Appendix C

Bear Creek Watershed
1992 TMDLs

Prepared by
Oregon Department of Environmental Quality

Note: The following is a computer-scanned copy of the original and may contain transcription errors.

TOTAL MAXIMUM DAILY LOAD

WATER QUALITY MANAGEMENT PLAN COMPONENT
Department of Environmental Quality
811 Southwest Sixth Avenue, Portland, OR 97204
Telephone: (503) 229-5696

Developed pursuant to ORS 468.730 and The Federal Clean Water Act

---

WATER QUALITY LIMITED SEGMENT:

Bear Creek (RM 0 - 22.4)

RECEIVING SYSTEM INFORMATION:

Basin: Rogue
Subbasin: Bear Creek
County: Jackson

WQ STANDARD NOT ATTAINED:

pH

APPLICABLE RULES:

OAR 340-41-362
OAR 340-41-365(2)(d)(B)

TMDL PARAMETER:

Total Phosphate as Phosphorus

OAR 340-41-006

SOURCES COVERED BY THIS TMDL:

Source Number	Allocation Type	Source Description
001	LA	Emigrant Sub-area (Upstream input)
002	WLA	Ashland Sewage Treatment Plant
003	LA	Ashland-Talent Sub-area
004	LA	Phoenix-Medford Sub-area
005	LA	Central Point Sub-area
006	LA	Department Reserve Allocation

WATER QUALITY MANAGEMENT ACTIVITIES AND IMPLEMENTATION

Until this TMDL is modified, point source permits will be reissued as they are re-opened or expire to include limits for complying with the established waste loads. Where reduced limits are needed, compliance schedules will be specified for reaching those limits. Nonpoint sources will be addressed through specified schedules for developing and implementing needed control programs. All requirements, limitations, and conditions are set forth in the attached schedules as follows:

SCHEDULE A (Section 1)

Pollutant Discharge Limits not to be Exceeded

1. Pollutant Discharge Limitations not to be exceeded after TMDL issuance (Interim Limits based on existing conditions prior to implementation of controls). Discharge limits (load allocations) applicable May 1 to October 31, 1990 - 1994.

MONTHLY AVERAGE PHOSPHORUS LOADS ALLOCATIONS

May 1 to October 31

(pounds per day total phosphate as phosphorus)

Source Number	Source Description	Non-Irrigation Season (Estimated flow)	Irrigation Season (Estimated flow)
River Mile 22.5 and above*		(4 cfs)	(50 cfs)
001	Upstream Input	2.3	24
	TMDL (Interim)	2.3	24
	Loading Capacity	1.7	21
River Mile 19 - 22**		(8 cfs)	(40 cfs)
002	Ashland STP	100	100
003	Ashland-Talent	---	3
	(losses)(see note c)		-36
	TMDL (Interim)	102	91
	Loading Capacity	3.4	15
River Mile 7 - 19***		(15 cfs)	(28 cfs)
004	Phoenix - Medford	---	13
	(losses)		-62
	TMDL (Interim)	40	42
	Loading Capacity	5.7	12
River Mile 0 - 7****		(20 cfs)	(15 cfs)
004	Central Point	---	17
	(losses)		-37
	TMDL (Interim)	32	22
	Loading Capacity	5.7	6.5

* Based on Flow at the Oak Street Diversion Dam
** Based on Flow past the Oak Street Diversion Dam
*** Based on Flow at the USGS Gauge in Medford
**** Based on Flow at the USGS Gauge in Medford

NOTES:

a. The loading capacity of Bear Creek is based on attaining a monthly median concentration of 80 ug/l total phosphorus. Current loads are calculated using observed median phosphorus concentrations for the months of May through September for the irrigation season and the months of October and November for the non-irrigation season. The intent of the TMDL is that current conditions define the interim allocations until controls are implemented.

Summary, Total Phosphate as Phosphorus (µg/l)
(May - September, irrigation season, all data)

Storet #	Location	Minimum	Median	Mean	Maximum
402105	Mt Avenue	59	90	110	360
404202	Eagle Mill Rd.	90	110	108	130
402104	Valley View Rd.	226	425	551	1052
402103	Phoenix	200	276	362	690
402798	Barnet Rd.	170	270	311	720
402101	Hwy 62 (1986 data only)	220	260	265	296
402728	Kirtland Rd.	124	275	288	650

Summary, Total Phosphate as Phosphorus (µg/l)
(October and November, non-irrigation season, all data)

Storet #	Location (n)	Minimum	Median	Mean	Maximum
402105	Mt Avenue (11)	100	110	143	390
404202	Eagle Mill Rd.(3)	110	150	150	190
402104	Valley View Rd.(9)	600	1070	1293	3100
402103	Phoenix (3)	001	475	430	770
402798	Barnet Rd.(5)	260	470	582	1100
402728	Kirtland Rd. (31)	165	282	294	513

(n) = number of data points

b. Loading capacities are divided into two hydrologic categories (irrigation and non-irrigation), using flows observed in Bear Creek during 1988. Irrigation demands, withdrawals and return flows will regulate the flow in Bear Creek during the irrigation season. Flows and loads will be expected to vary significantly from those presented above.

c. Mass losses of phosphorus are due primarily to irrigation withdrawals and attenuation. For the irrigation flow, phosphorus losses are due to irrigation withdrawals.

SCHEDULE A (Section 2) (page 1 of 2)

Pollutant Discharge limits not to be Exceeded

2. Pollutant Discharge Limitations for the Development of Program Plans. Limits not to be Exceeded After Implementation of Control Measures

MONTHLY AVERAGE PHOSPHORUS LOAD ALLOCATIONS
May 1 to October 31
(pounds per day total phosphate as phosphorus)

Source Number	Source Description	Allocation for Base Flow	Allocation for Net Incremental inflow into Section (Irrigation Return)@		
River Mile 22.5 and above					
(Streamflow measured at Mt. Ave.)		(4 cfs)	(5 cfs)	(10 cfs)	(15 cfs)
001	Total Upstream LA	1.44	2.2	4.3	6.5
001.1	Forestry	0.44			
001.2	Agriculture	0.82	1.98	3.87	5.85
001.3	Urban	0.18	0.22	0.43	0.65
001.4	Attenuation	--	----	----	----
	TMDL	1.44			
	Loading Capacity	1.72			
River Mile 19 - 22					
002	Ashland STP (3mgd)		(2 lbs/day @ 3 mgd)*		
(Streamflow measured at Talent)		(8 cfs)	(5 cfs)	(10 cfs)	(15 cfs)
003	Total Ashland-Talent LA	1.48	2.2	4.3	6.3
003.1	Forestry	0.57			
003.2	Agriculture	0.55	1.98	3.87	5.85
003.3	Urban	0.36	0.22	0.43	0.65
003.4	Attenuation	--	----	----	----
	TMDL	2.92			
	Loading Capacity	3.44			
River Mile 7 - 19					
(Streamflow measured at Medford)		(15 cfs)	(5 cfs)	(10 cfs)	(15 cfs)
004	Total Phoenix-Medford LA	3.34	2.2	4.3	6.3
004.1	Forestry	0.66			
004.2	Agriculture	1.16	1.98	3.87	5.85
004.3	Urban	1.52	0.22	0.43	0.65
004.4	Attenuation	--	----	----	----
	TMDL	6.27			
	Loading Capacity	6.46			

SCHEDULE A (Section 2) (page 2 of 2)

MONTHLY AVERAGE PHOSPHORUS LOAD ALLOCATIONS (continued)
May 1 to October 31
(pounds per day total phosphate as phosphorus)

Source Number	Source Description	Allocation for Base Flow	Allocation for Net Incremental inflow into Section (Irrigation Return)@		
River Mile 0 - 7 (Streamflow measured at Kirtland Rd.)		(20 cfs)	(5 cfs)	(10 cfs)	(15 cfs)
004	Total Central Point LA	2.35	2.2	4.3	6.3
004.1	Forestry	0.52			
004.2	Agriculture	0.76	1.98	3.87	5.85
004.3	Urban	1.07	0.22	0.43	0.65
004.4	Attenuation	----	----	----	----
	TMDL	8.62			
	Loading Capacity	8.62			

006 Department's Reserve (None currently allocated)

Notes:

@ Net incremental inflows are the difference between inputs from irrigation return flows and natural flows and irrigation demands as measured at the noted reference points. Loads are calculated as Net Inflow Quantity * Criteria (0.08 mg/l) * Conversion to lbs/day. The return flow loads are proportioned at 90% to agriculture and 10% to urban on the advice of the local water quality advisory committee. These loads are to be added to the base loads as appropriate.

* The WLA for Ashland is calculated as the design flow (3 mgd) * the target criteria of 0.08 mg/l * conversion to lbs/day. This load is added to the base loads as appropriate.

LA = Load Allocation (for nonpoint sources and background)

WLA+ Wasteload Allocation (for point sources)

SCHEDULE B

[Proposed Monitoring Schedule
to be Developed in nonpoint source program plans]

Recommended Monitoring and Reporting Requirements
(final requirements will be established by permit or memorandum of agreement)

1. Ambient Monitoring. The Department and Designated Nonpoint Source Management Agencies (DMA) shall operate a receiving water monitoring program to evaluate the effectiveness of the TMDL and to guide development of any additional control strategies. The ambient monitoring program shall consist of the following:

Location	River Mile	Agency	Parameter	Minimum Frequency *	Type of Sample
Kirtland Road	0.9	DEQ	Basic/1 & Solids/2	Monthly	Grab
		"	Nutrients/3	Monthly	Grab
		"	Chloro. a	Monthly	Grab
Medford	14.4	DEQ & DMAs	Basic/1 & Solids/2	Semimonthly	Grab
		"	Nutrients/3	Semimonthly	Grab
			Chloro. a	Semimonthly	Grab
			Flow	Semimonthly	Gauge
Talent	19.0	DMAs	Basic/1 & Solids/2	Semimonthly	Grab
		"	Nutrients/3	Semimonthly	Grab
		"	Chloro. a	Semimonthly	Grab
			Flow	Semimonthly	Gauge
Valley View Rd.	21.1	DEQ & DMAs	Basic/1 & Solids/2	Semimonthly	Grab
		"	Nutrients/3	Semimonthly	Grab
			Chloro. a	Semimonthly	Grab
			Flow	Semimonthly	Gauge
Mt. Ave.	22.4	DEQ & DMAs	Basic/1 & Solids/2	Semimonthly	Grab
		"	Nutrients/3	Semimonthly	Grab
			Chloro. a	Semimonthly	Grab
			Flow	Semimonthly	Gauge
Tributaries (Ashland Cr. Emigrant Cr. Wagner Cr. Griffin Cr. Jackson Cr.)	---	DMAs	Basic/1 & Solids/2	Monthly	Grab
		"	Nutrients/3	Monthly	Grab
		"	Chloro. a	Monthly	Grab
			Flow		

Notes:

* May 1 - October 31 unless otherwise noted.

1. Basic: Water temperature, dissolved oxygen, conductivity, pH
2. Solids: Total solids, total suspended solids
3. Nutrients: NH_3-N, NO_2+NO_3-N, Total Kjeldahl Nitrogen, Total Phosphorus, Dissolved Ortho Phosphorus

DMA = Designated Managementr Agency

2. Source Monitoring. The following source monitoring program will be conducted by the Ashland STP to describe wasteloads being discharged to the Bear Creek:

Source	Parameter	Minimum Frequency	Type of Sample
Ashland STP (Outfall 001)	Total Flow (mgd)	Continuous	Recording
	Ammonia Nitrogen	Daily	Composite
	Total Kjel. Nitrogen	Daily (Jun-Sep)	Composite
	"	Weekly (Oct-May)	"
	NO_2+NO_3-N	Daily (Jun-Sep)	Composite
	"	Weekly (Oct-May)	"
	Total Phosphorus	3 days per week	Composite
	Dissolved Ortho Phosphorus	3 days per week	Composite
Bear Creek	Flow (past Outfall)	Daily	Gauge

3. Monitoring Procedures. Monitoring must be conducted according to test procedures approved under 40 CFR Part 136 unless other test procedures have been approved by the Department.

4. Reporting Procedures.

A. Monitoring results shall be reported on approved forms. The reporting period is the calendar month. Reports must be submitted to the Department by the 15th day of the following month.

B. An annual assessment report shall be prepared by the City of Ashland which describes the effectiveness of their point source control programs towards attaining water quality standards in Bear Creek. This report shall be submitted to the Department by January 1 of each year, beginning 1992, for incorporation into the statewide water quality assessment.

C. A biennial report shall be submitted by Jackson County and the incorporated cities within the Bear Creek Basin which describes the effectiveness of their nonpoint source control programs towards attaining water quality standards in Bear Creek. This report shall be submitted to the Department by January 1st on even numbered years, beginning 1992, for incorporation into the statewide water quality assessment.

D. The Department and Designated Management Agencies will use the assessment report and other information from the monitoring program to periodically evaluate the effectiveness of this TMDL. If the data indicates adjustments are needed, the TMDL will be reopened. Wasteload allocations and load allocations may be redistributed, but in no case will the final TMDL exceed the loading capacity defined for the stream.

SCHEDULE C

Compliance Conditions and Schedules

1. Program plans shall be submitted in accordance with OAR 340-41-385.

2. By December 31, 1994, unless otherwise modified in program plans adopted by the Commission, Schedule A, section 2, of this TMDL shall be implemented as defined in specific permits, memordandum or agreement or Oregon Administrative Rules.

SA\WH4072 (09/24/90)

TOTAL MAXIMUM DAILY LOAD

WATER QUALITY MANAGEMENT PLAN COMPONENT
Department of Environmental Quality
811 Southwest Sixth Avenue, Portland, OR 97204
Telephone: (503) 229-5696

Developed pursuant to ORS 468.730 and The Federal Clean Water Act

---

WATER QUALITY LIMITED SEGMENT:

Bear Creek (RM 0 - 22.4)
(Winter)

RECEIVING SYSTEM INFORMATION:

Basin: Rogue
Subbasin: Bear Creek
County: Jackson

WQ STANDARD NOT ATTAINED:

Dissolved Oxygen

APPLICABLE RULES:

OAR 340-41-362
OAR 340-41-365(A)
OAR 340-41-375(c)

TMDL PARAMETER:

Biochemical Oxygen Demand

OAR 340-41-006

SOURCES COVERED BY THIS TMDL:

Source Number	Allocation Type	Source Description
001	LA	Background + NPS
002	WLA	Ashland Sewage Treatment Plant
003	WLA	Log Pond
004	WLA	Log Pond
005	WLA	Log Pond
006	WLA	Log Pond

WATER QUALITY MANAGEMENT ACTIVITIES AND IMPLEMENTATION

Until this TMDL is modified, point source permits will be reissued as they are re-opened or expire to include limits for complying with the established waste loads. Where reduced limits are needed, compliance schedules will be specified for reaching those limits. Nonpoint sources will be addressed through specified schedules for developing and implementing needed control programs. All requirements, limitations, and conditions are set forth in the attached schedules as follows:

SCHEDULE A, Section 1

Pollutant Discharge Limits not to be Exceeded

1. Pollutant Discharge Limitations not to be exceeded prior to implementation of controls. (Interim Limits based on existing conditions prior to implementation of controls.)

MONTHLY AVERAGE BOD(5) LOAD ALLOCATIONS
November 1 - April 30
(pounds per day)

Flow Estimates used for Interim TMDL in cubic ft/sec

Est. Flow Ashland	<30*	30-40	40-60	60-80	80-120	>120	
Flow at Medford	<60	60-80	80-120	120-160	160-240	240-400	>400
Est. Flow Kirtland Rd.	<90	90-120	120-160	160-240	240-360	360-600	>600

Source Number	Source Description	BOD_5 Loads in lbs/day by Source and Flow**						
001	BKG + NPS	646	969	1293	1670	2586	3891	7185
002	Ashland STP	150	225	300	450	600	700	700
003	Log Pond	3	4.5	6	9	12	65	225
004	Log Pond	3	4.5	6	9	12	65	225
005	Log Pond	3	4.5	6	9	12	65	225
006	Log Pond	3	4.5	6	9	12	65	225
TMDL (Interim)		808	1212	1617	2156	3234	4851	8085
Loading Capacity		808	1212	1617	2156	3234	4851	8085

* Loads for <30, <60, and <90 cfs calcualted at 20, 40, and 60 cfs respectively.

** Loads based on flows shown in columes above.

NOTES:

a. The Loading Capacity of Bear Creek is based on attaining a winter seasonal median instream concentration of BOD(5) of 2.5 mg/l as measured at Kirtland Road. This value is equal to the long term median as measured at Kirtland Road. The TMDL is designed to prevent additional excessive loads until such time that the observed winter period dissolved oxygen violations are more fully addressed.

b. Loading capacities are divided into several hydrologic categories as requested by the local advisory group. A flow of 400 cfs is exceeded 5 percent of the time annually (USGS). Monthly average flows (USGS) for Bear Creek at Medford are:

November	59 cfs	February	223 cfs
December	147 cfs	March	202 cfs
January	221 cfs	April	197 cfs

c. Load allocations for log ponds were calculated with limited discharge data from Boise Cascade used to develop a cumulative frequency discharge load. It was assumed that similar loads were discharged from the other log ponds. Based on this assumption, the allocations are evenly divided amongst all log pond dischargers. The Department recognizes that modifications of loads and allocations may be necessary upon receipt and review of the required program plans.

d. Log pond dischargers include:

Name	Permit	Receiving Stream
Boise Cascade	NPDES	Elk Creek.
KOGAP	General	Hansen Cr.
MEDCO Timber Products	General	Bear Creek.

SCHEDULE B

Recommended Monitoring and Reporting Requirements
(final requirements will be established by permit)

1. Source Monitoring. The following source monitoring program shall be conducted by the Ashland STP to describe wasteloads being discharged to the Bear Creek:

Source	Parameter	Minimum Frequency	Type of Sample
Ashland STP (Outfall 001)	Total Flow (mgd)	Continuous	Recording
	Ammonia Nitrogen	Daily	Composite
	BOD(5)	Daily	Grab
	Total Kjel. Nitrogen	Weekly	Composite
	NO_2+NO_3-N	Weekly	Composite

On-going long pond monitoring requirements will be developed pursuant to program plan review.

2. Monitoring Procedures. Monitoring must be conducted according to test procedures approved under 40 CFR Part 136 unless other test procedures have been approved by the Department.

3. Reporting Procedures. Monitoring results shall be reported on approved forms. The reporting period is the calendar month. Reports must be submitted to the Department by the 15th day of the following month.

SCHEDULE C

Compliance Conditions and Schedules

1. Programs plans shall be submitted in accordance with OAR 340-41-385.

2. Log pond permittees shall conduct such studies as are necessary to characterize their discharge to Bear Creek or its tributaries and include this information in the program plans. At a minimum, this monitoring shall describe the frequency, duration and quantity of discharge, rainfall conditions that generate discharge, and the quality of the discharge. The discharge quality parameters monitored shall include, but not be limited to five-day BOD and total settleable solids.

3. The distribution of WLAs and LAs will be reviewed and reassessed based on information received in the plans submitted by the permittee. Final compliance conditions will be defined by permit.

SCHEDULE D

Special Conditions

1. A annual assessment report shall be prepared by the City of Ashland which describes the effectiveness of their point source control programs towards attaining water quality standards in Bear Creek. This report shall be submitted to the Department by January 1 of each year, beginning in 1992, for incorporation into the statewide water quality assessment.

2. The winter BOD TMDL will be reviewed using information received in plans submitted by the permittees.

TOTAL MAXIMUM DAILY LOAD

WATER QUALITY MANAGEMENT PLAN COMPONENT

Department of Environmental Quality
811 Southwest Sixth Avenue, Portland, OR 97204
Telephone: (503) 229-5696

Developed pursuant to ORS 468.730 and The Federal Clean Water Act

---

WATER QUALITY LIMITED SEGMENT:

Bear Creek (RM 0 - 22.4)

RECEIVING SYSTEM INFORMATION:

Basin: Rogue
Subbasin: Bear Creek
County: Jackson

WQ STANDARD NOT ATTAINED:

Dissolved Oxygen

APPLICABLE RULES:

OAR 340-41-362
OAR 340-41-365(A)
OAR 340-41-375(c)

TMDL PARAMETER:

Biochemical Oxygen Demand (Nitrogenous + Carbonaceous Oxygen Demands)

OAR 340-41-006

SOURCES COVERED BY THIS TMDL:

Source Number	Allocation Type	Source Description
001	LA	Emigrant Sub-area (Upstream input)
002	WLA	Ashland Sewage Treatment Plant
003	LA	Department Reserve Allocation

WATER QUALITY MANAGEMENT ACTIVITIES AND IMPLEMENTATION

Until this TMDL is modified, point source permits will be reissued, as they are re-opened or expire, to include limits for complying with the established waste loads. Where reduced limits are needed, compliance schedules will be specified for reaching those limits. Nonpoint sources will be addressed through specified schedules for developing and implementing needed control programs. All requirements, limitations, and conditions are set forth in the attached schedules as follows:

SCHEDULE A, Section 1

Pollutant Discharge Limits not to be Exceeded

1. Pollutant Discharge Limitations not to be Exceeded Prior to Implementation of Controls. (Interim Limits based on existing conditions prior to implementation of controls). Applicable through December 31, 1994.

MONTHLY AVERAGE CBOD(5) LOAD ALLOCATIONS
May 1 - November 15
(pounds per day)

Source Number	Source Description	<10 cfs*	10-15 cfs	15-30 cfs	>30 cfs
001	Upstream Input	27	54	81	162
002	Ashland STP (2 mgd)	161	161	161	161
003	Department's Reserve				
	TMDL Interim	188	215	242	232
	Loading Capacity	86	140	194	355

MONTHLY AVERAGE AMMONIA LOAD ALLOCATIONS
May 1 - November 15
(pounds per day)

Source Number	Source Description	<10 cfs*	10-15 cfs	15-30 cfs	>30cfs
001	Upstream Input	---	---	---	---
002	Ashland STP (2 mgd)	161	161	161	161
003	Department's Reserve				
	TMDL Interim	161	161	161	161
	Loading Capacity	11	18	24	45

Notes:

* Loads for <10 and >30 cfs were calculated at 5 and 30 cfs respectively.

Upstream BOD estimated at 1 mg/l.
Upstream Ammonia levels below detection of 0.02 mg/l.
Flow measured past the Ashland STP.

a. The loading capacity of Bear Creek is based on attaining a monthly median instream concentration of CBOD(5) of 2.0 and Ammonia-N of 0.25 mg/l.

b. Loading capacities are divided into four hydrologic categories based on typical flows observed between April and November 30 in Bear Creek. The ambient criteria were developed to protect the beneficial uses at the observed low flow conditions of below 10 cfs, which occurred following the irrigation season.

SCHEDULE A, Section 2

Pollutant Discharge Limits not to be Exceeded.

1. Pollutant Discharge Limitations not to be Exceeded After Implementation of Controls. (Interim Limits for the development of program plans).

MONTHLY AVERAGE CBOD(5) LOAD ALLOCATIONS
May 1 - November 15
(pounds per day)

Source Number	Source Description	<10 cfs*	10-15 cfs	15-30 cfs	>30 cfs
001	Upstream Input	27	54	81	162
002	Ashland STP (2 mgd)	59	86	113	161
003	Department's Reserve				
	TMDL Interim	86	140	194	323
	Loading Capacity	86	140	194	355

MONTHLY AVERAGE AMMONIA LOAD ALLOCATIONS
May 1 - November 15
(pounds per day)

Source Number	Source Description	<10 cfs*	10-15 cfs	15-30 cfs	>30 cfs
001	Upstream Input	---	---	---	---
002	Ashland STP (2 mgd)	45	45	45	45
003	Department's Reserve				
	TMDL Interim	11	18	24	45
	Loading Capacity	11	18	24	45

Notes:

* Loads for <10 and >30 cfs were calcualted at 5 and 30 cfs respectively.

Flow measured past the Ashland STP (Bear Creek + Ashland Creek).
Upstream BOD estimated at 1 mg/1.
Upstream Ammonia levels below detection of 0.02 mg/1.
Allocations calculated assuming 2 mgd (3 cfs) discharge from Ashland STP.

a. The loading capacity of Bear Creek is based on attaining a monthly median instream concentration of CBOD(5) of 2.0 and Ammonia-N of 0.25 mg/1.

b. Loading capacities are divided into four hydrologic categories based on typical flows observed between April and November 30 in Bear Creek. The ambient concentrations were developed to protect the beneficial uses at the observed low flow conditions of below 10 cfs which occurred following the irrigation season.

SCHEDULE B

Recommended Monitoring and Reporting Requirements
(final requirements will be established by permit)

1. Ambient Monitoring. The Department and the City of Ashland shall operate a receiving water monitoring program to evaluate the effectiveness of the TMDL and to guide development of any additional control strategies. The ambient monitoring program shall consist of the following:

Location	River Mile	Agency	Parameter	Minimum Frequency *	Type of Sample
Kirtland Road	0.9	DEQ	Basic[1] & Solids[2]	Monthly	Grab
		"	Nutrients[3]	Monthly	Grab
		"	Chloro. a	Monthly	Grab
Valley View Rd.	21.1	DEQ & Ashland	Basic[1] & Solids[2]	Semimonthly	Grab
		"	Nutrients[3]	Semimonthly	Grab
			Chloro. a	Semimonthly	Grab
Mt. Ave.	22.4	DEQ & Ashland	Basic[1] & Solids[2]	Semimonthly	Grab
		"	Nutrients[3]	Semimonthly	Grab
			Chloro. a	Semimonthly	Grab

Notes:

* May 1 - November 15 unless otherwise noted.

1. Basic: Water temperature, dissolved oxygen, conductivity, pH.
2. Solids: Total solids, total suspended solids.
3. Nutrients: NH_3-N, NO_2+NO_3-N, Total Kjeldahl Nitrogen, Total Phosphorus, Dissolved Ortho Phosphorus.

2. Source Monitoring. The following source monitoring program shall be conducted by the Ashland STP to describe wasteloads being discharged to the Bear Creek:

Source	Parameter	Minimum Frequency	Type of Sample
Ashland STP (Outfall 001)	Total Flow (mgd)	Continuous	Recording
	Ammonia Nitrogen	Daily	Composite
	BOD(5)	Daily	Grab
	Total Kjel. Nitrogen	Daily (Jun-Sep)	Composite
	"	Weekly (Oct-May)	"
	NO_2+NO_3-N	Daily (Jun-Sep)	Composite
	"	Weekly (Oct-May)	"
	Total Phosphorus	3 days per week	Composite
	Dissolved Ortho Phosphorus	3 days per week	Composite

3. Monitoring Procedures. Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been approved by the Department.

4. Reporting Procedures.

   A. Monitoring results shall be reported on approved forms. The reporting period is the calendar month. Reports must be submitted to the Department by the 15th day of the following month.

   B. A annual assessment report shall be prepared by the City of Ashland which describes the effectiveness of their point source control programs towards attaining water quality standards in Bear Creek. This report shall be submitted to the Department by January 1 of each year beginning in 1992, for incorporation into the statewide water quality assessment.

SCHEDULE C

Compliance Conditions and Schedules

1. Program plans shall be submitted in accordance with OAR 340-41-385.

2. By December 31, 1994, unless otherwise modified in program plans adopted by the Commission, Schedule A, Section 2, of this TMDL shall be implemented as defined in specific permits, memorandums of agreement or Oregon Administrative Rules.