

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: RE/DJP/M
 SA CODE: _____ TEMPERATURE: _____ (°C)
 NAME: Lalakea above Diversion ELEVATION: 2008 (ft.)
 DATE: 12/10/03 TIME: 1349 AM TO 1351 AM
Mo. Day Yr. (START) (STOP) PM

SUBSTRATE TYPE (%):

SEDIMENT _____ SAND _____ GRAVEL _____
 COBBLE _____ BOULDERS _____ BEDROCK 100%
 DETRITUS _____

HABITAT TYPE: SURVEY AREA (l" x w" x h"): 1m x 1m x 3cm
 POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE deep
 NO WATER DIRTY WATER

SPP: SIZE ♂ ♀ ?

Embed: 0% (All Bedrock)

(just above diversion) - weather cloudy/misty

This sheet on all elevations are estimates.

Nypf. 101 (20.08778
 155.60095)

COMMENTS:

Random No.: 4, 7

Site No.: 1

DIVISION OF AQUATIC RESOURCES
 GRH 2/02

J. L. DARLING CORP.
 www.DarlingTheRain.com

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: RE/DJP/M
 HSA CODE: _____ TEMPERATURE: _____ (°C)
 NAME: Lalakea above Diversion ELEVATION: 2010 (ft.)
 DATE: 12/10/03 TIME: 1406 AM TO 1408 AM
Mo. Day Yr. (START) (STOP) PM

SUBSTRATE TYPE (%):

SEDIMENT _____ SAND _____ GRAVEL _____
 COBBLE _____ BOULDERS _____ BEDROCK 100%
 DETRITUS _____

HABITAT TYPE: SURVEY AREA (l" x w" x h"): 1m x 1m x 2cm
 POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE deep
 NO WATER DIRTY WATER

SPP: SIZE ♂ ♀ ?

Embed: 0%
 GPS Coord. N 20.08761°
 W 155.60081°
 Waypoint 102

COMMENTS:

Random No.: 7, 8

Site No.: 2

DIVISION OF AQUATIC RESOURCES
 GRH 2/02

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: KE/DJP/MMM
 HSA CODE: - - - TEMPERATURE: - (°C)
 NAME: Lalakea above Diversion ELEVATION: 2028 (ft.)
 DATE: 12 / 10 / 03 TIME: 1416 AM TO 1417 AM
Mo. Day Yr. (START) PM (STOP) PM

SUBSTRATE TYPE (%):

SEDIMENT - SAND - GRAVEL -
 COBBLE - BOULDERS - BEDROCK -
 DETRITUS -

HABITAT TYPE:

SURVEY AREA (l" x w" x h"): 1m x 1m x 0

POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE
NO WATER DIRTY WATER

SPP: SIZE ♂ ♀ ?

on side of stream, Ginger area of bankful
 20%_B

Waypoint 103
 N 20.08749°
 W 155.60104°

COMMENTS:

Random No.: 6, 1

DIVISION OF AQUATIC RESOURCES
 GRH 2/02

check elevations
 for this date.

Site No.: 3

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: KE/DJP/MMM
 HSA CODE: - - - TEMPERATURE: - (°C)
 NAME: Lalakea above Diversion ELEVATION: 3 (ft.)
 DATE: 12 / 10 / 03 TIME: 1425 AM TO 1427 AM
Mo. Day Yr. (START) PM (STOP) PM

SUBSTRATE TYPE (%):

SEDIMENT - SAND - GRAVEL -
 COBBLE - BOULDERS - BEDROCK 100%
 DETRITUS -

HABITAT TYPE:

SURVEY AREA (l" x w" x h"): 1m x 1m x 24in

POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE
 NO WATER DIRTY WATER

SPP: SIZE ♂ ♀ ?

No insects

0% embed' - huge boulders & rocks
 Waypoint 104
 N 20.08748°
 W 155.60130°

COMMENTS:

Random No.: 4, 9

DIVISION OF AQUATIC RESOURCES
 GRH 2/02

Site No.: 4

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: RE/DSP/mkm
 SA CODE: _____ TEMPERATURE: _____ (°C)
 NAME: lalakea above diversion ELEVATION: _____ (ft.)
 DATE: 12/10/03 TIME: 1430 AM TO 1432 AM
Mo. Day Yr. (START) PM (STOP) PM
 SUBSTRATE TYPE (%):
 SEDIMENT _____ SAND _____ GRAVEL _____
 COBBLE _____ BOULDERS 100% BEDROCK _____
 DETRITUS _____
 HABITAT TYPE: SURVEY AREA (l" x w" x h"): 1m x 1m x 16in depth
 POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE
 NO WATER DIRTY WATER
 PP: SIZE ♂ ♀ ?

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: RE/DSP/mkm
 HSA CODE: _____ TEMPERATURE: _____ (°C)
 NAME: lalakea above diversion ELEVATION: _____ (ft.)
 DATE: 12/10/03 TIME: 1436 AM TO 1438 AM
Mo. Day Yr. (START) PM (STOP) PM
 SUBSTRATE TYPE (%):
 SEDIMENT _____ SAND _____ GRAVEL _____
 COBBLE _____ BOULDERS 50% BEDROCK 50%
 DETRITUS _____
 HABITAT TYPE: SURVEY AREA (l" x w" x h"): 1m x 1m x 20in
 POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE
 NO WATER DIRTY WATER
 SPP: SIZE ♂ ♀ ?

No insects

0% embedded

Waypoint 106
 N 20,087230
 W 155.60147
 COMMENTS:

Waypoint 105
 N 20,08731
 W 155,60146
 COMMENTS:

Random No.: 4, 8

Site No.: 5

Random No.: 3, 1

Site No.: 6

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: RE/DJP/MMM
 SA CODE: _____ TEMPERATURE: _____ (°C)
 NAME: lalakea above diversion ELEVATION: 2040 (ft.)
 DATE: 12 110 103 TIME: 1441 AM TO 1443 AM
Mo. Day Yr. (START) PM (STOP) PM

SUBSTRATE TYPE (%):

SEDIMENT _____ SAND _____ GRAVEL _____
 COBBLE _____ BOULDERS 50% BEDROCK 50%
 DETRITUS _____

HABITAT TYPE: SURVEY AREA (l" x w" x h"): 1m x 1m x 8in
 POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE
 NO WATER DIRTY WATER

PP: SIZE ♂ ♀ ?

~~Also insects~~

collected insects.

0% embed

Waypoint 107
 N 20.08718°
 W 155.60153°

COMMENTS: 2, 3
 Random No.: 7, 8

DIVISION OF AQUATIC RESOURCES
 RH 2/02

J. L. DARLING CORP.
 www.DarlingData.com

Site No.: 7

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: RE/DJP/MMM
 HSA CODE: _____ TEMPERATURE: _____ (°C)
 NAME: lalakea above diversion ELEVATION: 2050 est. (ft.)
 DATE: 12 10 103 TIME: 1450 AM TO 1452 AM
Mo. Day Yr. (START) PM (STOP) PM

SUBSTRATE TYPE (%):

SEDIMENT _____ SAND _____ GRAVEL _____
 COBBLE _____ BOULDERS 70% BEDROCK 30%
 DETRITUS _____

HABITAT TYPE: SURVEY AREA (l" x w" x h"): 1m x 1m x 10in
 POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE
 NO WATER DIRTY WATER

SPP: SIZE ♂ ♀ ?

collected insects

Embed 0%

Waypoint 108
 N 20.08707°
 W 155.60153°

COMMENTS:
 Random No.: 1, 8

DIVISION OF AQUATIC RESOURCES
 GRH 2/02

Site No.: 8

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: RE/DJP/MM
 SA CODE: - TEMPERATURE: - (°C)
 NAME: Lakea above diversion ELEVATION: 2085 (ft.)
 DATE: 12/10/03 TIME: 1500 AM TO 1502 AM
Mo. Day Yr. (START) PM (STOP) PM

SUBSTRATE TYPE (%):

SEDIMENT - SAND - GRAVEL -
 COBBLE - BOULDERS - BEDROCK 100%
 DETRITUS -

HABITAT TYPE: SURVEY AREA (l" x w" x h"): 1m x 1m x 4 in depth
 POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE
 NO WATER DIRTY WATER

PP: SIZE ♂ ♀ ?

No insects

0% embed.
 Waypoint 109
 N 20.08699°
 W 155.60162°

COMMENTS:

Random No.: 3, 7

Site No.: 9

DIVISION OF AQUATIC RESOURCES
 GRH 2/02

PRINTED NAME

J. L. DARLING CORP.
 www.RiteInTheRain.com

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: RE/DJP/MM
 HSA CODE: - TEMPERATURE: - (°C)
 NAME: Lakea above diversion ELEVATION: 2060 (ft.)
 DATE: 12/10/03 TIME: 1505 AM TO 1507 AM
Mo. Day Yr. (START) PM (STOP) PM

SUBSTRATE TYPE (%):

SEDIMENT - SAND - GRAVEL -
 COBBLE - BOULDERS 100% BEDROCK -
 DETRITUS -

HABITAT TYPE: SURVEY AREA (l" x w" x h"): 1m x 1m x 3 in deep
 POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE
 NO WATER DIRTY WATER

SPP: SIZE ♂ ♀ ?

No insects

0% embed.
 Waypoint 110
 N 20.08688°
 W 155.60159°

COMMENTS:

Random No.: 3, 3

Site No.: 10

DIVISION OF AQUATIC RESOURCES
 GRH 2/02

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: RE
 HSA CODE: 017 TEMPERATURE: _____ (°C)
 NAME: Huitawe (above R. Xing) ELEVATION: _____ (ft)
 DATE: 12/12/03 TIME: 1404 AM TO 1406 AM
Mo. Day Yr. (START) PM (STOP) PM

SUBSTRATE TYPE (%):

SEDIMENT _____ SAND _____ GRAVEL 25
 COBBLE 25 BOULDERS 50 BEDROCK _____
 DETRITUS _____

HABITAT TYPE:

SURVEY AREA (l" x w" x h"): 36" x 36" x 0.6 ft

POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE
 NO WATER DIRTY WATER

SPP: SIZE ♂ ♀ ?

N 20.10676
 W 155.59651
 Embed: 50%
 (w/Teachers)

COMMENTS:

Random No.: 3, 3

Site No.: 1

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: RE
 HSA CODE: _____ TEMPERATURE: _____ (°C)
 NAME: Huitawe (above R. Xing) ELEVATION: _____ (ft)
 DATE: 12/12/03 TIME: 1426 AM TO 1428 AM
Mo. Day Yr. (START) PM (STOP) PM

SUBSTRATE TYPE (%):

SEDIMENT _____ SAND _____ GRAVEL _____
 COBBLE 20 BOULDERS 80 BEDROCK _____
 DETRITUS _____

HABITAT TYPE:

SURVEY AREA (l" x w" x h"): 36" x 36" x 0.6 ft

POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE
 NO WATER DIRTY WATER

SPP: SIZE ♂ ♀ ?

N 20.10641
 W 155.59627
 No insects
 Embed = 100%

COMMENTS:

Random No.: 7, 6

Site No.: 2

STREAM SURVEY FORM

SURVEY TYPE: (RANDOM) NONRANDOM OBSERVER: RB/DTP/mm/LP/
 HSA CODE: _____ TEMPERATURE: BB (°C)
 NAME: Lakehead River ELEVATION: 1909 est. (ft.)
 DATE: 12/15/03 TIME: 0932 AM TO 0934 AM
Mo. Day Yr. (START) PM (STOP) PM

SUBSTRATE TYPE (%):

SEDIMENT _____ SAND _____ GRAVEL _____
 COBBLE _____ BOULDERS 50% BEDROCK 50%
 DETRITUS _____

HABITAT TYPE:

SURVEY AREA (l" x w" x h"): 1m x 1m x 1.9ft
depth

POOL SIDE POOL PLUNGE POOL (RUN) RIFFLE CASCADE
 NO WATER DIRTY WATER

SPP: SIZE ♂ ♀ ?

20.08951 > (Wyp1. 82)
 155.59982

20% Emb 6

0% embed

Anax strenuus -

COMMENTS:

Random No.: 5, 5

Site No.: 1

STREAM SURVEY FORM

SURVEY TYPE: (RANDOM) NONRANDOM OBSERVER: DTP
 HSA CODE: _____ TEMPERATURE: _____ (°C)
 NAME: Lakehead River ELEVATION: _____ (ft.)
 DATE: 12/15/03 TIME: 0938 AM TO 0940 AM
Mo. Day Yr. (START) PM (STOP) PM

SUBSTRATE TYPE (%):

SEDIMENT _____ SAND _____ GRAVEL _____
 COBBLE 30 BOULDERS 70 BEDROCK _____
 DETRITUS _____

HABITAT TYPE:

SURVEY AREA (l" x w" x h"): 1m x 1m x 0.2ft
depth

POOL (SIDE POOL) PLUNGE POOL RUN RIFFLE CASCADE
 NO WATER DIRTY WATER

SPP: SIZE ♂ ♀ ?

Wyp1. 83 N20.08927
 W155.59982

Embed = 0%

COMMENTS:

Random No.: 5, 1

Site No.: 2

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: DJP
 HSA CODE: _____ TEMPERATURE: _____ (°C)
 NAME: Lalakea ELEVATION: _____ (ft.)
 DATE: 12 15 03 TIME: 0947 AM TO _____ AM
Mo. Day Yr. (START) PM (STOP) PM

SUBSTRATE TYPE (%):

SEDIMENT _____ SAND _____ GRAVEL _____
 COBBLE _____ BOULDERS 100 BEDROCK _____
 DETRITUS _____

HABITAT TYPE: SURVEY AREA (l" x w" x h"): 1m x 1m x 0.3 ft.
 POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE
 NO WATER DIRTY WATER

SPP: SIZE ♂ ♀ ?

No Insects

120.08918 Wght. 84
 1155.599 ~~79~~
 81

Embed = 0%

COMMENTS:

Random No.: 2, 7

DIVISION OF AQUATIC RESOURCES
 GRH 2/02

Site No.: 3

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: DJP
 HSA CODE: _____ TEMPERATURE: _____ (°C)
 NAME: Lalakea below River ELEVATION: _____ (ft.)
 DATE: 12 15 03 TIME: 0952 AM TO 0954 AM
Mo. Day Yr. (START) PM (STOP) PM

SUBSTRATE TYPE (%):

SEDIMENT _____ SAND _____ GRAVEL _____
 COBBLE _____ BOULDERS 100 BEDROCK _____
 DETRITUS _____

HABITAT TYPE: SURVEY AREA (l" x w" x h"): 1m x 1m x 20 inches
 POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE
 NO WATER DIRTY WATER

SPP: SIZE ♂ ♀ ?

N. 20.08914
 W 155.59987 > Wght. 85

Embed = 5%

COMMENTS:

Random No.: 1, 8

DIVISION OF AQUATIC RESOURCES
 GRH 2/02

www.RiteintheRain.com

Site No.: 4

J. L. DARLING CORP.
 www.RiteintheRain.com

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: DJP
 HSA CODE: - - - TEMPERATURE: - (°C)
 NAME: - - - ELEVATION: - (ft.)
 DATE: 12 15 03 TIME: 1003 AM TO 1005 AM
Mo. Day Yr. (START) PM (STOP) PM

SUBSTRATE TYPE (%):

SEDIMENT - SAND - GRAVEL -
 COBBLE 50 BOULDERS 50 BEDROCK -
 DETRITUS -

HABITAT TYPE:

SURVEY AREA (l" x w" x h"): 1m x 1m x 1.5ft

POOL SIDE POOL PLUNGE POOL (RUN) (RIFFLE) CASCADE
 NO WATER DIRTY WATER

SPP: SIZE ♂ ♀ ?

N 20.08894 > Wyp. 86
N 155.60016

Embed = 0%

COMMENTS:

Random No.: 8.7

Site No.: 5

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: RE/DJP
 HSA CODE: - - - TEMPERATURE: - (°C)
 NAME: - - - ELEVATION: - (ft.)
 DATE: 12 15 03 TIME: 1015 AM TO 1077 AM
Mo. Day Yr. (START) PM (STOP) PM

SUBSTRATE TYPE (%):

SEDIMENT - SAND - GRAVEL -
 COBBLE - BOULDERS 100% BEDROCK -
 DETRITUS -

HABITAT TYPE:

SURVEY AREA (l" x w" x h"): 1m x 1m x 36 inch

POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE
 NO WATER DIRTY WATER

SPP: SIZE ♂ ♀ ?

Wyp. 87 < 20.08884
155.60052

No Insects

Embed = 0

COMMENTS:

Random No.: 9.4

Site No.: 6

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: DJP
 HSA CODE: - TEMPERATURE: - (°C)
 NAME: Lake below Divers. ELEVATION: - (ft.)
 DATE: 12/15/03 TIME: 1020 AM TO 1022 AM
Mo. Day Yr. (START) PM (STOP) PM

SUBSTRATE TYPE (%):

SEDIMENT - SAND - GRAVEL -
 COBBLE - BOULDERS - BEDROCK 100
 DETRITUS -

HABITAT TYPE:

SURVEY AREA (l" x w" x h"): 1m x 1m x 2A.
 POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE
 NO WATER DIRTY WATER

SPP: SIZE ♂ ♀ ?

GPS Wyp1. 88
20.08838
155.60057

No Insects

Embed = 0%

COMMENTS:

Random No.: 8, 4

Site No.: 7

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: DJP
 HSA CODE: - TEMPERATURE: - (°C)
 NAME: Lake below Divers. ELEVATION: - (ft.)
 DATE: 12/15/03 TIME: 1026 AM TO 1028 AM
Mo. Day Yr. (START) PM (STOP) PM

SUBSTRATE TYPE (%):

SEDIMENT - SAND - GRAVEL -
 COBBLE - BOULDERS - BEDROCK 100
 DETRITUS -

HABITAT TYPE:

SURVEY AREA (l" x w" x h"): 1m x 1m x Dry
 POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE
NO WATER DIRTY WATER

SPP: SIZE ♂ ♀ ?

GPS Wyp1. 89 N 20.0882
W 155.60079

No Insects

Embed = 0

COMMENTS:

Random No.: 3, 8

Site No.: 8

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM

OBSERVER: PJP

HSA CODE: _____ TEMPERATURE: _____ (°C)

NAME: Latahca - Beton Divers ELEVATION: 2000 (ft.)

DATE: 1 / 1 / _____ TIME: 1052 (AM) TO 1054 (PM) (START) (STOP)

SUBSTRATE TYPE (%):

SEDIMENT _____ SAND _____ GRAVEL _____

COBBLE _____ BOULDERS 100 BEDROCK _____

DETRITUS _____ SURVEY AREA (l" x w" x h"): 1m x 1m x 0.2ft.

HABITAT TYPE:

POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE

NO WATER DIRTY WATER

SPP: _____ SIZE _____ ♂ _____ ♀ _____ ?

No Insects

W_{ypt.} 91(?)
N 20.08854
W 155.60052

Embed = 10%

- Starting to rain hard now, not bad (oudy) weather prior to this.

COMMENTS:

Random No.: 2, 1

Site No.: 9

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: RE/DJP/MM
 A CODE: - TEMPERATURE: - (°C)
 NAME: Lalakea ELEVATION: 1856 (ft.)
 DATE: 12/16/03 TIME: 10:09 AM TO 10:10 AM
Mo. Day Yr. (START) PM (STOP) PM

SUBSTRATE TYPE (%):

SEDIMENT - SAND - GRAVEL -
 COBBLE 25 BOULDERS 75 BEDROCK -
 DETRITUS -

HABITAT TYPE:

SURVEY AREA (l" x w" x h"): 1m x 1m x 10in.

POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE
 NO WATER DIRTY WATER

SPP: SIZE ♂ ? ♀

Waypt. 92 N 20.08988
 155.59874

Embed = 0%

No insects

Starting at Boardwalk below Lalakea Diversion

COMMENTS:

Random No.: 7, 7

Site No.: 1

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: RE/DJP/MM
 HSA CODE: - TEMPERATURE: - (°C)
 NAME: Lalakea ELEVATION: 1874 (ft.)
 DATE: 12/16/03 TIME: 10:31 AM TO 10:33 AM
Mo. Day Yr. (START) PM (STOP) PM

SUBSTRATE TYPE (%):

SEDIMENT - SAND - GRAVEL -
 COBBLE - BOULDERS 100% BEDROCK -
 DETRITUS -

HABITAT TYPE:

SURVEY AREA (l" x w" x h"): 1m x 1m x 11in.

POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE
 NO WATER DIRTY WATER

SPP: SIZE ♂ ? ♀

No insects

15% embed.

Waypoint 093
 N 20.08994°
 W 155.59921°

COMMENTS:

Random No.: 8, 8

Site No.: 2

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: RE/DJP/mm
 SA CODE: - TEMPERATURE: 99.9 (°C)
 NAME: Lalakea ELEVATION: 1909 (ft.)
 DATE: 12/16/03 TIME: 10:36 AM TO 10:38 AM
Mo. Day Yr. (START) (STOP) PM

SUBSTRATE TYPE (%):

SEDIMENT SAND GRAVEL
 COBBLE 30% BOULDERS 50% BEDROCK
 DETRITUS

HABITAT TYPE: SURVEY AREA (l" x w" x h"): 1m x 1m x 8in
 POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE
 NO WATER DIRTY WATER

PP: SIZE ♂ ♀ ?

No insects

Waypoint 094
 N 20.08983°
 W 155.59984°

3% embed

COMMENTS:

Random No.: 9, 4

Site No.: 3

VISION OF AQUATIC RESOURCES
 RH 2/02

J. L. DARLING CORP.

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: RE/DJP/mm
 HSA CODE: - TEMPERATURE: (°C)
 NAME: Lalakea ELEVATION: 1898 (ft.)
 DATE: 12/16/03 TIME: 10:40 AM TO 10:42 AM
Mo. Day Yr. (START) (STOP) PM

SUBSTRATE TYPE (%):

SEDIMENT SAND GRAVEL
 COBBLE BOULDERS BEDROCK 100%
 DETRITUS

HABITAT TYPE: SURVEY AREA (l" x w" x h"): 1m x 1m x 1ft
 POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE
 NO WATER DIRTY WATER

SPP: SIZE ♂ ♀ ?

8% embed

Waypoint 095
 N 20.08937°
 W 155.60030°

COMMENTS:

Random No.: 8, 3

Site No.: 4

DIVISION OF AQUATIC RESOURCES
 GRH 2/02

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: RE/DJP/MM
 A CODE: _____ TEMPERATURE: _____ (°C)
 NAME: Lalakea ELEVATION: 1906 (ft.)
 DATE: 12/16/03 TIME: 10:46 AM TO 10:48 AM
Mo. Day Yr. (START) PM (STOP) PM

SUBSTRATE TYPE (%):

SEDIMENT _____ SAND _____ GRAVEL 25%
 COBBLE 25% BOULDERS 50% BEDROCK _____
 DETRITUS _____

HABITAT TYPE:

SURVEY AREA (l" x w" x h"): 1m x 1m x 10 in.
 POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE
 NO WATER DIRTY WATER

SPP: SIZE ♂ ♀ ?

10% embed

~~SA~~

No insects

Waypoint 096
 N 20.08943°
 W 155.59984°

COMMENTS:

Random No.: 3, 7

Site No.: 5

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: RE/DJP/MM
 HSA CODE: _____ TEMPERATURE: _____ (°C)
 NAME: Lalakea ELEVATION: 1924 (ft.)
 DATE: 12/16/03 TIME: 1051 AM TO 1053 AM
Mo. Day Yr. (START) PM (STOP) PM

SUBSTRATE TYPE (%):

SEDIMENT _____ SAND _____ GRAVEL _____
 COBBLE _____ BOULDERS 100% BEDROCK _____
 DETRITUS _____

HABITAT TYPE:

SURVEY AREA (l" x w" x h"): 1m x 1m x 0 depth
 POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE
NO WATER DIRTY WATER

SPP: SIZE ♂ ♀ ?

Boulder covered with ginger

No aquatic insects

Found walking stick

Waypoint 097

N 20.08928°
 W 155.59988°

COMMENTS:

Random No.: 4, 3

Site No.: 6

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: RE/DJP/mm
 HSA CODE: - - - TEMPERATURE: - (°C)
 NAME: Lalakea ELEVATION: 1939 (ft.)
 DATE: 12/16/03 TIME: 1057 AM TO 1059 AM
Mo. Day Yr. (START) PM (STOP) PM

SUBSTRATE TYPE (%):

SEDIMENT - SAND - GRAVEL -
 COBBLE - BOULDERS 100% BEDROCK -
 DETRITUS -

HABITAT TYPE: SURVEY AREA (l" x w" x h"): 1m x 1m x 12 in
 POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE
 NO WATER DIRTY WATER

P: SIZE ♂ ♀ ?

No insects

0% embedded

Waypoint 098
 N 20,08921°
 W 155,59987°

COMMENTS:

Random No.: 2, 8

Site No.: 7

DIVISION OF AQUATIC RESOURCES
 12/02

J. L. DARLING CORP.

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: RE/DJP/mm
 HSA CODE: - - - TEMPERATURE: - (°C)
 NAME: Lalakea ELEVATION: 1966 (ft.)
 DATE: 12/16/03 TIME: 11:03 AM TO 11:05 AM
Mo. Day Yr. (START) PM (STOP) PM

SUBSTRATE TYPE (%):

SEDIMENT - SAND - GRAVEL -
 COBBLE 25% BOULDERS 25% BEDROCK 50%
 DETRITUS -

HABITAT TYPE: SURVEY AREA (l" x w" x h"): 1m x 1m x 2ft
 POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE
 NO WATER DIRTY WATER

SPP: SIZE ♂ ♀ ?

80% embedded

spider
 long-legged fly

Waypoint 099
 N 20,08909°
 W 155,59991°

COMMENTS:

Random No.: 2, 1

Site No.: 8

DIVISION OF AQUATIC RESOURCES
 GRH 2/02

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: RE/DSP/mm
 HSA CODE: _____ TEMPERATURE: _____ (°C)
 NAME: Lakea ELEVATION: 1994 (ft.)
 DATE: 12/16/03 TIME: 1113 AM TO 1115 AM
Mo. Day Yr. (START) PM (STOP) PM

SUBSTRATE TYPE (%):

SEDIMENT _____ SAND _____ GRAVEL _____
 COBBLE 25% BOULDERS 75% BEDROCK _____
 DETRITUS _____

HABITAT TYPE: SURVEY AREA (l" x w" x h"): 1m x 1m x 15in
 POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE
 NO WATER DIRTY WATER

SPP: SIZE ♂ ♀ ?

No insects

0% embed

Waypoint 100
 N 20,08901°
 W 155,60019°

COMMENTS:

Random No.: 8, 9

Site No.: 9

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: RE/DSP/mm
 HSA CODE: _____ TEMPERATURE: _____ (°C)
 NAME: Lakea ELEVATION: 1994 (ft.)
 DATE: 12/16/03 TIME: 1120 AM TO 1122 AM
Mo. Day Yr. (START) PM (STOP) PM

SUBSTRATE TYPE (%):

SEDIMENT _____ SAND _____ GRAVEL 25%
 COBBLE 25% BOULDERS 50% BEDROCK _____
 DETRITUS _____

HABITAT TYPE: SURVEY AREA (l" x w" x h"): 1m x 1m x 3ft
POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE
 NO WATER DIRTY WATER

SPP: SIZE ♂ ♀ ?

30% embed

Got stuff

Waypoint 101
 N 20,08897°
 W 155,60030°

COMMENTS:

Random No.: 5, 8

Site No.: 10

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: RE/DSP/MM
 HSA CODE: - TEMPERATURE: - (°C)
 NAME: Lalakea ELEVATION: 2004 (ft.)
 DATE: 12/16/03 TIME: 11:27 AM TO 11:29 AM
Mo. Day Yr. (START) PM (STOP) PM

SUBSTRATE TYPE (%):

SEDIMENT - SAND - GRAVEL -
 COBBLE - BOULDERS 100% BEDROCK -
 DETRITUS -

HABITAT TYPE: SURVEY AREA (l" x w" x h"): 1m x 1m x 3ft
 POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE
 NO WATER DIRTY WATER

SPP: SIZE ♂ ♀ ?

0% covered.

Got stuff
wasps, fly, fly

Waypoint 102
 N 20,08888°
 W 155,60059°

COMMENTS:

andom No.: 4, 4

Site No.: 11

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: RE/DSP/MM
 HSA CODE: - TEMPERATURE: - (°C)
 NAME: Lalakea ELEVATION: 2018 (ft.)
 DATE: 12/16/03 TIME: 11:35 AM TO 11:37 AM
Mo. Day Yr. (START) PM (STOP) PM

SUBSTRATE TYPE (%):

SEDIMENT - SAND - GRAVEL -
 COBBLE - BOULDERS - BEDROCK 100%
 DETRITUS -

HABITAT TYPE: SURVEY AREA (l" x w" x h"): 1m x 1m x 0.1m
 POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE
 NO WATER DIRTY WATER

SPP: SIZE ♂ ♀ ?

0% covered.

Got stuff

Waypoint 103
 N 20,08862°
 W 155,60074°

COMMENTS:

andom No.: 5, 2

Site No.: 12

Note: Just above staff
 gage.
 Staff gage level = 1.96

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: BE/DJP/MM
 HSA CODE: - TEMPERATURE: - (°C)
 NAME: Lalakea ELEVATION: 2028 (ft.)
 DATE: 12/16/03 TIME: 1143 AM TO 1145 AM
Mo. Day Yr. (START) PM (STOP) PM

SUBSTRATE TYPE (%):

SEDIMENT - SAND - GRAVEL -
 COBBLE - BOULDERS - BEDROCK 100%
 DETRITUS -

HABITAT TYPE: SURVEY AREA (l" x w" x h"): 1m x 1m x 3.5ft
 POOL SIDE POOL PLUNGE POOL (RUN) RIFFLE CASCADE
 NO WATER DIRTY WATER

PP: SIZE ♂ ♀ ?

0% embed

Got bugs

Waypoint 104
 N 20.08837°
 W 155.60891°

COMMENTS:

Random No.: 6, 7

Site No.: 13

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: BE/DJP/MM
 HSA CODE: - TEMPERATURE: - (°C)
 NAME: Lalakea (Below Diversion) ELEVATION: 2032 (ft.)
 DATE: 12/16/03 TIME: 1149 AM TO 1151 AM
Mo. Day Yr. (START) PM (STOP) PM

SUBSTRATE TYPE (%):

SEDIMENT - SAND - GRAVEL -
 COBBLE - BOULDERS - BEDROCK 100%
 DETRITUS -

HABITAT TYPE: SURVEY AREA (l" x w" x h"): 1m x 1m x 1ft
 POOL (SIDE POOL) PLUNGE POOL RUN RIFFLE CASCADE
 NO WATER DIRTY WATER

SPP: SIZE ♂ ♀ ?

0% embed

Got stuff

Waypoint 105
 N 20.08822°
 W 155.60069°

COMMENTS:

Random No.: 4, 3

Site No.: 14

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: RE/DJP/MM
 SA CODE: _____ TEMPERATURE: _____ (°C)
 NAME: Lalakea above diversion ELEVATION: 2021 (ft.)
 DATE: 12/16/03 TIME: 1257 AM TO 1259 AM
Mo. Day Yr. (START) PM (STOP) PM

SUBSTRATE TYPE (%):

SEDIMENT _____ SAND _____ GRAVEL _____
 COBBLE _____ BOULDERS _____ BEDROCK 100%
 DETRITUS _____

HABITAT TYPE: SURVEY AREA (l" x w" x h"): 1m x 1m x 1in depth
 POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE
 NO WATER DIRTY WATER

SPP: SIZE ♂ ♀ ?

0% embedded

No insects

Waypoint 106
 N 20.08774°
 W 155.60062°

COMMENTS:

Random No.: 2, 2

Site No.: 15

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: RE/DJP/MM
 HSA CODE: _____ TEMPERATURE: _____ (°C)
 NAME: Lalakea above diversion ELEVATION: 2031 (ft.)
 DATE: 12/16/03 TIME: 1303 AM TO 1305 AM
Mo. Day Yr. (START) PM (STOP) PM

SUBSTRATE TYPE (%):

SEDIMENT _____ SAND _____ GRAVEL _____
 COBBLE _____ BOULDERS _____ BEDROCK 100%
 DETRITUS _____

HABITAT TYPE: SURVEY AREA (l" x w" x h"): 1m x 1m x 12in
 POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE
 NO WATER DIRTY WATER

SPP: SIZE ♂ ♀ ?

0% embedded

No insects

Waypoint 107
 N 20.08761°
 W 155.60066°

COMMENTS:

Random No.: 5, 5

Site No.: 16

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: RE/DSP/MM
 HSA CODE: - - - - - TEMPERATURE: - (°C)
 NAME: Lakea above diversion ELEVATION: 2102 (ft.)
 DATE: 12 / 16 / 03 TIME: 1310 AM TO 1312 AM
 (Mo. Day Yr. (START) PM (STOP) PM)

SUBSTRATE TYPE (%):

SEDIMENT - SAND - GRAVEL 10%
 COBBLE 10% BOULDERS - BEDROCK 80%
 DETRITUS -

HABITAT TYPE: SURVEY AREA (l" x w" x h"): 1m x 1m x 6 in depth
 POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE
 NO WATER DIRTY WATER

SPP: SIZE ♂ ♀ ?

0% embed

Waypoint 108
 N 20.08759°
 W 155.60106°

Got stuff

COMMENTS:

Random No.: 7, 1

Site No.: 17

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: RE/DSP/MM
 HSA CODE: - - - - - TEMPERATURE: - (°C)
 NAME: Lakea above diversion ELEVATION: 2106 (ft.)
 DATE: 12 / 16 / 03 TIME: 1316 AM TO 1318 AM
 (Mo. Day Yr. (START) PM (STOP) PM)

SUBSTRATE TYPE (%):

SEDIMENT - SAND - GRAVEL 25%
 COBBLE 75% BOULDERS - BEDROCK -
 DETRITUS -

HABITAT TYPE: SURVEY AREA (l" x w" x h"): 1m x 1m x 9 in depth
 POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE
 NO WATER DIRTY WATER

SPP: SIZE ♂ ♀ ?

5% embed

Waypoint 109
 N 20.08761°
 W 155.60109°

Got stuff

COMMENTS:

Random No.: 1, 4

Site No.: 18

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: RE/DSP/MM
 HSA CODE: - TEMPERATURE: - (°C)
 NAME: Lalakea above diversion ELEVATION: 2105 (ft.)
 DATE: 12/16/03 TIME: 1321 AM TO 1323 AM
 Mo. Day Yr. (START) PM (STOP) PM

SUBSTRATE TYPE (%):

SEDIMENT - SAND - GRAVEL 50%
 COBBLE 50% BOULDERS - BEDROCK -
 DETRITUS -

HABITAT TYPE: SURVEY AREA (l" x w" x h"): 1m x 1m x 1 in depth
 POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE
 NO WATER DIRTY WATER

SPP: SIZE ♂ ♀ ?

0% embedded

No insects

Waypoint 110
 N 20.08764°
 W 155.60118°

COMMENTS:

Random No.: 1, 2

Site No.: 19
5

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: RE/DSP/MM
 HSA CODE: - TEMPERATURE: - (°C)
 NAME: Lalakea above diversion ELEVATION: 2106 (ft.)
 DATE: 12/16/03 TIME: 1324 AM TO 1326 AM
 Mo. Day Yr. (START) PM (STOP) PM

SUBSTRATE TYPE (%):

SEDIMENT - SAND - GRAVEL -
 COBBLE - BOULDERS - BEDROCK 100%
 DETRITUS -

HABITAT TYPE: SURVEY AREA (l" x w" x h"): 1m x 1m x 2 ft
 POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE
 NO WATER DIRTY WATER

SPP: SIZE ♂ ♀ ?

0% embedded

No insects

Waypoint 111
 N 20.08760°
 W 155.60124°

COMMENTS:

Random No.: 3, 9

Site No.: 20
6

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: RE/DJP/MM
 HSA CODE: _____ TEMPERATURE: _____ (°C)
 NAME: Lalakea above diversion ELEVATION: 2121 (ft.)
 DATE: 12/16/03 TIME: 1332 AM TO 1334 AM
Mo. Day Yr. (START) PM (STOP) PM

SUBSTRATE TYPE (%):

SEDIMENT _____ SAND _____ GRAVEL _____
 COBBLE _____ BOULDERS 50% BEDROCK 50%
 DETRITUS _____

HABITAT TYPE: SURVEY AREA (l" x w" x h"): 1m x 1m x 2ft
POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE
 NO WATER DIRTY WATER

SPP: SIZE ♂ ♀ ?

0% embed

Waypoint 112
 N 20.08737°
 W 155.60136°

Got bugs

COMMENTS:

Random No.: 6 : 6

Site No.: 21
 7

DIVISION OF AQUATIC RESOURCES
 RH 2/02

J. L. DARLING CORP.
 www.RainInTheRain.com

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: RE/DJP/MM
 HSA CODE: _____ TEMPERATURE: _____ (°C)
 NAME: Lalakea above diversion ELEVATION: 2124 (ft.)
 DATE: 12/16/03 TIME: 1343 AM TO 1345 AM
Mo. Day Yr. (START) PM (STOP) PM

SUBSTRATE TYPE (%):

SEDIMENT _____ SAND _____ GRAVEL _____
 COBBLE 50% BOULDERS 50% BEDROCK _____
 DETRITUS _____

HABITAT TYPE: SURVEY AREA (l" x w" x h"): 1m x 1m x 15 in deep
 POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE
 NO WATER DIRTY WATER

SPP: SIZE ♂ ♀ ?

0% embed

No insects

Waypoint 113
 N 20.08718°
 W 155.60170°

COMMENTS:

Random No.: 8 : 7

Site No.: 22
 8

DIVISION OF AQUATIC RESOURCES
 GRH 2/02

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: RE/DJP/mm
 HSA CODE: _____ TEMPERATURE: _____ (°C)
 NAME: Lalakea above diversion ELEVATION: 2114 (ft.)
 DATE: 12-16-03 TIME: 1349 AM TO 1351 AM
Mo. Day Yr. (START) PM (STOP) PM
 SUBSTRATE TYPE (%):

SEDIMENT _____ SAND _____ GRAVEL _____
 COBBLE _____ BOULDERS 100% BEDROCK _____
 DETRITUS _____

HABITAT TYPE: SURVEY AREA (l" x w" x h"): 1m x 1m x 3ft
 POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE
 NO WATER DIRTY WATER

SPP: SIZE ♂ ♀ ?

0% embed.

No insects

Waypoint 114
 N 20,08780°
 W 155,60147

COMMENTS:

Random No.: 1, 3

Site No.: 23
 9

DIVISION OF AQUATIC RESOURCES
 3RH 2/02

J. L. DARLING CORP.
 www.DarlingData.com

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: RE/DJP/mm
 HSA CODE: _____ TEMPERATURE: _____ (°C)
 NAME: Lalakea above diversion ELEVATION: 2109 (ft.)
 DATE: 12-16-03 TIME: 1359 AM TO 1401 AM
Mo. Day Yr. (START) PM (STOP) PM
 SUBSTRATE TYPE (%):

SEDIMENT _____ SAND _____ GRAVEL _____
 COBBLE 25% BOULDERS _____ BEDROCK 700% 75%
 DETRITUS _____

HABITAT TYPE: SURVEY AREA (l" x w" x h"): 1m x 1m Dia.
 POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE
NO WATER DIRTY WATER

SPP: SIZE ♂ ♀ ?

25% embed

Hot bugs.

Waypoint 115
 N 20,08673°
 W 155,60156°

COMMENTS:

Random No.: 7, 1

Site No.: 24
 10

DIVISION OF AQUATIC RESOURCES
 GRH 2/02

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: RE/DJP/MM
 SA CODE: _____ TEMPERATURE: _____ (°C)
 NAME: Lalakea above diversion ELEVATION: 2102 (ft.)
 DATE: 12/16/03 TIME: 1408 AM TO 1410 AM
Mo. Day Yr. (START) PM (STOP) PM

SUBSTRATE TYPE (%):

SEDIMENT _____ SAND _____ GRAVEL _____
 COBBLE _____ BOULDERS 100% BEDROCK _____
 DETRITUS _____

HABITAT TYPE:

SURVEY AREA (l" x w" x h"): 1m x 1m x 4in depth
 POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE
 NO WATER DIRTY WATER

SPP: _____ SIZE _____ ♂ _____ ♀ _____ ?

0% embed

Got bugs

Waypoint 116
 N 20.08651°
 W 155.60152°

COMMENTS:

Random No.: 3, 3

Site No.: 25
 11

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: RE/DJP/MM
 HSA CODE: _____ TEMPERATURE: _____ (°C)
 NAME: Lalakea above diversion ELEVATION: 2106 (ft.)
 DATE: 12/16/03 TIME: 1417 AM TO 1419 AM
Mo. Day Yr. (START) PM (STOP) PM

SUBSTRATE TYPE (%):

SEDIMENT _____ SAND _____ GRAVEL _____
 COBBLE _____ BOULDERS 100% BEDROCK _____
 DETRITUS _____

HABITAT TYPE:

SURVEY AREA (l" x w" x h"): 1m x 1m x 1ft
 POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE
 NO WATER DIRTY WATER

SPP: _____ SIZE _____ ♂ _____ ♀ _____ ?

0% embed

~~#~~

Got bugs

Waypoint 117
 N 20.08639°
 W 155.60147°

COMMENTS:

Random No.: 4, 3

Site No.: 26
 12

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM

OBSERVER: RE/DSP/mm

HSA CODE: _____

TEMPERATURE: _____ (°C)

NAME: lalakea above diversion

ELEVATION: 2000-2100 (ft.)

DATE: 12/16/03
Mo. Day Yr.

TIME: _____ AM TO _____ AM
(START) PM (STOP) PM

SUBSTRATE TYPE (%):

SEDIMENT _____ SAND _____ GRAVEL _____

COBBLE _____ BOULDERS _____ BEDROCK _____

DETRITUS _____

HABITAT TYPE:

SURVEY AREA (l" x w" x h"): _____

POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE

NO WATER DIRTY WATER

SPP: _____ SIZE _____ ♂ _____ ♀ _____ ?

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM

OBSERVER: RE/DSP/mm

HSA CODE: _____

TEMPERATURE: _____ (°C)

NAME: lalakea above diversion

ELEVATION: 2119 (ft.)

DATE: 12/16/03
Mo. Day Yr.

TIME: _____ AM TO _____ AM
(START) PM (STOP) PM

SUBSTRATE TYPE (%):

SEDIMENT _____ SAND _____ GRAVEL _____

COBBLE 20% BOULDERS 10% BEDROCK 80%

DETRITUS _____

HABITAT TYPE:

SURVEY AREA (l" x w" x h"): 1m x 1m x 18 in depth

POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE

NO WATER DIRTY WATER

SPP: _____ SIZE _____ ♂ _____ ♀ _____ ?

Non random label

0% embel

70+ bugs

*N 20.08639°
W 155.60147°*

*Waypoint 118
N 20.08603°
W 155.60143°*

COMMENTS:

Random No.: 329

DIVISION OF AQUATIC RESOURCES
GRH 2/02

Site No.: _____

COMMENTS:

Random No.: 7, 1

DIVISION OF AQUATIC RESOURCES
GRH 2/02

mmra

Site No.: 27
13

J. L. DARLING CORP.
www.RiteintheRain.com

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: RE/MM/ASP
 HSA CODE: - TEMPERATURE: - (°C)
 NAME: Hillawe ELEVATION: 39 (ft.)
 DATE: 12 11 103 TIME: 927 AM TO 929 AM
Mo. Day Yr. (START) PM (STOP) PM

SUBSTRATE TYPE (%):

SEDIMENT - SAND - GRAVEL 50%
 COBBLE 50% BOULDERS - BEDROCK -
 DETRITUS -

HABITAT TYPE: SURVEY AREA (l" x w" x h"): 1m x 1m x 6 in
 POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE
 NO WATER DIRTY WATER

SPP: SIZE ♂ ♀ ?

50% embed

Waypoint 119
 N 20,10634°
 W 155,59628°

Got bugs

Start at staff gauge above Hillawe Rd Xing,
 1.25 ft. @ 0918 hrs.

COMMENTS:

Random No.: 9, 2

Site No.: 1

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: RE/DJP/MM
 HSA CODE: - TEMPERATURE: - (°C)
 NAME: Hillawe above road xing ELEVATION: 56 (ft.)
 DATE: 12 11 103 TIME: 935 AM TO 937 AM
Mo. Day Yr. (START) PM (STOP) PM

SUBSTRATE TYPE (%):

SEDIMENT - SAND - GRAVEL 25%
 COBBLE 50% BOULDERS 25% BEDROCK -
 DETRITUS -

HABITAT TYPE: SURVEY AREA (l" x w" x h"): 1m x 1m x 1 ft deep
 POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE
 NO WATER DIRTY WATER

SPP: SIZE ♂ ♀ ?

40% embed

No insects.

Waypoint 120
 N 20,10628°
 W 155,59641°

COMMENTS:

Random No.: 1, 7

Site No.: 2

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: RE/DSP/MM
 HSA CODE: - - - TEMPERATURE: 58 (°C)
 NAME: Hilawe above road xing ELEVATION: 58 (ft.)
 DATE: 12/17/03 TIME: 9:39 AM TO 9:41 AM
 (Mo. Day Yr. (START) PM (STOP) PM)
 SUBSTRATE TYPE (%):
 SEDIMENT 25% SAND 25% GRAVEL 25%
 COBBLE 25% BOULDERS 50% BEDROCK 25%
 DETRITUS 25%
 HABITAT TYPE: SURVEY AREA (l" x w" x h"): 1m x 1m x 1ft depth
 POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE
 NO WATER DIRTY WATER
 SPP: SIZE ♂ ♀ ?

20% embed

No insects

Waypoint 121
 N 20.10627°
 W 155.59628°

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: RE/DSP/MM
 HSA CODE: - - - TEMPERATURE: 52 (°C)
 NAME: Hilawe above road xing ELEVATION: 52 (ft.)
 DATE: 12/17/03 TIME: 9:43 AM TO 9:45 AM
 (Mo. Day Yr. (START) PM (STOP) PM)
 SUBSTRATE TYPE (%):
 SEDIMENT 10% SAND 30% GRAVEL 30%
 COBBLE 30% BOULDERS 30% BEDROCK 30%
 DETRITUS 30%
 HABITAT TYPE: SURVEY AREA (l" x w" x h"): 1m x 1m x 3m deep
 POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE
 NO WATER DIRTY WATER
 SPP: SIZE ♂ ♀ ?

50% embed

Not bugs

Waypoint 122
 N 20.10607°
 W 155.59596°

COMMENTS:

Random No.: 5, 1

Site No.: 4

DIVISION OF AQUATIC RESOURCES
 GRH 2/02

COMMENTS:

Random No.: 2, 4

Site No.: 3

DIVISION OF AQUATIC RESOURCES
 GRH 2/02

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: RE/DJP/MM
HSA CODE: _____ TEMPERATURE: _____ (°C)
NAME: Hilawe above road xing ELEVATION: 86 (ft.)
DATE: 12/17/03 TIME: 951 AM TO 953 AM
Mo. Day Yr. (START) PM (STOP) PM

SUBSTRATE TYPE (%):

SEDIMENT _____ SAND _____ GRAVEL 20%
COBBLE 40% BOULDERS 40% BEDROCK _____
DETritus _____

HABITAT TYPE:

SURVEY AREA (l" x w" x h"): 1m x 1m x 9 in depth

POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE
NO WATER DIRTY WATER

SPP: _____ SIZE _____ ♂ _____ ♀ _____ ? _____

30% embed

No insects

Waypoint 123
N 20,10567°
W 155.59579°

COMMENTS:

Random No.: 4, 1

Site No.: 5

DIVISION OF AQUATIC RESOURCES
3RH 2/02

J. I. DARRING CORP

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: RE/DJP/MM
HSA CODE: _____ TEMPERATURE: _____ (°C)
NAME: Hilawe above road xing ELEVATION: 106 (ft.)
DATE: 12/17/03 TIME: 1955 AM TO 957 AM
Mo. Day Yr. (START) PM (STOP) PM

SUBSTRATE TYPE (%):

SEDIMENT _____ SAND _____ GRAVEL _____
COBBLE _____ BOULDERS 100% BEDROCK _____
DETritus _____

HABITAT TYPE:

SURVEY AREA (l" x w" x h"): 1m x 1m x 6 in depth

POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE
NO WATER DIRTY WATER

SPP: _____ SIZE _____ ♂ _____ ♀ _____ ? _____

0% embed

60+ bugs

Waypoint 124
N 20,10563°
W 155.59572°

COMMENTS:

Random No.: 3, 6

Site No.: 6

DIVISION OF AQUATIC RESOURCES
GRH 2/02

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: RE/DJP/MM
 HSA CODE: - TEMPERATURE: - (°C)
 NAME: Hillawe above road x-ing ELEVATION: 86 (ft.)
 DATE: 12/17/03 TIME: 10:02 AM TO 1004 AM
Mo. Day Yr. (START) PM (STOP) PM

SUBSTRATE TYPE (%):

SEDIMENT - SAND - GRAVEL 20%
 COBBLE 30% BOULDERS 50% BEDROCK -
 DETRITUS -

HABITAT TYPE:

SURVEY AREA (l" x w" x h"): 1m x 1m x 10 in deep

POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE
 NO WATER DIRTY WATER

SPP: SIZE ♂ ♀ ?

25% embed

Waypoint 125
 N 20.10497°
 W 155.59569°

Got bugs

COMMENTS:

Random No.: 9, 7

Site No.: 7

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: RE/DJP/MM
 HSA CODE: - TEMPERATURE: - (°C)
 NAME: Hillawe above road x-ing ELEVATION: 3 628 (ft)
 DATE: 12/17/03 TIME: 9012 AM TO 1014 AM
Mo. Day Yr. (START) PM (STOP) PM

SUBSTRATE TYPE (%):

SEDIMENT - SAND - GRAVEL -
 COBBLE 50% BOULDERS 50% BEDROCK -
 DETRITUS -

HABITAT TYPE:

SURVEY AREA (l" x w" x h"): 1m x 1m x 1ft deep

POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE
 NO WATER DIRTY WATER

SPP: SIZE ♂ ♀ ?

20% embed

Waypoint 126
 N 20.10469°
 W 155.59583°

Got bugs

COMMENTS:

Random No.: 9, 9

Site No.: 8

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: RE/DJP/MM
 HSA CODE: _____ TEMPERATURE: _____ (°C)
 NAME: Hillawe above road x-ing ELEVATION: 67 sherpa (ft.)
 DATE: 12 17 03 TIME: 1021 AM TO 1023 AM
Mo. Day Yr. (START) PM (STOP) PM

SUBSTRATE TYPE (%):

SEDIMENT _____ SAND _____ GRAVEL _____
 COBBLE 25% BOULDERS 75% BEDROCK _____
 DETRITUS _____

HABITAT TYPE:

SURVEY AREA (l" x w" x h"): 1m x 1m x 1ft

POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE
 NO WATER DIRTY WATER

SPP: _____ SIZE _____ ♂ _____ ♀ _____ ?

5% embed

Got bugs

Waypoint 127
 N 20.10467°
 W 155.59589°

COMMENTS:

Random No.: 3, 8

Site No.: 9

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: RE/DJP/MM
 HSA CODE: _____ TEMPERATURE: _____ (°C)
 NAME: Hillawe above road x-ing ELEVATION: 73 sherpa (ft.)
 DATE: 12 17 03 TIME: 1028 AM TO 1030 AM
Mo. Day Yr. (START) PM (STOP) PM

SUBSTRATE TYPE (%):

SEDIMENT _____ SAND _____ GRAVEL _____
 COBBLE _____ BOULDERS 100% BEDROCK _____
 DETRITUS _____

HABITAT TYPE:

SURVEY AREA (l" x w" x h"): 1m x 1m x 0.1m deep

POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE
NO WATER DIRTY WATER

SPP: _____ SIZE _____ ♂ _____ ♀ _____ ?

70% embed

No bugs

Waypoint 128
~~N 20°~~ N. 20.10450°
 W 155.59579°

COMMENTS:

Random No.: 4, 6

Site No.: 10

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: RE/DJP/mm
 HSA CODE: - TEMPERATURE: - (°C)
 NAME: Hilawe above road x-ing ELEVATION: 74 sherpa (ft.)
 DATE: 12/17/03 TIME: 1033 AM TO 1035 AM
Mo. Day Yr. (START) PM (STOP) PM

SUBSTRATE TYPE (%):

SEDIMENT - SAND - GRAVEL 40%
 COBBLE 35% BOULDERS 25% BEDROCK -
 DETRITUS -

HABITAT TYPE:

POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE
 NO WATER DIRTY WATER

SPP: SIZE ♂ ♀ ?

50% embed
 No bugs

Waypoint 129
 N 20.10434°
 W 155.59593°

COMMENTS:

Random No.: 4, 8

Site No.: 11

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: RE/DJP/mm
 HSA CODE: - TEMPERATURE: - (°C)
 NAME: Hilawe above road x-ing ELEVATION: 81 sherpa (ft.)
 DATE: 12/17/03 TIME: 1040 AM TO 1042 AM
Mo. Day Yr. (START) PM (STOP) PM

SUBSTRATE TYPE (%):

SEDIMENT - SAND - GRAVEL 45%
 COBBLE 30% BOULDERS 25% BEDROCK -
 DETRITUS -

HABITAT TYPE:

POOL POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE
 NO WATER DIRTY WATER

SPP: SIZE ♂ ♀ ?

50% embed

No bugs

Waypoint 130
 N 20.10421°
 W 155.59605°

COMMENTS:

Random No.: 1, 1

Site No.: 12

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM

OBSERVER: RE/DJT/MM

HSA CODE: - - -

TEMPERATURE: - (°C)

NAME: Hillawe above road x-ing

ELEVATION: 86 sherpa (ft.)

DATE: 12/17/03
Mo. Day Yr.

TIME: 1047
(START) AM PM

TO 1049
(STOP) AM PM

SUBSTRATE TYPE (%):

SEDIMENT 20%

SAND -

GRAVEL -

COBBLE 30%

BOULDERS 50%

BEDROCK -

DETRITUS -

HABITAT TYPE:

POOL SIDE POOL

PLUNGE POOL

RUN

RIFFLE

CASCADE

NO WATER

DIRTY WATER

SPP:

SIZE

♂

♀

?

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM

OBSERVER: RE/DJT/MM

HSA CODE: - - -

TEMPERATURE: - (°C)

NAME: Hillawe above road x-ing

ELEVATION: 96 sherpa (ft.)

DATE: 12/17/03
Mo. Day Yr.

TIME: 1055
(START) AM PM

TO 1057
(STOP) AM PM

SUBSTRATE TYPE (%):

SEDIMENT -

SAND -

GRAVEL 40%

COBBLE 30%

BOULDERS 30%

BEDROCK -

DETRITUS -

HABITAT TYPE:

POOL NO WATER

NO WATER

PLUNGE POOL

RUN

RIFFLE

CASCADE

DIRTY WATER

SPP:

SIZE

♂

♀

?

50% embed.

No bugs

60% embed

No bugs

Waypoint 131
N 20.10404°
W 155.59612°

No GPS
Just above the Araki Diversion
~ (100ft)

COMMENTS:

Random No.: 6, 9

Site No.: 13

DIVISION OF AQUATIC RESOURCES
GRH 2/02

COMMENTS:

Random No.: 9, 1

Site No.: 14

DIVISION OF AQUATIC RESOURCES
GRH 2/02

MINI A

J. L. DARLING CORP.

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: RE/DJP/mm
 HSA CODE: _____ TEMPERATURE: _____ (°C)
 NAME: Hilawe above road x-ing ELEVATION: 107 sherpa (ft.)
 DATE: 12/17/03 TIME: 8:10 AM TO 11:05 AM
Mo. Day Yr. (START) PM (STOP) PM

SUBSTRATE TYPE (%):
 SEDIMENT 20% SAND _____ GRAVEL 20%
 COBBLE _____ BOULDERS 40% BEDROCK _____

HABITAT TYPE: SURVEY AREA (l" x w" x h"): 1m x 1m x 13in depth
 POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE
 NO WATER DIRTY WATER

SPP: _____ SIZE _____ ♂ _____ ♀ _____ ? _____

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: RE/DJP/mm
 HSA CODE: _____ TEMPERATURE: _____ (°C)
 NAME: Hilawe above road x-ing ELEVATION: 108 sherpa (ft.)
 DATE: 12/17/03 TIME: 11:09 AM TO 11:11 AM
Mo. Day Yr. (START) PM (STOP) PM

SUBSTRATE TYPE (%):
 SEDIMENT _____ SAND _____ GRAVEL 10%
 COBBLE 70% BOULDERS 20% BEDROCK _____
 DETRITUS _____

HABITAT TYPE: SURVEY AREA (l" x w" x h"): 1m x 1m x 15 in depth
 POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE
 NO WATER DIRTY WATER

SPP: _____ SIZE _____ ♂ _____ ♀ _____ ? _____

50% embed.

40% embed

No bugs

Waypoint 132 ← not saved
 N 20.10332°
 W 155.59589°

Waypoint 132
 N 20.10316°
 W 155.59586°

COMMENTS:

Random No.: 6, 2

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Site No.: 15

COMMENTS:

Random No.: 2, 3

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 GRH 2/02

J. L. DARLING CORP.

Site No.: 16

J. L. DARLING CORP.

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: RE/DJP/MM
 HSA CODE: _____ TEMPERATURE: _____
 NAME: Hilawe above road x-ing ELEVATION: 114 sherpa
 DATE: 12/17/03 TIME: 1116 AM TO 1118 PM
 (START) (STOP)

SUBSTRATE TYPE (%):

SEDIMENT _____ SAND _____ GRAVEL 10%
 COBBLE 15% BOULDERS 75% BEDROCK _____
 DETRITUS _____

HABITAT TYPE:

POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE
 NO WATER DIRTY WATER

SPP: _____ SIZE _____ ♂ _____ ♀ _____ ?

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: RE/DJP/MM
 HSA CODE: _____ TEMPERATURE: _____ (°C)
 NAME: Hilawe above road x-ing ELEVATION: 122 sherpa (ft.)
 DATE: 12/17/03 TIME: 1126 AM TO 1128 AM
 (START) (STOP) PM

SUBSTRATE TYPE (%):

SEDIMENT _____ SAND _____ GRAVEL _____
 COBBLE _____ BOULDERS 100% BEDROCK _____
 DETRITUS _____

HABITAT TYPE:

POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE
 NO WATER DIRTY WATER

SPP: _____ SIZE _____ ♂ _____ ♀ _____ ?

10% embed

0% embed

Got bugs

No GPS

Got bugs

Waypoint
No GPS

COMMENTS:

Random No.: 5, 1
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 GRH 2/02

Site No.: 17

COMMENTS:

Random No.: 1, 6
 DIVISION OF AQUATIC RESOURCES
 GRH 2/02

Site No.: 18

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: RE/DJT/1mm
 HSA CODE: - TEMPERATURE: - (°C)
 NAME: Hilawe above road x-ing ELEVATION: 140 sherpa (ft)
 DATE: 12/17/03 TIME: 1138 AM TO 1140 AM
 (Mo. Day Yr.) (START) PM (STOP) PM
 SUBSTRATE TYPE (%):
 SEDIMENT - SAND 40% GRAVEL -
 COBBLE 40% BOULDERS 20% BEDROCK -
 DETRITUS -
 HABITAT TYPE: SURVEY AREA (1" x w" x h"): 1m x 1m x 0.75m in
 POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE dep
NO WATER DIRTY WATER
 SPP: SIZE ♂ ♀ ?

60% embed

No GPS

just below the EKF diversion

No bugs

COMMENTS:

Random No.: 6, 8

Site No.: 19

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GRH 2/02

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: RE/DJT/1mm
 HSA CODE: - TEMPERATURE: - (°C)
 NAME: Hilawe above road x-ing ELEVATION: 150 sherpa (ft.)
 DATE: 12/17/03 TIME: 1145 AM TO 1147 AM
 (Mo. Day Yr.) (START) PM (STOP) PM
 SUBSTRATE TYPE (%):
 SEDIMENT - SAND 40% GRAVEL 40%
 COBBLE 10% BOULDERS 10% BEDROCK -
 DETRITUS -
 HABITAT TYPE: SURVEY AREA (1" x w" x h"): 1m x 1m x 6m depth
 POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE
 NO WATER DIRTY WATER
 SPP: SIZE ♂ ♀ ?

90% embed

No GPS

just below the EKF diversion
as (closer to EKF than site no. 19)

No bugs

COMMENTS:

Random No.: 5, 1

Site No.: 20

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GRH 2/02

11/11/03

J. L. DARLING CORP.
www.DarlingRain.com