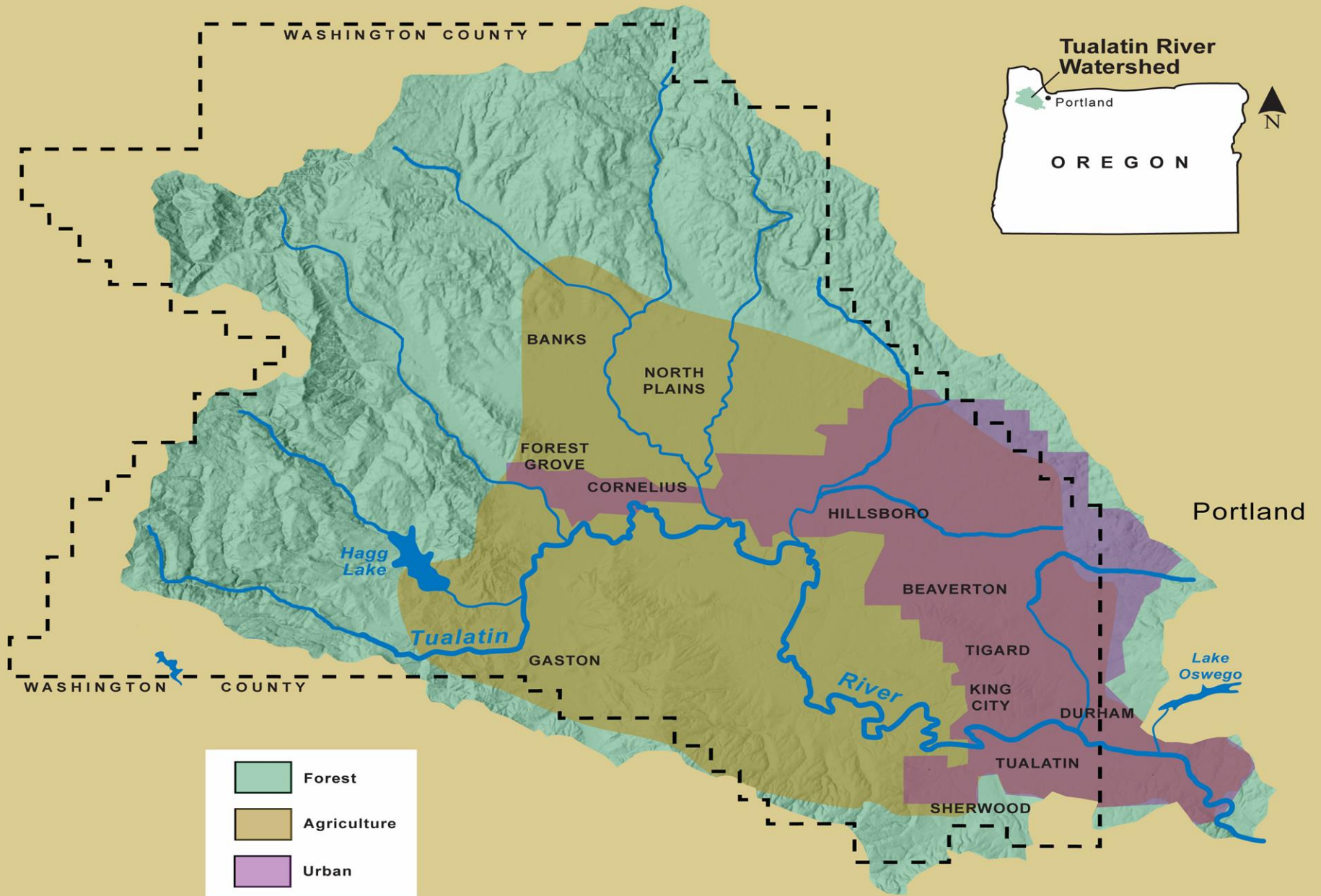


2013 Rapid Bio-Assessment In The Tualatin River Basin



Bio-Surveys, LLC.

Steve Trask / Jeremy Lees / Jim Holley



















Inventory Objectives

- **Determine summer distribution by species**
- **Identify summer migrations to thermal refugia**
- **Describe relative abundance of species**
- **Establish baselines for monitoring future trends**
- **Identify key anchor habitats (rearing & spawning)**
- * **Provide Guidance for Restoration Planning**

A scenic view of a river, likely the Lower Gales Cr Mainstem. The river flows from the background towards the foreground, with a person in a red kayak visible in the distance. The left bank is a mix of gravel and green vegetation. The right bank is a steep, eroded hillside covered in green grass and shrubs, with some exposed roots. Large logs are floating in the water. The sky is clear and blue.

Lower Gales Cr Mainstem



End Anadromous Distribution Haines Falls

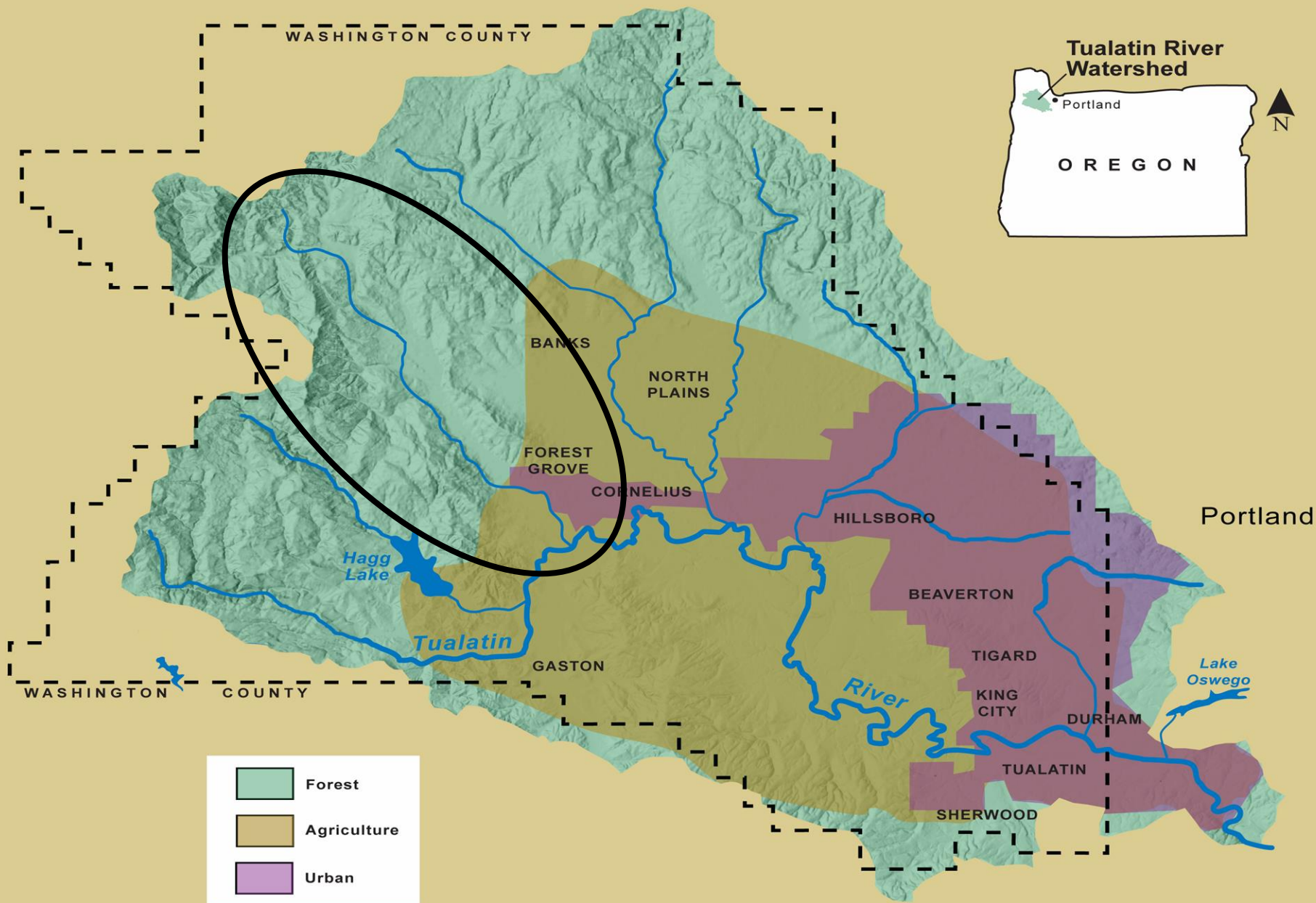
Compare Relative Abundance from other basins

Basin	Coho	Coho/mile	Sthd	Sthd/mile	Cutthroat	Cuts/mile
Tualatin 138 miles	90,090	653	2,747	20	12,020	87
Nehalem 289 miles	999,144	3,457	3,665	13	24,050	83
Tillamook 313 miles	705,350	2,254	23,245	74	21,870	70
Luckiamute 214 miles	44,028	206	975	5	11,980	56
Molalla 93 miles	18,549	199	13,031	140	4,844	52
Yaquina 154 miles	257,970	1,675	1,095	7	6,780	44

(Table 3) Expanded Subbasin Estimates for 2013

Subbasin	Coho	%	0+	%	Sthd	%	Cut	%
Tualatin	3,938	4.4	2,909	7.1	132	4.8	640	5.3
EF Dairy	37,124	41.2	12,489	30.5	1,965	71.5	3,776	31.4
Gales	26,805	29.8	18,340	44.7	650	23.7	4,055	33.7
McKay	8,855	9.8	2,492	6.1			1,984	16.5
WF Dairy	13,369	14.8	4,770	11.6			1,565	13
Inventory Total	90,090		41,000		2,747		12,020	

- 20% visual bias included for coho expansions

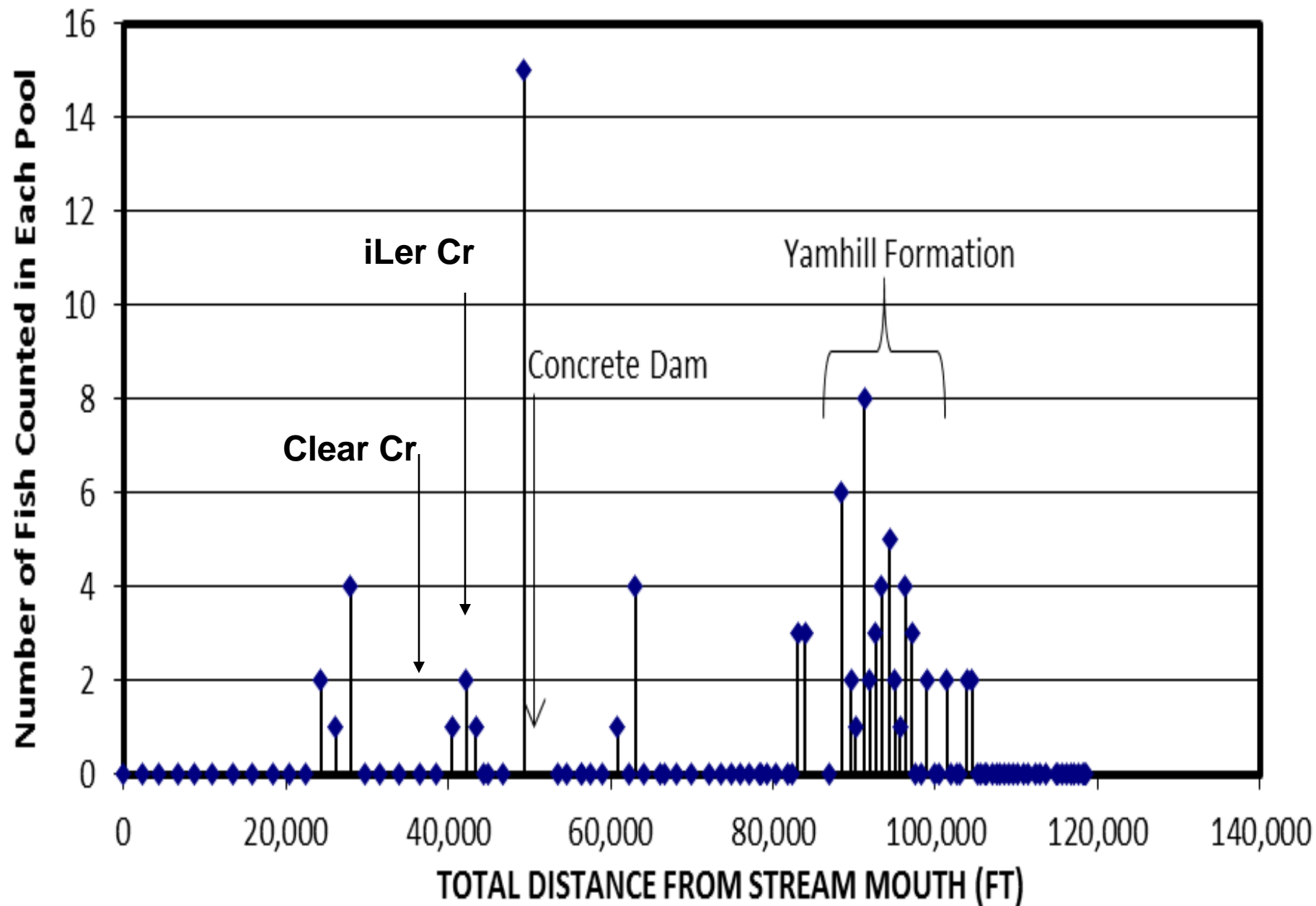


(Table 5) Expanded Gales Cr Subbasin Estimates

Stream	Coho	%	0+	%	Sthd	%	Cut	%
Gales	2,275	8.5	8,205	44.7	430	66.1	1,585	39
Bateman	175		250	1.4			115	2.8
Beaver	12,700	47.4	425	2.3			360	8.9
Clear	5,705	21.3	3,025	16.5	140	21.5	605	14.9
Coffee			325	1.8			45	1.1
Finger	156		45				30	
Iler	2,662	9.9	3,770	20.6	25	3.8	735	18.1
Low Divide			110					
NF Gales	1,013	3.8	935	5.1	50	7.7	220	5.4
Prickett			70				55	1.4
Roderick			40				5	
SF Gales	656	2.4	1,040	5.7			210	5.2
Trib A			25		5			
White	1,463	5.5	75				90	2.2
Inventory total	26,805		18,340		650		4,055	

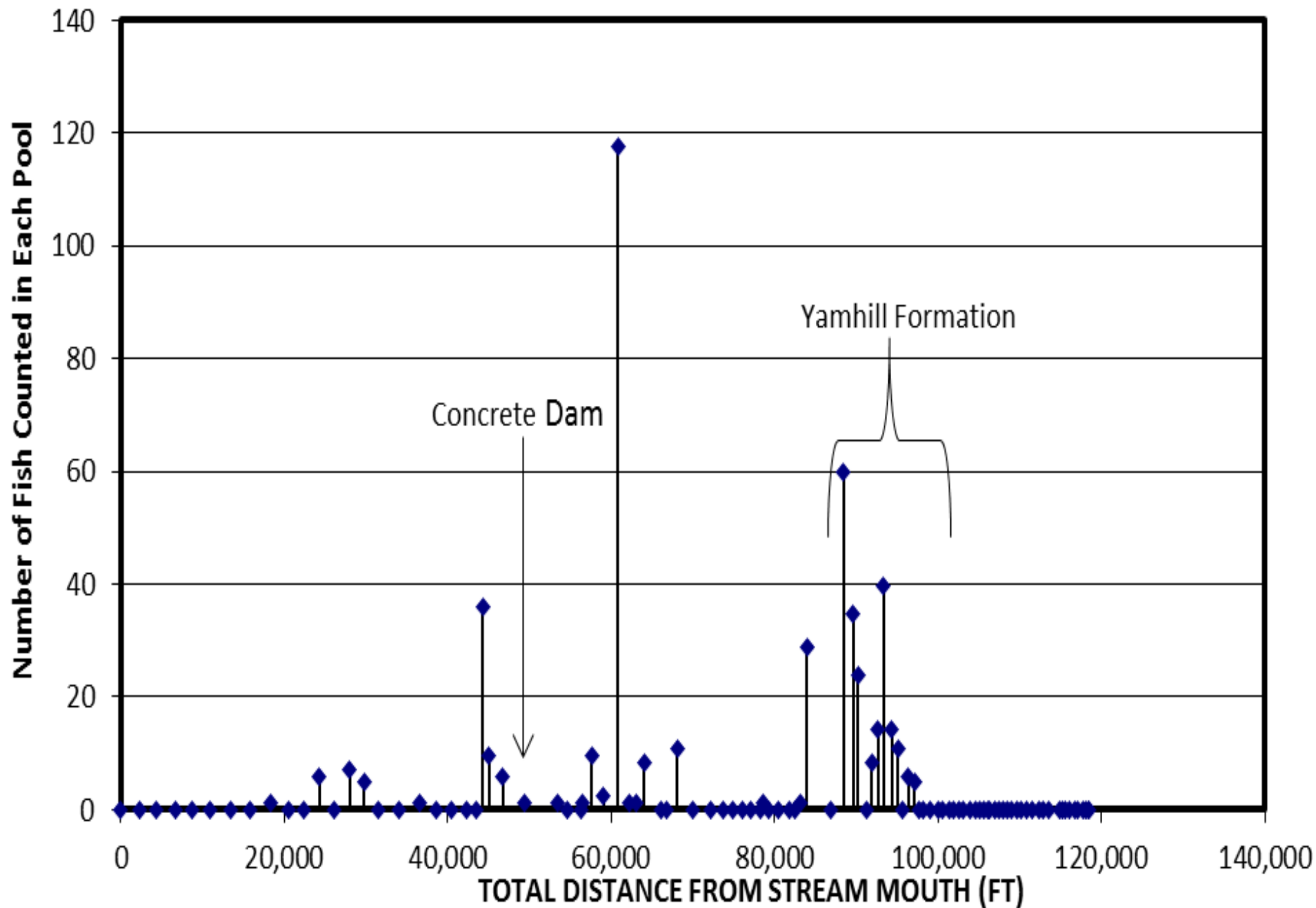
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Gales Cr steelhead counts

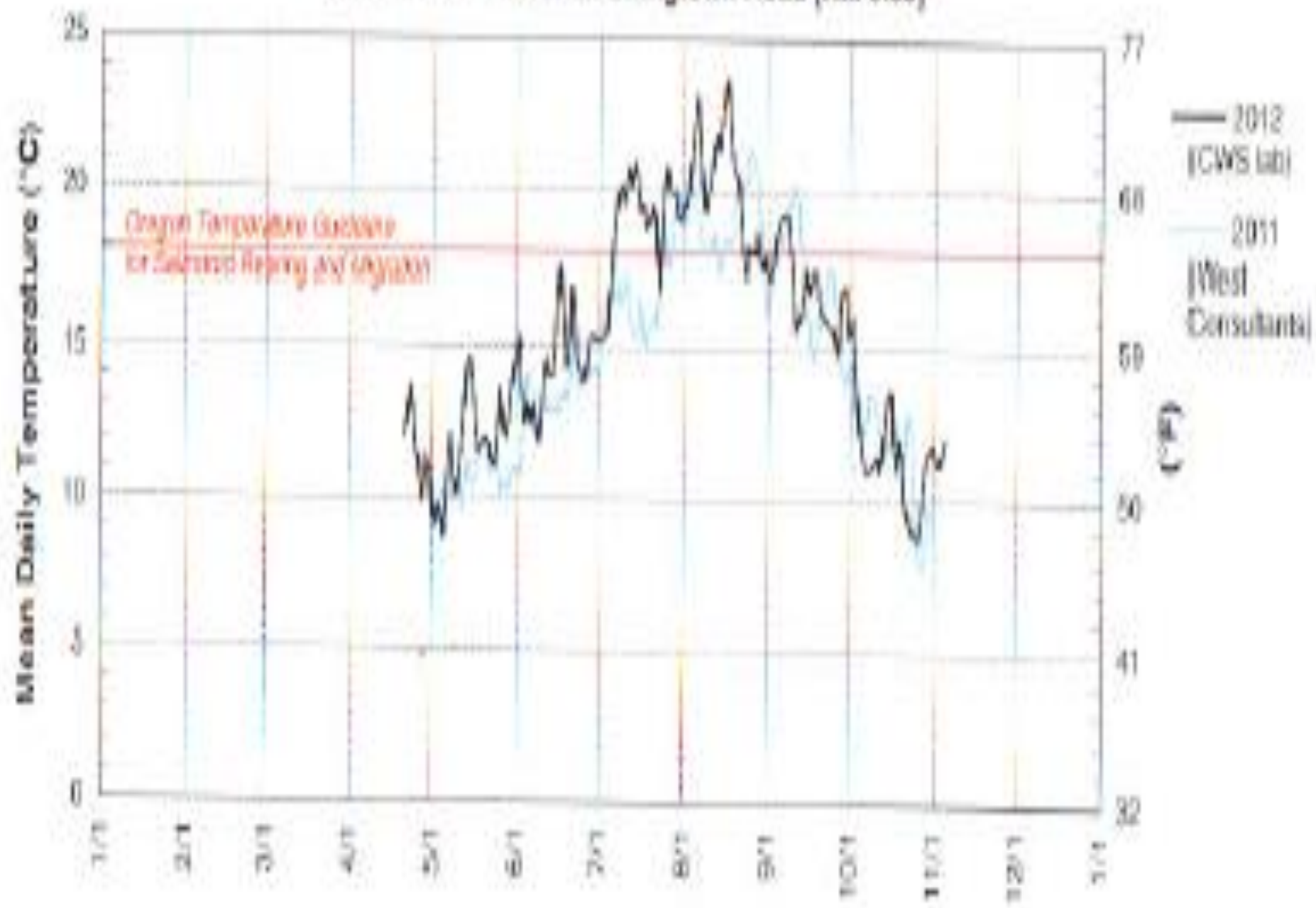




Gales Cr Coho counts



GCSR – Gales Creek at Stringtown Road (RM 6.98)





Percentage of Water Allocations in Gales Creek Watershed during Summer
 (T. Breckinger, from OWRD 1998 water rights of record)

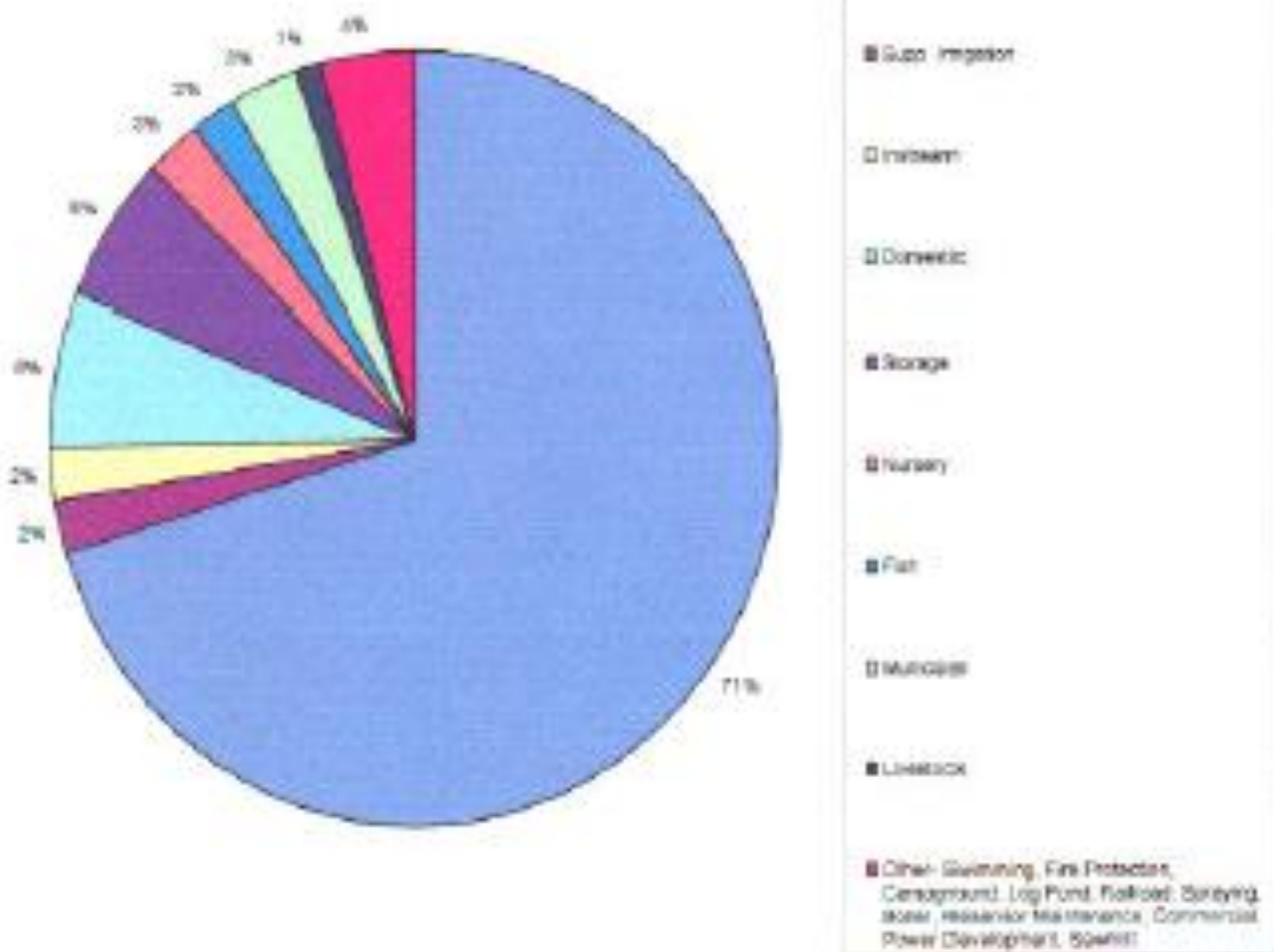
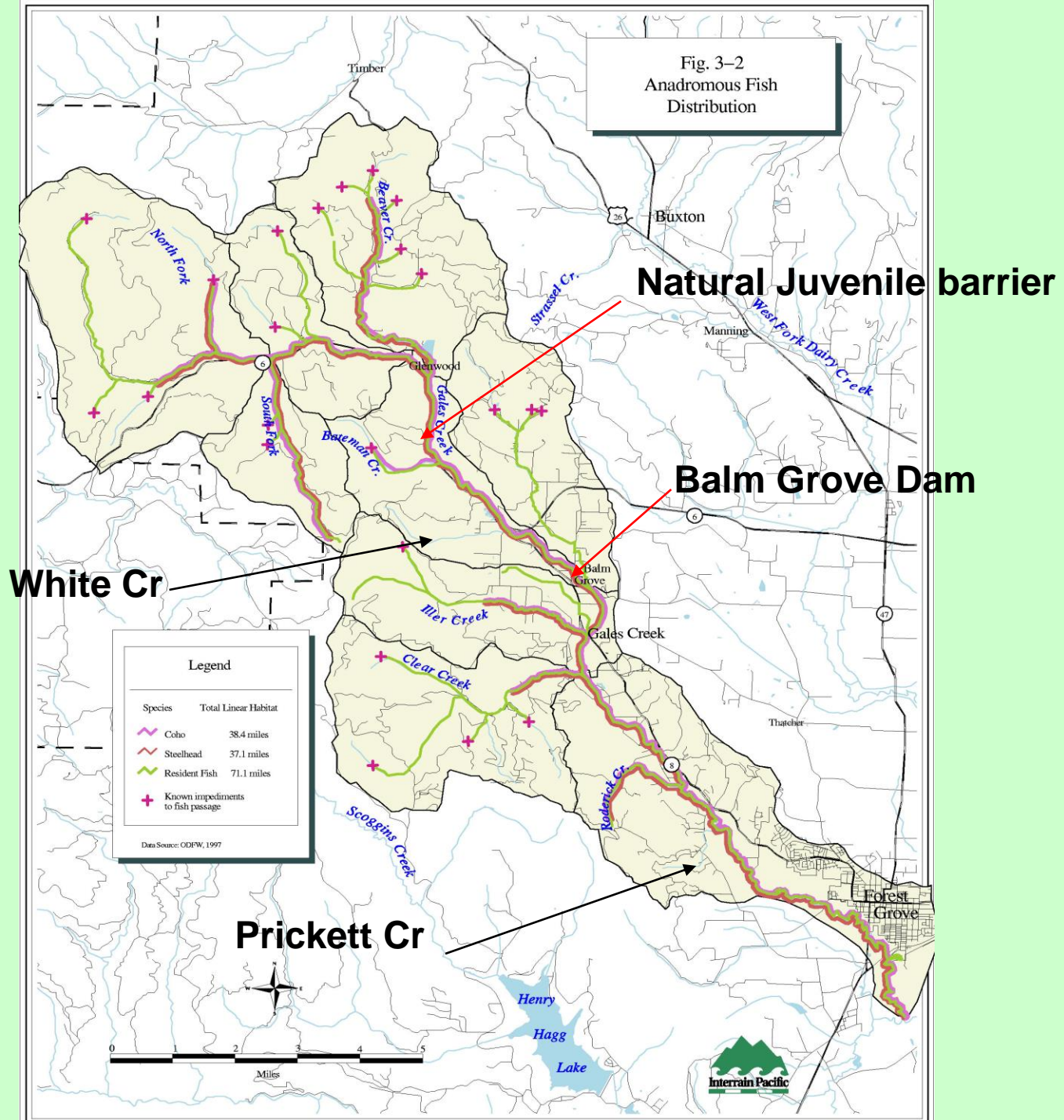
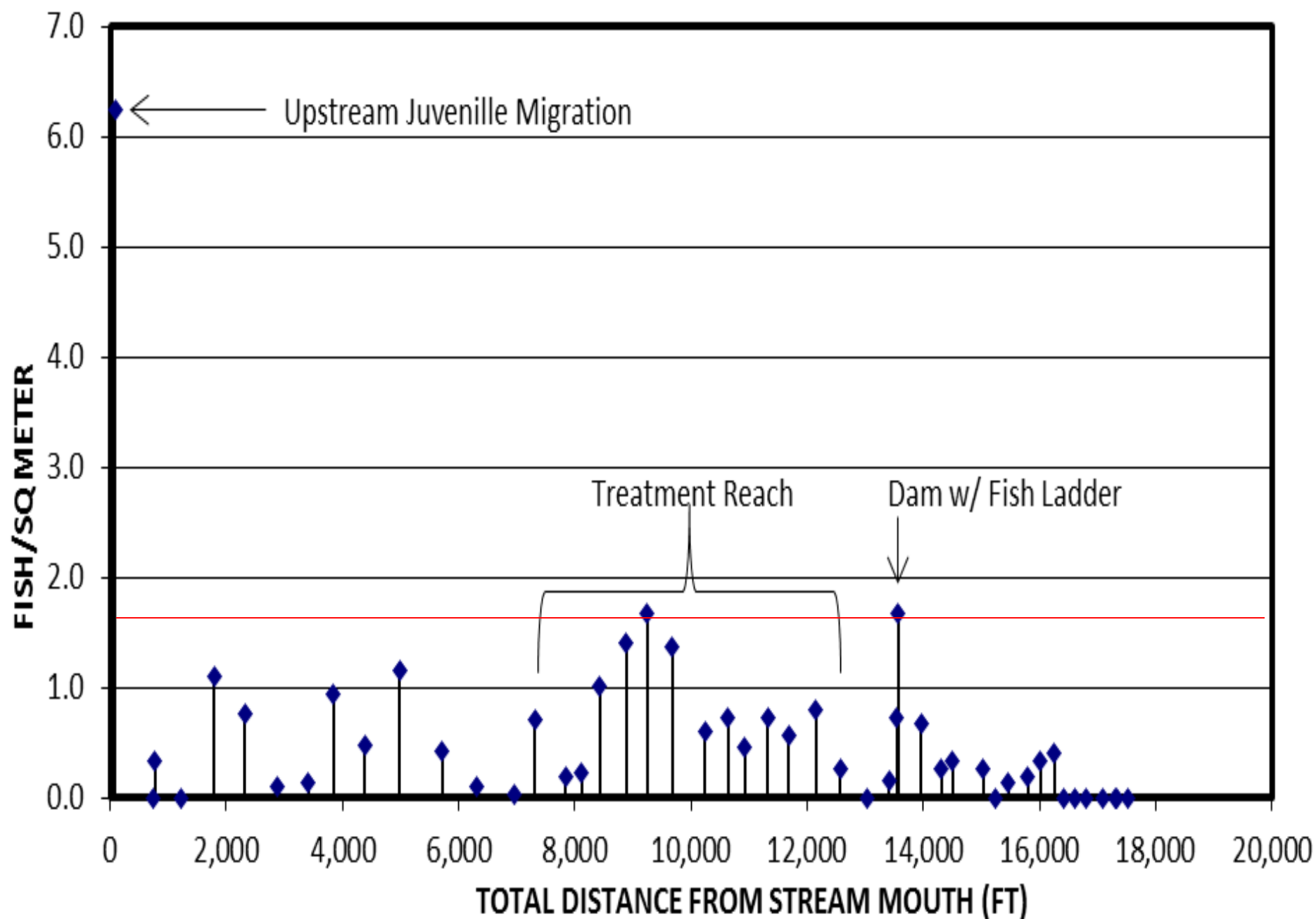


Fig. 3-2
Anadromous Fish
Distribution



Clear Cr Coho Densities







**Historical Grade Control Lost
and not Replaced**

Lower Gales Cr Mainstem

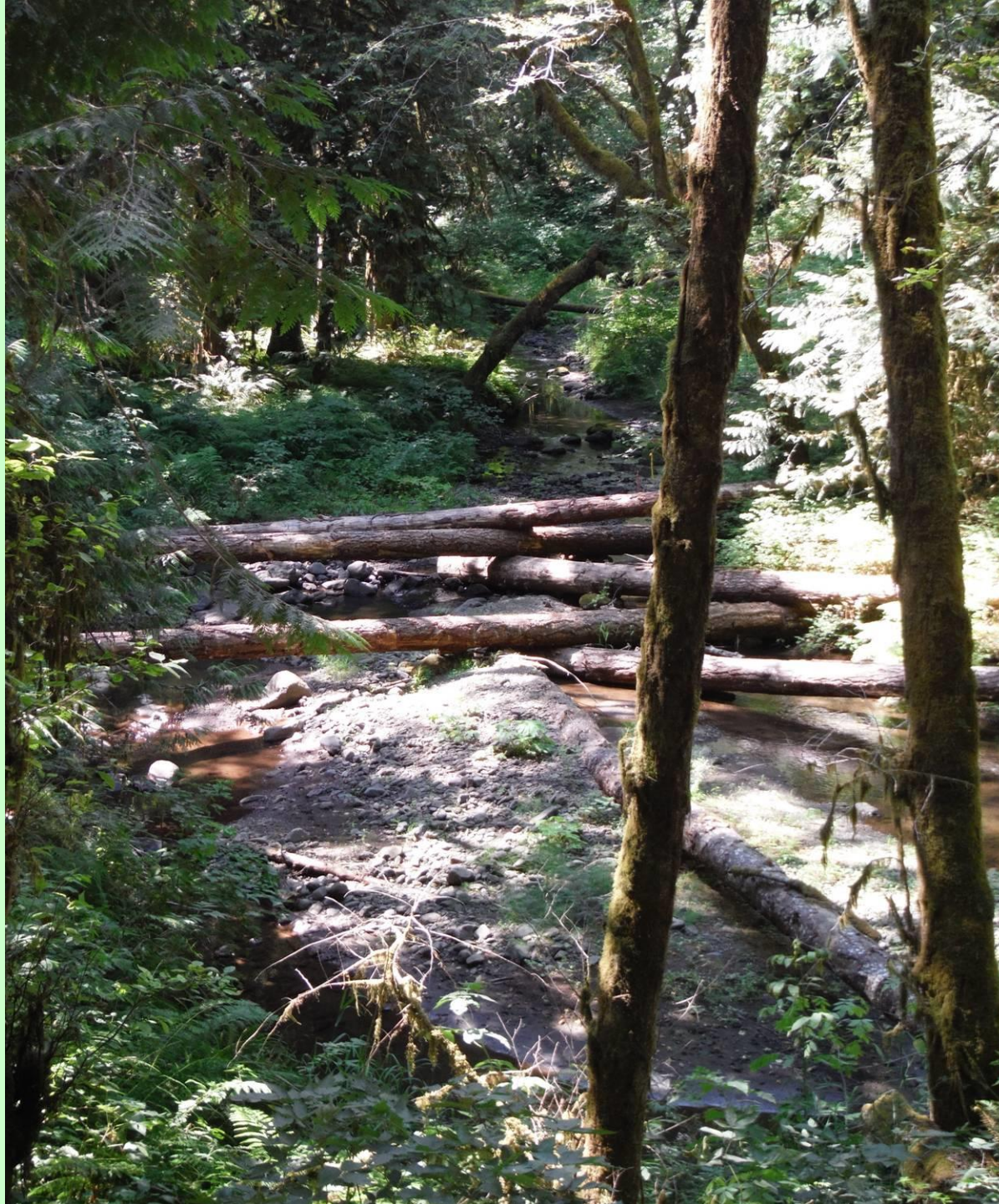
Progressive Channel Incision











Clear Cr Coho Densities

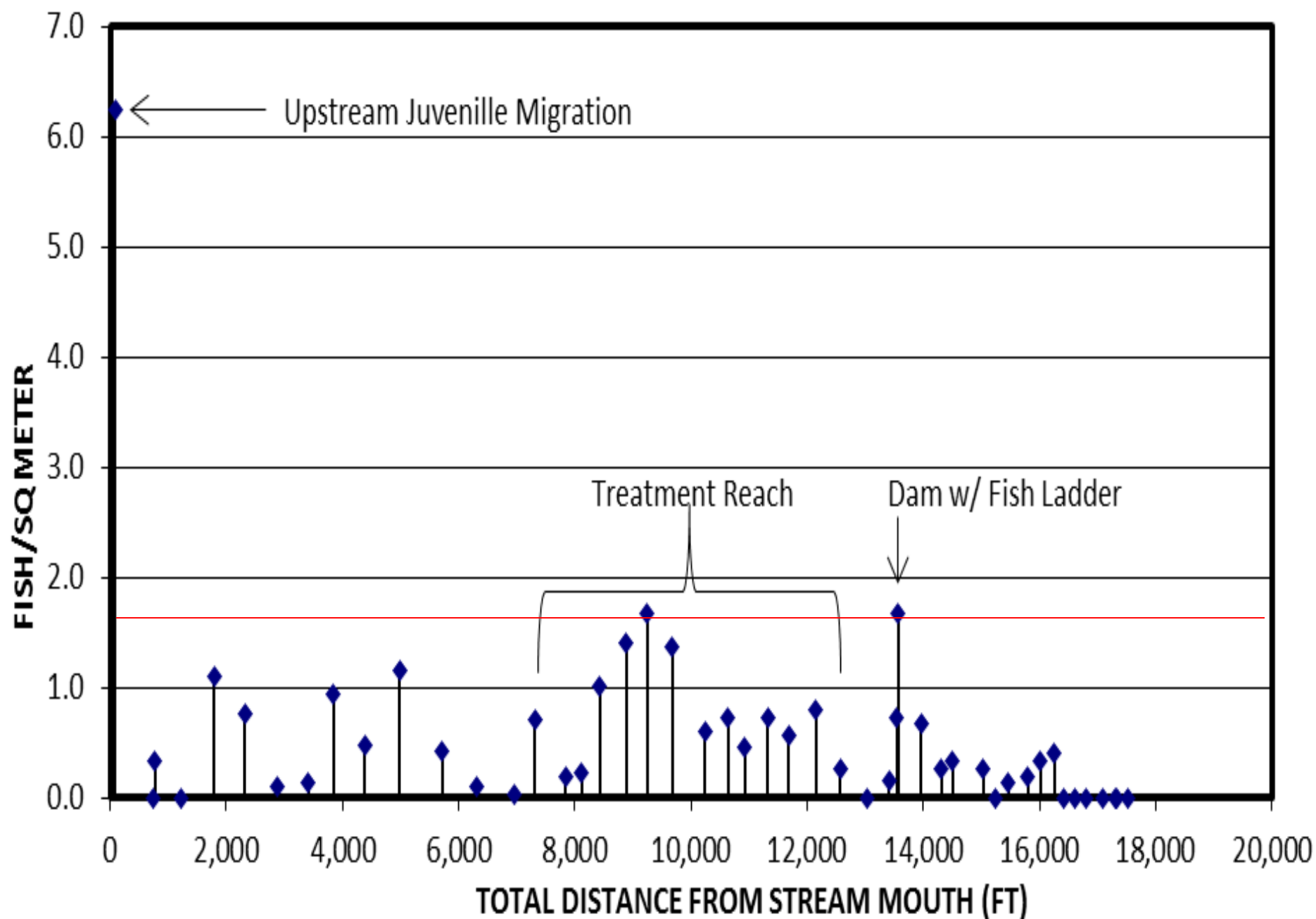




Fig. 3-2
Anadromous Fish
Distribution

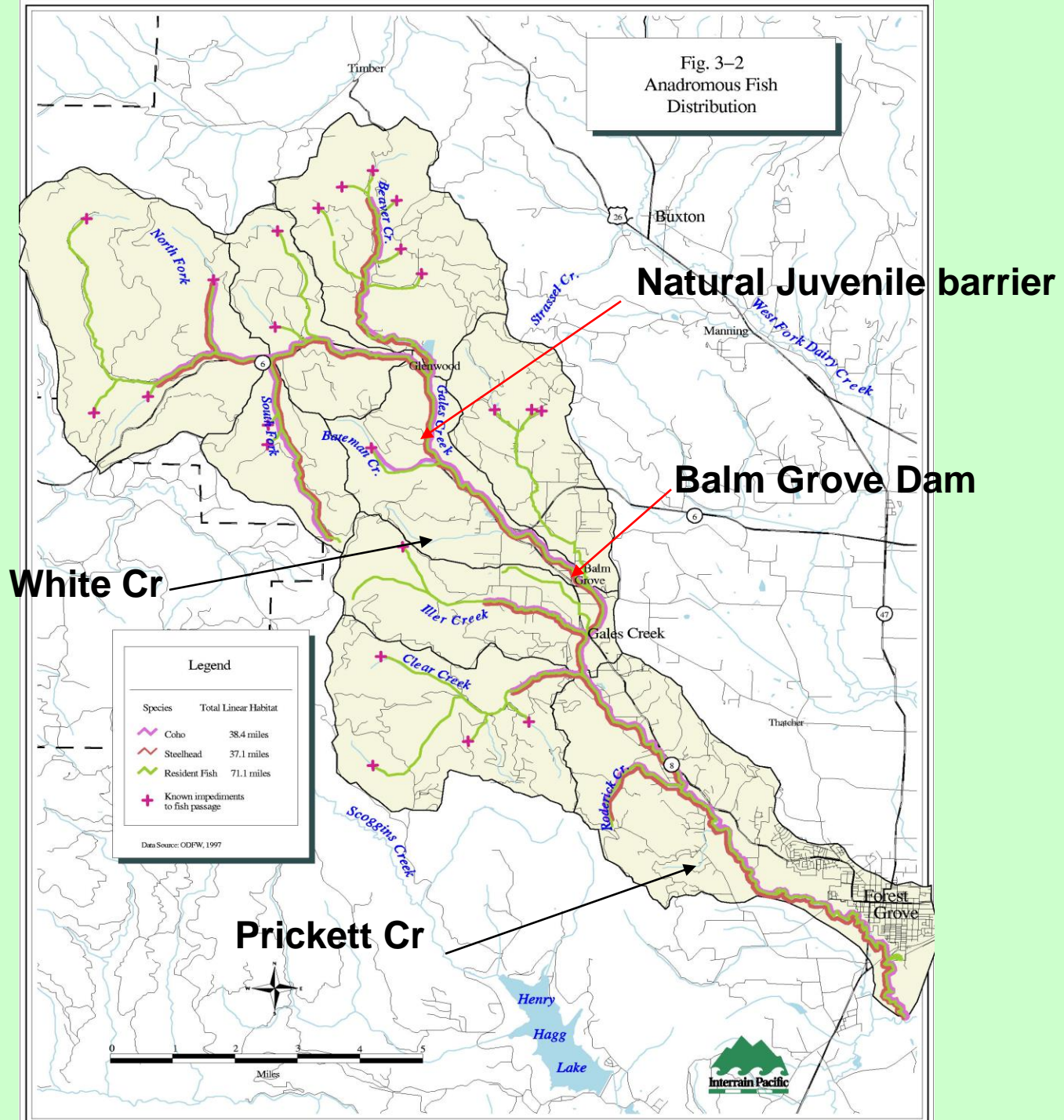
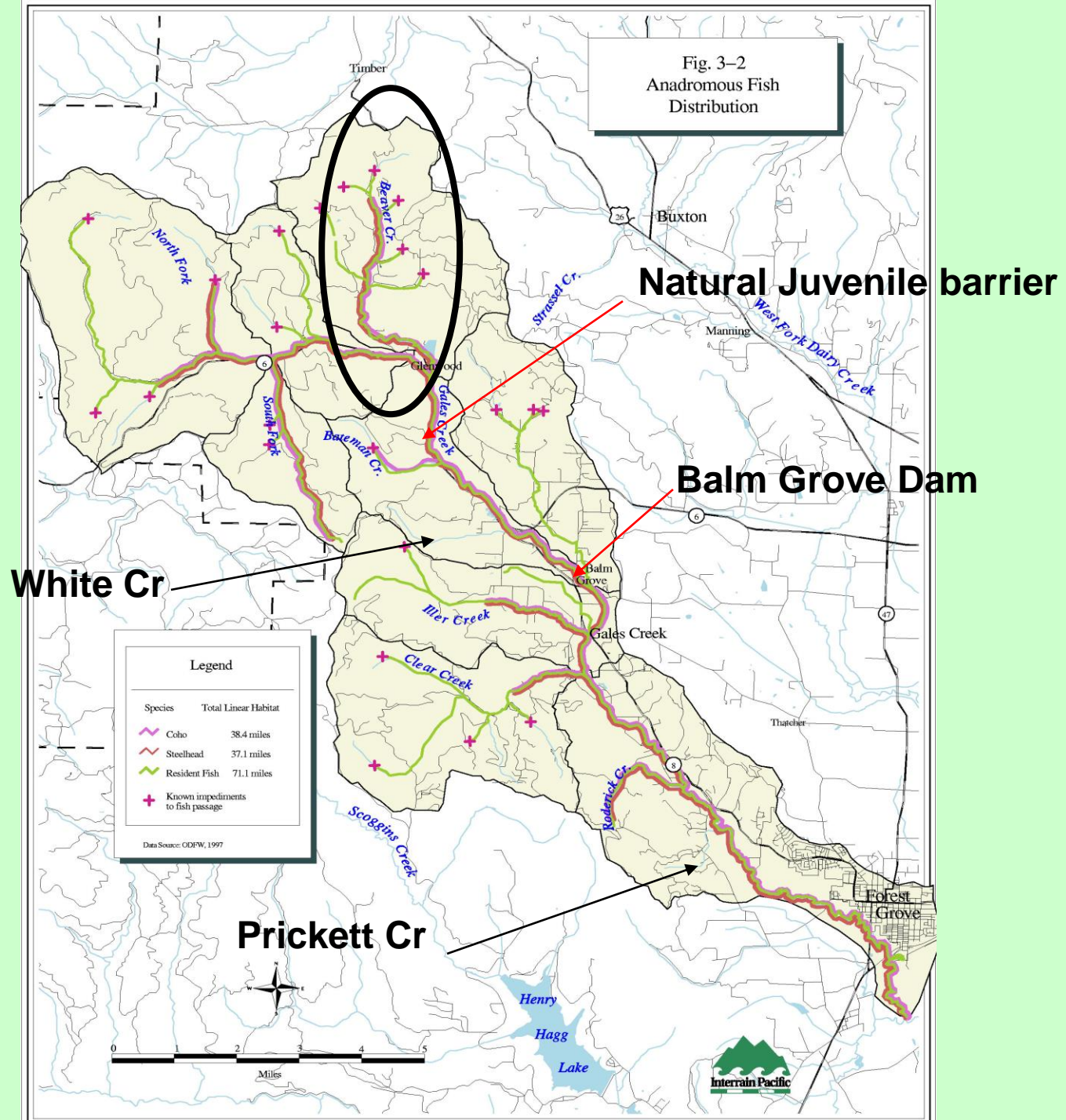








Fig. 3-2
Anadromous Fish
Distribution

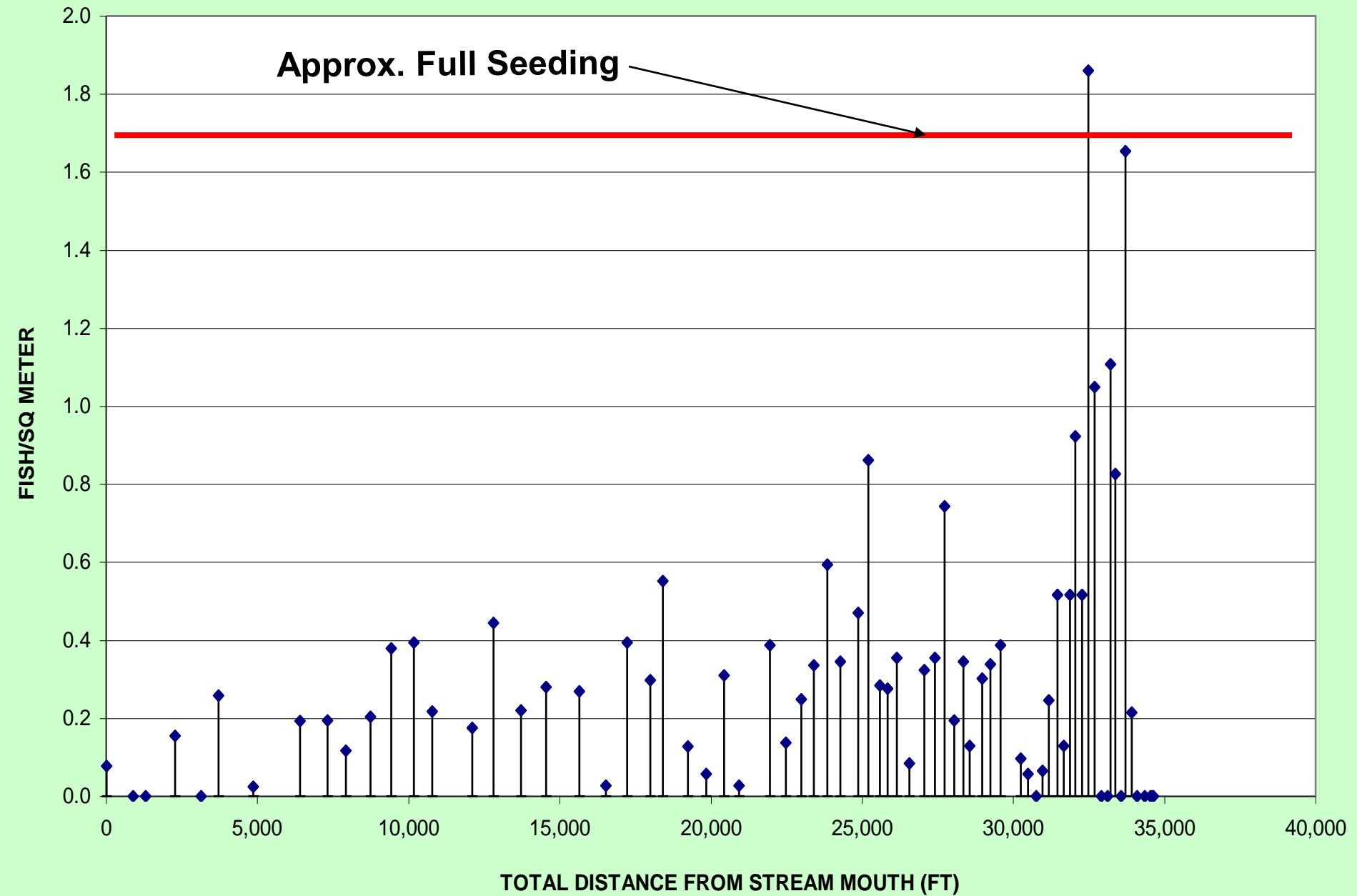


(Table 5) Expanded Gales Cr Subbasin Estimates

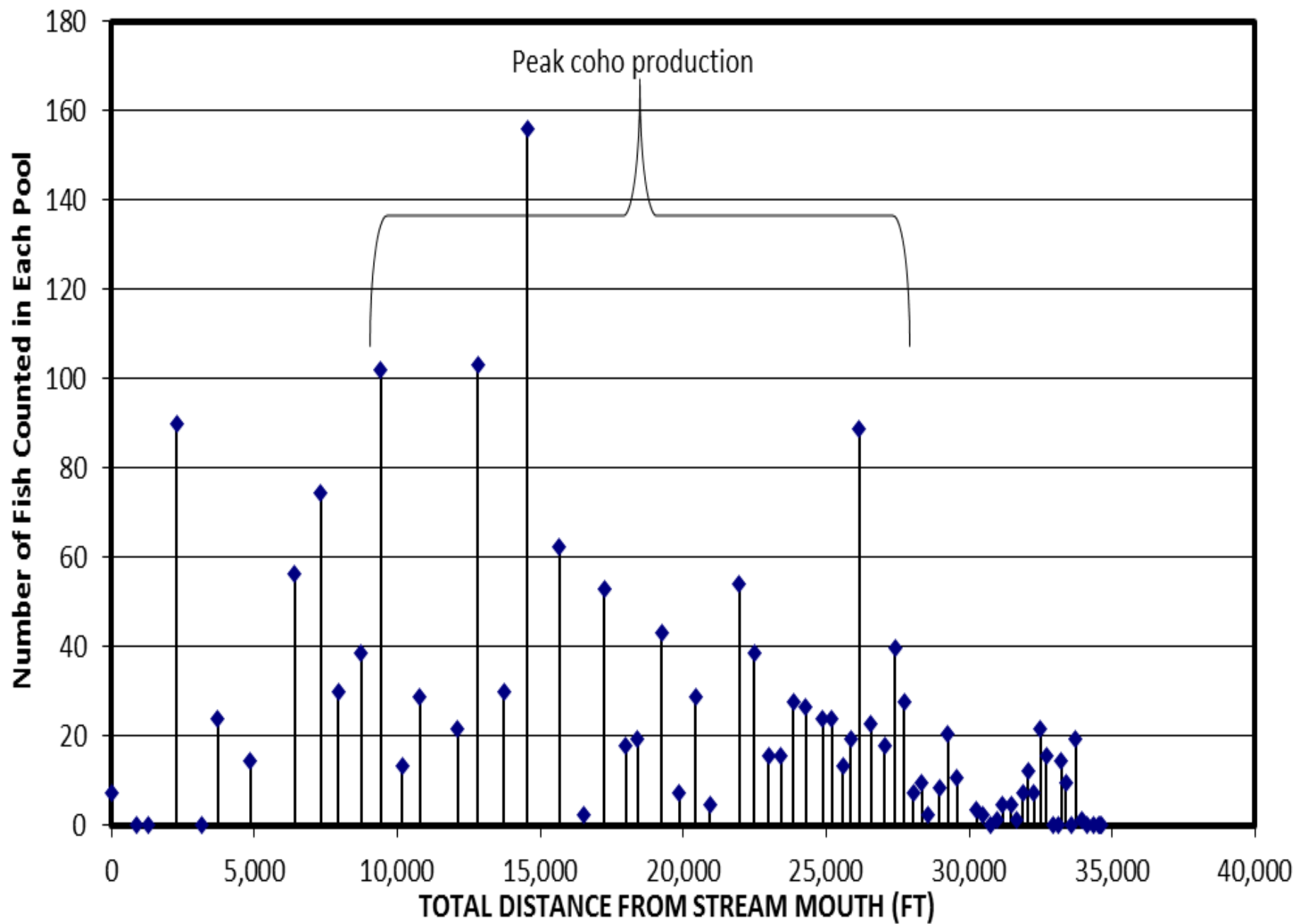
Stream	Coho	%	0+	%	Sthd	%	Cut	%
Gales	2,275	8.5	8,205	44.7	430	66.1	1,585	39
Bateman	175		250	1.4			115	2.8
Beaver	12,700	47.4	425	2.3			360	8.9
Clear	5,705	21.3	3,025	16.5	140	21.5	605	14.9
Coffee			325	1.8			45	1.1
Finger	156		45				30	
Iler	2,662	9.9	3,770	20.6	25	3.8	735	18.1
Low Divide			110					
NF Gales	1,013	3.8	935	5.1	50	7.7	220	5.4
Prickett			70				55	1.4
Roderick			40				5	
SF Gales	656	2.4	1,040	5.7			210	5.2
Trib A			25		5			
White	1,463	5.5	75				90	2.2
Inventory total	26,805		18,340		650		4,055	

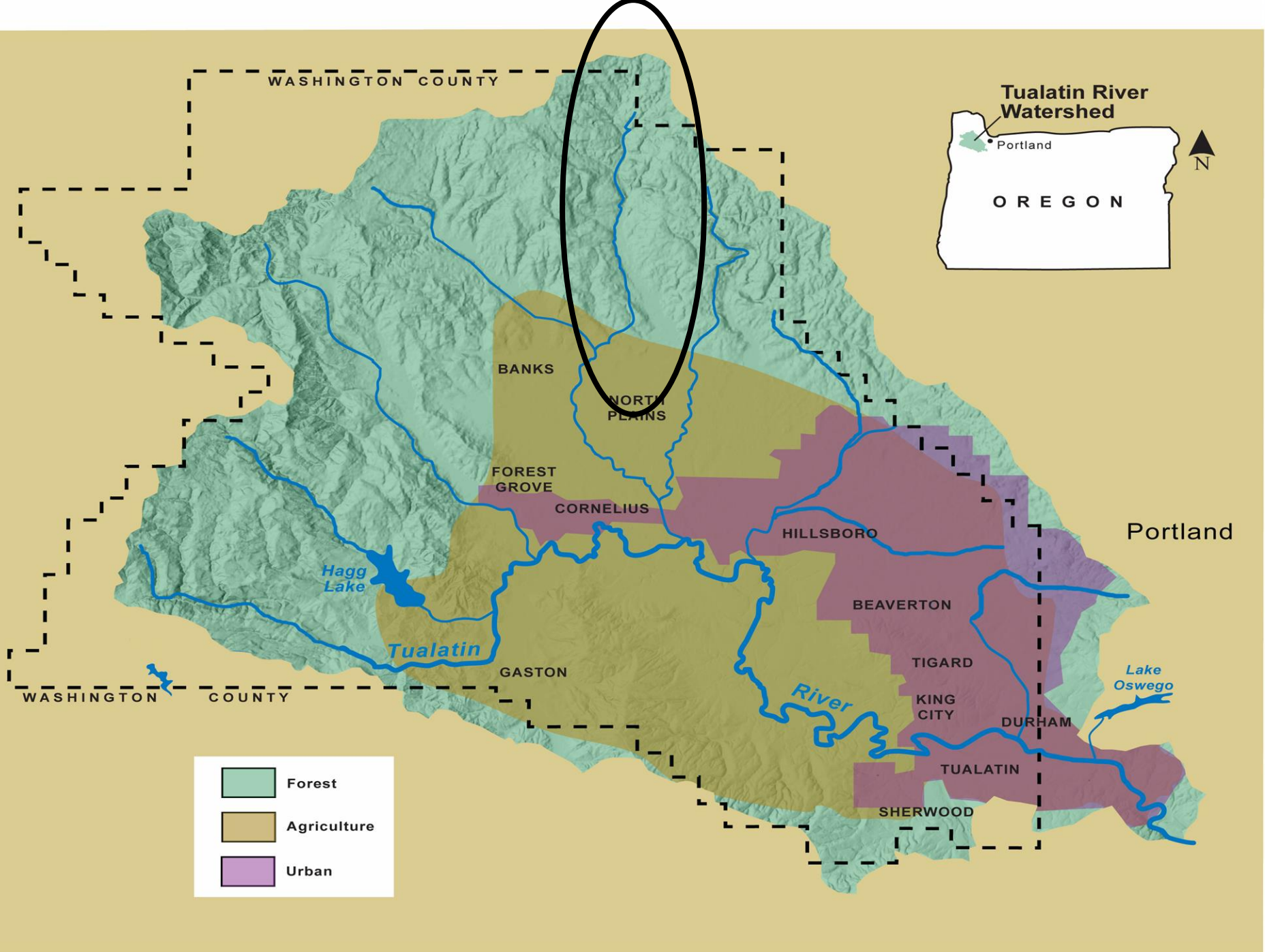
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- 20% visual bias included for coho expansion

2013 TUALATIN/GALES/BEAVER: COHO DENSITY



Beaver Cr Coho Counts







(Table 7) Expanded East Fork Dairy Subbasin Estimates

Stream	Coho	%	0+	%	Sthd	%	Cut	%
East Fork Dairy	35,175	94.8	8,180	65.5	1,950	99.2	2635	69.8
Side Channel A	234		9					
Side Channel B	284		25				6	
Side Channel C	75		5					
Big Canyon	163		65				30	
Campbell	388	1	1,280	10.2			280	7.4
Denny	419	1.1	1,205	9.6	5		285	7.5
Murtaugh	150		125	1	10		180	4.8
Panther			130	1			20	
Plentywater	7		135	1.1			40	1.1
Rock	219		1,095	8.8			265	7
Roundy	6.25		195	1.6			35	
Trib A	6.25		40					
Inventory Total	37,124		12,489		1,965		3,776	

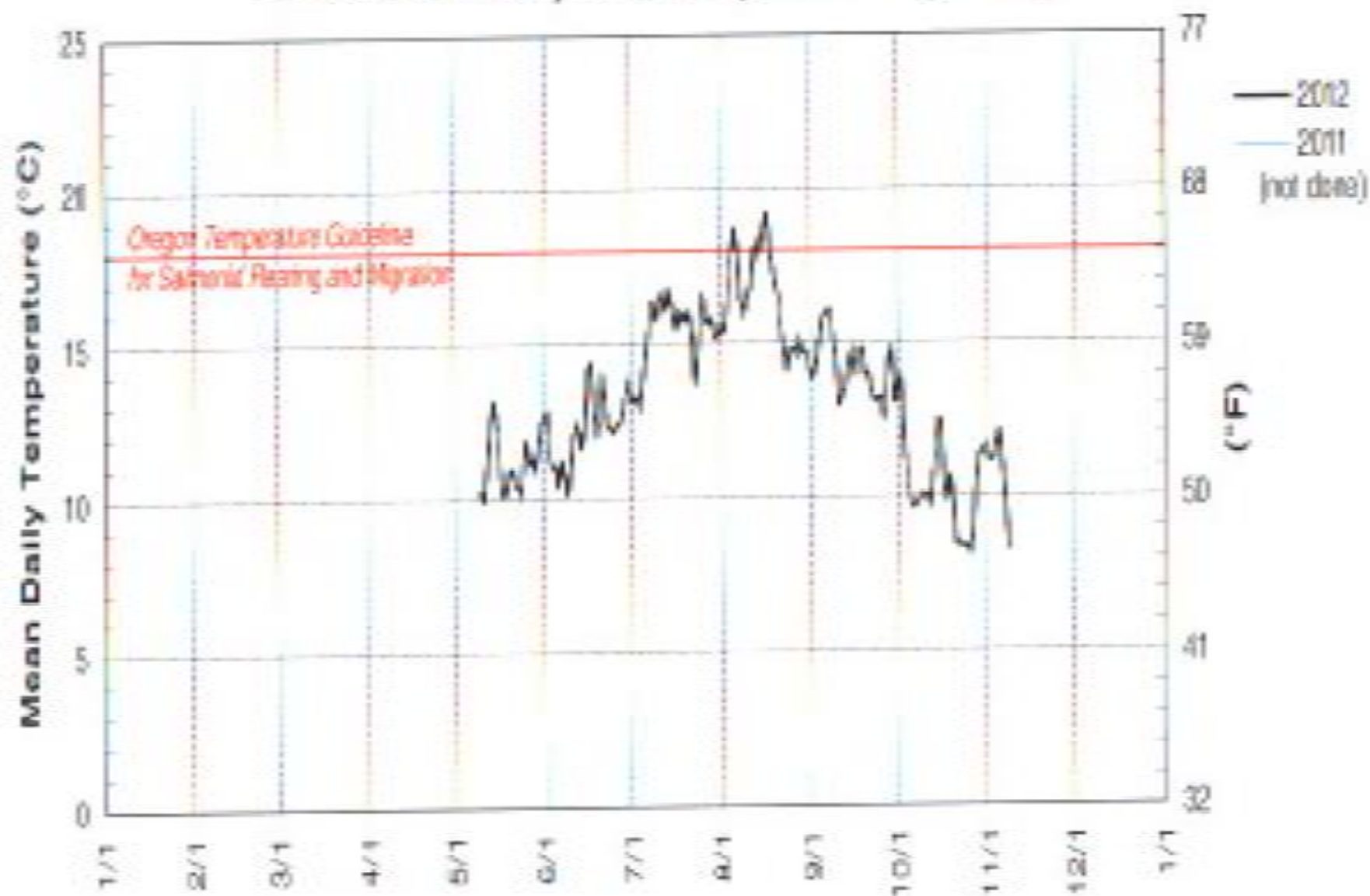
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(Table 5) Expanded Gales Cr Subbasin Estimates

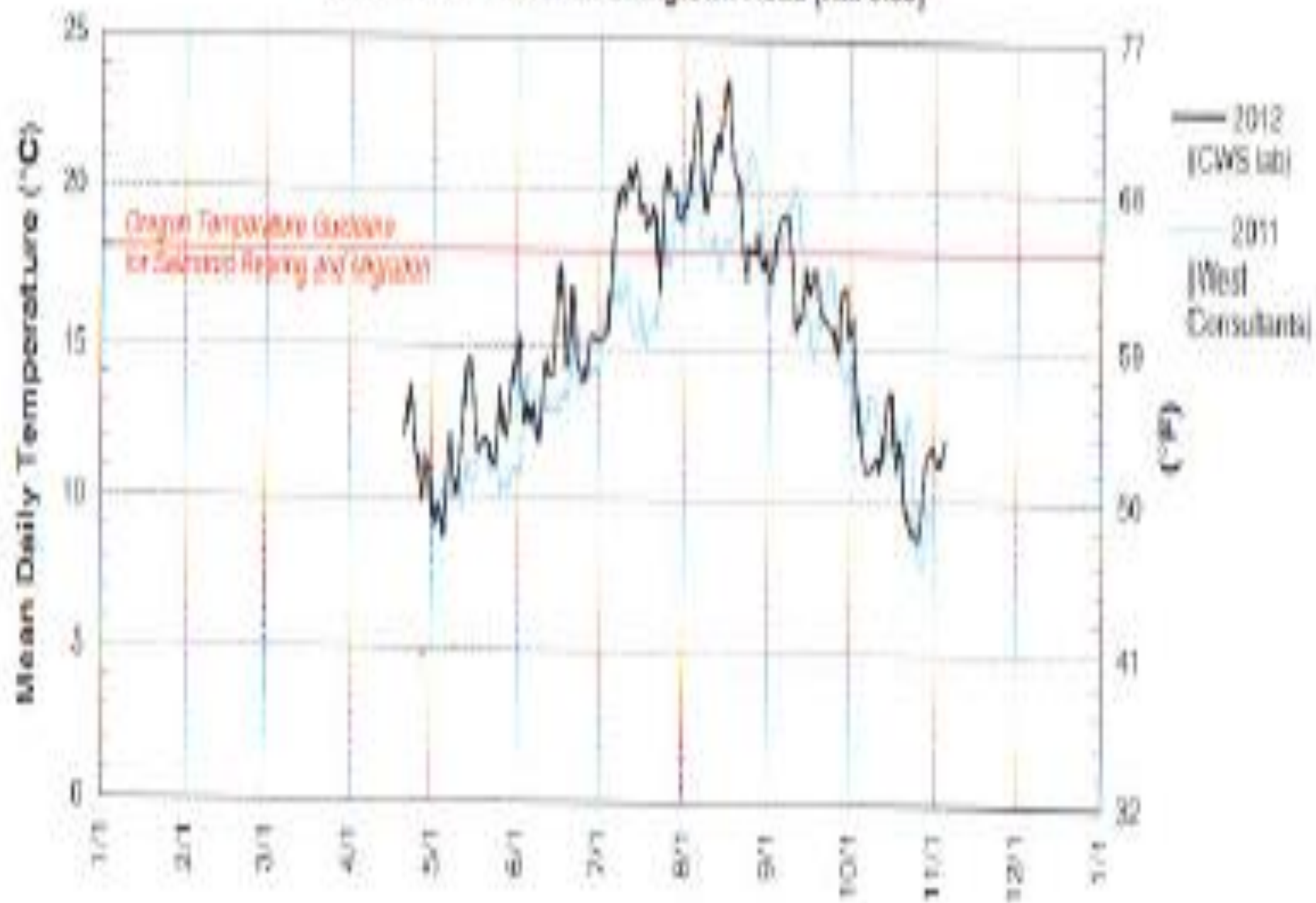
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EFDD - East Fork Dairy Creek at Dairy Creek Road [RW 12.33]

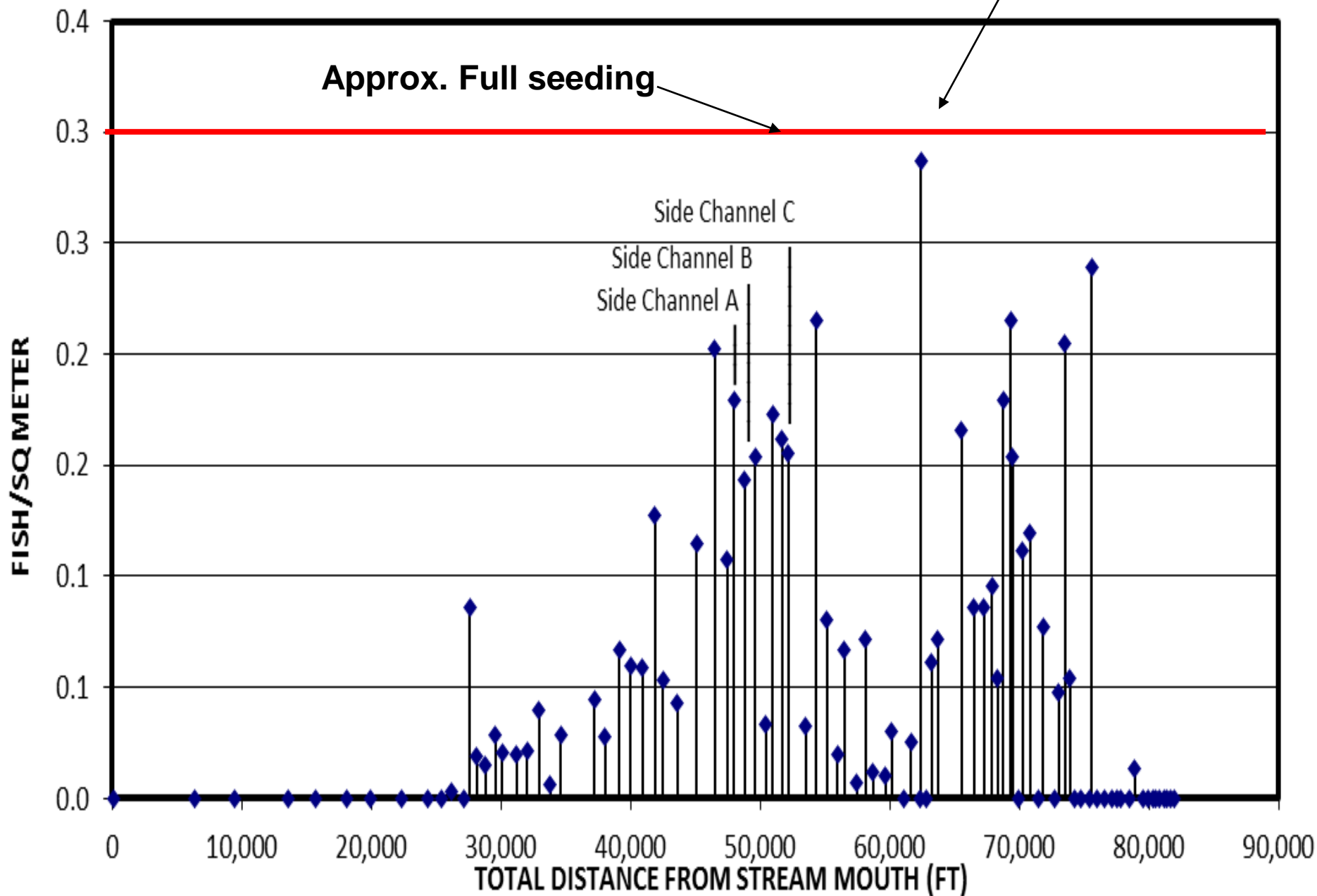


GCSR – Gales Creek at Stringtown Road (RM 6.98)

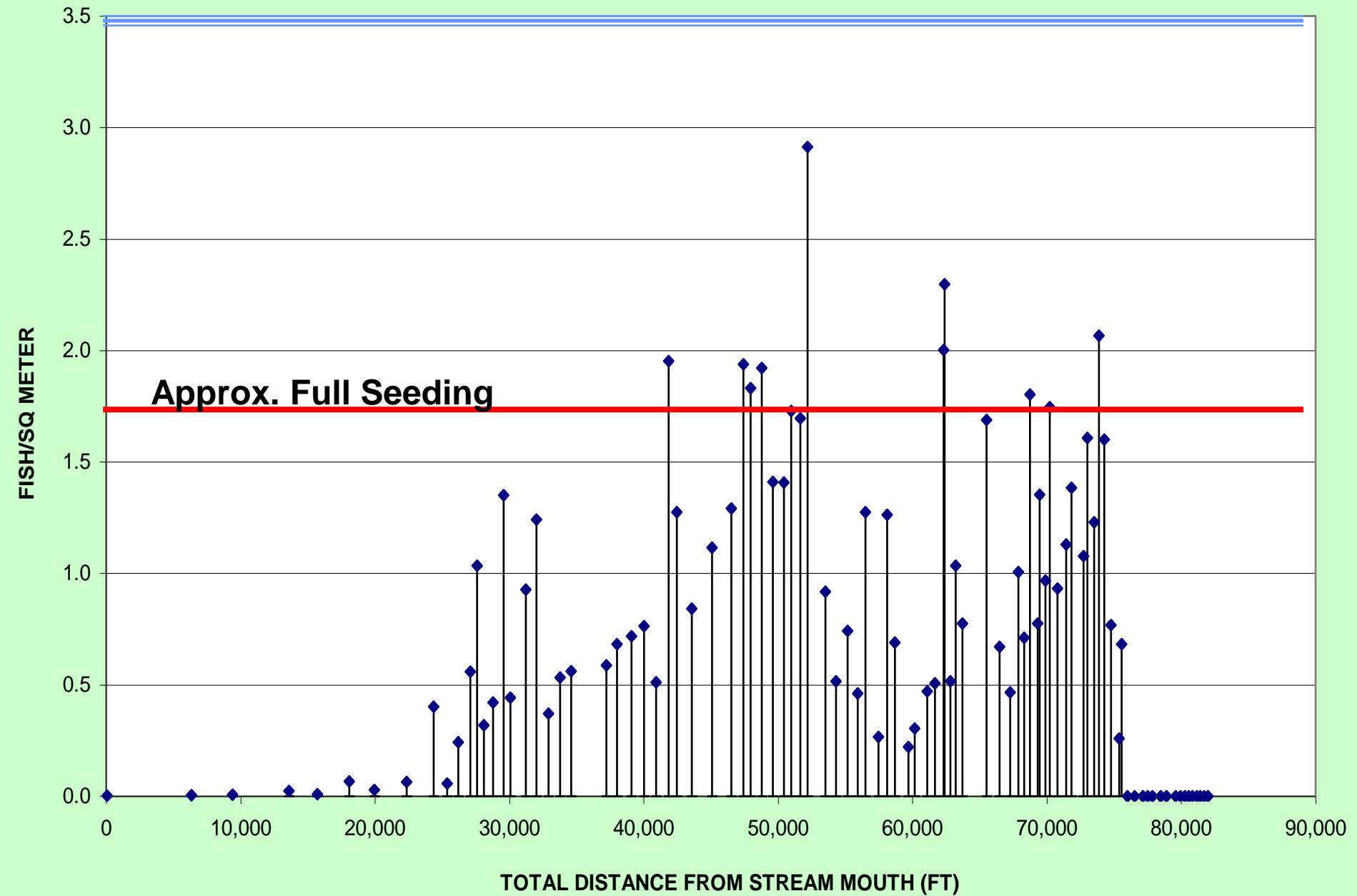


East Fork Dairy Sthd Densities

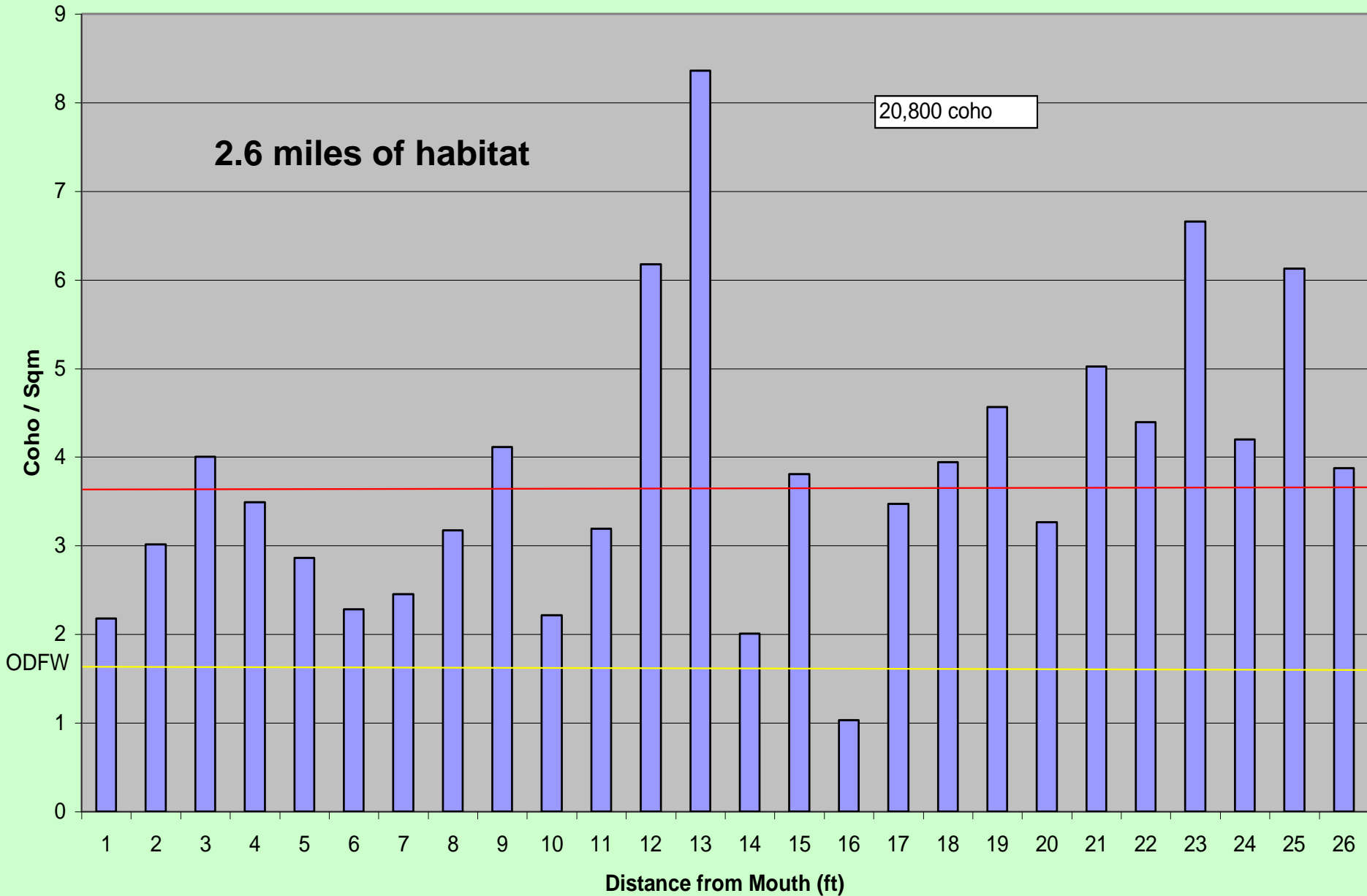
Temp Station



2013 TUALATIN/DAIRY/EF DAIRY: COHO DENSITY



2011 Coho Densities SF Rock























People have come to regard cleared rivers with no large woody debris, beaver dams or side channels as the standard for how healthy rivers should look.”

Jim Lichatowich

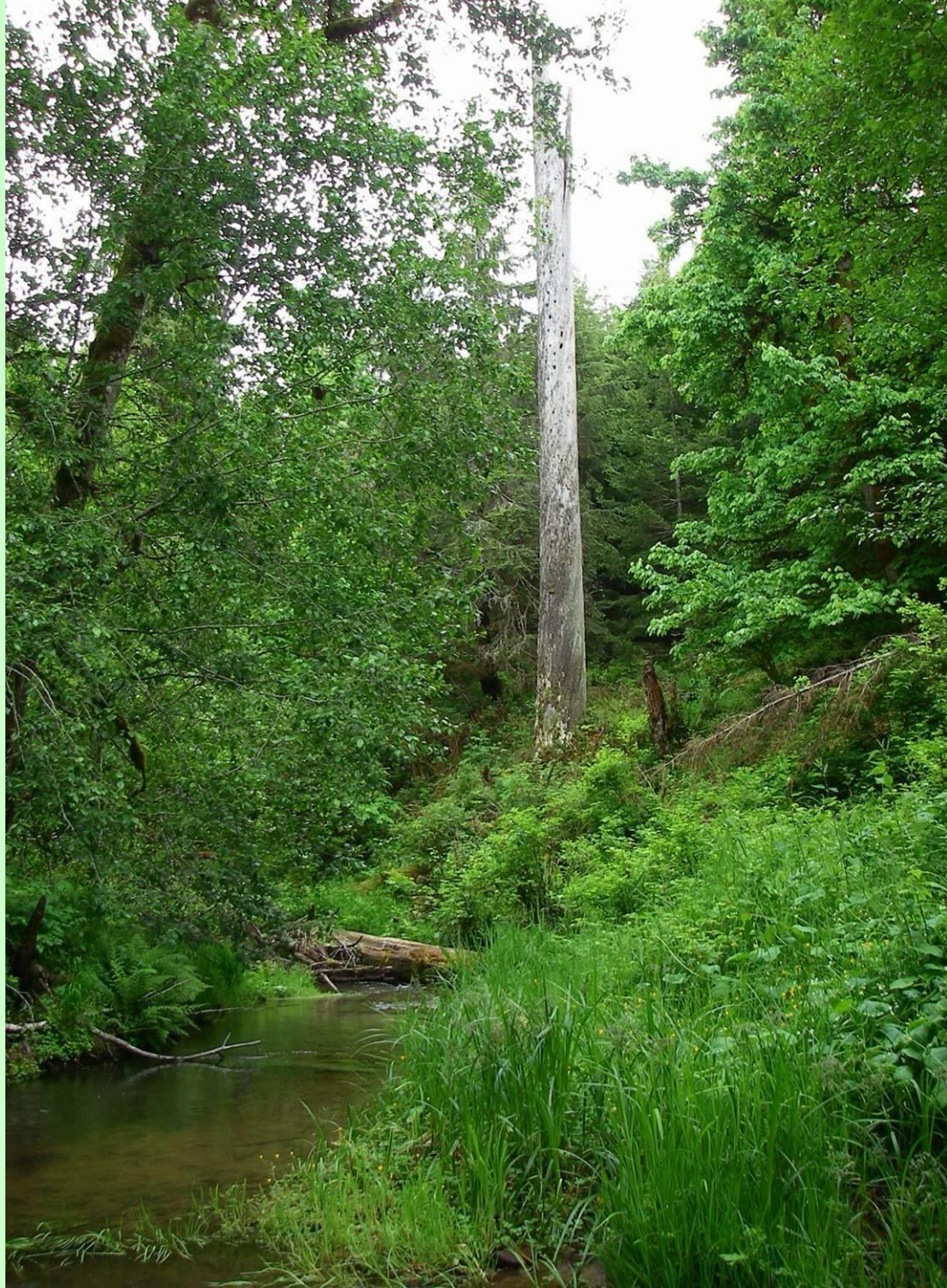
Central Coast Range Fire Simulation Model (Benda and Dunne,1997)

Predicted

**50% of the aquatic wood was delivered
from post fire toppling of fire killed
trees over thousands of years (Lost)**

30% Natural recruitment from riparian (Lost)

20% by debris flows (slope failures) (Lost)











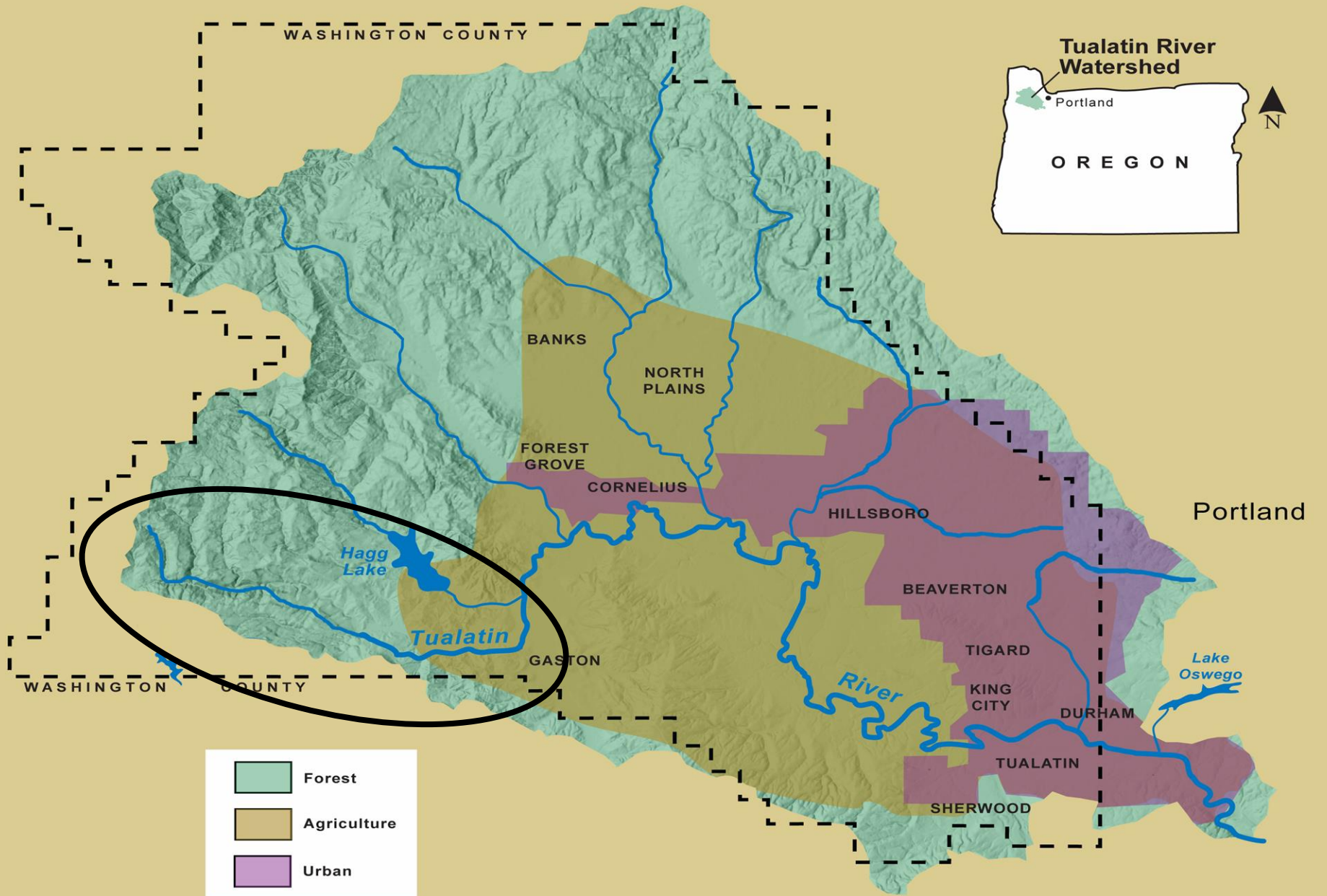


**Historical Grade Control Lost
and not Replaced**

Lower Gales Cr Mainstem

Progressive Channel Incision







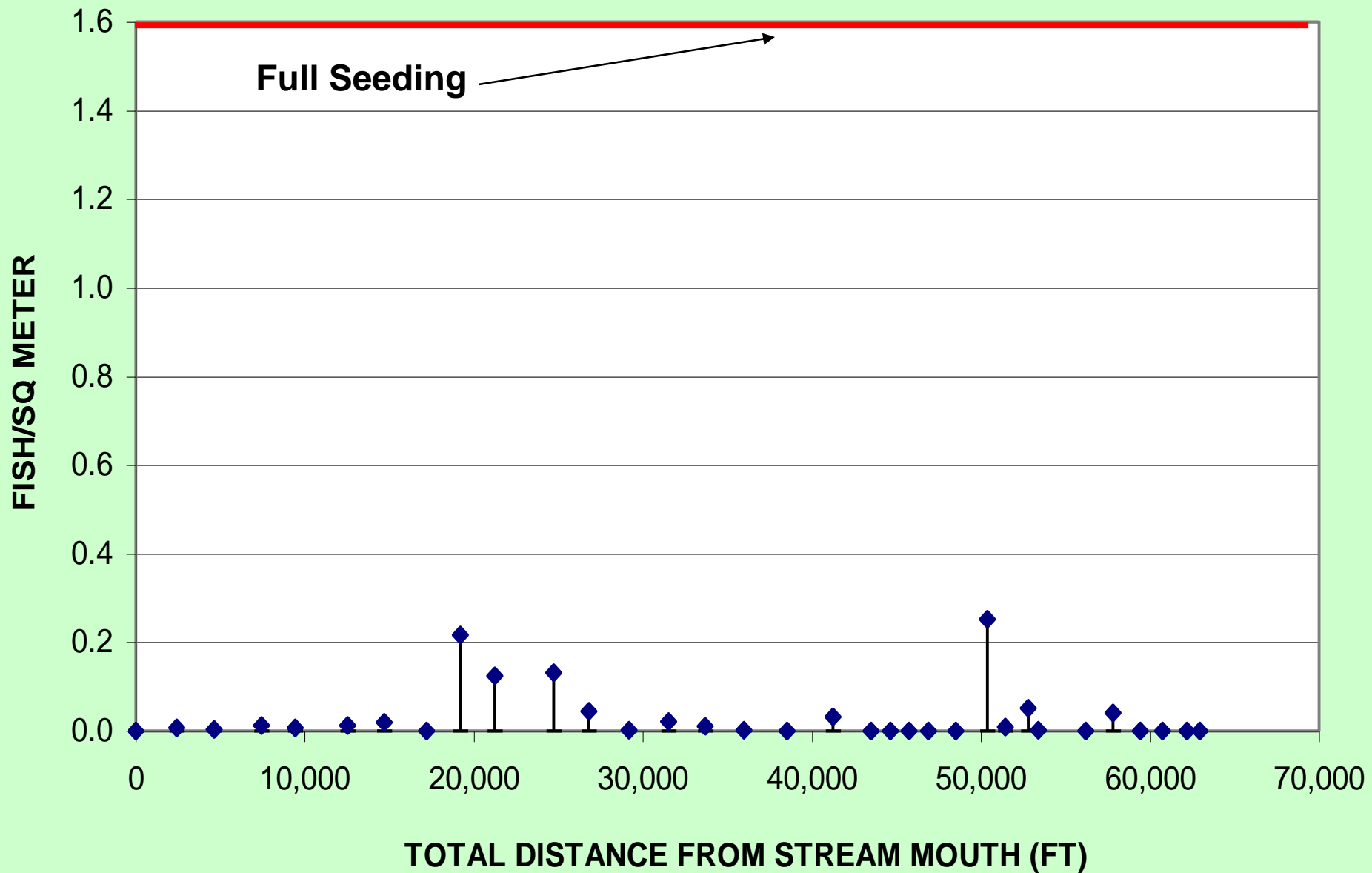
Tualatin Mainstem Cherry Grove

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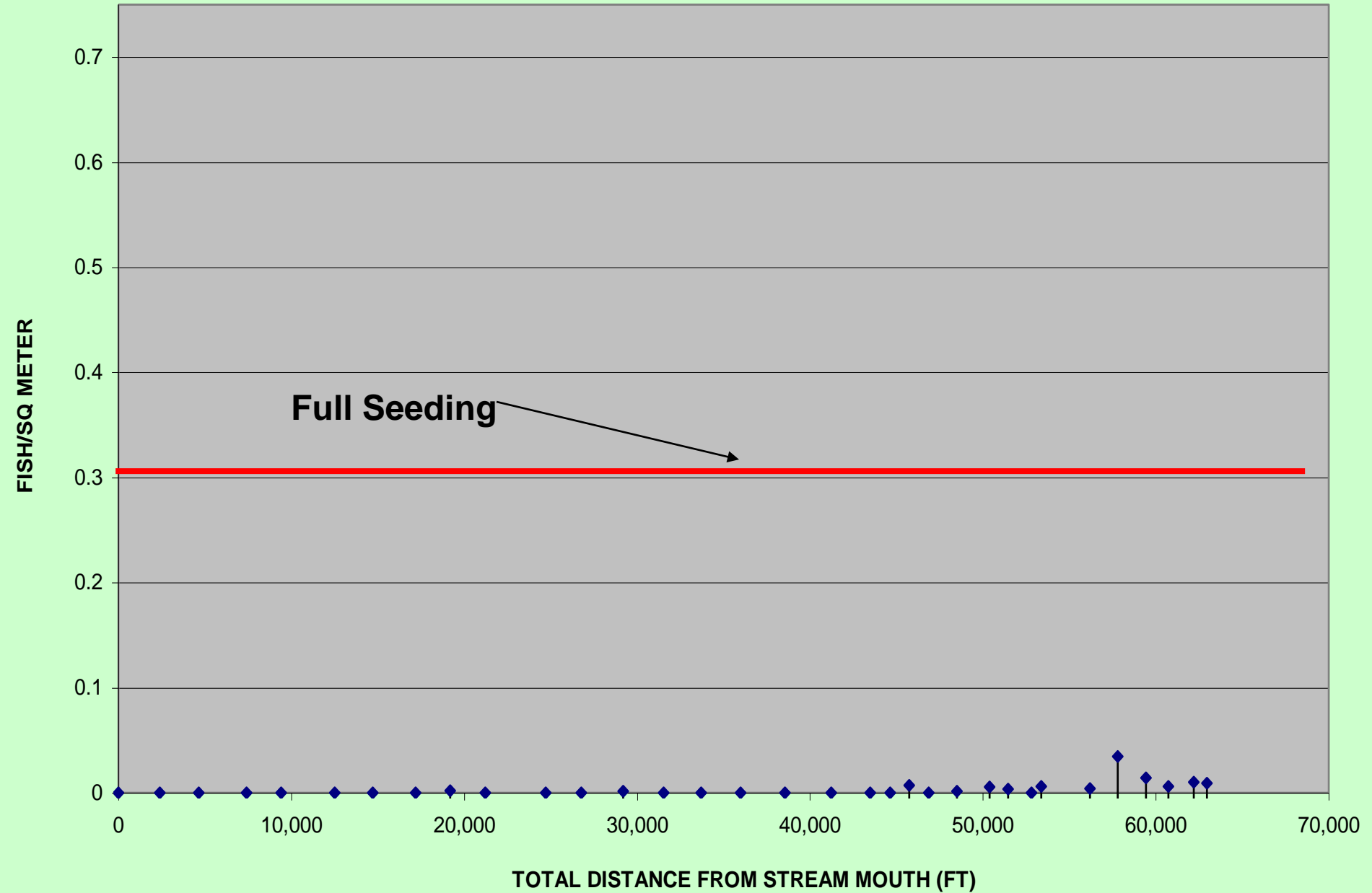
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2013 TUALATIN/WILLAMETTE/TUALATIN: COHO DENSITY

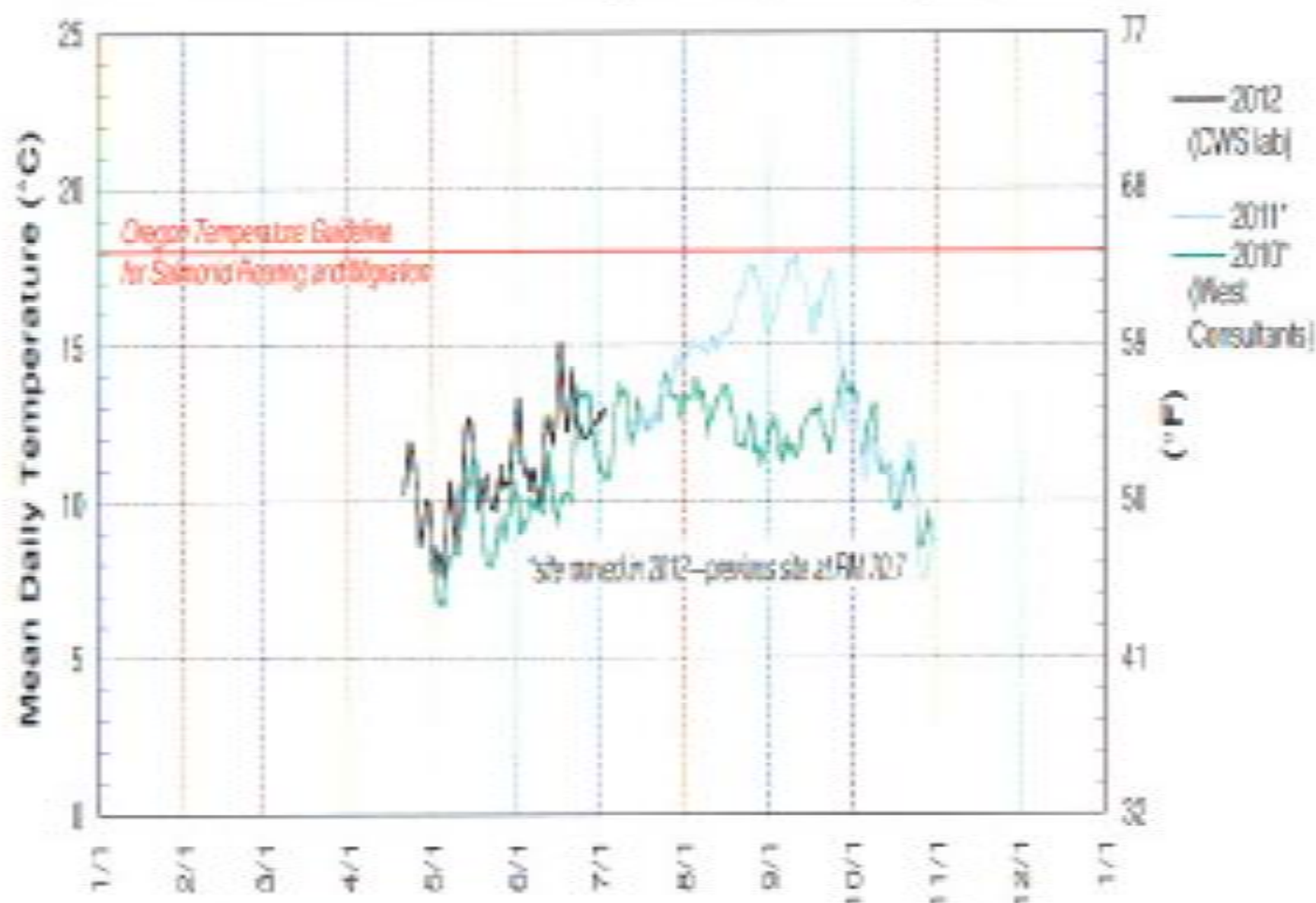




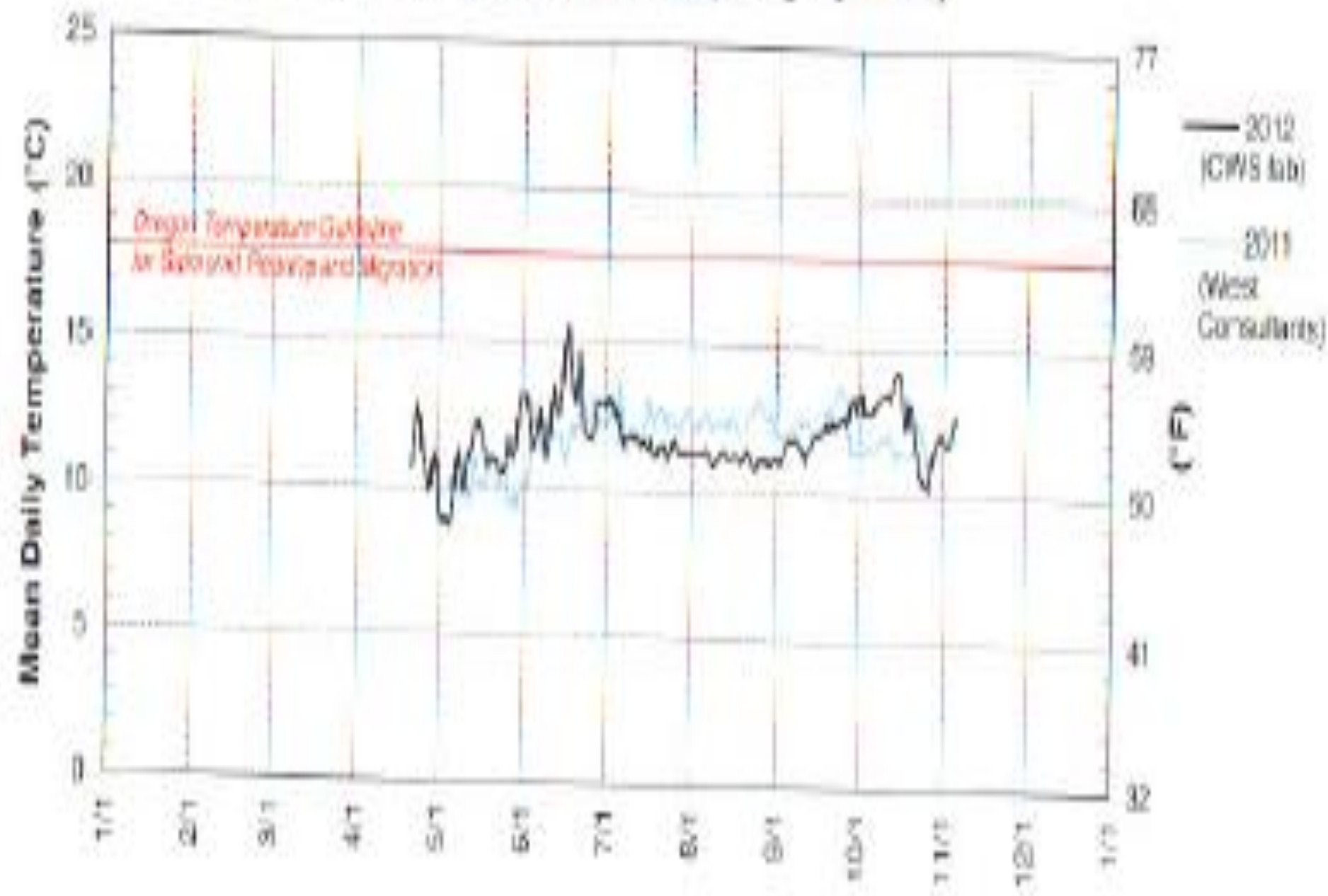
2013 TUALATIN/WILLAMETTE/TUALATIN: STHD DENSITY



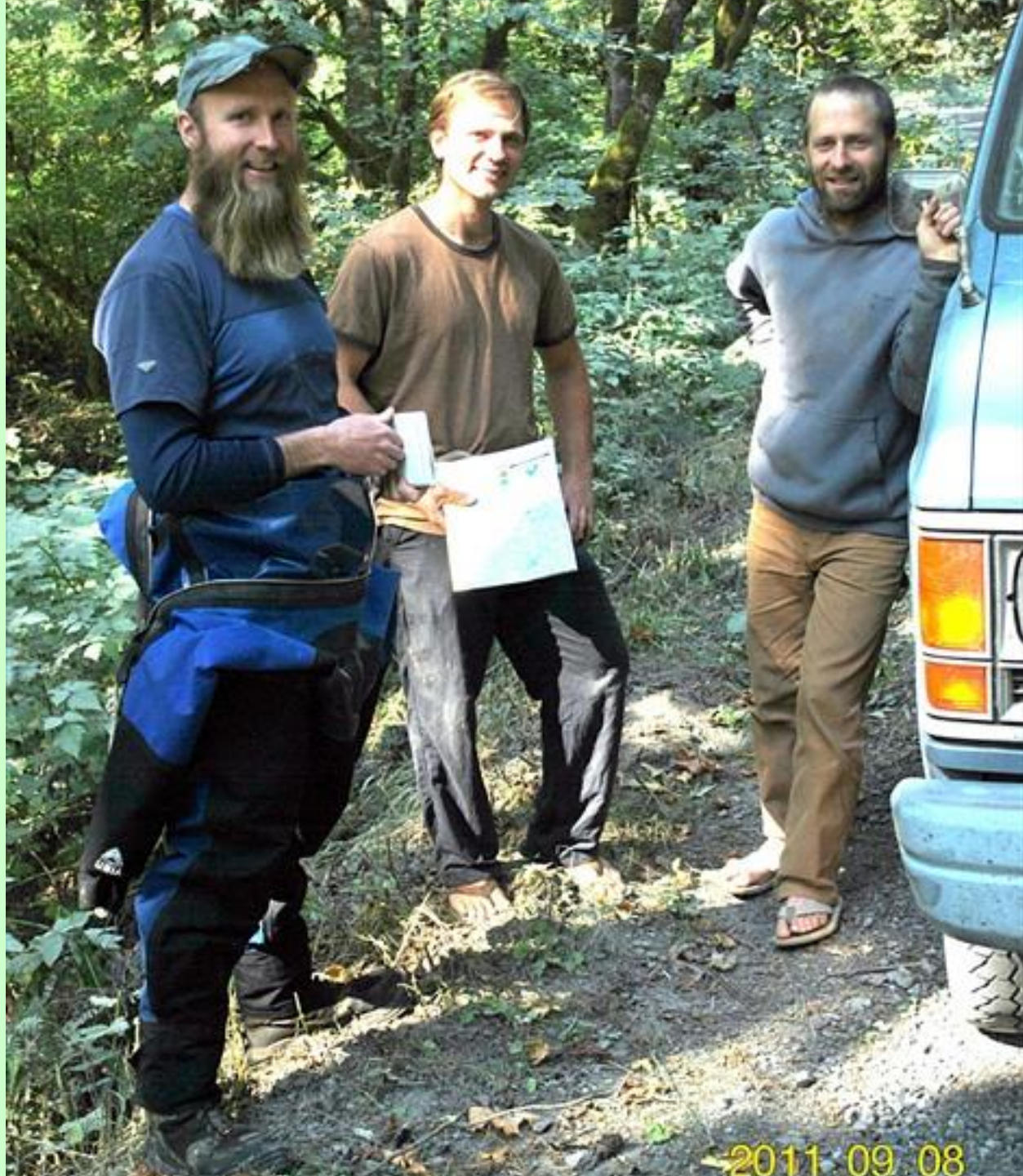
TRSR - Tualatin River at South Road Bridge near Cherry Grove, Oregon [RM 67.63]



DLLO - 14203500 - Tualatin River at Dilley, Oregon [RM 58.8]








2011 09 08

**Salmonids carry the genetic material
for resilience**

A large rainbow trout is being held by a person's hands in a shallow stream. The fish has a silvery-grey upper body with dark spots and a vibrant pinkish-red lateral band. The background shows the stream bed with rocks and some green algae.

**But Resiliency
cannot overcome habitat
degradation and no water**

