Oregon
Kate Brown, Governor

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October 19, 2017

[Enter Addressee Here]
Generic Notification Letter: See addressee list at end of document

To Interested Water Users, Managers, and Providers in the North Coast Basin

REFERENCE: Proposed Instream Water Right Application in Mid Coast Basin (Oregon Water Resources Department Basin 18)

It is the Oregon Department of Fish and Wildlife's (ODFW) policy to apply for instream water rights (ISWRs) on waterways of the state to conserve, maintain, and enhance aquatic and fish life, wildlife, and fish and wildlife habitat for the benefit of present and future generations of the citizens of this state. In an effort to better inform the public about this process we are notifying interested local parties about upcoming filings. Additionally, the Oregon Water Resources Department requires applicants intending to file an application for an ISWR to notify affected local governments (OAR 690-077-0020 (j)). As such, we are notifying you that we intend to submit applications to the Oregon Water Resources Department for instream rights in your area.

For ongoing updates about the current instream filing process we encourage you to sign up for updates on the ODFW Water Quality and Quantity Program website (http://www.dfw.state.or.us/fish/water/). In addition, public notifications for state water right applications can be found through the Oregon Water Resources Department Water Rights Public Notice page (http://apps.wrd.state.or.us/apps/misc/wrd_notice_view/?notice_id=21).

If you have any questions regarding the current instream filing process, proposed applications, or would like to arrange a meeting with your group, please do not hesitate to contact Anna Pakenham Stevenson at 503-947-6084 or Anna.p.stevenson@state.or.us

Sincerely,

Anna Pakenham Stevenson
Water Quality and Quantity Program Manager

Attachment:
Proposed places of instream use and amounts of water requested for Mid Coast Basin

The proposed place of instream use and amount of water requested by month (in cubic feet per second) would be in the following streams and reaches:

Salmon River Watershed

Salmon River, tributary to the Pacific Ocean:

Reach #1: Beginning at the mouth

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Unit
260	260	260	260	260	120	120	120	120/287	287	287	287/260	**CFS**

Reach #2: Above Little Salmon River

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Unit
113	113	113	113	66	66					136	136/113	**CFS**

Slick Rock Creek, tributary to the Salmon River:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Unit
85	85	85	85	50	34	34	34	34	50	85	85	**CFS**

Siletz River Watershed

Erickson Creek, tributary to Schooner Creek:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Unit
					3	3	2	2				**CFS**

Buck Creek, tributary to the Siletz River:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Unit
					5	4	3	3				**CFS**

Sunshine Creek, tributary to the Siletz River:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	**Unit**
					10	7/5	3	3				**CFS**

Siletz River, tributary to the Pacific Ocean:

Reach #1: Beginning at the mouth

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	**Unit**
302	302	302	302	302	200	200	200	200/327	327	327	327/302	**CFS**

Reach #2: Above Gravel Creek

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	**Unit**
202	202	202	202	202	134	134	134	134/229	229	229	229/202	**CFS**

Schooner Creek, tributary to Siletz River:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	**Unit**
110	110	110	110	110	65	65	65	65	65/100	110	110	**CFS**

Drift Creek, tributary to the Siletz Bay:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	**Unit**
170	170	170	170	170	67	67	67	67	67/170	170	170	**CFS**

Cedar Creek, tributary to the Siletz River:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	**Unit**
97	97	97	97	58	39	39	39	39/72	72/97	97	97	**CFS**

Euchre Creek, tributary to the Siletz River:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Unit
85	85	85	85	85	59/40	40	40	40/59	59/113	113	113/85	CFS

Sam Creek, tributary to the Siletz River:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Unit
81	81	81	81	42	42/28	28	28	28/50	50/94	94	94/81	CFS

Rock Creek, tributary to the Siletz River:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Unit
67	67	67	67	46	46/31	31	31			87	87/67	CFS

Mill Creek, tributary to the Siletz River:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Unit
68	68	68	68	36	/24	24				68	68	CFS

Gravel Creek, tributary to the Siletz River:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Unit
82	82	82	82	57	57/38	38	38	38	57	82	82	CFS

North Fork Siletz River, tributary to the Siletz River:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Unit
225	225	225	225	120	120/80	80	80	80/225	225	225	225	CFS

South Fork Siletz River, tributary to the Siletz River:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Unit
117	117	117	117	117	59	40	40	40/59	59	59/117	117	CFS

Yaquina River Watershed

Olalla Creek, tributary to the Yaquina River:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Unit
26	26	26	26	26	10	10	10	10	10	26	26	CFS

Big Elk Creek, tributary to the Yaquina River:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Unit
130	130	130	130	80	80/54	54	54	54/80	80/139	139	139/130	CFS

Bear Creek, tributary to Big Elk Creek:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Unit
24	24	24			9	9			9		24	CFS

Deer Creek, tributary to Big Elk Creek:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Unit
34	34	34	34	34	13	13	13	13	13	34	34	CFS

Simpson Creek, tributary to the Yaquina River:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Unit
58	58	58	58	30	30/20	20	20	20/42	42/58	58	58	CFS

Little Elk Creek, tributary to the Yaquina River:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Unit
91	91	91	91	50	50/34	34	34	34/60	60/91	91	91	**CFS**

Alsea River Watershed

Drift Creek, tributary to the Alsea River:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Unit
186	186	186	186	108	108/72	72	72	72/195	197	195	195/186	**CFS**

Canal Creek, tributary to the Alsea River:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Unit
					12/10	8/5	4/3	3				**CFS**

Scott Creek, tributary to the Alsea River:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Unit
					10/8	7	5	5				**CFS**

Grass Creek, tributary to the Alsea River:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Unit
					3	2	1	1				**CFS**

Lobster Creek, tributary to Five Rivers:

Reach #1: Beginning at the mouth

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Unit
108	108	108	108	47	47/31	31	31	31/		120	120/108	**CFS**

Reach #2: Above Preacher Creek

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Unit
105	105	105	105	64	64/43	43	43	43/80	80/115	115	115/105	**CFS**

Little Lobster Creek, tributary to Lobster Creek:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Unit
					3	2	1	1				**CFS**

Preacher Creek, tributary to Lobster Creek:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Unit
					4/3	2	1	1				**CFS**

Cascade Creek, tributary to Five Rivers:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Unit
					5/4	3/2	1	1				**CFS**

Buck Creek, tributary to Five Rivers:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Unit
					12/8	5	4/3	3				**CFS**

Mill Creek, tributary to the Alsea River:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Unit
					6/5	3	2	2				**CFS**

Honey Grove Creek, tributary to the North Fork Alsea River:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Unit
					2	1	1	1				CFS

Crooked Creek, tributary to the North Fork Alsea River:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Unit
					10/8	6	5	5				CFS

Alsea River, tributary to Alsea Bay:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Unit
								85/277	277			CFS

Five Rivers, tributary to the Alsea River:

Reach #1: Beginning at the mouth

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Unit
260	260	260	260	140	140/94	94	94	94/		260	260	CFS

Reach #2: Beginning at Lobster Creek

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Unit
211	211	211	211	100	/67	67	67			222	222/211	CFS

Reach #3: Beginning at Green River

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Unit
69	69	69	69	36	36/24	24	24	24/81	81	81	81/69	CFS

Green River, tributary to Five Rivers:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Unit
91	91	91	91	50	50/34	34	34	34/50	50/98	98	98/91	**CFS**

Fall Creek, tributary to the Alsea River:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Unit
125	125	125	125	79	79/53	53	53	53/162	162	162	162/125	**CFS**

North Fork Alsea River, tributary to the Alsea River:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Unit
148	148	148	148	72	72/48	48	48	48/148	148	148	148	**CFS**

South Fork Alsea River, tributary to the Alsea River:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Unit
202	202	202	202	107	/70	70	70	70/			202	**CFS**

Bummer Creek, tributary to the South Fork Alsea River:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Unit
75	75	75	75	40	40/27	27	27	27/40	40/92	92	92/75	**CFS**

Yachats River Watershed

Rock Creek, tributary to the Pacific Ocean:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Unit
					6	5	4/3	3	3			**CFS**

Siuslaw River Watershed

Condon Creek, tributary to the North Fork Siuslaw River:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Unit
					10/8	6/5	4	4				CFS

Uncle Creek, tributary to Condon Creek:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Unit
							1	1				CFS

McLeod Creek, tributary to the North Fork Siuslaw River:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Unit
					7/5	4/3	2	2				CFS

Drew Creek, tributary to the North Fork Siuslaw River:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Unit
					3	2	2	2				CFS

Wilhelm Creek, tributary to the North Fork Siuslaw River:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Unit
					4	3/2	2	2				CFS

Porter Creek, tributary to the North Fork Siuslaw River:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Unit
					3	2	2	2				CFS

Elma Creek, tributary to the North Fork Siuslaw River:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	**Unit**
					3/2	2/1	1	1				**CFS**

Sam Creek, tributary to the North Fork Siuslaw River:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	**Unit**
					3	2	2	2				**CFS**

Hadsall Creek, tributary to the Siuslaw River:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	**Unit**
					2	1	1	1				**CFS**

Lake Creek, tributary to the Siuslaw River:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	**Unit**
235	235	235	235	85	85/57	57	57	57/85	85/235	235	235	**CFS**

West Fork Indian Creek, tributary to Indian Creek:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	**Unit**
					6	4	3	3				**CFS**

Rogers Creek, tributary to West Fork Indian Creek:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	**Unit**
					4/3	3	3	3				**CFS**

Green Creek, tributary to Lake Creek:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	**Unit**
					3/2	2/1	1	1				**CFS**

West Fork Deadwood Creek, tributary to Deadwood Creek:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	**Unit**
					4	3/2	2	2				**CFS**

Misery Creek, tributary to West Fork Deadwood Creek:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	**Unit**
					2	2	1	1				**CFS**

Bear Creek, tributary to Deadwood Creek:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	**Unit**
							1	1				**CFS**

Little Lake Creek, tributary to Lake Creek:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	**Unit**
							1	1				**CFS**

Swamp Creek, tributary to Lake Creek:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	**Unit**
					1	1	1	1				**CFS**

Swartz Creek, tributary to Lake Creek:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	**Unit**
					2/1	1	1	1				**CFS**

Congdon Creek, tributary to Lake Creek:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	**Unit**
					6	4	3	3				**CFS**

Turner Creek, tributary to the Siuslaw River:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	**Unit**
					1	1	1	1				**CFS**

Waite Creek, tributary to the Siuslaw River:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	**Unit**
							1	1				**CFS**

Pataha Creek, tributary to Wildcat Creek:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	**Unit**
					2	1	1	1				**CFS**

Chickahominy Creek, tributary to Wildcat Creek:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	**Unit**
					6/4	3/2	2/1	1				**CFS**

Oat Creek, tributary to Wolf Creek:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Unit
					2	1	1	1				CFS

Greenshaw Creek, tributary to Wolf Creek:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Unit
					2/1	1	1	1				CFS

Eames Creek, tributary to Wolf Creek:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Unit
					2	1	1	1				CFS

Swamp Creek, tributary to Wolf Creek:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Unit
					2	1	1	1				CFS

Panther Creek, tributary to Wolf Creek:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Unit
					2	1	1	1				CFS

Dogwood Creek, tributary to the Siuslaw River:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Unit
					1	1	1	1				CFS

Doe Creek, tributary to the Siuslaw River:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	**Unit**
					2	1	1	1				**CFS**

Fawn Creek, tributary to the Siuslaw River:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	**Unit**
					1	1	1	1				**CFS**

Letz Creek, tributary to the Siuslaw River:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	**Unit**
					2	2	1	1				**CFS**

Douglas Creek, tributary to the Siuslaw River:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	**Unit**
					3/2	1	1	1				**CFS**

Mid Coast Lakes Watershed

Bailey Creek, tributary to Mercer Lake:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	**Unit**
					3	2	1	1				**CFS**

Ryder Creek, tributary to Maple Creek:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	**Unit**
					2/1	1	1	1				**CFS**

Maple Creek, tributary to Siltcoos Lake:

Amount of water (in cubic feet per second) requested by month:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	**Unit**
20	20	20	20	12	12/8	8	8	8/12	12	20	20	**CFS**

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Re: Instream Water Rights in WRD Basin 18 (Mid Coast)

Hello (To Interested Water Users, Managers, and Providers – See addressee list on page 2),

The Oregon Department of Fish and Wildlife (ODFW) is reinitiating their instream water rights (ISWR) filing process throughout Oregon. By way of background, it is the policy of the state, through the Oregon Department of Fish and Wildlife, the Oregon Department of Environmental Quality, and the Oregon Parks and Recreation Department and enabling statutes to apply for ISWRs on waterways of the state to conserve, maintain, and enhance aquatic and fish life, wildlife, fish and wildlife habitat, water quality, and recreational values for the benefit of present and future generations of the citizens of this state.

This need to apply for ISWRs is highlighted in the Integrated Water Resource Strategy where it recommends ODFW determine instream flow needs and establish additional instream water rights. ODFW focuses on ISWRs in support of maintaining instream flows to conserve and maintain fish and wildlife populations and their associated habitats. It is ODFW's policy to apply for ISWRs on waterways of the state to conserve, maintain, and enhance aquatic and fish life, wildlife, and fish and wildlife habitat for the benefit of present and future generations of the citizens of this state. The long-term goal of this policy shall be to obtain an instream water right on every waterway exhibiting fish and wildlife values (OAR 635-400-0005). However, it has been almost 20 years since ODFW last applied for a new ISWR. Beginning in 2016, we began the process to file on reaches where we had existing biological data throughout the state.

A backgrounder on ISWRs can be found here-
http://www.dfw.state.or.us/fish/water/docs/BKGWaterRights.pdf

Some important points include:

- Three state agencies may apply for instream water rights- Department of Environmental Quality, Parks and Recreation Department, and Department of Fish and Wildlife for the following uses: recreation, pollution abatement, navigation, maintenance and enhancement of fish and wildlife populations and their habitats.
- ISWRs provide the targets for what flows are needed as the state strives to restore flow for fish, wildlife, their habitats, water quality, or recreation.
- Instream rights are enforced like all other water rights. By law, instream (like out-of-stream) applications cannot take away or impair any legally established water use having an earlier priority date.

As this is a restart of the instream water right filing process, we recognize that there might be questions. As we move forward with preparing these instream water right applications, we wanted to reach out to your group to facilitate a dialog and answer questions that you might have. As applications are developed in your area, we can send follow-up information. If you have any questions regarding the process, or are interested in receiving additional information, please do not hesitate to contact me.

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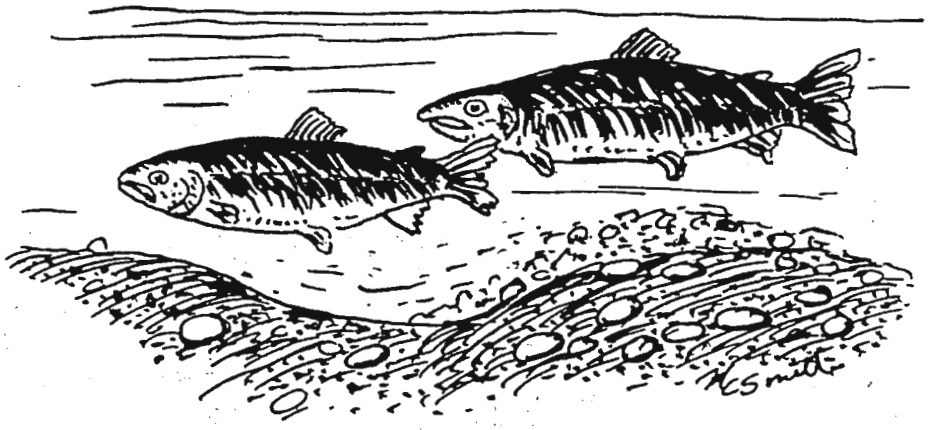
Environmental Investigations

MIDDLE COAST BASIN

FISH AND WILDLIFE RESOURCES AND THEIR WATER REQUIREMENTS



OREGON STATE GAME COMMISSION
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FISH AND WILDLIFE RESOURCES OF THE MIDDLE COAST BASIN, OREGON, AND THEIR WATER REQUIREMENTS

(REVISED)

By

Allan K. Smith
and
Jim E. Lauman
Aquatic Biologists
Environmental Management Section

A Report with Recommendations to the
OREGON STATE WATER RESOURCES BOARD

From the
Oregon State Game Commission
John W. McKean, Director

FEDERAL AID TO FISH RESTORATION
Completion Report
Fisheries Stream Flow Requirements
Project F-69-R-8, Job Number 15

Portland, Oregon

March 1972

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INTRODUCTION

The fish and wildlife resources of the Middle Coast Basin (Fig. 1), their present status, value, limiting factors and water requirements are reviewed in this report. Minimum and optimum stream flow recommendations are presented and field study methods outlined.

The flow recommendations for fish life are primarily for use by the State Water Resources Board to update their benefical water use program for the basin. In addition, recommendations are made for recreational and esthetic uses of water not directly related to fish and wildlife water requirements.

Initial field work conducted in the basin in 1962-64 resulted in a report (1965) by James M. Hutchison of the same title as this report. Additional work was carried out by the present authors in 1970-71 using new techniques for stream flow study. Flow recommendations reflecting new field techniques and additional information requested by the State Water Resources Board were added to the present report. Important contributions to the study and report content were made by Oregon State Game Commission district fishery biologists, John D. Fortune, Jr. and James M. Hutchison. Several other Game Commission and Oregon Fish

Commission biologists contributed to the report. Editorial reviews were made by William E. Pitney, Rollie F. Rousseau, and Kenneth E. Thompson, Environmental Management Section, Oregon State Game Commission.

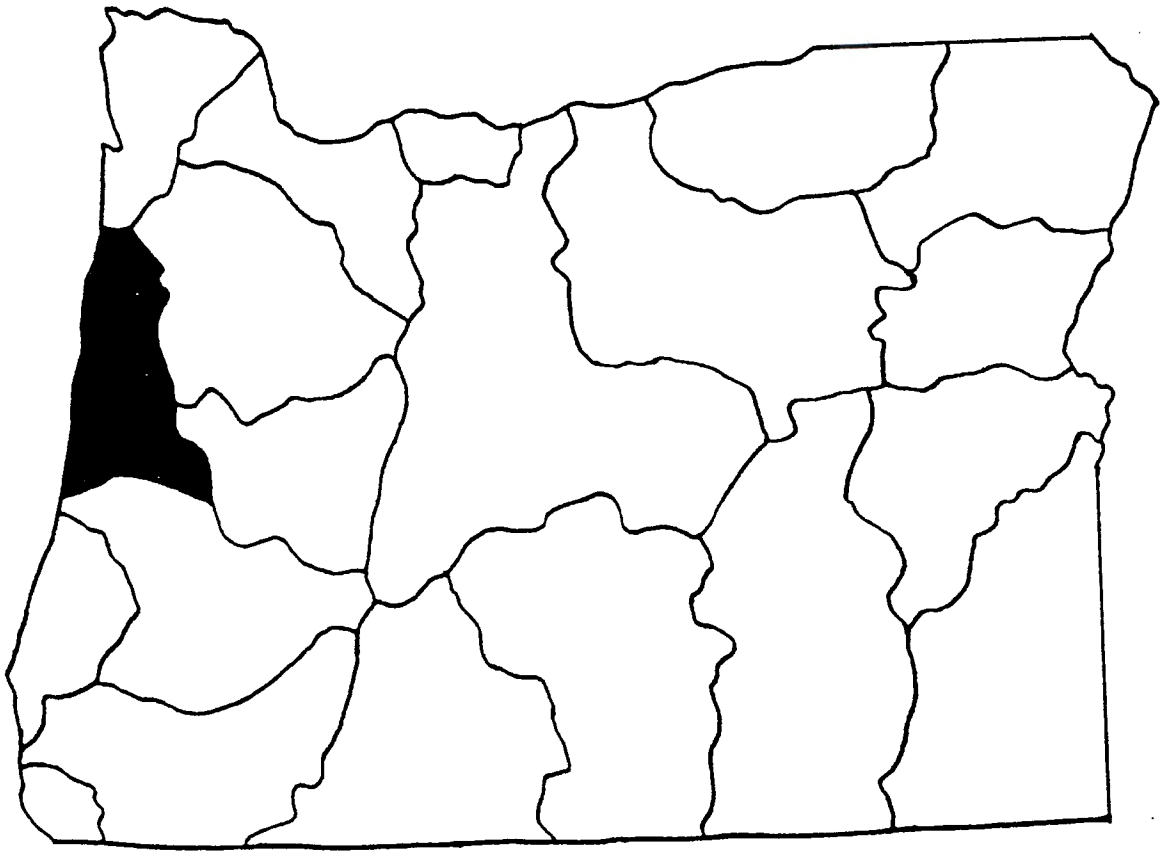


Fig. 1. Location of Middle Coast Basin in Oregon.

FISH RESOURCES

Inventory and Distribution

In excess of 40 species of fish are found in the basin's streams and lakes. Species present and their general distribution are listed in Table 1. Anadromous fish distribution and abundance are given in Figure 15 and Tables 1 and 2. Brief discussions of important fish in the basin follow.

Game Fish

Most game fish in the basin are anadromous. Management practices by public agencies emphasize enhancement of these fish for sport and commercial harvest. Also present in more modest numbers are trout and warm-water fish. Shad, striped bass and sturgeon are present but not abundant. General game fish distribution is given in Table 1.

Detailed distribution of anadromous salmonids is shown in Figure 15. Numbers of these fish spawning in the basin are given in Table 2. The timing of migration and spawning of each species are shown in Figure 2.

Table 1. Known freshwater fish species and general distribution, Middle Coast Basin

Species	General Distribution
Catfish 1/ 2/	
Brown bullhead	Lower Siletz, Yaquina and Siuslaw Rivers, several lakes (App. 7)
Channel catfish	Limited number in Devils Lake
Yellow bullhead	Valsetz Lake
Lamprey (2 species)	Pacific lamprey in most streams, brook lamprey in several
Minnows	
Carp 2/	Cleawox Lake
Dace (at least 2 species)	Common in many streams
Goldfish 2/	Valsetz Lake
Redside shiner	Numerous in many Siuslaw system streams
Squawfish	Siuslaw system and some nearby lakes (App. 7)
Perch 1/	
Yellow perch	A number of lakes (App. 7)
Rainwater killifish	Ditches tributary to Yaquina Bay
Salmonids 1/	
Brown trout 2/	Valsetz Lake
Chinook salmon, fall	Salmon, Siletz, Yaquina, Alsea and Siuslaw River systems and Beaver Creek
Chinook salmon, spring	Salmon, Siletz and Alsea River systems
Chum salmon	Near tidewater in several streams

Table 1. (continued)

Species	General Distribution
Coho salmon	Most streams with sufficient flows
Cutthroat trout	Nearly all streams and lakes
Kokanee salmon 2/	Several lakes (App. 7)
Rainbow trout	Several streams and lakes (App. 7 and 9)
Steelhead (summer)	Salmon, Siletz and Alsea Rivers
Steelhead (winter)	Most streams with sufficient flows
Sculpins (several species)	Nearly all streams and many lakes
Shad 1/ 2/	Siuslaw River and small numbers in Siletz, Yaquina and Alsea Rivers
Eulachon	Rare. Siltcoos Lake and larger streams
Starry flounder	Common in bays. Also Siltcoos L. and larger streams near tidewater
Stickleback	Common in many bays near tidewater
Striped bass 1/ 2/	Siuslaw R. and Siltcoos Lake
Sturgeon (2 species) 1/	Lower sections of larger streams. Occasionally in Siltcoos Lake
Suckers	Siuslaw River system and nearby lakes (App. 7)
Sunfish 1/ 2/	
Bass, largemouth	Rare in Siletz R. Several lakes (App. 7)
Bluegill	Several lakes (App. 7)
Crappie, black	" " "
Crappie, white	" " "
Pumpkinseed	Triangle Lake

Table 1. (continued)

Species	General Distribution
Warmouth	Munsel and Tahkenitch Lakes
Surfperch (several species)	Larger rivers in tidewater

1/ Classified as game fish.

2/ Species introduced into basin from other areas.

Coho salmon are the most numerous anadromous fish. A highly successful hatchery program contributes to their abundance. Of the two races of chinook salmon, fall chinook have wider distribution and greater abundance. Fall chinook occur in each major river system, whereas spring chinook are restricted to Salmon, Siletz and Alsea River systems. Fall chinook enter freshwater in September and October and spring chinook enter in spring months. Scarcity of favorable "holding" pool habitat and marginal water temperatures in the summer are largely responsible for limiting spring chinook distribution.

Small numbers of chum salmon are known to spawn in a few lower tributaries of Salmon, Siletz, Yaquina, and Alsea Rivers. Adults are not numerous and most spawning occurs in streams which are tributary to the estuaries.

Table 2. Estimated number of adult anadromous salmonids spawning in Middle Coast Basin stream system 1/ 2/ 3/

Stream system	Chinook			Steelhead		Sea-run
	Spring	Fall	Coho	Summer	Winter	Cutthroat
Salmon River	180	2,000	5,700	250	4,200	3,800
Siletz River	775	14,200	26,900	4,900	11,500	32,000
Yaquina River	0	2,100	12,600	0	2,300	7,500
Alsea River	300	20,000	58,000	200	13,600	28,600
Yachats River	0	500	2,650	0	1,200	2,300
Siuslaw River	0	4,500	22,000	0	13,000	50,000
Siltcoos Lake	0	0	4,000	0	1,000	500
Tahkenitch Lake	0	0	3,000	0	500	200
Sub-total	1,255	43,300	134,850	5,350	47,300	124,900
Other Streams	0	25	5,130	0	4,630	4,890
Grand Total	1,255	43,325	139,980	5,350	51,930	129,790

1/ Estimates by Oregon Game Commission and Fish Commission of Oregon biologists.

2/ Numbers indicate spawning escapement. Total run would be computed by adding appropriate sport and commercial harvest data.

3/ Estimates include hatchery contributions.

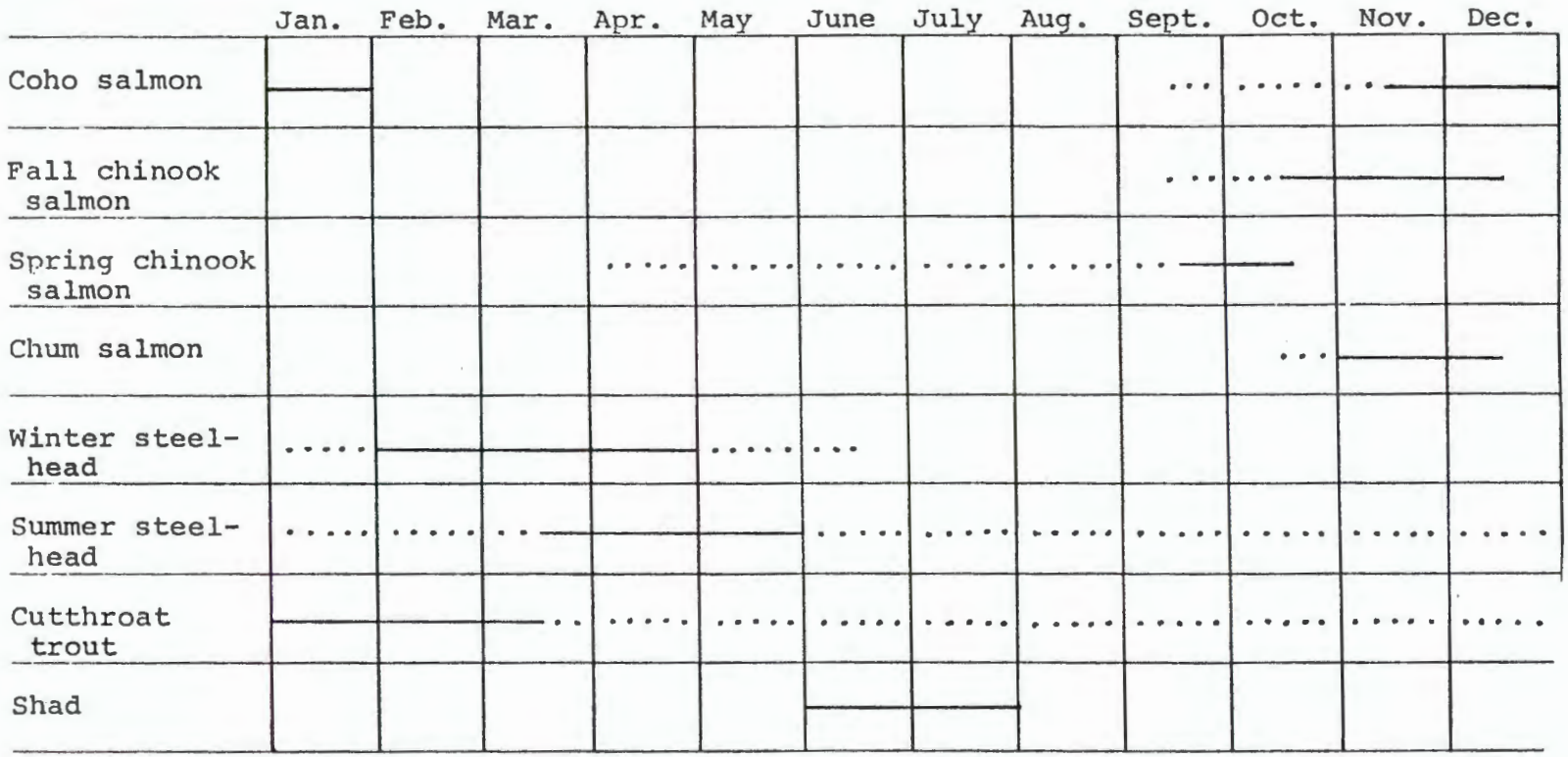


Fig. 2. Peridocity chart for anadromous salmonids, Middle Coast Basin (dotted lines indicate presence in streams and solid lines indicate spawning periods).

Steelhead rank third in number of anadromous fish behind coho and sea-run cutthroat. Winter steelhead adults begin entering streams in November and continue until spawning is completed the next spring. A natural run of summer steelhead occurs in the Siletz River with an introduced run in the Alsea River. Strays occur in other Middle Coast streams. Summer steelhead enter freshwater in the spring and summer and hold over until spawning the next winter and spring. Most of the Siletz system summer steelhead spawn in the North Fork. Natural steelhead production is heavily supplemented on major streams with hatchery releases.

Sea-run cutthroat trout are second only to coho in abundance. These fish have a widespread distribution and may be in freshwater any time of year. Spawning occurs in the winter.

Cutthroat trout occur in nearly every stream and lake with a permanent water supply. This species is the most numerous salmonid in the basin and has the widest distribution. Catchable size cutthroat are stocked for summer angling (App. 9 and 10).

Rainbow trout occur in a few lakes and streams but populations are considerably lower than those of cutthroat.

Rainbow are frequently stocked in various waters, especially lakes (App. 7 and 9). Brown trout occur in Valsetz Lake from early century introductions.

Warm-water game fish are present in large numbers in lakes in the southern part of the basin (Table 1, App. 7). Bullhead catfish are found in a number of lakes and in the lower Siletz, Yaquina and Siuslaw Rivers. Channel catfish in limited numbers occur in Devils Lake.

Shad and striped bass regularly enter the Siuslaw estuary. The annual shad spawning run has been estimated at 30,000 fish. Siuslaw Bay is the northern West Coast limit of substantial striped bass estuary use. Runs are unpredictable and tend to vary in size and timing from year to year. Most fish seem to enter the bay for feeding rather than spawning.

Non-game Fish

Table 1 includes freshwater non-game fish and their distribution. Dace and sculpins (cottids) have wide distribution in the basin as they do in most of Oregon. Other non-game species are discussed in the Rough Fish section. A number of estuarine non-game fish are of importance. These include several surfperch and rockfish species, starry flounder, herring, greenling and lingcod.

Biological Requirements of Salmonids

A stream must have certain physical characteristics and provide water of adequate quantity or quality to support a population of fish. These requirements for salmon, steelhead, and resident fish are reviewed here.

Habitat Preferences

Species of fish differ in their requirements or preferences for stream habitat. Some are best adapted to riffles, while others use pools extensively. Usually the best production of desirable game fish is achieved when a reasonably balanced combination of riffles and pools exist, since many preferred food organisms are produced in riffles while pools serve as resting areas. The gradient of a stream in combination with flow quantity governs the ratio between riffles and pools. Stream gradient and discharge that create a strong flowing riffle situation would not be suitable for a quiet-water fish. Conversely, a small flow that reduces the stream to a series of pools, virtually eliminates habitat for riffle dwellers and much of the food producing area. Therefore, the flow in each particular reach of stream must be adequate to provide habitat best suited for the species desired.

Spawning

Salmon and trout must have gravel for spawning. For salmon and steelhead, gravel should range between 1/4 inch and 6 inches in diameter, preferably 1 to 4 inches. Chinook salmon normally select slightly larger gravel than do coho and steelhead, while anadromous cutthroat and resident trout use the smaller sizes. The spawning beds must be relatively free of sand and silt and not be highly compacted. Excessive sand and silt create adverse conditions for eggs and fry in gravel by causing low intragravel flows which result in decreased supplies of dissolved oxygen available for respiration. Large amounts of fine material can also reduce fry survival because it fills the gravel interstices, thus blocking fish emergence from the spawning bed. Adequate depth of gravel is necessary for redd (nest) construction by the female fish. Chinook salmon dig deeper redds than coho salmon and steelhead. Redd depths may vary from about 0.5 to 1.3 foot. Trout redds are seldom deeper than 0.5 foot.

Salmonids require about two months to hatch and another month to emerge from the gravel after hatching. The rate of incubation is controlled primarily by water temperature. Suitable water temperatures for spawning range from about 42 to 55 F.

The dissolved oxygen requirement for egg survival is higher (8 ppm) than for fish after hatching (5 ppm). To meet the greater oxygen demand of eggs, clean, permeable gravel beds are required to insure adequate exchange of intragravel water. Adequate stream flow helps provide proper gravel bed aeration.

Biologists have made measurements at numerous redds of chinook, coho, chum salmon and steelhead. From these studies, water depth and velocity criteria for proper spawning conditions have been determined. Minimum water depth for chinook salmon spawning is 0.8 foot, while coho salmon, steelhead and sea-run cutthroat require at least 0.6 foot. Resident trout use a depth of at least 0.4 foot. Proper velocities for spawning by all three anadromous salmonids range between 1.0 and 3.0 feet per second as measured 0.4 foot from the bottom. Velocity requirements of resident trout are less well defined.

Rearing

The most critical time in the freshwater life of young salmonids is the period of low flow during the late summer and early fall. Some species of young anadromous fish spend up to 3 years in freshwater before migrating to the ocean, and resident trout never leave freshwater. To support fish during these stages, a stream must contain

sufficient flow to provide food, shelter, and a suitable medium in which to live.

Food Juvenile salmonids feed primarily on immature aquatic insects. Production of these organisms occurs largely in riffle areas. The best producing riffles are those composed of large gravel or rubble. Clean, well-aerated water flowing over riffles is necessary to produce these food forms.

Shelter Shelter has been described as any place a fish will seek when frightened or disturbed. Such places may be found within riffles, but are usually associated with deeper pools or areas with overhanging banks and vegetation. Shelter is necessary for fish to escape enemies and avoid other stresses.

Suitable Medium A suitable medium refers primarily to water quality requirements. Good rearing water is high in dissolved oxygen (above 5 ppm), with temperatures not exceeding 65 F for extended periods, low in turbidity, and not greatly acidic or alkaline. High water temperatures contribute to mortalities by simply exceeding tolerances of salmonids. Water loses its capacity to hold dissolved oxygen as its temperature increases, yet the metabolic rate and resultant oxygen requirement of cold-blooded animals is greater at higher temperatures. In addition,

water temperatures above optimum for salmonids are often ideal for competing species of undesirable fish and reduces the salmonids ability to avoid predators. Incidence of many diseases increases with rising water temperature. Turbid waters generally cause greater damage to fish habitat than to fish themselves, primarily by silting food-producing and spawning areas. Heavy silt loads, however, can injure gills and other sensitive organs and result in mortality. Water highly acidic or alkaline interferes with fish physiology.

Adequate summer stream flows play a vital part in meeting the three basic rearing requirements. Without adequate flow to provide all the rearing requirements, production may be seriously reduced.

Passage

By definition, anadromous fish migrate between the ocean and freshwater. To complete this cycle, fish must have adequate stream flow for passage. As upstream migrants, adult anadromous salmonids require a portion of the stream cross-section to have sufficient depth so passage will not be impeded. Eight-tenths foot for chinook and 0.6 foot for coho and steelhead are the minimum depths for reasonable passage conditions. Abrupt reductions in stream flow will retard fish passage.

A minimum depth of 0.2 foot is required by most juvenile fish for intra-stream movement during their rearing period. Flows to insure good survival of juvenile andromous species on their seaward migration are greater than those required for intra-stream movement. However, this is usually no problem, as most juvenile anadromous fish migrate downstream during seasons of higher flows.

Factors Affecting Fish Resources

Water Availability

Stream flow in the basin is adequate for fish life most of the year and total annual discharge exceeds these needs (Fig. 3 and 4). However, flow deficiencies can occur in streams in late summer and early fall. These adversely affect rearing trout and young anadromous fish as well as the successful migration and spawning of chinook salmon and summer steelhead. Siuslaw River system experiences the most critical low flows with shortages extending through much of the summer. Table 3 compares flow discharges from the upper Siuslaw drainage with those of a similar drainage area, the upper Siletz River. Differences in the two areas are largely due to lower annual precipitation in the upper Siuslaw River drainage and the fact that, geologically, the Siuslaw system is sedimentary and has poor ground water retention characteristics. Other Middle Coast Basin systems are basalt

Table 3. Comparison of Siletz River and Siuslaw River mean discharges

River	Gage location (river mile)	Drainage area (sq.mi.)	Mean summer discharge (cfs) June	July	Aug.	Sept.	Mean yearly discharge (cfs)
Siletz River	42.5	204	515	196	108	142	1567
Siuslaw River	45.5	267	236	92	47	42	688

1/ Source: U. S. Geological Survey, 1932-1940 inclusive.

with better capacities to hold ground water, thus maintaining better summer flow volumes. The effects of Siuslaw River low flows upon fish rearing are further discussed in the Water Quality section.

Water Quality

The Middle Coast Basin has several water quality problems that vary in type and degree of seriousness. Warm stream temperatures during the summer are the most detrimental quality factor affecting fish. High temperatures can retard or eliminate a stream's capacity to rear salmonids. They can also interfere with successful adult spring chinook and summer steelhead holding. Resting pools for these fish should remain reasonably cool. Other conditions, such as low flows and reduced dissolved oxygen content, usually accompany high water temperatures. Both Triangle and Valsetz Lakes warm water that flows into the Siletz and Siuslaw systems. Temperatures desirable for salmonid rearing should not exceed 65 F.

Comparative studies of rearing fish and summer temperatures in the Salmon, Siletz, ~~Alsea and Siuslaw~~ Rivers have revealed that salmonid rearing is ~~limited by excessive~~ temperatures in the main stem Siuslaw River (Table 4). During the low flow period there was practically no

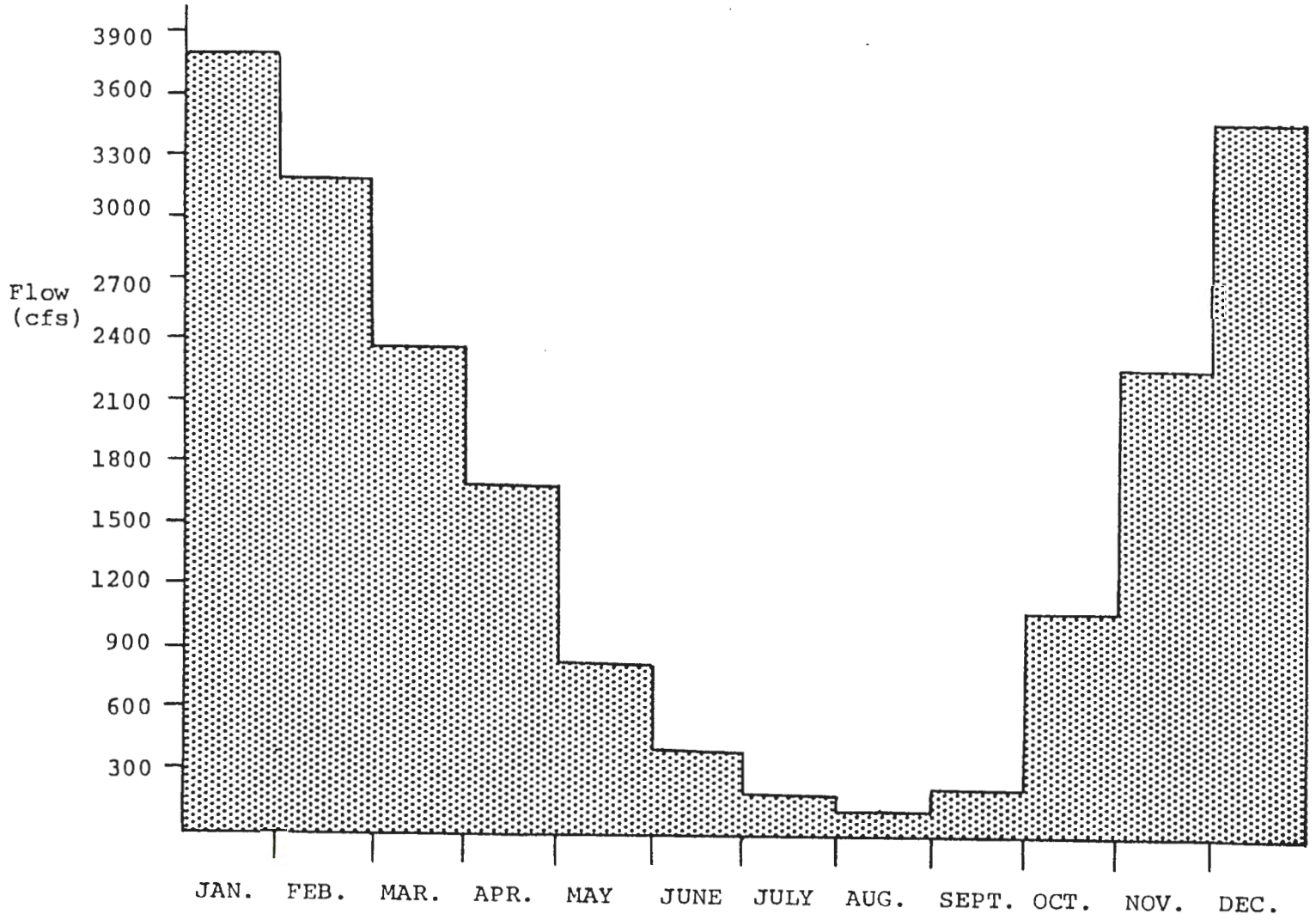


Fig. 3. Mean monthly discharge, Siletz River near Siletz, Oregon (USGS gage #14-305500, 1951-1960).

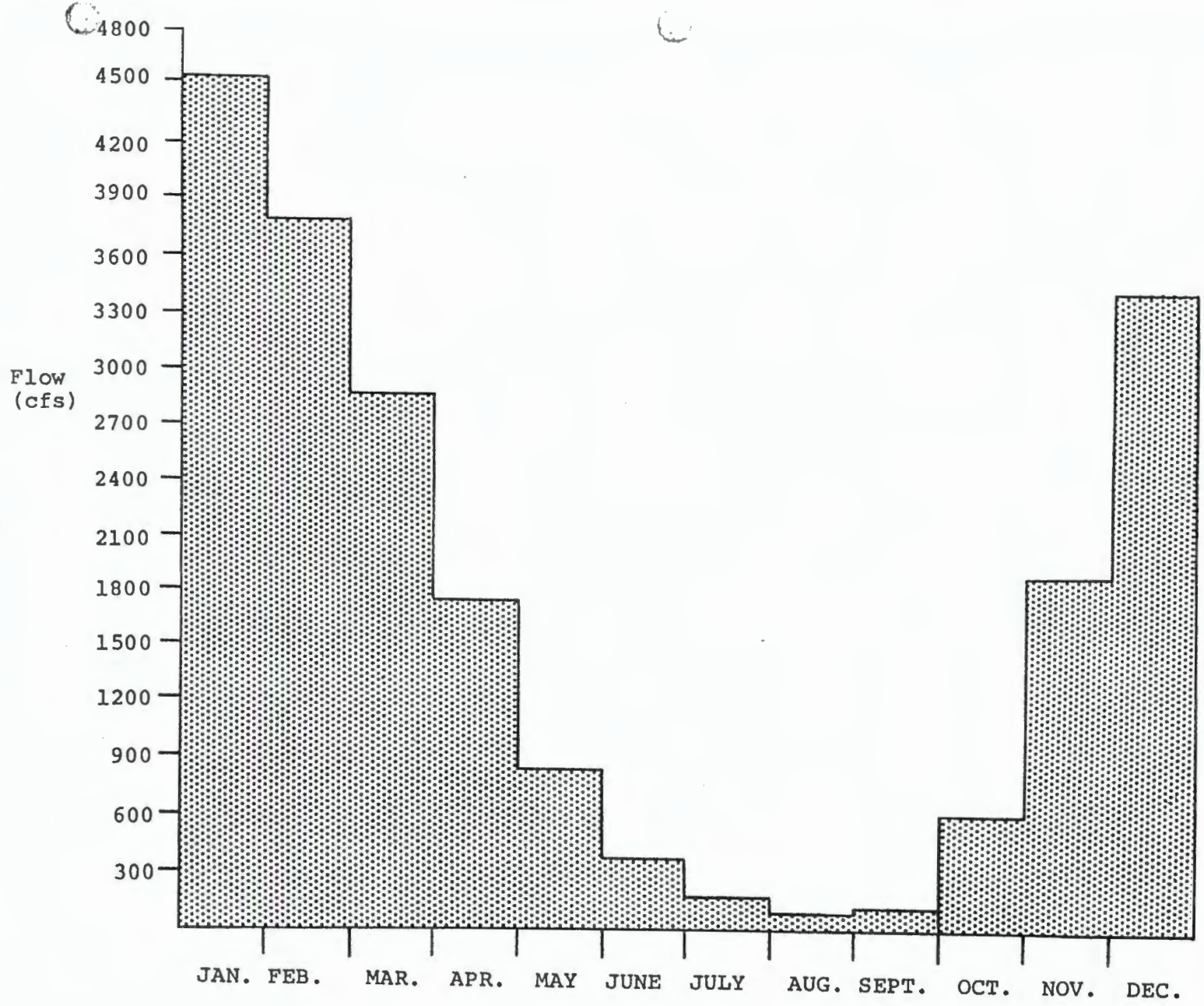


Fig. 4. Mean monthly discharge, Alsea River at river mile 21 (USGS gage #14-306500, 1951-1960).

Table 4. Water temperature extremes in Siuslaw River (river mile 27) and Siletz River (river mile 48.5) during late summer 1963

Temperature	Stream	Aug. 21 to Sept. 4	Sept. 4 to Sept. 8	Sept. 8 to Sept.11	Sept.11 to Sept.15	Sept.15 to Sept.17	Sept.17 to Sept.27	Sept.27 to Oct. 2
Maximum Temp. °F	Siuslaw R.	77	77	76	66	62	69	67
	Siletz R.	69	71	69	68	60	65	65
Minimum Temp. °F	Siuslaw R.	72	64	66	64	60	60	62
	Siletz R.	59	66	66	61	60	59	59

rearing except for rough fish. However, considerable rearing of salmonids took place in the tributaries which had lower temperatures. To better realize salmonid rearing potentials, factors which deplete Siuslaw River water qualities and quantities should be eliminated or discouraged whenever possible. Conversely, those which would improve these conditions should be encouraged. Substantial salmonid rearing takes place in the main stem of other coastal rivers where summer temperatures are lower.

Siltation resulting from logging, road construction or forest fires is often a serious water quality problem (Fig. 5). Silting deteriorates spawning gravel quality and inhibits production of organisms upon which fish feed. Improperly logged watersheds contribute to excessive runoff, erosion, and stream siltation. Similarly, improperly built roads can erode and cause sedimentation.

Barriers

Logjams and debris which block anadromous fish spawning migrations are widespread in the basin (Fig. 6). However, ongoing removal programs by several public agencies and private companies attempt to reduce barriers on all but small streams at isolated sites.

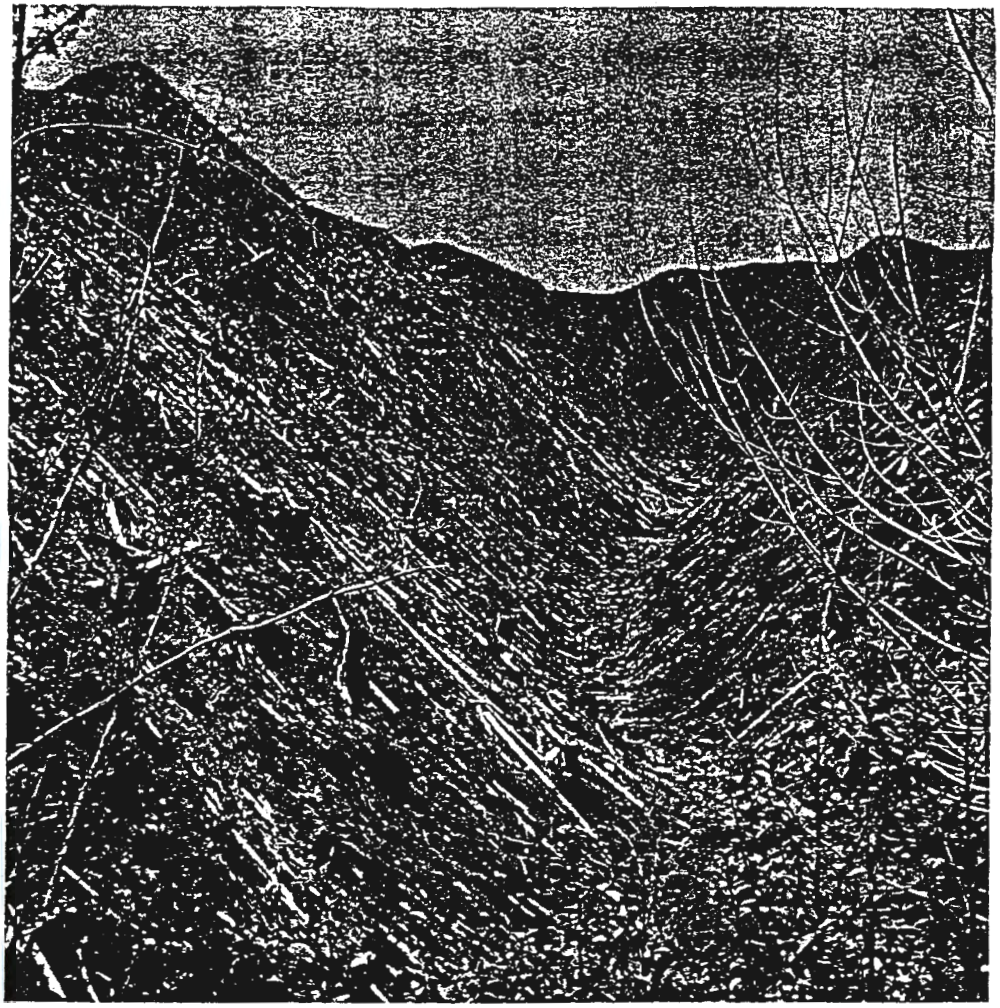


Fig. 5. Forest fire damage on Oxbow Creek (Siuslaw system).

Fig. 6. Typical coastal logjam blocking anadromous fish passage.

Barriers other than jams which affect anadromous fish passage are listed in Table 5 (Figs. 7 and 8).

Rough Fish

The Middle Coast Basin is fortunate to have a limited distribution of the larger rough fish which compete with salmonids for food and space. Carp are found only in Cleawox Lake. Squawfish and suckers occur in the Siuslaw River system and a few nearby lakes where high summer water temperatures favor their growth (App. 7). Goldfish, unwisely introduced into Valsetz Lake, compete to some extent with game fish.

Spawning Gravel

Shortages of spawning gravel are most serious in the Siuslaw River system, especially in the main stem Siuslaw River and in a number of small tributaries (App. 12). Shortages elsewhere occur in the main stem Yaquina River, Elk Creek, lower Alsea River and lower Five Rivers. Lack of gravel in the Siuslaw system has prompted the Bureau of Land Management to construct a series of gabions in the main stem and a number of tributaries in the upper river. These structures hold gravel and thus provide new spawning areas and create cover for rearing salmonids (Fig. 9).

Table 5. Status of major falls and dams affecting anadromous fish, Middle Coast Basin

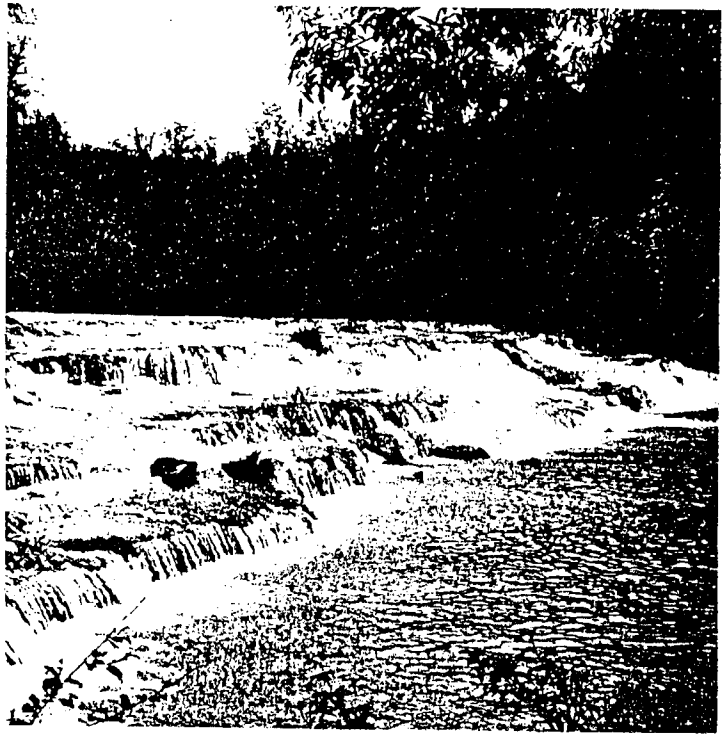
Stream	Stream System	Type of Barrier	Location	Passage Status
Salmon R.	Salmon	Falls	River mile 20.4	Impassable
Siletz R.	Siletz	"	River mile 64.6, just above Elk Cr.	Laddered
Schooner Cr., N.Fk.	"	"	Mouth	Impassable
Schooner Cr., S.Fk.	"	"	100 yds. above mouth	"
Cedar Cr.	"	"	River mile 2.3	Laddered
Euchre Cr.	"	"	River mile 3.9	Passable by steelhead
"	"	Cascades	River mile 5.9	Might be passable by steelhead
Big Rock Cr.	"	Falls	River mile 2.8	Impassable
Sunshine Cr.	"	"	Lower portion	Laddered
S.Fk. Siletz R.	"	Dam	River mile 4.3, Valsetz L. outlet	"
Boulder Cr.	"	Falls	River mile 3.4	Impassable
Warnick Cr.	"	"	River mile 2.9	"
Mill Cr.	Yaquina	Dam	Lower portion	Laddered
Little Elk Cr.	"	Falls	River mile 5.0	"

Table 5. (continued)

Stream	Stream System	Type of Barrier	Location	Passage Status
Drift Cr.	Alsea	Falls	About river mile 24	Laddered
Five Rivers	"	"	River mile 19.0, 2.0 mile above Paris	"
Cascade Cr.	"	"	River mile 0.2	"
Fall Cr.	"	"	River mile 1.3	"
N.Fk. Alsea R.	"	Dam	River mile 5.7, OSGC hatchery trap	"
" " "	"	Falls	River mile 11.0, just below Parker Cr.	Impassable
S.Fk. Alsea R.	"	"	River mile 9.0, just above Peak Cr.	"
Peak Cr.	"	"	River mile 0.1	"
Big Cr.	Ocean	Dam	River mile 1.0	Laddered
Axtel Cr.	Yachats	Falls	Mouth	"
Siuslaw R.	Siuslaw	"	River mile 99.7, just above Russel Cr.	Proposed for laddering, 1972
Wilhelm Cr.	"	"	River mile 1.2	Impassable
Sweet Cr.	"	"	Series beginning 2 mi. above Cedar Cr.	Impassable

Table 5. (continued)

Stream	Stream System	Type of Barrier	Location	Passage Status
Farman Cr.	Siuslaw	Dam	River mile 1.0	Impassable
Lake Cr.	"	Falls	River mile 18.7, just below Triangle Lake	"
Lake Cr.	"	Dam	River mile 30.0	"
"	"	"	River mile 30.3	"
Greenleaf Cr.	"	Falls	River mile 1.5	Bypass channel
Siltcoos R.	Ocean	Dam	River mile 2.0	Laddered
Tahkenitch Cr.	"	"	River mile 1.5	"



Siuslaw Falls, River mile 99.7

Fall Creek Falls, River mile 1.6
(laddered)

Fig. 7. Natural barriers to upstream fish migration occur on a number of Middle Coast Basin streams.

Lake Creek Falls, River mile 18.7

Lake Creek Falls, River mile 18.75

Fig. 7. (continued)

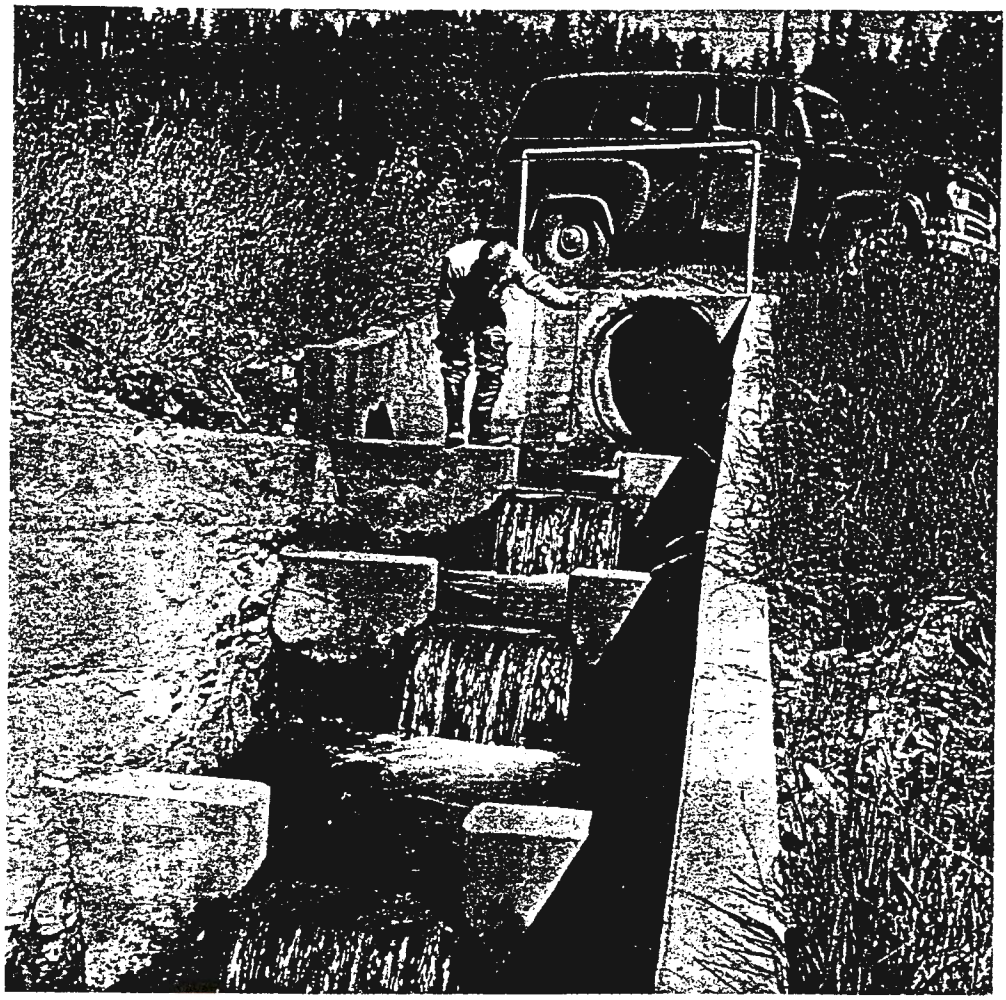
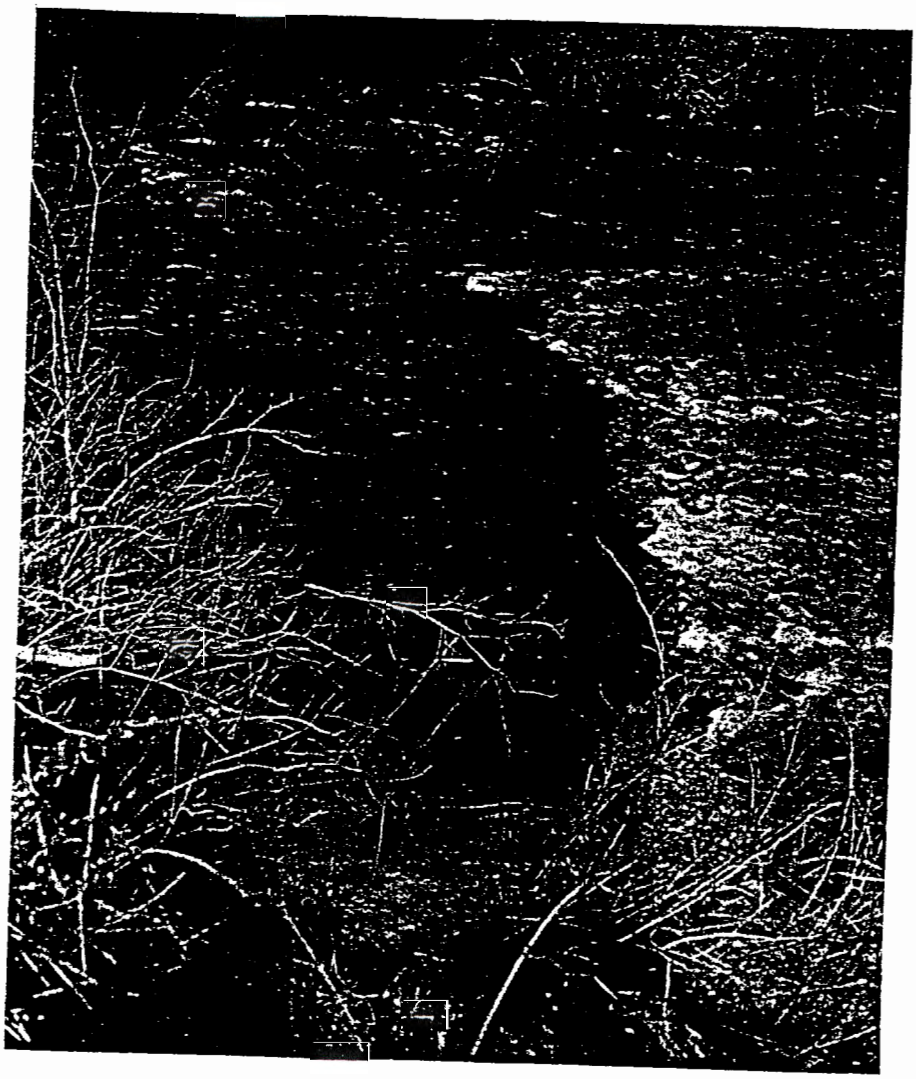
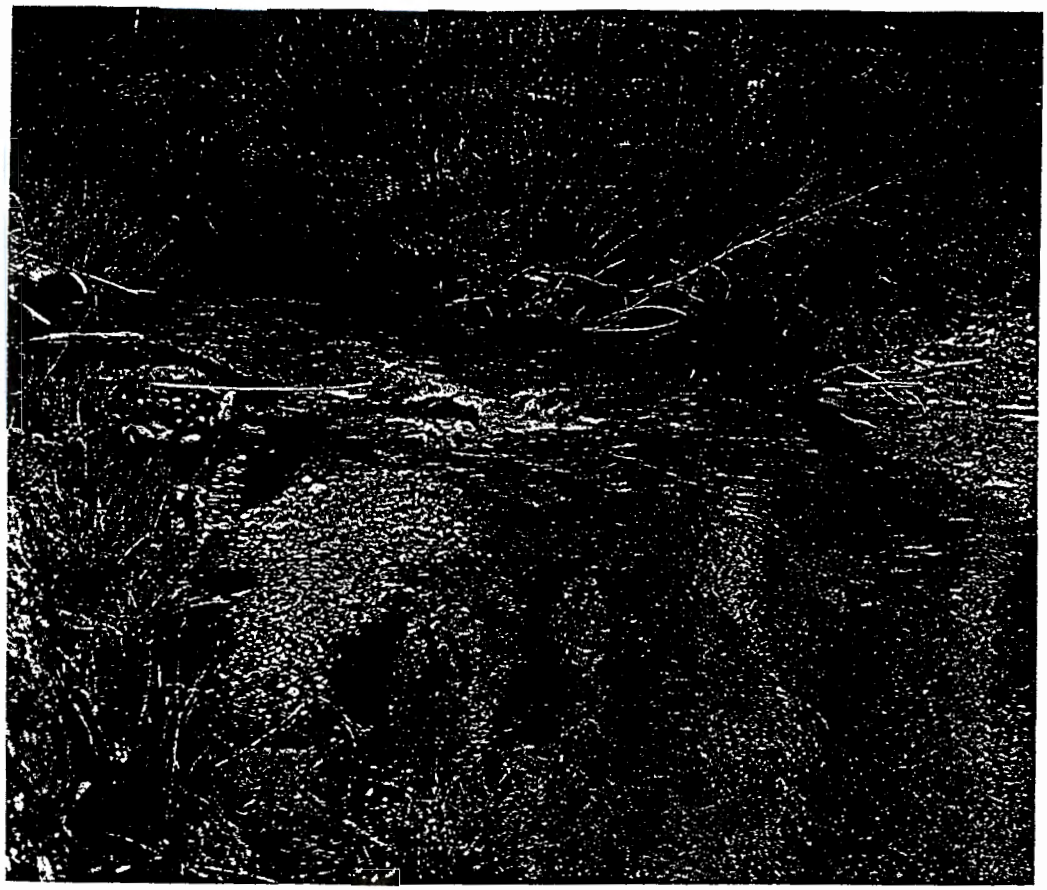


Fig. 8. Formerly impassable barrier on Axtel Creek now laddered (Yachats system).



Main Stem Siuslaw River

Fig. 9. Gabions on Siuslaw River system (Bureau of Land Management photos).



Eames Creek

Fig. 9. (continued)

STREAM FLOW STUDY

This report is designed to assist the State Water Resources Board with the task of programming Oregon's water resources. Inasmuch as ORS 536.310 (7) directs the Board to consider "The maintenance of minimum perennial stream flows sufficient to support aquatic life...", minimum flows have been recommended which would support a reasonable level of fish production (App. 1, Fig. 15). In addition, optimum flow recommendations are presented in Appendix 2 which are designed to completely satisfy all the currently understood aspects of fish production.

The recommended stream flows are principally designed to accommodate the environmental requirements of salmon and steelhead because these fish receive primary management emphasis in Oregon's coastal streams by fishery agencies. Summer flow requirements of anadromous fish and resident trout are essentially the same, but anadromous fish have higher flow requirements during the migration and spawning seasons.

The recommended flow regimen, although based on all the biological requirements understood of salmonids, do not consider some significant effects of natural stream

flows. High flows are generally believed necessary to stimulate upstream migration of adult salmon and steelhead and to remove silt which settles into spawning gravel during low discharge periods. High flows also help maintain a proper freshwater-saltwater balance in estuaries and supply certain essential nutrients.

Measurement of late spring and early fall stream flows provided the information to formulate flow recommendations for fish migration, spawning and egg incubation. Data obtained during the summer low-flow period were used to develop rearing flow recommendations.

Spawning flow recommendations were developed from flow data obtained on gravel bars representative of those used by spawning fish (Fig. 10). Measurements of stream width, velocities and depths were taken at various flows. Usable width for spawning was determined at each flow by applying standard depth and velocity requirements of spawning fish. The resulting relationships were graphed and recommended flows determined (Fig. 11). Optimum spawning flows yield the greatest amount of gravel usable for spawning and minimum flows approximate maximum efficient use of the water by fish (Fig. 12). Flows recommended for passage of adult fish migrating to spawning beds are minimum flows for physical movement. Flows needed to stimulate upstream movement may be

Mill Creek (Siletz)

Schooner Creek (Siletz)

Fig. 10. Typical cross-sections used to determine recommended spawning flows.

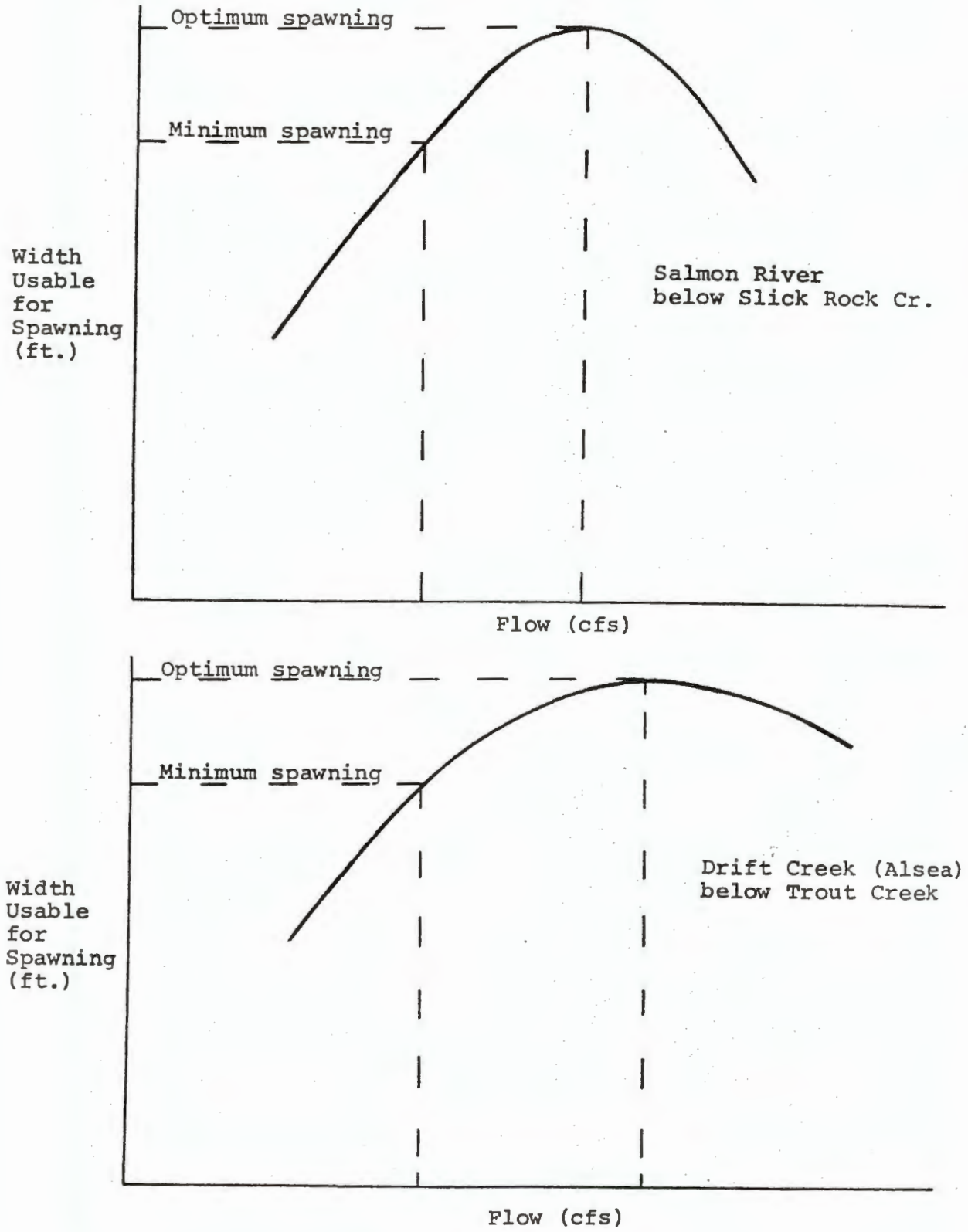
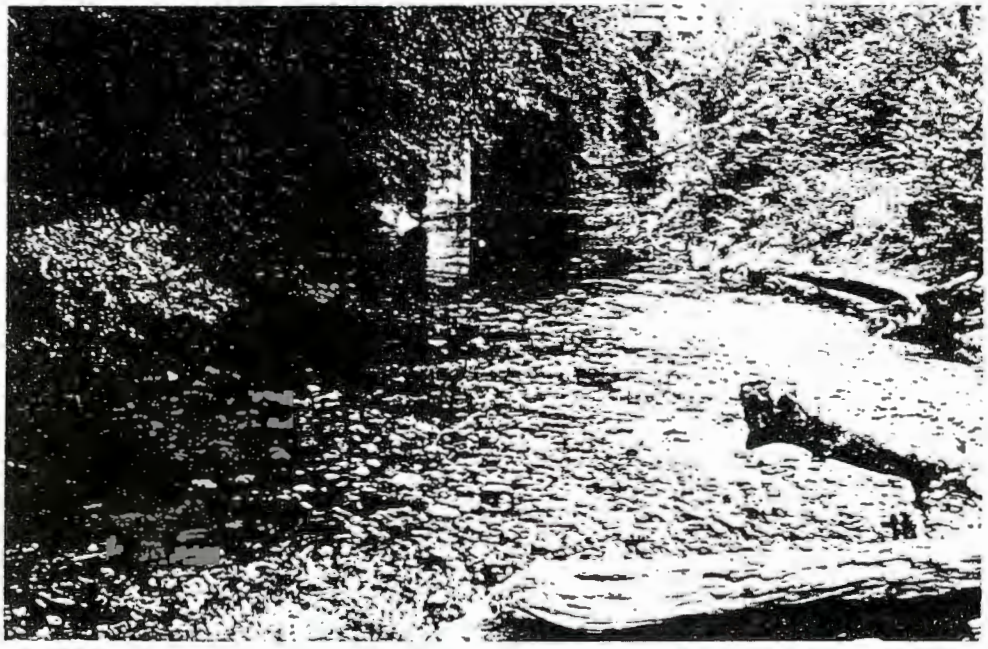


Fig. 11. Summary graphs of representative cross-sections indicating optimum and minimum spawning flows for coho and steelhead (App. 1 and 2).

80 cfs, April 7, 1971



14 cfs, August 5, 1971

Fig. 12. Comparative appearance of recommended minimum stream flows for spawning (82 cfs) and rearing (13 cfs) in Euchre Creek near mouth (Siletz system).

considerably greater.

Flows recommended for the rearing period are designed to provide suitable food, shelter and water quality conditions (Biological Requirements, pages 11 - 16, Fig. 12). Another important consideration is intra-stream movement of fish during the rearing period. Riffles are important as food producing areas and for providing transportation of juvenile fish between pools. Minimum depth requirements over riffles vary with the size of fish inhabiting the stream. On small streams, a minimum depth of 0.1 foot over the riffle may be adequate. Larger streams which typically hold bigger fish require minimum depths up to 0.6 foot.

The State Water Resources Board program for the Middle Coast Basin in 1966 provided minimum stream flow protection for fish life in the larger rivers and some tributaries. Large streams without minimum flow protection in the Board's current program include Tenmile and Big Creeks (ocean) and Indian and Deadwood Creeks (Siuslaw). Nearly 100 other key fish-producing streams also remain without adequate minimum flow protection (Table 6, App. 1). A comprehensive water-use program will help guarantee future generations of a continuing fishery resource.

Table 6. Number of streams used by anadromous fish, streams with Game Commission minimum flow recommendations, and streams protected by Water Board programs, Middle Coast Basin 1/ 2/

River system	Streams used by anadromous salmonids	Streams with OSGC minimum flow recommendations	Streams protected by SWRB programs
Salmon R.	29	7	1
Siletz R.	94	17	4
Yaquina R.	66	10	2
Alsea R.	121	19	7
Yachats R.	20	4	2
Siuslaw R.	541	49	5
Ocean tributaries	181	18	0
Total	1,052	124	21

1/ Includes only streams with known anadromous fish use.

2/ Includes all programming as of January 1972.

WILDLIFE RESOURCES

Water supply, quality and distribution are presently adequate for all important species of wildlife inhabiting the basin. However, the possibility exists that future water developments and uses may create habitat damage. Also, extensive withdrawals could cause local water shortages for wildlife.

Inventory, Distribution and Water Requirements

The black-tailed deer is the dominant big game animal. Roosevelt elk are being transplanted into the basin from other areas by the Game Commission to increase the present population. Other large mammals include black bear and cougar.

The band-tailed pigeon is the most common game bird, particularly near watering sources such as mineral springs. Nesting occurs throughout the basin, especially in the coastal spruce zone. Mountain quail are present throughout the basin in low numbers. Grouse occur in somewhat greater numbers. Lack of suitable habitat limits the occurrence of pheasants, valley quail and mourning dove.

Ducks winter in bays and the lakes in the southern part of the basin and on Devils Lake. Large numbers may concentrate on Siletz and Alsea Bays and on Siltcoos and Tahkenitch Lakes. Common species include American widgeon, canvasback, scaup, scoter, ruddy duck and pintails. Wood ducks and a few other species breed in the basin. Black brant utilize coastal bays, especially areas with eel grass, their primary food. Waterfowl use of a particular area can be influenced by water conditions and use practices such as fresh, salt or brackish water

pollution, wetland drainage and filling, and habitat flooding. Eel grass beds should be protected for use by brant and canvasback.

A number of furbearers utilize stream, lake and estuarine habitat. Furbearers are influenced by water use changes and can be eliminated by pollution, filling, drainage, flooding or stream bank clearance.

Numerous animals make up the remainder of the basin's fauna. Most of these have esthetic importance to man and should be conserved to assure their survival and well-being. Recognition of their importance to the total environment has prompted increased management, and protection where necessary, of these wildlife species. Commonly observed animals that are protected by law include chipmunk, chickaree, seal and sea lion. The bald eagle, an interesting but rare species, is also protected. The maintenance of existing water supplies would continue to meet the needs of these forms and contribute to their survival.

FISH AND WILDLIFE VALUES

Anglers seeking anadromous salmonids, resident trout and warm-water game fish in the Middle Coast Basin expend

over $12 million annually. In addition, over $325,000 is spent by sportsmen in pursuit of non-salmonid estuarine fish. Salmon produced in the basin and caught in the commercial fishery are worth over $2.8 million to the fishermen. Clams, crabs, oysters, bait shrimp and shad harvested commercially in bays are worth about $70,000 annually. Gross expenditures for hunting and revenues from furbearer trapping amounted to $1,332,541 in the 1970-71 season.

Freshwater and Estuarine Fish

The objective of this section is to indicate the value of the basin's fish resources which are directly or indirectly related to stream flows. In addition, the estuaries contain shellfish which have both recreational and commercial value.

Resident rainbow and cutthroat trout are reared in hatcheries and released either as fingerling or legal catchable fish to supplement natural trout production for angling. Juvenile steelhead, sea-run cutthroat and salmon are stocked throughout the basin to add to sport and commercial fishing opportunities. The best survival for anadromous fish is achieved when juvenile fish are stocked as smolts, principally during the spring. These

fish migrate to the ocean almost immediately and return as adults to spawn in the stream systems, primarily during fall and winter. This stocking schedule not only avoids subjecting hatchery fish to the critical elements of low summer flows, but reduces their competition with young fish naturally produced in the stream. Three hatcheries within the basin provide most of the fish for planting (App. 8-10). Hatcheries will play an increasingly important role in the future, especially to meet the demands for outdoor recreation.

Sport Harvest

Anglers annually expend over 476,000 angler-days in the Middle Coast Basin in pursuit of game fish with a gross expenditure of about $12,036,000. No satisfactory method exists to convert gross angler expenditures to total value to the economy. The majority of this angler effort is expended on anadromous salmonids. Angling for salmon occurs on many streams, five estuaries and the Pacific Ocean (Table 7). Hatchery coho production has helped create an extensive summer offshore sport fishery limited only by weather and safe small boat access to the ocean. Angling for chinook takes place primarily in estuaries and the ocean.

Steelhead are taken primarily in streams with widespread

Table 7. Estimated annual harvest, angler-days, and gross expenditures for salmon angling, Middle Coast Basin (App. 11)

Stream	Harvest	Angler-days	Gross expenditures
Ocean			
Salmon River	390	520	$ 28,860
Siletz River	40	50	2,960
Depoe Bay	38,000	39,800	2,812,000
Newport	41,600	61,800	3,078,400
Florence	11,000	14,000	814,000
Sub-total	91,030	116,170	$6,736,220
Estuary			
Salmon River Bay	550	2,200	$ 40,700
Siletz Bay	4,400	17,600	325,600
Yaquina Bay	2,240	9,000	165,760
Alsea Bay	6,900	27,600	510,600
Siuslaw Bay	4,600	11,000	340,400
Sub-total	18,690	67,400	$1,383,060
Streams			
Salmon River	310	1,240	$ 22,940
Siletz River	1,550	6,200	114,700
Yaquina River	560	2,240	41,440
Alsea River	1,730	6,920	128,020
Yachats River	400	1,600	29,600
Siuslaw River	2,000	4,000	148,000
Siltcoos Lake	570	2,280	42,180
Tahkenitch Lake	75	300	5,550
Others	290	1,160	21,460
Sub-total	7,485	25,940	553,890
Grand Total	117,205	209,510	$8,673,170

angling opportunities in the basin (Table 8, Fig. 13). Winter steelhead attract most angler use, but an important summer steelhead fishery has become established in the Siletz River and to a lesser extent in Alsea and Salmon Rivers (Table 9). Fishing from driftboats has gained popularity in recent years (Fig. 14).

Table 8. Estimated annual harvest, angler-days, and gross expenditures for steelhead angling, Middle Coast Basin (App. 11)

Stream	Harvest	Angler-days	Gross expenditures
Salmon River	2,240	8,960	$ 165,760
Siletz River	7,155	28,620	529,470
Yaquina River	200	1,600	14,800
Alsea River	6,000	24,000	444,000
Yachats River	400	1,600	29,600
Siuslaw River	4,000	12,000	296,000
Siltcoos Lake	50	200	3,700
Tahkenitch Lake	15	60	1,110
Other streams	685	2,740	50,690
Total	20,745	79,780	$1,535,130

Table 9. Siletz River summer steelhead sport catch, 1962-70

Year	Catch
1962	279
1963	379
1964	322
1965	1,068
1966	1,521
1967	638
1968	1,490
1969	1,761
1970	2,300

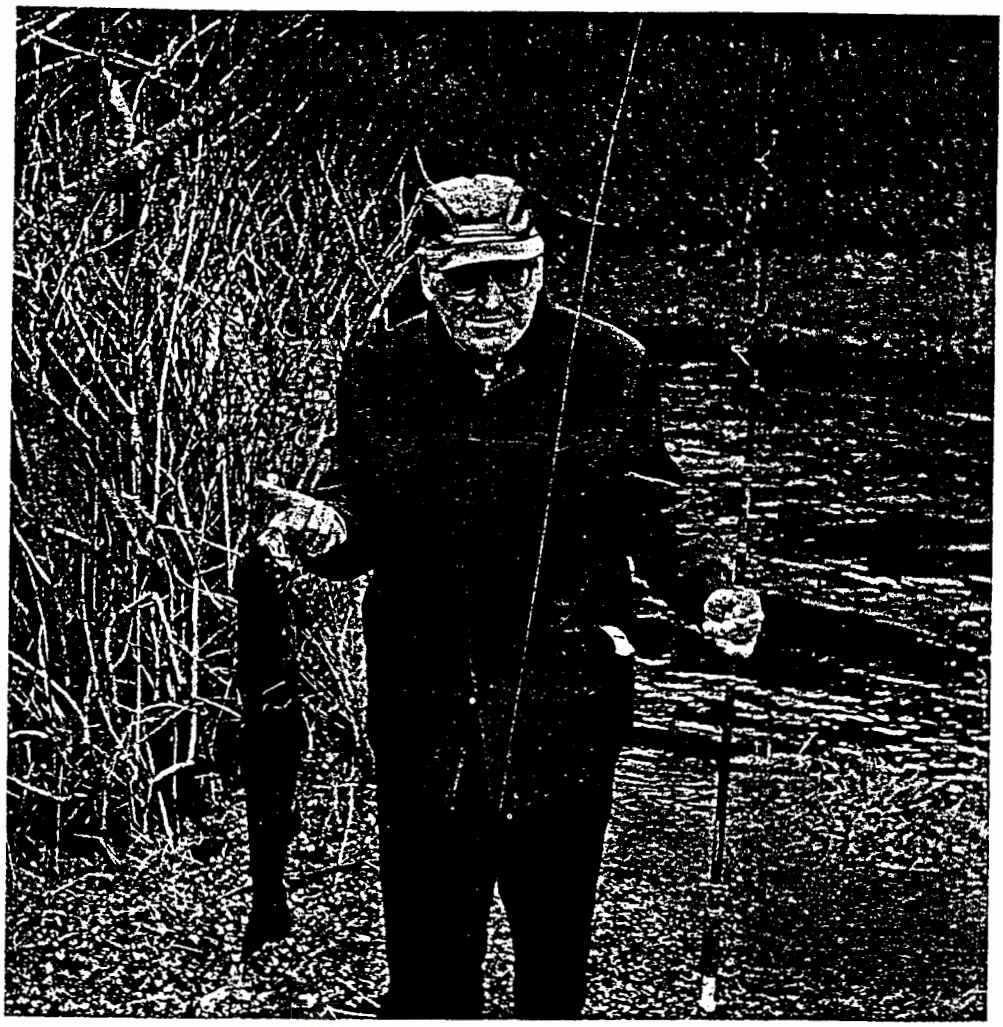


Fig. 13. Successful steelhead angler, Big Creek.

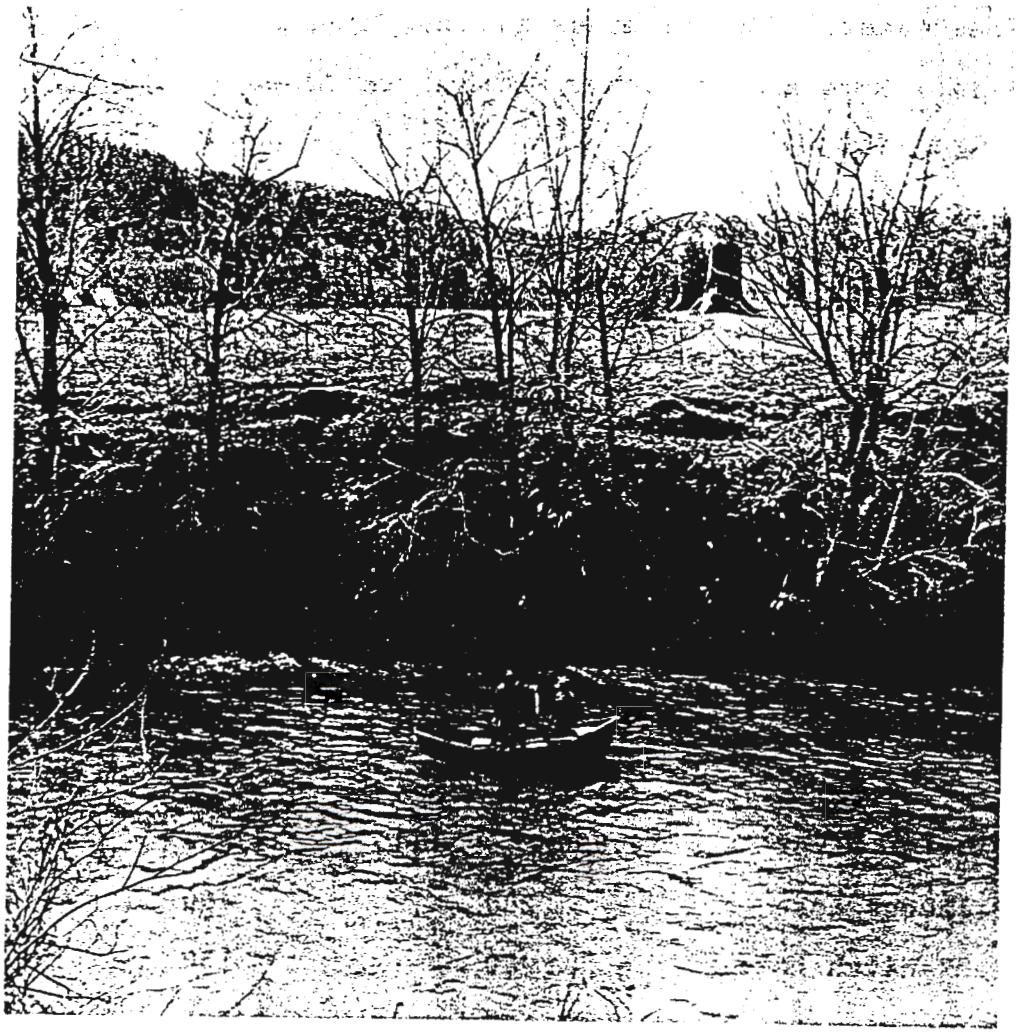


Fig. 14. Typical coastal winter steelhead driftboat water.

Angling for sea-run cutthroat is most productive within estuaries, but several streams provide good catches in freshwater. Popular areas include Siuslaw, Alsea and Siletz Bays and the lower Siuslaw and Alsea Rivers (Table 10).

Table 10. Estimated annual harvest, angler-days, and gross expenditures for sea-run cutthroat angling, Middle Coast Basin (App. 11)

Stream system	Harvest Estuary	Harvest River	Angler-days	Gross expenditures
Salmon River	560	105	2,800	$ 51,800
Siletz River	3,440	1,475	16,000	296,000
Yaquina River	540	540	2,700	49,950
Alsea River	4,550	650	10,500	194,250
Yachats River		400	1,200	22,200
Siuslaw River	14,000	2,000	20,000	370,000
Siltcoos Lake	200		400	7,400
Tahkenitch Lake	70		150	2,775
Other streams	1,105		2,725	50,413
Totals	29,635		56,475	$1,044,788

Resident trout fishing is minor compared to fishing effort for anadromous salmonids. The pressure is estimated at 52,550 angler-days with a catch of 147,140 trout and an expenditure of $315,300 annually.

Ample opportunities for warm-water game fish angling exist in numerous lakes (App. 7). Siltcoos and Tahkenitch Lakes support extensive fisheries, especially since fishing seasons are open year-around. An estimated 78,000 angler-days are expended for 232,000 fish with a gross expenditure of $468,000.

More people with more leisure time will create an increase in future angling pressure. A three-fold increase in angling license sales is expected in the next 30 years. Stream flow levels are vital not only for maintaining desirable fish populations, but also to provide proper water conditions for angling. Consequently, the Game Commission has developed angling flow recommendations designed to insure stream flows which, if adopted, will help accommodate the growing demand for more sport fishing opportunities (App. 4).

Commercial Harvest

Middle Coast Basin streams annually provide about 572,000 salmon to the offshore commercial fishery (includes hatchery production). These fish are taken in the ocean from Alaska to San Francisco with the catch made up of 77 percent coho and 33 percent chinook. The average annual value of these fish to fishermen is estimated at $2,875,000. No satisfactory method now exists to convert

value to the fishermen to total value to the economy. However, discussions with industry suggest a two-fold increase in fishermen value would be a reasonable approximation.

There are three ports in the basin which receive landings of commercially-caught salmon. These ports received over 3,840,000 pounds in 1970, primarily coho and chinook, with a fishermen value of about $2,080,000.

Estuary

Five estuaries, including Salmon, Siletz, Yaquina, Alsea, and Siuslaw Bays are located in the basin. Estuaries are very complex ecological systems where freshwater and saltwater mix. This delicate balance between fresh and saltwater is just beginning to be understood. We have no present means to assess potential disruptions in the intricate fresh-saline balance. Each estuary is unique with its own complement of salinities, temperatures, currents, shape and size and distinct seasonal variations.

Estuaries are rich bodies of water, partly because of nutrients brought in by streams. They are the home for an amazing variety of animals and plants ranging from the lowest to the highest forms. Several important fish species, such as herring and English sole, need estuaries

for successful reproduction. Estuaries, with their peculiar saline balance, are important to the survival of young salmon and steelhead by providing them an opportunity to adjust to full sea water conditions on their downstream migration. Likewise, estuaries play an important part in the adjustment of adults to freshwater. Most of Oregon's important bottom fish are dependent on estuaries during some part of their life.

Estuaries provide much commercial and recreational value to man. Oysters, crabs, clams, shrimp and shad are harvested commercially (Table 11). Yaquina Bay is heavily used for sport crabbing and clamming as are other bays to a lesser extent. Salmon and sea-run cutthroat trout angling effort and gross expenditures are given in Tables 7 and 10. Non-salmonid fish species such as surfperch, flounder and rockfish support a considerable fishery in the different bays (Table 12).

Oregon has significantly fewer estuarine areas than other coastal states. For example, all of Oregon's estuaries could fit into Willapa Bay, Washington. Oregon's 56,000 acres of estuaries make up less than one-tenth of one percent of the total land area of the state. Protection of this small but valuable and delicate resource from change seems extremely important.

Table 11. Commercial harvest in Middle Coast Basin estuaries

	Pounds landed	Fishermen Value
Clams		
Yaquina Bay	1,581	1/
Alsea Bay	16	
Crabs		
Yaquina Bay	15,000	$ 3,750
Alsea Bay	21,000	5,250
Siuslaw Bay	12,000	3,000
Oysters		
Yaquina Bay	47,530	56,000
Bait Shrimp		
Alsea Bay	5,500	7,220 (retail)
Siletz Bay	700	920 (retail)
Shad		
Siuslaw Bay		2,000 (processed value)

1/ Prices vary according to species and market.

Table 12. Estimated annual harvest data for non-salmonid bay fish angling, Middle Coast Basin (App. 11)

Bay	Species	Angler-days	Harvest	Gross expenditures
Salmon	Bay fish	600	1,800	$ 3,600
Siletz	Bay fish	8,000	24,000	48,000
Yaquina	Bay fish	28,750	77,000	172,500
Alsea	Bay fish	5,000	15,000	30,000
Siuslaw	Bay fish	10,000	12,000	60,000
	Striped bass	600	100	11,100
	Shad	200	300	3,700
Total		53,150	130,200	$328,900

Wildlife

Black-tailed deer is the primary game animal sought by hunters. Elk, black bear and cougar are present in low numbers and so provide fewer hunting opportunities. Hunting of band-tailed pigeon at watering areas, especially mineral springs, and in wild berry patches, can be productive. Scattered populations of mountain quail and grouse provide limited hunting. Waterfowl shooting takes place on coastal bays and lakes. Non-game animals, such as racoon and bobcat, are hunted with dogs. Hunter-days, harvest and gross expenditure figures for game animals are given in Table 13.

Furbearer harvest contributed about $10,550 to trappers in the 1970-71 season (Table 14).

Recreation and Esthetics

The basin annually provides millions of recreation days. One indication of the intensity of usage is shown by use figures of parks and waysides furnished by Bureau of Land Management, U. S. Forest Service, Oregon Division of Highways, Lane County and Crown Zellerbach. These areas within the basin received nearly 8 million day-visits and 393,560 night-visits in fiscal year 1969-70. Many visits are directly related to fish and wildlife or

Table 13. Estimated annual harvest, hunter-days, and gross expenditures for hunting, Middle Coast Basin, 1969-1970

Species	1969 Hunter-days	1969 Harvest	1969 Gross Exp.	1970 Hunter-days	1970 Harvest	1970 Gross Exp.
Deer 1/	43,890	4,335	$882,189	46,637	1,886	$937,404
Elk	2,940	84	78,204	4,460	114	118,636
Band-tailed pigeon	5,870	12,445	35,220	8,810	16,140	52,860
Grouse	3,615	2,615	21,690	4,635	3,760	27,810
Pheasant	2,325	465	13,950	2,585	630	15,510
Quail	1,755	2,060	10,530	1,635	1,490	9,810
Mourning dove	2,035	3,280	12,210	2,740	5,290	16,440
Waterfowl	12,255	16,870	98,040	17,940	25,205	143,520
Total	74,685	42,154	$1,152,033	89,442	54,515	$1,321,990

1/ Winter kill and low number of antlerless permits severely reduced 1969 and 1970 deer harvest.

water-based recreation. Therefore, adequate stream flows and lake levels which contribute significantly to esthetic appeal must be protected to assure these values (App. 5).

Table 14. Furbearer harvest and value, Middle Coast Basin, 1969-70 and 1970-71

	1969-70		1970-71	
	Harvest	Value	Harvest	Value
Beaver	1,704	$19,750	676	$ 6,436
Otter	34	890	24	566
Mink	65	345	38	125
Muskrat	1,142	1,155	577	525
Racoon	365	1,116	185	367
Skunk	43	48	83	82
Fox	19	72	23	96
Bobcat	159	2,346	101	1,379
Coyote	103	746	25	173
Nutria	540	815	534	802
Total		$27,283		$10,551

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A P P E N D I C E S

Appendix 1. Recommended minimum stream flows for fish life, Middle Coast Basin 1/ 2/ 3/

Stream	Location	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Salmon River	Below Slick Rock Cr.	120	120	120	120	120	80	80	80	80/148	148	148	148/120
Salmon River	Below Little Salmon R.	66	66	66	66	66	44	44	44	44/95	95	95	95/66
Salmon Cr.	Mouth	15	15	15	15	15	4	3/2	2/1	1	1/2	15	15
Deer Cr.	Mouth	21	21	21	21	14	14/2	2	2	2/14	14	21	21
Panther Cr.	Mouth	12	12	12	12	12	2	2	1	1	1	12	12
Bear Cr.	Mouth	25	25	25	25	25	4	3	2	2	2/4	25	25
Slick Rock Cr.	Mouth	50	50	50	50	50	10	8	6	6	6/10	50	50
Sulpher Cr.	Mouth	17	17	17	17	17	2	1	1	1	1/2	17	17
Rock Cr. (Devils L.)	Mouth	25	25	25	25	17	17/4	4	4	4/17	17	17/25	25
Siletz R.	Below Rock Cr.	200	200	200	200	200	134	134	134	134/220	220	220	220/200
Siletz R.	Below Gravel Cr.	134	134	134	134	134	70	70	70	70/186	186	186	186/134
Schooner Cr.	Head of tidewater	67	67	67	67	45	45/20	20	20	45	45/67	67	67
Erickson Cr.	Mouth	--	--	--	--	--	3	3	2	2	--	--	--
Drift Cr.	Head of tidewater	100	100	100	100	100	40	30	25	25	25/100	100	100
Bear Cr.	Mouth	12	12	12	12	12	4	3/2	2	2	2/3	12	12
Cedar Cr.	Mouth	58	58	58	58	39	39/18	18	18	18/48	48/72	72	72/58
Euchre Cr.	Mouth	59	59	59	59	39	39/13	13	13	13/55	55/82	82	82/59
Sam Cr.	Mouth	42	42	42	42	28	28/5	5	5	5/34	34/50	50	50/42
Rock Cr.	Mouth	46	46	46	46	31	31/18	18	18	18/44	44/66	66	66/46
Big Rock Cr.	Mouth	54	54	54	54	36	36/16	16	16	16/49	49/73	73	73/54
Little Rock Cr.	Mouth	48	48	48	48	32	32/8	8	8	8/44	44/66	66	66/48
Mill Cr.	Mouth	36	36	36	36	24	24/7	7	7	7/31	31/46	46	46/36
Buck Cr.	Mouth	--	--	--	--	--	5	4	3	3	--	--	--
Sunshine Cr.	Mouth	--	--	--	--	--	10	7/5	3	3	--	--	--
Gravel Cr.	Mouth	57	57	57	57	38	38/9	9	9	9	38	57	57
N. Fk. Siletz	Mouth	120	120	120	120	80	80/40	40	40	40/120	120	120	120

Appendix 1. (continued)

Stream	Location	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
S. Fk. Siletz	Mouth	59	59	59	59	59	40	10	10	10/40	40	40/59	59
Yaquina R.	Head of tidewater	50	50	50	50	34	34/18	18	18	18/60	60/90	90	90/50
Yaquina R.	Above Bales Cr.	50	50	50	50	34	34/8	8	8	8/60	60/90	90	90/50
Olalla Cr.	Head of tidewater	15	15	15	15	15	--	--	1	1	1/2	15	15
Mill Cr.	Head of tidewater	39	39	39	39	26	26/4	4	4	4/26	26	39	39
Elk Cr.	Head of tidewater	80	80	80	80	54	54/16	16	16	16/54	54/80	80	80
Elk Cr.	Above Grant Cr.	50	50	50	50	34	34/8	8	8	8/34	34/50	50	50
Bear Cr.	Mouth	14	14	14	14	14	2	1	1	1	1	14	14
Deer Cr.	Mouth	20	20	20	20	20	2	1	1	1	1	20	20
Grant Cr.	Mouth	43	43	43	43	29	29/6	6	6	6/38	38/57	57	57/43
Feagles Cr.	Mouth	40	40	40	40	27	27/5	5	5	5/34	34/50	50	50/40
Simpson Cr.	Mouth	30	30	30	30	20	20/4	4	4	4/28	28/42	42	42/30
Little Elk Cr.	Mouth	50	50	50	50	34	34/5	5	5	5/40	40/60	60	60/50
Beaver Cr.													
North Fork	Just above Peterson Cr.	--	--	--	--	--	10/7	5	4/3	3	--	--	--
South Fork	2.7 mi. above mouth	--	--	--	--	--	3/2	1	1	1	1	--	--
Alsea R.	Below Five Rivers	145	145	145	145	97	97/69	69	69	69/145	145	145	145
Alsea R.	Below N. & S. Forks	127	127	127	127	85	85/24	24	24	24/140	140	140	140/127
Drift Cr.	Below Trout Cr.	108	108	108	108	72	72/20	20	20	20/130	130	130	130/108
Drift Cr.	USGS Gage 14-3066	--	--	--	--	--	--	--	6/5	5	--	--	--
Canal Cr.	Mouth	--	--	--	--	--	12/10	8/5	4/3	3	--	--	--
Scott Cr.	Mouth	--	--	--	--	--	10/8	7	5	5	--	--	--
Grass Cr.	Mouth	--	--	--	--	--	3	2	1	1	--	--	--
Five R.	Mouth	140	140	140	140	94	94/30	30	30	30/140	140	140	140
Five R.	Above Lobster Cr.	100	100	100	100	67	67/14	14	14	14/115	115	115	115/100
Five R.	Above Green R.	36	36	36	36	24	24/5	5	5	5/45	45	45	45/36

Appendix 1. (continued)

Stream	Location	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Lobster Cr.	Mouth	47	47	47	47	31	31/13	13	13	13/80	80	80	80/47
Lobster Cr.	Above Preacher Cr.	64	64	64	64	43	43/7	7	7	7/80	80	80	80/64
Little Lobster Cr.	Mouth	--	--	--	--	--	3	2	1	1	--	--	--
Preacher Cr.	Mouth	--	--	--	--	--	4/3	2	1	1	--	--	--
Cascade Cr.	Mouth	--	--	--	--	--	5/4	3/2	1	1	--	--	--
Buck Cr.	Mouth	--	--	--	--	--	12/8	5	4/3	3	--	--	--
Green River	Mouth	50	50	50	50	34	34/5	5	5	5/34	34/65	65	65/50
Fall Cr.	Mouth	79	79	79	79	53	53/15	15	15	15/100	100	100	100/79
Mill Cr.	Mouth	--	--	--	--	--	6/5	3	2	2	--	--	--
North Fork Alsea R.	Mouth	72	72	72	72	48	48/18	18	18	18/86	86	86	86/72
Honey Grove	Mouth	--	--	--	--	--	2	1	1	1	--	--	--
Crooked Cr.	Mouth	--	--	--	--	--	10/8	6	5	5	--	--	--
South Fork Alsea R.	Mouth	107	107	107	107	70	70/10	10	10	10/107	107	107	107
Bummer Cr.	Mouth	40	40	40	40	27	27/4	4	4	4/27	27/56	56	56/40
Big Cr.	Mouth	--	--	--	--	--	3	2	1	1	1	--	--
Yachats R.	Above Marks Cr.	63	63	63	63	42	42/18	18	18	18/47	47/70	70	70/63
Yachats R.	Above North Fk.	46	46	46	46	31	31/10	10	10	10/40	40/60	60	60/46
North Fk. Yachats R.	Mouth	33	33	33	33	22	22/5	5	5	5/22	22	22/33	33
Williamson Cr.	Mouth	13	13	13	13	13	2	1	1	1	1	13	13
School Fork	Mouth	25	25	25	25	17	17/3	3	3	3/25	25/37	37	37/25
Cummins Cr.	Mouth	--	--	--	--	--	8	6	4/3	3	3	--	--
Bob Cr.	Mouth	--	--	--	--	--	4	3	2	2	2	--	--
Tenmile Cr.	Mouth	53	53	53	53	36	36/13	13	13	13/36	36	36/53	53
Rock Cr.	Mouth	--	--	--	--	--	6	5	4/3	3	3	--	--
Big Cr.	Mouth	63	63	63	63	42	42/10	10	10	10/42	42	42/63	63
Cape Cr.	Mouth	53	53	53	53	36	36/10	10	10	10/36	36	36/53	53

Appendix 1. (continued)

Stream	Location	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Mercer and Sutton L. system													
Sutton Cr.	Entire steam	--	--	--	--	--	12/8	6/5	4	4	--	--	--
Bailey Cr.	Mouth	--	--	--	--	--	3	2	1	1	--	--	--
Siuslaw R.	Below Lake Cr.	260	260	260	260	213	213/95	95	95	95/213	213/318	318	318/260
Siuslaw R.	Above Wildcat Cr.	102	102	102	102	67	67/38	38	38	38/67	67/102	102	102
Siuslaw R.	Above Haight Cr.	72	72	72	72	48	48/16	16	16	16/48	48	48/72	72
Siuslaw R.	Below N. & S. Forks	132	132	132	132	88	88/15	15	15	15/88	88	88/132	132
N.Fk. Siuslaw	Above McLeod Cr.	69	69	69	69	46	46/12	12	12	12/46	46/69	69	69
N.Fk. Siuslaw	Below Cedar Cr.	43	43	43	43	34	34/8	8	8	8/29	29	29/43	43
Condon Cr.	Mouth	--	--	--	---	--	10/8	6/5	4	4	--	--	--
Uncle Cr.	Mouth	--	--	--	--	--	--	--	1	1	--	--	--
McLeod Cr.	Mouth	--	--	--	--	--	7/5	4/3	2	2	--	--	--
Drew Cr.	Mouth	--	--	--	--	--	3	2	2	2	--	--	--
Wilhelm Cr.	Mouth	--	--	--	--	--	4	3/2	2	2	--	--	--
Porter Cr.	Mouth	--	--	--	--	--	3	2	2	2	--	--	--
Elma Cr.	Mouth	--	--	--	--	--	3/2	2/1	1	1	--	--	--
Sam Cr.	Mouth	--	--	--	--	--	3	2	2	2	--	--	--
Sweet Cr.	Above tidewater	44	44	44	44	30	30/5	5	5	5/30	30	30/44	44
Hadsall Cr.	Above tidewater	--	--	--	--	--	2	1	1	1	--	--	--
Knowles Cr.	Above tidewater	26	26	26	26	17	17/4	4	4	4/17	17	17/26	26
Lake Cr.	Mouth	260	260	260	260	174	174/70	70	70	70/174	174/260	260	260
Lake Cr.	Below Triangle L.	85	85	85	85	57	57/15	15	15	15/57	57/85	85	85
Indian Cr.	Mouth	160	160	160	160	107	107/18	18	18	18/107	107/160	160	160
W.Fk. Indian Cr.	Conf. with Rogers Cr.	--	--	--	--	--	6	4	3	3	--	--	--
Rogers Cr.	Conf. with West Fork	--	--	--	--	--	4/3	3	3	3	--	--	--
Green Cr.	Mouth	--	--	--	--	--	3/2	2/1	1	1	--	--	--
Deadwood Cr.	Mouth	102	102	102	102	68	68/19	19	19	19/68	68/129	129	129/102

Appendix 1. (continued)

Stream	Location	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
W.Fk. Deadwood Cr.	Confl. with Misery Cr.	--	--	--	--	--	4	3/2	2	2	--	--	--
Misery Cr.	Confl. with W.Fork	--	--	--	--	--	2	2	1	1	--	--	--
Bear Cr.	Mouth	--	--	--	--	--	--	--	1	1	--	--	--
Nelson Cr.	Mouth	39	39	39	39	26	26/7	7	7	7/51	51/76	76	76/39
Greenleaf Cr.	Mouth	63	63	63	63	38	38/7	7	7	7/42	42/63	63	63
Fish Cr.	Mouth	33	33	33	33	22	22/5	5	5	5/25	25/38	38	38/33
Little Lake Cr.	Mouth	--	--	--	--	--	--	--	1	1	--	--	--
Swamp Cr.	Mouth	--	--	--	--	--	1	1	1	1	--	--	--
Swartz Cr.	Mouth	--	--	--	--	--	2/1	1	1	1	--	--	--
Congdon Cr.	Mouth	--	--	--	--	--	6	4	3	3	--	--	--
Turner Cr.	Mouth	--	--	--	--	--	1	1	1	1	--	--	--
Waite Cr.	Mouth	--	--	--	--	--	--	--	1	1	--	--	--
Wildcat Cr.	Mouth	65	65	65	65	44	44/10	10	10	10/81	81/121	121	121/65
Wildcat Cr.	River mile 10.5	--	--	--	--	--	5	4/3	2	2	--	--	--
Pataha Cr.	Mouth	--	--	--	--	--	2	1	1	1	--	--	--
Chickahominy Cr.	Mouth	--	--	--	--	--	6/4	3/2	2/1	1	--	--	--
Whittaker Cr.	Mouth	61	61	61	61	41	41/6	6	6	6/41	41/61	61	61
Wolf Cr.	Mouth	57	57	57	57	38	38/7	7	7	7/55	55/82	82	82/57
Oat Cr.	Mouth	--	--	--	--	--	2	1	1	1	--	--	--
Grenshaw Cr.	Mouth	--	--	--	--	--	2/1	1	1	1	--	--	--
Eames Cr.	Mouth	--	--	--	--	--	2	1	1	1	--	--	--
Swamp Cr.	Mouth	--	--	--	--	--	2	1	1	1	--	--	--
Panther Cr.	Mouth	--	--	--	--	--	2	1	1	1	--	--	--
Esmond Cr.	Mouth	45	45	45	45	30	30/6	6	6	6/30	30/45	45	45
Dogwood Cr.	Mouth	--	--	--	--	--	1	1	1	1	--	--	--
Doe Cr.	Mouth	--	--	--	--	--	2	1	1	1	--	--	--
Fawn Cr.	Mouth	--	--	--	--	--	1	1	1	1	--	--	--

Appendix 1. (continued)

Stream	Location	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Letz Cr.	Mouth	--	--	--	--	--	2	2	1	1	--	--	--
Douglas Cr.	Mouth	--	--	--	--	--	3/2	1	1	1	--	--	--
North Fork Siuslaw R.	Mouth	50	50	50	50	34	34/5	5	5	5/34	34	34/50	50
South Fork Siuslaw R.	Mouth	31	31	31	31	20	20/5	5	5	5/20	20	20/31	31
Siltcoos and Woahink L. system													
Woahink Cr.	Entire creek	--	--	--	--	--	10/8	6/5	5	5	--	--	--
Fiddle Cr.	Below Alder Cr.	11	11	11	11	7	7/3	3	3	3/7	7	11	11
Fiddle Cr.	Confl. with Billy Moore Cr.	--	--	--	--	--	3/2	1	1	1	--	--	--
Maple Cr.	Below Jordon Cr.	12	12	12	12	8	8/3	3	3	3/8	8	12	12
Maple Cr.	Confl. with Ryder Cr.	--	--	--	--	--	3/2	1	1	1	--	--	--
Ryder Cr.	Confl. with Maple Cr.	--	--	--	--	--	2/1	1	1	1	--	--	--
Tahkenitch L. system													
Leitel Cr.	1.5 mi. above mouth	9	9	9	9	6	6/3	3	3	3/6	6	9	9
Leitel Cr.	4.0 mi. above mouth	--	--	--	--	--	2/1	1	1	1	--	--	--
Fivemile Cr.	Below Perkins Cr.	10	10	10	10	7	7/3	3	3	3/7	7	10	10
Fivemile Cr.	Confl. with Bell Cr.	--	--	--	--	--	1	1	1	1	--	--	--

1/ Flows are expressed in cubic feet per second.

2/ Recommended flows should arrive at the point of recommendation and continue to the mouth, or to the next point for which a differnt flow is recommended.

3/ Recommended minimum flows are designed to provide instream conditions capable of maintaining a minimum desirable level of natural production. No consideration is given to the requirements of estuaries or to benefical impacts of winter freshets.

Appendix 2. Recommended optimum stream flows for fish life, Middle Coast Basin 1/ 2/ 3/

Stream	Location	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Salmon River	Below Slick Rock Cr.	260	260	260	260	260	120	120	120	120/287	287	287	287/260
Salmon River	Below Little Salmon R.	113	113	113	113	66	66	66	66	66/136	136	136	136/113
Salmon Cr.	Mouth	26	26	26	26	15	10	10	10	10	15	26	26
Deer Cr.	Mouth	30	30	30	30	21	21/14	14	14	14/21	21	30	30
Panther Cr.	Mouth	20	20	20	20	12	8	8	8	8	12	20	20
Bear Cr.	Mouth	43	43	43	43	25	17	17	17	17	25	43	43
Slick Rock Cr.	Mouth	85	85	85	85	50	34	34	34	34	50	85	85
Sulpher Cr.	Mouth	29	29	29	29	29	17	11	11	11	17	29	29
Rock Cr. (Devils L.)	Mouth	40	40	40	40	25	25/17	17	17	17/25	25	25/40	40
Siletz R.	Below Rock Cr.	302	302	302	302	302	200	200	200	200/327	327	327	327/302
Siletz R.	Below Gravel Cr.	202	202	202	202	202	134	134	134	134/229	229	229	229/202
Schooner Cr.	Head of tidewater	110	110	110	110	110	65	65	65	65	65/100	110	110
Drift Cr.	Head of tidewater	170	170	170	170	170	67	67	67	67	67/170	170	170
Bear Cr.	Mouth	20	20	20	20	20	8	8	8	8	8	20	20
Cedar Cr.	Mouth	97	97	97	97	58	39	39	39	39/72	72/97	97	97
Euchre Cr.	Mouth	85	85	85	85	85	59/40	40	40	40/59	59/113	113	113/85
Sam Cr.	Mouth	81	81	81	81	42	42/28	28	28	28/50	50/94	94	94/81
Rock Cr.	Mouth	67	67	67	67	46	46/31	31	31	31/66	66/87	87	87/67
Big Rock Cr.	Mouth	100	100	100	100	54	54/36	36	36	36/73	73/100	100	100
Little Rock Cr.	Mouth	78	78	78	78	48	48/32	32	32	32/66	66/97	97	97/78
Mill Cr.	Mouth	68	68	68	68	36	36/24	24	24	24/46	46/68	68	68
Gravel Cr.	Mouth	82	82	82	82	57	57/38	38	38	38	57	82	82
N. Fk. Siletz R.	Mouth	225	225	225	225	120	120/80	80	80	80/225	225	225	225
S. Fk. Siletz R.	Mouth	117	117	117	117	117	59	40	40	40/59	59	59/117	117
Yaquina R.	Head of tidewater	125	125	125	125	50	50/34	34	34	34/90	90/160	160	160/125
Yaquina R.	Above Bales Cr.	125	125	125	125	50	50/34	34	34	34/90	90/160	160	160/125

Appendix 2. (continued)

Stream	Location	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Olalla Cr.	Head of tidewater	26	26	26	26	26	10	10	10	10	10	26	26
Mill Cr.	Head of tidewater	61	61	61	61	39	39/26	26	26	26/39	39	61	61
Elk Cr.	Head of tidewater	130	130	130	130	80	80/54	54	54	54/80	80/139	139	139/130
Elk Cr.	Above Grant Cr.	85	85	85	85	50	50/34	34	34	34/50	50/85	85	85
Bear Cr.	Mouth	24	24	24	24	24	9	9	9	9	9	24	24
Deer Cr.	Mouth	34	34	34	34	34	13	13	13	13	13	34	34
Grant Cr.	Mouth	67	67	67	67	43	43/29	29	29	29/57	57/81	81	81/67
Feagles Cr.	Mouth	61	61	61	61	40	40/27	27	27	27/50	50/74	74	74/61
Simpson Cr.	Mouth	58	58	58	58	30	30/20	20	20	20/42	42/58	58	58
Little Elk Cr.	Mouth	91	91	91	91	50	50/34	34	34	34/60	60/91	91	91
Alsea R.	Below Five Rivers	340	340	340	340	145	145/97	97	97	97/340	340	340	340
Alsea R.	Below N. & S. Forks	277	277	277	277	127	127/85	85	85	85/277	277	277	277
Drift Cr.	Head of tidewater	186	186	186	186	108	108/72	72	72	72/195	197	195	195/186
Five R.	Mouth	260	260	260	260	140	140/94	94	94	94/260	260	260	260
Five R.	Above Lobster Cr.	211	211	211	211	100	100/67	67	67	67/222	222	222	222/211
Five R.	Above Green R.	69	69	69	69	36	36/24	24	24	24/81	81	81	81/69
Lobster Cr.	Mouth	108	108	108	108	47	47/31	31	31	31/120	120	120	120/108
Lobster Cr.	Above Preacher Cr.	105	105	105	105	64	64/43	43	43	43/80	80/115	115	115/105
Green River	Mouth	91	91	91	91	50	50/34	34	34	34/50	50/98	98	98/91
Fall Cr.	Mouth	125	125	125	125	79	79/53	53	53	53/162	162	162	162/125
North Fk. Alsea R.	Mouth	148	148	148	148	72	72/48	48	48	48/148	148	148	148
South Fk. Alsea R.	Mouth	202	202	202	202	107	107/70	70	70	70/202	202	202	202
Bummer Cr.	Mouth	75	75	75	75	40	40/27	27	27	27/40	40/92	92	92/75
Yachats R.	Above Marks Cr.	132	132	132	132	63	63/42	42	42	42/63	63/132	132	132
Yachats R.	Above North Fk.	82	82	82	82	46	46/31	31	31	31/40	40/90	90	90/82
North Fk. Yachats R.	Mouth	60	60	60	60	33	33/22	22	22	22/33	33	33/60	60

Appendix 2. (continued)

Stream	Location	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Williamson Cr.	Mouth	22	22	22	22	22	6	6	6	6	22	22	22
School Fk.	Mouth	35	35	35	35	25	25/17	17	17	17/37	37/44	44	44/35
Tenmile Cr.	Mouth	95	95	95	95	53	53/36	36	36	36/53	53	95	95
Big Cr.	Mouth	100	100	100	100	63	63/42	42	42	42/63	63	100	100
Cape Cr.	Mouth	97	97	97	97	53	53/36	36	36	36/53	53	97	97
Siuslaw R.	Below Lake Cr.	386	386	386	386	260	260/174	174	174	174/260	260/412	412	412/386
Siuslaw R.	Above Wildcat Cr.	216	216	216	216	102	102/68	68	68	68/102	102/216	216	216
Siuslaw R.	Above Haight Cr.	132	132	132	132	72	72/48	48	48	48/72	72	72/132	132
Siuslaw R.	Below N. & S. Forks	195	195	195	195	132	132/88	88	88	88/132	132	132/195	195
N.Fk. Siuslaw R.	Above McLeod Cr.	108	108	108	108	67	67/45	45	45	45/67	67/108	108	108
N.Fk. Siuslaw R.	Below Cedar Cr.	84	84	84	84	43	43/29	29	29	29/43	43	43/84	84
Sweet Cr.	Above tidewater	69	69	69	69	44	44/29	29	29	29/44	44	44/69	69
Knowles Cr.	Above tidewater	74	74	74	74	26	26/17	17	17	17/26	26	26/74	74
Lake Cr.	Mouth	540	540	540	540	260	260/174	174	174	174/260	260/540	540	540
Lake Cr.	Below Triangle L.	235	235	235	235	85	85/57	57	57	57/85	85/235	235	235
Indian Cr.	Mouth	325	325	325	325	160	160/107	107	107	107/160	160/325	325	325
Deadwood Cr.	Mouth	188	188	188	188	102	102/68	68	68	68/129	129/214	214	214/188
Nelson Cr.	Mouth	70	70	70	70	51	51/26	26	26	26/51	51/106	106	106/70
Greenleaf Cr.	Mouth	78	78	78	78	63	63/38	38	38	38/63	63/78	78	78
Fish Cr.	Mouth	48	48	48	48	38	38/25	25	25	25/38	38/48	48	48
Wildcat Cr.	Mouth	162	162	162	162	65	65/44	44	44	44/121	121/179	179	179/162
Whittaker Cr.	Mouth	98	98	98	98	61	61/41	41	41	41/61	61/98	98	98
Wolf Cr.	Mouth	112	112	112	112	57	57/38	38	38	38/82	82/127	127	127/112
Esmond Cr.	Mouth	65	65	65	65	45	45/30	30	30	30/45	45/65	65	65
N. Fk. Siuslaw R.	Mouth	90	90	90	90	50	50/34	34	34	34/50	50	50/90	90
S. Fk. Siuslaw R.	Mouth	62	62	62	62	31	31/21	21	21	21/31	31	31/62	62

Appendix 2. (continued)

Stream	Location	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Siltcoos and Woahink L. system													
Fiddle Cr.	Below Alder Cr.	19	19	19	19	11	11/7	7	7	7/11	11	19	19
Maple Cr.	Below Jordon Cr.	20	20	20	20	12	12/8	8	8	8/12	12	20	20
Tahkenitch L. system													
Leitel Cr.	1.5 mi. above mouth	15	15	15	15	9	9/6	6	6	6/9	9	15	15
Fivemile Cr.	Below Perkins Cr.	17	17	17	17	10	10/8	8	8	8/10	10	17	17

1/ Flows are expressed in cubic feet per second.

2/ Recommended flows should arrive at the point of recommendation and continue to the mouth, or to the next point for which a different flow is recommended.

3/ Recommended optimum flows are designed to provide instream conditions capable of maintaining an optimum level of natural production. No consideration is given to the requirements of estuaries or to benefical impacts of winter freshets.

Appendix 3. Miscellaneous flow and temperature measurements, Middle Coast Basin, 1970-71 1/ 2/

Stream	Location	Date	Time	Temp. °F. Water	Air	Flow (cfs)
Salmon River	Below Slick Rock Cr.	11-13-70	10:50 AM	45	--	448
		4-28-71	9:30 AM	46	--	321
		5-6-71	1:15 PM	51	--	216
		5-12-71	3:30 PM	54	--	186
		6-1-71	12:10 PM	50	--	163
		7-21-71	1:50 PM	64	--	89
		8-5-71	11:10 AM	59	--	80
Salmon River	Below Little Salmon R.	11-13-70	2:20 PM	45	--	150
		4-28-71	8:10 AM	45	--	107
		5-6-71	2:00 PM	51	--	82
		5-12-71	4:00 PM	52	--	46
		6-1-71	11:30 AM	48	--	48
		6-9-71	2:35 PM	53	--	31
		7-21-71	2:25 PM	62	--	24
		8-5-71	11:30 AM	59	--	14
Salmon Creek	Mouth	11-13-70	10:10 AM	48	--	21
		2-18-71	10:30 AM	47	--	86
		4-28-71	10:05 AM	47	--	17
		5-6-71	12:00 N	52	--	10
		6-9-71	--	--	--	5
		8-5-71	12:55 PM	60	--	2.7
Deer Creek	Mouth	11-13-70	11:00 AM	47	--	15
		4-16-71	3:30 PM	50	--	27
		4-28-71	10:00 AM	47	--	13
		5-6-71	12:20 PM	51	--	6.5
		8-5-71	12:45 PM	58	--	1.9
		12-2-71	3:00 PM	--	--	37

Appendix 3. (continued)

Stream	Location	Date	Time	Temp. °F. Water	Air	Flow (cfs)
Rock Creek (Devils L.)	Mouth	11-13-70	9:00 AM	46	--	11
		12-10-70	1:25 PM	49	--	40
		2-18-71	10:00 AM	47	--	32
		4-16-71	2:15 PM	50	--	33
		5-6-71	11:50 AM	49	--	14
		8-5-71	10:45 AM	54	--	4.9
Siletz River	Below Rock Creek	6-1-71	3:00 PM	50	--	369
		6-9-71	10:30 AM	57	--	271
		6-22-71	2:30 PM	63	--	350
		7-9-71	10:30 AM	58	60	348
		8-14-71	2:25 PM	67	--	206
Siletz River	Below Gravel Creek	5-12-71	8:40 AM	51	--	317
		6-9-71	8:50 AM	52	--	186
		6-22-71	12:50 PM	57	--	192
		7-9-71	12:15 PM	55	--	211
		8-4-71	11:30 AM	63	--	116
Schooner Creek	Head of tidewater	11-12-70	9:10 AM	49	--	112
		12-10-70	2:00 PM	49	--	290
		2-3-71	10:15 AM	45	--	140
		2-18-71	9:30 AM	46	--	168
		4-7-71	4:45 PM	--	--	104
		4-16-71	1:00 PM	47	53	153
		4-29-71	11:00 AM	47	--	86
		5-6-71	10:45 AM	48	--	68
		5-12-71	2:30 PM	52	--	53
		6-1-71	1:10 PM	50	--	41
		7-21-71	12:25 PM	56	--	33
		8-5-71	10:15 AM	55	--	28

Appendix 3. (continued)

Stream	Location	Date	Time	Temp. °F. Water	Air	Flow (cfs)
Drift Creek	Head of tidewater	4-29-71	11:20 AM	48	--	164
		5-6-71	10:00 AM	48	--	123
		5-12-71	2:00 PM	57	--	107
		6-1-71	1:50 PM	51	--	101
		6-9-71	1:15 PM	58	--	79
		7-21-71	1:05 PM	64	--	68
		8-5-71	9:40 AM	60	--	46
Cedar Creek	Mouth	4-7-71	4:00 PM	--	--	87
		4-16-71	9:15 AM	45	--	128
		4-22-71	2:30 PM	--	--	92
		4-29-71	12:30 PM	48	--	60
		5-6-71	9:10 AM	47	--	47
		5-12-71	1:05 PM	56	--	38
		6-9-71	12:30 PM	57	--	22
		7-21-71	11:00 AM	61	--	19
		8-5-71	9:00 AM	58	--	18
Euchre Creek	Mouth	11-12-70	10:45 AM	50	--	180
		2-3-71	11:15 AM	45	--	75
		2-26-71	9:50 AM	43	--	170
		4-7-71	3:00 PM	--	--	80
		4-16-71	8:30 AM	45	--	121
		4-22-71	2:00 PM	--	--	83
		4-29-71	12:45 PM	48	--	63
		5-6-71	8:45 AM	46	--	49
		6-9-71	12:00 N	56	--	22
		7-21-71	10:35 AM	59	--	26
		8-5-71	8:35 AM	59	--	14

Appendix 3. (continued)

Stream	Location	Date	Time	Temp. °F. Water	Air	Flow (cfs)
Sam Creek	Above Long Tom Cr.	11-12-70	12:30 PM	50	--	76
		2-3-71	2:35 PM	45	--	64
		3-9-71	3:25 PM	46	--	170
		4-7-71	2:00 PM	--	--	63
		4-15-71	10:30 AM	48	--	112
		4-22-71	12:30 PM	--	--	58
		4-29-71	1:40 PM	48	--	40
		5-5-71	5:30 PM	49	--	26
		5-12-71	11:55 AM	54	--	20
		7-21-71	9:55 AM	59	--	6.3
		8-4-71	2:55 PM	62	--	5.2
Rock Creek	Mouth	4-29-71	2:10 PM	49	--	158
		5-5-71	10:10 AM	48	--	120
		5-12-71	10:20 AM	53	--	69
		5-25-71	1:00 PM	55	59	67
		6-1-71	3:40 PM	50	--	59
		6-9-71	10:00 AM	53	--	57
		7-9-71	9:30 AM	55	58	40
		7-20-71	3:40 PM	67	--	36
		8-4-71	1:40 PM	63	--	22
Big Rock Creek	Mouth	11-20-70	2:00 PM	50	--	162
		2-3-71	12:45 PM	44	--	151
		3-9-71	2:35 PM	46	--	181
		4-7-71	10:00 AM	--	--	128
		4-15-71	12:00 N	47	--	136
		4-22-71	11:30 AM	--	--	110
		4-29-71	3:15 PM	49	--	59
		5-5-71	10:25 AM	48	--	61
		5-12-71	10:55 AM	53	--	42
		6-1-71	4:10 PM	50	--	30
		7-20-71	4:20 PM	66	--	17
		8-4-71	1:50 PM	62	--	16

Appendix 3. (continued)

Stream	Location	Date	Time	Temp. °F. Water	Air	Flow (cfs)
Little Rock Creek	Mouth	11-12-70	2:45 PM	51	--	102
		4-7-71	11:00 AM	--	--	85
		4-15-71	12:30 PM	50	--	148
		4-22-71	12:00 N	--	--	82
		4-29-71	3:30 PM	51	--	55
		5-12-71	11:20 AM	55	--	28
		6-1-71	4:20 PM	51	--	21
		7-20-71	4:35 PM	70	--	11
		8-4-71	2:00 PM	65	--	7.6
Mill Creek	Above Cerine Cr.	11-12-70	3:20 PM	50	--	88
		12-10-70	3:15 PM	47	--	125
		2-3-71	12:00 N	44	--	72
		2-26-71	10:10 AM	43	--	90
		3-9-71	1:40 PM	45	--	94
		4-7-71	8:50 AM	--	--	50
		4-15-71	1:30 PM	50	59	74
		4-22-71	11:15 AM	--	--	49
		4-29-71	3:40 PM	51	--	34
		5-5-71	4:50 PM	48	--	25
		5-12-71	9:45 AM	51	--	21
		7-20-71	3:15 PM	62	--	9.5
		8-4-71	1:10 PM	58	--	6.8
Sunshine Creek	Below Fourth of July Cr.	4-6-71	12:30 PM	--	--	27
		4-22-71	7:30 AM	--	--	25
		5-5-71	1:10 PM	48	--	8.9
Gravel Creek	Mouth	3-9-71	11:50 AM	43	--	143
		4-6-71	4:00 PM	--	--	82
		4-15-71	3:30 PM	50	--	127
		4-22-71	10:00 AM	--	--	69
		4-29-71	4:40 PM	50	--	53
		5-5-71	3:15 PM	48	--	37

Appendix 3. (continued)

Stream	Location	Date	Time	Temp. °F. Water	Air	Flow (cfs)
Gravel Creek (cont.)	Mouth	6-9-71	8:30 AM	50	--	20
		7-20-71	1:30 PM	59	--	17
		8-4-71	11:20 AM	56	--	13
North Fork Siletz River	Mouth	5-12-71	7:45 AM	50	--	212
		5-25-71	11:30 AM	51	55	201
		6-9-71	8:10 AM	52	--	110
		6-22-71	12:30 PM	57	--	139
		7-20-71	12:50 PM	66	--	74
		8-4-71	11:10 AM	62	--	61
South Fork Siletz River	Mouth	4-22-71	8:30 AM	--	--	222
		5-5-71	2:45 PM	50	--	110
		5-12-71	7:20 AM	54	--	72
		5-25-71	10:45 AM	55	--	96
		6-9-71	7:50 AM	52	--	42
		6-22-71	12:20 PM	60	--	35
		7-20-71	12:30 PM	67	--	36
		8-4-71	10:50 AM	61	--	35
Yaquina River	2 mi. above Elk Cr.	5-5-71	8:30 AM	51	--	165
		5-14-71	10:15 AM	55	52	112
		6-8-71	1:15 PM	58	64	62
		6-24-71	8:45 AM	61	50	48
		7-8-71	7:00 PM	61	--	36
		7-22-71	8:30 AM	67	58	22
		9-9-71	1:30 PM	63	--	31
Yaquina River	Above Bales Cr.	5-4-71	3:00 PM	--	--	63
		5-14-71	1:00 PM	56	61	39
		6-8-71	12:00 N	55	61	21
		9-9-71	4:00 PM	62	--	11
		12-29-71	12:00 N	43	--	291

Appendix 3. (continued)

Stream	Location	Date	Time	Temp. °F. Water	Air	Flow (cfs)
Mill Creek	Head to tidewater	4-15-71	9:00 AM	48	--	66
		4-23-71	11:15 AM	50	--	41
		5-4-71	7:15 PM	52	--	20
		6-8-71	2:45 PM	65	62	8.4
Elk Creek	Below Bear Cr.	5-4-71	5:15 PM	53	--	140
		5-14-71	11:15 AM	57	63	95
		6-8-71	1:30 PM	60	65	58
		6-22-71	4:05 PM	65	--	42
		9-9-71	1:50 PM	65	--	26
		12-29-71	1:30 PM	43	--	594
Elk Creek	Above Grant Cr.	4-23-71	2:00 PM	48	--	130
		5-4-71	12:00 N	51	--	64
		6-8-71	10:30 AM	53	62	29
		9-9-71	2:50 PM	63	--	10
Grant Creek	Mouth	12-22-70	11:10 AM	44	--	79
		3-10-71	10:15 AM	46	--	296
		4-14-71	2:30 PM	51	52	91
		5-4-71	12:40 PM	51	--	25
		6-8-71	10:45 AM	55	61	16
		9-9-71	2:30 PM	67	--	8.2
Feagles Creek	Mouth	12-22-70	10:30 AM	44	--	61
		3-10-71	9:45 AM	46	--	172
		4-14-71	1:00 PM	51	55	80
		5-4-71	11:40 AM	50	--	22
		6-8-71	10:00 AM	52	61	13
		9-9-71	3:00 PM	62	--	4.7

Appendix 3. (continued)

Stream	Location	Date	Time	Temp. °F. Water	Air	Flow (cfs)
Simpson Creek	Above Spring Brook	12-22-70	2:10 PM	47	--	38
		2-3-71	3:00 PM	46	--	21
		2-26-71	11:00 AM	44	--	42
		3-9-71	4:10 PM	46	--	48
		3-10-71	8:30 AM	47	--	57
		4-14-71	5:00 PM	50	52	39
		5-4-71	4:00 PM	52	--	11
		9-9-71	1:10 PM	58	--	2
		11-30-71	1:30 PM	50	--	92
Little Elk Creek	Below Whiskey Cr.	12-22-70	1:20 PM	44	--	61
		2-3-71	4:00 PM	46	--	51
		2-26-71	11:30 AM	43	--	106
		4-14-71	4:00 PM	50	52	115
		5-4-71	2:10 PM	52	--	25
		9-9-71	3:40 PM	65	--	3.8
Alsea River	Above Grass Cr. (R.M. 22)	6-9-71	8:30 AM	58	58	364
		6-22-71	4:45 PM	65	--	274
		7-8-71	3:00 PM	63	67	248
		7-21-71	12:30 PM	72	83	140
		8-5-71	8:00 AM	68	62	130
		8-20-71	11:00 AM	69	--	98
Alsea River	Below Mill Cr. (R.M. 47)	5-4-71	1:00 PM	51	--	316
		5-13-71	9:00 AM	53	54	238
		6-9-71	10:15 AM	56	60	157
		6-23-71	1:30 PM	62	--	154
		7-8-71	12:45 PM	59	71	118
		7-22-71	11:30 AM	67	71	75
		8-5-71	1:15 PM	66	74	48
		11-19-71	10:40 AM	47	--	427

Appendix 3. (continued)

Stream	Location	Date	Time	Temp. °F. Water	Air	Flow (cfs)	½
Drift Creek	Below Trout Cr.	12-23-70	9:15 AM	44	--	467	
		4-23-71	8:45 AM	46	--	347	
		5-5-71	8:15 AM	50	48	187	
		5-14-71	8:00 AM	57	52	134	
		6-8-71	4:00 PM	60	60	94	
		6-23-71	2:30 PM	62	--	117	
		7-21-71	5:00 PM	72	70	76	
		8-20-71	9:45 AM	64	--	46	
Five Rivers	Below Bear Cr.	5-4-71	5:00 PM	53	54	258	
		5-5-71	10:30 AM	50	--	322	
		5-13-71	3:45 PM	56	61	220	
		6-1-71	1:30 PM	51	57	225	
		6-9-71	5:45 PM	59	59	129	
		6-23-71	11:30 AM	60	59	123	
		7-8-71	10:15 AM	60	60	107	
		8-5-71	8:45 AM	66	63	56	
		8-20-71	2:00 PM	67	70	52	
		9-9-71	9:00 AM	59	--	114	
Five Rivers	Above Lobster Cr.	5-5-71	3:15 PM	50	--	258	129
		5-13-71	1:40 PM	54	60	127	64
		6-9-71	4:00 PM	57	60	77	39
		6-23-71	10:00 AM	59	--	58	29
		7-8-71	9:45 AM	57	58	80	40
		7-21-71	1:15 PM	69	87	53	27
		8-20-71	1:30 PM	67	67	33½	17
Five Rivers	Above Green River	5-5-71	2:15 PM	50	--	34	17
		5-13-71	2:50 PM	55	60	22	11
		6-9-71	3:15 PM	58	64	11	6
		8-5-71	11:00 AM	63	67	6.5	3.3
		12-3-71	10:45 AM	46	--	131	

Appendix 3. (continued)

Stream	Location	Date	Time	Temp. °F. Water	Air	Flow (cfs)	1/2
Lobster Creek	Mouth	5-5-71	11:30 AM	50	53	166	83
		5-13-71	1:15 PM	55	60	123	62
		6-9-71	5:00 PM	60	60	80	40
		6-23-71	10:30 AM	59	--	70	35
		7-8-71	11:15 AM	60	64	49	25
		7-21-71	2:15 PM	74	90	39	20
		8-5-71	9:45 AM	66	66	26	13
		8-20-71	1:00 PM	68	67	26	13
Lobster Creek	Above Preacher Cr.	4-22-71	3:15 PM	50	--	125	
		5-4-71	4:00 PM	53	--	64	
		5-13-71	12:00 N	53	58	39	
		6-9-71	2:15 PM	59	68	20	
		8-5-71	11:45 AM	65	70	11	
Green River	Mouth	11-11-70	2:30 PM	50	--	83	42
		4-22-71	1:00 PM	47	--	74	37
		5-5-71	1:45 PM	50	--	40	20
		5-13-71	2:30 PM	55	60	26	13
		8-5-71	10:30 AM	63	67	5.2	2.6
		12-3-71	10:15 AM	47	--	141	
Fall Creek	Below Skunk Creek	11-11-70	4:10 PM	51	--	286	
		2-2-71	1:15 PM	46	--	226	
		4-30-71	1:00 PM	50	66	118	
		5-5-71	4:30 PM	50	55	108	
		5-13-71	8:00 AM	50	51	87	
		6-1-71	1:00 PM	50	54	78	
		6-9-71	9:15 AM	54	57	48	
		6-23-71	12:00 N	56	59	45	
		7-21-71	3:00 PM	68	88	33	

Appendix 3. (continued)

Stream	Location	Date	Time	Temp. °F. Water	Air	Flow (cfs)
North Fork Alsea R.	Mouth	5-4-71	10:30 AM	50	59	187
		5-13-71	9:50 AM	52	58	103
		6-1-71	11:30 AM	50	50	116
		6-9-71	11:15 AM	57	61	81
		7-8-71	1:30 PM	60	77	64
		7-22-71	1:00 PM	70	80	38
		8-5-71	2:00 PM	68	80	37
South Fork Alsea R.	Above Bummer Cr.	11-11-70	10:30 AM	50	--	150
		4-30-71	2:00 PM	52	67	110
		5-4-71	12:00 N	51	55	126
		5-13-71	10:30 AM	53	55	72
		6-1-71	12:15 PM	50	52	87
		6-9-61	12:00 N	57	62	54
		7-8-71	2:15 PM	61	71	46
		7-22-71	1:15 PM	70	81	23
		8-5-71	2:30 PM	69	78	23
		11-19-71	11:25 AM	47	--	119
		12-29-71	9:30 AM	43	--	353
Bummer Creek	Below Wilson Cr.	11-11-70	10:00 AM	50	--	37
		2-2-71	11:00 AM	44	--	53
		4-14-71	10:30 AM	50	--	110
		4-22-71	4:30 PM	52	52	50
		5-4-71	3:00 PM	53	--	24
		5-13-71	11:15 AM	55	59	16
		6-9-71	1:30 PM	60	68	7.8
Yachats River	River Mile 5	12-23-70	1:10 PM	45	--	350
		4-30-71	8:15 AM	48	53	280
		5-6-71	8:30 AM	48	49	171
		5-12-71	4:00 PM	54	--	114
		6-4-71	4:00 PM	56	65	77

Appendix 3. (continued)

Stream	Location	Date	Time	Temp. °F. Water	Air	Flow (cfs)
Yachats River (cont.)	River Mile 5	6-22-71	3:30 PM	59	--	67
		7-8-71	8:15 AM	53	54	59
		7-21-71	11:00 AM	60	68	62
		8-4-71	6:15 PM	63	67	33
		8-20-71	8:45 AM	61	--	38
Yachats River	Above North Fork	12-23-70	2:30 PM	47	--	167
		2-2-71	3:00 PM	46	--	165
		4-22-71	9:15 AM	46	--	124
		4-30-71	9:15 AM	48	52	95
		5-6-71	10:30 AM	48	56	73
		5-12-71	4:45 PM	54	--	56
		6-23-71	8:45 AM	55	--	33
		8-4-71	5:30 PM	62	70	24
		9-9-71	10:40 AM	55	--	23
North Fork Yachats River	Below Fish Cr.	12-23-70	2:00 PM	45	--	72
		2-2-71	3:30 PM	46	--	90
		4-22-71	9:00 AM	46	--	70
		4-30-71	10:00 AM	48	--	49
		5-6-71	9:45 AM	48	55	33
		6-23-71	8:25 AM	55	--	19
		7-8-71	9:00 AM	52	55	16
		8-4-71	6:00 PM	61	70	10
		9-9-71	10:10 AM	57	--	8.7
School Fork	Mouth	12-23-70	3:00 PM	45	--	23
		2-2-71	2:30 PM	46	--	28
		4-22-71	11:00 AM	47	--	22
		4-30-71	10:45 AM	49	--	17
		5-6-71	11:00 AM	48	61	13
		6-23-71	9:15 AM	55	--	5.9
		11-30-71	11:00 AM	48	--	52
		12-3-71	9:30 AM	46	--	35

Appendix 3. (continued)

Stream	Location	Date	Time	Temp. °F. Water	Air	Flow (cfs)
Tenmile Creek	River Mile 1.0	12-23-70	10:45 AM	45	--	300
		2-2-71	4:45 PM	47	--	238
		2-25-71	5:15 PM	45	--	220
		4-21-71	4:30 PM	50	51	224
		4-29-71	5:00 PM	54	58	123
		5-6-71	12:30 PM	54	58	89
		5-12-71	2:50 PM	54	--	71
		6-4-70	3:15 PM	58	59	59
		7-7-71	5:30 PM	60	60	54
		8-4-71	4:45 PM	63	68	36
		9-9-71	11:10 AM	58	--	44
Big Creek	River Mile 1.0	12-3-70	11:30 AM	45	--	163
		2-25-71	4:20 PM	45	--	189
		4-21-71	3:30 PM	49	54	128
		4-29-71	4:30 PM	53	57	84
		5-6-71	1:30 PM	55	--	65
		6-4-71	2:45 PM	59	62	35
		7-7-71	5:15 PM	60	59	33
		7-21-71	10:15 AM	58	60	32
		8-4-71	4:00 PM	64	67	23
		9-9-71	11:30 AM	58	--	32
Cape Creek	River Mile 1.0	4-21-71	2:00 PM	50	--	104
		4-29-71	4:00 PM	52	--	58
		5-6-71	2:00 PM	56	--	55
		6-4-71	2:00 PM	55	58	26
		6-22-71	2:30 PM	54	--	30
		7-21-71	10:00 AM	55	60	16
		8-20-71	8:00 AM	57	--	21
		12-3-71	8:15 AM	47	--	221

Appendix 3. (continued)

Stream	Location	Date	Time	Temp. °F. Water	Air	Flow (cfs)
Siuslaw River	Below Lake Cr.	6-22-71	8:30 AM	64	59	577
		7-7-71	12:00 N	67	69	429
		7-20-71	11:00 AM	71	76	299
		8-4-71	10:30 AM	72	67	200
		8-19-71	3:30 PM	75	76	144
Siuslaw River	Above Whittaker Cr.	5-7-71	1:00 PM	57	71	394
		5-11-71	3:15 PM	63	84	341
		6-3-71	1:15 PM	55	57	300
		6-21-71	3:00 PM	70	80	172
		7-7-71	4:00 PM	70	78	151
		7-20-71	3:00 PM	80	88	92
		8-4-71	12:30 PM	70	72	79
		8-19-71	11:30 AM	68	67	56
Siuslaw River	Below Haight Cr.	5-7-71	2:30 PM	58	74	176
		5-11-71	1:00 PM	58	--	149
		6-3-71	11:30 AM	53	57	104
		6-21-71	1:45 PM	65	84	76
		7-7-71	2:15 PM	65	78	61
		7-20-71	1:30 PM	75	89	47
Siuslaw River	Below Letz Cr.	4-27-71	2:00 PM	52	--	149
		5-7-71	3:30 PM	57	74	67
		6-3-71	10:15 AM	53	51	46
		6-21-71	1:00 PM	63	82	30
		8-19-71	9:45 AM	62	61	9.1
		12-2-71	10:45 AM	46	--	215
N.Fk. Siuslaw River (R.M. 6)	Below Wilhelm Cr.	2-25-71	1:30 PM	45	--	283
		4-21-71	9:45 AM	46	52	173
		4-29-71	2:00 PM	52	60	127
		5-6-71	4:15 PM	57	74	63
		6-4-71	11:45 AM	53	62	46
		6-22-71	1:00 PM	57	65	58
		7-21-71	8:15 AM	58	56	25

Appendix 3. (continued)

Stream	Location	Date	Time	Temp. °F. Water	Air	Flow (cfs)
N.Fk. Siuslaw River (R.M. 6)	Above Cedar Cr.	2-25-71	2:30 PM	45	--	170
		4-21-71	12:00 N	50	52	72
		4-29-71	2:45 PM	52	--	65
		5-6-71	3:30 PM	56	70	33
		6-4-71	12:45 PM	54	65	26
		6-22-71	1:30 PM	58	65	24
		7-21-71	9:00 AM	56	62	21
Sweet Creek	Below Cedar Cr.	4-7-71	8:30 AM	45	--	80
		4-8-71	11:00 AM	48	--	129
		4-21-71	8:15 AM	45	48	119
		4-29-71	8:15 AM	47	51	72
		5-12-71	8:00 AM	54	54	34
		5-21-71	2:00 PM	55	68	37
		6-3-71	3:30 PM	52	65	26
		6-21-71	5:15 PM	65	71	22
		7-20-71	4:45 PM	72	78	11
Knowles Creek	Below Jackson Cr.	4-7-71	2:00 PM	52	--	25
		4-8-71	10:00 AM	48	--	39
		4-20-71	5:30 PM	50	--	89
		4-27-71	5:30 PM	53	54	38
		5-11-71	5:30 PM	61	--	11
		8-4-71	11:30 AM	65	68	2.4
Lake Creek	Below Indian Cr.	5-7-71	9:00 AM	55	--	734
		6-3-71	4:30 PM	55	58	341
		6-22-71	9:30 AM	63	60	236
		7-7-71	11:00 AM	63	65	290
		7-20-71	10:30 AM	70	75	212
		8-4-71	10:00 AM	69	67	133
		8-19-71	2:30 PM	72	74	105

Appendix 3. (continued)

Stream	Location	Date	Time	Temp. °F. Water	Air	Flow (cfs)
Lake Creek	Above Fish Cr.	4-28-71	3:00 PM	54	--	213
		5-7-71	10:00 AM	57	70	135
		5-12-71	1:10 PM	62	68	93
		6-4-71	9:30 AM	60	57	70
		7-7-71	9:30 AM	68	61	48
		7-20-71	9:15 AM	71	70	26
Indian Creek	Below Velvet Cr.	4-7-71	12:00 N	48	--	327
		4-29-71	9:15 AM	49	50	310
		5-12-71	9:45 AM	56	59	164
		5-21-71	3:00 PM	57	70	156
		6-3-71	5:00 PM	53	58	110
		6-22-71	10:30 AM	62	68	87
		7-20-71	10:15 AM	67	74	77
		8-19-71	2:00 PM	70	72	29
		12-30-71	8:30 AM	44	--	621
Deadwood Creek	Below Failor Cr.	2-24-71	2:55 PM	47	--	330
		4-6-71	3:00 PM	50	--	334
		4-29-71	10:15 AM	49	--	256
		5-12-71	11:00 AM	56	61	97
		6-4-71	10:30 AM	53	61	81
		7-7-71	10:15 AM	57	62	60
		8-19-71	1:30 PM	68	72	29
Nelson Creek	Below McVey Cr.	2-24-71	2:00 PM	47	--	117
		4-6-71	2:05 PM	49	--	62
		4-8-71	4:30 PM	48	--	127
		4-20-71	2:30 PM	48	--	92
		4-29-71	11:00 AM	48	--	44
		5-12-71	11:45 AM	54	--	22
		6-4-71	8:45 AM	52	54	15
		8-19-71	1:15 PM	63	73	2.4

Appendix 3. (continued)

Stream	Location	Date	Time	Temp. °F. Water	Air	Flow (cfs)
Greenleaf Creek	Mouth	2-24-71	11:40 AM	46	--	85
		4-6-71	1:30 PM	48	53	76
		4-29-71	11:30 AM	48	57	47
		5-12-71	12:45 PM	55	--	25
		8-4-71	9:30 AM	61	65	8.5
		12-2-71	2:30 PM	47	--	119
Fish Creek	Mouth	2-24-71	11:00 AM	47	--	38
		4-6-71	12:00 N	48	54	29
		4-20-71	2:00 PM	48	--	35
		4-28-71	4:45 PM	54	64	17
		5-12-71	1:00 PM	56	68	13
		7-20-71	9:45 AM	63	72	3.8
		12-2-71	2:00 PM	48	--	50
Wildcat Creek	River Mile 0.5	4-28-71	12:30 PM	48	55	172
		5-11-71	4:30 PM	59	71	135
		6-3-71	2:00 PM	53	60	58
		6-21-71	4:00 PM	65	79	36
		7-20-71	4:00 PM	76	92	25
		8-4-71	1:30 PM	66	72	17
		8-19-71	12:00 N	65	72	15
		12-2-71	12:45 PM	47	--	275
Whittaker Creek	River Mile 0.5	12-24-70	5:10 PM	46	--	125
		12-28-70	2:25 PM	44	--	257
		4-7-71	2:50 PM	52	--	54
		4-8-71	1:00 PM	48	--	119
		4-20-71	4:30 PM	48	--	45
		4-27-71	5:00 PM	50	52	43
		5-11-71	4:00 PM	62	76	23
		8-4-71	12:00 N	65	69	5

Appendix 3. (continued)

Stream	Location	Date	Time	Temp. °F. Water	Air	Flow (cfs)
Wolf Creek	Mouth	12-28-70	1:45 PM	43	--	243
		4-28-71	11:00 AM	48	49	157
		5-11-71	2:30 PM	61	--	101
		6-3-71	1:00 PM	53	56	65
		6-21-71	2:30 PM	67	84	49
		7-7-71	3:00 PM	67	77	41
		7-20-71	2:30 PM	76	90	28
		8-19-71	11:00 AM	67	67	17
Esmond Creek	Mouth	12-28-70	1:10 PM	45	--	117
		2-24-71	4:30 PM	46	--	173
		4-7-71	4:30 PM	52	--	52
		4-8-71	2:00 PM	48	--	72
		4-27-71	4:00 PM	52	53	39
		5-11-71	2:00 PM	58	--	11
		8-19-71	10:45 AM	62	65	1.9
North Fork Siuslaw River (R.M. 109.5)	Mouth	12-28-70	--	--	--	80 3/
		4-27-71	11:30 AM	53	--	42
		5-7-71	4:00 PM	60	76	21
		5-11-71	11:00 AM	57	--	13
		6-3-71	9:30 AM	54	52	13
		8-19-71	9:00 AM	61	58	1.4
		12-2-71	9:30 AM	46	--	63
South Fork Siuslaw River	Mouth	4-27-71	1:15 PM	50	--	47
		5-7-71	4:15 PM	58	76	39
		5-11-71	11:20 AM	--	--	35
		6-3-71	9:45 AM	52	52	29
		6-21-71	11:45 AM	62	66	12
		8-19-71	9:30 AM	61	60	3.8
		12-2-71	10:15 AM	46	--	87

Appendix 3. (continued)

Stream	Location	Date	Time	Temp. °F. Water	Temp. °F. Air	Flow (cfs)
Siltcoos Lake						
Fiddle Creek	Above Alder Cr.	5-21-71	11:00 AM	49	--	24
Maple Creek	Below Grant Cr.	5-21-71	10:30 AM	49	58	29
Tahkenitch Lake						
Fivemile Creek	Below Harry Cr.	5-21-71	11:30 AM	51	--	16

1/ Flows are expressed in cubic feet per second.

2/ Stream flows and temperatures measured in 1962-1964 are published in the Game Commission report, "The Fish and Wildlife Resources of the Middle Coast Basin, Oregon, and Their Water Use Requirements," 1965.

3/ Estimated flow, others were measured.

Appendix 4. Recommended angling flows for selected Middle Coast Basin streams 1/ 2/

Stream	April-October	November-March
Salmon River	100	400
Siletz River	300	1,900
Schooner Creek	50	220
Drift Creek	90	350
North Fork Siletz R.	110	400
Yaquina River	70	300
Elk Creek	60	250
Alsea River	250	3,000
Drift Creek	100	400
Five Rivers	125	500
Lobster Creek	50	200
North Fork Alsea R.	80	300
South Fork Alsea R.	80	300
Yachats River	60	350
Tenmile Creek	50	200
Big Creek	50	200
Siuslaw River	500	2,900
North Fork Siuslaw R. (R.M. 6)	60	450
Lake Creek	150	1,300
Indian Creek	80	400
Deadwood Creek	80	400

1/ Flows are expressed in cubic feet per second.

2/ Flows are to reach the mouth of the stream.

Appendix 5. Selected Middle Coast Basin streams and lakes that should be protected for their esthetic value

Stream or Lake	Section
Salmon River	Entire
Siletz River	"
Drift Creek	"
North Fork Siletz River	"
Drift Creek (Alsea)	"
North Fork Alsea River	"
Yachats River	"
Tenmile Creek	"
Big Creek	"
Lily Lake	"
Clear Lake	"
Siltcoos Lake	"
Tahkenitch Lake	"
Threemile Lake	"

Appendix 6. Reservoir sites presently thought compatible with fish and wildlife, Middle Coast Basin 1/

Stream	River System	Location
Treat River	Salmon	T6S, R10W, Sec. 36
Rock Creek	Siletz	T9S, R8W, Sec. 17
Depot Creek	Yaquina	T10S, R10W, Sec. 19
Beaver Creek	Yaquina	T11S, R11W, Sec. 11
Eckman Creek	Alsea	T13S, R11W, Sec. 28
Gopher Creek	Alsea	T12S, R9W, Sec. 8
South Fork Alsea R.	Alsea	T14S, R7W, Sec. 25
Peak Creek	Alsea	T14S, R7W, Sec. 24
South Fork Beaver Cr.	Ocean	T12S, R11W, Sec. 33

1/ Detailed studies should be conducted to determine total impact on fish and wildlife before any of the above sites are considered for development.

Appendix 7. Middle Coast Basin lake data 1/

Lake	Size (Acres)	Salmonids						Warm-water game fish									Rough fish							Miscellaneous						
		Coho	Kokanee	Steelhead	Cutthroat trout	Rainbow trout	Brown trout	Largemouth bass	Bluegill	Black crappie	White crappie	Pumpkinseed	Warmouth	Yellow perch	Channel catfish	Brown bullhead	Yellow bullhead	Carp	Goldfish	Redside shiner	Squawfish	Sculpin	Sucker	Sturgeon	Striped bass	Shad	Smelt	Starry flounder	Stickleback
Aikerly	10				X	X			X					X		X					X									
Alder	3				X																									
Bear	6				X																									
Carter	28				X	X		X	X							X				X		X								
Clear	140	X			X	X		X	X					X		X					X	X								
Cleawox	82				X	X		X		X				X		X		X			X		X							
Collard	32	X			X	X		X	X					X		X					X	X								
Devils	580	X		X	X	X		X		X	X			X	X	X						X								X
Dune	2				X	X																								
Eckman	20	X		X	X	X										X						X								
Elbow	12	X			X	X		X	X																					
Ehart	3				X	X																								
Esmond	3	X		X	X																									
Georgia	1.7				X	X																								
Glenada Pond	4				X																									
Hidden	2				X																									
Hult Mill Pond	35				X									X		X														
Klickitat	5				X																									
Lily	32	X			X																									
Lost	6				X	X																								

Appendix 7. (continued)

Lake	Size (Acres)	Salmonids						Warm-water game fish									Rough fish							Miscellaneous					
		Coho	Kokanee	Steelhead	Cutthroat trout	Rainbow trout	Brown trout	Largemouth bass	Bluegill	Black crappie	White crappie	Pumpkinseed	Warmouth	Yellow perch	Channel catfish	Brown bullhead	Yellow bullhead	Carp	Goldfish	Redside shiner	Squawfish	Sculpin	Sucker	Sturgeon	Striped bass	Shad	Smelt	Starry flounder	Stickleback
Marr	3				X			X																					
Mercer	341	X	X		X	X		X	X		X			X		X													
Munsel	93	X	X		X	X		X	X				X	X		X						X							
Newport Res.	20	X		X	X	X										X						X							
Olalla Res.	100		X		X	X										X						X							
Perkins	2				X	X																							
Siltcoos	2,882	X		X	X	X		X	X	X	X			X		X					X	X	X	X	X	X	X	X	
Siltcoos Lagoon	4							X	X	X				X		X						X							
Sutton	127	X			X	X		X		X	X			X		X						X							
Tahkenitch	1,512	X		X	X	X		X	X	X	X		X	X		X													
Threemile	25				X			X						X		X													
Triangle	293	X	X	X	X	X		X	X		X	X		X		X					X	X	X						
Valsetz	600	X		X	X		X	X									X		X			X							
Woahink	787	X	X	X	X	X		X	X	X				X		X					X	X	X						

1/ A few privately owned lakes without public access are not included.

Appendix 8. Oregon Fish Commission coho and fall chinook releases (numbers of fish) in Middle Coast Basin by river system, 1966-69

Year	Salmon		Devils Lake		Siletz		Yaquina		Alsea		Siuslaw	
	Adult	Juv.1/	Adult	Juv.1/	Adult	Juv.1/	Adult	Juv.1/	Adult	Juv.1/	Adult	Juv.1/
1966 Coho	400	0	0	0	2,004	555,904	305	0	1,262	1,323,749	3,315	849,327
1967 Coho	400	0	0	244,372	2,200	478,721	100	44,061	1,168	828,626	1,962	124,059
Fall Chinook	0	0	0	0	0	45,080	0	0	0	0	0	0
1968 Coho	400	0	400	319,679	1,900	559,558	125	128,205	1,350	1,009,434	2,000	493,909
Fall Chinook	0	0	0	0	0	45,000	0	0	0	0	0	0
1969 2/ Coho	660	--	600	--	2,710	--	310	--	1,000	--	1,600	--

1/ Year for juvenile indicates brood year, which is not necessarily year of release.

2/ Juvenile data for 1969 not available.

Appendix 9. Oregon Game Commission fish releases in Middle Coast Basin lakes, 1966-70 1/

Lake	1966			1967			1968			1969			1970		
	Ct	Rb	K	Ct	Rb	K	Ct	Rb	K	Ct	Rb	K	Ct	Rb	K
Alder Lake	--	500	--	--	503	--	--	404	--	--	899	--	501	--	--
Big Creek Res.	--	2,102	--	--	2,298	--	--	3,296	--	--	3,252	--	3,003	300	--
Buck Lake	--	--	--	--	--	--	--	--	--	--	300	--	597	--	--
Carter Lake	--	3,077	--	1,276	2,377	--	--	3,526	--	--	5,055J	--	3,503	305	--
Clear Lake	--	--	--	--		--	--	--	--	--	3,021 --	--	111,900J	--	--
Cleawox Lake	--	2,176	--	275	1,612	--	--	2,078	--	--	14,993J	--	2,002	300	--
Crown Zellerbach Lake	--	500	--	--	299	--	--	300	--	--	2,466 300	--	--	--	--
Devils Lake	--	6,000	--	--	9,113	--	--	24,003	--	--	24,103	--	--	20,460	--
Dune Lake	--	500	--	--	501	--	--	405	--	--	898	--	501	--	--
Earhart Lake	100	100	--	--	500	--	--	488	--	--	899	--	1,202	--	--
Eckman Lake	--	1,100	--	--	1,001	--	--	1,000	--	4,136J	1,002	--	1,003	--	--
Elbow Lake	--	1,000	--	251	1,001	--	--	893	--	--	1,549	--	1,202	--	--
Georgia Lake	52	557	--	--	700	--	--	502	--	--	501	--	501	--	--
Heceta Jct. Pond	--	500	--	--	500	--	--	358	--	--	300	--	299	--	--
Lost Lake	217	217	--	251	500	--	--	894	--	--	1,301	--	902	--	--
Mercer Lake	--	7,280	52,738J	715	5,229	38,915J	--	34,995J 5,366	39,746J	32,780J	50,659J 6,500	52,130J	3,003	3,162	--
Munsel Lake	1,500	1,500	12,749J	--	2,000	24,700J	--	15,000J 3,822	20,152J	--	4,052	27,500J	--	3,853	24,880J
Olalla Creek Res.	--	8,721	--	--	2,483	--	--	15,022J	--	--	7,221	35,056J	--	7,296	29,960J
Perkins Lake	130	130	--	--	500	--	--	400	--	--	702	--	400	--	--
Siltcoos Lake	--	7,000	--	--	7,003	--	--	78,047J 10,138	--	53,499J	10,500	--	73,947J 10,054	10,102	--
Sutton Lake	--	3,198	--	--	3,006	--	--	3,022	--	--	3,501	--	--	3,496	--
Tahkenitch Lake	--	7,000	--	--	7,015	--	--	63,550J 9,506	--	--	78,146J 10,002	--	34,875J 8,672	--	--
Triangle Lake	--	--	--	--	--	--	--	--	14,998J	--	--	75,244J	--	--	74,550J
Woahink Lake	--	7,700	119,308J	3,508	7,650	192,653J	--	85,015J	12,190J	--	120,148J	155,488J	--	5,996	99,930J
Totals	1,999	60,858	184,795J	6,276	55,791	256,268J	0	291,629J 78,510	87,086J	90,415J	268,951J 92,258	345,418J	220,722J 37,345	55,270	229,302J

1/ All figures indicate legal (8" and over) unless marked J (juvenile, sub-legal).

Ct = cutthroat trout
Rb = rainbow trout
K = kokanee

Appendix 10. Oregon Game Commission fish releases in Middle Coast Basin river systems, 1966-70 1/

River system and species	1966	1967	1968	1969	1970
Alsea					
Cutthroat	37,436 L	25,569 L	19,880 L	25,186 L	25,140 L 78,600 J
Winter Steelhead	102,820 J	100,039 J	285,228 J	127,222 J	373,649 J
Summer steelhead	0	0	600 J	0	0
Brown trout	0	0	350 J	0	0
Coho	600,283 J	0	0	0	0
Fall chinook	0	0	56,667 J	0	502,338 J
Siletz					
Cutthroat	10,986 L	9,997 L	10,000 L	11,715 L	10,004 L
Winter steelhead	53,628 J	69,689 J	85,649 J	84,989 J	126,030 J
Summer steelhead	60,045 J	63,874 J	75,028 J	80,108 J	66,008 J
Siuslaw					
Cutthroat	31,764 L	24,985 L	20,002 L	15,145 L	29,172 L
Winter steelhead	98,048 J	90,015 J	98,080 J	89,523 J	103,924 J
Yachats					
Cutthroat	0	0	0	3,062 L	2,003 L
Winter steelhead	0	0	4,994 J	0	0
Yaquina					
Cutthroat	0	0	0	0	31,642 J
Winter steelhead	124,054 J	0	9,980 J	6,006 J	24,227 J

1/ J = Juvenile (sub-legal)
L = Legal (8" and over)

Appendix 11. Values used in preparation of the text and tables (7, 8 and 10-13)

Daily gross expenditures by sportsmen 1/

Species	Expenditure per day
Sea-run cutthroat, shad, striped bass	$18.50
Resident and non-game marine fish	6.00
Deer (black tailed)	20.10
Elk (Roosevelt)	26.60
Waterfowl	8.00
Small game	6.00

Gross expenditures per animal harvested 1/

Species	Expenditure per animal harvested
Coho salmon	$74.00
Chinook salmon	74.00
Steelhead trout	74.00

Ratios of commercial harvest to spawning escapement 2/

Species	Ratio
Coho salmon	3 : 1
Chinook salmon	3 : 1

Commercial fish values 2/

Species	Average Weight (lbs.)	Fishermen value per pound
Coho salmon	8	$ .50
Chinook salmon	12	.70

1/ Source: Oregon State Game Commission.

2/ Source: Fish Commission of Oregon.

Appendix 12. Streams that should be withdrawn from gravel removal use, Middle Coast Basin

Stream	Area
Alsea River	Entire main stem
Five Rivers	" " "
North Fork Alsea River	" " "
South Fork Alsea River	" " "
Siuslaw River	" " "
North Fork Siuslaw River (lower)	" " "
Lake Creek	" " "