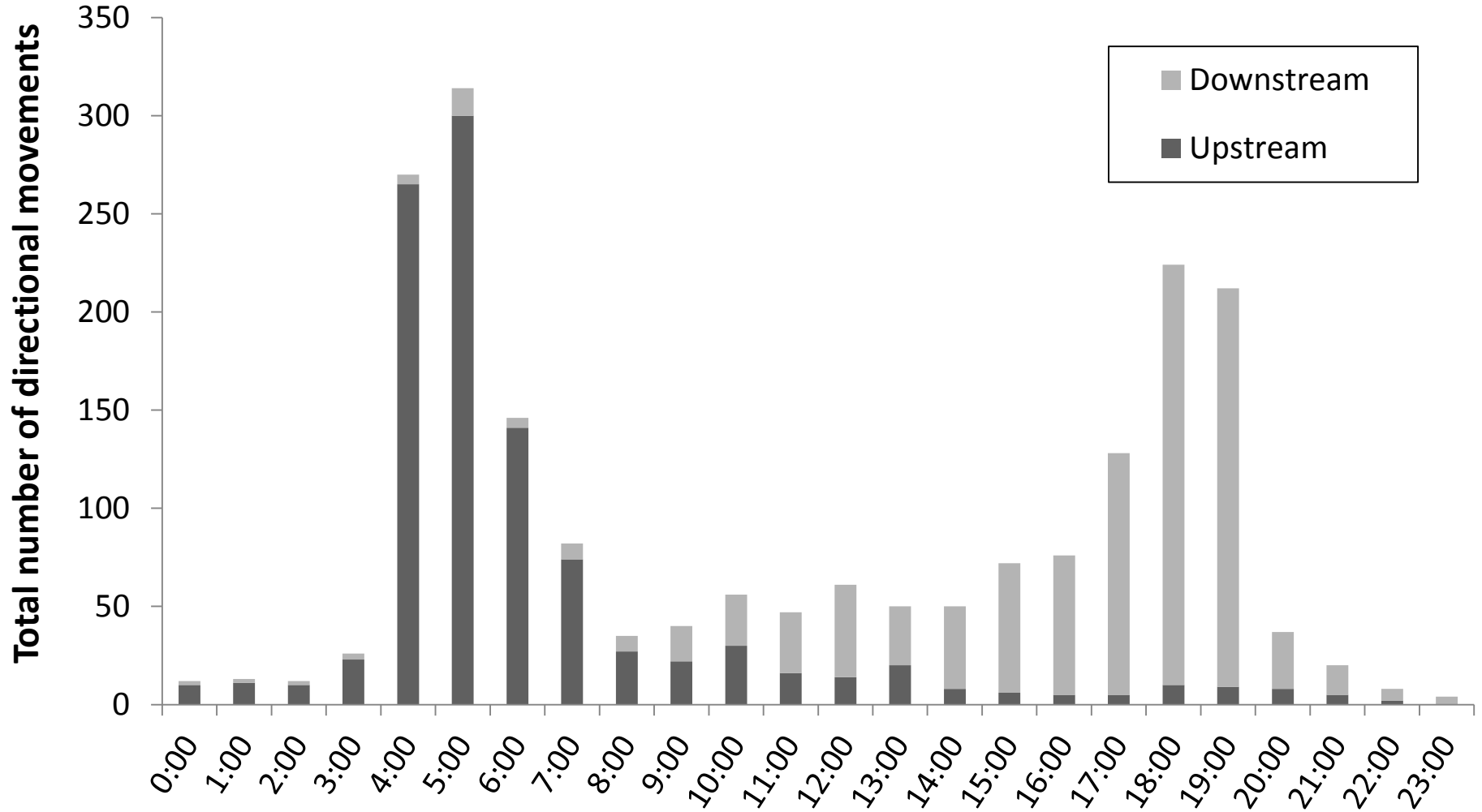
Juvenile coho and O.mykiss:

- 1) Consistently observed at dam site throughout study period
- 2) Moved upstream and downstream on a daily basis throughout study period



LOWER	8/27/2013	4:53:56	3DD.003BB4DCFE
UPPER	8/27/2013	4:54:56	3DD.003BB4DCFE
UPPER	8/27/2013	19:29:14	3DD.003BB4DCFE
LOWER	8/27/2013	19:29:45	3DD.003BB4DCFE

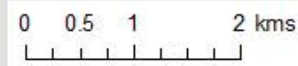
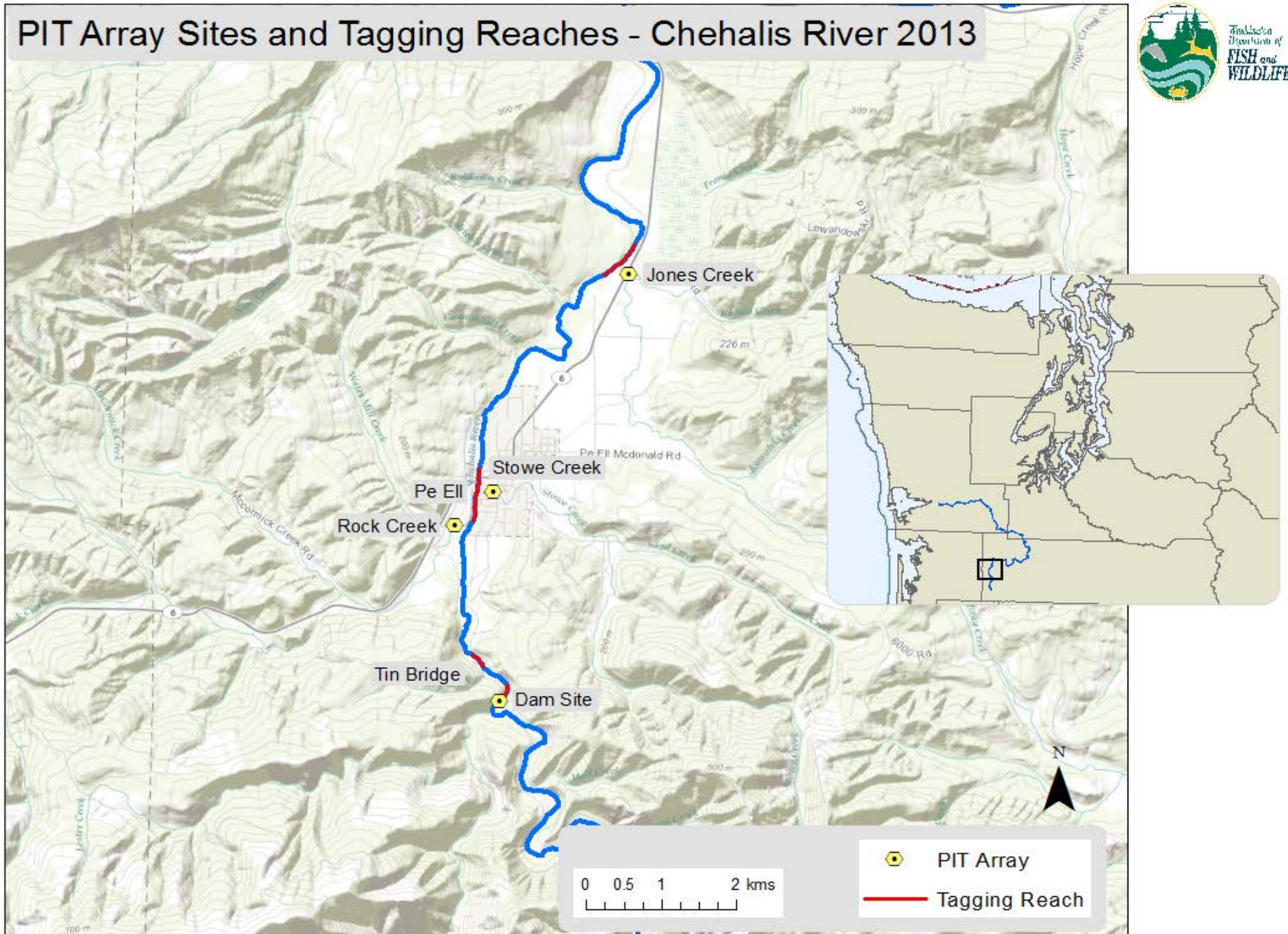
Juvenile coho and O. mykiss moved upstream in the morning and downstream in the evening



LOWER	8/29/2013	4:51:44	3DD.003BB4DCF0
UPPER	8/29/2013	4:54:43	3DD.003BB4DCF0
UPPER	8/29/2013	17:59:16	3DD.003BB4DCF0
LOWER	8/29/2013	18:00:16	3DD.003BB4DCF0

LOWER	9/5/2013	5:53:55	3DD.003BB4DCF9
UPPER	9/5/2013	5:54:52	3DD.003BB4DCF9
UPPER	9/5/2013	17:05:45	3DD.003BB4DCF9
LOWER	9/5/2013	17:06:23	3DD.003BB4DCF9

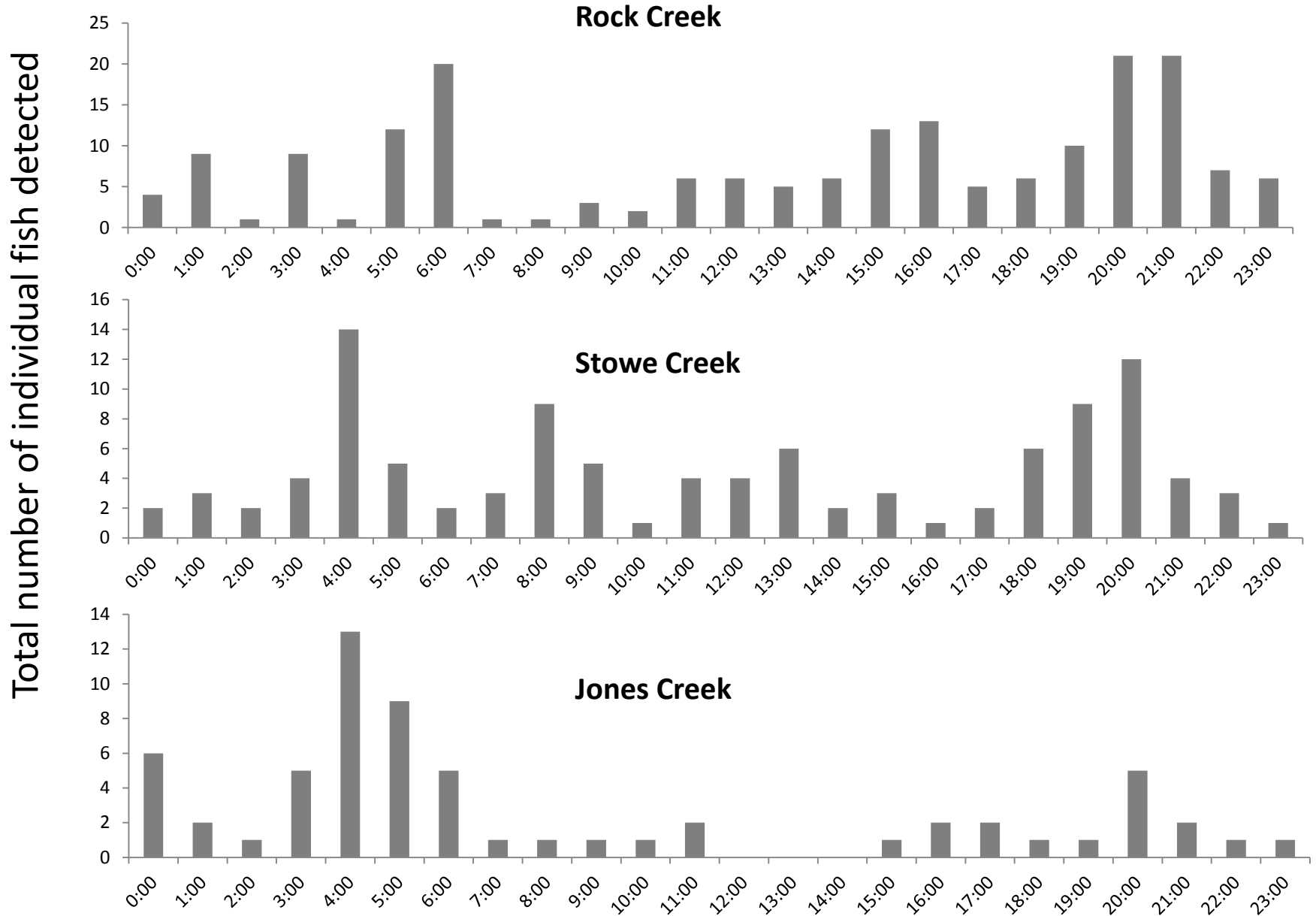
PIT Array Sites and Tagging Reaches - Chehalis River 2013



 PIT Array

 Tagging Reach

- 1) Bi-modal trend of detections were also observed at tributary sites
- 2) Movements from mainstem to tributaries



Original study objectives

- Gain an understanding of juvenile salmonid movements during their summer rearing period with a focus on fish movements at the proposed dam site in the Upper Chehalis sub-basin.

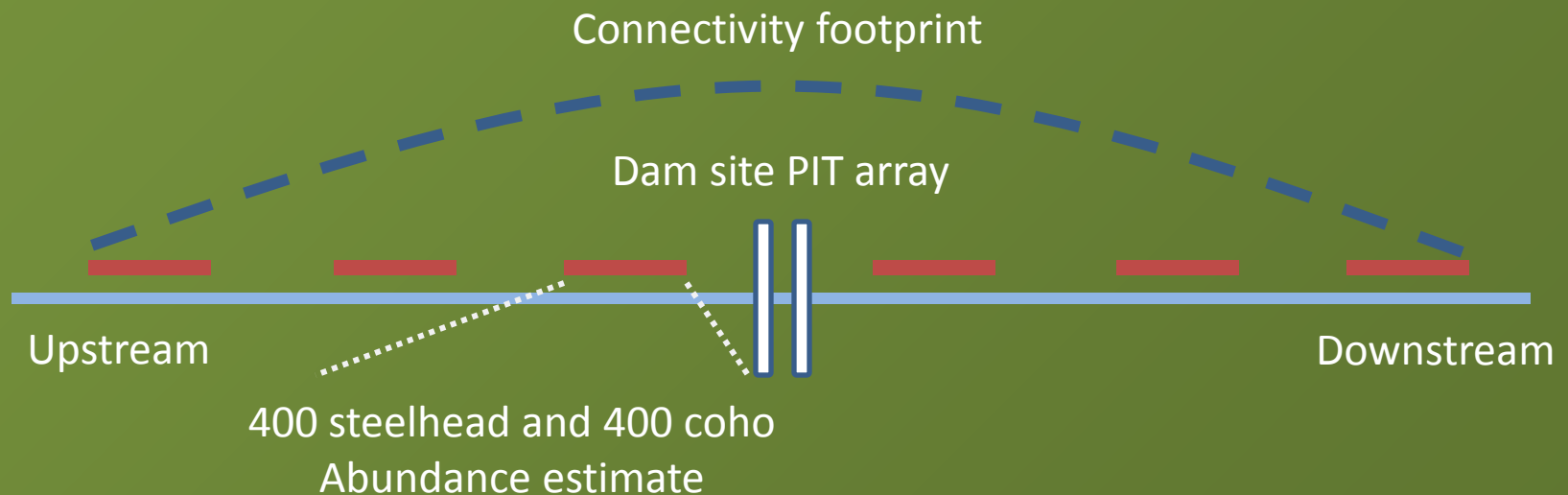
Take-homes from 2013

- Juvenile O.mykiss moved 7.8 km upstream to the dam site
- Juvenile coho moved 3.5 km upstream to the dam site
- Juvenile coho and O.mykiss were consistently detected at the dam site throughout the study period
- Juvenile coho and O.mykiss moved in upstream and downstream direction through the dam site on a daily basis
- General movements each day were upstream in the morning and downstream in the evening
- Juvenile O.mykiss and coho moved from mainstem to tributary

Refined study design

- How are movements related to increasing summer temperatures?
- How far and what direction are fish coming from?
- How many fish?

Stratifying tagging reaches at fixed distances above and below dam site



Questions



