WATER QUALITY STATUS REPORT ● REPORT NO. 71

CONANT CREEK
Fremont County, Idaho
1986

Prepared by
George Spinner

Pocatello Field Office
150 N. 3rd Avenue (Basement)
Pocatello, Idaho 83201

Department of Health & Welfare
Division of Environment
Boise, Idaho

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INTRODUCTION

Conant Creek is a major tributary of the Falls River, which eventually empties into the North Fork (Henry's Fork) of the Snake River. The Falls River and the Henry's Fork are designated as Special Resource waters by Idaho water quality standards and are protected as such. The major tributaries of Conant Creek are Squirrel Creek, Dry Creek, Bergman Ditch (which all flow through agricultural croplands), Granite Creek, Coyote Creek, Jackass Creek, Cart Creek, Rock Creek, Elk Creek and Hominy Creek (which are all located in the Targhee National Forest).

The Conant Creek watershed contains approximately 72,900 acres. Of this amount 34,800 acres are private land, most of which is used for agricultural purposes (Table 1).

Table 1:

Land Ownership and Use (Acres)

Federal Forest		38,100
Private		34,800
Dry Cropland	21,240	
Irrigated Cropland	6,600	
Wildlife	1,800	
Permanent Pasture	1,700	
Other	3,460	

The remaining 38,100 acres at the upper reaches of the watershed are in the Targhee National Forest. The watershed extends 27 miles eastward from the City of Ashton to the west boundary of Grand Teton National Park in Wyoming. The watershed is 6 miles wide at its widest point with an average width of about 5 miles along its length.

According to Soil Conservation Service reports the average annual precipitation ranges from 16 inches in the lower portions of the watershed to 21 inches in the upper portions of private owned lands. The higher elevations in the national forest range up to 35 inches. Snowpacks may contain up to 15 inches of water in the higher cropland elevations. All soils in the watershed have a silt loam surface layer. The hazard of water erosion of soils is high. There are three critical erosion periods: snowmelt, spring rains, and summer thunder showers. Frozen soil increases erosion potential on south and west slopes.

The 1983 Idaho Agricultural Pollution Abatement Plan identifies stream segments in which farmland runoff is impacting water quality. The Falls River from its source to its mouth, is a stream segment which is identified in the abatement plan as being moderately affected by sediment from agricultural lands. Conant Creek is a major tributary of the Falls River and is implicated as a major contributor of sediment.

The purpose of this study was to determine if erosion from agricultural lands adversely affects the water quality of Conant Creek and its tributaries. Because Conant Creek is a major tributary of the Falls River, the effect of Conant Creek on the Falls River was also evaluated.

Materials and Methods

Three agricultural subdrainages along Conant Creek were identified: 1. Upper Conant Creek, 2. Squirrel Creek (a tributary to Conant Creek) and, 3. Lower Conant Creek (Table 2).

Table 2:

Acres in Subdrainages

(excluding forest lands)

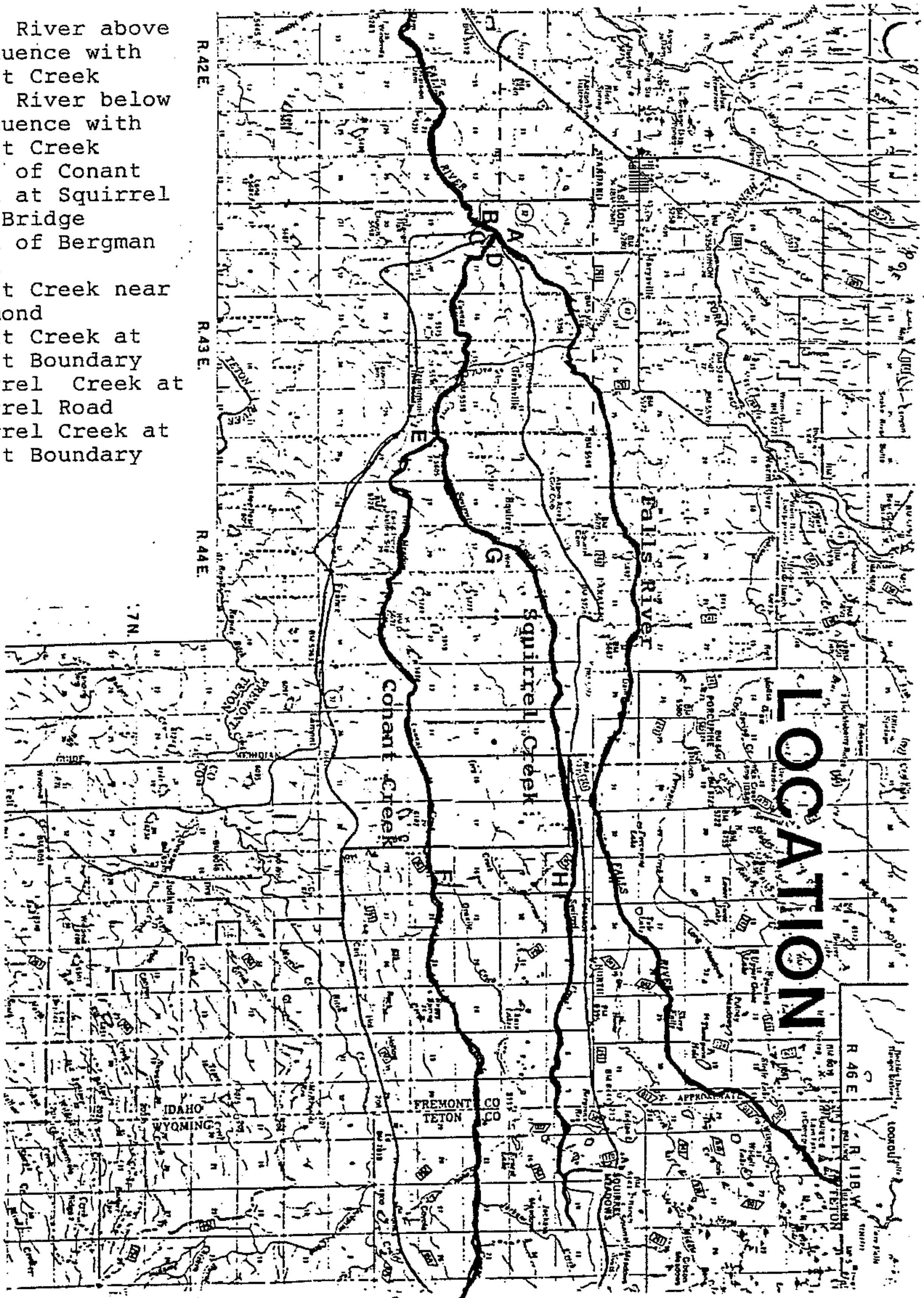
Upper Conant Creek	17,063
Squirrel Creek	11,355
Lower Conant Creek	7,526

Sampling stations were located at the head and lower end of each subdrainage. Station locations are shown in Figure1. Sampling station (E) near Drummond divided the lower Conant Creek subdrainage from the upper Conant Creek subdrainage. The Squirrel Creek Subdrainage was identified as the area above station (G), located at the crossing of Squirrel Creek and Squirrel Creek Road. Comparing water sample data would show the effect of each subdrainage. A special station was located at the mouth of Bergman Ditch. Flow in Bergman Ditch is intermittent. The drainage area is agricultural. Flow would primarily be runoff from agricultural land and would provide specific information on the characteristics of agricultural land runoff. Stations were also located above and below the confluence of Conant Creek with the Falls River. These stations were established to show the effect of Conant Creek on the Falls River.

Flows in Conant Creek were expected to increase in April. Therefore, biweekly sampling was initiated in February during low flows and continued throughout the high flow period until July 22nd.

Figure 1: Sampling Stations

A. Falls River above confluence with Conant Creek
B. Falls River below confluence with Conant Creek
C. Mouth of Conant Creek at Squirrel Road Bridge
D. Mouth of Bergman Ditch
E. Conant Creek near Drummond
F. Conant Creek at Forest Boundary
G. Squirrel Creek at Squirrel Road
H. Squirrel Creek at Forest Boundary



Two or three one liter water chemistry samples were collected at each station from the center of the stream flow and preserved with 2 ml of HNO_3 for metals, and 2 ml of H_2SO_4 for nutrient. The samples were analyzed by the Idaho Bureau of Laboratories, Boise branch. Bacteriological samples were collected in 250 ml sterile nagalene bottles and analyzed by Idaho Bureau of Laboratories, Pocatello branch. Parameters analyzed are showed in Table 3.

Table 3: **Parameters**

Parameters analyzed at each sampling period:	Storet Number
Flow	00061
Suspended Sediment	00530
Nutrients	
Total Ammonia	00610
Total Nitrate	00630
Total Kjeldahl Nitrogen	00625
Total phosphorus	00665
orthophosphorus	70507
Bacteria	
Fecal Coliform	31616
Fecal Streptococcus	31679
Minerals and Metals (Analyzed only at low and high flows:	
Hardness	00900
Sulfate	00945
Fluoride	00951
Arsenic (As)	01002

Cadmium (Cd)	01027
Chromium (Cr)	01034
Copper (Cu)	01042
Lead (Pb)	01051
Manganese (Mn)	01055
Nickel (N)	01067
Silver (Ag)	01077
Zinc (Zn)	01092

Standard collection methods were utilized throughout the study.

Results and Discussion

Discharge

Flow in Conant Creek increased predictably during the spring thaw. Measurements taken later in the study period at the forest boundary of Squirrel Creek and Conant Creek indicate that most of the flow in Conant Creek at this time was from forest land (Figure 2). Measurements taken to compare the three Conant Creek subdrainages indicate that most of the flow is from the upper Conant Creek area which includes discharge from forest lands (Figure 3). The lower Conant Creek area, which is primarily agricultural land, contributes less to total flow than the upper Conant Creek area but more than the Squirrel Creek area. The Squirrel Creek drainage, including forest lands, has the lowest discharge of the three subdrainages studied.

Figure 2: Comparison of Subdrainage Stream Flows with Flows from Forest Lands

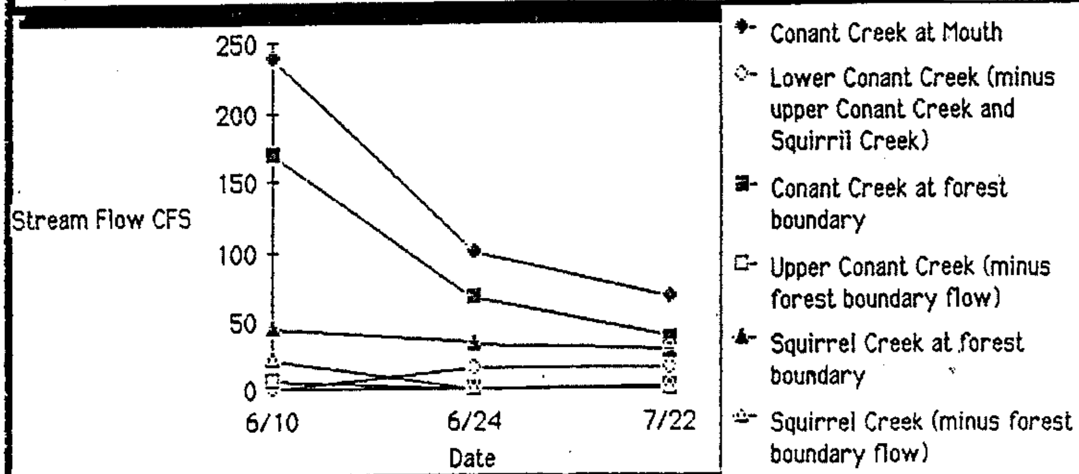
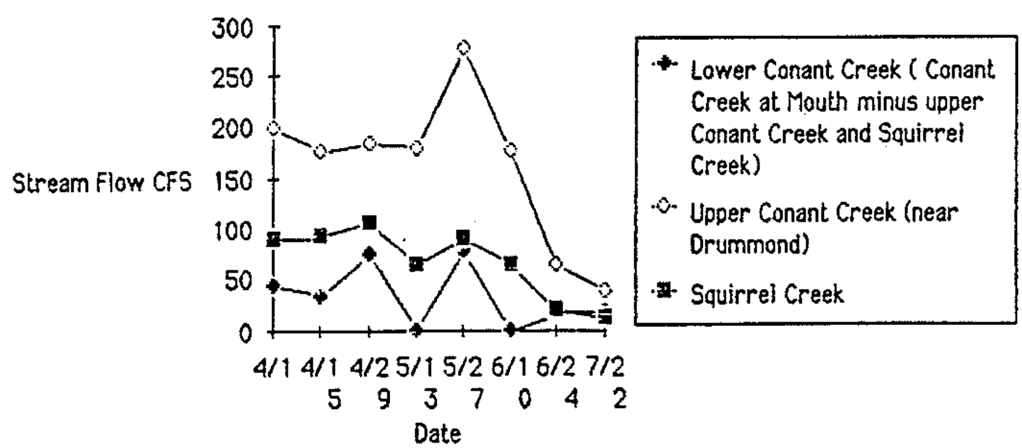


Figure 3: A Comparison of Lower Conant Creek Subdrainage Flows with Squirrel Creek and Upper Conant Creek Flows



Sediment

Samples collected later in the study period show that most of the sediment in Conant Creek is from land downstream from the forest boundary stations (Figure 4). A comparison of the three subdrainages (Figure 5) shows that the upper Conant Creek subdrainage contributes the most sediment during high flow. The lower Conant Creek subdrainage contributed the most sediment toward the end of the sample period. Squirrel Creek consistently contributed the least amount of sediment. Comparing the percentage of acres in each subdrainage (Figure 6) with the mean sediment loading (Figure 7) it is apparent that the upper Conant Creek subdrainage is contributing the greatest amount of sediment.

Nutrients

Nitrogen

Samples collected at the Conant Creek and Squirrel Creek forest stations later in the sampling period shows that nitrate concentrations are considerably higher at the mouth of Conant Creek (Figure 8). This data would indicate that most of the nitrate concentrations at the mouth of Conant Creek are from agricultural areas. Forest boundary samples also show kjeldahl nitrogen concentrations higher at the mouth of Conant Creek (Figure 9). Total ammonia concentrations were initially higher at the forest boundary stations than at the mouth of Conant Creek (Figure 10). Decomposition of forest organic material is probably forming ammonia which is then rapidly oxidized downstream. This would explain the elevated concentrations at the forest stations and the lower concentrations downstream.

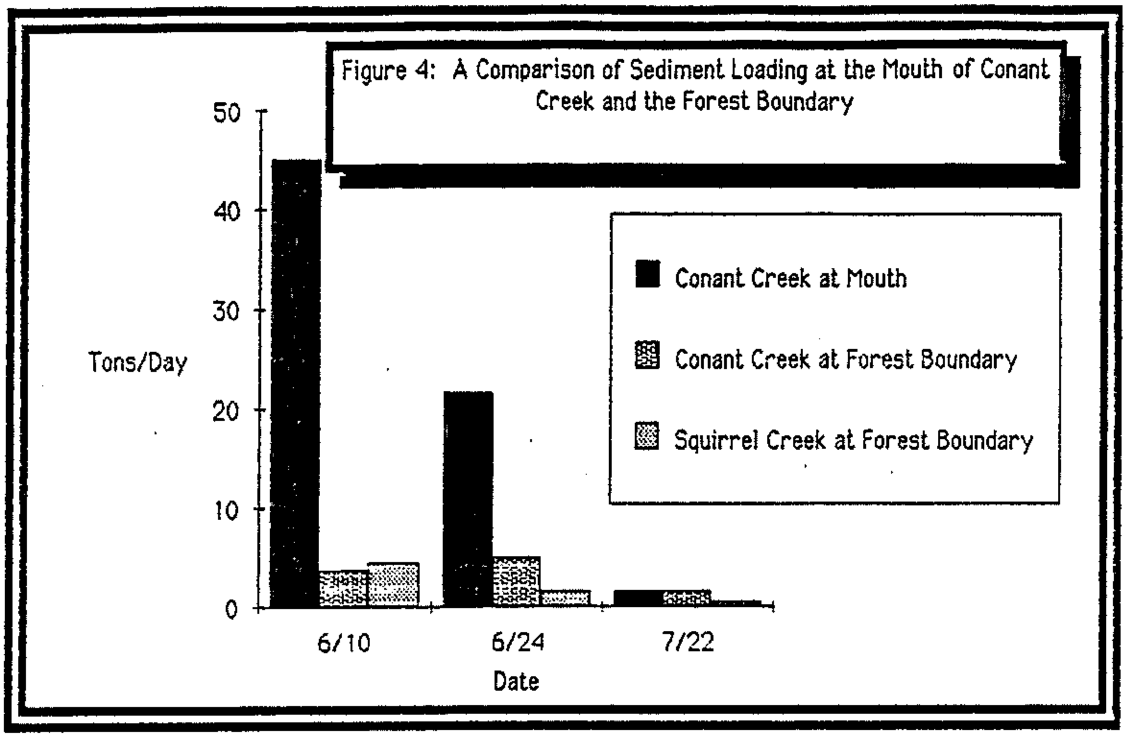


Figure 4: A Comparison of Sediment Loading at the Mouth of Conant Creek and the Forest Boundary
50
40
30
Tons/Day
20
10
0
6/10
6/24
7/22
Date
Conant Creek at Mouth
Conant Creek at Forest Boundary
Squirrel Creek at Forest Boundary

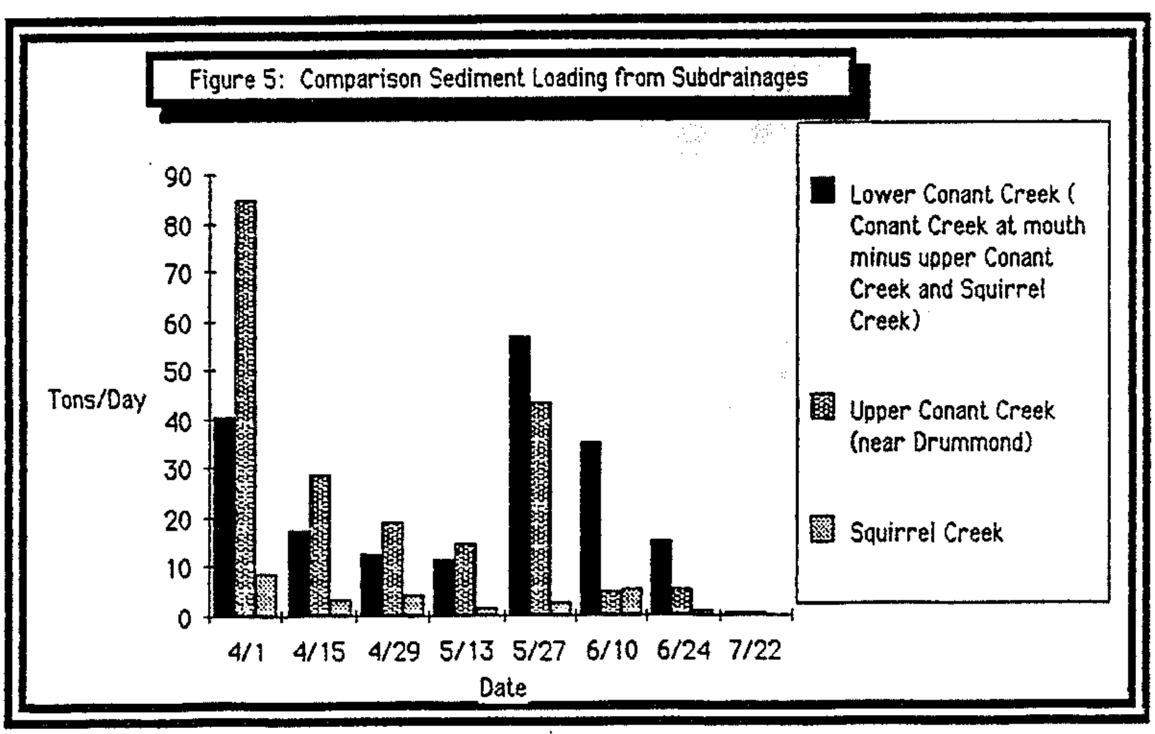


Figure 5: Comparison Sediment Loading from Subdrainages
90
80
70
60
50
Tons/Day
40
30
20
10
0
4/1
4/15
4/29
5/13
5/27
6/10
6/24
7/22
Date
Lower Conant Creek (Conant Creek at mouth minus upper Conant Creek and Squirrel Creek)
Upper Conant Creek (near Drummond)
Squirrel Creek

Figure 6: Percentage of Acres in Subdrainages (Excluding Forest Lands)

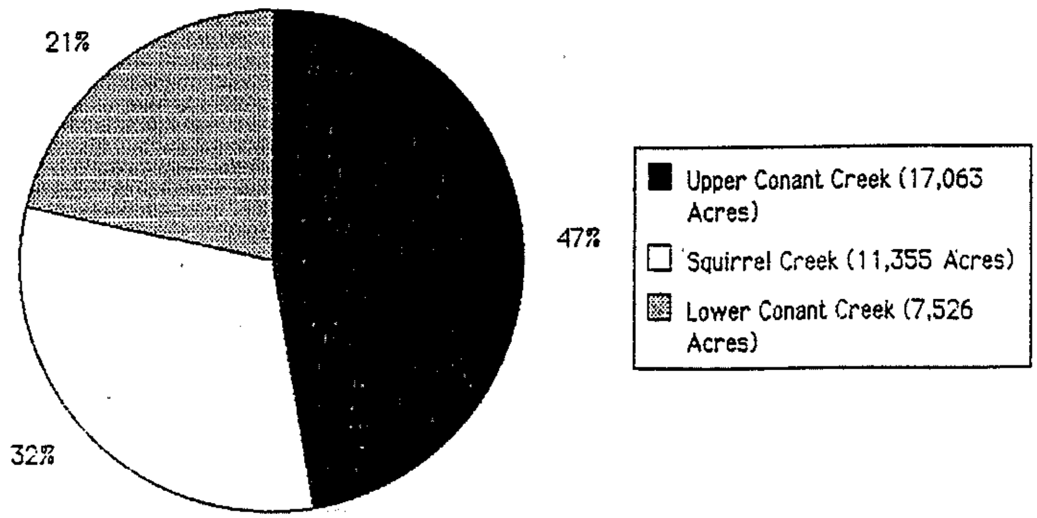
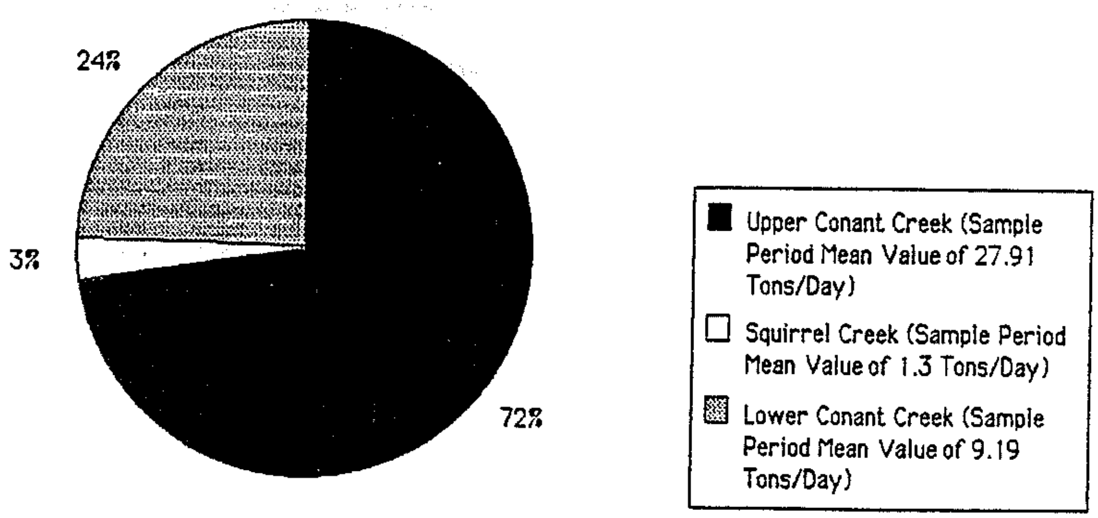


Figure 7: Sediment from Subdrainages (Excluding Suspended Sediment from Forest Lands)



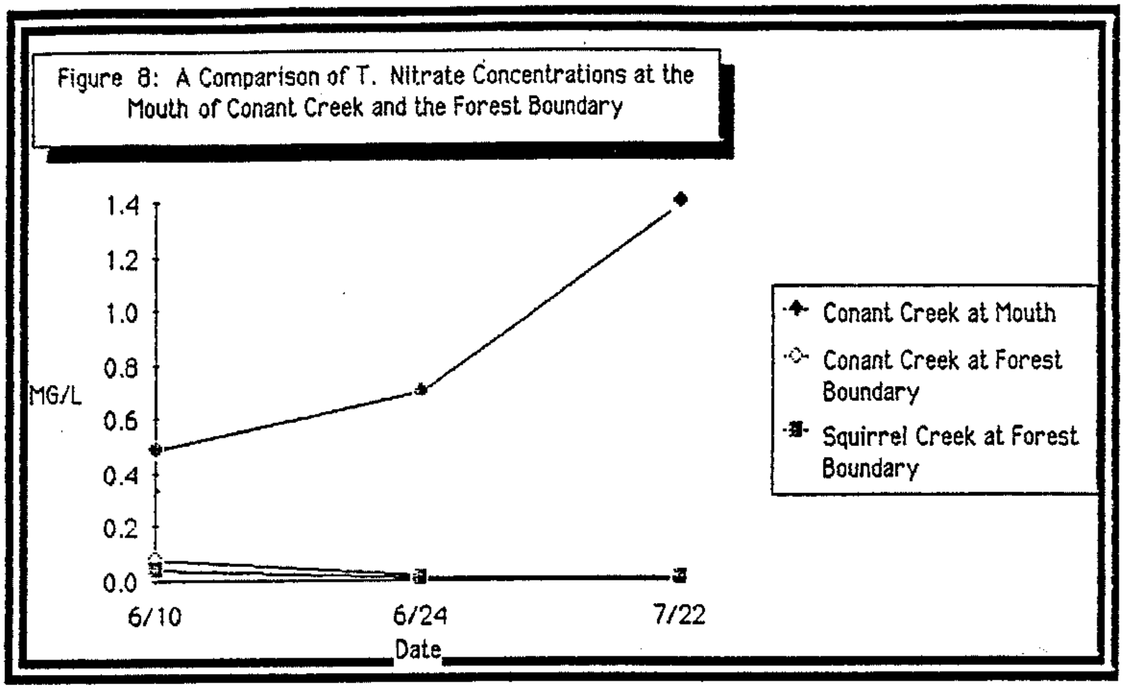


Figure 8: A Comparison of T. Nitrate Concentrations at the Mouth of Conant Creek and the Forest Boundary
1.4
1.2
1.0
0.8
MG/L
0.6
0.4
0.2
0.0
6/10
6/24
7/22
Date
Conant Creek at Mouth
Conant Creek at Forest Boundary
Squirrel Creek at Forest Boundary

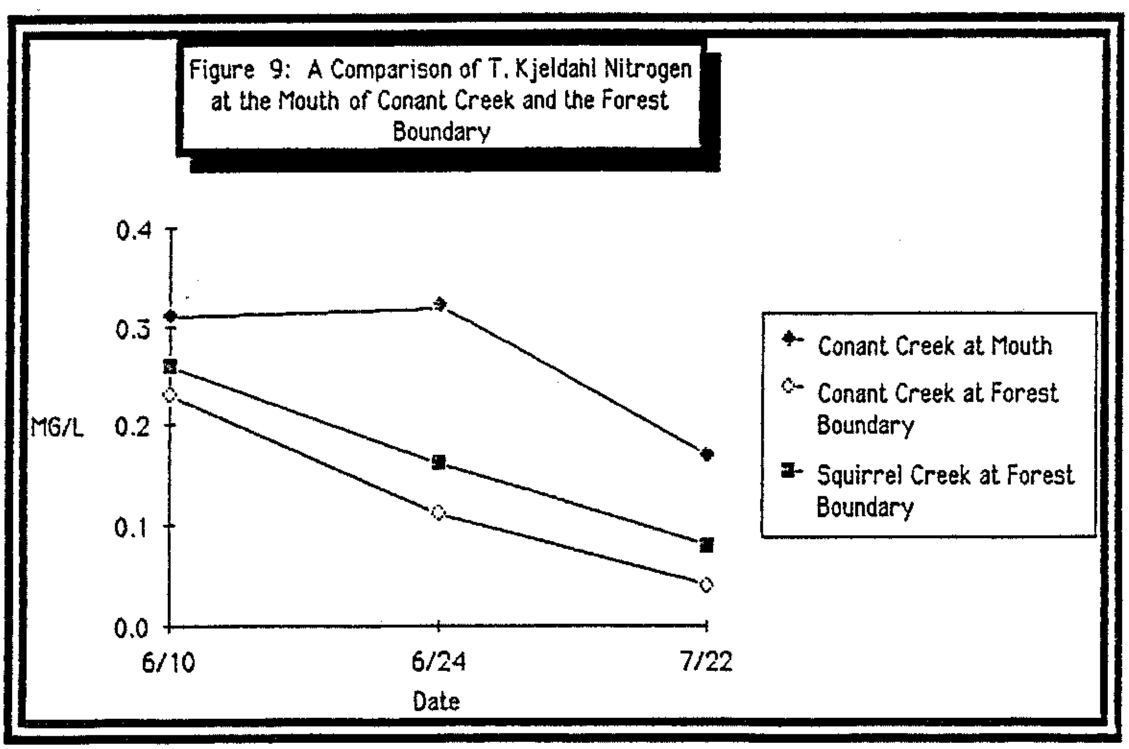
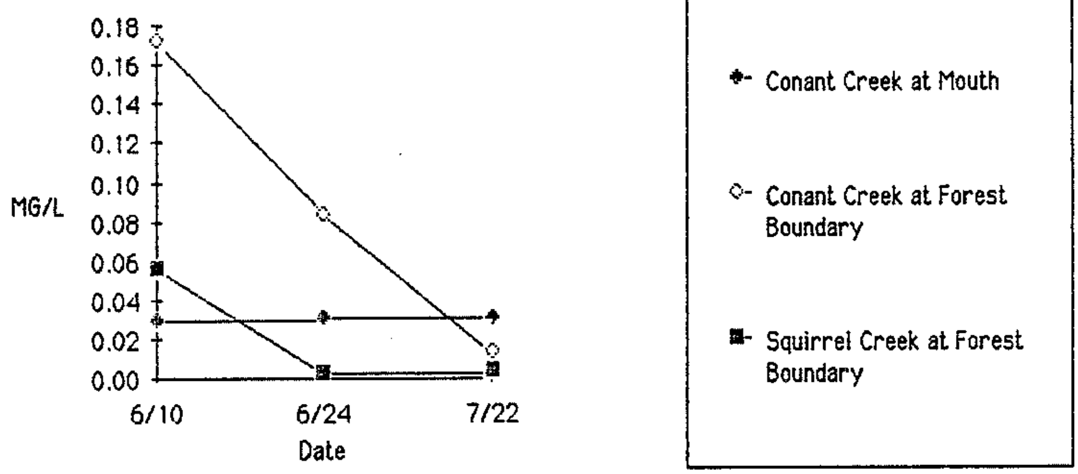


Figure 9: A Comparison of T. Kjeldahl Nitrogen at the Mouth of Conant Creek and the Forest Boundary
0.4
0.3
MG/L
0.2
0.1
0.0
6/10
6/24
7/22
Date
Conant Creek at Mouth
Conant Creek at Forest Boundary
Squirrel Creek at Forest Boundary

Figure 10: A Comparison of T. NH3 and NH4 Concentrations at the Mouth of Conant Creek and the Forest Boundary



Samples collected at the mouth of Conant Creek show that total nitrate and nitrite concentrations are consistently 0.3 mg/l or greater. A concentration greater than 0.3 mg/l is generally what is considered sufficient for the growth of nuisance aquatic vegetation (U.S. Environmental Protection Agency, 1976). Samples collected at the mouth of Conant Creek show that total NO_2 and NO_3 was the most prevalent form of nitrogen except on April 1, May 13, and May 27 when kjeldahl nitrogen concentrations were greater (Figure 11).

A comparison of samples collected from the three subdrainages indicate that all three subdrainages have, at times, elevated concentrations of total NO_2 and NO_3 (Figure 12). Total NO_2 and NO_3 concentrations in Squirrel Creek over the study period were apparently inversely related to flow (Figure 13). Concentrations were significantly greater than the 0.3 mg/l standard at low flows. Total kjeldahl nitrogen concentrations apparently are fairly consistent in Squirrel Creek. Total kjeldahl nitrogen concentrations exceeded total nitrate/nitrite concentrations at high flows on April 1, May 13, and May 27 when total NO_2 and NO_3 concentrations were low. Total ammonia concentrations were consistently low in Squirrel Creek.

Nitrogen concentrations in the upper Conant Creek subdrainage were also apparently related to flow (Figure 14). Total nitrate/nitrite concentrations were inversely related to flow. Concentrations of nitrate/nitrite were above the 0.3 mg/l standard except on May 27. Total kjeldahl concentrations apparently increased with stream flow and at high flows were greater than nitrate/nitrite concentrations. Total ammonia concentrations were consistently lower.

Figure 11: Nitrogen Concentrations at the Mouth of Conant Creek

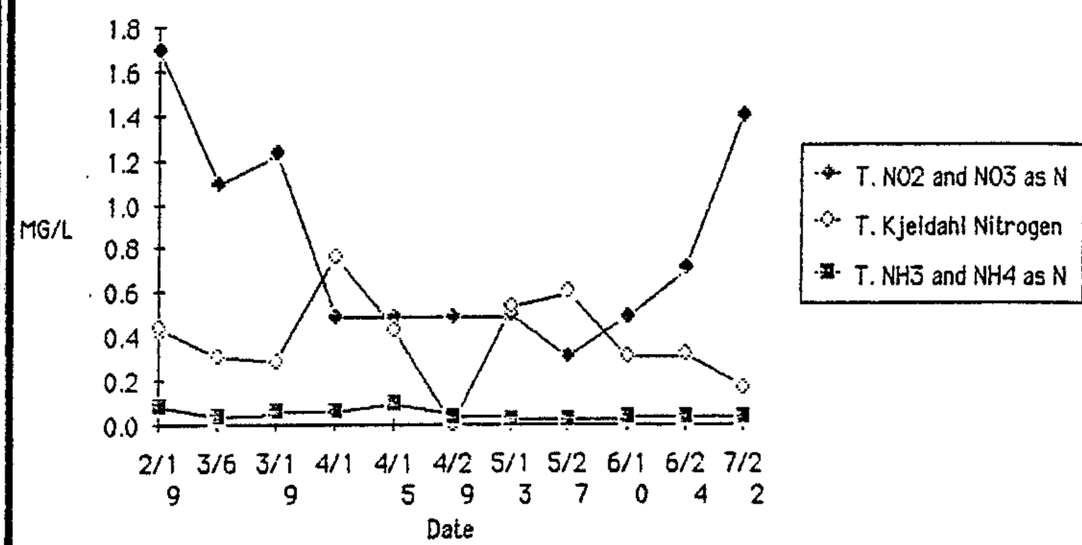


Figure 12: A Comparison of T. NO2 and NO3 Concentrations

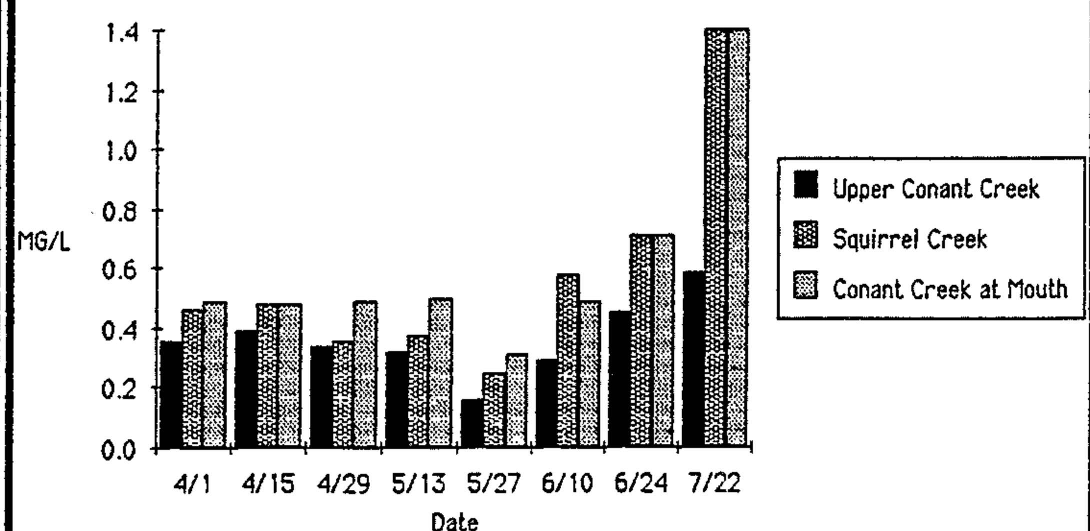


Figure 13: Nitrogen Concentrations in Squirrel Creek

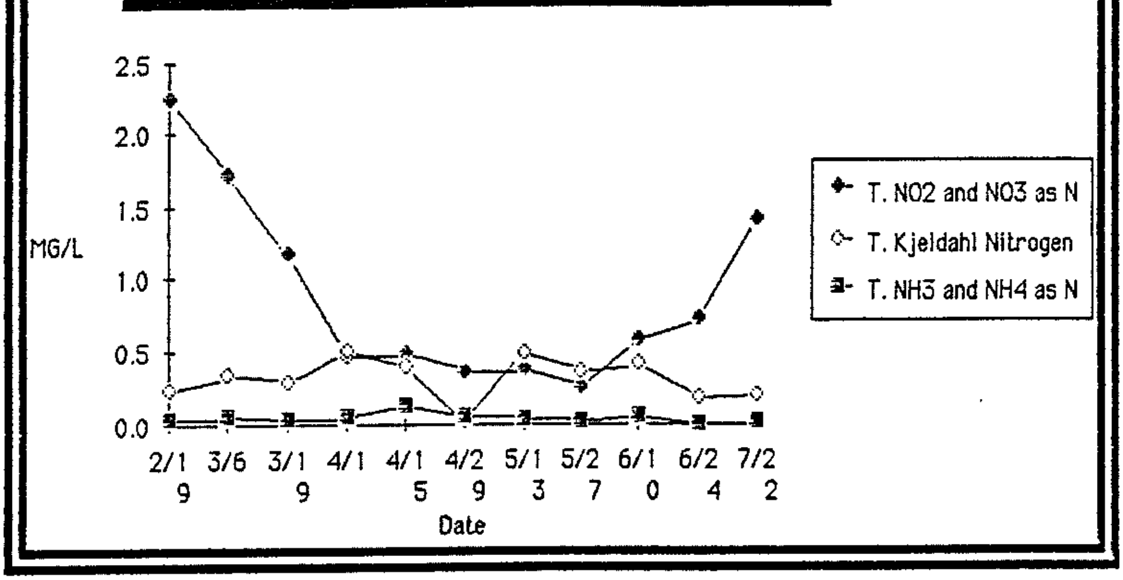
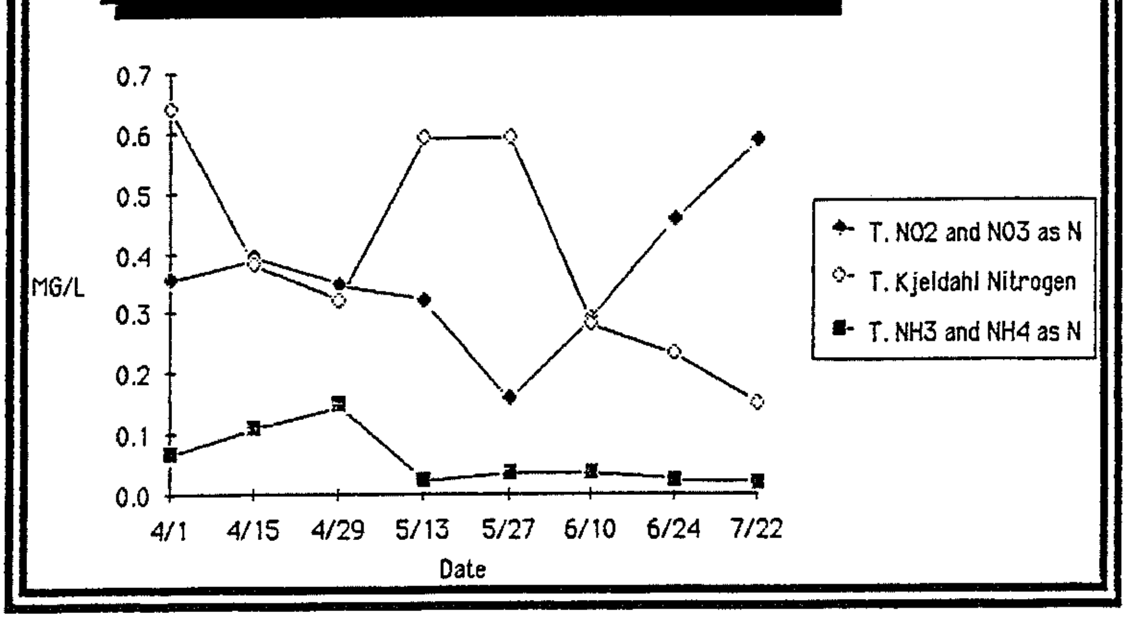


Figure 14: Nitrogen Concentrations From the Upper Conant Creek Subdrainage



Phosphorus

Samples collected at the forest stations later in the sampling period and compared to samples collected at the mouth of Conant Creek show no differences in total phosphorus concentrations (Figure 15). Samples collected from subdrainage stations earlier in the sample period do show periods of elevated phosphorus concentrations in the upper Conant Creek and lower Conant Creek subdrainages. These periods of elevated total phosphorus correspond with high flows (Figure 16).

Phosphorus concentrations at the mouth of Conant Creek show that total hydrolyzable phosphorus concentrations are less than but parallel with T. phosphorus concentrations (Figure 17). EPA studies have suggested that concentrations of total phosphorus as P. exceeding 0.1 mg/l can contribute to nuisance growth of aquatic vegetation (Mackenthun, 1973). On three sample dates total phosphorus concentrations exceeded 0.1 mg/l (April 1= 0.2 mg/l, May 13= 0.2 mg/l and May 27=0.3 mg/l). EPA studies also suggest orthophosphorus concentration exceeding 0.025 mg/l can contribute to nuisance aquatic vegetation growth. On three sample dates orthophosporus concentrations exceeded 0.025 mg/l (April 29= .027 mg/l, May 13= .042 mg/l and May 27= .034 mg/l).

Samples collected from Squirrel Creek show total phosphorus and total orthophosphorus concentrations consistently below concentrations that could encourage aquatic growth (Figure 18).

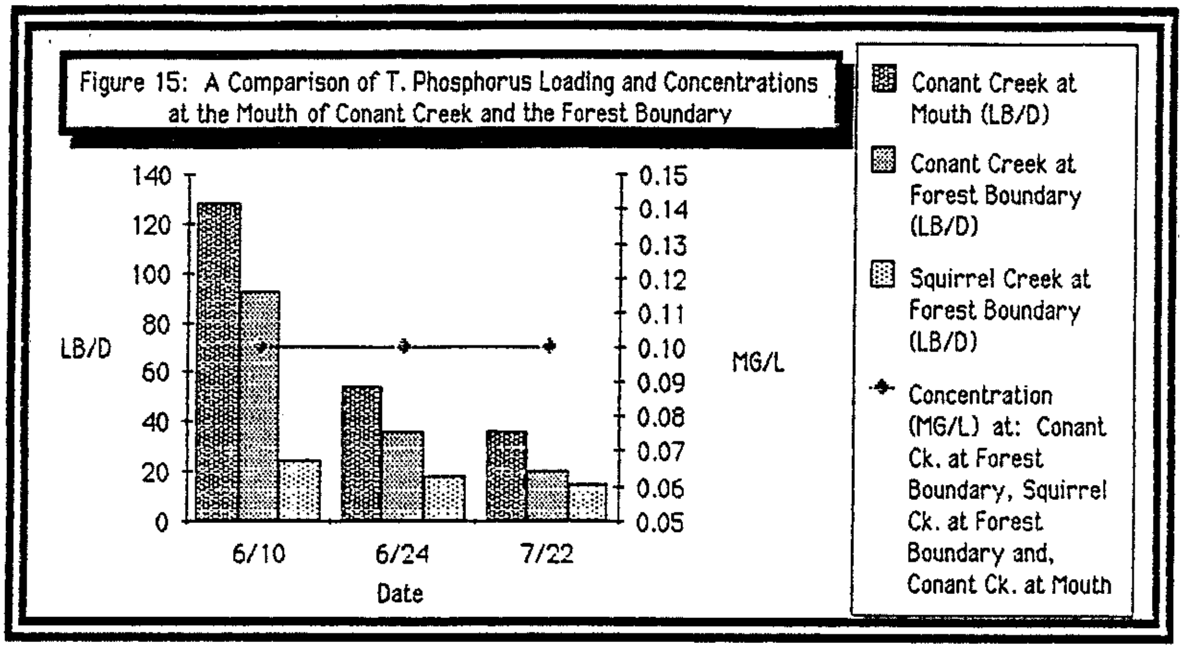


Figure 15: A Comparison of T. Phosphorus Loading and Concentrations at the Mouth of Conant Creek and the Forest Boundary
140
120
100
80
60
40
20
0
LB/D
0.15
0.14
0.13
0.12
0.11
0.10
0.09
0.08
0.07
0.06
0.05
MG/L
6/10
6/24
7/22
Date
Conant Creek at Mouth (LB/D)
Conant Creek at Forest Boundary (LB/D)
Squirrel Creek at Forest Boundary (LB/D)
Concentration (MG/L) at: Conant Ck. at Forest Boundary, Squirrel Ck. at Forest Boundary and, Conant Ck. at Mouth

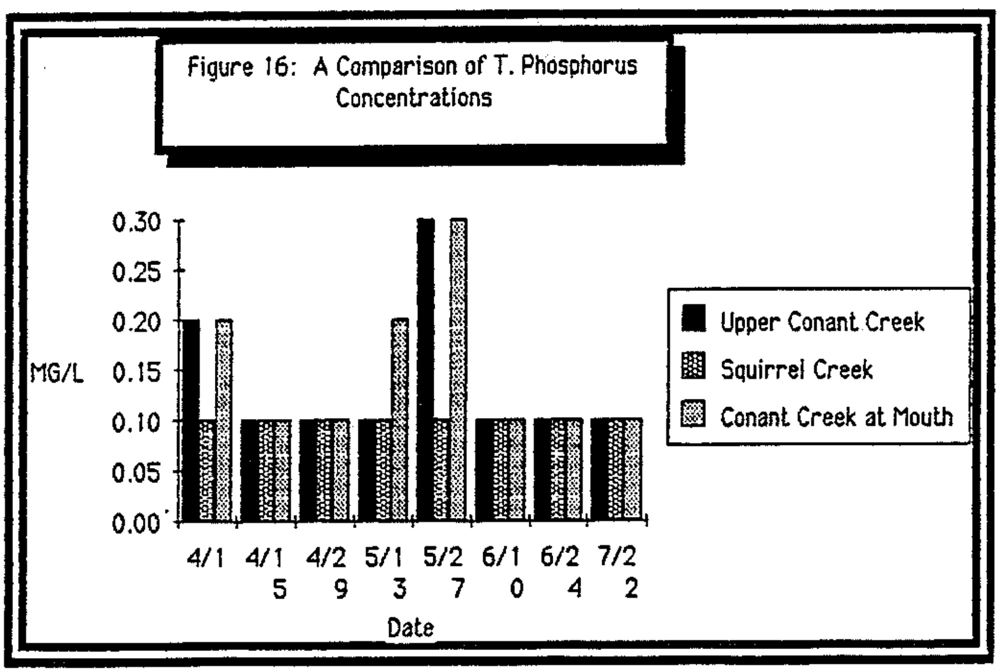


Figure 16: A Comparison of T. Phosphorus Concentrations
0.30
0.25
0.20
0.15
0.10
0.05
0.00
MG/L
4/1
4/15
4/29
5/13
5/27
6/10
6/24
7/22
Date
Upper Conant Creek
Squirrel Creek
Conant Creek at Mouth

Figure 17: Phosphorus Concentrations at the Mouth of Conant Creek

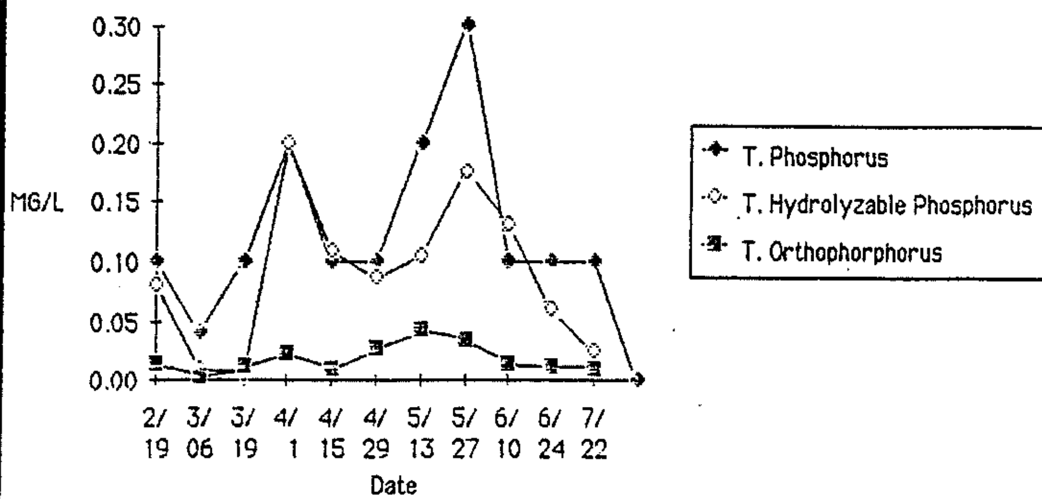


Figure 18: Phosphorus Concentrations in Squirrel Creek

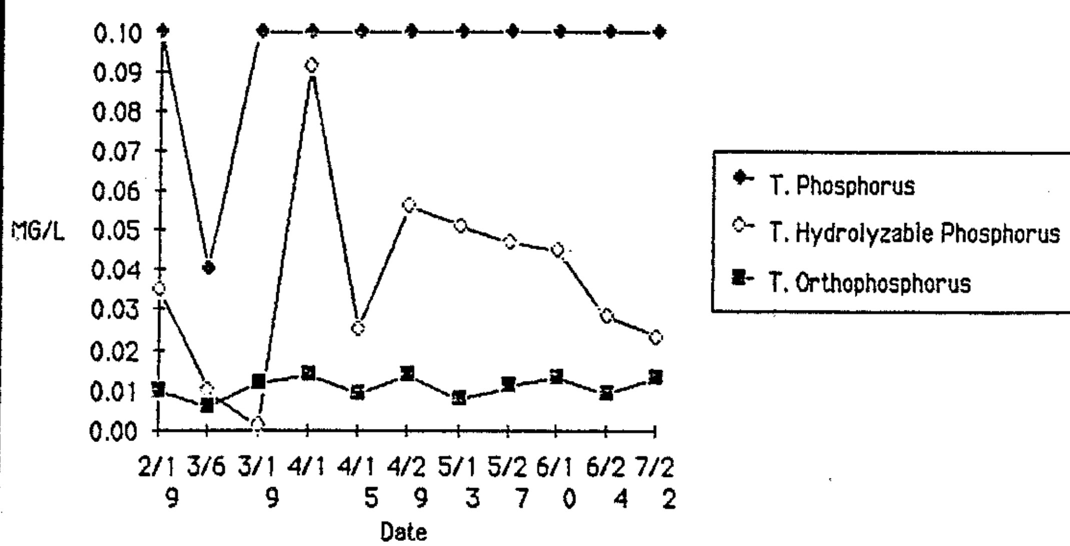
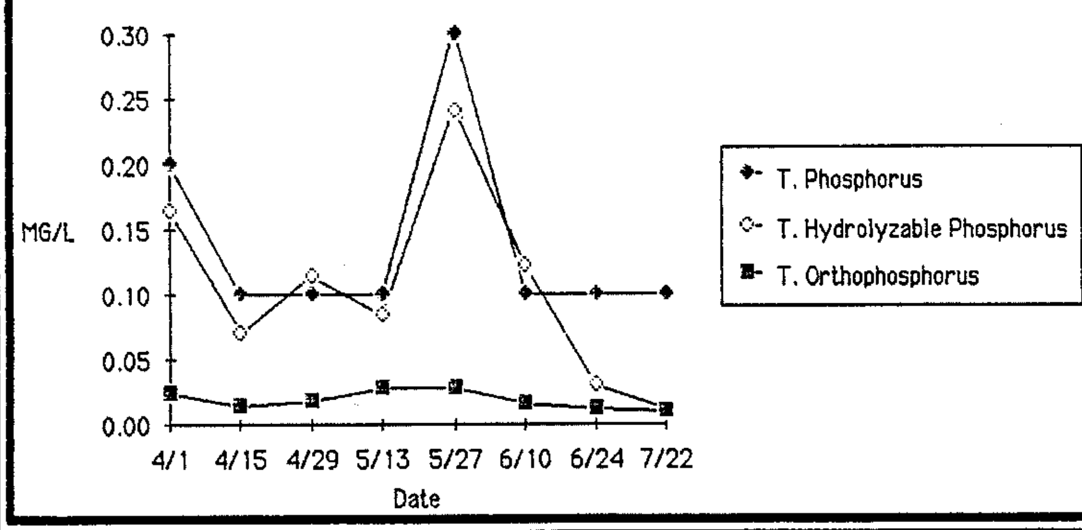


Figure 19: Phosphorus Concentrations From Upper Conant Creek Subdrainage



Samples collected from the upper Conant Creek subdrainage show total phosphorus exceeding 0.1 mg/l concentrations on two sample dates and orthophosphorus concentrations exceeding the .025 mg/l also on 2 sample dates (Figure 19).

Bacteria

Samples collected at the mouth of Conant Creek throughout the sampling period show fecal coliform numbers consistently fewer than fecal streptococcus numbers except on May 27 (Figure 20). A fecal coliform/fecal streptococcus ratio less than 0.7 is generally considered to show animal instead of human contamination (APHA, 1985). This appears to be the case in Conant Creek. Idaho Water Quality Standards and Wastewater Treatment Requirements establishes the maximum of 500 fecal coliform/100 ml of water for primary contact recreation. Conant Creek at the mouth exceeded this standard only once (May 27 - 810/100 ml).

Samples collected from Squirrel Creek show that in this subdrainage fecal coliform numbers are consistently below the Idaho standard for primary contact recreation (Figure 21). Samples collected in the upper Conant Creek subdrainage show that the Idaho standard for fecal coliform was exceeded only on May 27 (Figure 22). Other sample dates show a significant difference between fecal coliform and fecal streptococcus numbers.

Minerals and Metals

There were no unusual concentrations of minerals or metals in Conant Creek (Table 4).

TABLE 4: Comparison of Total Mineral and Metal Concentrations in Conant Creek and the Falls River

	Hardness MG/L	Sulfate MG/l	Flouride MG/L	As UG/L	Cd UG/L	Cr UG/L	Cu UG/L	Pb UG/l	Mn UG/L	N UG/L	Ag UG/L	Zn UG/L
Falls River above Conant Creek (low flow 2/19/86)	30	<7	3.2	14	<1	>50	<10	<50	<10	<50.	<1	17
Conant Creek (low flow 2/19/86)	130	8	.44	<10	>1	<50	>10	<50	30	<50.	<1	20
Falls River Down-stream Conant Creek (low flow 2/19/86)	76	<7	1.8	<10	<1	<50	<10	<50	10	<50.	<1	6
Falls River Upstream Conant Creek (High Flow 4/15/86)	24	6	1.6	10	<1	<50	<10	<50	<10	<50.	<1	<1
Conant Creek (high flow 4/15/86)	60	7	.26	<10	<1	<50	<10	<50	30	<50.	<1	<1
Falls River Down-stream Conant Creek (high flow 4/15/86)	48	6	.8	<10	<1	<50	<10	<50	10	<50.	<1	<1

Bergman Ditch

Bergman Ditch had significant variations in flow as would be expected of an intermittent stream (Figure 23). However, throughout the sampling period, the flows remained relatively low. There were sampling periods when the water in Bergman Ditch was extremely muddy. Peaks in sediment loading appeared immediately before peaks in flow. On June 24 with a flow of approximately 6 CFS, Bergman Ditch was discharging approximately 1.8 tons/day of suspended sediment. Total nitrogen concentrations in Bergman Ditch water was also extremely high at times (Figure 24). Total phosphorus and total orthophosphorus concentrations were also consistently high (Figure 25). Fecal coliform numbers however, exceeded the Idaho standard of 500/100 ml on only two occasions (Figure 26).

Falls River

Samples collected from the Falls River below the confluence with Conant Creek showed a consistently higher concentration of suspended sediment than samples collected above the confluence (Figure 27). Likewise Conant Creek had a consistent effect on Falls River with nutrient contaminants both at low flow (Figure 28) and at high flow (Figure 29). During both low flow and high flow the effect of Conant Creek caused the Falls River to exceed the standard of 0.3 mg/l total nitrate and nitrite. During low flow the effect of Conant Creek caused the Falls River to exceed the standard of 0.025 for orthophosphorus.

Fecal coliform and fecal streptococcus contamination was apparent on several sampling dates (Figures 30 and 31). However, on no sampling date did the Falls River exceed the Idaho standard for primary contact recreation.

Flow in the Falls River was considerably greater than in Conant Creek (Figure 32). Considering the dilution factor (approximately 10:1) the effect of Conant Creek is significant.

Figure 20: Bacterial Contamination at the Mouth of Conant Creek

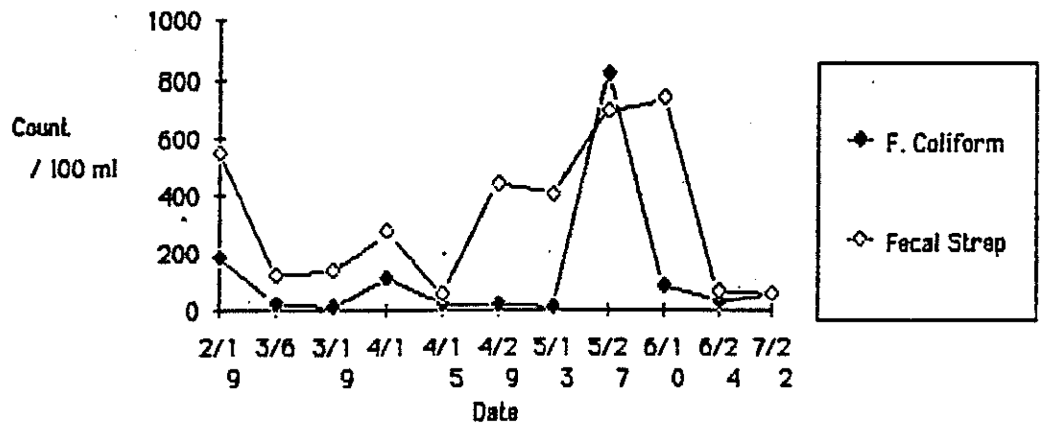
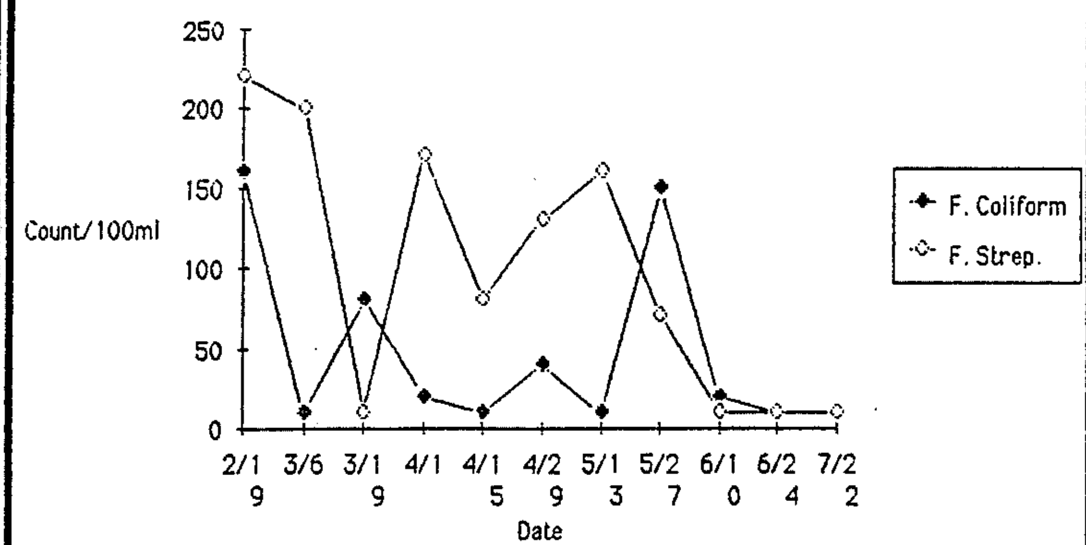


Figure 21: Bacterial Contamination in Squirrel Creek



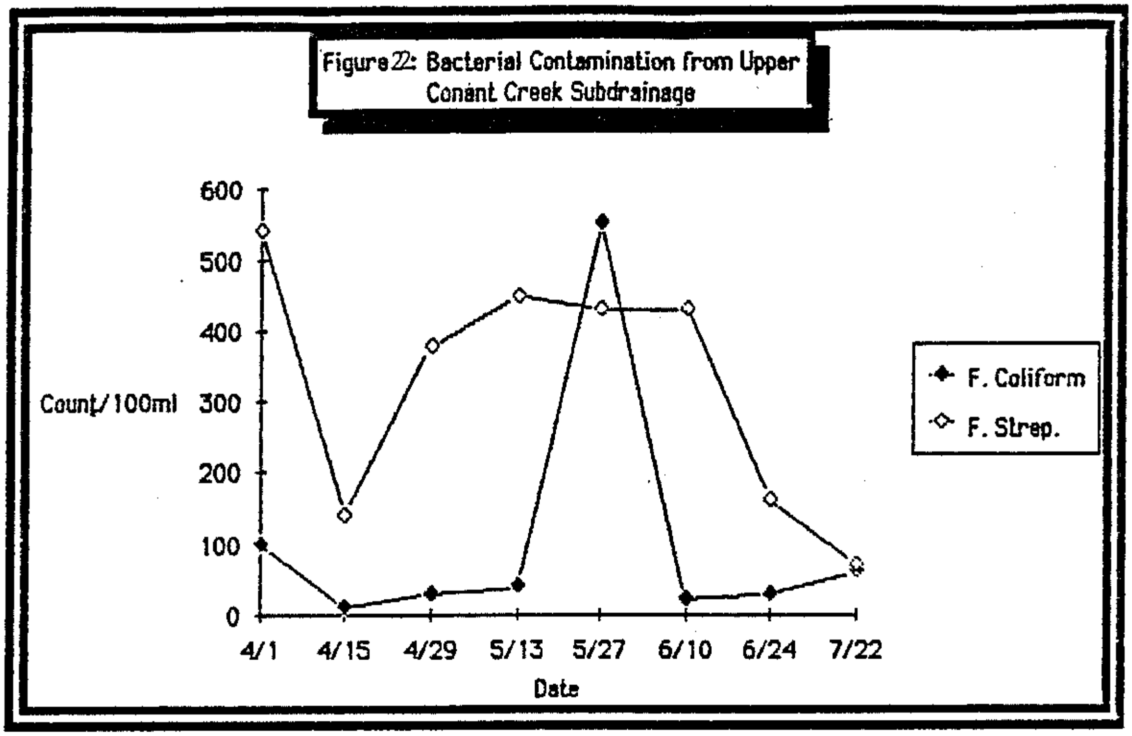


Figure 22: Bacterial Contamination from Upper Conant Creek Subdrainage
600
500
400
300
200
100
0
Count/100ml
4/1
4/15
4/29
5/13
5/27
6/10
6/24
7/22
Date
F. Coliform
F. Strep.

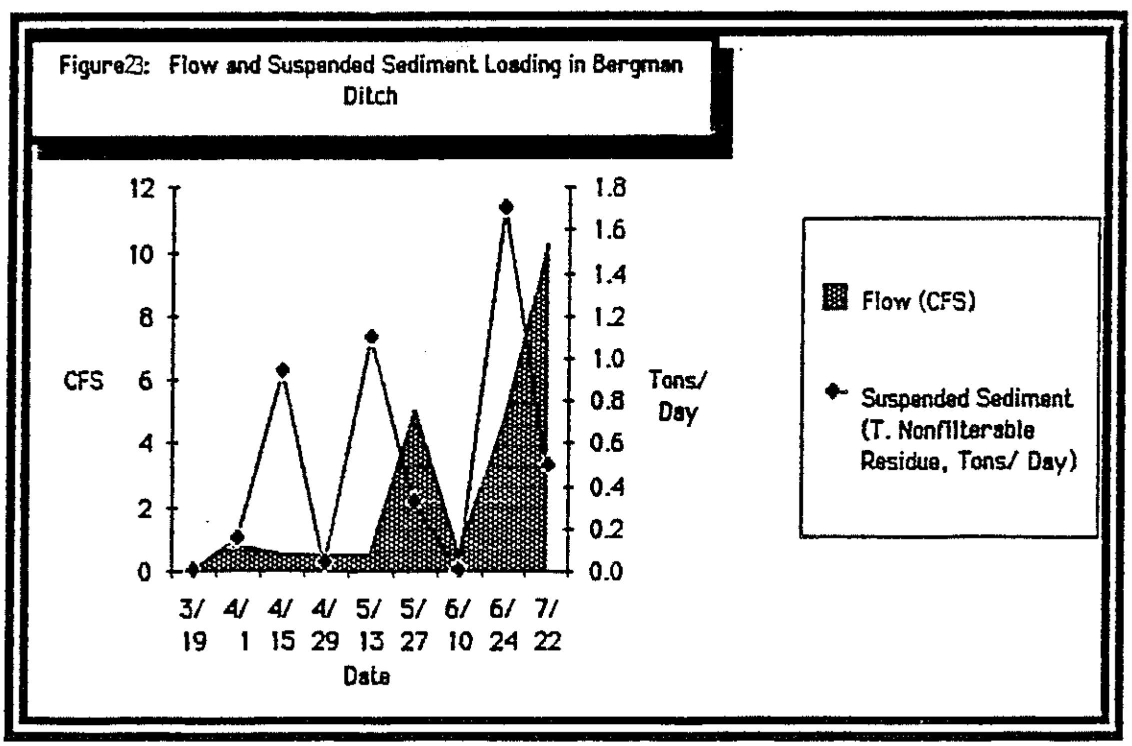


Figure 23: Flow and Suspended Sediment Loading in Bergman Ditch
12
10
8
6
4
2
0
CFS
1.8
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
Tons/ Day
3/ 19
4/ 1
4/ 15
4/ 29
5/ 13
5/ 27
6/ 10
6/ 24
7/ 22
Date
Flow (CFS)
Suspended Sediment (T. Nonfilterable Residue, Tons/ Day)

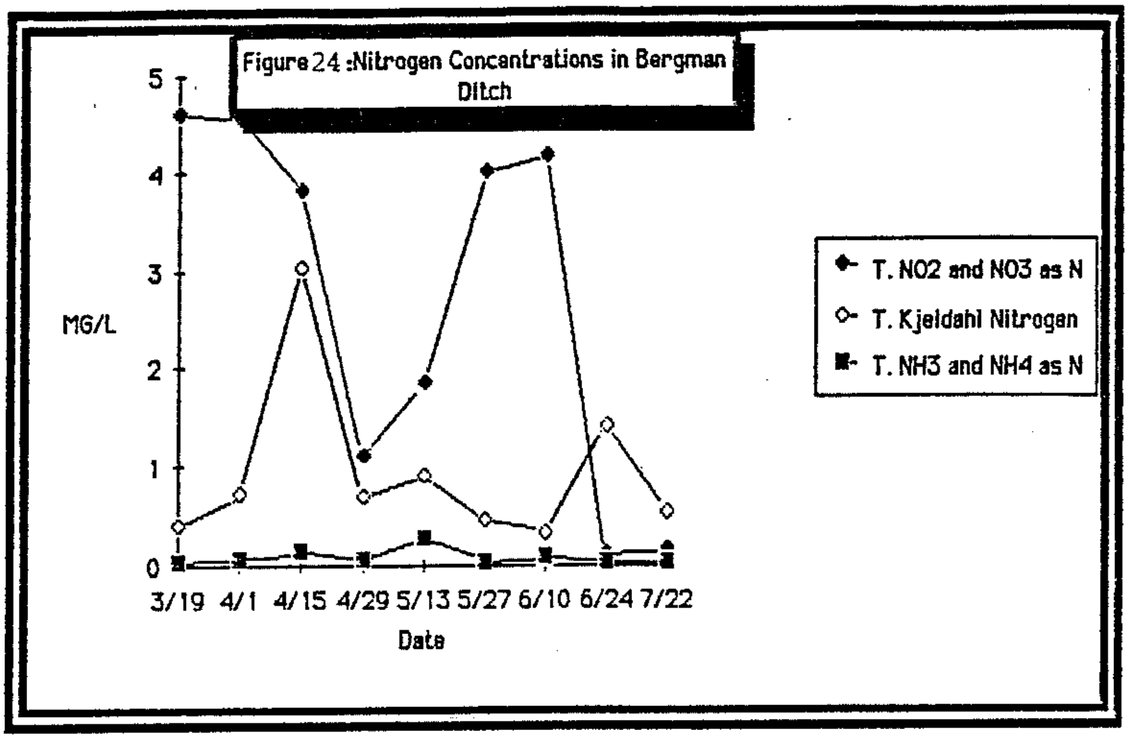


Figure 24 :Nitrogen Concentrations in Bergman Ditch
5
4
3
2
1
0
MG/L
3/19 4/1 4/15 4/29 5/13 5/27 6/10 6/24 7/22
Date
T. NO2 and NO3 as N
T. Kjeldahl Nitrogen
T. NH3 and NH4 as N

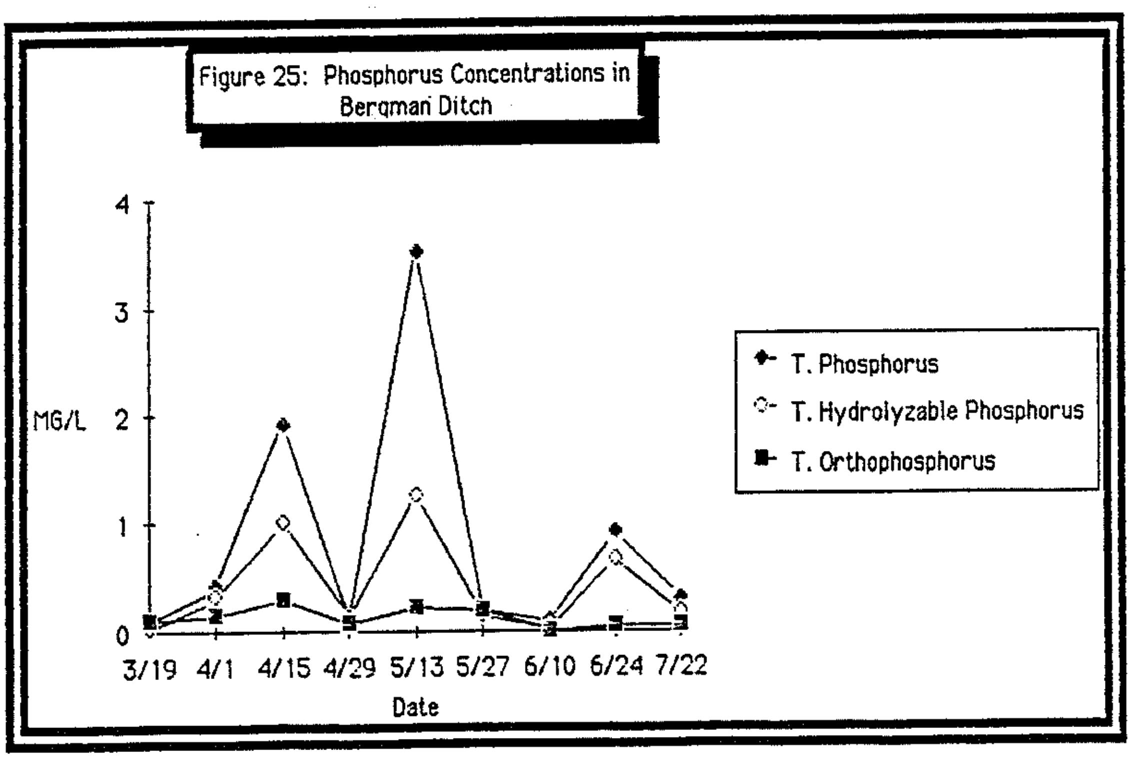


Figure 25: Phosphorus Concentrations in Bergman Ditch
4
3
2
1
0
MG/L
3/19 4/1 4/15 4/29 5/13 5/27 6/10 6/24 7/22
Date
T. Phosphorus
T. Hydrolyzable Phosphorus
T. Orthophosphorus

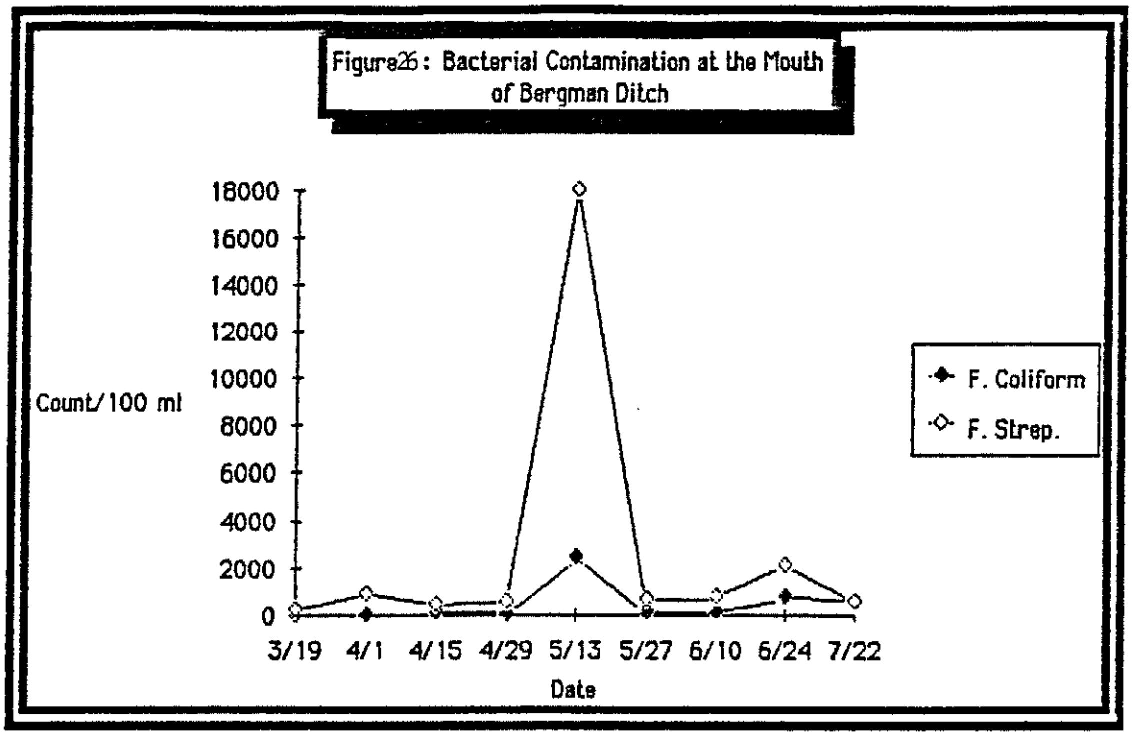


Figure26: Bacterial Contamination at the Mouth of Bergman Ditch
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
Count/100 ml
3/19 4/1 4/15 4/29 5/13 5/27 6/10 6/24 7/22
Date
F. Coliform
F. Strep.

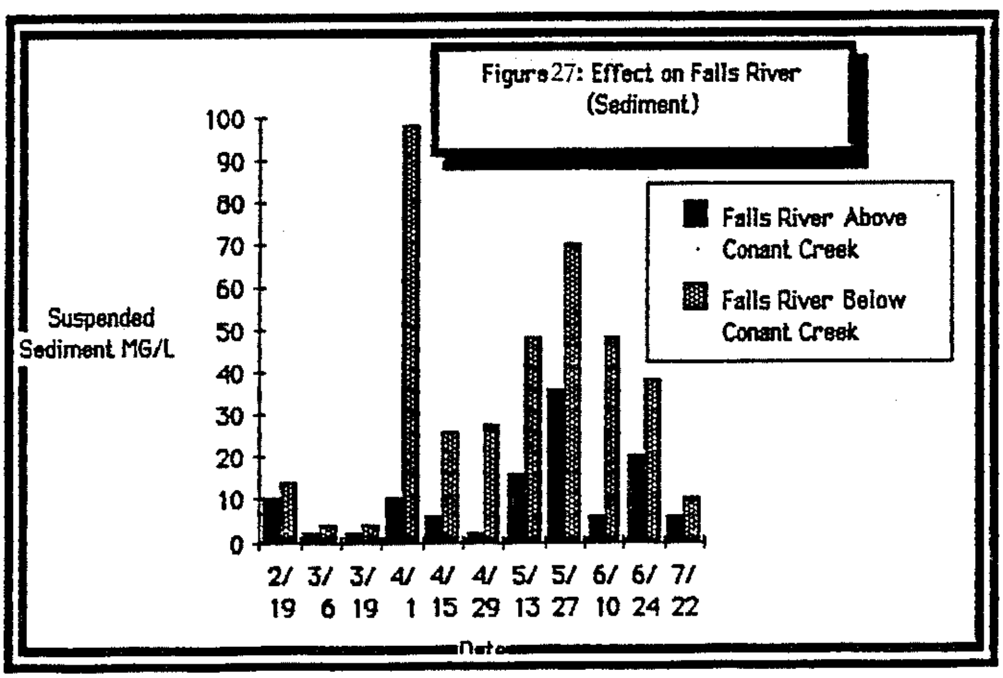


Figure27: Effect on Falls River (Sediment)
100
90
80
70
60
50
40
30
20
10
0
Suspended Sediment MG/L
2/ 19
3/ 6
3/ 19
4/ 1
4/ 15
4/ 29
5/ 13
5/ 27
6/ 10
6/ 24
7/ 22
Falls River Above Conant Creek
Falls River Below Conant Creek

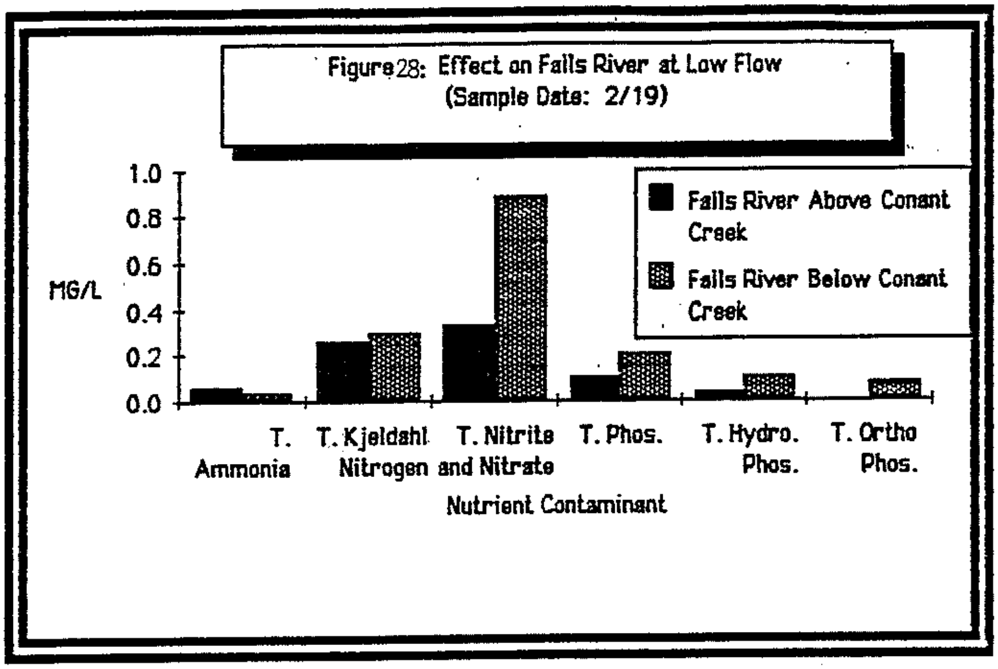


Figure 28: Effect on Falls River at Low Flow
(Sample Date: 2/19)
1.0
0.8
0.6
MG/L
0.4
0.2
0.0
Falls River Above Conant Creek
Falls River Below Conant Creek
T. Ammonia
T. Kjeldahl Nitrogen
T. Nitrite and Nitrate
T. Phos.
T. Hydro. Phos.
T. Ortho Phos.
Nutrient Contaminant

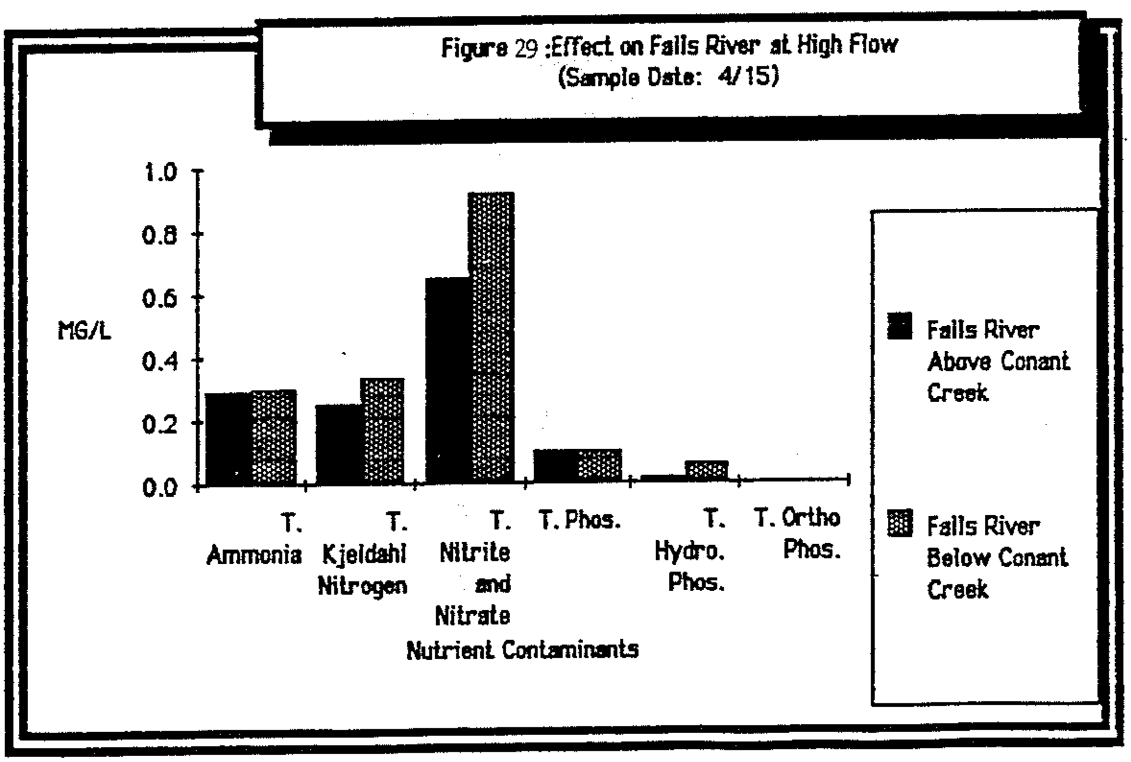


Figure 29 :Effect on Falls River at High Flow
(Sample Date: 4/15)
1.0
0.8
0.6
MG/L
0.4
0.2
0.0
T. Ammonia
T. Kjeldahl Nitrogen
T. Nitrite and Nitrate
T. Phos.
T. Hydro. Phos.
T. Ortho Phos.
Nutrient Contaminants
Falls River Above Conant Creek
Falls River Below Conant Creek

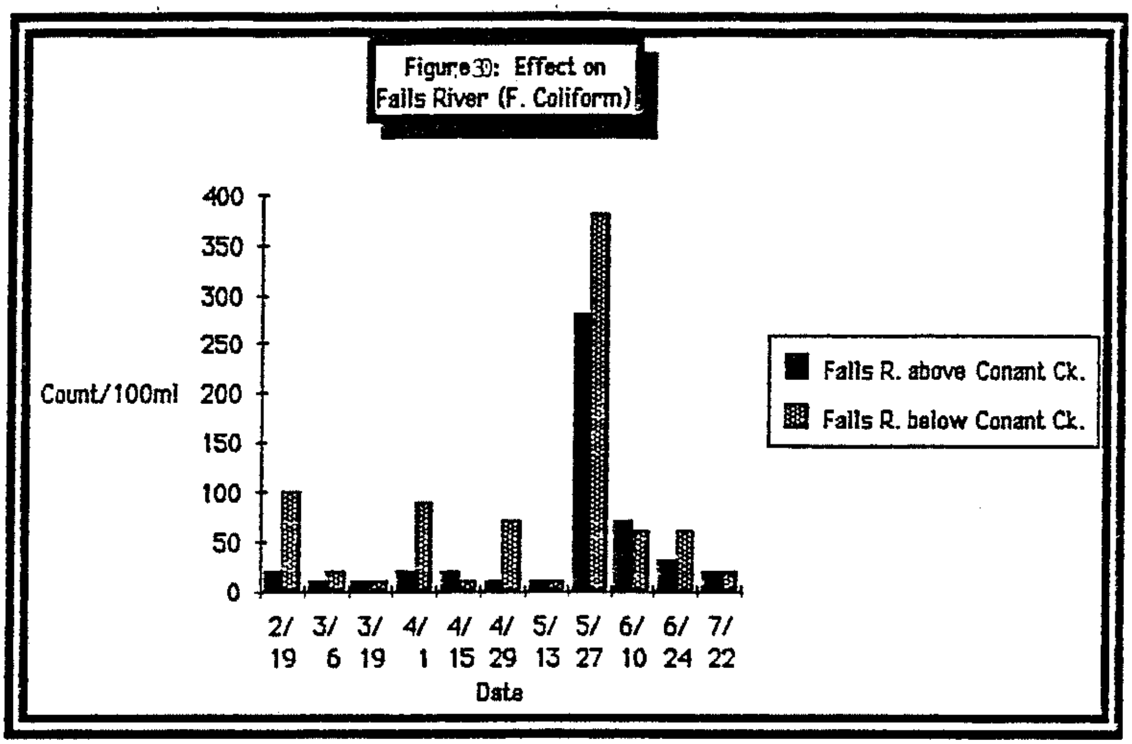


Figure 30: Effect on Falls River (F. Coliform)
400
350
300
250
200
150
100
50
0
Count/100ml
2/ 19
3/ 6
3/ 19
4/ 1
4/ 15
4/ 29
5/ 13
5/ 27
6/ 10
6/ 24
7/ 22
Date
Falls R. above Conant Ck.
Falls R. below Conant Ck.

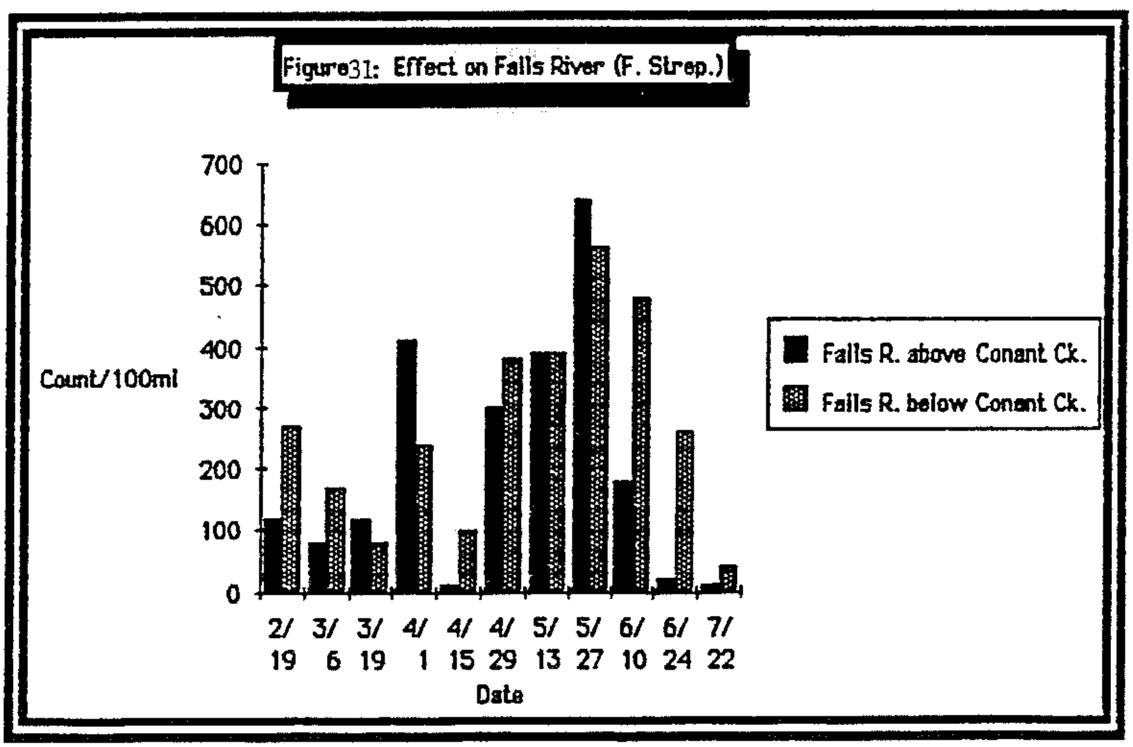
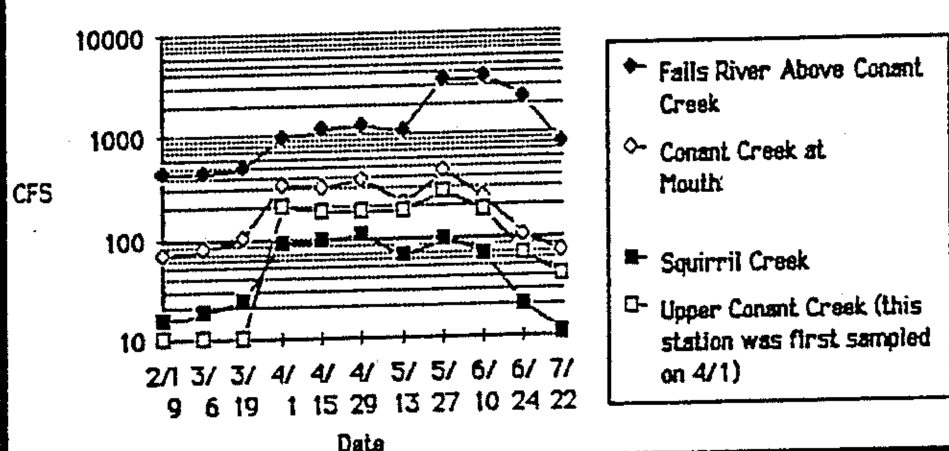


Figure 31: Effect on Falls River (F. Strep.)
700
600
500
400
300
200
100
0
Count/100ml
2/ 19
3/ 6
3/ 19
4/ 1
4/ 15
4/ 29
5/ 13
5/ 27
6/ 10
6/ 24
7/ 22
Date
Falls R. above Conant Ck.
Falls R. below Conant Ck.

Figure 32 Comparison of Falls River Flows with Conant Creek Flows



Conclusions and Recommendations

Sediment:

Water quality at the forest boundary stations was very good. Suspended sediment increased dramatically at lower elevations, apparently from agricultural lands. A disproportionate percentage of suspended sediment was from the upper Conant Creek subdrainage. Therefore efforts to reduce suspended sediment loading should be implemented first in the upper Conant Creek subdrainage. The lower Conant Creek subdrainage also showed a disproportionate percentage of suspended sediment loading but not to the extent of the upper Conant Creek drainage. Efforts should be directed in this subdrainage next. Squirrel Creek was significantly lower in suspended sediment loading than the other two subdrainages. However, the sampling station on the Squirrel Creek road did not represent the total drainage and additional loading was likely in the lower reaches of the stream. The sediment from lower Squirrel Creek would be included in samples collected at the lower Conant Creek Station. Bergman Ditch is indicative of the numerous intermittent streams draining agricultural land. The suspended sediment loading in Bergman Ditch at times was greater than 1 ton/day of suspended sediment per CFS of flow. Essentially all of the flow in Bergman Ditch was from runoff. This runoff was obviously from highly erodable ground.

Nutrients

Forest boundary stations suggest that a considerable amount of organic compounds are coming from forest lands. This would explain the concentrations of total kjedhahl nitrogen and total ammonia recorded from forest boundary samples. However, the elevated concentrations of nitrate (including nitrite form) at lower stations is probably due to agricultural related activities. Total nitrate concentrations appeared to be inversely related to stream flows in each subdrainage. Therefore, it is possible that snow melt runoff and surface erosion is not contributing to elevated nitrate concentrations. Water that has percolated through the soil profile, leaching nitrates into perched water tables, which are significant sources to Conant Creek at low flow, is a likely source of elevated nitrate concentrations. This appears to be especially true of the Squirrel Creek and lower Conant Creek areas. In all three subdrainages the use of nitrogen fertilizers should be evaluated.

Phosphorus concentrations, unlike nitrate concentrations, appear to be proportional to stream flow and sediment loading. Soil erosion during runoff periods is the likely cause of elevated phosporous concentrations. This is expected because the phosphorus ion attaches to charged soil particles and is present in organic matter. Controlling soil erosion should reduce phosphorus concentrations.

Bacteria

The fecal coliform/fecal streptococcus ratios in Conant Creek were typically less than 0.7, which would indicate that the bacterial pollution is generally from non-human sources. There were sample periods when the ratios were between 0.7 and 4.4 which may indicate wastes of mixed human and animal sources. However, there are few homes built close to the stream, so domestic sewage contamination would not be expected to be a significant source of pollution. Controlling runoff from corrals and winter feed grounds would improve Conant Creek and consequently Falls River water quality.

Stabilization of denuded stream banks and enhancement of riparian areas would not only improve the bacterial quality of the stream but also help improve general stream quality. Efforts to improve riparian areas should be implemented along Conant Creek and its tributaries in addition to efforts to control soil erosion from cultivated land.

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