

Colorado Department of Public Health and Environment

Water Quality Control Division

Benthic Macroinvertebrate Bioassessment Report

StationID:	Blue 1	Sample Date:	8/12/2021		
Waterbody Name:	Blue River				
Location:	at Blue 1				
Latitude:	39.74336	Reference Status:	Not Reference or Degraded		
Longitude:	-106.13196	BenSampID:	1	RepNum:	1
Site Classification:	2	Summer Temp:	13.26	JulianDay:	223

Predictive Model Results

O/E (p>half):

Model Test:

Multimetric Index Model Results

MMI: 33.4

Metric Name	Metric Value	Metric Score
Ephemeroptera + Plecoptera + Trichoptera taxa *:	12	53.6
Non-Insect, percent individuals:	0.6	0
Ephemeroptera + Plecoptera + Trichoptera, no Baetidae, percent individuals:	5	6.3
Coleoptera, percent individuals:	0.9	0
Intolerant, percent taxa *:	48	0
Increasers, Mid-Elevation, percent individuals:	0	0
Clinger taxa *:	10	50
Predator + Shredder taxa:	7	0
Total taxa:	25	59.5
Intolerant taxa:	12	57.1
Increasers, Mountain Trn, percent individuals:	4.4	6.1
Predator taxa:	4	30.8
Scraper, percent individuals:	1.5	3.3
Non-Insect, percent taxa:	8	0
Sprawler taxa *:	5	0
Increasers, plains, percent individuals:	0	0
Total individuals:	338	LARGE

* = score (not value) adjusted by Summer temperature or Julian day

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Water Quality Control Division

Benthic Macroinvertebrate Bioassessment Report

StationID: UBR	Sample Date: 8/12/2021
Waterbody Name: Blue River	
Location: upper Blue River	
Latitude: 39.56651	Reference Status: Not Reference or Degraded
Longitude: -106.04884	BenSampID: 10 RepNum: 1
Site Classification: 2	Summer Temp: 11.55 JulianDay: 223

Predictive Model Results

O/E (p>half):

Model Test:

Multimetric Index Model Results

MMI: 30.2

Metric Name	Metric Value	Metric Score
Ephemeroptera + Plecoptera + Trichoptera taxa *:	8	35.7
Non-Insect, percent individuals:	8.3	0
Ephemeroptera + Plecoptera + Trichoptera, no Baetidae, percent individuals:	16.2	20.4
Coleoptera, percent individuals:	6.3	0
Intolerant, percent taxa *:	38.1	0
Increasers, Mid-Elevation, percent individuals:	0	0
Clinger taxa *:	7	35
Predator + Shredder taxa:	5	0
Total taxa:	21	50
Intolerant taxa:	8	38.1
Increasers, Mountain Trn, percent individuals:	13.9	19.2
Predator taxa:	4	30.8
Scraper, percent individuals:	5.6	12.7
Non-Insect, percent taxa:	19	0
Sprawler taxa *:	3	0
Increasers, plains, percent individuals:	0	0
Total individuals:	303	LARGE

* = score (not value) adjusted by Summer temperature or Julian day

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Benthic Macroinvertebrate Bioassessment Report

StationID:	Blue 2	Sample Date:	8/12/2021		
Waterbody Name:	Blue River				
Location:	at Blue 2				
Latitude:	39.72713	Reference Status:	Not Reference or Degraded		
Longitude:	-106.1321	BenSampID:	2	RepNum:	1
Site Classification:	2	Summer Temp:	12.4	JulianDay:	223

Predictive Model Results

O/E (p>half):

Model Test:

Multimetric Index Model Results

MMI: 30.1

Metric Name	Metric Value	Metric Score
Ephemeroptera + Plecoptera + Trichoptera taxa *:	9	40.2
Non-Insect, percent individuals:	0.6	0
Ephemeroptera + Plecoptera + Trichoptera, no Baetidae, percent individuals:	4.4	5.6
Coleoptera, percent individuals:	0.9	0
Intolerant, percent taxa *:	54.5	0
Increasers, Mid-Elevation, percent individuals:	0	0
Clinger taxa *:	6	30
Predator + Shredder taxa:	6	0
Total taxa:	22	52.4
Intolerant taxa:	12	57.1
Increasers, Mountain Trn, percent individuals:	3.5	4.8
Predator taxa:	6	46.2
Scraper, percent individuals:	1.9	4.3
Non-Insect, percent taxa:	9.1	0
Sprawler taxa *:	4	0
Increasers, plains, percent individuals:	0	0
Total individuals:	316	LARGE

* = score (not value) adjusted by Summer temperature or Julian day

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Benthic Macroinvertebrate Bioassessment Report

StationID: Blue 3	Sample Date: 8/12/2021
Waterbody Name: Blue River	
Location: at Blue 3	
Latitude: 39.65595	Reference Status: Not Reference or Degraded
Longitude: -106.07685	BenSampID: 3 RepNum: 1
Site Classification: 2	Summer Temp: 10.23 JulianDay: 223

Predictive Model Results

O/E (p>half):

Model Test:

Multimetric Index Model Results

MMI: 41.4

Metric Name	Metric Value	Metric Score
Ephemeroptera + Plecoptera + Trichoptera taxa *:	13	58.1
Non-Insect, percent individuals:	4.7	0
Ephemeroptera + Plecoptera + Trichoptera, no Baetidae, percent individuals:	20.5	25.8
Coleoptera, percent individuals:	15.8	0
Intolerant, percent taxa *:	54.2	0
Increasers, Mid-Elevation, percent individuals:	0	0
Clinger taxa *:	12	60
Predator + Shredder taxa:	6	0
Total taxa:	24	57.1
Intolerant taxa:	13	61.9
Increasers, Mountain Trn, percent individuals:	27.5	38.1
Predator taxa:	3	23.1
Scraper, percent individuals:	3	6.8
Non-Insect, percent taxa:	8.3	0
Sprawler taxa *:	3	0
Increasers, plains, percent individuals:	0	0
Total individuals:	298	ok

* = score (not value) adjusted by Summer temperature or Julian day

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Benthic Macroinvertebrate Bioassessment Report

StationID: Blue 5	Sample Date: 8/12/2021
Waterbody Name: Blue River	
Location: below Dillon res	
Latitude: 39.62601	Reference Status: Not Reference or Degraded
Longitude: -106.06658	BenSampID: 4 RepNum: 1
Site Classification: 2	Summer Temp: 11.4 JulianDay: 223

Predictive Model Results

O/E (p>half):

Model Test:

Multimetric Index Model Results

MMI: 12.9

Metric Name	Metric Value	Metric Score
Ephemeroptera + Plecoptera + Trichoptera taxa *:	5	22.3
Non-Insect, percent individuals:	5	0
Ephemeroptera + Plecoptera + Trichoptera, no Baetidae, percent individuals:	1.3	1.7
Coleoptera, percent individuals:	0	0
Intolerant, percent taxa *:	54.5	0
Increasers, Mid-Elevation, percent individuals:	0	0
Clinger taxa *:	3	15
Predator + Shredder taxa:	1	0
Total taxa:	11	26.2
Intolerant taxa:	6	28.6
Increasers, Mountain Trn, percent individuals:	0.7	0.9
Predator taxa:	1	7.7
Scraper, percent individuals:	0.3	0.7
Non-Insect, percent taxa:	9.1	0
Sprawler taxa *:	2	0
Increasers, plains, percent individuals:	0	0
Total individuals:	302	LARGE

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Benthic Macroinvertebrate Bioassessment Report

StationID:	BRaFG	Sample Date:	8/12/2021		
Waterbody Name:	Blue River				
Location:	above French Gulch				
Latitude:	39.49379	Reference Status:	Not Reference or Degraded		
Longitude:	-106.04548	BenSampID:	5	RepNum:	1
Site Classification:	2	Summer Temp:	11.53	JulianDay:	223

Predictive Model Results

O/E (p>half):

Model Test:

Multimetric Index Model Results

MMI: 36.4

Metric Name	Metric Value	Metric Score
Ephemeroptera + Plecoptera + Trichoptera taxa *:	11	49.2
Non-Insect, percent individuals:	22.7	0
Ephemeroptera + Plecoptera + Trichoptera, no Baetidae, percent individuals:	7.2	9.1
Coleoptera, percent individuals:	5.4	0
Intolerant, percent taxa *:	38.5	0
Increasers, Mid-Elevation, percent individuals:	0	0
Clinger taxa *:	9	45
Predator + Shredder taxa:	8	0
Total taxa:	26	61.9
Intolerant taxa:	10	47.6
Increasers, Mountain Trn, percent individuals:	10.8	14.9
Predator taxa:	7	53.8
Scraper, percent individuals:	4.3	9.8
Non-Insect, percent taxa:	15.4	0
Sprawler taxa *:	4	0
Increasers, plains, percent individuals:	0	0
Total individuals:	278	ok

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Benthic Macroinvertebrate Bioassessment Report

StationID: BRC	Sample Date: 8/12/2021
Waterbody Name: Blue River	
Location: below Brush Cr	
Latitude: 39.8217	Reference Status: Not Reference or Degraded
Longitude: -106.20584	BenSampID: 6 RepNum: 1
Site Classification: 1	Summer Temp: 12.52 JulianDay: 223

Predictive Model Results

O/E (p>half):

Model Test:

Multimetric Index Model Results

MMI: 69.0

Metric Name	Metric Value	Metric Score
Ephemeroptera + Plecoptera + Trichoptera taxa *:	15	62.5
Non-Insect, percent individuals:	1	97.8
Ephemeroptera + Plecoptera + Trichoptera, no Baetidae, percent individuals:	49.3	67.6
Coleoptera, percent individuals:	3.1	8.1
Intolerant, percent taxa *:	51.6	84.6
Increasers, Mid-Elevation, percent individuals:	0	100
Clinger taxa *:	14	67.3
Predator + Shredder taxa:	9	64.3
Total taxa:	31	0
Intolerant taxa:	16	0
Increasers, Mountain Trn, percent individuals:	10.8	0
Predator taxa:	7	0
Scraper, percent individuals:	28.8	0
Non-Insect, percent taxa:	9.7	0
Sprawler taxa *:	5	0
Increasers, plains, percent individuals:	0	0
Total individuals:	288	ok

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Benthic Macroinvertebrate Bioassessment Report

StationID: D 5	Sample Date: 8/12/2021
Waterbody Name: Blue River	
Location: at D 5	
Latitude: 39.70545	Reference Status: Not Reference or Degraded
Longitude: -106.11062	BenSampID: 7 RepNum: 1
Site Classification: 2	Summer Temp: 11.7 JulianDay: 223

Predictive Model Results

O/E (p>half):

Model Test:

Multimetric Index Model Results

MMI: 28.7

Metric Name	Metric Value	Metric Score
Ephemeroptera + Plecoptera + Trichoptera taxa *:	8	35.7
Non-Insect, percent individuals:	0.6	0
Ephemeroptera + Plecoptera + Trichoptera, no Baetidae, percent individuals:	22.7	28.7
Coleoptera, percent individuals:	1.5	0
Intolerant, percent taxa *:	57.9	0
Increasers, Mid-Elevation, percent individuals:	0	0
Clinger taxa *:	8	40
Predator + Shredder taxa:	2	0
Total taxa:	19	45.2
Intolerant taxa:	11	52.4
Increasers, Mountain Trn, percent individuals:	4.5	6.3
Predator taxa:	2	15.4
Scraper, percent individuals:	2.7	6.2
Non-Insect, percent taxa:	5.3	0
Sprawler taxa *:	3	0
Increasers, plains, percent individuals:	0	0
Total individuals:	330	LARGE

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Benthic Macroinvertebrate Bioassessment Report

StationID: DRD	Sample Date: 8/12/2021
Waterbody Name: Blue River	
Location: near DRD office	
Latitude: 39.63651	Reference Status: Not Reference or Degraded
Longitude: -106.07419	BenSampID: 8 RepNum: 1
Site Classification: 2	Summer Temp: 10.37 JulianDay: 223

Predictive Model Results

O/E (p>half):

Model Test:

Multimetric Index Model Results

MMI: 29.8

Metric Name	Metric Value	Metric Score
Ephemeroptera + Plecoptera + Trichoptera taxa *:	10	44.7
Non-Insect, percent individuals:	6.8	0
Ephemeroptera + Plecoptera + Trichoptera, no Baetidae, percent individuals:	3.4	4.3
Coleoptera, percent individuals:	1.7	0
Intolerant, percent taxa *:	55	0
Increasers, Mid-Elevation, percent individuals:	0	0
Clinger taxa *:	10	50
Predator + Shredder taxa:	4	0
Total taxa:	20	47.6
Intolerant taxa:	11	52.4
Increasers, Mountain Trn, percent individuals:	4.1	5.6
Predator taxa:	3	23.1
Scraper, percent individuals:	4.7	10.7
Non-Insect, percent taxa:	10	0
Sprawler taxa *:	3	0
Increasers, plains, percent individuals:	0	0
Total individuals:	296	ok

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Colorado Department of Public Health and Environment

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Benthic Macroinvertebrate Bioassessment Report

StationID:	SCR	Sample Date:	8/12/2021		
Waterbody Name:	Blue River				
Location:	at Slate Creek Ranch				
Latitude:	39.78217	Reference Status:	Not Reference or Degraded		
Longitude:	-106.16035	BenSampID:	9	RepNum:	1
Site Classification:	2	Summer Temp:	12.03	JulianDay:	223

Predictive Model Results

O/E (p>half):

Model Test:

Multimetric Index Model Results

MMI: 52.6

Metric Name	Metric Value	Metric Score
Ephemeroptera + Plecoptera + Trichoptera taxa *:	14	62.6
Non-Insect, percent individuals:	2.1	0
Ephemeroptera + Plecoptera + Trichoptera, no Baetidae, percent individuals:	34.6	43.7
Coleoptera, percent individuals:	3.6	0
Intolerant, percent taxa *:	50	0
Increasers, Mid-Elevation, percent individuals:	0	0
Clinger taxa *:	13	65
Predator + Shredder taxa:	10	0
Total taxa:	34	81
Intolerant taxa:	17	81
Increasers, Mountain Trn, percent individuals:	13.7	19
Predator taxa:	8	61.5
Scraper, percent individuals:	3	6.8
Non-Insect, percent taxa:	8.8	0
Sprawler taxa *:	8	0
Increasers, plains, percent individuals:	0	0
Total individuals:	335	LARGE

* = score (not value) adjusted by Summer temperature or Julian day