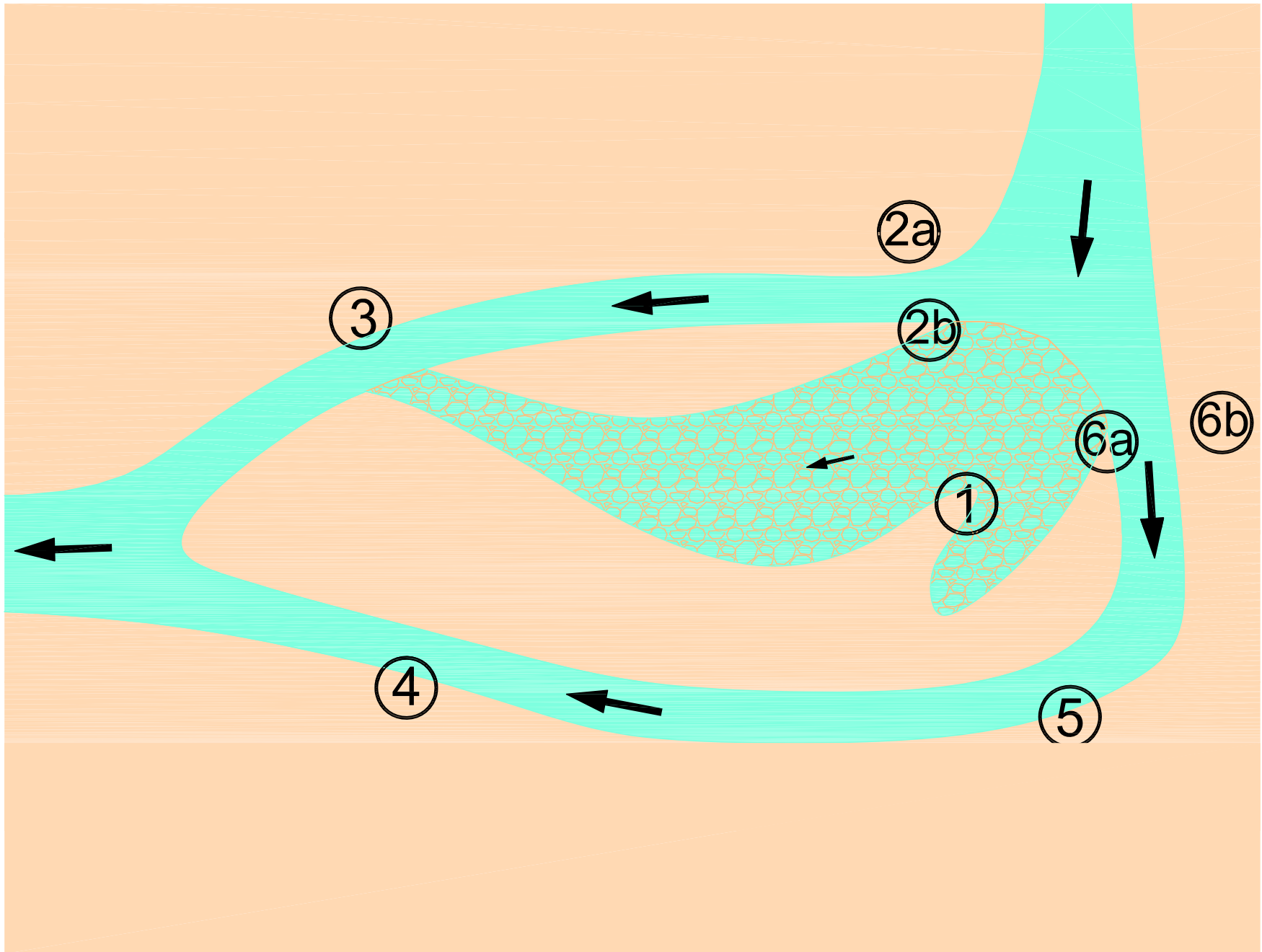


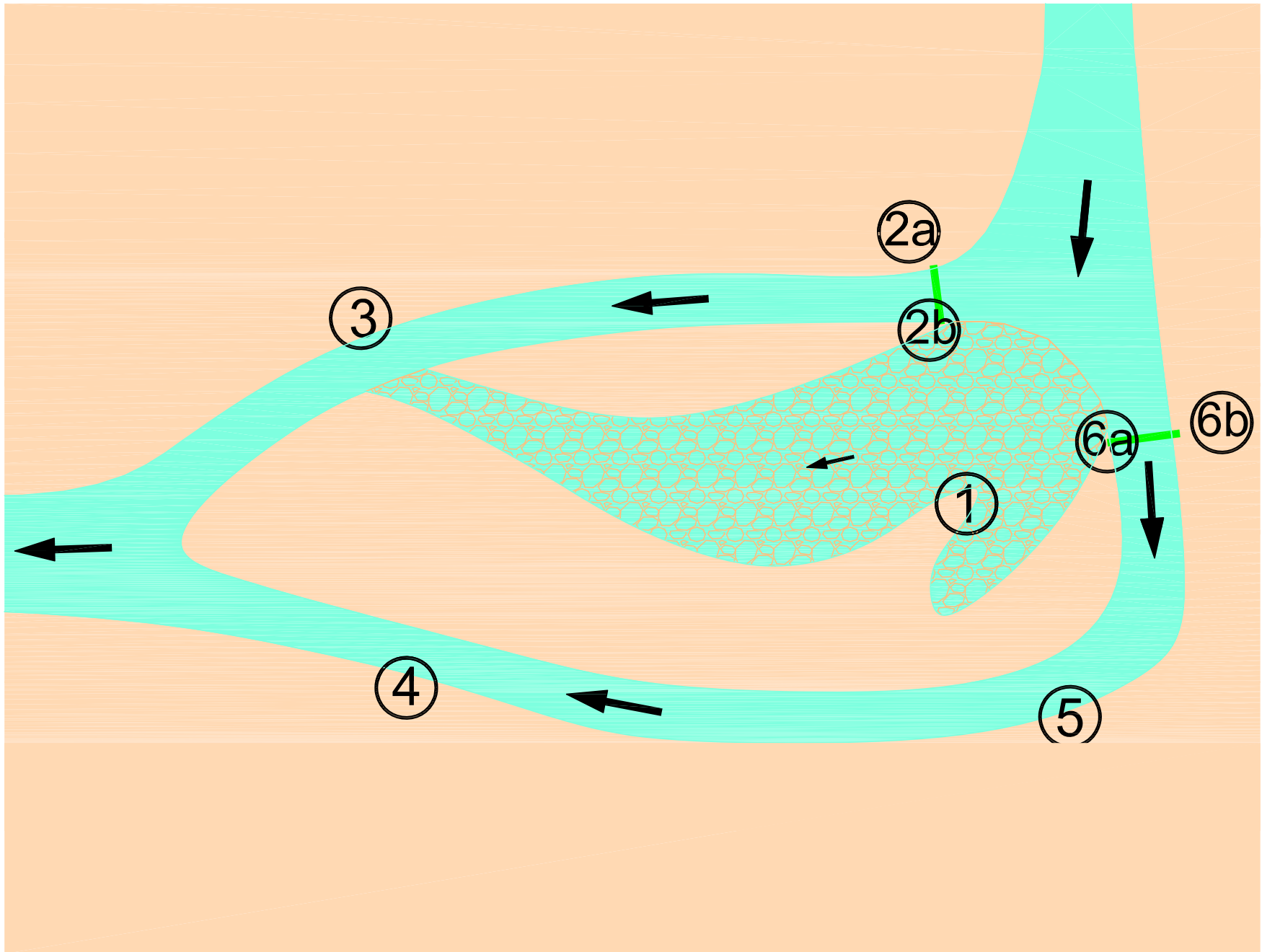
Threat Sources	Component Watersheds	
	Big Sur River	Santa Rosa Creek
Roads		
Other Passage Barriers		
Non-Point Pollution		
Natural Barriers		
Groundwater Extraction		
Recreational Facilities		
Wildfires		
Dams and Surface Water Diversions		
Non-Native Species		
Agricultural Development		
Levees and Channelization		
Urban Development		
Flood Control		

Prepared for NOAA-NMFS, South-Central California Coast Steelhead Recovery Planning Area, Conservation Action Planning (CAP) Workbooks Threats Assessment (2008), Exh. ESR-34

Threat Sources	Component Watersheds				
	Big Sur River	Pajaro River main stem	Salinas River main stem	Carmel River	Garrapata Creek
Roads	Dark Green				Red
Other Passage Barriers	Dark Green			Yellow	Red
Non-Point Pollution					Red
Natural Barriers	Light Green				Yellow
Groundwater Extraction		Red	Red	Red	
Recreational Facilities	Light Green		Red	Yellow	
Wildfires	Dark Green				
Dams and Surface Water Diversions		Red	Red	Red	
Non-Native Species					Light Green
Agricultural Development		Red			
Levees and Channelization		Red	Red	Red	
Urban Development		Red		Red	
Flood Control			Red		

Prepared for NOAA-NMFS, South-Central California Coast Steelhead Recovery Planning Area, Conservation Action Planning (CAP) Workbooks Threats Assessment (2008), Exh. ESR-34





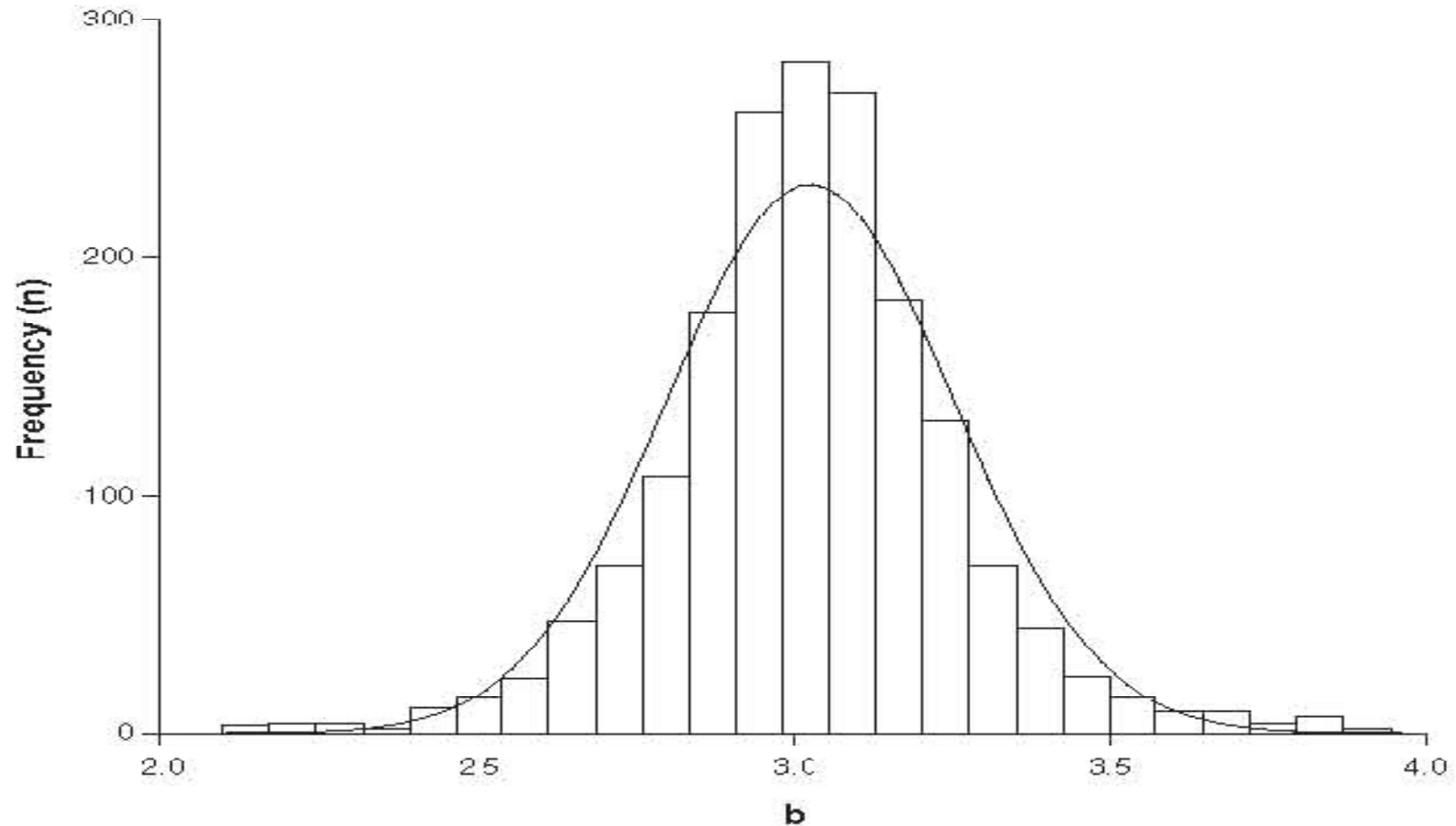
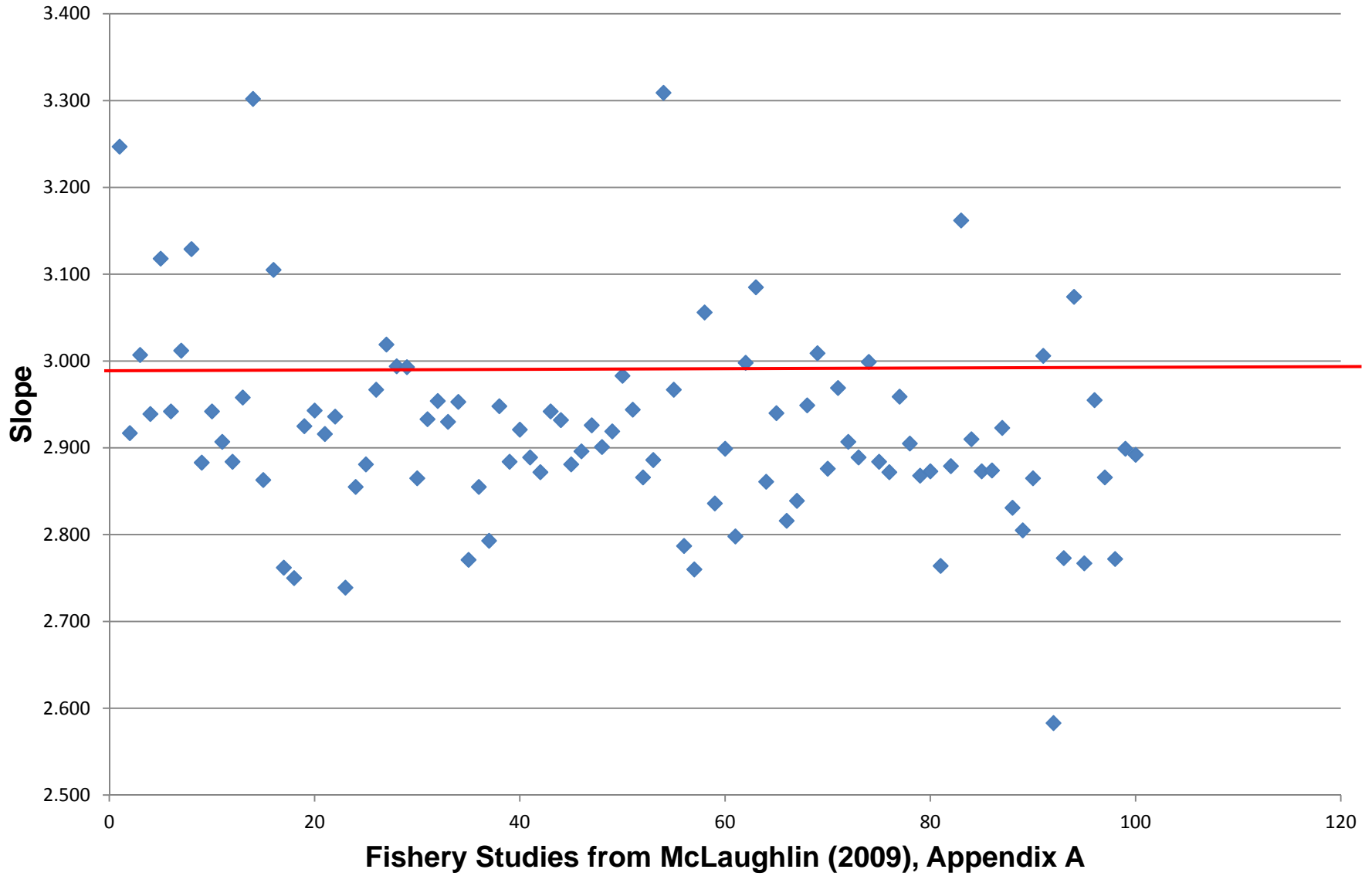


Fig. 4. Frequency distribution of mean exponent b based on 3929 records for 1773 species, with median = 3.025, 95% CL = 3.011–3.036, 5th percentile = 2.65 and 95th percentile = 3.39, minimum = 1.96, maximum = 3.94; normal distribution line is overlaid

R. Froese; Cube law, condition factor and weight-length relationships: history, meta-analysis and recommendations. J. Appl. Ichthyol. 22 (2006), 241-253

Length-Weight Relationships for Wild Pacific Coast Steelhead (NMFS Relationship for Big Sur Steelhead Shown in Red)



Length-weight relationships for juvenile steelhead on the Pacific Coast (Source: McLaughlin 2009; Titus 2011). Results for steelhead from the Big Sur River from Titus (2011) are shown in red.

Stream	State	Contributing Agency	Sample Size	Slope
Big Sur River	CA	Titus, April 1994		3.310
Little Grass Valley	CA	CDFG	38	3.309
Staney (at Tye Creek)	AK	USFS	89	3.302
Bozo Creek	AK	USFS	41	3.247
Soldier Creek	CA	CDFG	51	3.162
Big Sur River	CA	Titus, June 1994		3.150
Saginaw Creek	AK	USFS	92	3.129
Kadashan River	AK	USFS	45	3.118
Saginaw Creek	AK	USFS	45	3.105
North Fork Big River	CA	NOAA	30	3.085
Willow Creek (Sonoma County)	CA	NOAA	34	3.074
Big Sur River	CA	Titus, June-July, 1993		3.070
Big Sur River	CA	Titus, August-September 1993		3.070
Low Divide Creek	CA	USGS	45	3.056
Big Salmon River	CA	NOAA	49	3.019
Pile Driver	AK	USFS	93	3.012
Penington Creek	CA	NOAA	31	3.009
Falls Creek	AK	USFS	66	3.007
Walker Creek	CA	NOAA	77	3.006
Redwood (Noyo River Tributary)	CA	CDFG	48	2.999
Millington Creek	CA	Sonoma County Water Agency	68	2.998
Big Sur River	CA	NOAA	46	2.994
Blue Creek	CA	NOAA	75	2.993
Kass Creek	CA	NOAA	40	2.983
Potato Creek	CA	CDFG	41	2.969
Little North Fork Noyo River	CA	NOAA	45	2.967
Big River (Wildhorse opening)	CA	Mendocino Redwoods Company	41	2.967
Big Sur River	CA	Titus, November 1993		2.960
San Geronimo Creek	CA	Marin Municipal Water District	70	2.959
Staney (at Knob Creek)	AK	USFS	63	2.958

West Fork Smith River	OR	Oregon Department of Fish and Wildlife	263	2.955
Bummer Lake Creek	CA	USGS	126	2.954
Carbonera Creek	CA	NOAA	67	2.953
Panther Creek	CA	NOAA	34	2.949
Cheda Creek	CA	Point Reyes National Seashore	93	2.948
Kinsey Creek	CA	USGS	76	2.944
Bear River	CA	NOAA	47	2.943
Snipe Creek	AK	USFS	41	2.942
Maybeso Creek	AK	USFS	358	2.942
East Fork Soquel	CA	NOAA	216	2.942
Northspur Noyo River	CA	CDFG	555	2.940
Fowler Creek	AK	USFS	97	2.939
Big Creek (Humboldt County)	CA	NOAA	56	2.936
Bridge Creek	CA	Redwood National and State Parks	111	2.933
Elk Creek	CA	Mendocino Redwoods Company	51	2.932
Campbell Creek	CA	NOAA	61	2.930
Big Sur River	CA	Titus, November-December 1994		2.930
Hayworth Creek	CA	CDFG	157	2.926
Bear Creek (Santa Cruz County)	CA	NOAA	37	2.925
Spanish Creek	CA	USGS	217	2.923
Devil's Gulch	CA	Point Reyes National Seashore	257	2.921
Big Sur River	CA	Titus, October-November 1992		2.920
John West Fork	CA	Point Reyes National Seashore	89	2.919
Cable Creek	AK	USFS	141	2.917
Big Creek	CA	NOAA	57	2.916
South Fork Bear Creek	CA	USGS	411	2.910
South Fork Stanley River	AK	USFS	91	2.907
Prairie Creek	CA	NOAA	46	2.907
San Pedro Creek	CA	NOAA	38	2.905
Horse Linto Creek	CA	NOAA	36	2.901
Big Sur River	CA	Titus, April 1994 (Smolt)		2.900
Mark West Creek	CA	Sonoma County Water Agency	737	2.899
Lower Wenatchee River	WA	Washington Department of Fish and Wildlife	220	2.899
Hare Creek	CA	CDFG	102	2.896

Tucannon Creek	WA	Washington Department of Fish and Wildlife	248	2.892
Railroad Creek	CA	Green Diamond Resource Company	636	2.889
East Fork Mill Creek	CA	USGS	110	2.889
Lawrence Creek	CA	NOAA	36	2.886
Staney (at Fred's)	AK	USFS	30	2.884
Redwood Creek (Pt. Reyes)	CA	Point Reyes National Seashore	352	2.884
Coyote Creek	CA	Redwood National and State Parks	88	2.884
Sal River	AK	USFS	70	2.883
Greenwood Creek	CA	Mendocino Redwoods Company	86	2.881
Big River (Gates Creek)	CA	Mendocino Redwoods Company	47	2.881
Smith Creek	CA	NOAA	93	2.879
Pine Gulch	CA	Point Reyes National Seashore	461	2.876
South Fork Ten Mile River	CA	NOAA	114	2.874
South Fork Noyo River	CA	NOAA	32	2.873
Santa Rosa Creek	CA	Sonoma County Water Agency	717	2.873
Trinity River	CA	CDFG	187	2.872
Ryan Creek	CA	Green Diamond Resource Company	138	2.872
Big Sur River	CA	Titus, September 1994		2.870
San Simeon Creek	CA	NOAA	61	2.868
Lagunitas Creek	CA	Marin Municipal Water District	81	2.866
Asotin Creek	WA	Washington Department of Fish and Wildlife - Asotin Creek Project and Bonneville Power Administration	7,755	2.866
Wages Creek	CA	NOAA	57	2.865
Boulder Creek	CA	NOAA	43	2.865
Staney River West Fork	AK	USFS	46	2.863
North Fork Noyo River	CA	CDFG	231	2.861
Carson Creek	CA	Green Diamond Resource Company	629	2.855
Big Flat	CA	USGS	203	2.855
Olema Creek	CA	Point Reyes National Seashore	923	2.839
Lower South Fork Little River	CA	Green Diamond Resource Company	657	2.836
Upper South Fork Little River	CA	Green Diamond Resource Company	1,103	2.831

Olds Creek	CA	CDFG	124	2.816
Waddell Creek	CA	NOAA	88	2.805
Miller Creek	CA	NOAA	58	2.798
Caspar Creek	CA	CDFG	182	2.793
Los Trancos Creek	CA	NOAA	34	2.787
Willow Creek (Monterey County)	CA	NOAA	88	2.773
Chiwawa Creek	WA	Washington Department of Fish and Wildlife	109	2.772
Carmel River	CA	NOAA	53	2.771
Zayante Creek	CA	NOAA	35	2.767
Shasta River	CA	CDFG	440	2.764
Albion River	CA	Mendocino Redwoods Company	58	2.762
Lost Man Creek	CA	Redwood National and State Parks	86	2.760
Amaya Creek	CA	NOAA	37	2.750
Big Creek (Monterey County)	CA	NOAA	92	2.739
West Branch Corralitos Creek	CA	NOAA	38	2.583
Total			23,007	

Average Daily Temperatures (2007)

Location Date	PT #4-R 900619	PT #4-L 900620	PT #5-R 900621	PT #5-L 900623	PT #6-R 900625	PT #6-L 1027490	PT #7-R 1027491	PT #7-L 1027493	PT #8-R 1027495	PT #8-L 1027496
8/31/2007	16.7	16.0	15.2	15.8	14.4	14.4	13.4	13.9	16.3	17.0
9/1/2007	16.5	15.0	15.9	16.6	14.9	14.9	13.9	15.0	15.7	17.4
9/2/2007	16.2	14.5	15.9	16.7	14.8	14.8	13.1	15.1	14.9	17.4
9/3/2007	15.7	13.9	15.4	16.3	14.3	14.5	12.9	14.6	14.5	16.9
9/4/2007	15.8	14.0	14.7	15.9	14.2	14.1	12.7	14.1	14.1	16.6
9/5/2007	15.0	13.4	14.4	14.9	13.6	13.7	12.5	13.4	14.2	15.5
9/6/2007	14.5	13.4	13.8	14.1	13.2	13.3	12.4	13.1	14.8	14.9
9/7/2007	15.5	13.5	13.8	14.2	13.4	13.3	12.4	13.0	15.3	14.9
9/8/2007	14.9	13.9	13.5	13.9	13.0	13.2	12.3	12.8	15.6	13.6
9/9/2007	14.8	14.4	13.3	13.4	12.9	13.2	12.4	12.9	15.6	13.5
9/10/2007	14.8	14.1	13.3	13.0	12.8	13.1	12.5	13.0	15.5	13.5
9/11/2007	14.7	14.3	13.3	13.2	12.8	13.2	12.3	13.2	15.4	13.8
9/12/2007	15.0	15.1	13.8	14.2	13.0	13.5	12.6	13.5	15.6	14.3
9/13/2007	15.7	15.8	14.6	15.1	13.7	14.1	13.2	14.1	16.0	15.1
9/14/2007	16.0	16.0	14.7	15.4	14.2	14.2	13.2	14.2	16.2	15.6
9/15/2007	16.0	15.9	15.0	15.7	14.3	14.4	13.5	14.7	16.1	15.8
9/16/2007	15.7	15.6	15.2	15.8	14.3	14.6	13.4	15.0	15.9	15.7
9/17/2007	15.8	15.7	15.4	16.0	14.4	14.9	13.4	15.2	16.0	15.8
9/18/2007	15.5	15.3	15.3	15.6	14.3	14.7	13.5	15.0	15.6	15.5
9/19/2007	15.1	15.0	15.0	15.3	14.2	14.6	13.5	14.7	15.2	15.1
9/20/2007	14.7	14.7	14.6	14.8	13.9	14.4	13.1	14.5	14.7	14.7
9/21/2007	14.5	14.5	14.4	14.6	13.7	14.3	12.9	14.5	14.5	14.5
9/22/2007	14.7	14.7	14.7	14.7	13.5	14.6	12.9	14.8	14.6	14.3
9/23/2007	14.8	14.8	14.8	14.9	13.5	14.7	13.0	14.9	14.6	14.2
9/24/2007	14.8	14.9	14.8	15.0	13.4	14.8	12.9	15.0	14.8	14.3
9/25/2007	15.2	15.2	15.2	15.4	13.5	15.0	13.1	15.3	15.1	14.6
9/26/2007	15.4	15.3	15.2	15.5	13.4	15.0	13.2	15.2	15.4	14.8
9/27/2007	14.6	14.5	14.6	14.7	13.2	14.5	12.9	14.7	14.6	14.0
9/28/2007	14.8	14.7	14.7	14.9	13.3	14.6	13.0	15.1	14.9	14.3
9/29/2007	14.6	14.5	14.5	14.7	13.5	14.5	13.0	14.7	14.6	14.6
9/30/2007	14.1	14.1	14.1	14.3	13.5	14.1	12.8	14.2	14.2	14.2
10/1/2007	14.4	14.3	14.3	14.5	13.7	14.3	13.0	14.5	14.4	14.5
10/2/2007	14.8	14.7	14.7	14.9	14.2	14.7	13.2	14.9	14.8	14.9
10/3/2007	14.7	14.6	14.7	14.9	14.4	14.7	13.3	14.8	14.7	14.8
10/4/2007	14.7	14.6	14.6	14.9	14.5	14.6	13.2	14.8	14.7	14.9
10/5/2007	14.3	14.3	14.3	14.4	14.1	14.3	13.0	14.4	14.3	14.4
10/6/2007	13.4	13.4	13.4	13.5	13.2	13.4	12.8	13.5	13.5	13.6
10/7/2007	13.5	13.5	13.4	13.5	13.1	13.4	12.7	13.5	13.5	13.5
10/8/2007	13.4	13.5	13.4	13.5	13.0	13.3	12.8	13.5	13.6	13.4
10/9/2007	13.6	13.7	13.6	13.6	13.1	13.5	12.8	13.7	13.7	13.6

Big Sur River Lagoon sampling site location

~ approximately 150 meters from the mouth of the lagoon



Salinity by month

