WATERSHED WATER QUALITY REPORT SHEET

Watershed	Cottonwood
Drainage	Long Creek
Station	LCC2

Sampling Date	18-Jun-97

SAMPLER	DWG
UNIT	YSI #1

YSI Datasonde Physicochemical Data

DATE MM/DD/YY	TIME	DATE MMDDYY	TIME	TEMP C	SP COND mS/cm	DO % %	DO CONC mg/l	DEPTH m	PH	ORP mV	TDS g/l
06/18/97	10:25	61897	110955	18.68	0.412	88.3	8.23	0	8	74	0.235
06/18/97	10:25	61897	111012	18.68	0.412	88.3	8.23	0	8	74	0.235
06/18/97	10:27	61897	111231	18.7	0.412	88	8.2	0	8	75	0.235
06/18/97	10:34	61897	111910	18.86	0.411	87.8	8.15	0	8.02	75	0.236
06/18/97	10:34	61897	111946	18.87	0.411	87.7	8.14	0	8.02	75	0.236
AVERAGE				18.76	0.412	88.02	8.19	0.00	8.01	74.60	0.24

Observations		
Flow		cfs
Habitat Score		
Sky		
Wind		
Direction		
Air Temp		F

Samples Taken	Number
Nutrients	
TON/Turbidity	
Metals	
Bacti	
Solids	
Plankton	
TOC	
BMI	
CPOM	
Organics	
Crypto-Giardia	

Comments

Watershed sampling and surveillance.

Water Chemistry Profile

Constituents	HACH Method	Results
NH4-N (mg/l)	380	
NO2-N (mg/l)	371	
NO3-N (mg/l)	351	
PO4 P (mg/l)	490	
Turbidity (NTU)	2100P	
Mn (mg/l)	290	
Fe (Ferrous, mg/l)	255	
Cu (mg/l)	135	
Al (mg/l)	10	
Analysis Date	01-Jan-97	
Analyst		

Rapid Bioassessment Protocol

Habitat Assessment

Ref Sta	Score	% Comp	Rating
CWD3a	143	0.00%	
LCC2	113	0.00%	
		#DIV/0!	
		#DIV/0!	
Ideal	155	0.00%	
Analysis Date		01-Jan-97	
Analyst			

Benthic Macroinvertebrates

Metric	Ref Sta	Study Site	% Comp	Rating
MFBI				
TR				
PER CONT				
EPT				
% EPT				
EPT/CHIR				
SCFL				
HBI				
CLI				
Analysis Date		01-Jan-97		
Analyst				

Habitat Assessment Scale

> 90%	Comparable to reference	Excellent
75-88%	Supporting	Good
60-73%	Partially supporting	Fair
<58%	Not supporting	Poor

Metric Assessment Scale

Metric	Excellent	Very Good	Good	Fair	Poor
MFBI					
TR					
PER CONT					
EPT					
% EPT					
EPT/CHIR					
SCFL					
HBI					
CLI					

Schnare LCC2-169

WATERSHED WATER QUALITY REPORT SHEET

Watershed	Cottonwood
Drainage	Long Creek
Station	LCC2

Sampling Date	13-May-97

SAMPLER	DWG
UNIT	YSI #1

YSI Datasonde Physicochemical Data

DATE MM/DD/YY	TIME	DATE MMDDYY	TIME	TEMP C	SP COND mS/cm	DO % %	DO CONC mg/l	DEPTH m	PH	ORP mV	TDS g/l
05/13/97	08:33	51397	92135	15.04	0.393	88	8.85	0	8.26	112	0.207
05/13/97	08:38	51397	92717	15.09	0.392	86.4	8.68	0	8.27	112	0.207
05/13/97	08:55	51397	94425	15.33	0.392	85.9	8.59	0	8.27	116	0.208
05/13/97	09:09	51397	95745	15.55	0.392	85.9	8.55	0	8.27	120	0.209
05/13/97	09:26	51397	101505	15.85	0.391	86.2	8.52	0	8.29	125	0.21
05/13/97	09:41	51397	103028	16.12	0.391	86.2	8.47	0	8.3	129	0.211
05/13/97	09:45	51397	103411	16.19	0.392	86.1	8.45	0	8.3	130	0.212
05/13/97	09:53	51397	104220	16.35	0.391	86.2	8.43	0	8.3	132	0.212
05/13/97	09:56	51397	104517	16.4	0.391	86.3	8.43	0	8.3	133	0.213
AVERAGE				15.69	0.392	86.36	8.57	0.00	8.28	122.00	0.21

Observations		
Flow	2.86	cfs
Habitat Score	113	
Sky	Clear	
Wind	Calm	
Direction	Calm	
Air Temp	80	F

Samples Taken	Number
Nutrients	1
TON/Turbidity	1
Metals	1
Bacti	6
Solids	0
Plankton	0
TOC	0
BMI	2
CPOM	2
Organics	0
Crypto-Giardia	0

Comments

Watershed sampling and surveillance.
Illegal Immigrant Impact Project Sampling. Six Bacti samples collected over 90 minutes at 15 min. intervals upstream of assessment site.
Hester Dendy samplers (4) in place and undisturbed. Very little human or livestock activity in vicinty of assessment site.
Site characterized by dense, mature riparian vegetation dominated by Live Oaks, Sycamores, Cottonwoods and willows. Understory fairly dense. Right bank (facing upstream) unstable with nearly vertical slope. Highly erosive and subject to collapse. Substrate composed primarly of boulders and cobbles with numerous small debris dams of twigs and willow, sycamore, and oak leaves.

Made contact with Campground host and his wife. They have been in residence on site for three years.

Water Chemistry Profile

Constituents	HACH Method	Results
NH4-N (mg/l)	380	
NO2-N (mg/l)	371	0.002
NO3-N (mg/l)	351	0.05
PO4 P (mg/l)	490	
Turbidity (NTU)	2100P	
Mn (mg/l)	290	
Fe (Ferrous, mg/l)	255	
Cu (mg/l)	135	
Al (mg/l)	10	
Analysis Date:	01-Jan-97	
Analyst:		

Rapid Bioassessment Protocol

Habitat Assessment

Ref. Sta.	Score	% Comp.	Rating
CWD3a	143	79.02%	
LCC2	113	100.00%	
		#DIV/0!	
		#DIV/0!	
Ideal	155	72.90%	
Analysis Date:		01-Jan-97	
Analyst:			

Benthic Macroinvertebrates

Metric	Ref. Sta.	Study Site	% Comp.	Rating
MFBI				
TR				
PER CONT				
EPT				
% EPT				
EPT/CHIR				
SCFL				
HBI				
CLI				
Analysis Date:		01-Jan-97		
Analyst:				

Habitat Assessment Scale

> 90%	Comparable to reference	Excellent
75-88%	Supporting	Good
60-73%	Partially supporting	Fair
<58%	Not supporting	Poor

Metric Assessment Scale

Metric	Excellent	Very Good	Good	Fair	Poor
MFBI					
TR					
PER CONT					
EPT					
% EPT					
EPT/CHIR					
SCFL					
HBI					
CLI					

filename LCC2-133

YSI WATER QUALITY PROFILE REPORT SHEET

Watershed	Cottonwood	DATE	12-Mar-97	SAMPLER	DWG
Drainage	Long Canyon Creek			UNIT	YSI #1
Station	LCC2				

DATE MM/DD/YY TIME	DATE MMDDYY	TIME	TEMP C	SP COND mS/cm	DO % %	DO CONC mg/l	DEPTH m	PH	ORP mV	TDS g/l
03/12/97 09:10	31297	100453	8.06	0.378	83.2	9.82	0	8.43	193	0.166
03/12/97 09:10	31297	100541	8.04	0.38	82.7	9.77	0	8.43	193	0.167
03/12/97 09:11	31297	100628	8.02	0.329	82.4	9.74	0	8.43	192	0.144
03/12/97 09:12	31297	100720	8.02	0.382	82.2	9.71	0	8.42	192	0.168
03/12/97 09:13	31297	100802	8.02	0.38	82.1	9.7	0	8.43	192	0.167

Observations:

Flow	13.05	cfs
Sky	clear	
Wind	calm	
Direction	calm	
Air Temp	12.04	C

Samples Taken	Number
Nutrients	1
TON/Turbidity	1
Metals	1
Bacti	6
Solids	0
Plankton	0
TOC	0
BMI	1
CPOM	1
Organics	0
Crypto-Giardia	0

Comments:

Site sampled for Illegal Immigrant Impact Project. Some evidence of illegal immigrant foot traffic along creek.
Flow apparently higher than previous samplings. No apparent reason for increased flow.

follows LCC2-071

WATERSHED WATER QUALITY REPORT SHEET

Watershed	Cottonwood
Drainage	Long Canyon Creek
Station	LCC2

Sampling Date:	29-Jan-98

SAMPLER	DWG
UNIT	207002

YSI Datasonde Physicochemical Data

DATE MM/DD/YY	TIME	DATE MMDDYY	TIME	TEMP C	SP COND mS/cm	TDS g/l	DO % sat	DO CONC mg/l	Depth m	pH log units	ORP mV	Salinity ppt
01/29/98	11:24	12998	111402	6.81	366	152.0	79.80	9.72	0	8.22	176	
01/29/98	11:27	12998	111726	6.76	365	152.0	75.50	9.21	0	8.21	172	
01/29/98	11:40	12998	113003	6.78	363	151.0	80.10	9.76	0	8.21	174	
01/29/98	11:42	12998	113151	6.79	363	151.0	77.30	9.42	0	8.2	175	
01/29/98	11:47	12998	113704	6.8	363	151.0	70.70	8.61	0	8.22	177	
01/29/98	11:47	12998	113719	6.8	363	151.0	70.60	8.6	0	8.21	177	
AVERAGE				6.79	363.833	151.33	75.67	9.22	0.00	8.21	175.17	#DIV/0!

Observations		
Flow	0.77	cfs
Habitat Score	140	
Sky	cldy/rain	
Wind	1-5	
Direction	SW	
Air Temp	47.0F	C

Samples Taken	Number
Nutrients	1
TON/Turbidity	1
Metals	1
Bacti	0
Solids	0
Plankton	0
TOC	0
BMI	1
CPOM	0
Organics	0
Crypto-Giardia	0

Comments:

Water Chemistry Profile

Constituents	HACH Method	Results
NH4-N (mg/l)	380	
NO2-N (mg/l)	371	
NO3-N (mg/l)	355	
PO4 P (mg/l)	490	
Turbidity (NTU)	2100P	
Mn (mg/l)	290	
Fe (Ferrous, mg/l)	255	
Cu (mg/l)	135	
Al (mg/l)	10	
Analysis Date:		01-Jan-98
Analyst		DWG

Rapid Bioassessment Protocol

Habitat Assessment				
Ref. Sta.	Score	% Comp.	Rating	
CWD3a	143	97.90%	Good	
LCC2	113	123.89%	Excellent	
Ideal	155	90.32%	Good	
Analysis Date:			01-Jan-98	
Analyst			DWG	

Benthic Macroinvertebrates				
Metric	Ref. Sta.	Study Site	% Comp.	Rating
MFBI				
TR				
PER CONT				
EPT				
% EPT				
EPT/CHIR				
SCFL				
HBI				
CLI				
Analysis Date:		01-Jan-98		
Analyst:		DWG		

900 10/1 x = 90

1 mS/m = 10 umhos/cm)

1 uS/cm = 1 umhos/cm

Alternate LCC2-029

City of SD Files