

Appendix 2.3-1

*Summary Statistics for the Vegetation Parameters
Measured in Study Area Cover Types*

**Appendix 2.3-1
Vegetation Data Tables**

Shrub Cover by Species, and Tall Shrub/Low Shrub/Tall Forb Groups

Herbaceous Cover (Sum of %, Average)

Average Shrub Height

Low Herbaceous Height

Low Shrub/Tall Forb Height

Snag dbh Analysis

**Appendix 2.3-1
Vegetation Data Tables**

Shrub Cover by Species, and Tall Shrub/Low Shrub/Tall Forb Groups

ShrubCover

| Habitat | LPP | LPP | LPP | LPP | | | | |
|-------------|------|------|------|-------|-------|-------|-------|--|
| | 1 | 1 | 1 | | | | | |
| Species | 1 | 2 | 3 | mean | stdv | min | max | |
| BF | 0 | 0.2 | 1.2 | 0.47 | 0.64 | 0.00 | 1.20 | |
| DF | 2.9 | 1 | 2.2 | 2.03 | 0.96 | 1.00 | 2.90 | |
| HU | 1 | 0.6 | 1.7 | 1.10 | 0.56 | 0.60 | 1.70 | |
| HZ | 0 | 0 | 4.3 | 1.43 | 2.48 | 0.00 | 4.30 | |
| KN | 7.8 | 0 | 1.3 | 3.03 | 4.18 | 0.00 | 7.80 | |
| LP | 3.2 | 5.1 | 4.7 | 4.33 | 1.00 | 3.20 | 5.10 | |
| MZ | 11.2 | 22.5 | 2.2 | 11.97 | 10.17 | 2.20 | 22.50 | |
| OS | 2.3 | 4.4 | 4.1 | 3.60 | 1.14 | 2.30 | 4.40 | |
| SA | 4.6 | 9.7 | 4.6 | 6.30 | 2.94 | 4.60 | 9.70 | |
| SC | 0.8 | 0 | 0 | 0.27 | 0.46 | 0.00 | 0.80 | |
| SF | 0.3 | 0 | 0.2 | 0.17 | 0.15 | 0.00 | 0.30 | |
| SV | 0.4 | 0 | 0 | 0.13 | 0.23 | 0.00 | 0.40 | |
| VM | 3.2 | 2.9 | 11.2 | 5.77 | 4.71 | 2.90 | 11.20 | |
| Grand Total | 37.7 | 46.4 | 37.7 | 40.60 | 5.02 | 37.70 | 46.40 | |

| Habitat | LPP | LPP | LPP | | | | | |
|-------------|------|------|------|------|------|------|-------|--|
| | 1 | 1 | 1 | | | | | |
| Group | 1 | 2 | 3 | mean | min | max | stdev | |
| 1 | 25 | 36.5 | 30.4 | 30.6 | 25 | 36.5 | 5.8 | |
| 2 | 12.4 | 9.7 | 5.9 | 9.3 | 5.9 | 12.4 | 3.3 | |
| 3 | 0.3 | 0.2 | 1.4 | 0.6 | 0.2 | 1.4 | 0.7 | |
| Grand Total | 37.7 | 46.4 | 37.7 | 40.6 | 37.7 | 46.4 | 5.0 | |

ShrubCover

| Habitat UD Species | UD | | | | | | mean | stdv | min | max |
|--------------------------|-------|-------|------|------|-------|-------|--------|-------|-------|--------|
| | 1 | 2 | 3 | 4 | 5 | 5 | | | | |
| | 1 | 1 | 1 | 1 | 1 | 2 | | | | |
| BF | 23.2 | 0.6 | 6.5 | 18.1 | 0 | 0.6 | 8.17 | 10.09 | 0.00 | 23.20 |
| BM | 0 | 0 | 0 | 1 | 0 | 0 | 0.17 | 0.41 | 0.00 | 1.00 |
| CS | 1.1 | 0 | 0.9 | 0 | 0 | 2.7 | 0.78 | 1.06 | 0.00 | 2.70 |
| CU | 0 | 0 | 0 | 0 | 0 | 1.3 | 0.22 | 0.53 | 0.00 | 1.30 |
| EB | 0 | 0 | 0 | 0 | 1 | 0.3 | 0.22 | 0.40 | 0.00 | 1.00 |
| HZ | 27.6 | 1.2 | 8.1 | 0 | 0 | 10.1 | 7.83 | 10.61 | 0.00 | 27.60 |
| IP | 0 | 0 | 0 | 0 | 7 | 8 | 2.50 | 3.89 | 0.00 | 8.00 |
| LF | 0.9 | 0 | 0.4 | 0.4 | 1.1 | 0 | 0.47 | 0.45 | 0.00 | 1.10 |
| NT | 0 | 0 | 0 | 0 | 4.5 | 2.4 | 1.15 | 1.90 | 0.00 | 4.50 |
| OG | 13.6 | 45.2 | 35.3 | 0 | 0 | 0.1 | 15.70 | 19.98 | 0.00 | 45.20 |
| SB | 0 | 0 | 0 | 2.6 | 73.3 | 40.6 | 19.42 | 30.87 | 0.00 | 73.30 |
| SF | 41.5 | 9.5 | 41.2 | 9.2 | 27.1 | 30.5 | 26.50 | 14.46 | 9.20 | 41.50 |
| SN | 0 | 0 | 0 | 0.9 | 0.2 | 5.3 | 1.07 | 2.10 | 0.00 | 5.30 |
| TB | 0 | 0 | 0 | 1.1 | 0 | 0 | 0.18 | 0.45 | 0.00 | 1.10 |
| VM | 0 | 91.1 | 1.8 | 1.3 | 4.9 | 11.7 | 18.47 | 35.83 | 0.00 | 91.10 |
| Grand Total | 107.9 | 147.6 | 94.2 | 34.6 | 119.1 | 113.6 | 102.83 | 37.79 | 34.60 | 147.60 |

| Habitat UD Group | UD | | | | | | mean | min | max | stdev |
|------------------------|-------|-------|------|------|-------|-------|-------|------|-------|-------|
| | 1 | 2 | 3 | 4 | 5 | 5 | | | | |
| | 1 | 1 | 1 | 1 | 1 | 2 | | | | |
| 1 | 28.7 | 92.3 | 10.8 | 4.9 | 86.2 | 74.7 | 49.6 | 4.9 | 92.3 | 39.3 |
| 2 | 13.6 | 45.2 | 35.3 | 2 | 0.2 | 5.4 | 17.0 | 0.2 | 45.2 | 18.9 |
| 3 | 65.6 | 10.1 | 48.1 | 27.7 | 32.7 | 33.5 | 36.3 | 10.1 | 65.6 | 18.9 |
| Grand Total | 107.9 | 147.6 | 94.2 | 34.6 | 119.1 | 113.6 | 102.8 | 34.6 | 147.6 | 37.8 |

ShrubCover

| Habitat M Species | M | | mean | stdv | min | max |
|-------------------------|-------|------|-------|-------|-------|-------|
| | 1 | 2 | | | | |
| AL | 0.10 | 0 | 0.05 | 0.07 | 0.00 | 0.10 |
| BF | 8.10 | 0.8 | 4.45 | 5.16 | 0.80 | 8.10 |
| BLM | 4.70 | 0 | 2.35 | 3.32 | 0.00 | 4.70 |
| EB | 0.40 | 0 | 0.20 | 0.28 | 0.00 | 0.40 |
| HM | 2.70 | 1 | 1.85 | 1.20 | 1.00 | 2.70 |
| HU | 2.30 | 0.4 | 1.35 | 1.34 | 0.40 | 2.30 |
| HZ | 0.00 | 0.3 | 0.15 | 0.21 | 0.00 | 0.30 |
| LF | 0.70 | 0 | 0.35 | 0.49 | 0.00 | 0.70 |
| MF | 0.30 | 0 | 0.15 | 0.21 | 0.00 | 0.30 |
| OG | 11.60 | 4.4 | 8.00 | 5.09 | 4.40 | 11.60 |
| OS | 1.30 | 0 | 0.65 | 0.92 | 0.00 | 1.30 |
| RO | 0.00 | 0.2 | 0.10 | 0.14 | 0.00 | 0.20 |
| SA | 0.40 | 0 | 0.20 | 0.28 | 0.00 | 0.40 |
| SF | 46.40 | 1.5 | 23.95 | 31.75 | 1.50 | 46.40 |
| VM | 12.60 | 72 | 42.30 | 42.00 | 12.60 | 72.00 |
| WF | 0.20 | 0 | 0.10 | 0.14 | 0.00 | 0.20 |
| Grand Total | 91.80 | 80.6 | 86.20 | 7.92 | 80.60 | 91.80 |

| M Group | 1 | | 2 | | mean | min | max | stdev |
|-------------|------|------|------|------|------|------|-----|-------|
| | 1 | 2 | 1 | 2 | | | | |
| 1 | 24.1 | 73.9 | 49 | 24.1 | 73.9 | 35.2 | | |
| 2 | 12 | 4.4 | 8.2 | 4.4 | 12 | 5.4 | | |
| 3 | 55.7 | 2.3 | 29 | 2.3 | 55.7 | 37.8 | | |
| Grand Total | 91.8 | 80.6 | 86.2 | 80.6 | 91.8 | 7.9 | | |

ShrubCover

| Habitat | MD |
|-------------|------|
| MD | 1 |
| Species | 1 |
| BF | 5.40 |
| SN | 0.70 |
| AP | 5.7 |
| Grand Total | 11.8 |

| Habitat | Area |
|-------------|------|
| MD | 1 |
| Group | 1 |
| 1 | 5.7 |
| 2 | 0.7 |
| 3 | 5.4 |
| Grand Total | 11.8 |

| Habitat | MS | MS | MS | MS | | | | |
|-------------|-------|-------|--------|--------|--------|-------|--------|--------|
| MS | 1 | 1 | 2 | 2 | | | | |
| Species | 1 | 2 | 1 | 2 | mean | stdv | min | max |
| BF | 3.6 | 7.3 | 29.20 | 33.10 | 18.30 | 15.00 | 3.60 | 33.10 |
| CS | 0.4 | 1.4 | 18.90 | 24.50 | 11.30 | 12.23 | 0.40 | 24.50 |
| DE | 0 | 0 | 0.00 | 0.10 | 0.03 | 0.05 | 0.00 | 0.10 |
| DF | 0 | 0 | 0.00 | 0.80 | 0.20 | 0.40 | 0.00 | 0.80 |
| HZ | 0 | 42 | 33.20 | 29.80 | 26.25 | 18.24 | 0.00 | 42.00 |
| IP | 0 | 0 | 0.50 | 0.90 | 0.35 | 0.44 | 0.00 | 0.90 |
| OG | 0.3 | 0 | 0.00 | 0.10 | 0.10 | 0.14 | 0.00 | 0.30 |
| RO | 0 | 0 | 0.20 | 0.00 | 0.05 | 0.10 | 0.00 | 0.20 |
| SA | 0 | 0 | 31.50 | 4.00 | 8.88 | 15.20 | 0.00 | 31.50 |
| SF | 72.3 | 47.8 | 32.10 | 7.50 | 39.93 | 27.22 | 7.50 | 72.30 |
| SN | 0 | 0.3 | 0.00 | 0.00 | 0.08 | 0.15 | 0.00 | 0.30 |
| VM | 58.3 | 38.9 | 9.70 | 47.30 | 38.55 | 20.81 | 9.70 | 58.30 |
| Grand Total | 134.9 | 137.7 | 155.30 | 148.10 | 144.00 | 9.43 | 134.90 | 155.30 |

| Habitat | MS | MS | MS | MS | | | | |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|
| MS | 1 | 1 | 2 | 2 | | | | |
| Group | 1 | 2 | 1 | 2 | mean | min | max | stdev |
| 1 | 58.7 | 82.3 | 62.5 | 103.3 | 76.7 | 58.7 | 103.3 | 20.5 |
| 2 | 0.3 | 0.3 | 31.5 | 4.1 | 9.1 | 0.3 | 31.5 | 15.1 |
| 3 | 75.9 | 55.1 | 61.3 | 40.7 | 58.3 | 40.7 | 75.9 | 14.6 |
| Grand Total | 134.9 | 137.7 | 155.3 | 148.1 | 144.0 | 134.9 | 155.3 | 9.4 |

ShrubCover

| Habitat | MX | MX | MX | | | | |
|-------------|------|-------|--------|--------|-------|-------|--------|
| MX | 1 | 2 | 2 | | | | |
| Species | 1 | 1 | 2 | mean | stdv | min | max |
| BF | 1.9 | 7.1 | 2.70 | 3.90 | 2.80 | 1.90 | 7.10 |
| HO | 0 | 1 | 0.00 | 0.33 | 0.58 | 0.00 | 1.00 |
| HU | 0 | 0.3 | 0.30 | 0.20 | 0.17 | 0.00 | 0.30 |
| HZ | 2.2 | 32.6 | 13.20 | 16.00 | 15.39 | 2.20 | 32.60 |
| NT | 0 | 0 | 0.20 | 0.07 | 0.12 | 0.00 | 0.20 |
| OG | 9.6 | 19.2 | 26.10 | 18.30 | 8.29 | 9.60 | 26.10 |
| OS | 0 | 6.4 | 0.00 | 2.13 | 3.70 | 0.00 | 6.40 |
| RO | 0 | 0 | 0.80 | 0.27 | 0.46 | 0.00 | 0.80 |
| SB | 2 | 1.4 | 0.70 | 1.37 | 0.65 | 0.70 | 2.00 |
| SF | 45.8 | 40.1 | 57.30 | 47.73 | 8.76 | 40.10 | 57.30 |
| VM | 36.3 | 36 | 42.10 | 38.13 | 3.44 | 36.00 | 42.10 |
| Grand Total | 97.8 | 144.1 | 143.40 | 128.43 | 26.53 | 97.80 | 144.10 |

| Habitat | MX | MX | MX | | | | |
|-------------|------|-------|-------|-------|------|-------|-------|
| MX | 1 | 2 | 2 | | | | |
| Group | 1 | 1 | 2 | mean | min | max | stdev |
| 1 | 40.5 | 77.7 | 57.1 | 58.4 | 40.5 | 77.7 | 18.6 |
| 2 | 9.6 | 19.2 | 26.1 | 18.3 | 9.6 | 26.1 | 8.3 |
| 3 | 47.7 | 47.2 | 60.2 | 51.7 | 47.2 | 60.2 | 7.4 |
| Grand Total | 97.8 | 144.1 | 143.4 | 128.4 | 97.8 | 144.1 | 26.5 |

ShrubCover

| Habitat | OG | OG | OG | | | | |
|----------------|-----------|-----------|-----------|-------------|-------------|------------|------------|
| OG | 1 | 2 | 2 | | | | |
| Species | 1 | 1 | 2 | mean | stdv | min | max |
| BF | 0.3 | 0.6 | 0.30 | 0.40 | 0.17 | 0.3 | 0.60 |
| BM | 0.8 | 0.1 | 0.00 | 0.30 | 0.44 | 0 | 0.80 |
| HM | 0.1 | 0 | 12.20 | 4.10 | 7.01 | 0 | 12.20 |
| HZ | 1.7 | 0 | 0.00 | 0.57 | 0.98 | 0 | 1.70 |
| OG | 13.7 | 6.2 | 20.00 | 13.30 | 6.91 | 6.2 | 20.00 |
| SF | 29 | 13.4 | 1.40 | 14.60 | 13.84 | 1.4 | 29.00 |
| VM | 1.2 | 58.4 | 49.10 | 36.23 | 30.69 | 1.2 | 58.40 |
| Grand Total | 46.8 | 78.7 | 83.00 | 69.50 | 19.78 | 46.8 | 83.00 |

| Habitat | OG | OG | OG | | | | |
|----------------|-----------|-----------|-----------|-------------|------------|------------|--------------|
| OG | 1 | 2 | 2 | | | | |
| Grouop | 1 | 1 | 2 | mean | min | max | stdev |
| 1 | 3.8 | 58.5 | 61.3 | 41.2 | 3.8 | 61.3 | 32.4 |
| 2 | 13.7 | 6.2 | 20 | 13.3 | 6.2 | 20 | 6.9 |
| 3 | 29.3 | 14 | 1.7 | 15 | 1.7 | 29.3 | 13.8 |
| Grand Total | 46.8 | 78.7 | 83 | 69.5 | 46.8 | 83 | 19.8 |

ShrubCover

| Habitat | P | | | mean | stdv | min | max |
|-------------|------|------|-------|-------|-------|-------|-------|
| Species | P 1 | P 1 | P 2 | | | | |
| BF | 5.2 | 4.1 | 2.70 | 4.00 | 1.25 | 2.70 | 5.20 |
| DF | 0 | 0 | 4.00 | 1.33 | 2.31 | 0.00 | 4.00 |
| HM | 2.2 | 13.9 | 0.00 | 5.37 | 7.47 | 0.00 | 13.90 |
| HU | 0 | 1.2 | 0.80 | 0.67 | 0.61 | 0.00 | 1.20 |
| HZ | 0 | 0 | 0.40 | 0.13 | 0.23 | 0.00 | 0.40 |
| LF | 0 | 0.5 | 0.00 | 0.17 | 0.29 | 0.00 | 0.50 |
| OG | 0 | 1.8 | 0.00 | 0.60 | 1.04 | 0.00 | 1.80 |
| SB | 0 | 0.5 | 0.00 | 0.17 | 0.29 | 0.00 | 0.50 |
| SF | 2.7 | 13.4 | 1.30 | 5.80 | 6.62 | 1.30 | 13.40 |
| VM | 48.1 | 39.9 | 64.40 | 50.80 | 12.47 | 39.90 | 64.40 |
| Grand Total | 58.2 | 75.3 | 73.60 | 69.03 | 9.42 | 58.20 | 75.30 |

| Habitat | P | | | mean | min | max | stdev |
|-------------|------|------|------|------|------|------|-------|
| Group | P 1 | P 1 | P 2 | | | | |
| 1 | 50.3 | 55.5 | 69.6 | 58.5 | 50.3 | 69.6 | 10.0 |
| 2 | 0 | 1.8 | 0 | 0.6 | 0 | 1.8 | 1.0 |
| 3 | 7.9 | 18 | 4 | 10.0 | 4 | 18 | 7.2 |
| Grand Total | 58.2 | 75.3 | 73.6 | 69.0 | 58.2 | 75.3 | 9.4 |

ShrubCover

| Habitat | SH | | | mean | stdv | min | max |
|-------------|-------|------|-------|--------|-------|--------|--------|
| Species | 1 | 2 | 3 | | | | |
| BF | 14.7 | 33.7 | 17.9 | 22.10 | 10.17 | 14.70 | 33.70 |
| CS | 9.8 | 37.2 | 57 | 34.67 | 23.70 | 9.80 | 57.00 |
| DF | 0 | 4 | 0.6 | 1.53 | 2.16 | 0.00 | 4.00 |
| HU | 0 | 0 | 0.3 | 0.10 | 0.17 | 0.00 | 0.30 |
| HZ | 65.7 | 48.1 | 22.9 | 45.57 | 21.51 | 22.90 | 65.70 |
| IP | 0 | 0 | 4.1 | 1.37 | 2.37 | 0.00 | 4.10 |
| OG | 4 | 3.4 | 4.9 | 4.10 | 0.75 | 3.40 | 4.90 |
| OS | 0 | 1.4 | 0 | 0.47 | 0.81 | 0.00 | 1.40 |
| RO | 0 | 0 | 0.1 | 0.03 | 0.06 | 0.00 | 0.10 |
| SA | 3.1 | 20.8 | 13.3 | 12.40 | 8.88 | 3.10 | 20.80 |
| SB | 0 | 0.1 | 0 | 0.03 | 0.06 | 0.00 | 0.10 |
| SF | 32.3 | 8.8 | 16.8 | 19.30 | 11.95 | 8.80 | 32.30 |
| VM | 18.5 | 23.5 | 22.8 | 21.60 | 2.71 | 18.50 | 23.50 |
| Grand Total | 148.1 | 181 | 160.7 | 163.27 | 16.60 | 148.10 | 181.00 |

| Habitat | SH | | | mean | min | max | stdev |
|-------------|-------|-------|-------|-------|-------|-------|-------|
| Group | 1 | 2 | 3 | | | | |
| 1 | 94 | 114.3 | 107.8 | 105.4 | 94 | 114.3 | 10.4 |
| 2 | 7.1 | 24.2 | 18.2 | 16.5 | 7.1 | 24.2 | 8.7 |
| 3 | 47 | 42.5 | 34.7 | 41.4 | 34.7 | 47 | 6.2 |
| Grand Total | 148.1 | 181 | 160.7 | 163.3 | 148.1 | 181 | 16.6 |

ShrubCover

| Habitat | SS | SS | SS | | | | |
|-------------|------|------|-------|-------|-------|-------|-------|
| SS | 1 | 1 | 2 | | | | |
| Species | 1 | 2 | 1 | mean | stdv | min | max |
| AL | 0 | 0.3 | 0.40 | 0.23 | 0.21 | 0.00 | 0.40 |
| BB | 0 | 0 | 3.70 | 1.23 | 2.14 | 0.00 | 3.70 |
| BF | 58.5 | 51.3 | 68.30 | 59.37 | 8.53 | 51.30 | 68.30 |
| FG | 1.1 | 4 | 0.20 | 1.77 | 1.99 | 0.20 | 4.00 |
| HZ | 3.2 | 0 | 0.00 | 1.07 | 1.85 | 0.00 | 3.20 |
| OG | 0 | 2.9 | 12.60 | 5.17 | 6.60 | 0.00 | 12.60 |
| SB | 0 | 0 | 0.70 | 0.23 | 0.40 | 0.00 | 0.70 |
| SF | 3.5 | 0.5 | 0.20 | 1.40 | 1.82 | 0.20 | 3.50 |
| SW | 0 | 0.5 | 0.00 | 0.17 | 0.29 | 0.00 | 0.50 |
| TH | 2.9 | 0 | 0.00 | 0.97 | 1.67 | 0.00 | 2.90 |
| VM | 3 | 0.7 | 0.00 | 1.23 | 1.57 | 0.00 | 3.00 |
| Grand Total | 72.2 | 60.2 | 86.10 | 72.83 | 12.96 | 60.20 | 86.10 |

| Habitat | SS | SS | SS | | | | |
|-------------|------|------|------|------|------|------|-------|
| SS | 1 | 1 | 2 | | | | |
| Group | 1 | 2 | 1 | mean | min | max | stdev |
| 1 | 6.2 | 1 | 1.1 | 2.8 | 1 | 6.2 | 3.0 |
| 2 | 0 | 2.9 | 16.3 | 6.4 | 0 | 16.3 | 8.7 |
| 3 | 66 | 56.3 | 68.7 | 63.7 | 56.3 | 68.7 | 6.5 |
| Grand Total | 72.2 | 60.2 | 86.1 | 72.8 | 60.2 | 86.1 | 13.0 |

**Appendix 2.3-1
Vegetation Data Tables**

Herbaceous Cover (Sum of %, Average)

HerbAnaly(1)

| Habitat | | LPP | | | | | | | | | |
|--------------------|-------------|--------------|-------------|--------------|-------------|------------|--------------|--------------|--------------|--------------|--------------|
| % Cover | | | | | | | | | | | |
| | 1 | | 1 | | 1 | | Grand | Total | | | |
| Species | 1 | avg | 2 | avg | 3 | avg | total | avg | min | max | stdev |
| bare | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 |
| forb | 10 | 0.5 | 55 | 2.75 | 35 | 1.75 | 100 | 1.67 | 0.50 | 2.75 | 1.13 |
| grass | 15 | 0.75 | 45 | 2.25 | 100 | 5 | 160 | 2.67 | 0.75 | 5.00 | 2.16 |
| moss | 1880 | 94 | 1745 | 87.25 | 1815 | 90.75 | 5440 | 90.67 | 87.25 | 94.00 | 3.38 |
| woody | 10 | 0.5 | 20 | 1 | 10 | 0.5 | 40 | 0.67 | 0.50 | 1.00 | 0.29 |
| Grand Total | 1915 | 95.75 | 1865 | 93.25 | 1960 | 98 | 5740 | 95.67 | 93.25 | 98.00 | 2.38 |

| Habitat | | M | | | | | | | | |
|--------------------|------------|--------------|------------|-------------|--------------|--------------|--------------|-------------|--------------|--|
| % Cover | | | | | | | | | | |
| | 1 | | 2 | | Grand | Total | | | | |
| Species | 1 | avg | 1 | avg | total | avg | min | max | stdev | |
| bare | 0 | 0 | 10 | 0.5 | 10 | 0.25 | 0 | 0.5 | 0.4 | |
| forb | 145 | 7.25 | 740 | 37 | 885 | 22.13 | 7.25 | 37 | 21.0 | |
| grass | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 | |
| woody | 370 | 18.5 | 240 | 12 | 610 | 15.25 | 12 | 18.5 | 4.6 | |
| Grand Total | 515 | 25.75 | 990 | 49.5 | 1505 | 37.63 | 25.75 | 49.5 | 16.8 | |

| Habitat | | MX | | | | | | | | | |
|--------------------|-------------|-------------|------------|--------------|------------|--------------|--------------|--------------|------------|-------------|--------------|
| % Cover | | | | | | | | | | | |
| | Area | Plot | | | | | Grand | Total | std | min | max |
| Species | 1 | AVG | 2 | AVG | 2 | AVG | total | avg | | | |
| bare | 0 | 0 | 100 | 5 | 0 | 0 | 100 | 1.7 | 2.9 | 0 | 5 |
| forb | 420 | 21 | 770 | 38.5 | 635 | 31.75 | 1825 | 30.4 | 8.8 | 21 | 38.5 |
| grass | 0 | 0 | 30 | 1.5 | 20 | 1 | 50 | 0.8 | 0.8 | 0 | 1.5 |
| woody | 170 | 8.5 | 55 | 2.75 | 50 | 2.5 | 275 | 4.6 | 3.4 | 2.5 | 8.5 |
| Grand Total | 590 | 29.5 | 955 | 47.75 | 705 | 35.25 | 2250 | 37.5 | 9.3 | 29.5 | 47.75 |

HerbAnaly(1)

| Habitat | MD | |
|-------------|------|-------|
| % Cover | Area | Avg |
| Species | 1 | 1 |
| bare | 0 | 0 |
| forb | 474 | 23.7 |
| grass | 1491 | 74.55 |
| woody | 0 | 0 |
| Grand Total | 1965 | 98.25 |

| Habitat | MS | | | | | | | | | | | | |
|-------------|-----|------|------|------|-----|------|-----|-------|-------|-------|------|------|-------|
| % Cover | 1 | | 1 | | 2 | | 2 | | Grand | Total | | | |
| Species | 1 | avg | 2 | avg | 1 | avg | 2 | avg | total | avg | min | max | stdev |
| bare | 50 | 2.5 | 0 | 0 | 80 | 4 | 55 | 2.75 | 185 | 2.313 | 0 | 4 | 1.7 |
| forb | 140 | 7 | 630 | 31.5 | 210 | 10.5 | 477 | 23.85 | 1457 | 18.21 | 7 | 31.5 | 11.5 |
| grass | 0 | 0 | 10 | 0.5 | 10 | 0.5 | 10 | 0.5 | 30 | 0.375 | 0 | 0.5 | 0.3 |
| woody | 390 | 19.5 | 450 | 22.5 | 130 | 6.5 | 185 | 9.25 | 1155 | 14.44 | 6.5 | 22.5 | 7.8 |
| Grand Total | 580 | 29 | 1090 | 54.5 | 430 | 21.5 | 727 | 36.35 | 2827 | 35.34 | 21.5 | 54.5 | 14.1 |

| Habitat | OG | | | | | | | | | | |
|-------------|-----|-------|------|-------|------|-------|-------|--------|-------|------|-------|
| % Cover | 1 | | 2 | | 2 | | Grand | Total | max | min | stdev |
| Species | 1 | avg | 1 | avg | 2 | avg | total | avg | | | |
| bare | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| forb | 165 | 8.25 | 1465 | 73.25 | 1210 | 60.5 | 2840 | 47.333 | 73.25 | 8.25 | 637.3 |
| grass | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| woody | 515 | 25.75 | 30 | 1.5 | 145 | 7.25 | 690 | 11.5 | 25.75 | 1.5 | 73.7 |
| Grand Total | 680 | 34 | 1495 | 74.75 | 1355 | 67.75 | 3530 | 58.833 | 74.75 | 34 | 710.1 |

| Habitat | P | | | | | | | | | | |
|-------------|-----|------|------|------|-----|------|-------|-------|------|------|-------|
| % Cover | 1 | | 1 | | 2 | | Grand | Total | max | min | stdev |
| Species | 1 | avg | 2 | avg | 1 | avg | total | avg | | | |
| bare | 0 | 0 | 90 | 4.5 | 0 | 0 | 90 | 1.5 | 4.5 | 0 | 2.6 |
| forb | 680 | 34 | 660 | 33 | 40 | 2 | 1380 | 23 | 34 | 2 | 18.2 |
| grass | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| woody | 270 | 13.5 | 510 | 25.5 | 330 | 16.5 | 1110 | 18.5 | 25.5 | 13.5 | 6.2 |
| Grand Total | 950 | 47.5 | 1260 | 63 | 370 | 18.5 | 2580 | 43 | 63 | 18.5 | 22.6 |

HerbAnaly(1)

| Habitat | | SH | | | | | | | | | | |
|--------------------|------------|--------------|------------|-------------|------------|--------------|--------------|--------------|-------------|-------------|--------------|--|
| % Cover | | | | | | | | | | | | |
| | 1 | avg | 1 | avg | 1 | avg | Grand | Total | | | | |
| Species | 1 | | 2 | | 3 | | total | avg | max | min | stdev | |
| bare | 0 | 0 | 0 | 0 | 15 | 0.75 | 15 | 0.3 | 0.8 | 0 | 0.4 | |
| forb | 630 | 31.5 | 114 | 5.7 | 120 | 6 | 864 | 14.4 | 31.5 | 5.7 | 14.8 | |
| grass | 55 | 2.75 | 0 | 0 | 0 | 0 | 55 | 0.9 | 2.8 | 0 | 1.6 | |
| woody | 150 | 7.5 | 100 | 5 | 120 | 6 | 370 | 6.2 | 7.5 | 5 | 1.3 | |
| Grand Total | 835 | 41.75 | 214 | 10.7 | 255 | 12.75 | 1304 | 21.7 | 41.8 | 10.7 | 17.4 | |

| Habitat | | SS | | | | | | | | | | |
|--------------------|-------------|--------------|-------------|--------------|------------|------------|--------------|--------------|--------------|------------|--------------|--|
| % Cover | | | | | | | | | | | | |
| | 1 | avg | 1 | avg | 2 | avg | Grand | Total | max | min | stdev | |
| Species | 1 | | 2 | | 1 | | total | avg | | | | |
| bare | 0 | 0 | 0 | 0 | 10 | 0.5 | 10 | 0.1667 | 0.5 | 0 | 0.3 | |
| forb | 1010 | 50.5 | 1255 | 62.75 | 440 | 22 | 2705 | 45.083 | 62.75 | 22 | 20.9 | |
| grass | 225 | 11.25 | 290 | 14.5 | 250 | 12.5 | 765 | 12.75 | 14.5 | 11.25 | 1.6 | |
| woody | 240 | 12 | 110 | 5.5 | 220 | 11 | 570 | 9.5 | 12 | 5.5 | 3.5 | |
| Grand Total | 1475 | 73.75 | 1655 | 82.75 | 920 | 46 | 4050 | 67.5 | 82.75 | 46 | 19.2 | |

Appendix 2.3-1
Vegetation Data Tables

Average Shrub Height

ShrubHeight

| Habitat LPP | | | |
|-----------------------------|-------------|-----------------------|--------------|
| Area | Plot | Data | Total |
| 1 | 1 | Average of Height (m) | 1.5 |
| | | StdDev of Height (m) | 0.7 |
| | | Min of Height (m) | 0.4 |
| | | Max of Height (m) | 3.3 |
| | | Count of Height (m) | 20.0 |
| 1 | 2 | Average of Height (m) | 1.3 |
| | | StdDev of Height (m) | 0.6 |
| | | Min of Height (m) | 0.4 |
| | | Max of Height (m) | 2.5 |
| | | Count of Height (m) | 20.0 |
| 1 | 3 | Average of Height (m) | 2.1 |
| | | StdDev of Height (m) | 0.7 |
| | | Min of Height (m) | 1.0 |
| | | Max of Height (m) | 3.5 |
| | | Count of Height (m) | 20.0 |
| Total Average of Height (m) | | | 1.6 |
| Total StdDev of Height (m) | | | 0.7 |
| Total Min of Height (m) | | | 0.4 |
| Total Max of Height (m) | | | 3.5 |
| Total Count of Height (m) | | | 60.0 |

| Habitat M | | | |
|-----------------------------|-------------|-----------------------|--------------|
| Area | Plot | Data | Total |
| 1 | 1 | Average of Height (m) | 2.10 |
| | | StdDev of Height (m) | 0.96 |
| | | Min of Height (m) | 1.00 |
| | | Max of Height (m) | 4.60 |
| | | Count of Height (m) | 20.00 |
| 2 | 1 | Average of Height (m) | 4.43 |
| | | StdDev of Height (m) | 2.17 |
| | | Min of Height (m) | 1.60 |
| | | Max of Height (m) | 9.00 |
| | | Count of Height (m) | 20.00 |
| Total Average of Height (m) | | | 3.26 |
| Total StdDev of Height (m) | | | 2.04 |
| Total Min of Height (m) | | | 1.00 |
| Total Max of Height (m) | | | 9.00 |
| Total Count of Height (m) | | | 40.00 |

ShrubHeight

| Habitat MD | | | | |
|------------------------------|-------------|-------------|------------------------|--------------|
| | Area | Plot | Data | Total |
| | 1 | 1 | Average of Height (cm) | 38.3 |
| | | | StdDev of Height (cm) | 6.7 |
| | | | Min of Height (cm) | 34.0 |
| | | | Max of Height (cm) | 46.0 |
| | | | Count of Height (cm) | 3.0 |
| Total Average of Height (cm) | | | | 38.3 |
| Total StdDev of Height (cm) | | | | 6.7 |
| Total Min of Height (cm) | | | | 34.0 |
| Total Max of Height (cm) | | | | 46.0 |
| Total Count of Height (cm) | | | | 3.0 |

| Habitat MS | | | | |
|-----------------------------|-------------|-------------|-----------------------|--------------|
| | Area | Plot | Data | Total |
| | 1 | 1 | Average of Height (m) | 3.3 |
| | | | StdDev of Height (m) | 2.0 |
| | | | Min of Height (m) | 0.3 |
| | | | Max of Height (m) | 7.0 |
| | | | Count of Height (m) | 20.0 |
| | 1 | 2 | Average of Height (m) | 4.5 |
| | | | StdDev of Height (m) | 1.7 |
| | | | Min of Height (m) | 1.2 |
| | | | Max of Height (m) | 8.0 |
| | | | Count of Height (m) | 20.0 |
| | 2 | 1 | Average of Height (m) | 2.2 |
| | | | StdDev of Height (m) | 1.6 |
| | | | Min of Height (m) | 0.1 |
| | | | Max of Height (m) | 6.0 |
| | | | Count of Height (m) | 20.0 |
| | 2 | 2 | Average of Height (m) | 3.5 |
| | | | StdDev of Height (m) | 2.0 |
| | | | Min of Height (m) | 1.0 |
| | | | Max of Height (m) | 7.5 |
| | | | Count of Height (m) | 20.0 |
| Total Average of Height (m) | | | | 3.4 |
| Total StdDev of Height (m) | | | | 2.0 |
| Total Min of Height (m) | | | | 0.1 |
| Total Max of Height (m) | | | | 8.0 |
| Total Count of Height (m) | | | | 80.0 |

ShrubHeight

| Habitat MX | | | |
|-----------------------------|-------------|-----------------------|--------------|
| Area | Plot | Data | Total |
| 1 | 1 | Average of Height (m) | 3.0 |
| | | StdDev of Height (m) | 1.5 |
| | | Min of Height (m) | 0.6 |
| | | Max of Height (m) | 7.2 |
| | | Count of Height (m) | 20.0 |
| 2 | 1 | Average of Height (m) | 3.6 |
| | | StdDev of Height (m) | 2.5 |
| | | Min of Height (m) | 0.4 |
| | | Max of Height (m) | 9.3 |
| | | Count of Height (m) | 20.0 |
| 2 | 2 | Average of Height (m) | 3.5 |
| | | StdDev of Height (m) | 2.3 |
| | | Min of Height (m) | 0.5 |
| | | Max of Height (m) | 7.5 |
| | | Count of Height (m) | 20.0 |
| Total Average of Height (m) | | | 3.4 |
| Total StdDev of Height (m) | | | 2.1 |
| Total Min of Height (m) | | | 0.4 |
| Total Max of Height (m) | | | 9.3 |
| Total Count of Height (m) | | | 60.0 |

| Habitat OG | | | |
|-----------------------------|-------------|-----------------------|--------------|
| Area | Plot | Data | Total |
| 1 | 1 | Average of Height (m) | 2.14 |
| | | StdDev of Height (m) | 1.60 |
| | | Min of Height (m) | 0.50 |
| | | Max of Height (m) | 6.00 |
| | | Count of Height (m) | 17.00 |
| 2 | 1 | Average of Height (m) | 4.65 |
| | | StdDev of Height (m) | 2.21 |
| | | Min of Height (m) | 0.40 |
| | | Max of Height (m) | 8.00 |
| | | Count of Height (m) | 20.00 |
| 2 | 2 | Average of Height (m) | 4.11 |
| | | StdDev of Height (m) | 1.45 |
| | | Min of Height (m) | 1.40 |
| | | Max of Height (m) | 7.20 |
| | | Count of Height (m) | 20.00 |
| Total Average of Height (m) | | | 3.71 |
| Total StdDev of Height (m) | | | 2.06 |
| Total Min of Height (m) | | | 0.40 |
| Total Max of Height (m) | | | 8.00 |
| Total Count of Height (m) | | | 57.00 |

ShrubHeight

| Habitat | | P | | |
|-----------------------------|------|-----------------------|------|-------|
| Area | Plot | | Data | Total |
| 1 | 1 | Average of Height (m) | | 3.18 |
| | | StdDev of Height (m) | | 1.30 |
| | | Min of Height (m) | | 0.90 |
| | | Max of Height (m) | | 5.40 |
| | | Count of Height (m) | | 20.00 |
| 1 | 2 | Average of Height (m) | | 1.94 |
| | | StdDev of Height (m) | | 1.39 |
| | | Min of Height (m) | | 0.20 |
| | | Max of Height (m) | | 6.00 |
| 2 | 1 | Average of Height (m) | | 4.94 |
| | | StdDev of Height (m) | | 1.62 |
| | | Min of Height (m) | | 2.00 |
| | | Max of Height (m) | | 7.60 |
| | | Count of Height (m) | | 20.00 |
| Total Average of Height (m) | | | | 3.35 |
| Total StdDev of Height (m) | | | | 1.89 |
| Total Min of Height (m) | | | | 0.20 |
| Total Max of Height (m) | | | | 7.60 |
| Total Count of Height (m) | | | | 60.00 |

| Habitat | | SH | | |
|-----------------------------|------|-----------------------|------|-------|
| Area | Plot | | Data | Total |
| 1 | 1 | Average of Height (m) | | 4.02 |
| | | StdDev of Height (m) | | 1.98 |
| | | Min of Height (m) | | 0.38 |
| | | Max of Height (m) | | 8.00 |
| | | Count of Height (m) | | 20.00 |
| 1 | 2 | Average of Height (m) | | 4.25 |
| | | StdDev of Height (m) | | 2.34 |
| | | Min of Height (m) | | 0.10 |
| | | Max of Height (m) | | 8.50 |
| 1 | 3 | Average of Height (m) | | 4.26 |
| | | StdDev of Height (m) | | 1.86 |
| | | Min of Height (m) | | 0.40 |
| | | Max of Height (m) | | 9.00 |
| | | Count of Height (m) | | 20.00 |
| Total Average of Height (m) | | | | 4.17 |
| Total StdDev of Height (m) | | | | 2.03 |
| Total Min of Height (m) | | | | 0.10 |
| Total Max of Height (m) | | | | 9.00 |
| Total Count of Height (m) | | | | 60.00 |

ShrubHeight

| Habitat | | SS | | |
|-----------------------------|------|----|-----------------------|-------|
| Area | Plot | | Data | Total |
| 1 | 1 | | Average of Height (m) | 2.15 |
| | | | StdDev of Height (m) | 1.08 |
| | | | Min of Height (m) | 0.30 |
| | | | Max of Height (m) | 3.80 |
| | | | Count of Height (m) | 11.00 |
| 1 | 2 | | Average of Height (m) | 3.18 |
| | | | StdDev of Height (m) | 1.54 |
| | | | Min of Height (m) | 0.70 |
| | | | Max of Height (m) | 5.30 |
| | | | Count of Height (m) | 11.00 |
| 2 | 1 | | Average of Height (m) | 1.45 |
| | | | StdDev of Height (m) | 0.96 |
| | | | Min of Height (m) | 0.15 |
| | | | Max of Height (m) | 3.50 |
| | | | Count of Height (m) | 13.00 |
| Total Average of Height (m) | | | | 2.21 |
| Total StdDev of Height (m) | | | | 1.38 |
| Total Min of Height (m) | | | | 0.15 |
| Total Max of Height (m) | | | | 5.30 |
| Total Count of Height (m) | | | | 35.00 |

ShrubHeight

| Habitat | | UD | | |
|-----------------------------|------|-----------------------|------|-------|
| Area | Plot | | Data | Total |
| 1 | 1 | Average of Height (m) | | 3.1 |
| | | StdDev of Height (m) | | 1.1 |
| | | Min of Height (m) | | 1.5 |
| | | Max of Height (m) | | 5.2 |
| | | Count of Height (m) | | 20.0 |
| 2 | 1 | Average of Height (m) | | 4.8 |
| | | StdDev of Height (m) | | 1.8 |
| | | Min of Height (m) | | 0.8 |
| | | Max of Height (m) | | 7.6 |
| | | Count of Height (m) | | 20.0 |
| 3 | 1 | Average of Height (m) | | 3.5 |
| | | StdDev of Height (m) | | 1.7 |
| | | Min of Height (m) | | 1.0 |
| | | Max of Height (m) | | 7.2 |
| | | Count of Height (m) | | 20.0 |
| 4 | 1 | Average of Height (m) | | 1.4 |
| | | StdDev of Height (m) | | 0.8 |
| | | Min of Height (m) | | 0.4 |
| | | Max of Height (m) | | 3.1 |
| | | Count of Height (m) | | 20.0 |
| 5 | 1 | Average of Height (m) | | 1.8 |
| | | StdDev of Height (m) | | 0.6 |
| | | Min of Height (m) | | 0.9 |
| | | Max of Height (m) | | 3.2 |
| | | Count of Height (m) | | 20.0 |
| 5 | 2 | Average of Height (m) | | 3.1 |
| | | StdDev of Height (m) | | 1.6 |
| | | Min of Height (m) | | 1.8 |
| | | Max of Height (m) | | 7.6 |
| | | Count of Height (m) | | 20.0 |
| Total Average of Height (m) | | | | 2.9 |
| Total StdDev of Height (m) | | | | 1.7 |
| Total Min of Height (m) | | | | 0.4 |
| Total Max of Height (m) | | | | 7.6 |
| Total Count of Height (m) | | | | 120.0 |

**Appendix 2.3-1
Vegetation Data Tables**

Low Herbaceous Height

LowHerbHt

| Habitat | | LPP | |
|---------------------------|------|---------------------|-------|
| Area | Plot | Data | Total |
| 1 | 1 | Average of Low (cm) | 12.3 |
| | | StdDev of Low (cm) | 5.9 |
| | | Min of Low (cm) | 5.0 |
| | | Max of Low (cm) | 30.0 |
| | | Count of Low (cm) | 20.0 |
| | 2 | Average of Low (cm) | 18.0 |
| | | StdDev of Low (cm) | 12.4 |
| | | Min of Low (cm) | 11.0 |
| | | Max of Low (cm) | 43.0 |
| | | Count of Low (cm) | 6.0 |
| | 3 | Average of Low (cm) | 10.9 |
| | | StdDev of Low (cm) | 3.0 |
| | | Min of Low (cm) | 5.0 |
| | | Max of Low (cm) | 14.0 |
| | | Count of Low (cm) | 8.0 |
| Total Average of Low (cm) | | | 12.9 |
| Total StdDev of Low (cm) | | | 7.2 |
| Total Min of Low (cm) | | | 5.0 |
| Total Max of Low (cm) | | | 43.0 |
| Total Count of Low (cm) | | | 34.0 |

| Habitat | | M | | |
|---------------------------|------|---------------------|---------------------|------|
| Area | Plot | Data | Total | |
| 1 | 1 | Average of Low (cm) | 15.5 | |
| | | StdDev of Low (cm) | 7.6 | |
| | | Min of Low (cm) | 5.0 | |
| | | Max of Low (cm) | 33.0 | |
| | | Count of Low (cm) | 20.0 | |
| | 2 | 1 | Average of Low (cm) | 15.6 |
| | | StdDev of Low (cm) | 9.6 | |
| | | Min of Low (cm) | 4.0 | |
| | | Max of Low (cm) | 43.0 | |
| | | Count of Low (cm) | 20.0 | |
| Total Average of Low (cm) | | | 15.6 | |
| Total StdDev of Low (cm) | | | 8.6 | |
| Total Min of Low (cm) | | | 4.0 | |
| Total Max of Low (cm) | | | 43.0 | |
| Total Count of Low (cm) | | | 40.0 | |

LowHerbHt

| Habitat | | MS | | |
|---------------------------|------|---------------------|-------|--|
| Area | Plot | Data | Total | |
| 1 | 1 | Average of Low (cm) | 9.8 | |
| | | StdDev of Low (cm) | 4.7 | |
| | | Min of Low (cm) | 3.0 | |
| | | Max of Low (cm) | 19.0 | |
| | | Count of Low (cm) | 20.0 | |
| 1 | 2 | Average of Low (cm) | 15.3 | |
| | | StdDev of Low (cm) | 7.9 | |
| | | Min of Low (cm) | 3.0 | |
| | | Max of Low (cm) | 37.0 | |
| | | Count of Low (cm) | 20.0 | |
| 2 | 1 | Average of Low (cm) | 18.3 | |
| | | StdDev of Low (cm) | 23.2 | |
| | | Min of Low (cm) | 4.0 | |
| | | Max of Low (cm) | 100.0 | |
| | | Count of Low (cm) | 20.0 | |
| 2 | 2 | Average of Low (cm) | 12.0 | |
| | | StdDev of Low (cm) | 6.4 | |
| | | Min of Low (cm) | 3.0 | |
| | | Max of Low (cm) | 30.0 | |
| | | Count of Low (cm) | 20.0 | |
| Total Average of Low (cm) | | | 13.8 | |
| Total StdDev of Low (cm) | | | 13.1 | |
| Total Min of Low (cm) | | | 3.0 | |
| Total Max of Low (cm) | | | 100.0 | |
| Total Count of Low (cm) | | | 80.0 | |

LowHerbHt

| Habitat | | MX | | |
|---------------------------|------|---------------------|-------|--|
| Area | Plot | Data | Total | |
| 1 | 1 | Average of Low (cm) | 13.7 | |
| | | StdDev of Low (cm) | 7.3 | |
| | | Min of Low (cm) | 5.0 | |
| | | Max of Low (cm) | 32.0 | |
| | | Count of Low (cm) | 20.0 | |
| 2 | 1 | Average of Low (cm) | 19.7 | |
| | | StdDev of Low (cm) | 13.5 | |
| | | Min of Low (cm) | 8.0 | |
| | | Max of Low (cm) | 63.0 | |
| 2 | 2 | Average of Low (cm) | 20.4 | |
| | | StdDev of Low (cm) | 9.1 | |
| | | Min of Low (cm) | 6.0 | |
| | | Max of Low (cm) | 38.0 | |
| Total Average of Low (cm) | | | 17.9 | |
| Total StdDev of Low (cm) | | | 10.6 | |
| Total Min of Low (cm) | | | 5.0 | |
| Total Max of Low (cm) | | | 63.0 | |
| Total Count of Low (cm) | | | 60.0 | |

| Habitat | | OG | | |
|---------------------------|------|---------------------|-------|--|
| Area | Plot | Data | Total | |
| 1 | 1 | Average of Low (cm) | 23.8 | |
| | | StdDev of Low (cm) | 13.5 | |
| | | Min of Low (cm) | 5.0 | |
| | | Max of Low (cm) | 61.0 | |
| | | Count of Low (cm) | 20.0 | |
| 2 | 1 | Average of Low (cm) | 19.8 | |
| | | StdDev of Low (cm) | 9.6 | |
| | | Min of Low (cm) | 5.0 | |
| | | Max of Low (cm) | 36.0 | |
| 2 | 2 | Average of Low (cm) | 22.9 | |
| | | StdDev of Low (cm) | 7.5 | |
| | | Min of Low (cm) | 8.0 | |
| | | Max of Low (cm) | 36.0 | |
| Total Average of Low (cm) | | | 22.1 | |
| Total StdDev of Low (cm) | | | 10.4 | |
| Total Min of Low (cm) | | | 5.0 | |
| Total Max of Low (cm) | | | 61.0 | |
| Total Count of Low (cm) | | | 60.0 | |

LowHerbHt

| Habitat | | P | | |
|---------------------------|------|---------------------|-------|--|
| Area | Plot | Data | Total | |
| 1 | 1 | Average of Low (cm) | 7.6 | |
| | | StdDev of Low (cm) | 3.5 | |
| | | Min of Low (cm) | 2.0 | |
| | | Max of Low (cm) | 14.0 | |
| | | Count of Low (cm) | 20.0 | |
| 1 | 2 | Average of Low (cm) | 11.4 | |
| | | StdDev of Low (cm) | 6.4 | |
| | | Min of Low (cm) | 3.0 | |
| | | Max of Low (cm) | 32.0 | |
| | | Count of Low (cm) | 20.0 | |
| 2 | 1 | Average of Low (cm) | 20.0 | |
| | | StdDev of Low (cm) | 17.0 | |
| | | Min of Low (cm) | 6.0 | |
| | | Max of Low (cm) | 80.0 | |
| | | Count of Low (cm) | 20.0 | |
| Total Average of Low (cm) | | | 13.0 | |
| Total StdDev of Low (cm) | | | 11.7 | |
| Total Min of Low (cm) | | | 2.0 | |
| Total Max of Low (cm) | | | 80.0 | |
| Total Count of Low (cm) | | | 60.0 | |

| Habitat | | SH | | |
|---------------------------|------|---------------------|-------|--|
| Area | Plot | Data | Total | |
| 1 | 1 | Average of Low (cm) | 18.9 | |
| | | StdDev of Low (cm) | 8.4 | |
| | | Min of Low (cm) | 10.0 | |
| | | Max of Low (cm) | 46.0 | |
| | | Count of Low (cm) | 20.0 | |
| 1 | 2 | Average of Low (cm) | 12.7 | |
| | | StdDev of Low (cm) | 10.2 | |
| | | Min of Low (cm) | 3.0 | |
| | | Max of Low (cm) | 41.0 | |
| | | Count of Low (cm) | 20.0 | |
| 1 | 3 | Average of Low (cm) | 11.0 | |
| | | StdDev of Low (cm) | 12.7 | |
| | | Min of Low (cm) | 2.0 | |
| | | Max of Low (cm) | 63.0 | |
| | | Count of Low (cm) | 20.0 | |
| Total Average of Low (cm) | | | 14.2 | |
| Total StdDev of Low (cm) | | | 10.9 | |
| Total Min of Low (cm) | | | 2.0 | |
| Total Max of Low (cm) | | | 63.0 | |
| Total Count of Low (cm) | | | 60.0 | |

LowHerbHt

| Habitat | | SS | | |
|---------------------------|------|----|---------------------|-------|
| Area | Plot | | Data | Total |
| 1 | 1 | | Average of Low (cm) | 28 |
| | | | StdDev of Low (cm) | 15.8 |
| | | | Min of Low (cm) | 7.0 |
| | | | Max of Low (cm) | 56.0 |
| | | | Count of Low (cm) | 20.0 |
| 1 | 2 | | Average of Low (cm) | 23.0 |
| | | | StdDev of Low (cm) | 15.0 |
| | | | Min of Low (cm) | 6 |
| | | | Max of Low (cm) | 56 |
| | | | Count of Low (cm) | 20 |
| 2 | 1 | | Average of Low (cm) | 15.3 |
| | | | StdDev of Low (cm) | 9.3 |
| | | | Min of Low (cm) | 3 |
| | | | Max of Low (cm) | 39 |
| | | | Count of Low (cm) | 20 |
| Total Average of Low (cm) | | | | 22.1 |
| Total StdDev of Low (cm) | | | | 14.4 |
| Total Min of Low (cm) | | | | 3 |
| Total Max of Low (cm) | | | | 56 |
| Total Count of Low (cm) | | | | 60 |

LowHerbHt

| Habitat | UD | | |
|---------------------------|------|---------------------|-------|
| Area | Plot | Data | Total |
| 1 | 1 | Average of Low (cm) | 24.4 |
| | | StdDev of Low (cm) | 18.5 |
| | | Min of Low (cm) | 9.0 |
| | | Max of Low (cm) | 68.0 |
| | | Count of Low (cm) | 20.0 |
| 2 | 1 | Average of Low (cm) | 15.1 |
| | | StdDev of Low (cm) | 11.6 |
| | | Min of Low (cm) | 5.0 |
| | | Max of Low (cm) | 57.0 |
| | | Count of Low (cm) | 20.0 |
| 3 | 1 | Average of Low (cm) | 26.5 |
| | | StdDev of Low (cm) | 9.5 |
| | | Min of Low (cm) | 13.0 |
| | | Max of Low (cm) | 48.0 |
| | | Count of Low (cm) | 20.0 |
| 4 | 1 | Average of Low (cm) | 15.5 |
| | | StdDev of Low (cm) | 8.5 |
| | | Min of Low (cm) | 6.0 |
| | | Max of Low (cm) | 38.1 |
| | | Count of Low (cm) | 20.0 |
| 5 | 1 | Average of Low (cm) | 22.0 |
| | | StdDev of Low (cm) | 9.5 |
| | | Min of Low (cm) | 7.0 |
| | | Max of Low (cm) | 48.0 |
| | | Count of Low (cm) | 20.0 |
| 5 | 2 | Average of Low (cm) | 21.9 |
| | | StdDev of Low (cm) | 9.3 |
| | | Min of Low (cm) | 5.1 |
| | | Max of Low (cm) | 43.2 |
| | | Count of Low (cm) | 20.0 |
| Total Average of Low (cm) | | | 20.9 |
| Total StdDev of Low (cm) | | | 12.2 |
| Total Min of Low (cm) | | | 5.0 |
| Total Max of Low (cm) | | | 68.0 |
| Total Count of Low (cm) | | | 120.0 |

**Appendix 2.3-1
Vegetation Data Tables**

Low Shrub/Tall Forb Height

| Habitat LPP | | | | |
|----------------------------|-------------|-------------|----------------------|--------------|
| | Area | Plot | Data | Total |
| | 1 | 1 | Average of High (cm) | 17.2 |
| | | | StdDev of High (cm) | 10.5 |
| | | | Min of High (cm) | 5.0 |
| | | | Max of High (cm) | 47.0 |
| | | | Count of High (cm) | 20.0 |
| | 1 | 2 | Average of High (cm) | 30.1 |
| | | | StdDev of High (cm) | 19.7 |
| | | | Min of High (cm) | 11.0 |
| | | | Max of High (cm) | 90.0 |
| | | | Count of High (cm) | 20.0 |
| | 1 | 3 | Average of High (cm) | 33.6 |
| | | | StdDev of High (cm) | 35.7 |
| | | | Min of High (cm) | 6.0 |
| | | | Max of High (cm) | 140.0 |
| | | | Count of High (cm) | 20.0 |
| Total Average of High (cm) | | | | 27.0 |
| Total StdDev of High (cm) | | | | 24.9 |
| Total Min of High (cm) | | | | 5.0 |
| Total Max of High (cm) | | | | 140.0 |
| Total Count of High (cm) | | | | 60.0 |

| Habitat M | | | | |
|----------------------------|-------------|-------------|--|--------------|
| | Area | Plot | Data | Total |
| | 1 | 1 | Average of High (cm) | 64.0 |
| | | | StdDev of High (cm) | 23.0 |
| | | | Min of High (cm) | 12.0 |
| | | | Max of High (cm) | 98 |
| | | | Count of High (cm) | 20 |
| | 2 | 1 | <i>No low shrub/tall forb layer at M-2-1</i> | |
| Total Average of High (cm) | | | | 64.0 |
| Total StdDev of High (cm) | | | | 23.0 |
| Total Min of High (cm) | | | | 12 |
| Total Max of High (cm) | | | | 98 |
| Total Count of High (cm) | | | | 20 |

| Habitat MD | | | | |
|----------------------------|-------------|-------------|----------------------|--------------|
| | Area | Plot | Data | Total |
| | 1 | 1 | Average of High (cm) | 40.2 |
| | | | StdDev of High (cm) | 8.8 |
| | | | Min of High (cm) | 18.0 |
| | | | Max of High (cm) | 58.0 |
| | | | Count of High (cm) | 17.0 |
| Total Average of High (cm) | | | | 40.2 |
| Total StdDev of High (cm) | | | | 8.8 |
| Total Min of High (cm) | | | | 18.0 |
| Total Max of High (cm) | | | | 58.0 |
| Total Count of High (cm) | | | | 17.0 |

| Habitat MS | | | | |
|----------------------------|-------------|-------------|----------------------|--------------|
| | Area | Plot | Data | Total |
| | 1 | 1 | Average of High (cm) | 80.6 |
| | | | StdDev of High (cm) | 25.9 |
| | | | Min of High (cm) | 32.0 |
| | | | Max of High (cm) | 135.0 |
| | | | Count of High (cm) | 20.0 |
| | 1 | 2 | Average of High (cm) | 75.2 |
| | | | StdDev of High (cm) | 22.1 |
| | | | Min of High (cm) | 38.0 |
| | | | Max of High (cm) | 110.0 |
| | | | Count of High (cm) | 20.0 |
| | 2 | 1 | Average of High (cm) | 53.7 |
| | | | StdDev of High (cm) | 25.9 |
| | | | Min of High (cm) | 21.0 |
| | | | Max of High (cm) | 100.0 |
| | | | Count of High (cm) | 20.0 |
| | 2 | 2 | Average of High (cm) | 63.3 |
| | | | StdDev of High (cm) | 28.0 |
| | | | Min of High (cm) | 13.0 |
| | | | Max of High (cm) | 114.0 |
| | | | Count of High (cm) | 20.0 |
| Total Average of High (cm) | | | | 68.2 |
| Total StdDev of High (cm) | | | | 27.2 |
| Total Min of High (cm) | | | | 13.0 |
| Total Max of High (cm) | | | | 135.0 |
| Total Count of High (cm) | | | | 80.0 |

| Habitat MX | | | | |
|----------------------------|-------------|-------------|----------------------|--------------|
| | Area | Plot | Data | Total |
| | 1 | 1 | Average of High (cm) | 76.3 |
| | | | StdDev of High (cm) | 24.5 |
| | | | Min of High (cm) | 34.0 |
| | | | Max of High (cm) | 130.0 |
| | | | Count of High (cm) | 20.0 |
| | 2 | 1 | Average of High (cm) | 72.8 |
| | | | StdDev of High (cm) | 32.7 |
| | | | Min of High (cm) | 13.0 |
| | | | Max of High (cm) | 125.0 |
| | | | Count of High (cm) | 20.0 |
| | 2 | 2 | Average of High (cm) | 89.6 |
| | | | StdDev of High (cm) | 22.7 |
| | | | Min of High (cm) | 59.0 |
| | | | Max of High (cm) | 123.0 |
| | | | Count of High (cm) | 20.0 |
| Total Average of High (cm) | | | | 79.6 |
| Total StdDev of High (cm) | | | | 27.5 |
| Total Min of High (cm) | | | | 13.0 |
| Total Max of High (cm) | | | | 130.0 |
| Total Count of High (cm) | | | | 60.0 |

| Habitat OG | | | | |
|----------------------------|-------------|-------------|----------------------|--------------|
| | Area | Plot | Data | Total |
| | 1 | 1 | Average of High (cm) | 68.2 |
| | | | StdDev of High (cm) | 28.6 |
| | | | Min of High (cm) | 16.0 |
| | | | Max of High (cm) | 114.0 |
| | | | Count of High (cm) | 20.0 |
| | 2 | 1 | Average of High (cm) | 37.2 |
| | | | StdDev of High (cm) | 13.9 |
| | | | Min of High (cm) | 9.0 |
| | | | Max of High (cm) | 56.0 |
| | | | Count of High (cm) | 20.0 |
| | 2 | 2 | Average of High (cm) | 30.1 |
| | | | StdDev of High (cm) | 12.8 |
| | | | Min of High (cm) | 2.0 |
| | | | Max of High (cm) | 70.0 |
| | | | Count of High (cm) | 20.0 |
| Total Average of High (cm) | | | | 45.1 |
| Total StdDev of High (cm) | | | | 25.6 |
| Total Min of High (cm) | | | | 2.0 |
| Total Max of High (cm) | | | | 114.0 |
| Total Count of High (cm) | | | | 60.0 |

| Habitat | | P | | |
|----------------------------|------|---|--|-------|
| Area | Plot | | Data | Total |
| 1 | 1 | | Average of High (cm) | 30.6 |
| | | | StdDev of High (cm) | 15.9 |
| | | | Min of High (cm) | 6.0 |
| | | | Max of High (cm) | 60.0 |
| | | | Count of High (cm) | 20.0 |
| 1 | 2 | | Average of High (cm) | 36.2 |
| | | | StdDev of High (cm) | 15.8 |
| | | | Min of High (cm) | 15.0 |
| | | | Max of High (cm) | 80.0 |
| | | | Count of High (cm) | 20.0 |
| 2 | 1 | | <i>No low shrub/tall forb layer at P-2-1</i> | |
| Total Average of High (cm) | | | | 33.4 |
| Total StdDev of High (cm) | | | | 15.9 |
| Total Min of High (cm) | | | | 6.0 |
| Total Max of High (cm) | | | | 80.0 |
| Total Count of High (cm) | | | | 40.0 |

| Habitat | | SH | | |
|----------------------------|------|----|----------------------|-------|
| Area | Plot | | Data | Total |
| 1 | 1 | | Average of High (cm) | 68.3 |
| | | | StdDev of High (cm) | 35.1 |
| | | | Min of High (cm) | 25.0 |
| | | | Max of High (cm) | 122.0 |
| | | | Count of High (cm) | 20.0 |
| 1 | 2 | | Average of High (cm) | 40.2 |
| | | | StdDev of High (cm) | 28.2 |
| | | | Min of High (cm) | 4.0 |
| | | | Max of High (cm) | 87.0 |
| | | | Count of High (cm) | 20.0 |
| 1 | 3 | | Average of High (cm) | 66.6 |
| | | | StdDev of High (cm) | 33.8 |
| | | | Min of High (cm) | 13.0 |
| | | | Max of High (cm) | 136.0 |
| | | | Count of High (cm) | 20.0 |
| Total Average of High (cm) | | | | 58.3 |
| Total StdDev of High (cm) | | | | 34.5 |
| Total Min of High (cm) | | | | 4.0 |
| Total Max of High (cm) | | | | 136.0 |
| Total Count of High (cm) | | | | 60.0 |

| Habitat | | SS | | |
|----------------------------|------|----|----------------------|-------|
| Area | Plot | | Data | Total |
| 1 | 1 | | Average of High (cm) | 113.6 |
| | | | StdDev of High (cm) | 54.6 |
| | | | Min of High (cm) | 37.0 |
| | | | Max of High (cm) | 216.0 |
| | | | Count of High (cm) | 20.0 |
| 1 | 2 | | Average of High (cm) | 98.5 |
| | | | StdDev of High (cm) | 56.4 |
| | | | Min of High (cm) | 13.0 |
| | | | Max of High (cm) | 230.0 |
| | | | Count of High (cm) | 20.0 |
| 2 | 1 | | Average of High (cm) | 87.6 |
| | | | StdDev of High (cm) | 39.1 |
| | | | Min of High (cm) | 33.0 |
| | | | Max of High (cm) | 148.0 |
| | | | Count of High (cm) | 20.0 |
| Total Average of High (cm) | | | | 99.9 |
| Total StdDev of High (cm) | | | | 50.9 |
| Total Min of High (cm) | | | | 13.0 |
| Total Max of High (cm) | | | | 230.0 |
| Total Count of High (cm) | | | | 60.0 |

| Habitat | | UD | | |
|----------------------------|------|----|----------------------|-------|
| Area | Plot | | Data | Total |
| 1 | 1 | | Average of High (cm) | 98.0 |
| | | | StdDev of High (cm) | 39.9 |
| | | | Min of High (cm) | 30.0 |
| | | | Max of High (cm) | 190.0 |
| | | | Count of High (cm) | 20.0 |
| 2 | 1 | | Average of High (cm) | 44.0 |
| | | | StdDev of High (cm) | 20.3 |
| | | | Min of High (cm) | 21.0 |
| | | | Max of High (cm) | 94.0 |
| | | | Count of High (cm) | 20.0 |
| 3 | 1 | | Average of High (cm) | 84.7 |
| | | | StdDev of High (cm) | 30.2 |
| | | | Min of High (cm) | 35.0 |
| | | | Max of High (cm) | 135.0 |
| | | | Count of High (cm) | 20.0 |
| 4 | 1 | | Average of High (cm) | 65.5 |
| | | | StdDev of High (cm) | 23.8 |
| | | | Min of High (cm) | 25.4 |
| | | | Max of High (cm) | 100.0 |
| | | | Count of High (cm) | 20.0 |
| 5 | 1 | | Average of High (cm) | 104.3 |
| | | | StdDev of High (cm) | 21.9 |
| | | | Min of High (cm) | 60.0 |
| | | | Max of High (cm) | 170.0 |
| | | | Count of High (cm) | 20.0 |
| 5 | 2 | | Average of High (cm) | 104.1 |
| | | | StdDev of High (cm) | 36.0 |
| | | | Min of High (cm) | 55.9 |
| | | | Max of High (cm) | 215.9 |
| | | | Count of High (cm) | 20.0 |
| Total Average of High (cm) | | | | 83.4 |
| Total StdDev of High (cm) | | | | 36.5 |
| Total Min of High (cm) | | | | 21.0 |
| Total Max of High (cm) | | | | 215.9 |
| Total Count of High (cm) | | | | 120.0 |

**Appendix 2.3-1
Vegetation Data Tables**

Snag dbh Analysis

SnagDBH

| Habitat LPP | | | | |
|--------------------------------|-------------|-------------|--------------------------|--------------|
| | Area | Plot | Data | Total |
| | 1 | 1 | Average of Snag DBH (cm) | 6.0 |
| | | | Count of Snag DBH (cm) | 3.0 |
| | | | Max of Snag DBH (cm) | 8.0 |
| | | | Min of Snag DBH (cm) | 5.0 |
| | | | StdDev of Snag DBH (cm) | 1.7 |
| | 1 | 2 | Average of Snag DBH (cm) | 27.5 |
| | | | Count of Snag DBH (cm) | 17.0 |
| | | | Max of Snag DBH (cm) | 87.0 |
| | | | Min of Snag DBH (cm) | 6.0 |
| | | | StdDev of Snag DBH (cm) | 21.9 |
| | 1 | 3 | Average of Snag DBH (cm) | 20.5 |
| | | | Count of Snag DBH (cm) | 10.0 |
| | | | Max of Snag DBH (cm) | 67.0 |
| | | | Min of Snag DBH (cm) | 7.0 |
| | | | StdDev of Snag DBH (cm) | 18.4 |
| Total Average of Snag DBH (cm) | | | | 23.0 |
| Total Count of Snag DBH (cm) | | | | 30.0 |
| Total Max of Snag DBH (cm) | | | | 87.0 |
| Total Min of Snag DBH (cm) | | | | 5.0 |
| Total StdDev of Snag DBH (cm) | | | | 20.3 |

| Habitat M | | | | |
|--------------------------------|-------------|-------------|--------------------------|--------------|
| | Area | Plot | Data | Total |
| | 1 | 1 | Average of Snag DBH (cm) | 39.5 |
| | | | Count of Snag DBH (cm) | 15.0 |
| | | | Max of Snag DBH (cm) | 110.0 |
| | | | Min of Snag DBH (cm) | 8.0 |
| | | | StdDev of Snag DBH (cm) | 28.7 |
| | 2 | 1 | Average of Snag DBH (cm) | 46.0 |
| | | | Count of Snag DBH (cm) | 17.0 |
| | | | Max of Snag DBH (cm) | 103.0 |
| | | | Min of Snag DBH (cm) | 17.0 |
| | | | StdDev of Snag DBH (cm) | 19.8 |
| Total Average of Snag DBH (cm) | | | | 42.9 |
| Total Count of Snag DBH (cm) | | | | 32.0 |
| Total Max of Snag DBH (cm) | | | | 110.0 |
| Total Min of Snag DBH (cm) | | | | 8.0 |
| Total StdDev of Snag DBH (cm) | | | | 24.2 |

SnagDBH

| Habitat MD | | | | |
|--------------------------------|-------------|-------------|------------------------|--------------|
| | Area | Plot | Data | Total |
| | 1 | 1 | Count of Snag DBH (cm) | 0 |
| Total Average of Snag DBH (cm) | | | | 0 |
| Total Count of Snag DBH (cm) | | | | 0 |
| Total Max of Snag DBH (cm) | | | | 0 |
| Total Min of Snag DBH (cm) | | | | 0 |
| Total StdDev of Snag DBH (cm) | | | | 0 |

| Habitat MS | | | | |
|--------------------------------|-------------|-------------|--------------------------|--------------|
| | Area | Plot | Data | Total |
| | 1 | 1 | Average of Snag DBH (cm) | 48.9 |
| | | | Count of Snag DBH (cm) | 5.0 |
| | | | Max of Snag DBH (cm) | 147.0 |
| | | | Min of Snag DBH (cm) | 19.5 |
| | | | StdDev of Snag DBH (cm) | 55.0 |
| | 1 | 2 | Average of Snag DBH (cm) | 33.2 |
| | | | Count of Snag DBH (cm) | 23.0 |
| | | | Max of Snag DBH (cm) | 126.0 |
| | | | Min of Snag DBH (cm) | 11.0 |
| | | | StdDev of Snag DBH (cm) | 33.6 |
| | 2 | 1 | Average of Snag DBH (cm) | 10.0 |
| | | | Count of Snag DBH (cm) | 2.0 |
| | | | Max of Snag DBH (cm) | 10.9 |
| | | | Min of Snag DBH (cm) | 9.1 |
| | | | StdDev of Snag DBH (cm) | 1.3 |
| | 2 | 2 | Count of Snag DBH (cm) | 0.0 |
| | | | Max of Snag DBH (cm) | 0.0 |
| | | | Min of Snag DBH (cm) | 0.0 |
| Total Average of Snag DBH (cm) | | | | 34.3 |
| Total Count of Snag DBH (cm) | | | | 30.0 |
| Total Max of Snag DBH (cm) | | | | 147.0 |
| Total Min of Snag DBH (cm) | | | | 9.1 |
| Total StdDev of Snag DBH (cm) | | | | 36.8 |

SnagDBH

| Habitat MX | | | |
|--------------------------------|-------------|--------------------------|--------------|
| Area | Plot | Data | Total |
| 1 | 1 | Average of Snag DBH (cm) | 17.3 |
| | | Count of Snag DBH (cm) | 4.0 |
| | | Max of Snag DBH (cm) | 29.0 |
| | | Min of Snag DBH (cm) | 10.0 |
| | | StdDev of Snag DBH (cm) | 8.2 |
| 2 | 1 | Average of Snag DBH (cm) | 23.2 |
| | | Count of Snag DBH (cm) | 6.0 |
| | | Max of Snag DBH (cm) | 35.0 |
| | | Min of Snag DBH (cm) | 11.0 |
| | | StdDev of Snag DBH (cm) | 9.7 |
| 2 | 2 | Average of Snag DBH (cm) | 26.0 |
| | | Count of Snag DBH (cm) | 4.0 |
| | | Max of Snag DBH (cm) | 29.0 |
| | | Min of Snag DBH (cm) | 23.0 |
| | | StdDev of Snag DBH (cm) | 2.6 |
| Total Average of Snag DBH (cm) | | | 22.3 |
| Total Count of Snag DBH (cm) | | | 14.0 |
| Total Max of Snag DBH (cm) | | | 35.0 |
| Total Min of Snag DBH (cm) | | | 10.0 |
| Total StdDev of Snag DBH (cm) | | | 8.1 |

| Habitat OG | | | |
|--------------------------------|-------------|--------------------------|--------------|
| Area | Plot | Data | Total |
| 1 | 1 | Average of Snag DBH (cm) | 14.7 |
| | | Count of Snag DBH (cm) | 7.0 |
| | | Max of Snag DBH (cm) | 30.7 |
| | | Min of Snag DBH (cm) | 10.9 |
| | | StdDev of Snag DBH (cm) | 7.2 |
| 2 | 1 | Average of Snag DBH (cm) | 58.3 |
| | | Count of Snag DBH (cm) | 6.0 |
| | | Max of Snag DBH (cm) | 146.0 |
| | | Min of Snag DBH (cm) | 23.0 |
| | | StdDev of Snag DBH (cm) | 44.3 |
| 2 | 2 | Average of Snag DBH (cm) | 67.4 |
| | | Count of Snag DBH (cm) | 13.0 |
| | | Max of Snag DBH (cm) | 113.0 |
| | | Min of Snag DBH (cm) | 21.1 |
| | | StdDev of Snag DBH (cm) | 30.7 |
| Total Average of Snag DBH (cm) | | | 51.1 |
| Total Count of Snag DBH (cm) | | | 26.0 |
| Total Max of Snag DBH (cm) | | | 146.0 |
| Total Min of Snag DBH (cm) | | | 10.9 |
| Total StdDev of Snag DBH (cm) | | | 37.2 |

SnagDBH

| Habitat | | P | | |
|--------------------------------|------|--------------------------|--------|--|
| Area | Plot | Data | Total | |
| 1 | 1 | Average of Snag DBH (cm) | 21.47 | |
| | | Count of Snag DBH (cm) | 86.00 | |
| | | Max of Snag DBH (cm) | 116.00 | |
| | | Min of Snag DBH (cm) | 6.00 | |
| | | StdDev of Snag DBH (cm) | 20.57 | |
| 1 | 2 | Average of Snag DBH (cm) | 18.48 | |
| | | Count of Snag DBH (cm) | 82.00 | |
| | | Max of Snag DBH (cm) | 128.00 | |
| | | Min of Snag DBH (cm) | 5.00 | |
| | | StdDev of Snag DBH (cm) | 16.77 | |
| 2 | 1 | Average of Snag DBH (cm) | 87.94 | |
| | | Count of Snag DBH (cm) | 18.00 | |
| | | Max of Snag DBH (cm) | 143.00 | |
| | | Min of Snag DBH (cm) | 30.00 | |
| | | StdDev of Snag DBH (cm) | 41.58 | |
| Total Average of Snag DBH (cm) | | | 26.58 | |
| Total Count of Snag DBH (cm) | | | 186.00 | |
| Total Max of Snag DBH (cm) | | | 143.00 | |
| Total Min of Snag DBH (cm) | | | 5.00 | |
| Total StdDev of Snag DBH (cm) | | | 29.73 | |

| Habitat | | SH | | |
|--------------------------------|------|--------------------------|-------|--|
| Area | Plot | Data | Total | |
| 1 | 1 | Count of Snag DBH (cm) | 0.0 | |
| 1 | 2 | Average of Snag DBH (cm) | 181.1 | |
| | | Count of Snag DBH (cm) | 1.0 | |
| | | Max of Snag DBH (cm) | 181.1 | |
| | | Min of Snag DBH (cm) | 181.1 | |
| 1 | 3 | Count of Snag DBH (cm) | 0.0 | |
| Total Average of Snag DBH (cm) | | | 181.1 | |
| Total Count of Snag DBH (cm) | | | 1.0 | |
| Total Max of Snag DBH (cm) | | | 181.1 | |

SnagDBH

| Habitat | | SS | | |
|--------------------------------|------|----|--------------------------|-------|
| Area | Plot | | Data | Total |
| 1 | 1 | | Average of Snag DBH (cm) | 81.4 |
| | | | Count of Snag DBH (cm) | 2.0 |
| | | | Max of Snag DBH (cm) | 112.8 |
| | | | Min of Snag DBH (cm) | 50.0 |
| | | | StdDev of Snag DBH (cm) | 44.4 |
| 1 | 2 | | Average of Snag DBH (cm) | 44.5 |
| | | | Count of Snag DBH (cm) | 2.0 |
| | | | Max of Snag DBH (cm) | 48.0 |
| | | | Min of Snag DBH (cm) | 41.0 |
| | | | StdDev of Snag DBH (cm) | 4.9 |
| 2 | 1 | | Average of Snag DBH (cm) | 86.0 |
| | | | Count of Snag DBH (cm) | 1.0 |
| | | | Max of Snag DBH (cm) | 86.0 |
| | | | Min of Snag DBH (cm) | 86.0 |
| Total Average of Snag DBH (cm) | | | | 67.6 |
| Total Count of Snag DBH (cm) | | | | 5.0 |
| Total Max of Snag DBH (cm) | | | | 112.8 |
| Total Min of Snag DBH (cm) | | | | 41.0 |
| Total StdDev of Snag DBH (cm) | | | | 30.7 |

SnagDBH

| Habitat | | UD | | |
|--------------------------------|------|----|--------------------------|-------|
| Area | Plot | | Data | Total |
| 1 | 1 | | Average of Snag DBH (cm) | 64.0 |
| | | | Count of Snag DBH (cm) | 2.0 |
| | | | Max of Snag DBH (cm) | 67.0 |
| | | | Min of Snag DBH (cm) | 61.0 |
| | | | StdDev of Snag DBH (cm) | 4.2 |
| 2 | 1 | | Average of Snag DBH (cm) | 96.1 |
| | | | Count of Snag DBH (cm) | 3.0 |
| | | | Max of Snag DBH (cm) | 135.9 |
| | | | Min of Snag DBH (cm) | 27.9 |
| | | | StdDev of Snag DBH (cm) | 59.3 |
| 3 | 1 | | Average of Snag DBH (cm) | 19.0 |
| | | | Count of Snag DBH (cm) | 2.0 |
| | | | Max of Snag DBH (cm) | 25.0 |
| | | | Min of Snag DBH (cm) | 13.0 |
| | | | StdDev of Snag DBH (cm) | 8.5 |
| 4 | 1 | | Average of Snag DBH (cm) | 17.1 |
| | | | Count of Snag DBH (cm) | 37.0 |
| | | | Max of Snag DBH (cm) | 39.0 |
| | | | Min of Snag DBH (cm) | 5.0 |
| | | | StdDev of Snag DBH (cm) | 5.8 |
| 5 | 1 | | Average of Snag DBH (cm) | 13.3 |
| | | | Count of Snag DBH (cm) | 4.0 |
| | | | Max of Snag DBH (cm) | 15.0 |
| | | | Min of Snag DBH (cm) | 12.0 |
| | | | StdDev of Snag DBH (cm) | 1.3 |
| 5 | 2 | | Average of Snag DBH (cm) | 59.3 |
| | | | Count of Snag DBH (cm) | 3.0 |
| | | | Max of Snag DBH (cm) | 135.0 |
| | | | Min of Snag DBH (cm) | 15.0 |
| | | | StdDev of Snag DBH (cm) | 65.9 |
| Total Average of Snag DBH (cm) | | | | 25.8 |
| Total Count of Snag DBH (cm) | | | | 51.0 |
| Total Max of Snag DBH (cm) | | | | 135.9 |
| Total Min of Snag DBH (cm) | | | | 5.0 |
| Total StdDev of Snag DBH (cm) | | | | 28.9 |

SnagDBH

| Habitat | Plot | # snags | Snags/ha | Snags/acre |
|-----------|------|---------|----------|------------|
| LPP | 1-1 | 30 | | |
| | 1-2 | 17 | | |
| | 1-3 | 10 | | |
| LPP Total | | 57 | 19.00 | 7.70 |
| M | 1-1 | 15 | | |
| | 2-1 | 170 | | |
| M Total | | 185 | 92.50 | 37.46 |
| MD | 1-1 | 0 | | |
| MD Total | | 0 | 0.00 | 0.00 |
| MS | 1-1 | 50 | | |
| | 1-2 | 23 | | |
| | 2-1 | 20 | | |
| | 2-2 | 0 | | |
| MS Total | | 93 | 23.25 | 9.42 |
| MX | 1-1 | 40 | | |
| | 2-1 | 60 | | |
| | 2-2 | 40 | | |
| MX Total | | 140 | 46.67 | 18.90 |
| OG | 1-1 | 70 | | |
| | 2-1 | 60 | | |
| | 2-2 | 130 | | |
| OG Total | | 260 | 86.67 | 35.10 |
| P | 1-1 | 86 | | |
| | 1-2 | 82 | | |
| | 2-1 | 18 | | |
| P Total | | 186 | 62.00 | 25.11 |
| SH | 1-1 | 0 | | |
| | 1-2 | 1 | | |
| | 1-3 | 0 | | |
| SH Total | | 1 | 0.33 | 0.14 |
| SS | 1-1 | 20 | | |
| | 1-2 | 20 | | |
| | 2-1 | 10 | | |
| SS Total | | 50 | 16.67 | 6.75 |
| UD | 1-1 | 2 | | |
| | 2-1 | 3 | | |
| | 3-1 | 2 | | |
| | 4-1 | 37 | | |
| | 5-1 | 4 | | |
| | 5-2 | 3 | | |
| UD Total | | 51 | 8.50 | 3.44 |

Appendix 3.3-1

List of Plant Species Identified in the Yale Study Area

List of plant species identified in the Yale Project study area.

| Family | Taxon | Common |
|------------------|--|--|
| Aceraceae | <i>Acer circinatum</i> | vine maple |
| Aceraceae | <i>Acer glabrum</i> var. <i>douglasii</i> | Douglas maple |
| Aceraceae | <i>Acer macrophyllum</i> | bigleaf maple |
| Alismataceae | <i>Sagittaria</i> sp. | arrowroot |
| Apiaceae | <i>Angelica genuflexa</i> | kneeling angelica |
| Apiaceae | <i>Cicuta douglasii</i> | Douglas water hemlock, western water hemlock |
| Apiaceae | <i>Daucus carota</i> | wild carrot, Queen Anne's lace |
| Apiaceae | <i>Oenanthe sarmentosa</i> | Pacific water parsley |
| Apiaceae | <i>Osmorhiza berteroi</i> | mountain sweet cicely |
| Apiaceae | <i>Osmorhiza purpurea</i> | purple sweet cicely |
| Aquifoliaceae | <i>Ilex aquifolium</i> | English holly |
| Araceae | <i>Lysichiton americanum</i> | skunk cabbage |
| Araliaceae | <i>Oplopanax horridum</i> | devil's club |
| Aristolochiaceae | <i>Asarum caudatum</i> | wild ginger, western wild ginger |
| Aspleniaceae | <i>Asplenium trichomanes-ramosum</i> | green spleenwort |
| Asteraceae | <i>Achillea millefolium</i> | yarrow, milfoil |
| Asteraceae | <i>Adenocaulon bicolor</i> | trailplant, pathfinder |
| Asteraceae | <i>Anaphalis margaritacea</i> | pearly everlasting |
| Asteraceae | <i>Arctium minus</i> | common burdock |
| Asteraceae | <i>Aster modestus</i> | few flowered aster, great northern aster |
| Asteraceae | <i>Bidens</i> sp. | beggars' ticks |
| Asteraceae | <i>Centaurea pratensis</i> | meadow knapweed |
| Asteraceae | <i>Cirsium arvense</i> | Canada thistle, creeping thistle |
| Asteraceae | <i>Cirsium vulgare</i> | bull thistle, common thistle |
| Asteraceae | <i>Conyza canadensis</i> | Canadian fleabane, horseweed |
| Asteraceae | <i>Crepis capillaris</i> | smooth hawksbeard |
| Asteraceae | <i>Erigeron annuus</i> | annual fleabane, sweet scabrous erigeron |
| Asteraceae | <i>Helianthus annuus</i> | common sunflower |
| Asteraceae | <i>Heterotheca oregona</i> | Oregon goldaster |
| Asteraceae | <i>Hieracium albiflorum</i> | white flowered hawkweed |
| Asteraceae | <i>Hypochaeris radicata</i> | rough cat's ear, hairy cat's ear |
| Asteraceae | <i>Lactuca biennis</i> | tall blue lettuce |
| Asteraceae | <i>Lactuca muralis</i> | wall lettuce |
| Asteraceae | <i>Lapsana communis</i> | nipplewort |
| Asteraceae | <i>Leontodon taraxacoides</i> ssp. <i>taraxacoides</i> | hairy hawkbit, rough hawkbit |
| Asteraceae | <i>Leucanthemum vulgare</i> | oxeye daisy |
| Asteraceae | <i>Madia gracilis</i> | slender tarweed, common tarweed |
| Asteraceae | <i>Petasites frigidus</i> var. <i>palmatius</i> | sweet coltsfoot, western coltsfoot |
| Asteraceae | <i>Senecio jacobaea</i> | tansy ragwort |
| Asteraceae | <i>Senecio sylvaticus</i> | woodland groundsel, wood groundsel |
| Asteraceae | <i>Solidago canadensis</i> var. <i>salebrosa</i> | Canada goldenrod |
| Asteraceae | <i>Sonchus asper</i> | prickly sow thistle |
| Asteraceae | <i>Taraxacum officinale</i> | common dandelion |
| Berberidaceae | <i>Achlys triphylla</i> | vanillaleaf, deerfoot |
| Berberidaceae | <i>Berberis aquifolium</i> | shining Oregon grape, tall Oregon grape |
| Berberidaceae | <i>Berberis nervosa</i> | Cascade Oregon grape, long leaved Oregon grape |
| Berberidaceae | <i>Vancouveria hexandra</i> | white inside out flower, northern vancouveria |
| Betulaceae | <i>Alnus rubra</i> | red alder, Oregon alder |
| Betulaceae | <i>Corylus cornuta</i> var. <i>californica</i> | California hazelnut |
| Blechnaceae | <i>Blechnum spicant</i> | deer fern, hard fern |
| Boraginaceae | <i>Myosotis laxa</i> | small flowered forget me not |

List of plant species identified in the Yale Project study area.

| Family | Taxon | Common |
|------------------|--|--|
| Brassicaceae | <i>Cardamine breweri</i> | Brewer's bittercress |
| Brassicaceae | <i>Rorippa islandica</i> | marsh yellowcress |
| Brassicaceae | <i>Rorippa nasturtium-aquaticum</i> | water cress |
| Callitrichaceae | <i>Callitriche stagnalis</i> | pond water starwort |
| Campanulaceae | <i>Campanula scouleri</i> | Scouler's harebell, Scouler's campanula |
| Caprifoliaceae | <i>Lonicera ciliosa</i> | orange honeysuckle |
| Caprifoliaceae | <i>Sambucus racemosa</i> var. <i>arborescens</i> | red elderberry |
| Caprifoliaceae | <i>Symphoricarpos albus</i> var. <i>laevigatus</i> | snow berry |
| Caryophyllaceae | <i>Cerastium arvense</i> | field chickweed, field mouse ear |
| Caryophyllaceae | <i>Cerastium fontanum</i> ssp. <i>vulgare</i> | big chickweed, common mouse ear |
| Caryophyllaceae | <i>Cerastium glomeratum</i> | sticky chickweed, sticky cerastium |
| Caryophyllaceae | <i>Dianthus armeria</i> | Deptford pink, grass pink |
| Caryophyllaceae | <i>Silene armeria</i> | sweet william catchfly |
| Caryophyllaceae | <i>Spergularia marina</i> | saltmarsh sandspurry |
| Caryophyllaceae | <i>Stellaria calycantha</i> | northern starwort |
| Caryophyllaceae | <i>Stellaria crispa</i> | crisped starwort |
| Caryophyllaceae | <i>Stellaria media</i> | common chickweed |
| Convolvulaceae | <i>Convolvulus sepium</i> | morning glory |
| Cornaceae | <i>Cornus nuttallii</i> | Pacific dogwood, western flowering dogwood |
| Crassulaceae | <i>Sedum oregonum</i> | Oregon stonecrop |
| Cupressaceae | <i>Thuja plicata</i> | western red cedar |
| Cyperaceae | <i>Carex amplifolia</i> | bigleaf sedge, ample leaved sedge |
| Cyperaceae | <i>Carex aquatilis</i> | water sedge |
| Cyperaceae | <i>Carex</i> cf. <i>stipata</i> | awl fruited sedge |
| Cyperaceae | <i>Carex echinata</i> | stellate sedge |
| Cyperaceae | <i>Carex hendersonii</i> | Henderson's sedge |
| Cyperaceae | <i>Carex interrupta</i> | green fruited sedge |
| Cyperaceae | <i>Carex lenticularis</i> | few ribbed sedge |
| Cyperaceae | <i>Carex mertensii</i> | Mertens' sedge |
| Cyperaceae | <i>Carex obnupta</i> | slough sedge |
| Cyperaceae | <i>Carex</i> sp. | sedge |
| Cyperaceae | <i>Carex utriculata</i> | shore sedge |
| Cyperaceae | <i>Carex vesicaria</i> | inflated sedge |
| Cyperaceae | <i>Dulichium arundinaceum</i> | three way sedge |
| Cyperaceae | <i>Eleocharis palustris</i> | spike rush |
| Cyperaceae | <i>Scirpus microcarpus</i> | panicled bulrush, small fruited bulrush |
| Cyperaceae | <i>Scirpus tabernaemontani</i> | tule, softstem bulrush |
| Dennstaedtiaceae | <i>Pteridium aquilinum</i> var. <i>pubescens</i> | bracken fern, brake fern |
| Dryopteridaceae | <i>Athyrium filix-femina</i> | lady fern |
| Dryopteridaceae | <i>Dryopteris expansa</i> | spreading wood fern |
| Dryopteridaceae | <i>Gymnocarpium dryopteris</i> | common oak fern |
| Dryopteridaceae | <i>Polystichum munitum</i> | common sword fern |
| Equisetaceae | <i>Equisetum arvense</i> | field horsetail, common horsetail |
| Equisetaceae | <i>Equisetum hyemale</i> var. <i>affine</i> | common scouring rush |
| Equisetaceae | <i>Equisetum palustre</i> | marsh horsetail |
| Equisetaceae | <i>Equisetum telmateia</i> var. <i>braunii</i> | giant horsetail |
| Ericaceae | <i>Arctostaphylos columbiana</i> | bristly manzanita, hairy manzanita |
| Ericaceae | <i>Arctostaphylos uva-ursi</i> | kinnikinnick, bearberry |
| Ericaceae | <i>Gaultheria shallon</i> | salal |
| Ericaceae | <i>Menziesia ferruginea</i> | rusty menziesia |
| Ericaceae | <i>Monotropa uniflora</i> | Indian pipe |

List of plant species identified in the Yale Project study area.

| Family | Taxon | Common |
|-----------------|--|--|
| Ericaceae | <i>Vaccinium parvifolium</i> | red bilberry, red huckleberry |
| Ericaceae | <i>Vaccinium sp.</i> | huckleberry |
| Fabaceae | <i>Cytisus scoparius</i> | Scots broom |
| Fabaceae | <i>Lathyrus sp.</i> | peavine |
| Fabaceae | <i>Lathyrus sylvestris</i> | flat peavine |
| Fabaceae | <i>Lotus corniculatus</i> | birdsfoot trefoil |
| Fabaceae | <i>Lotus purshianus var. purshianus</i> | Pursh's lotus |
| Fabaceae | <i>Lupinus rivularis</i> | stream lupine, riverbank lupine |
| Fabaceae | <i>Melilotus alba</i> | white sweet clover |
| Fabaceae | <i>Trifolium arvense</i> | hare's foot, rabbitfoot clover |
| Fabaceae | <i>Trifolium dubium</i> | least hop clover |
| Fabaceae | <i>Trifolium pratense</i> | red clover |
| Fabaceae | <i>Trifolium repens</i> | white clover, Dutch clover |
| Fabaceae | <i>Vicia americana</i> | American vetch |
| Fabaceae | <i>Vicia hirsuta</i> | hairy vetch, hairy tare |
| Fumariaceae | <i>Corydalis scouleri</i> | Scouler's corydalis, western cordyalis |
| Fumariaceae | <i>Dicentra formosa</i> | bleeding heart |
| Gentianaceae | <i>Centaurium erythraea</i> | common centaur, European centaur |
| Geraniaceae | <i>Geranium robertianum</i> | herb Robert, Robert geranium |
| Grossulariaceae | <i>Ribes bracteosum</i> | stink currant, blue currant |
| Grossulariaceae | <i>Ribes lacustre</i> | swamp gooseberry, swamp currant |
| Hydrophyllaceae | <i>Hydrophyllum tenuipes</i> | Pacific waterleaf, slender stemmed waterleaf |
| Hydrophyllaceae | <i>Nemophila parviflora</i> | small flowered nemophila |
| Hypericaceae | <i>Hypericum perforatum</i> | Klamathweed, common St. John's wort |
| Iridaceae | <i>Iris tenax</i> | Oregon iris |
| Juncaceae | <i>Juncus acuminatus</i> | tapered rush, sharp fruited rush |
| Juncaceae | <i>Juncus effusus</i> | lamprush |
| Juncaceae | <i>Juncus ensifolius var. ensifolius</i> | swordleaf rush, dagger leaved rush |
| Juncaceae | <i>Juncus tenuis</i> | slender rush |
| Juncaceae | <i>Luzula divaricata</i> | spreading woodrush |
| Juncaceae | <i>Luzula parviflora</i> | small flowered woodrush |
| Lamiaceae | <i>Glechoma hederacea</i> | ground ivy, creeping charlie |
| Lamiaceae | <i>Lycopus americanus</i> | cutleaf water horehound |
| Lamiaceae | <i>Mentha piperita ssp. piperita</i> | peppermint |
| Lamiaceae | <i>Monarda didyma</i> | American beeblam |
| Lamiaceae | <i>Prunella vulgaris var. lanceolata</i> | native heal all |
| Lamiaceae | <i>Stachys cooleyae</i> | great betony, Cooley's hedgenettle |
| Lemnaceae | <i>Lemna minor</i> | common duckweed, water lentil |
| Liliaceae | <i>Clintonia uniflora</i> | queen's cup, beadlily |
| Liliaceae | <i>Disporum hookeri</i> | fairy bells |
| Liliaceae | <i>Disporum smithii</i> | fairy lanterns |
| Liliaceae | <i>Maianthemum dilatatum</i> | false lily of the valley |
| Liliaceae | <i>Smilacina racemosa</i> | western solomon plume, large false Solomon's seal |
| Liliaceae | <i>Smilacina stellata</i> | star flowered false Solomon's seal, small false Solomon's seal |
| Liliaceae | <i>Streptopus amplexifolius</i> | twisted stalk |
| Liliaceae | <i>Trillium ovatum</i> | western trillium |
| Liliaceae | <i>Xerophyllum tenax</i> | beargrass |
| Lycopodiaceae | <i>Lycopodium clavatum</i> | runningpine clubmoss, common clubmoss |
| Lythraceae | <i>Lythrum portula</i> | purslane loosestrife, water purslane |
| Oleaceae | <i>Fraxinus latifolia</i> | Oregon ash |
| Onagraceae | <i>Circaea alpina ssp. pacifica</i> | enchanter's nightshade |

List of plant species identified in the Yale Project study area.

| Family | Taxon | Common |
|----------------|---|--|
| Onagraceae | <i>Epilobium angustifolium</i> | fireweed |
| Onagraceae | <i>Epilobium ciliatum ssp. watsonii</i> | Pacific willowherb |
| Onagraceae | <i>Epilobium minutum</i> | small flowered willowherb |
| Onagraceae | <i>Ludwigia palustris</i> | false loosestrife |
| Onagraceae | <i>Oenothera sp.</i> | evening primrose |
| Orchidaceae | <i>Corallorhiza striata</i> | striped coralroot |
| Orchidaceae | <i>Goodyera oblongifolia</i> | western rattlesnake plantain, rattlesnake orchid |
| Orchidaceae | <i>Listera caurina</i> | northwestern twayblade |
| Orchidaceae | <i>Listera cordata</i> | heart leaf twayblade |
| Oxalidaceae | <i>Oxalis oregana</i> | Oregon wood sorrel |
| Oxalidaceae | <i>Oxalis trilliifolia</i> | great oxalis, trillium leaved oxalis |
| Pinaceae | <i>Pinus contorta</i> | lodgepole pine |
| Pinaceae | <i>Pseudotsuga menziesii var. menziesii</i> | coast Douglas fir, Douglas fir |
| Pinaceae | <i>Tsuga heterophylla</i> | western hemlock |
| Plantaginaceae | <i>Plantago lanceolata</i> | English plantain, buckhorn plantain |
| Plantaginaceae | <i>Plantago major</i> | common plantain |
| Poaceae | <i>Agrostis cf. scabra</i> | winter bentgrass, rough hairgrass |
| Poaceae | <i>Agrostis tenuis</i> | colonial bent grass |
| Poaceae | <i>Aira caryophylla</i> | European silver hairgrass |
| Poaceae | <i>Alopecurus geniculatus</i> | water foxtail |
| Poaceae | <i>Anthoxanthum odoratum</i> | sweet vernalgrass |
| Poaceae | <i>Bromus carinatus</i> | California brome |
| Poaceae | <i>Bromus sp.</i> | brome |
| Poaceae | <i>Cynosurus echinatus</i> | hedgehog dogtail |
| Poaceae | <i>Dactylis glomerata</i> | orchard grass, cock's foot grass |
| Poaceae | <i>Digitaria sanguinalis</i> | hairy crabgrass |
| Poaceae | <i>Elymus sp.</i> | wildrye |
| Poaceae | <i>Festuca arundinacea</i> | tall fescue |
| Poaceae | <i>Festuca sp.</i> | fescue |
| Poaceae | <i>Glyceria elata</i> | tall mannagrass |
| Poaceae | <i>Holcus lanatus</i> | common velvetgrass, Yorkshire fog |
| Poaceae | <i>Melica sp.</i> | melic grass |
| Poaceae | <i>Melica subulata</i> | oniongrass |
| Poaceae | <i>Panicum capillare</i> | witchgrass |
| Poaceae | <i>Phalaris arundinacea</i> | reed canary grass |
| Poaceae | <i>Pleuropogon refractus</i> | nodding semaphoregrass |
| Poaceae | <i>Poa annua</i> | annual bluegrass |
| Poaceae | <i>Poa sp.</i> | bluegrass |
| Poaceae | <i>Puccinellia pauciflora</i> | weak alkaligrass |
| Poaceae | <i>Vulpia myuros</i> | foxtail fescue, rat tail fescue |
| Polemoniaceae | <i>Collomia grandiflora</i> | large flowered collomia |
| Polemoniaceae | <i>Collomia heterophylla</i> | varied leaf collomia |
| Polemoniaceae | <i>Navarretia squarrosa</i> | skunkweed |
| Polygonaceae | <i>Polygonum aviculare</i> | prostrate knotweed, doorweed |
| Polygonaceae | <i>Polygonum convolvulus</i> | ivy bindweed, climbing knotweed |
| Polygonaceae | <i>Polygonum cuspidatum</i> | Japanese knotweed |
| Polygonaceae | <i>Polygonum lapathifolium</i> | curltop ladythumb, willow weed |
| Polygonaceae | <i>Polygonum persicaria</i> | spotted ladythumb, heartweed |
| Polygonaceae | <i>Rumex acetosella</i> | sheep sorrel, sour dock |
| Polygonaceae | <i>Rumex crispus</i> | curly dock |
| Polygonaceae | <i>Rumex obtusifolius</i> | bitter dock |

List of plant species identified in the Yale Project study area.

| Family | Taxon | Common |
|------------------|---|---|
| Polypodiaceae | <i>Polypodium glycyrrhiza</i> | licorice fern |
| Portulacaceae | <i>Claytonia sibirica</i> | Siberian candyflower |
| Portulacaceae | <i>Montia parvifolia</i> | littleleaf miner's lettuce |
| Potamogetonaceae | <i>Potamogeton amplifolius</i> | large leaved potamogeton, broad leaved pondweed |
| Potamogetonaceae | <i>Potamogeton sp.</i> | pond weed |
| Primulaceae | <i>Trientalis latifolia</i> | western starflower |
| Pteridaceae | <i>Cryptogramma acrostichoides</i> | American parsley fern |
| Ranunculaceae | <i>Actaea rubra ssp. arguta</i> | western red baneberry |
| Ranunculaceae | <i>Anemone deltoidea</i> | threeleaf anemone, western white anemone |
| Ranunculaceae | <i>Aquilegia formosa</i> | red columbine, sitka columbine |
| Ranunculaceae | <i>Clematis ligusticifolia</i> | western clematis, western virgin's bower |
| Ranunculaceae | <i>Clematis vitalba</i> | evergreen clematis, travelers joy |
| Ranunculaceae | <i>Coptis laciniata</i> | Oregon goldthread, cutleaf goldthread |
| Ranunculaceae | <i>Delphinium trollifolium</i> | poison larkspur, Columbia larkspur |
| Ranunculaceae | <i>Ranunculus flammula</i> | creeping buttercup, lesser spearwort |
| Ranunculaceae | <i>Ranunculus repens var. repens</i> | creeping buttercup |
| Ranunculaceae | <i>Ranunculus uncinatus</i> | little buttercup |
| Ranunculaceae | <i>Thalictrum sp.</i> | meadowrue |
| Rhamnaceae | <i>Ceanothus sanguineus</i> | redstem ceanothus, Oregon tea tree |
| Rhamnaceae | <i>Rhamnus purshiana</i> | cascara, chittam |
| Rosaceae | <i>Amelanchier alnifolia</i> | serviceberry |
| Rosaceae | <i>Aruncus sylvestris</i> | sylvan goatsbeard |
| Rosaceae | <i>Fragaria vesca var. bracteata</i> | woodland strawberry |
| Rosaceae | <i>Fragaria virginiana var. platypetala</i> | broad petal strawberry, wild strawberry |
| Rosaceae | <i>Geum macrophyllum</i> | large leaved avens |
| Rosaceae | <i>Holodiscus discolor</i> | creambush oceanspray |
| Rosaceae | <i>Oemleria cerasiformis</i> | osoberry |
| Rosaceae | <i>Potentilla glandulosa</i> | sicky cinquefoil |
| Rosaceae | <i>Rosa gymnocarpa</i> | little wild rose |
| Rosaceae | <i>Rosa sp.</i> | rose |
| Rosaceae | <i>Rubus laciniatus</i> | evergreen blackberry, cut leaved blackberry |
| Rosaceae | <i>Rubus leucodermis var. leucodermis</i> | western black raspberry, western blackcap |
| Rosaceae | <i>Rubus procerus</i> | Himalayan blackberry |
| Rosaceae | <i>Rubus spectabilis</i> | salmonberry |
| Rosaceae | <i>Rubus ursinus</i> | Pacific blackberry, Pacific dewberry |
| Rubiaceae | <i>Galium asperinum</i> | rough bedstraw |
| Rubiaceae | <i>Galium cymosum</i> | Pacific bedstraw |
| Rubiaceae | <i>Galium trifidum</i> | small bedstraw |
| Rubiaceae | <i>Galium triflorum</i> | sweetscented bedstraw |
| Salicaceae | <i>Populus trichocarpa</i> | black cottonwood |
| Salicaceae | <i>Salix sitchensis</i> | Sitka willow |
| Salicaceae | <i>Salix sp.</i> | willow |
| Saxifragaceae | <i>Boykinia occidentalis</i> | slender boykinia, coast boykinia |
| Saxifragaceae | <i>Castilleja hispida</i> | harsh paintbrush |
| Saxifragaceae | <i>Heuchera micrantha</i> | alumroot |
| Saxifragaceae | <i>Mitella caulescens</i> | leafy mitrewort |
| Saxifragaceae | <i>Saxifraga ferruginea</i> | rusty saxifrage |
| Saxifragaceae | <i>Tellima grandiflora</i> | large fringecup |
| Saxifragaceae | <i>Tiarella trifoliata</i> | foam flower |
| Saxifragaceae | <i>Tolmiea menziesii</i> | piggyback plant |
| Scrophulariaceae | <i>Digitalis purpurea</i> | foxglove |

List of plant species identified in the Yale Project study area.

| Family | Taxon | Common |
|------------------|--|--|
| Scrophulariaceae | <i>Mimulus guttatus</i> | seep monkeyflower, common monkeyflower |
| Scrophulariaceae | <i>Mimulus moschatus</i> | musk monkeyflower |
| Scrophulariaceae | <i>Nothochelone nemorosa</i> | woodland beard tongue |
| Scrophulariaceae | <i>Penstemon serrulatus</i> | coast penstemon, Cascades penstemon |
| Scrophulariaceae | <i>Scrophularia californica ssp. californica</i> | California figwort |
| Scrophulariaceae | <i>Verbascum thapsus</i> | flannel mullein |
| Scrophulariaceae | <i>Veronica americana</i> | American brooklime |
| Scrophulariaceae | <i>Veronica officinalis</i> | common speedwell, heath speedwell |
| Selaginellaceae | <i>Selaginella wallacei</i> | Wallace's selaginella, Wallace's spikemoss |
| Solanaceae | <i>Solanum dulcamara</i> | bittersweet, climbing nightshade |
| Sparganiaceae | <i>Sparganium emersum</i> | simplestem bur reed |
| Typhaceae | <i>Typha latifolia</i> | common cattail, broad leaf cattail |
| Urticaceae | <i>Urtica dioica</i> | stinging nettle |
| Valerianaceae | <i>Valeriana sitchensis</i> | Sitka valerian |
| Violaceae | <i>Viola glabella</i> | stream violet, pioneer violet |
| Violaceae | <i>Viola orbiculata</i> | darkwoods violet, round leaved violet |
| Violaceae | <i>Viola sempervirens</i> | redwoods violet, evergreen violet |

Appendix 4.2-1

Standard Field Forms

Yale Terrestrial Amphibian Survey Form Instructions

Site Name: descriptive site name and habitat type
Survey Type: record as transect, total area, or night
Observers: initials of observers
Date: month/day/year
Start/Stop Time: survey time for stream as a whole (not survey points)
Site Aspect: N, S, E, W, NE, SE, SW, or NW
Site Slope: approximate slope in degrees
Rock Type: gravel, cobble, bolder, bedrock
Soil Temp.: degrees C (measure at 25m intervals)
Soil Moisture: dry, moist, wet
Canopy Coverage: approximate canopy coverage (%)
Fog?: Is it foggy in immediate area?
Cloud cover: cloudy, p. cloudy, clear
Temperature: air temperature (degrees C)
Precipitation: none, l. rain, moderate rain, heavy rain, snow
Dominant Plant Species: list up to 3 dominant species
Stand Age: OG = old-growth, M=mature, Y=young, P=pole, S=sapling, CC=clearcut
Transect No.: numerical transect number
Sampling Station/Location: feet from downstream end; enter the location of important features (e.g., waterfalls) and the end-point of the survey
Species: enter common name of species observed
Stage: adult, subadult, juvenile, hatchling, larvae, neotenic
Total Length: total length (mm)
S-V Length: snout to vent length (mm)
General Habitat Type: i.e., RUB, RUS, PSS, etc.
Specific Habitat Characteristics: i.e., found under log, in litter, under rocks, etc.
CWD: coarse woody debris--BARK, SLAB, BRAN (< 10 cm dia), LOG1 (11-25cm)
LOG2 (26-50cm), LOG3 (51-100cm), LOG4 (>100cm)
Comments: photo number and additional comments

Yale Terrestrial Amphibian Survey Form Instructions

Site Name: descriptive site name and habitat type
Survey Type: record as transect, total area, or night
Observers: initials of observers
Date: month/day/year
Start/Stop Time: survey time for stream as a whole (not survey points)
Site Aspect: N, S, E, W, NE, SE, SW, or NW
Site Slope: approximate slope in degrees
Rock Type: gravel, cobble, bolder, bedrock
Soil Temp.: degrees C (measure at 25m intervals)
Soil Moisture: dry, moist, wet
Canopy Coverage: approximate canopy coverage (%)
Fog?: Is it foggy in immediate area?
Cloud cover: cloudy, p. cloudy, clear
Temperature: air temperature (degrees C)
Precipitation: none, l. rain, moderate rain, heavy rain, snow
Dominant Plant Species: list up to 3 dominant species
Stand Age: OG = old-growth, M=mature, Y=young, P=pole, S=sapling, CC=clearcut
Transect No.: numerical transect number
Sampling Station/Location: feet from downstream end; enter the location of important features (e.g., waterfalls) and the end-point of the survey
Species: enter common name of species observed
Stage: adult, subadult, juvenile, hatchling, larvae, neotenic
Total Length: total length (mm)
S-V Length: snout to vent length (mm)
General Habitat Type: i.e., RUB, RUS, PSS, etc.
Specific Habitat Characteristics: i.e., found under log, in litter, under rocks, etc.
CWD: coarse woody debris--BARK, SLAB, BRAN (< 10 cm dia), LOG1 (11-25cm)
LOG2 (26-50cm), LOG3 (51-100cm), LOG4 (>100cm)
Comments: photo number and additional comments

Appendix 4.3-1

List of Common and Scientific Names for Wildlife Species

List of common and scientific names for wildlife species at the Yale Hydroelectric Project.

| Common Name | Scientific Name |
|---|----------------------------------|
| <u>Amphibians</u> | |
| western red-backed salamander | <i>Plethodon vehiculum</i> |
| rough-skinned newt | <i>Taricha granulosa</i> |
| ensatina | <i>Ensatina eschscholtzii</i> |
| Pacific giant salamander | <i>Dicamptodon tenebrosus</i> |
| Cope's giant salamander | <i>Dicamptodon copei</i> |
| Cascade torrent salamander | <i>Rhyacortiton cascadae</i> |
| Larch Mountain salamander | <i>Plethodon larselli</i> |
| Van Dyke's salamander | <i>Plethodon vandykei</i> |
| long-toed salamander | <i>Ambystoma macrodactylum</i> |
| northwestern salamander | <i>Ambystoma gracile</i> |
| Pacific chorus frog | <i>Hyla regala</i> |
| northern red-legged frog | <i>Rana aurora</i> |
| tailed frog | <i>Ascaphus truei</i> |
| bullfrog | <i>Rana catesbeiana</i> |
| western toad | <i>Bufo boreas</i> |
| <u>Reptiles</u> | |
| common garter snake | <i>Thamnophis sirtalis</i> |
| northwestern garter snake | <i>Thamnophis ordinoides</i> |
| rubber boa | <i>Charina bottae</i> |
| northern alligator lizard | <i>Elgaria coerulea</i> |
| painted turtle | <i>Chrysemys picta</i> |
| <u>Waterfowl and Waterbirds</u> | |
| common loon | <i>Gavia immer</i> |
| western grebe | <i>Aechmophorus occidentalis</i> |
| pied-billed grebe | <i>Podilymbus podiceps</i> |
| double-crested cormorant | <i>Phalacrocorax auritus</i> |
| Canada goose | <i>Branta canadensis</i> |
| mallard | <i>Anas platyrhynchos</i> |
| American wigeon | <i>Anas americana</i> |
| blue-winged teal | <i>Anas discors</i> |
| wood duck | <i>Aix sponsa</i> |
| lesser scaup | <i>Aythya affinis</i> |
| ring-necked duck | <i>Aythya collaris</i> |
| bufflehead | <i>Bucephala albeola</i> |
| common merganser | <i>Mergus merganser</i> |
| hooded merganser | <i>Lophodytes cucullatus</i> |
| <u>Gulls and Shorebirds</u> | |
| Caspian tern | <i>Sterna caspia</i> |
| glaucous-winged gull | <i>Larus glaucenscens</i> |
| ring-bill gull | <i>Larus delawarensis</i> |
| California gull | <i>Larus californicus</i> |
| great blue heron | <i>Ardea herodias</i> |
| green-backed heron | <i>Butorides striatus</i> |
| killdeer | <i>Charadrius vociferus</i> |
| spotted sandpiper | <i>Actitis macularia</i> |
| <u>Raptors, Vultures, and Owls</u> | |
| bald eagle | <i>Haliaeetus leucocephalus</i> |
| sharp-shinned hawk | <i>Accipiter striatus</i> |
| red-tailed hawk | <i>Buteo jamaicensis</i> |
| osprey | <i>Pandion haliaetus</i> |
| great horned owl | <i>Bubo virginianus</i> |
| barred owl | <i>Strix varia</i> |
| northern spotted owl | <i>Strix occidentalis</i> |

List of common and scientific names for wildlife species at the Yale Hydroelectric Project.

| Common Name | Scientific Name |
|--|-----------------------------------|
| pygmy owl | <i>Glaucidium gnoma</i> |
| turkey vulture | <i>Cathartes aura</i> |
| Gamebirds | |
| band-tailed pigeon | <i>Columba fasciata</i> |
| mourning dove | <i>Zenaidura macroura</i> |
| blue grouse | <i>Dendragapus obscurus</i> |
| ruffed grouse | <i>Bonasa umbellus</i> |
| common snipe | <i>Gallinago gallinago</i> |
| wild turkey | <i>Meleagris gallopavo</i> |
| Nightjars, Swifts, and Hummingbirds | |
| belted kingfisher | <i>Ceryle alcyon</i> |
| Vaux's swift | <i>Chaetura vauxi</i> |
| common nighthawk | <i>Chordeiles minor</i> |
| rufous hummingbird | <i>Selasphorus rufus</i> |
| black-chinned hummingbird | <i>Archilochus alexandri</i> |
| Woodpeckers | |
| red-breasted sapsucker | <i>Sphyrapicus ruber</i> |
| pileated woodpecker | <i>Dryocopus pileatus</i> |
| common flicker | <i>Colaptes auratus</i> |
| downy woodpecker | <i>Picoides pubescens</i> |
| hairy woodpecker | <i>Picoides villosus</i> |
| Flycatchers and Swallows | |
| Hammond's flycatcher | <i>Empidonax hammondii</i> |
| alder flycatcher | <i>Empidonax alnorum</i> |
| western flycatcher | <i>Empidonax difficilis</i> |
| Pacific slope flycatcher | <i>Empidonax occidentalis</i> |
| willow flycatcher | <i>Empidonax traillii</i> |
| olive-sided flycatcher | <i>Contopus borealis</i> |
| western wood-pewee | <i>Contopus sordidulus</i> |
| tree swallow | <i>Tachycineta bicolor</i> |
| violet green swallow | <i>Tachycineta thalassina</i> |
| cliff swallow | <i>Hirundo pyrrhonta</i> |
| barn swallow | <i>Hirundo rustica</i> |
| northern rough-winged swallow | <i>Stelgidopteryx serripennis</i> |
| Jays and Crows | |
| scrub jay | <i>Aphelocoma coerulescens</i> |
| Steller's jay | <i>Cyanocitta stelleri</i> |
| American crow | <i>Corvus brachyrhynchos</i> |
| common raven | <i>Corvus corax</i> |
| brown-headed cowbird | <i>Molothrus ater</i> |
| brown creeper | <i>Certhia americana</i> |
| Chickadees, Wrens and Thrushes | |
| black-capped chickadee | <i>Parus atricapillus</i> |
| mountain chickadee | <i>Parus gambeli</i> |
| chestnut-backed chickadee | <i>Parus rufescens</i> |
| bush-tit | <i>Psaltriparus minimus</i> |
| white-breasted nuthatch | <i>Sitta carolinensis</i> |
| red-breasted nuthatch | <i>Sitta canadensis</i> |
| winter wren | <i>Troglodytes troglodytes</i> |
| marsh wren | <i>Cistothorus palustris</i> |
| golden-crowned kinglet | <i>Regulus satrapa</i> |
| ruby-crowned kinglet | <i>Regulus calendula</i> |
| hermit thrush | <i>Catharus guttatus</i> |
| Swainson's thrush | <i>Catharus ustulatus</i> |

List of common and scientific names for wildlife species at the Yale Hydroelectric Project.

| Common Name | Scientific Name |
|---|---|
| varied thrush | <i>Ixoreus naevius</i> |
| American robin | <i>Turdus migratorius</i> |
| American dipper | <i>Cinclus mexicanus</i> |
| cedar waxwing | <i>Bombycilla cedrorum</i> |
| European starling | <i>Sturnus vulgaris</i> |
| <u>Vireos and Warblers</u> | |
| Hutton's vireo | <i>Vireo huttoni</i> |
| solitary vireo | <i>Vireo solitarius</i> |
| warbling vireo | <i>Vireo gilvus</i> |
| orange-crowned warbler | <i>Vermivora celata</i> |
| black-throated gray warbler | <i>Dendroica nigrescens</i> |
| yellow warbler | <i>Dendroica petechia</i> |
| yellow-rumped warbler | <i>Dendroica coronata</i> |
| Nashville warbler | <i>Vermivora ruficapilla</i> |
| MacGillivray's warbler | <i>Oporornis tolmiei</i> |
| Heto warbler | <i>Dendroica occidentalis/townsendii</i> |
| hermit warbler | <i>Dendroica occidentalis</i> |
| Wilson's warbler | <i>Wilsonia pusilla</i> |
| common yellowthroat | <i>Geothlypis trichas</i> |
| Townsend's warbler | <i>Dendroica townsendi</i> |
| <u>Grosbeaks, Buntings, and Sparrows</u> | |
| black-headed grosbeak | <i>Pheucticus melanocephalus</i> |
| evening grosbeak | <i>Coccothraustes vespertinus</i> |
| Lazuli bunting | <i>Passerina amoena</i> |
| spotted towhee | <i>Pipilo erythrophthalmus</i> |
| song sparrow | <i>Melospiza melodia</i> |
| chipping sparrow | <i>Spizella passerina</i> |
| dark-eyed junco | <i>Junco hyemalis</i> |
| white-crowned sparrow | <i>Zonotrichia leucophrys</i> |
| golden-crowned sparrow | <i>Zonotrichia atricapilla</i> |
| pine siskin | <i>Carduelis pinus</i> |
| <u>Blackbirds, Orioles, and Finches</u> | |
| red-winged blackbird | <i>Agelaius phoeniceus</i> |
| Brewer's blackbird | <i>Euphagus cyanocephalus</i> |
| northern oriole | <i>Icterus galbula</i> |
| Bullock's oriole | <i>Icterus galbula bullockii</i> |
| western tanager | <i>Piranga ludoviciana</i> |
| American goldfinch | <i>Carduelis tristis</i> |
| red crossbill | <i>Loxia curvirostra</i> |
| purple finch | <i>Carpodacus purpureus</i> |
| <u>Mammals</u> | |
| Pacific western big-eared bat | <i>Corynorhinus townsendii townsendii</i> |
| Townsend chipmunk | <i>Tamias townsendii</i> |
| Douglas squirrel | <i>Tamiasciurus douglasii</i> |
| beaver | <i>Castor canadensis</i> |
| mink | <i>Mustela vison</i> |
| striped skunk | <i>Mephitis mephitis</i> |
| coyote | <i>Canis lupus</i> |
| bobcat | <i>Lynx rufus</i> |
| black bear | <i>Ursus americanus</i> |
| black-tailed deer | <i>Odocoileus hemionus</i> |
| elk | <i>Cervus elaphus</i> |
| pocket gopher | <i>Thomomys spp.</i> |
| raccoon | <i>Procyon lotor</i> |

Appendix 4.3-2

Survey Data for Amphibians and Reptiles

Appendix 4.3-2

Survey Data for Amphibians and Reptiles

September 1996 Electroshocking survey results

1996 Amphibian Trapping Data

1997 Amphibian Trapping Data

March 3-4 1997 Terrestrial amphibian survey results

1996-1997 Terrestrial amphibian survey results

1996-1997 In-stream amphibian survey results

Appendix 4.3-2

Survey Data for Amphibians and Reptiles

September 1996 Electroshocking survey results

Amph-Electro

| September 1996 Electroshocking survey results, Yale Hydroelectric Project. | | | | | |
|--|----------------------------|--------|--------|--------------|----------|
| Creek/Pond (Date) | Species | Number | Stage | Location | Habitat |
| Ole Creek (9/9) | Red-legged frog | 1 | Adult | 87 ft | RUS/RUB |
| | Northwestern garter snake | 1 | Adult | 195 ft | RUS/RD |
| | Pacific giant salamander | 1 | Larva | 1,815 ft. | RUB |
| | Pacific giant salamander | 1 | Larva | 2,548 ft | RUB |
| | Red-legged frog | 1 | Adult | 3,787 ft | RUS |
| | Cascade torrent salamander | 1 | Adult | 5,535 ft | RUS/Seep |
| Rain Creek (9/10) | None | | | | |
| Panamaker Creek (9/11) | Western toad | 1 | Adult | 2,365 ft | RUS |
| Dog Creek (9/10) | None | | | | |
| Cougar Creek (9/11) | Cascade Torrent Salamander | 2 | Adult | headwater | RUS |
| Beaver Bay Wetland (9/11) | None | | | | |
| Perennial IP Road Stream (9/11) | None | | | | |
| IP Road Tributary/Pond (9/11) | None | | | | |
| IP Road Wetlands (9/11) | Bullfrog | 20 | Adult | Pond | PUB/AB |
| | Chorus Frog | 1 | Adult | Forest | RF |
| | Northwestern Salamander | 3 | Larvae | Pond | PUB/AB |
| Lower Bypass Reach (9/12, 17-20) | Red-legged Frog | 1 | Adult | Side Channel | RD/RUB |
| | Tailed Frog | 4 | Larvae | Riffle | RUB |
| Upper Bypass Reach Pond | Northwestern Salamander | 4 | Larvae | Pond | PUB/PEM |

Appendix 4.3-2
Survey Data for Amphibians and Reptiles

1996 Amphibian Trapping Data

1996 Amphibian Trapping Data - Swift Wetland

| Trap No. | Trap Descriptions | | | First Check | | | | | Second Check | | | | | Comments |
|----------|-------------------------------------|----------------------|-----------------------|----------------------|----------|-----------------|-----|-----------------------|----------------------|----------|-----------------|-----|-----------------------|---|
| | Trap Placement/ Vegetation | Water Depth (in.) | Funnel Depth (in.) | Species ¹ | Stage | Total Length | SVL | No. of Individuals | Species ¹ | Stage | Total Length | SVL | No. of Individuals | |
| WL-1-1 | near shore | 34" | 14" from bottom | NWS | neotenic | | | 1 | dragonfly | larval | | | | salamander injured; no sample collected |
| WL-1-2 | near shore | 28" | 20" from surface | empty | | | | | empty | | | | | |
| WL-1-3 | | 29" | 9" from surface | dragonfly | larval | | | | RSN | adult | | | 1 | small hole in bottom of trap |
| | | | | | | | | | dragonfly | larval | | | | |
| WL-1-4 | near shore | 28" | 5" from surface | empty | | | | | RSN | adult | | | 1 | |
| WL-1-5 | near shore | 28" | 16" from surface | empty | | | | | empty | | | | | |
| WL-1-6 | away from shore, in shallow pond | 19" | 10" from bottom | empty | | | | | empty | | | | | |
| WL-1-7 | away from shore, in shallow pond | 24" | 8" from surface | RSN | adult | | | 4 | RSN | adult | | | 2 | |
| WL-1-8 | away from shore, in shallow pond | 19" | 10" from surface | empty | | | | | RSN | adult | | | 3 | |
| WL-1-9 | away from shore, in shallow pond | 21" | 10" from surface | empty | | | | | empty | | | | | |
| WL-1-10 | away from shore, in shallow pond | 7" | 3" from surface | empty | | | | | empty | | | | | |
| WL-1-11 | near shore | 11.5" | 9" from bottom | CF | tadpole | | | 5 | RSN | adult | | | 2 | |
| | | | | RSN | | | | 1 | NWS | neotenic | | | 1 | |
| WL-1-12 | near shore | 16" | 12" from bottom | CF | tadpole | | | 1 | CF | tadpole | | | 4 | |
| | | | | NWS | larvae | | | 1 | | | | | | |
| WL-1-13 | near shore | 13" | 10" from bottom | empty | | | | | CF | tadpole | | | 3 | 2" hole in trap |
| WL-1-14 | equisetum/cattail edge | 26" | 21" from surface | empty | | | | | empty | | | | | |
| WL-1-15 | equisetum/cattail edge | 33" | 18" from surface | empty | | | | | empty | | | | | |

¹Species codes:

- RSN = Rough-skinned Newt
- NWS= Northwestern Salamander
- RLF= Red-legged Frog
- CF= Chorus Frog

1996 Amphibian Trapping Data - Swift Wetland (continued)

| Trap No. | Trap Descriptions | | | First Check | | | | | Second Check | | | | | Comments |
|----------|--------------------------------------|----------------------|-----------------------|----------------------|----------|-----------------|-----|-----------------------|----------------------|----------|-----------------|-----|-----------------------|----------|
| | Trap Placement/ Vegetation | Water Depth (in.) | Funnel Depth (in.) | Species ¹ | Stage | Total Length | SVL | No. of Individuals | Species ¹ | Stage | Total Length | SVL | No. of Individuals | |
| WL-1-16 | equisetum/cattail edge | 30" | 5" from surface | empty | | | | | RSN | adult | | | 1 | |
| WL-1-17 | equisetum/carex | 24" | 13" from surface | rana sp. | tadpole | | | 1 | RSN | adult | | | 2 | |
| | | | | RSN | adult | | | 1 | | | | | | |
| WL-1-18 | equisetum | 35" | 14" from surface | empty | | | | | empty | | | | | |
| WL-1-19 | equisetum, carex, juncus | 35" | 8" from surface | RSN | adult | | | 1 | empty | | | | | |
| WL-1-20 | equisetum, carex, juncus | 27" | 22" from surface | RSN | adult | | | 1 | empty | | | | | |
| WL-1-21 | carex-juncus | 32" | 16" from surface | empty | | | | | empty | | | | | |
| WL-1-22 | carex-juncus | 22" | 6" from surface | RSN | adult | | | 1 | RSN | adult | | | 2 | |
| | | | | CF | | | | 2 | | | | | | CF dead |
| WL-1-23 | sparse equisetum | 28" | 20" from surface | NWS | neotenic | | | 1 | RSN | adult | | | 1 | |
| WL-1-24 | cattail | 36" | 19" from surface | RSN | adult | | | 2 | NWS | neotenic | | | 1 | |
| WL-1-25 | cattail | 32" | 6" from surface | empty | | | | | CF | tadpole | | | 1 | |
| WL-1-26 | cattail, juncus | 15" | 10" from surface | RSN | adult | | | 1 | RSN | adult | | | 2 | |
| WL-1-27 | cattail, juncus | 15" | 9" from surface | rana sp. | tadpole | | | 1 | RSN | adult | | | 1 | |
| | | | | RSN | adult | | | 2 | | | | | | |
| WL-1-28 | reed canarygrass, juncus, cattail | 15" | 7" from surface | empty | | | | | RSN | adult | | | 2 | |

¹Species codes:

- RSN = Rough-skinned Newt
- NWS= Northwestern Salamander
- RLF= Red-legged Frog
- CF= Chorus Frog

1996 Amphibian Trapping Data - Beaver Bay Wetland

| Trap No. | Trap Descriptions | | | First Check | | | | | Second Check | | | | | Comments |
|----------|-------------------------------|----------------------|-----------------------|----------------------|---------|-----------------|-----|-----------------------|----------------------|---------|-----------------|-----|-----------------------|----------|
| | Trap Placement/ Vegetation | Water Depth (in.) | Funnel Depth (in.) | Species ¹ | Stage | Total Length | SVL | No. of Individuals | Species ¹ | Stage | Total Length | SVL | No. of Individuals | |
| WL-2-1 | near shore | 12" | 5" from bottom | sucker | | | | 1 | stickleback | | | | 2 | |
| WL-2-2 | near shore | 17" | 15" from bottom | rana sp. | tadpole | | | 1 | rana sp. | tadpole | | | 1 | |
| | | | | stickleback | | | | 1 | RSN | adult | | | 1 | |
| WL-2-3 | near shore | 18" | 13" from bottom | stickleback | | | | 1 | sculpin | | | | 2 | |
| | | | | sculpin | | | | 1 | | | | | | |
| | | | | brook trout | | | | 1 | | | | | | |
| WL-2-4 | near shore | 15" | 10" from bottom | RSN | adult | | | 1 | empty | | | | | |
| | | | | sculpin | | | | 1 | | | | | | |
| | | | | rana sp. | tadpole | | | 1 | | | | | | |
| WL-2-5 | near shore | 12" | 1" from surface | empty | | | | | scuplin | | | | 2 | |
| | | | reset 5" from surface | | | | | | | | | | | |
| WL-2-6 | near shore | 13" | 6.75" from surface | empty | | | | | empty | | | | | |
| WL-2-7 | near shore | 18" | 13" from surface | empty | | | | | empty | | | | | |
| WL-2-8 | near shore | 22" | 12" from surface | dace | | | | 1 | empty | | | | | |
| | | | | sculpin | | | | 2 | | | | | | |
| WL-2-9 | near shore | 20.5" | 13.5" from surface | sculpin | | | | 1 | empty | | | | | |

¹Species codes:

- RSN = Rough-skinned Newt
- NWS= Northwestern Salamander
- RLF= Red-legged Frog
- CF= Chorus Frog

Appendix 4.3-2
Survey Data for Amphibians and Reptiles

1997 Amphibian Trapping Data

1997 Amphibian Trapping Data - IP Large Wetland

| Trap No. | Trap Descriptions | | | First Check (5/22/97) | | | | | Second Check (5/23/97) | | | | | Comments |
|----------|-------------------------------|----------------------|----------------------|-----------------------|--------|-----------------|-----|-----------------------|------------------------|-------|-----------------|-----|-----------------------|----------|
| | Trap Placement/ Vegetation | Water Depth (in.) | Funnel Depth(in.) | Species ¹ | Stage | Total Length | SVL | No. of Individuals | Species ¹ | Stage | Total Length | SVL | No. of Individuals | |
| 1 | grass | 15 | 6 | RSN | | 95 | 50 | 2 | RSN | adult | | | 7 | |
| 2 | woody debris | 22 | 12.5 | RSN | | | | 1 | RSN | adult | | | 2 | |
| | | | | NWS | larvae | | | 1 | | | | | | |
| 3 | woody debris | 37 | 32 | RSN | | 150 | 90 | 3 | RSN | | | | 2 | |
| 4 | grass | 14 | 5 | RSN | | | | 7 | RSN | adult | | | 4 | |
| | | | | | | | | | NWS | | | | 1 | |
| 5 | woody debris | 37 | 5 | RSN | | | | 4 | RSN | adult | | | 2 | |
| 6 | floating emergents | 28 | 5 | empty | | | | | RSN | adult | | | 1 | |
| 7 | floating emergents | 36 | 22 | RSN | | | | 6 | RSN | adult | | | 6 | |
| | | | | NWS | larvae | 97 | 48 | 1 | | | | | | |
| 8 | floating emergents | 31 | 13 | RSN | | | | 5 | empty | | | | | |
| 9 | grass | 14 | 5 | RSN | | | | 14 | RSN | adult | | | 19 | |
| 10 | grass | 13 | 5 | RSN | | | | 4 | RSN | adult | | | 4 | |

¹Species codes:

RSN = Rough-skinned Newt

NWS= Northwestern Salamander

RLF= Red-legged Frog

CF= Chorus Frog

1997 Amphibian Trapping Data - IP Small Wetland

| Trap No. | Trap Descriptions | | | First Check (5/22/97) | | | | | Second Check (5/23/97) | | | | | Comments |
|----------|-------------------------------|----------------------|----------------------|-----------------------|--------|-----------------|-----|-----------------------|------------------------|----------|-----------------|-----|-----------------------|----------|
| | Trap Placement/ Vegetation | Water Depth (in.) | Funnel Depth(in.) | Species ¹ | Stage | Total Length | SVL | No. of Individuals | Species ¹ | Stage | Total Length | SVL | No. of Individuals | |
| 1 | grass | 24 | 19 | RSN | | | | 18 | RSN | adult | | | 19 | |
| 2 | grass | 21 | 5 | RSN | | | | 7 | RSN | adult | | | 1 | |
| | | | | NWS | larvae | 105 | 50 | 1 | | | | | | |
| 3 | woody debris | 21 | 15 | RSN | | | | 4 | RSN | adult | | | 3 | |
| | | | | NWS | larvae | 115 | 55 | 1 | NWS | neotenic | | | 1 | |
| | | | | | | | | | NWS | larvae | | | 1 | |
| 4 | floating emergents | 13 | 7 | RSN | | | | 3 | RSN | | | | 2 | |
| | | | | NWS | larvae | 128 | 68 | 1 | NWS | larvae | | | 1 | |
| | | | | NWS | larvae | 96 | 54 | 1 | RLF | tadpole | | | 1 | |
| | | | | Bullfrog | adult | | | 1 | | | | | | |
| 5 | floating emergents | 30 | 5 | empty | | | | | empty | | | | | |
| 6 | grass | 19 | 14 | RSN | | | | 7 | RSN | | | | 10 | |
| | | | | unknown | larvae | 85 | 45 | 1 | NWS | | | | 1 | |

¹Species codes:

RSN = Rough-skinned Newt

NWS= Northwestern Salamander

RLF= Red-legged Frog

CF= Chorus Frog

1997 Amphibian Trapping Data -IP Upstream Trap Sites

| Trap No. | Trap Descriptions | | | First Check (5/22/97) | | | | | Second Check (5/23/97) | | | | | Comments |
|----------|---|----------------------|----------------------|-----------------------|---------|-----------------|-----|-----------------------|------------------------|---------|-----------------|-----|-----------------------|----------|
| | Trap Placement/ Vegetation | Water Depth (in.) | Funnel Depth(in.) | Species ¹ | Stage | Total Length | SVL | No. of Individuals | Species ¹ | Stage | Total Length | SVL | No. of Individuals | |
| 1 | adjacent to fallen log, 3 ft. from pond edge, sedges | 10 | 5 | RLF | tadpole | 46 | 26 | 1 | RSN | adult | | | 2 | |
| | | | | | | | | | RLF | tadpole | | | 1 | |
| 2 | adjacent to fallen log, 5 ft. from pond edge, sedges | 10 | 5 | RSN | | | | 3 | RSN | adult | | | 2 | |
| | | | | RLF | tadpole | 56 | 27 | 1 | | | | | | |
| | | | | RLF | tadpole | 55 | 26 | 1 | | | | | | |
| 3 | 4 ft. from pond edge, reed- canary grass | 10 | 5 | RLF | tadpole | 55 | 27 | 7 | RSN | adult | | | 1 | |
| | | | | RLF | tadpole | 65 | 34 | 7 | RLF | tadpole | | | 3 | |
| 4 | adjacent to rotting logs, 2 ft. from pond edge, reed-canary grass | 12 | 5.75 | RSN | | | | 7 | RSN | adult | | | 1 | |
| | | | | RLF | tadpole | | | 33 | RLF | tadpole | | | 27 | |
| 5 | 10 ft. from shore, reed-canary grass | 15.5 | 9.25 | RSN | | | | 3 | RSN | adult | | | 1 | |
| | | | | RLF | tadpole | | | 96 | RLF | tadpole | | | 22 | |
| 6 | adjacent to fallen log, 8 ft. from pond edge, sedges | 15 | 7.5 | RSN | | | | 6 | RSN | adult | | | 5 | |
| | | | | RLF | tadpole | | | 3 | | | | | | |
| 7 | adjacent to fallen log, 3 ft. from pond edge, sedges | 8 | 4 | RLF | tadpole | | | 5 | RLF | tadpole | | | 6 | |
| 8 | adjacent to fallen log, 4 ft. from pond edge, reed canary grass | 13.5 | 6 | RLF | tadpole | | | 11 | RSN | adult | | | 1 | |
| | | | | | | | | | RLF | tadpole | | | 6 | |

¹Species codes:

RSN = Rough-skinned Newt

NWS= Northwestern Salamander

RLF= Red-legged Frog

CF= Chorus Frog

1997 Amphibian Trapping Data -Frazier Creek Wetland

| Trap No. | Trap Descriptions | | | First Check (6/24/97) | | | | | Second Check (6/25/97) | | | | | Comments |
|----------|-------------------------------|----------------------|----------------------|-----------------------|----------|-----------------|-------|-----------------------|------------------------|----------|-----------------|-----|-----------------------|---------------|
| | Trap Placement/ Vegetation | Water Depth (in.) | Funnel Depth(in.) | Species ¹ | Stage | Total Length | SVL | No. of Individuals | Species ¹ | Stage | Total Length | SVL | No. of Individuals | |
| 1 | | | | RSN | adult | | | 1 | empty | | | | | |
| | | | | NWS | neotenic | | | 1 | | | | | | dead NWS |
| 2 | | | | empty | | | | | empty | | | | | |
| 3 | | | | RSN | adult | | | 8 | RSN | adult | | | 6 | |
| | | | | NWS | neotenic | | | 3 | NWS | neotenic | 50 | | 1 | |
| | | | | NWS | larvae | | | 1 | | | | | | |
| 4 | | | | RSN | adult | | | 2 | RSN | adult | | | 3 | |
| | | | | Bullfrog | tadpole | | | 1 | NWS | neotenic | 47 | | 2 | |
| 5 | | | | RSN | adult | | | 2 | RSN | adult | | | 2 | |
| | | | | NWS | neotenic | | | 2 | | | | | | |
| | | | | Bullfrog | tadpole | 90 | | 1 | | | | | | 1 year old BF |
| 6 | | | | Bullfrog | tadpole | | | 1 | RLF | tadpole | | | 1 | 2 year old BF |
| | | | | RSN | | | | 1 | | | | | | |
| 7 | | | | NWS | neotenic | | | 1 | empty | | | | | |
| | | | | Bullfrog | tadpole | | | 1 | | | | | | 1 year old BF |
| 8 | | | | RSN | adult | | | 1 | NWS | neotenic | | | 1 | |
| | | | | Bullfrog | adult | | 85 | 1 | | | | | | dead BF |
| 9 | | | | Bullfrog | tadpole | | | 1 | bullfrog | adult | | | 1 | 1 year old BF |
| | | | | NWS | adult | | | 5 | | | | | | |
| | | | | NWS | neotenic | | 50 | 8 | | | | | | |
| 10 | | | | NWS | neotenic | | 50 | 1 | empty | | | | | |
| 11 | | | | NWS | neotenic | | | 2 | empty | | | | | |
| 12 | | | | NWS | neotenic | | 45-80 | 4 | NWS | larvae | | 40 | 1 | |
| 13 | | | | empty | | | | | RSN | adult | | | 10 | |
| | | | | | | | | | NWS | neotenic | | | 2 | |
| | | | | | | | | | RLF | tadpole | | | 2 | |
| 14 | | | | RSN | adult | | | 6 | NWS | neotenic | | 45 | 1 | |

¹Species codes:

RSN = Rough-skinned Newt

NWS= Northwestern Salamander

RLF= Red-legged Frog

CF= Chorus Frog

1997 Amphibian Trapping Data -Frazier Creek Wetland (Cont.)

| Trap No. | Trap Descriptions | | | First Check (6/24/97) | | | | | Second Check (6/25/97) | | | | | Comments |
|----------|-------------------------------|----------------------|----------------------|-----------------------|----------|-----------------|-------|-----------------------|------------------------|----------|-----------------|-------|-----------------------|---------------|
| | Trap Placement/ Vegetation | Water Depth (in.) | Funnel Depth(in.) | Species ¹ | Stage | Total Length | SVL | No. of Individuals | Species ¹ | Stage | Total Length | SVL | No. of Individuals | |
| 15 | | | | NWS | neotenic | | | 1 | empty | | | | | |
| | | | | Bullfrog | tadpole | | | 1 | | | | | | 1 year old BF |
| 16 | | | | NWS | neotenic | | 40-60 | 4 | NWS | larvae | | 30 | 1 | |
| | | | | Bullfrog | tadpole | | | 1 | RLF | tadpole | | | 1 | 1 year old BF |
| 17 | | | | RSN | adult | | | 1 | RSN | adult | | | 2 | |
| | | | | NWS | neotenic | | | 3 | | | | | | |
| 18 | | | | empty | | | | | NWS | neotenic | | 45 | 1 | |
| 19 | | | | empty | | | | | NWS | neotenic | | 41,47 | 4 | |
| 20 | | | | empty | | | | | NWS | neotenic | | | 1 | |
| 21 | | | | RSNs | adult | | | 2 | NWS | neotenic | | | 2 | one dead RSN |
| | | | | | | | | | RSN | larval | | | 1 | |
| | | | | NWS | neotenic | | | 1 | RSN | adult | | | 2 | |
| 22 | | | | RSNs | adult | | | 3 | RSN | adult | | | 1 | RSN dead |
| | | | | NWS | neotenic | | | 1 | | | | | | |
| 23 | | | | empty | | | | | empty | | | | | |
| 24 | | | | empty | | | | | NWS | | | | | |
| | | | | | | | | | Bullfrog | adult | | | 1 | |

¹Species codes:
 RSN = Rough-skinned Newt
 NWS= Northwestern Salamander
 RLF= Red-legged Frog
 CF= Chorus Frog

Appendix 4.3-2

Survey Data for Amphibians and Reptiles

March 3-4 1997 Terrestrial amphibian survey results

| March 3/4, 1997 egg mass survey results, Yale Hydroelectric Project. | | | | | | | | |
|--|-------------------------|----------|-----------|------------|----------------------------|--------------|-------------|---|
| Sampling Location | Species | No. Eggs | No. Larva | No. Adults | substrate | water depth | water temp. | comments |
| Beaver Bay | red-legged frog | X | | | silt, leaves, twigs | 14 cm | 39 | 6x10' pool near log, on twig |
| Beaver Bay | red-legged frog | X | | | silt, leaves, twigs | 26 cm | 39 | 30 m from above, on twig |
| Beaver Bay | red-legged frog | X | | | silt, herbaceous | 36 cm | 39 | attached to herb. stem |
| Beaver Bay | red-legged frog | X | | | silt, herbaceous | 42 cm | 39 | same area as above |
| Beaver Bay | red-legged frog | X | | | silt, herbaceous | 48 cm | 39 | same area as above |
| Winter Creek | red-legged frog | | | 1 | | | 41 | auditory, perhaps chorus frog |
| Swift Beaver pond | none | | | | | | | |
| Swift #1 | red-legged frog | X | | | silt | 30 cm | 39 | attached to horsetail; top of mass=8cm below sur. |
| Swift #1 | red-legged frog | X | | | silt | 22 in | 39 | attached to horsetail |
| Swift #1 | red-legged frog | X | | | silt | 21 in | 39 | attached to horsetail; near one above |
| Swift #1 | northwestern salamander | X | | | silt | 17 in | 39 | attached to stump, clump |
| Swift #1 | northwestern salamander | X | | | silt | 22 in | 39 | attached to horsetail |
| Swift #1 | northwestern salamander | X | | | silt | 12.5 in | 39 | attached to horsetail |
| Swift #1 | red-legged frog | X | | | silt | 10.5 in | 39 | attached to grasses |
| Swift #1 | red-legged frog | 24 | | | silt | 50-55 cm | 39 | 24 masses on horsetail |
| Swift #1 | red-legged frog | 14 | | | silt | 40-80 cm | 39 | 14 masses on bottom attached to stem |
| Swift #1 | northwestern salamander | 1 | | | silt | 40-80 cm | 39 | on bottom |
| Swift #1 | red-legged frog | 4 | | | silt | 50 cm | 39 | on bottom |
| Swift #1 | red-legged frog | 1 | | | silt | 20-60 cm | 39 | on bottom |
| Swift #1 | northwestern salamander | 1 | | | silt | 20 cm | 39 | on bottom |
| Swift #1 | northwestern salamander | 1 | | | cattail | 28 cm | 39 | 10 ft to shore |
| Swift #1 | red-legged frog | 1 | | | twigs | 48 cm | 39 | 6 ft to shore |
| Swift #1 | rough-skinned newt | | | 18 | mud | 10-50 cm | 39 | near stream inlet |
| Swift #1 | red-legged frog | 3 | | | equisetum | 32 cm | | |
| Swift #1 | red-legged frog | 2 | | | equisetum/carex | 30 cm | | |
| Swift #1 | long-toed salamander | 1 | | | equisetum/carex | 19 cm | | loose clump, single eggs, 2mm/20mm jelly |
| Swift #1 | red-legged frog | 2 | | | equisetum/carex | 12 cm | | |
| Swift #1 | red-legged frog | 1 | | | equisetum | 16 cm | | |
| IP road jeep trail | northwestern salamander | 5 | | | mud, branches20 cm | | NA | muddy water |
| IP road jeep trail | red-legged frog | 10 | | | mud, branches20 cm | | NA | |
| IP road jeep trail | rough-skinned newt | | | 3 | mud, branches20 cm | | NA | |
| bypass pond | red-legged frog | 26 | | | twigs, potomogeton, juncus | 20-50 cm | 40 | |
| bypass pond | northwestern salamander | 14 | | | twigs, potomogeton, juncus | 30-90 cm | 40 | |
| bypass pond | red-legged frog | 5 | | | twigs, rock, cobble | 20 cm | 40 | small pool-beaver, close to bypass pond |
| Swift canal ponds | red-legged frog | 4 | | | twigs | 6-18 in | 40 | Potomegeton natans in #2 |
| Yale Pond #2 | red-legged frog | 3 | | | mud-soft | not measured | 42 | attached to reed canarygrass |

| | | | | | | | | |
|--------------------------------------|-------------------------|-----|--|----|---------------------|------------|----|--------------------------------|
| Yale Pond #1 | red-legged frog | 5 | | | mud-firm | 100-140 cm | 41 | attached to potamogeton |
| Yale Pond #1 | northwestern salamander | 4 | | | mud-firm | 100-120 cm | 41 | attached to potamogeton |
| | | | | | | | | |
| IP wetland #4 (lower arm, N of road) | red-legged frog | 18 | | | mud | 35-50 cm | 43 | attached to sedges |
| | | | | | | | | |
| IP wetland #3 (upper arm, N of road) | red-legged frog | 2 | | | mud, sm rocks, hard | 57 cm | 43 | attached to RCG |
| IP wetland #3 (upper arm, N of road) | red-legged frog | 1 | | | mud, sm rocks, hard | 61 cm | 43 | attached to RCG |
| IP wetland #3 (upper arm, N of road) | red-legged frog | 7 | | | mud, sm rocks, hard | 60 cm | 43 | attached to RCG |
| IP wetland #3 (upper arm, N of road) | red-legged frog | 4 | | | mud, sm rocks, hard | 53 cm | 43 | attached to RCG |
| IP wetland #3 (upper arm, N of road) | red-legged frog | 1 | | | mud, sm rocks, hard | 53 cm | 43 | attached to RCG |
| IP wetland #3 (upper arm, N of road) | red-legged frog | 32 | | | mud, sm rocks, hard | 40-65 cm | 43 | |
| | | | | | | | | |
| IP wetland #2 (N of road) | red-legged frog | 1 | | | mud-soft | 80 cm | 43 | attached to potamogeton |
| IP wetland #2 (N of road) | northwestern salamander | 1 | | | mud-soft | 80 cm | 43 | attached to potamogeton |
| IP wetland #2 (N of road) | northwestern salamander | 1 | | | mud-soft | 90 cm | 43 | attached to potamogeton |
| IP wetland #2 (N of road) | northwestern salamander | 1 | | | mud-soft | 75 cm | 43 | attached to potamogeton |
| IP wetland #2 (N of road) | rough-skinned newt | | | 4 | mud-soft | | | |
| | | | | | | | | |
| IP wetland #1 (S of road) | red-legged frog | 2 | | | mud-soft | 80 cm | 40 | attached to alder twig |
| IP wetland #1 (S of road) | northwestern salamander | 2 | | | mud-soft | 60 cm | 40 | attached to potamogeton |
| IP wetland #1 (S of road) | northwestern salamander | 1 | | | mud-soft | 100 cm | 40 | attached to potamogeton |
| IP wetland #1 (S of road) | northwestern salamander | 1 | | | mud-soft | 60 cm | 40 | attached to potamogeton |
| IP wetland #1 (S of road) | northwestern salamander | 1 | | | mud-soft | 100 cm | 40 | attached to potamogeton |
| IP wetland #1 (S of road) | rough-skinned newt | | | 5 | mud-soft | | | |
| | | | | | | | | |
| Frazier Creek wetland | northwestern salamander | 113 | | | mud-firm | 35-100 cm | 38 | attached to RCG or potamogeton |
| Frazier Creek wetland | rough-skinned newt | | | 2 | mud-firm | | 38 | |
| | | | | | | | | |
| Cross Rd pond | northwestern salamander | 1 | | | mud | 2.5 ft | | attached to twig |
| Cross Rd pond | northwestern salamander | 1 | | | mud | 2.5 ft | | attached to twig |
| | | | | | | | | |
| Chestnut pond | red-legged frog | 1 | | | mud | 20 in | 41 | attached to RCG |
| Chestnut pond | red-legged frog | 1 | | | mud | 19 in | 41 | attached to RCG |
| Chestnut pond | red-legged frog | 1 | | | mud | 18 in | 41 | attached to RCG |
| Chestnut pond | red-legged frog | 1 | | | mud | 20 in | 41 | attached to RCG |
| Chestnut pond | red-legged frog | 1 | | | mud | 15 in | 41 | attached to RCG |
| Chestnut pond | rough-skinned newt | | | 1 | mud | | 41 | |
| Chestnut pond | northwestern salamander | 1 | | | mud | 27 in | 41 | attached to RCG |
| | | | | | | | | |
| Wallow pond | northwestern salamander | 1 | | | mud | 28 in | | attached to RCG |
| Wallow pond | red-legged frog | 1 | | | mud | 19 in | | attached to RCG |
| Wallow pond | northwestern salamander | 1 | | | mud | 36 in | | attached to RCG |
| Wallow pond | rough-skinned newt | | | 23 | mud | | | |
| | | | | | | | | |
| road pond | northwestern salamander | 1 | | | | 52 cm | | attached to stick |
| road pond | northwestern salamander | 1 | | | | 48 cm | | attached to RCG |
| road pond | red-legged frog | 1 | | | | 80 cm | | attached to RCG |

| | | | | | | | | |
|--------------|-----------------|---|--|--|-----|-------|--|---------------------|
| Bankers pond | red-legged frog | 1 | | | mud | 38 cm | | attached to RCG |
| Bankers pond | red-legged frog | 1 | | | mud | 44 cm | | attached to RCG |
| Bankers pond | red-legged frog | 1 | | | mud | 48 cm | | attached to RCG |
| Bankers pond | red-legged frog | 1 | | | mud | 37 cm | | attached to RCG |
| Bankers pond | red-legged frog | 1 | | | mud | 51 cm | | attached to RCG |
| Bankers pond | red-legged frog | 1 | | | mud | 56 cm | | attached to RCG |
| Bankers pond | red-legged frog | 1 | | | mud | 36 cm | | attached to RCG |
| Bankers pond | red-legged frog | 1 | | | mud | 33 cm | | attached to RCG |
| Bankers pond | red-legged frog | 1 | | | mud | 43 cm | | attached to RCG |
| Bankers pond | red-legged frog | 1 | | | mud | 34 cm | | attached to RCG |
| Bankers pond | red-legged frog | 1 | | | mud | 34 cm | | attached to RCG |
| Bankers pond | red-legged frog | 1 | | | mud | 32 cm | | attached to RCG |
| Bankers pond | red-legged frog | 1 | | | mud | 39 cm | | attached to RCG |
| Bankers pond | red-legged frog | 1 | | | mud | 32 cm | | attached to RCG |
| Bankers pond | red-legged frog | 1 | | | mud | 40 cm | | attached to RCG |
| Bankers pond | red-legged frog | 1 | | | mud | 45 cm | | attached to RCG |
| Bankers pond | red-legged frog | 1 | | | mud | 36 cm | | attached to RCG |
| Bankers pond | red-legged frog | 1 | | | mud | 52 cm | | attached to RCG |
| Bankers pond | red-legged frog | 1 | | | mud | 39 cm | | attached to RCG |
| Bankers pond | red-legged frog | 1 | | | mud | 30 cm | | attached to RCG |
| Bankers pond | red-legged frog | 1 | | | mud | 20 cm | | attached to RCG |
| Bankers pond | red-legged frog | 1 | | | mud | 35 cm | | attached to RCG |
| Bankers pond | red-legged frog | 1 | | | mud | 59 cm | | attached to a stick |
| Bankers pond | red-legged frog | 1 | | | mud | 34 cm | | attached to RCG |
| Bankers pond | red-legged frog | 1 | | | mud | 60 cm | | attached to RCG |

Appendix 4.3-2

Survey Data for Amphibians and Reptiles

1996-1997 Terrestrial amphibian survey results

1996-1997 Terrestrial amphibian survey results, Yale Hydroelectric Project.

| Site Name | Date | Survey Type | Site Aspect | Site Slope | Cloud Cover | Temp. | Precip. | Rock Type | Soil Temp | Soil Moisture | Canopy Cover | Plant Species | CWD |
|--------------------------|---------|-------------|-------------|------------|-------------|-------|---------|----------------|-----------|---------------|--------------|-----------------------|-----|
| Cliff face near Yale Dam | 4/4/97 | total | NW | 80-100 | 0 | 40 | none | soil | 40F | moist | | moss | |
| Cliff face near Yale Dam | 4/28/97 | area | | | 100 | 50 | lt rain | cliff | 10C | moist | | | |
| Cliff face near Yale Dam | 4/28/97 | area | | | 100 | 50 | lt rain | cliff | 10C | moist | | | |
| Cliff face near Yale Dam | 4/28/97 | area | | | 100 | 50 | lt rain | cliff | 10C | moist | | | |
| Cliff face near Yale Dam | 4/28/97 | area | | | 100 | 50 | lt rain | cliff | 10C | moist | | | |
| Cougar Mature | 4/10/97 | transect | N | 25-120 | 100 | 46 | | | | | | | |
| Cougar Mature | 4/10/97 | transect | N | 25-120 | 100 | 46 | | | | | | | |
| Cougar Mature | 4/10/97 | transect | N | 25-120 | 100 | 46 | | | | | | | |
| Cougar Mature | 4/10/97 | transect | N | 25-120 | 100 | 46 | | | | | | | |
| Cougar Mature | 4/10/97 | transect | N | 25-120 | 100 | 46 | | | | | | | |
| Cougar Mature | 4/10/97 | transect | N | 25-120 | 100 | 46 | | | | | | | |
| Cougar Mature | 4/10/97 | transect | N | 25-120 | 100 | 46 | | | | | | | |
| Cougar Mature | 4/10/97 | transect | N | 25-120 | 100 | 46 | | | | | | | |
| Cougar Mature | 4/10/97 | transect | N | 25-120 | 100 | 46 | | | | | | | |
| Cougar Mature | 4/10/97 | transect | N | 25-120 | 100 | 46 | | | | | | | |
| Cougar Old Growth | 4/10/97 | transect | | flat | | | | | | | | | |
| Cougar Old Growth | 4/10/97 | transect | | flat | | | | | | | | | |
| Cougar Old Growth | 4/10/97 | transect | | flat | | | | | | | | | |
| Cougar Old Growth | 4/10/97 | transect | | flat | | | | | | | | | |
| Cougar Old Growth | 4/10/97 | transect | | flat | | | | | | | | | |
| Cougar Old Growth | 4/29/97 | transect | | | 100 | 45 | lt rain | basalt | 50F | moist | | | |
| Cougar Old Growth | 4/29/97 | transect | | | 100 | 45 | lt rain | basalt | 50F | moist | | | |
| Cougar Old Growth | 4/29/97 | transect | | | 100 | 45 | lt rain | basalt | 50F | moist | | | |
| Cougar Old Growth | 4/29/97 | transect | | | 100 | 45 | lt rain | basalt | 50F | moist | | | |
| Cougar Old Growth | 4/29/97 | transect | | | 100 | 45 | lt rain | basalt | 50F | moist | | | |
| Cougar Old Growth | 4/29/97 | transect | | | 100 | 45 | lt rain | basalt | 50F | moist | | | |
| Cougar Talus 1 | 4/7/97 | total | S-SE | 75 | 0 | 55 | none | ang. boulder | 41F | moist | 10% | blackberry, swordfern | 10% |
| Cougar Talus 1 | 4/29/97 | total | SE | 80-100 | 100 | 53 | lt rain | | 10C | moist | 0 | NA | |
| Cougar Talus 1 | 4/29/97 | total | SE | 80-100 | 100 | 53 | lt rain | | 10C | moist | 0 | NA | |
| Cougar Talus 2 | 4/7/97 | transect | | | 100 | 55 | lt rain | | 43F | dry | | 10% trees, 40% shrubs | 30% |
| Cougar Talus 2 | 4/29/97 | transect | SE | 100 | 50 | 55 | clear | | 14C | dry-moist | 25 | shrubs | |
| Cougar Talus 2 | 4/29/97 | transect | SE | 100 | 50 | 55 | clear | | 14C | dry-moist | 25 | shrubs | |
| Cougar Talus 2 | 4/29/97 | transect | SE | 100 | 50 | 55 | clear | | 14C | dry-moist | 25 | shrubs | |
| Cougar Talus 2 | 4/29/97 | transect | SE | 100 | 50 | 55 | clear | | 14C | dry-moist | 25 | shrubs | |
| Cougar Talus 2 | 4/29/97 | transect | SE | 100 | 50 | 55 | clear | | 14C | dry-moist | 25 | shrubs | |
| Face of Yale Dam | 4/4/97 | transect | SW | 50 | 0 | 35 | none | cobble | 40F | moist | | moss | |
| Face of Yale Dam | 4/4/97 | transect | SW | 50 | 0 | 35 | none | rock | 40F | moist | | moss | |
| Face of Yale Dam | 4/4/97 | transect | SW | 50 | 0 | 35 | none | gravel | 40F | moist | | moss | |
| Face of Yale Dam | 4/28/97 | transect | | | 100 | 50 | lt rain | boulder/cobble | 11C | dry-moist | 0 | NA | |
| Face of Yale Dam | 4/28/97 | transect | | | 100 | 50 | lt rain | boulder/cobble | 11C | dry-moist | 0 | NA | |
| Face of Yale Dam | 4/28/97 | transect | | | 100 | 50 | lt rain | boulder/cobble | 11C | dry-moist | 0 | NA | |
| Face of Yale Dam | 4/28/97 | transect | | | 100 | 50 | lt rain | boulder/cobble | 11C | dry-moist | 0 | NA | |

1996-1997 Terrestrial amphibian survey results, Yale Hydroelectric Project.

| Site Name | Date | Species | Stage | Tot. Len. (mm) | SVL (mm) | Habitat | Comments |
|--------------------------|---------|-------------------------------|-------|----------------|----------|--|------------------------|
| Cliff face near Yale Dam | 4/4/97 | western red-backed salamander | adult | 32 | 18 | base of cliff | |
| Cliff face near Yale Dam | 4/28/97 | northern alligator lizard | adult | | | rock | |
| Cliff face near Yale Dam | 4/28/97 | ensatina | adult | | 35 | rock/soil | |
| Cliff face near Yale Dam | 4/28/97 | larch mountain salamander | adult | | 35 | rock/soil | |
| Cliff face near Yale Dam | 4/28/97 | larch mountain salamander | adult | | 30 | rock/soil | |
| Cougar Mature | 4/10/97 | western red-backed salamander | adult | 88 | 43 | bark | |
| Cougar Mature | 4/10/97 | western red-backed salamander | adult | 93 | 42 | under log | |
| Cougar Mature | 4/10/97 | western red-backed salamander | adult | 48 | 25 | | |
| Cougar Mature | 4/10/97 | western red-backed salamander | adult | 97 | 45 | rotten log | |
| Cougar Mature | 4/10/97 | western red-backed salamander | adult | 80 | 40 | bark | |
| Cougar Mature | 4/10/97 | western red-backed salamander | adult | 85 | 40 | bark | |
| Cougar Mature | 4/10/97 | western red-backed salamander | adult | 80 | 40 | | |
| Cougar Mature | 4/10/97 | ensatina | adult | 90 | 45 | | |
| Cougar Mature | 4/10/97 | western red-backed salamander | adult | 100 | 55 | | gravid female |
| Cougar Mature | 4/10/97 | western red-backed salamander | adult | 95 | 45 | | |
| Cougar Old Growth | 4/10/97 | *no species observed | | | | | |
| Cougar Old Growth | 4/10/97 | western red-backed salamander | adult | 53 | 25 | bark | |
| Cougar Old Growth | 4/10/97 | western red-backed salamander | adult | 78 | 36 | bark | |
| Cougar Old Growth | 4/10/97 | western red-backed salamander | adult | 93 | 46 | bark | |
| Cougar Old Growth | 4/10/97 | western red-backed salamander | adult | 110 | 55 | bark | |
| Cougar Old Growth | 4/29/97 | western red-backed salamander | adult | 75 | 40 | bark/soil | |
| Cougar Old Growth | 4/29/97 | western red-backed salamander | adult | 65 | 35 | bark/soil | |
| Cougar Old Growth | 4/29/97 | rough-skinned newt | adult | 100 | 50 | leaf litter | |
| Cougar Old Growth | 4/29/97 | western red-backed salamander | adult | | 40 | log/soil | |
| Cougar Old Growth | 4/29/97 | western red-backed salamander | adult | | | moss/log | escaped |
| Cougar Old Growth | 4/29/97 | western red-backed salamander | adult | | 40 | bark/log | |
| Cougar Talus 1 | 4/7/97 | western red-backed salamander | adult | | | | escaped before measure |
| Cougar Talus 1 | 4/29/97 | western red-backed salamander | adult | 84 | 42 | flat rock | |
| Cougar Talus 1 | 4/29/97 | western red-backed salamander | adult | 50 | 25 | rock/soil | |
| Cougar Talus 2 | 4/7/97 | *no species observed | | | | rock outcrops; salal, BLM, vine maple, cedar | |
| Cougar Talus 2 | 4/29/97 | western red-backed salamander | adult | 97 | 42 | rock/base of cliff | |
| Cougar Talus 2 | 4/29/97 | western red-backed salamander | adult | 60 | 30 | bark/on moss at base of cliff | |
| Cougar Talus 2 | 4/29/97 | western red-backed salamander | adult | 93 | 52 | bark | |
| Cougar Talus 2 | 4/29/97 | western red-backed salamander | adult | 85 | 34 | bark | |
| Cougar Talus 2 | 4/29/97 | garter snake | | | | | |
| Face of Yale Dam | 4/4/97 | western red-backed salamander | adult | 50 | 30 | | |
| Face of Yale Dam | 4/4/97 | western red-backed salamander | adult | 50 | 30 | | |
| Face of Yale Dam | 4/4/97 | western red-backed salamander | adult | 45 | 25 | | |
| Face of Yale Dam | 4/28/97 | western red-backed salamander | juv | 40 | 20 | under rock on soil | |
| Face of Yale Dam | 4/28/97 | rubber boa | | | | under rock on soil | |
| Face of Yale Dam | 4/28/97 | western red-backed salamander | juv | 50 | 25 | under rock on rubble | |
| Face of Yale Dam | 4/28/97 | western red-backed salamander | adult | 80 | 40 | rock | |

1996-1997 Terrestrial amphibian survey results, Yale Hydroelectric Project.

| Site Name | Date | Species | Stage | Tot. Len. (mm) | SVL (mm) | Habitat | Comments |
|------------------------|---------|-------------------------------|-------|-------------------|-------------|-----------------------------|-----------------------------------|
| Face of Yale Dam | 4/28/97 | larch mountain salamander | adult | 100 | 50 | rock | |
| Face of Yale Dam | 4/28/97 | larch mountain salamander | adult | 100 | 50 | rock | |
| Face of Yale Dam | 4/28/97 | western red-backed salamander | juv | 50 | 25 | mossy rock | |
| Face of Yale Dam | 4/28/97 | larch mountain salamander | juv | 40 | 20 | mossy rock | |
| IP-10 Talus | 4/30/97 | western red-backed salamander | adult | 90 | 45 | rock | |
| IP-10 Talus | 4/30/97 | western red-backed salamander | juv | | 30 | rock | |
| IP-3 (west) Old Growth | 4/8/97 | western red-backed salamander | adult | | 40 | under leaf litter on soil | |
| IP-3 (west) Old Growth | 4/8/97 | ensatina | adult | 100 | 50 | | |
| IP-3 (west) Old Growth | 4/8/97 | western red-backed salamander | adult | | | under bark | |
| IP-3 (west) Old Growth | 4/8/97 | western red-backed salamander | adult | | 40 | under bark on leaf litter | |
| IP-3 (west) Old Growth | 4/8/97 | western red-backed salamander | adult | | 40 | under leaf litter on soil | |
| IP-3 (west) Old Growth | 4/8/97 | western red-backed salamander | adult | | 40 | under bark on soil | |
| IP-4 Old Growth | 4/9/97 | western red-backed salamander | adult | 65 | 35 | log | |
| Lava flow | 4/8/97 | western red-backed salamander | adult | 60 | 31 | | yellow stripe; under bark slab |
| Lava flow | 4/8/97 | western red-backed salamander | adult | 70 | | | yellow stripe even but not to tip |
| Lava flow | 4/8/97 | western red-backed salamander | adult | 80 | | | bronze |
| Lava flow | 4/8/97 | western red-backed salamander | adult | 80 | | | |
| Lava flow | 4/8/97 | ensatina | adult | 120 | | under leaves | |
| Lava flow | 4/8/97 | western red-backed salamander | adult | 80 | | under leaves; large crevice | |
| Lava flow | 4/8/97 | western red-backed salamander | adult | | 30 | | |
| Lava flow | 4/8/97 | western red-backed salamander | adult | | 50 | | |
| Lava flow | 4/8/97 | western red-backed salamander | adult | | 45 | | |
| Lava flow | 4/8/97 | western red-backed salamander | adult | | 40 | | |
| Lava flow | 4/8/97 | western red-backed salamander | adult | | 40 | | |
| Lava flow | 4/8/97 | western red-backed salamander | adult | | 45 | | |
| Lava flow | 4/8/97 | western red-backed salamander | adult | | 40 | | |
| Lava flow | 4/8/97 | ensatina | adult | | 35 | | |
| Lava flow | 4/8/97 | western red-backed salamander | adult | | 40 | | |
| Lava flow | 4/8/97 | western red-backed salamander | | | | | |
| Lava flow | 4/8/97 | ensatina | adult | | 50 | | together with western red-back |
| Lava flow | 4/8/97 | western red-backed salamander | adult | | 40 | | together with ensatina |
| Lava flow | 4/8/97 | western red-backed salamander | | | | | |
| Lava flow | 4/28/97 | western red-backed salamander | adult | 90 | 46 | blm leaves | |
| Lava flow | 4/28/97 | ensatina | adult | | 45 | blm leaves | no tail |
| Lava flow | 4/28/97 | unid. western red-backed sala | juv | | | blm leaves | escaped |
| Lava flow | 4/28/97 | western red-backed salamander | adult | 70 | 35 | rock | |
| Lava flow | 4/28/97 | western red-backed salamander | adult | 45 | 20 | rock | outside mouth of tube entrance |
| Lava flow | 4/28/97 | western red-backed salamander | adult | 62 | 32 | rock | the tube |
| Lava flow | 4/28/97 | western red-backed salamander | adult | 80 | 45 | rock | the tube |
| Lava flow | 4/28/97 | western red-backed salamander | adult | 68 | 32 | rock | flat rock |
| Lava flow | 4/28/97 | western red-backed salamander | adult | 49 | 25 | rock | flat rock |
| Lava flow | 4/28/97 | western red-backed salamander | adult | 72 | 36 | rock | flat rock |

1996-1997 Terrestrial amphibian survey results, Yale Hydroelectric Project.

| Site Name | Date | Species | Stage | Tot. Len. (mm) | SVL (mm) | Habitat | Comments |
|------------------------|----------|-------------------------------|----------|----------------|----------|---|--|
| Lava flow | 4/28/97 | western red-backed salamander | adult | 65 | 35 | rock | |
| Lava flow | 4/28/97 | western red-backed salamander | adult | 60 | 30 | log/soil | |
| Lava flow | 4/28/97 | western red-backed salamander | adult | 90 | 45 | rock/soil | |
| Lava flow | 4/28/97 | western red-backed salamander | adult | 85 | 40 | rock/soil | |
| Lava flow | 4/28/97 | western red-backed salamander | adult | 70 | 35 | rock/soil | |
| Lava flow | 4/28/97 | western red-backed salamander | adult | 73 | 35 | bark/soil | |
| Lava flow | 4/28/97 | western red-backed salamander | adult | 73 | 35 | bark/soil | |
| Power Canal Rock Talus | 10/21/97 | begin survey at base of talus | | | | | talus slope above maple/fir, natural springs in forested patch in forested patch |
| Power Canal Rock Talus | 10/21/97 | western red-backed salamander | adult | 95 | 45 | under moss on duff | |
| Power Canal Rock Talus | 10/21/97 | western red-backed salamander | adult | 47 | 32 | under moss on duff | |
| Power Canal Rock Talus | 10/21/97 | ensatina | adult | 85 | 45 | under rock on moss covered rock | |
| Power Canal Rock Talus | 10/21/97 | western red-backed salamander | adult | 100 | 50 | under rock on soil | |
| Power Canal Rock Talus | 10/21/97 | western red-backed salamander | adult | 100 | 50 | under rock on soil | |
| Power Canal Rock Talus | 10/21/97 | western red-backed salamander | adult | 55 | 27 | moss | |
| Power Canal Rock Talus | 10/21/97 | western red-backed salamander | adult | 40 | 20 | moss | |
| Power Canal Rock Talus | 10/21/97 | cascade torrent salamander | 1 f | | | water spring out of basalt at rock talus edge | |
| Power Canal Rock Talus | 10/21/97 | end of survey | | | | | |
| Power Canal Rock Talus | 11/3/97 | Begin Survey at bottom middle | | | | | |
| Power Canal Rock Talus | 11/3/97 | Cascade Torrent salamander | adult | 83 | 48 | under moss on rock, 100 feet from water | |
| Power Canal Rock Talus | 11/3/97 | ensatina | juvenile | 57 | 31 | under leaves on rock | |
| Power Canal Rock Talus | 11/3/97 | western red-backed salamander | adult | 61 | 32 | under leaves, on moss, on rock | |
| Power Canal Rock Talus | 11/3/97 | western red-backed salamander | adult | 97 | 48 | under leaves, on moss, on rock | |
| Power Canal Rock Talus | 11/3/97 | ensatina | adult | 90 | 50 | between cobbles | |
| Power Canal Rock Talus | 11/3/97 | cascade torrent salamander | adult | 88 | 50 | under leaves, on rock, by spring outlet | |
| Power Canal Rock Talus | 11/3/97 | western red-backed salamander | adult | 85 | 44 | under rock | |
| Power Canal Rock Talus | 11/3/97 | western red-backed salamander | adult | 85 | 40 | on rock, under litter below cliffs | |
| Power Canal Rock Talus | 11/3/97 | western red-backed salamander | juvenile | 45 | 25 | on litter at base of cliffs, below trees. | |
| Power Canal Rock Talus | 11/3/97 | Van-Dyke's Salamander | adult | 95 | 50 | between cobbles at base of cliff, drier site | |
| Power Canal Rock Talus | 11/3/97 | Van-Dyke's Salamander | juvenile | 20 | 10 | TINY! on moss at cliff base, 10 ft from adult | |
| Power Canal Rock Talus | 11/3/97 | roughskin newt | adult | 110 | 50 | on leaves, below tree, somewhat rocky | |
| Power Canal Rock Talus | 11/3/97 | ensatina | juvenile | 59 | 32 | under cobble on moss | |
| Power Canal Rock Talus | 11/3/97 | western red-backed salamander | adult | 90 | 45 | under rock on moss/soil | |
| Power Canal Rock Talus | 11/3/97 | western red-backed salamander | adult | 60 | 25 | under rock on rock | |
| Power Canal Rock Talus | 11/3/97 | ensatina | adult | 75 | 35 | under rock on rock | |
| Power Canal Rock Talus | 11/3/97 | western red-backed salamander | adult | 80 | 40 | on top of moss covered rock | |
| Power Canal Rock Talus | 11/3/97 | western red-backed salamander | juvenile | 45 | 25 | on top of moss covered rock | |
| Power Canal Rock Talus | 11/3/97 | End Survey at 1345 | | | | | |
| North IP Old Growth | 4/9/97 | western red-backed salamander | adult | 95 | 45 | deep in log | |
| North IP Old Growth | 4/9/97 | ensatina | adult | 80 | 40 | under bark slab | |
| North IP Old Growth | 4/9/97 | western red-backed salamander | adult | 61 | 28 | in dry creek | |
| North IP Old Growth | 4/9/97 | ensatina | adult | 78 | 42 | bark | |
| North IP Old Growth | 4/9/97 | western red-backed salamander | adult | | | bark slab | |

1996-1997 Terrestrial amphibian survey results, Yale Hydroelectric Project.

| Site Name | Date | Species | Stage | Tot. Len. (mm) | SVL (mm) | Habitat | Comments |
|---------------------|---------|-------------------------------|-------|----------------|----------|-------------------------------------|--|
| North IP Old Growth | 4/9/97 | western red-backed salamander | adult | | | bark slab | auditory detection near up-slope edge gravid female |
| North IP Old Growth | 4/9/97 | western red-backed salamander | adult | | | bark slab | |
| North IP Old Growth | 4/9/97 | chorus frog | adult | | | | |
| North IP Old Growth | 4/28/97 | ensatina | adult | 102 | 55 | log | |
| North IP Old Growth | 4/28/97 | ensatina | adult | 108 | 42 | log | |
| North IP Old Growth | 4/28/97 | western red-backed salamander | adult | 85 | 45 | log/soil | |
| North IP Old Growth | 4/28/97 | ensatina | adult | 100 | 55 | log/log | |
| North IP Old Growth | 4/28/97 | western red-backed salamander | adult | 85 | 40 | log/soil | |
| North IP Old Growth | 4/28/97 | western red-backed salamander | juv | 40 | 20 | log/litter | |
| North IP Old Growth | 4/28/97 | ensatina | adult | 100 | 50 | bark/leaf litter | |
| North IP Old Growth | 11/3/97 | Begin Survey | | | | | |
| North IP Old Growth | 11/3/97 | western red-backed salamander | adult | 100 | 50 | under bark on leaf litter | |
| North IP Old Growth | 11/3/97 | ensatina | adult | 110 | 55 | under needle litter at base of tree | |
| North IP Old Growth | 11/3/97 | ensatina | adult | 90 | 45 | under bark on leaf litter | |
| North IP Old Growth | 11/3/97 | western red-backed salamander | adult | 90 | 45 | under bark on leaf litter | |
| North IP Old Growth | 11/3/97 | End Survey at 1650 | | | | | |
| South IP Old Growth | 4/10/97 | western red-backed salamander | adult | 60 | 32 | under big rock | |
| South IP Old Growth | 4/10/97 | western red-backed salamander | adult | 82 | 39 | under rocks/talus | |
| South IP Old Growth | 4/10/97 | western red-backed salamander | juv | 50 | 25 | | |
| South IP Old Growth | 4/10/97 | western red-backed salamander | adult | 90 | 45 | under rock | |
| South IP Old Growth | 4/10/97 | western red-backed salamander | adult | 85 | 40 | under bark | |
| South IP Old Growth | 4/10/97 | western red-backed salamander | juv | 40 | 20 | under rock | |
| South IP Old Growth | 4/10/97 | western red-backed salamander | adult | 72 | 42 | together under big log | |
| South IP Old Growth | 4/10/97 | western red-backed salamander | adult | 85 | 50 | together under big log | |
| South IP Old Growth | 4/10/97 | western red-backed salamander | adult | 68 | 38 | together under bark | |
| South IP Old Growth | 4/10/97 | western red-backed salamander | adult | 78 | 42 | together under bark | |
| South IP Old Growth | 4/10/97 | western red-backed salamander | adult | 85 | 50 | under rock | |
| South IP Old Growth | 4/10/97 | ensatina | adult | 106 | 50 | under bark on log | |
| South IP Old Growth | 4/10/97 | western red-backed salamander | adult | 60 | 30 | under leaf litter | |
| South IP Old Growth | 4/10/97 | western red-backed salamander | adult | 65 | 32 | under bark | |
| South IP Old Growth | 4/10/97 | western red-backed salamander | adult | 70 | 35 | under bark | |
| South IP Old Growth | 4/10/97 | western red-backed salamander | adult | 70 | 35 | under bark | |
| South IP Old Growth | 4/28/97 | ensatina | adult | 80 | 40 | under bark | |
| South IP Old Growth | 4/28/97 | ensatina | juv | 50 | 25 | under bark | |
| South IP Old Growth | 4/28/97 | western red-backed salamander | juv | 50 | 25 | under rock | |
| South IP Old Growth | 4/28/97 | western red-backed salamander | adult | 80 | 40 | leaf litter | |
| South IP Old Growth | 4/28/97 | western red-backed salamander | adult | 80 | 40 | leaf litter | |
| South IP Old Growth | 4/28/97 | western red-backed salamander | adult | 80 | 40 | leaf litter | |
| South IP Old Growth | 4/28/97 | western red-backed salamander | adult | 100 | 50 | under bark on bark | |
| South IP Old Growth | 4/28/97 | ensatina | juv | 40 | 20 | under bark on litter | |
| South IP Old Growth | 11/3/97 | Begin Survey at 1110 | | | | | |
| South IP Old Growth | 11/3/97 | chorus frog | adult | | 33 | on surface in leaves | |

1996-1997 Terrestrial amphibian survey results, Yale Hydroelectric Project.

| Site Name | Date | Species | Stage | Tot. Len. (mm) | SVL (mm) | Habitat | Comments |
|---------------------|---------|-------------------------------|----------|-------------------|-------------|-----------------------|----------|
| South IP Old Growth | 11/3/97 | western red-backed salamander | adult | | 52 | under log | |
| South IP Old Growth | 11/3/97 | western red-backed salamander | adult | | 33 | under log | |
| South IP Old Growth | 11/3/97 | rough skin newt | adult | | 54 | surface of litter | |
| South IP Old Growth | 11/3/97 | western red-backed salamander | juvenile | | 29 | surface of litter | |
| South IP Old Growth | 11/3/97 | western red-backed salamander | juvenile | | 27 | surface of litter | |
| South IP Old Growth | 11/3/97 | western red-backed salamander | adult | | 50 | under branch | |
| South IP Old Growth | 11/3/97 | ensatina | adult | | 56 | under branches/litter | |
| South IP Old Growth | 11/3/97 | western red-backed salamander | adult | | 45 | under branches/litter | |
| South IP Old Growth | 11/3/97 | western red-backed salamander | adult | | 57 | mulch, large log | |
| South IP Old Growth | 11/3/97 | western red-backed salamander | juvenile | | 28 | on leaves | |
| South IP Old Growth | 11/3/97 | western red-backed salamander | adult | | 45 | branches leaves | |
| South IP Old Growth | 11/3/97 | western red-backed salamander | adult | | 39 | branches leaves | |
| South IP Old Growth | 11/3/97 | western red-backed salamander | juvenile | | 29 | on surface | |
| South IP Old Growth | 11/3/97 | ensatina | adult | | 69 | leaf/branches | |
| South IP Old Growth | 11/3/97 | western red-backed salamander | adult | | 45 | in log | |
| South IP Old Growth | 11/3/97 | western red-backed salamander | adult | | 50 | bark | |
| South IP Old Growth | 11/3/97 | chorus frog | adult | | 44 | on leaves on log | |
| South IP Old Growth | 11/3/97 | western red-backed salamander | adult | | 50 | bark | |
| South IP Old Growth | 11/3/97 | roughskin newt | adult | | 65 | litter surface | |
| South IP Old Growth | 11/3/97 | End of Survey at 1410 | | | | | |

Appendix 4.3-2

Survey Data for Amphibians and Reptiles

1996-1997 In-stream amphibian survey results

1996-1997 In-stream amphibian survey results, Yale Hydroelectric Project.

| Site Name | Date | Location | Obs. Time | Species | Total No. | Total Length | SVL | Specific Habitat | Stream Gradient |
|---------------------|----------|----------|-----------|--------------------------------|-----------|--------------|-----|-------------------------------------|-----------------|
| Bypass Bridge Seeps | 4/8/97 | | | western red-backed salamander | 7 | | 40 | rocks | |
| Bypass Bridge Seeps | 4/8/97 | | | western red-backed salamander | 1 | | | rocks | |
| Bypass Bridge Seeps | 4/8/97 | | | western red-backed salamander | 1 f | | | mossy rocks | |
| Bypass Bridge Seeps | 4/8/97 | | | cascade torrent salamander | 1 m | | | bark | |
| Bypass Bridge Seeps | 4/8/97 | | | cascade torrent salamander | 2 (m/f) | | | rocks | |
| Bypass Bridge Seeps | 4/8/97 | | | cascade torrent salamander | 1 m | | | rocks | |
| Bypass Bridge Seeps | 4/8/97 | | | cascade torrent salamander | 1 f | | | rocks | |
| Bypass Bridge Seeps | 4/8/97 | | | cascade torrent salamander | 3 f | | | rock | |
| Bypass Bridge Seeps | 4/8/97 | | | cascade torrent salamander | 1 m | | | rock | |
| Bypass Bridge Seeps | 4/8/97 | | | cascade torrent salamander | 5 | | | rock | |
| Bypass Bridge Seeps | 4/8/97 | | | western red-backed salamander | 1 juv | 20 | | rock | |
| Bypass Bridge Seeps | 4/28/97 | | | western red-backed salamander | 29 | | | | |
| Bypass Bridge Seeps | 4/28/97 | | | cascade torrent salamander | 23 | | | | |
| Bypass Bridge Seeps | 10/22/97 | 0 | | Begin Survey | | | | | |
| Bypass Bridge Seeps | 10/22/97 | | | western red-backed salamander | 54 adult | | | under leaves and on rock talus | 3 |
| Bypass Bridge Seeps | 10/22/97 | | | cascade torrent salamander | 16 adult | | | under leaves, in/near seeps/streams | 3 |
| Bypass Bridge Seeps | 10/22/97 | | | cascade torrent salamander | 2 larvae | | | under leaves, in/near seeps/streams | 3 |
| Bypass Bridge Seeps | 10/22/97 | | | End Survey at 1600 | | | | | |
| Cougar Creek | 4/7/97 | 273 | 1100 | *road | | | | | |
| Cougar Creek | 4/7/97 | 323 | 1105 | western red-backed salamander | 1 | | | log | |
| Cougar Creek | 4/7/97 | 1194 | 1205 | western red-backed salamander | 1 | | | rock/root | |
| Cougar Creek | 4/7/97 | 1642 | 1220 | western red-backed salamander | 1 | 97 | 49 | log | |
| Cougar Creek | 4/7/97 | 1980 | 1245 | ensatina | 1 | 105 | 46 | stump | |
| Cougar Creek | 4/7/97 | 2500 | 1300 | *old growth | | | | | |
| Cougar Creek | 4/7/97 | 2540 | 1310 | western red-backed salamander | 1 | 84 | 42 | log | |
| Cougar Creek | 4/7/97 | 2540 | 1310 | western red-backed salamander | 1 juv | 34 | 20 | log | |
| Cougar Creek | 4/7/97 | 2540 | 1340 | ensatina | 1 | 126 | 48 | cedar crevice | |
| Cougar Creek | 4/7/97 | 2540 | 1340 | western red-backed salamander | 1 | 91 | 43 | log | |
| Cougar Creek | 4/7/97 | 2540 | 1340 | western red-backed salamander | 1 | 70 | 32 | log | |
| Cougar Creek | 4/7/97 | 2700 | 1350 | ensatina | 1 | 117 | 55 | log | |
| Cougar Creek | 4/7/97 | 2700 | 1350 | ensatina | 1 | 105 | 50 | log | |
| Cougar Creek | 4/7/97 | 2885 | 1425 | western red-backed salamander | 1 | | | bark/debris | |
| Cougar Creek | 4/7/97 | 3292 | 1500 | *end of survey at PPL boundary | | | | | |
| Cougar Creek | 4/29/97 | 700 | | ensatina | 1 juv | 45 | 25 | moss/log | 1 |
| Cougar Creek | 4/29/97 | 837 | | ensatina | 1 | 115 | 50 | moss/log | |
| Cougar Creek | 4/29/97 | 1250 | | western red-backed salamander | 1 | 85 | 50 | log | |
| Cougar Creek | 4/29/97 | 1512 | | ensatina | 1 | 66 | 34 | bark/log | |
| Cougar Creek | 4/29/97 | 1700 | | western red-backed salamander | 1 | 94 | 51 | log | |
| Cougar Creek | 4/29/97 | 1725 | | western red-backed salamander | 1 | 90 | 45 | log | |
| Cougar Creek | 4/29/97 | 2102 | | ensatina | 1 | 69 | 37 | bark on soil | |
| Cougar Creek | 4/29/97 | 2672 | | cascade torrent salamander | 1 | 67 | 32 | mucky seep | |
| Cougar Creek | 4/29/97 | 2994 | | rough-skinned newt | 1 | 92 | 38 | bark | |
| Cougar Creek | 4/29/97 | 3032 | | rough-skinned newt | 1 | 118 | 51 | soil | |
| Cougar Creek | 4/29/97 | 3848 | | western red-backed salamander | 1 | 86 | 49 | bark | |
| Cougar Creek | 4/29/97 | 3904 | | western red-backed salamander | 1 | 95 | 45 | bark | |

1996-1997 In-stream amphibian survey results, Yale Hydroelectric Project.

| Site Name | Date | Location | Obs. Time | Species | Total No. | Total Length | SVL | Specific Habitat | Stream Gradient |
|-------------------------|----------|----------|-----------|-------------------------------|-----------|--------------|-----|------------------------------|-----------------|
| Cougar Creek | 4/29/97 | 4266 | | western red-backed salamander | 1 | | | bark | |
| Cougar Creek | 4/29/97 | 4398 | | western red-backed salamander | 1 | | | bark | |
| Cougar Creek | 4/29/97 | 4582 | | western red-backed salamander | 1 | 78 | 38 | bark | |
| Cougar Creek | 4/29/97 | 4678 | | rough-skinned newt | 1 | 140 | 60 | rocks/moss | |
| Cougar Creek | 4/29/97 | 4692 | | western red-backed salamander | 1 | 84 | 44 | small rock | |
| Cougar Creek | 4/29/97 | 4794 | | ensatina | 1 | 75 | 35 | bark | |
| Cougar Creek | 4/29/97 | 5066 | | western red-backed salamander | 1 | | | rock | |
| Cougar Creek | 4/29/97 | 5121 | | western red-backed salamander | 1 | 54 | 28 | leaf litter/base of cliff | |
| Cougar Creek | 4/29/97 | 5137 | | western red-backed salamander | 1 juv | 37 | 20 | rock/litter/bark | |
| Cougar Creek | 4/29/97 | 5180 | | western red-backed salamander | 1 | | | rock | |
| Cougar Creek | 4/29/97 | 5205 | | western red-backed salamander | 1 | 91 | 45 | | |
| Cougar Creek | 8/18/97 | 0 | | Begin Survey at road | | | | | 1 |
| Cougar Creek | 8/18/97 | | | Red-legged frog | 1 adult | | | moist marsh near beaver pond | 1 |
| Cougar Creek | 8/18/97 | | | Ranid tadpoles | 5 larvae | | | moist marsh near beaver pond | 1 |
| Cougar Creek | 8/18/97 | | | Roughskin newt | 1 adult | | | moist marsh near beaver pond | 1 |
| Cougar Creek | 8/18/97 | | | End of survey | | | | | |
| Cougar Headwaters | 10/21/97 | 0 | | Begin survey at main spring | | | | | |
| Cougar Headwaters | 10/21/97 | 4 | | western red-backed salamander | 1 | 110 | 60 | under bark on soil | 1 |
| Cougar Headwaters | 10/21/97 | 52 | | western red-backed salamander | 1 | 50 | 30 | under moss on bark | 1 |
| Cougar Headwaters | 10/21/97 | 445 | | cascade torrent salamander | 1 | 85 | 45 | under moss on bark | 1 |
| Cougar Headwaters | 10/21/97 | 450 | | cascade torrent salamander | 1 | 85 | 45 | under moss on bark | 1 |
| Cougar Headwaters | 10/21/97 | 465 | | cascade torrent salamander | 1 | 85 | 45 | under leaf in mud | 1 |
| Cougar Headwaters | 10/21/97 | 465 | | cascade torrent salamander | 1 | 80 | 40 | under leaf in mud | 1 |
| Cougar Headwaters | 10/21/97 | 282 | | western red-backed salamander | 1 | 95 | 55 | under leaves | 1 |
| Cougar Headwaters | 10/21/97 | 474 | | western red-backed salamander | 1 | 63 | 33 | under bark | 1 |
| Cougar Headwaters | 10/21/97 | 950 | | western red-backed salamander | 1 | 85 | 47 | under bark | 1 |
| Cougar Headwaters | 10/21/97 | 282 | | western red-backed salamander | 1 | 95 | 55 | under leaves on moss | 1 |
| Cougar Headwaters | 10/21/97 | 474 | | western red-backed salamander | 1 | 60 | 33 | under bark on leaves | 1 |
| Cougar Headwaters | 10/21/97 | 950 | | End of Survey | | | | | |
| Cougar Headwaters-lower | 4/10/97 | 20 | | cascade torrent salamander | 1 f | 80 | 40 | soil/bark | |
| Cougar Headwaters-lower | 4/10/97 | 20 | | cascade torrent salamander | 1 m | 90 | 50 | soil/bark | |
| Cougar Headwaters-lower | 4/10/97 | 20 | | cascade torrent salamander | 1 m | 80 | 45 | soil/bark | |
| Cougar Headwaters-lower | 4/10/97 | 22 | | western red-backed salamander | 1 | 80 | 45 | soil/bark | |
| Cougar Headwaters-lower | 4/10/97 | 22 | | cascade torrent salamander | 1 f | 70 | 40 | soil/bark | |
| Cougar Headwaters-lower | 4/10/97 | 54 | | western red-backed salamander | 1 | 65 | 38 | soil/bark | |
| Cougar Headwaters-lower | 4/10/97 | 157 | | western red-backed salamander | 1 | 80 | 38 | log | |
| Cougar Headwaters-lower | 4/10/97 | 206 | | western red-backed salamander | 1 | 71 | 35 | bark | |
| Cougar Headwaters-lower | 4/10/97 | 206 | | cascade torrent salamander | 1 f | 90 | 45 | log jam | |
| Cougar Headwaters-lower | 4/10/97 | 256 | | cascade torrent salamander | 1 f | 80 | 30 | gravel/bark | |
| Cougar Headwaters-lower | 4/10/97 | 261 | | cascade torrent salamander | 1 m | 80 | 35 | gravel/bark | |
| Cougar Headwaters-lower | 4/10/97 | 350 | | *property boundary | | | | | |
| Cougar Headwaters-lower | 4/10/97 | 381 | | western red-backed salamander | 1 | 65 | 35 | bark/live tree | |
| Cougar Headwaters-lower | 4/10/97 | 401 | | western red-backed salamander | 1 | 68 | 43 | mulch/bark | |
| Cougar Headwaters-lower | 4/10/97 | 446 | | western red-backed salamander | 1 | 80 | 45 | mulch/bark | |
| Cougar Headwaters-lower | 4/10/97 | 446 | | cascade torrent salamander | 1 f | 75 | 50 | wood/soil | |

1996-1997 In-stream amphibian survey results, Yale Hydroelectric Project.

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|-------------------------|----------|----------|-----------|-------------------------------|-----------|--------------|-----|-----------------------------|-----------------|
| Cougar Headwaters-lower | 4/10/97 | 550 | | cascade torrent salamander | 1 | | | bark/stream | |
| Cougar Headwaters-lower | 4/10/97 | 670 | | western red-backed salamander | 1 | 63 | 34 | bark/snag | |
| Cougar Headwaters-lower | 4/10/97 | 785 | | cascade torrent salamander | 1 f | 100 | 50 | bark/log | |
| Cougar Headwaters-lower | 4/10/97 | 1070 | | western red-backed salamander | 1 | 88 | 42 | bark | |
| Cougar Headwaters-lower | 4/10/97 | 1145 | | cascade torrent salamander | 1 f | 80 | 40 | under log | |
| Cougar Headwaters-lower | 4/10/97 | 1266 | | rough-skinned newt | 1 | 115 | 50 | leaf litter | |
| Cougar Headwaters-lower | 4/10/97 | 1266 | | *headwaters; end survey | | | | | |
| Cougar Headwaters-lower | 4/29/97 | | | cascade torrent salamander | 1 | | 25 | rock/pool | |
| Cougar Headwaters-lower | 4/29/97 | | | cascade torrent salamander | 1 | | 20 | rock/pool | |
| Cougar Headwaters-lower | 4/29/97 | | | cascade torrent salamander | 1 f | | 38 | small log/soil | |
| Cougar Headwaters-lower | 4/29/97 | | | western red-backed salamander | 1 f | | 45 | log | |
| Cougar Headwaters-lower | 4/29/97 | | | ensatina | 1 | | 20 | bark | |
| Cougar Headwaters-lower | 4/29/97 | | | cascade torrent salamander | 1 | | 40 | bark/litter | |
| Cougar Headwaters-lower | 4/29/97 | | | western red-backed salamander | 1 | | 25 | mossy bark | |
| Cougar Headwaters-lower | 4/29/97 | | | western red-backed salamander | 1 | | 40 | bark | |
| Cougar Headwaters-lower | 4/29/97 | | | western red-backed salamander | 1 | | 40 | mossy bark/log | |
| Cougar Headwaters-lower | 4/29/97 | | | western red-backed salamander | 1 | | 50 | log/soil | |
| Cougar Headwaters-lower | 4/29/97 | | | western red-backed salamander | 1 | | 32 | bark/litter | |
| Cougar Headwaters-lower | 4/29/97 | | | cascade torrent salamander | 1 m | | 40 | bark/litter | |
| Cougar Headwaters-lower | 4/29/97 | | | western red-backed salamander | 1 | | 40 | bark | |
| Cougar Headwaters-lower | 4/29/97 | | | western red-backed salamander | 1 | | 45 | bark/soil | |
| Cougar Headwaters-lower | 4/29/97 | | | western red-backed salamander | 1 | | 32 | log | |
| Cougar Headwaters-lower | 4/29/97 | | | western red-backed salamander | 1 | | 40 | cobble in splash zone | |
| Cougar Headwaters-lower | 4/29/97 | | | western red-backed salamander | 1 | | 32 | cobble in splash zone | |
| Cougar Headwaters-lower | 4/29/97 | | | dicamp. sp. | 1 larvae | | | pool | |
| Cougar Headwaters-lower | 4/29/97 | | | cascade torrent salamander | 1 m | | 40 | rocky seep | |
| Cougar Headwaters-lower | 4/29/97 | 107 | | cascade torrent salamander | 1 m | 75 | 35 | seep/log | |
| Cougar Headwaters-lower | 4/29/97 | 114 | | western red-backed salamander | 1 | 85 | 40 | bark | |
| Cougar Headwaters-lower | 4/29/97 | 396 | | western red-backed salamander | 1 | 85 | 45 | log/litter | |
| Cougar Headwaters-lower | 4/29/97 | 401 | | western red-backed salamander | 1 | 90 | 50 | log | |
| Cougar Headwaters-lower | 4/29/97 | 475 | | ensatina | 1 | 90 | 50 | bark | |
| Cougar Headwaters-lower | 4/29/97 | 539 | | cascade torrent salamander | 1 f | 80 | 50 | log | |
| Cougar Headwaters-lower | 4/29/97 | 933 | | western red-backed salamander | 1 | 95 | 50 | bark | |
| Cougar Headwaters-lower | 4/29/97 | 1020 | | cascade torrent salamander | 1 f | 95 | 45 | bark | |
| Cougar Headwaters-lower | 4/29/97 | 1033 | | western red-backed salamander | 1 juv | 30 | 15 | log | |
| Cougar Headwaters-lower | 4/29/97 | 1410 | | western red-backed salamander | 1 | 80 | 40 | log | |
| Cougar Headwaters-lower | 10/23/97 | 0 | | Begin Survey at road | | | | | |
| Cougar Headwaters-lower | 10/23/97 | 1105 | | ensatina | 1 | | 36 | under boulder | 1 |
| Cougar Headwaters-lower | 10/23/97 | 1331 | | cascade torrent salamander | 1 f | | 53 | | 1 |
| Cougar Headwaters-lower | 10/23/97 | 1470 | | cascade torrent salamander | 1 f | | 40 | under leaves on rocks | 1 |
| Cougar Headwaters-lower | 10/23/97 | 1930 | | rough skin newt | 1 | | 65 | under log in mulch | 1 |
| Cougar Headwaters-lower | 10/23/97 | 2404 | | western red-backed salamander | 1 | | 37 | under mulch and bark | 1 |
| Cougar Headwaters-lower | 10/23/97 | 2700 | | ensatina | 1 | | 55 | under log near side channel | 1 |
| Cougar Headwaters-lower | 10/23/97 | 2750 | | rough skin newt | 1 | | 70 | on log | 1 |
| Cougar Headwaters-lower | 10/23/97 | 3134 | | western red-backed salamander | 1 | | 35 | on log | 1 |

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|-------------------------|----------|----------|-----------|----------------------------------|-----------|--------------|-----|-------------------------------------|-----------------|
| Cougar Headwaters-lower | 10/23/97 | 3512 | | End of survey | | | | | |
| Cougar Headwaters-upper | 4/10/97 | 55 | | western red-backed salamander | 1 | 88 | 45 | bark/rock | |
| Cougar Headwaters-upper | 4/10/97 | 226 | | western red-backed salamander | 1 | 64 | 31 | log | |
| Cougar Headwaters-upper | 4/10/97 | 226 | | cascade torrent salamander | 1 f | 85 | 55 | rock | |
| Cougar Headwaters-upper | 4/10/97 | 320 | | rough-skinned newt | 1 | 90 | 40 | rock | |
| Cougar Headwaters-upper | 4/10/97 | 342 | | rough-skinned newt | 1 | | | bed/moss | |
| Cougar Headwaters-upper | 4/10/97 | 388 | | western red-backed salamander | 1 | 70 | 35 | stump | |
| Cougar Headwaters-upper | 4/10/97 | 477 | | *Dry Creek; end survey | | | | | |
| Cougar Headwaters-upper | 4/29/97 | 50 | | western red-backed salamander | 2 | | 38 | bark | |
| Cougar Headwaters-upper | 4/29/97 | 50 | | western red-backed salamander | 2 | | | log | |
| Cougar Headwaters-upper | 4/29/97 | 50 | | western red-backed salamander | 3 | | | basalt rock | |
| Cougar Headwaters-upper | 4/29/97 | 127 | | western red-backed salamander | 1 | 95 | 55 | rock/stream | |
| Cougar Headwaters-upper | 4/29/97 | 371 | | western red-backed salamander | 1 | | | moss/soil | |
| Cougar Headwaters-upper | 4/29/97 | 392 | | western red-backed salamander | 1 | 80 | 40 | moss/rock | |
| Cougar Headwaters-upper | 4/29/97 | 416 | | western red-backed salamander | 1 | 85 | 40 | rock/rock | |
| Cougar Headwaters-upper | 8/21/97 | 0 | | Begin survey at spring | | | | | |
| Cougar Headwaters-upper | 8/21/97 | 60 | | Cascade torrent salamander | 25+ | 75 | 55 | riparian marsh, gravel, seeps, veg. | 1 |
| Cougar Headwaters-upper | 8/21/97 | 0 | | Red-legged frog | 1 adult | | 76 | old mossy lava flow | 1 |
| Cougar Headwaters-upper | 8/21/97 | 0 | | Western red-backed salamander | 1 adult | | | old mossy lava flow | 1 |
| Cougar Headwaters-upper | 8/21/97 | 1000 | | End of Survey | | | | | |
| Cougar Springs | 4/10/97 | | | cascade torrent salamander | 1 f | 100 | 50 | rocks/cobble | |
| Cougar Springs | 4/10/97 | | | cascade torrent salamander | 1 m | 85 | 55 | rocks/cobble | |
| Cougar Springs | 4/10/97 | | | cascade torrent salamander | 1 f | 84 | 45 | rocks/cobble | |
| Cougar Springs | 4/10/97 | | | cascade torrent salamander | 1 f | 90 | 45 | rocks/cobble | |
| Cougar Springs | 4/10/97 | | | cascade torrent salamander | 1 f | 90 | 45 | rocks/cobble | |
| Cougar Springs | 4/10/97 | | | cascade torrent salamander | 1 f | 90 | 45 | rocks/cobble | |
| Cougar Springs | 4/10/97 | | | cascade torrent salamander | 1 m | 90 | 45 | rocks/cobble | |
| Cougar Springs | 4/10/97 | | | cascade torrent salamander | 1 m | 90 | 50 | rocks/cobble | |
| Cougar Springs | 4/10/97 | | | cascade torrent salamander | 1 f | 70 | 40 | rocks/cobble | |
| Cougar Springs | 4/10/97 | | | cascade torrent salamander | 1 m | 80 | 40 | rocks/cobble | |
| Cougar Springs | 4/10/97 | | | cascade torrent salamander | 1 f | 95 | 50 | rocks/cobble | |
| Cougar Springs | 4/10/97 | | | cascade torrent salamander | 1 m | 85 | 50 | rocks/cobble | |
| Cougar Springs | 4/29/97 | | | cascade torrent salamander | 23 | | | pools, logs/rocks, stumps | |
| Dog Creek | 8/21/97 | 0 | | Begin Survey | | | | | |
| Dog Creek | 8/21/97 | 100 | | sampled 0-100 feet | | | | exposed channel, cobbles | 1 |
| Dog Creek | 8/21/97 | 700 | | sampled 500-700 feet | | | | exposed channel, cobbles | 1 |
| Dog Creek | 8/21/97 | 700 | | 500-700 ft downstream of culvert | | | | exposed channel, cobbles | 1 |
| Dog Creek | 8/21/97 | 1400 | | End of survey | | | | | |
| IP-1 stream | 4/8/97 | 32 | 1616 | western red-backed salamander | 1 | | | rock/leaf litter | 100 |
| IP-1 stream | 4/8/97 | 50 | 1621 | western red-backed salamander | 1 | 85 | 40 | leaf litter | |
| IP-1 stream | 4/8/97 | 67 | 1625 | western red-backed salamander | 1 | | | rubble | |
| IP-1 stream | 4/8/97 | 78 | 1627 | western red-backed salamander | 1 | | | rock | |
| IP-1 stream | 4/8/97 | 131 | 1637 | cascade torrent salamander | 2 | 85 | 40 | rocks | |
| IP-1 stream | 4/8/97 | 217 | 1649 | western red-backed salamander | 1 | 90 | 45 | leaf litter | |
| IP-1 stream | 4/8/97 | 220 | 1649 | rough-skinned newt | 1 | 122 | 55 | rock | |

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|-------------|---------|----------|-----------|-------------------------------|-----------|--------------|-----|------------------|-----------------|
| IP-1 stream | 4/8/97 | 283 | 1658 | cascade torrent salamander | 1 | | | water | |
| IP-1 stream | 4/8/97 | 341 | 1704 | rough-skinned newt | 1 | 155 | 55 | mossy rock | |
| IP-1 stream | 4/8/97 | 496 | 1718 | cascade torrent salamander | 1 | 80 | 35 | rock | |
| IP-1 stream | 4/8/97 | 532 | 1725 | cascade torrent salamander | 1 | 95 | 50 | rock | |
| IP-1 stream | 4/8/97 | 670 | 1735 | *end survey | | | | | |
| IP-1 stream | 4/30/97 | 88 | | cascade torrent salamander | 1 f | 82 | 42 | rock | 3 |
| IP-1 stream | 4/30/97 | 131 | | western red-backed salamander | 1 | 83 | 45 | rock | |
| IP-1 stream | 4/30/97 | 134 | | western red-backed salamander | 1 | 73 | 33 | rock | |
| IP-1 stream | 4/30/97 | 159 | | western red-backed salamander | 1 | 98 | 45 | log/rock | |
| IP-1 stream | 4/30/97 | 166 | | western red-backed salamander | 1 juv | 25 | 13 | rock/moss | |
| IP-1 stream | 4/30/97 | 200 | | cascade torrent salamander | 1 f | 85 | 50 | rock/log | |
| IP-1 stream | 4/30/97 | 201 | | cascade torrent salamander | 1 f | 78 | 45 | | |
| IP-1 stream | 4/30/97 | 201 | | Cope's giant salamander | 1 larvae | 66 | 35 | | |
| IP-1 stream | 4/30/97 | 217 | | cascade torrent salamander | 1 m | 89 | 48 | | |
| IP-1 stream | 4/30/97 | 221 | | cascade torrent salamander | 1 f | 92 | 45 | | |
| IP-1 stream | 4/30/97 | 240 | | Cope's giant salamander | 1 larvae | 40 | 25 | | |
| IP-1 stream | 4/30/97 | 280 | | cascade torrent salamander | 1 f | 85 | 40 | seep | |
| IP-1 stream | 4/30/97 | 280 | | cascade torrent salamander | 1 juv | | | seep | |
| IP-1 stream | 4/30/97 | 317 | | cascade torrent salamander | 1 f | 89 | 45 | | |
| IP-1 stream | 4/30/97 | 358 | | Cope's giant salamander | 1 larvae | 45 | 25 | | |
| IP-1 stream | 4/30/97 | 362 | | cascade torrent salamander | 1 m | 86 | 46 | | |
| IP-1 stream | 4/30/97 | 390 | | western red-backed salamander | 1 | 89 | 44 | rock | |
| IP-1 stream | 4/30/97 | 399 | | cascade torrent salamander | 1 m | 94 | 48 | | |
| IP-1 stream | 4/30/97 | 435 | | western red-backed salamander | 1 juv | 30 | 17 | litter/rock | |
| IP-1 stream | 4/30/97 | 451 | | cascade torrent salamander | 1 f | 91 | 47 | litter/rock | |
| IP-1 stream | 4/30/97 | 456 | | western red-backed salamander | 1 | 56 | 26 | seep | |
| IP-1 stream | 4/30/97 | 470 | | cascade torrent salamander | 1 m | | | rock | |
| IP-1 stream | 4/30/97 | 502 | | cascade torrent salamander | 1 m | 92 | 44 | | |
| IP-1 stream | 4/30/97 | 517 | | western red-backed salamander | 1 | 95 | 44 | rock | |
| IP-1 stream | 4/30/97 | 556 | | western red-backed salamander | 1 | 99 | 45 | rock | |
| IP-1 stream | 4/30/97 | 612 | | western red-backed salamander | 1 | | | rock | |
| IP-1 stream | 4/30/97 | 600 | | western red-backed salamander | 1 juv | 30 | 17 | rock | |
| IP-1 stream | 4/30/97 | 634 | | western red-backed salamander | 1 | 66 | 32 | rock | |
| IP-1 stream | 4/30/97 | 634 | | western red-backed salamander | 1 | 85 | 45 | rock | |
| IP-1 stream | 4/30/97 | 680 | | western red-backed salamander | 1 | 80 | 40 | log | |
| IP-1 stream | 4/30/97 | 690 | | western red-backed salamander | 1 | | | slate | |
| IP-1 stream | 4/30/97 | 706 | | western red-backed salamander | 1 | 85 | 40 | rock | |
| IP-1 stream | 4/30/97 | 796 | | western red-backed salamander | 1 juv | 37 | 19 | | |
| IP-1 stream | 4/30/97 | 800 | | *end survey | | | | | |
| IP-1 stream | 8/19/97 | | | Cope's giant salamander | 1 larvae | 33 | | | 2 |
| IP-1 stream | 8/19/97 | | | Cope's giant salamander | 1 larvae | 51 | | | 2 |
| IP-1 stream | 8/19/97 | | | Cope's giant salamander | 1 larvae | 46 | | | 2 |
| IP-1 stream | 8/19/97 | | | Cope's giant salamander | 1 larvae | 76 | | | 2 |
| IP-1 stream | 8/19/97 | | | cascade torrent salamander | 1 | 45 | | | 2 |
| IP-1 stream | 8/19/97 | | | unknown dicamptodon | 1 larvae | | | | 2 |

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|--------------|----------|----------|-----------|-------------------------------|-----------|--------------|-----|---------------------------|-----------------|
| IP-1 stream | 8/19/97 | | | western red-backed salamander | 1 larvae | 39 | | | 2 |
| IP-1 stream | 8/19/97 | | | Cope's giant salamander | 1 larvae | | | | 2 |
| IP-1 stream | 8/19/97 | | | cascade torrent salamander | 3 larvae | 35 | | | 2 |
| IP-1 stream | 8/19/97 | | | western red-backed salamander | 1 | 40 | | | 2 |
| IP-1 stream | 8/19/97 | 275 | 1040 | end of survey, stream dry | | | | | |
| IP-1 stream | 10/20/97 | 0 | | Begin survey | | | | | |
| IP-1 stream | 10/20/97 | 102 | | Cascade torrent salamander | 1 adult | | 40 | | 3 |
| IP-1 stream | 10/20/97 | 147 | | Cascade torrent salamander | 1 ad fem | | 36 | | 3 |
| IP-1 stream | 10/20/97 | 150 | | Cascade torrent salamander | | | | | 3 |
| IP-1 stream | 10/20/97 | 201 | | Cascade torrent salamander | 1 ad mal | | 53 | | 3 |
| IP-1 stream | 10/20/97 | 201 | | Cascade torrent salamander | 1 adult | | 53 | | 3 |
| IP-1 stream | 10/20/97 | 212 | | Cascade torrent salamander | 1 ad fem | | 45 | cobble | 3 |
| IP-1 stream | 10/20/97 | 218 | | Cascade torrent salamander | 1 ad fem | | 46 | | 3 |
| IP-1 stream | 10/20/97 | 234 | | Cascade torrent salamander | 1 ad fem | | 47 | | 3 |
| IP-1 stream | 10/20/97 | 244 | | Cascade torrent salamander | 1 adult | | | | 3 |
| IP-1 stream | 10/20/97 | 245 | | Cascade torrent salamander | 1 larvae | | 30 | steep bedrock grade | 3 |
| IP-1 stream | 10/20/97 | 252 | | Cascade torrent salamander | 1 adult | | 45 | | 3 |
| IP-1 stream | 10/20/97 | 264 | | Cascade torrent salamander | 1 ad fem | | 48 | | 3 |
| IP-1 stream | 10/20/97 | 264 | | Cascade torrent salamander | 1 m | | | | 3 |
| IP-1 stream | 10/20/97 | 288 | | Cascade torrent salamander | 1 f | | 48 | | 3 |
| IP-1 stream | 10/20/97 | 300 | | Cascade torrent salamander | | | | | 3 |
| IP-1 stream | 10/20/97 | 314 | | Cascade torrent salamander | 1f | | 40 | base of cliff, under rock | 3 |
| IP-1 stream | 10/20/97 | 334 | | Cascade torrent salamander | 1f | | 43 | | 3 |
| IP-1 stream | 10/20/97 | 372 | | Cope's giant salamander | 1 larvae | | 56 | | 3 |
| IP-1 stream | 10/20/97 | 456 | | western red-backed salamander | 1 | | 35 | | 3 |
| IP-1 stream | 10/20/97 | 456 | | western red-backed salamander | 1 | | 25 | | 3 |
| IP-1 stream | 10/20/97 | 470 | | cascade torrent salamander | 1 f | | 45 | | 3 |
| IP-1 stream | 10/20/97 | 473 | | cascade torrent salamander | 1 f | | 47 | | 3 |
| IP-1 stream | 10/20/97 | 562 | | cascade torrent salamander | larvae | | 15 | | 3 |
| IP-1 stream | 10/20/97 | 570 | | cascade torrent salamander | 1 f | | 46 | | 3 |
| IP-1 stream | 10/20/97 | 605 | | western red-backed salamander | adult | | 29 | in bark | 3 |
| IP-1 stream | 10/20/97 | 618 | | cascade torrent salamander | 1 f | | 43 | | 3 |
| IP-1 stream | 10/20/97 | 715 | | cascade torrent salamander | adult | | | | 3 |
| IP-1 stream | 10/20/97 | 802 | | cascade torrent salamander | 1 f | | 42 | | 3 |
| IP-1 stream | 10/20/97 | 818 | | western red-backed salamander | adult | | 37 | | 3 |
| IP-1 stream | 10/20/97 | 869 | | cascade torrent salamander | adult | | | | 3 |
| IP-1 stream | 10/20/97 | 869 | | cascade torrent salamander | adult | | | | 3 |
| IP-1 stream | 10/20/97 | 875 | | western red-backed salamander | adult | | | | 3 |
| IP-1 stream | 10/20/97 | 875 | | End of survey | | | | | |
| IP-10 stream | 4/8/97 | 260 | 0903 | western red-backed salamander | 1 | 80 | 40 | log | |
| IP-10 stream | 4/8/97 | 480 | 0922 | western red-backed salamander | 1 | 80 | 40 | log/moss; base of stump | |
| IP-10 stream | 4/8/97 | 480 | | *road culvert | | | | | |
| IP-10 stream | 4/8/97 | 538 | 0925 | western red-backed salamander | 1 | 55 | 30 | log/moss | |
| IP-10 stream | 4/8/97 | 536 | | *road | | | | | |
| IP-10 stream | 4/8/97 | 596 | 0938 | western red-backed salamander | 1 | 75 | 35 | log/moss | |

1996-1997 In-stream amphibian survey results, Yale Hydroelectric Project.

| Site Name | Date | Location | Obs. Time | Species | Total No. | Total Length | SVL | Specific Habitat | Stream Gradient |
|--------------|----------|----------|-----------|--|-----------|--------------|-----|-------------------------|-----------------|
| IP-10 stream | 4/8/97 | 596 | 0938 | western red-backed salamander | 1 juv | 25 | 18 | log/moss | |
| IP-10 stream | 4/8/97 | 650 | 0944 | western red-backed salamander | 1 | 90 | 40 | rotting log | |
| IP-10 stream | 4/8/97 | 864 | 0959 | *stream branches, we took right branch | | | | | |
| IP-10 stream | 4/8/97 | 1158 | 1016 | *stream branches, we took left branch | | | | | |
| IP-10 stream | 4/8/97 | 1316 | 1022 | road culvert; down side wet/ mucky | | | | | |
| IP-10 stream | 4/8/97 | 2208 | 1102 | *headwaters; very silty and mucky | | | | | |
| IP-10 stream | 4/30/97 | 0 | | *start survey at IP road | | | | | |
| IP-10 stream | 4/30/97 | 25 | | western red-backed salamander | 1 | 64 | 32 | log | 2 |
| IP-10 stream | 4/30/97 | 204 | | ensatina | 1 | 75 | 40 | bark | |
| IP-10 stream | 4/30/97 | 215 | | *stream branches, we went left | | | | | |
| IP-10 stream | 4/30/97 | 532 | | *road | | | | | |
| IP-10 stream | 4/30/97 | 691 | | *road | | | | | |
| IP-10 stream | 4/30/97 | 785 | | Cope's giant salamander | 1 larvae | | | | |
| IP-10 stream | 4/30/97 | 1140 | | western red-backed salamander | 1 | 100 | 50 | bark/log | |
| IP-10 stream | 4/30/97 | 1196 | | western red-backed salamander | 1 | 75 | 35 | soil | |
| IP-10 stream | 4/30/97 | 1196 | | *return to fork at 215 | | | | | |
| IP-10 stream | 4/30/97 | 290 | | western red-backed salamander | 1 | 85 | 40 | soil | |
| IP-10 stream | 4/30/97 | 1433 | | western red-backed salamander | 1 | 75 | 30 | leaf/soil | |
| IP-10 stream | 4/30/97 | 1467 | | *stream branches, we went left | | | | | |
| IP-10 stream | 4/30/97 | 1748 | | *big new slide; walked around 200ft | | | | | |
| IP-10 stream | 4/30/97 | 1840 | | branch of lower; enter RF/MCt; steeper | | | | | |
| IP-10 stream | 4/30/97 | 2037 | | western red-backed salamander | 1 | 55 | 30 | bark/soil | |
| IP-10 stream | 4/30/97 | 2048 | | cascade torrent salamander | 1 m | 85 | 50 | rock/soil | |
| IP-10 stream | 4/30/97 | 2080 | | *stream branches; we went right | | | | | |
| IP-10 stream | 4/30/97 | 2090 | | western red-backed salamander | 1 | 95 | 47 | rock/soil | |
| IP-10 stream | 4/30/97 | 2298 | | western red-backed salamander | 1 | 70 | 35 | leaf/soil | |
| IP-10 stream | 4/30/97 | 2298 | | cascade torrent salamander | 1 | | 44 | rock | |
| IP-10 stream | 4/30/97 | 2379 | | western red-backed salamander | 1 | 85 | 40 | leaf/soil | |
| IP-10 stream | 4/30/97 | 2572 | | cascade torrent salamander | 1 | | | pool/rock | |
| IP-10 stream | 8/20/97 | 0 | | begin survey at IP road | | | | | |
| IP-10 stream | 8/20/97 | 162 | | Cope's giant salamander | 1 larvae | | | | 1 |
| IP-10 stream | 8/20/97 | 500 | | stream through culvert under road | | | | | |
| IP-10 stream | 8/20/97 | 775 | | stream through culvert under road | | | | | |
| IP-10 stream | 8/20/97 | 1025 | | trace flow | | | | | |
| IP-10 stream | 8/20/97 | 1500 | | Roughskin newt | | | | | |
| IP-10 stream | 8/20/97 | 1500 | | end of survey | | | | | |
| IP-10 stream | 10/23/97 | 0 | | Begin survey at IP road | | | | | |
| IP-10 stream | 10/23/97 | 188 | | cascade torrent salamander | 1 | 90 | 45 | leaf/soil | 3 |
| IP-10 stream | 10/23/97 | 225 | | western red-backed salamander | 1 | 85 | 50 | leaf/soil | 3 |
| IP-10 stream | 10/23/97 | 275 | | cascade torrent salamander | 1 | 90 | 50 | leaf/soil | 3 |
| IP-10 stream | 10/23/97 | 579 | | western red-backed salamander | 1 | 80 | 40 | large woody debris/soil | 3 |
| IP-10 stream | 10/23/97 | 1197 | | western red-backed salamander | 1 | 48 | 27 | under leaf on soil | 3 |
| IP-10 stream | 10/23/97 | 1201 | | western red-backed salamander | 1 | 95 | 45 | under leaf on rock | 3 |
| IP-10 stream | 10/23/97 | 1240 | | western red-backed salamander | 1 | 100 | 50 | under leaf on soil | 3 |
| IP-10 stream | 10/23/97 | 1470 | | cascade torrent salamander | 1 | 83 | 47 | in silt | 3 |

1996-1997 In-stream amphibian survey results, Yale Hydroelectric Project.

| Site Name | Date | Location | Obs. Time | Species | Total No. | Total Length | SVL | Specific Habitat | Stream Gradient |
|--------------|----------|----------|-----------|--|-----------|--------------|-----|--------------------|-----------------|
| IP-10 stream | 10/23/97 | 1520 | | western red-backed salamander | 1 | 95 | 50 | under leaf on rock | 3 |
| IP-10 stream | 10/23/97 | 115 | | cascade torrent salamander | 1 | 81 | 42 | under leaves | 3 |
| IP-10 stream | 10/23/97 | 675 | | cascade torrent salamander | 1 | 82 | 43 | under rock | 3 |
| IP-10 stream | 10/23/97 | 1197 | | cascade torrent salamander | 1 | 80 | 40 | under leaves | 3 |
| IP-10 stream | 10/23/97 | 1300 | | western red-backed salamander | 1 | 95 | 47 | under leaves | 3 |
| IP-10 stream | 10/23/97 | 1350 | | cascade torrent salamander | 1 | 75 | 38 | on rock | 3 |
| IP-10 stream | 10/23/97 | 1600 | | end of survey | | | | | |
| IP-11 stream | 4/3/97 | 70 | 1455 | western red-backed salamander | 1 | | | moss/log | |
| IP-11 stream | 4/3/97 | 70 | 1503 | western red-backed salamander | 1 | | | log/litter | |
| IP-11 stream | 4/3/97 | 70 | 1508 | western red-backed salamander | 1 | | | moss/rocks | |
| IP-11 stream | 4/3/97 | 182 | 1518 | western red-backed salamander | 1 | | | moss/soil | |
| IP-11 stream | 4/3/97 | 380 | | *stream branches | | | | | |
| IP-11 stream | 4/3/97 | 454 | 1555 | Cascade torrent salamander | 1 m | | | seep/rock | 34 |
| IP-11 stream | 4/3/97 | 578 | 1608 | Cascade torrent salamander | 1 f | | | seep/headwater | 34 |
| IP-11 stream | 4/3/97 | 578 | 1608 | Cascade torrent salamander | 2 (m/f) | | | seep/headwater | |
| IP-11 stream | 4/3/97 | 1265 | 1652 | *headwaters of left fork (in clearcut) | | | | | |
| IP-11 stream | 4/30/97 | 325 | | *stream branches | | | | | 1 |
| IP-11 stream | 4/30/97 | 444 | | cascade torrent salamander | 1 larvae | 44 | 23 | pool | |
| IP-11 stream | 4/30/97 | 523 | | cascade torrent salamander | 1 larvae | 30 | 18 | pool | |
| IP-11 stream | 4/30/97 | 576 | | cascade torrent salamander | 1 m | 78 | 46 | pool | |
| IP-11 stream | 4/30/97 | 592 | | *headwaters | | | | | |
| IP-11 stream | 4/30/97 | 580 | | cascade torrent salamander | 1 larvae | 29 | 17 | pool | |
| IP-11 stream | 4/30/97 | 592 | | western red-backed salamander | 1 | 72 | 41 | log | |
| IP-11 stream | 4/30/97 | 615 | | cascade torrent salamander | 1 m | 79 | 45 | log | |
| IP-11 stream | 4/30/97 | 620 | | cascade torrent salamander | 1 m | 85 | 49 | log | |
| IP-11 stream | 4/30/97 | 625 | | cascade torrent salamander | 1 larvae | 30 | 18 | log | |
| IP-11 stream | 4/30/97 | 630 | | *end of headwater | | | | | |
| IP-11 stream | 4/30/97 | 138 | | western red-backed salamander | 1 | 120 | 60 | log | |
| IP-11 stream | 4/30/97 | 200 | | *slump | | | | | |
| IP-11 stream | 4/30/97 | 227 | | western red-backed salamander | 1 | 85 | 38 | mulch | |
| IP-11 stream | 4/30/97 | 275 | | *clearcut begins | | | | | |
| IP-11 stream | 4/30/97 | 350 | | cascade torrent salamander | 1 | | | | |
| IP-11 stream | 4/30/97 | 650 | | *stream branches | | | | | |
| IP-11 stream | 4/30/97 | 950 | | *headwaters below | | | | | |
| IP-11 stream | 8/20/97 | 0 | | begin survey at IP road | | | | | 2 |
| IP-11 stream | 8/20/97 | 950 | | crayfish | | | | | |
| IP-11 stream | 8/20/97 | 1500 | | end survey | | | | | 2 |
| IP-11 stream | 10/23/97 | 0 | | Begin survey at IP road | | | | | |
| IP-11 stream | 10/23/97 | 700 | | cascade torrent salamander | 1 | 60 | 38 | under leaf in mud | 2 |
| IP-11 stream | 10/23/97 | 730 | | cascade torrent salamander | 1 larvae | 42 | 29 | under leaf in mud | 2 |
| IP-11 stream | 10/23/97 | 800 | | cascade torrent salamander | 1 | 75 | | sandy bottom | 2 |
| IP-11 stream | 10/23/97 | 1400 | | End of survey at edge of clearcut area | | | | | |
| IP-13 stream | 8/22/97 | 100 | | Chorus frogs | 6 | | | | 1 |
| IP-13 stream | 8/22/97 | | | Roughskin newts | 26 | | | in and along creek | 1 |
| IP-13 stream | 8/22/97 | 300 | | Bullfrogs | 6 | | | wetland pool | 1 |

1996-1997 In-stream amphibian survey results, Yale Hydroelectric Project.

| Site Name | Date | Location | Obs. Time | Species | Total No. | Total Length | SVL | Specific Habitat | Stream Gradient |
|--------------|----------|----------|-----------|---------------------------------------|-----------|--------------|-----|-------------------------|-----------------|
| IP-13 stream | 8/22/97 | 300 | | End of Survey | | | | | |
| IP-2 stream | 4/7/97 | 25 | 1532 | western red-backed salamander | 1 | 85 | 47 | under rock | |
| IP-2 stream | 4/7/97 | 25 | 1532 | western red-backed salamander | 1 | 85 | 42 | under rock | |
| IP-2 stream | 4/7/97 | 28 | 1535 | western red-backed salamander | 1 juv | 30 | 15 | under rock | |
| IP-2 stream | 4/7/97 | 57 | 1550 | western red-backed salamander | 1 | 90 | 38 | bark | |
| IP-2 stream | 4/7/97 | 57 | 1550 | western red-backed salamander | 1 | 78 | 45 | bark | |
| IP-2 stream | 4/7/97 | 125 | 1603 | cascade torrent salamander | 1 | 95 | 45 | leaf litter | |
| IP-2 stream | 4/7/97 | 130 | | cascade torrent salamander | 1 m | 73 | 42 | rubble, leaf litter | |
| IP-2 stream | 4/7/97 | 150 | | *waterfall; hike around | | | | | |
| IP-2 stream | 4/7/97 | 152 | 1631 | western red-backed salamander | 1 | 72 | 38 | moss/soil | |
| IP-2 stream | 4/7/97 | 166 | 1637 | western red-backed salamander | 2 | | | rubble/moss | |
| IP-2 stream | 4/7/97 | 245 | 1645 | *waterfall; end of survey | | | | | |
| IP-2 stream | 4/30/97 | 12 | | western red-backed salamander | 1 | 85 | 40 | rock/litter | 3 |
| IP-2 stream | 4/30/97 | 49 | | cascade torrent salamander | 1 f | 100 | 50 | rock | |
| IP-2 stream | 4/30/97 | 96 | | cascade torrent salamander | 1 | | | cobble/gravel | |
| IP-2 stream | 4/30/97 | 104 | | cascade torrent salamander | 1 | 65 | 35 | rock | |
| IP-2 stream | 4/30/97 | 123 | | cascade torrent salamander | 1 | | | rock/litter | |
| IP-2 stream | 4/30/97 | 175 | | *waterfall; end survey | | | | | |
| IP-2 stream | 8/19/97 | 0 | | begin survey at IP road | | | | | 3 |
| IP-2 stream | 8/19/97 | 30 | | cascade torrent salamander | 1 | 60 | | rocks in stream, cobble | 3 |
| IP-2 stream | 8/19/97 | 30 | | cascade torrent salamander | 1 | 60 | | rocks in stream, cobble | 3 |
| IP-2 stream | 8/19/97 | 30 | | cascade torrent salamander | 1 | 45 | | rocks in stream, cobble | 3 |
| IP-2 stream | 8/19/97 | 30 | | cascade torrent salamander | 1 | 55 | | rocks in stream, cobble | 3 |
| IP-2 stream | 8/19/97 | 300 | | cascade torrent salamander | 1 | 57 | | rocks in stream, cobble | 3 |
| IP-2 stream | 8/19/97 | 300 | | cascade torrent salamander | 1 | 61 | | rocks in stream, cobble | 3 |
| IP-2 stream | 8/19/97 | 300 | | cascade torrent salamander | 1 | 35 | | rocks in stream, cobble | 3 |
| IP-2 stream | 8/19/97 | 800 | | cascade torrent salamander | 1 | 60 | | rocks in stream, cobble | 3 |
| IP-2 stream | 8/19/97 | 800 | | cascade torrent salamander | 1 | 50 | | rocks in stream, cobble | 3 |
| IP-2 stream | 8/19/97 | 1220 | | headwaters, stream dry, end of survey | | | | rocks, cobble | 3 |
| IP-2 stream | 10/20/97 | 0 | | Begin Survey at IP road | | | | | |
| IP-2 stream | 10/20/97 | 75 | | western red-backed salamander | adult | 65 | 40 | on top of leaf litter | |
| IP-2 stream | 10/20/97 | 85 | | cascade torrent salamander | adult | 85 | 45 | top of rock | |
| IP-2 stream | 10/20/97 | 85 | | cascade torrent salamander | adult | 85 | 45 | | |
| IP-2 stream | 10/20/97 | 95 | | western red-backed salamander | adult | 75 | 40 | under rock on soil | |
| IP-2 stream | 10/20/97 | 95 | | cascade torrent salamander | adult | 70 | 35 | under rock on soil | |
| IP-2 stream | 10/20/97 | 95 | | cascade torrent salamander | adult | 65 | 35 | under rock on soil | |
| IP-2 stream | 10/20/97 | 111 | | cascade torrent salamander | 1 f | 100 | 70 | water's edge | |
| IP-2 stream | 10/20/97 | 125 | | cascade torrent salamander | adult | 75 | 40 | water's edge | |
| IP-2 stream | 10/20/97 | 125 | | cascade torrent salamander | adult | 75 | 40 | water's edge | |
| IP-2 stream | 10/20/97 | 265 | | End of Survey, impassable chute | | | | | |
| IP-3 stream | 4/9/97 | 110 | 0925 | western red-backed salamander | 1 | | | rock | |
| IP-3 stream | 4/9/97 | 178 | 0933 | cascade torrent salamander | 1 | 70 | 35 | rock | 100 |
| IP-3 stream | 4/9/97 | 195 | 0935 | cascade torrent salamander | 1 | | 40 | rock | |
| IP-3 stream | 4/9/97 | 200 | 0936 | western red-backed salamander | 1 | | 40 | rock | |
| IP-3 stream | 4/9/97 | 213 | 0941 | western red-backed salamander | 1 | | | rock | |

1996-1997 In-stream amphibian survey results, Yale Hydroelectric Project.

| Site Name | Date | Location | Obs. Time | Species | Total No. | Total Length | SVL | Specific Habitat | Stream Gradient |
|-------------|--------|----------|-----------|-------------------------------|-----------|--------------|-----|------------------|-----------------|
| IP-3 stream | 4/9/97 | 213 | 0941 | cascade torrent salamander | 1 m | | | rock | |
| IP-3 stream | 4/9/97 | 242 | 0949 | cascade torrent salamander | 1 m | | 40 | rock | |
| IP-3 stream | 4/9/97 | 292 | 0954 | cascade torrent salamander | 1 f | | 40 | rock/soil | |
| IP-3 stream | 4/9/97 | 303 | 0959 | cascade torrent salamander | 2 (m/f) | | 40 | rock/soil | |
| IP-3 stream | 4/9/97 | 359 | 1005 | cascade torrent salamander | 1 f | | 40 | rock | |
| IP-3 stream | 4/9/97 | 369 | 1007 | cascade torrent salamander | 2 f | | 40 | rock | |
| IP-3 stream | 4/9/97 | 419 | 1014 | cascade torrent salamander | 1 | | | rock | |
| IP-3 stream | 4/9/97 | 487 | 1029 | western red-backed salamander | 1 | | 30 | rotting log | |
| IP-3 stream | 4/9/97 | 543 | 1036 | cascade torrent salamander | 3 | | 40 | rock | |
| IP-3 stream | 4/9/97 | 565 | 1040 | cascade torrent salamander | 1 f | | 40 | rock | |
| IP-3 stream | 4/9/97 | 582 | 1042 | cascade torrent salamander | 1 | | 40 | rock | |
| IP-3 stream | 4/9/97 | 592 | 1044 | rough-skinned newt | 1 | | 60 | rock | |
| IP-3 stream | 4/9/97 | 600 | 1050 | cascade torrent salamander | 1 f | | | rock | |
| IP-3 stream | 4/9/97 | 652 | 1051 | western red-backed salamander | 1 | | | rock | |
| IP-3 stream | 4/9/97 | 675 | 1056 | cascade torrent salamander | 2 f | | | pool | |
| IP-3 stream | 4/9/97 | 809 | 1112 | cascade torrent salamander | 2 f | | | pool | |
| IP-3 stream | 4/9/97 | 874 | 1145 | cascade torrent salamander | 1 f | | | pool | |
| IP-3 stream | 4/9/97 | 899 | 1150 | western red-backed salamander | 1 | | 20 | rock | |
| IP-3 stream | 4/9/97 | 925 | 1153 | cascade torrent salamander | 1 f | | | rock | |
| IP-3 stream | 4/9/97 | 935 | 1154 | cascade torrent salamander | 1 f | | | rock | |
| IP-3 stream | 4/9/97 | 952 | 1558 | cascade torrent salamander | 1 f | | | rock | |
| IP-3 stream | 4/9/97 | 1106 | 1205 | cascade torrent salamander | 1 | | 10 | rock | |
| IP-3 stream | 4/9/97 | 1018 | 1210 | cascade torrent salamander | 1 f | | | rock | |
| IP-3 stream | 4/9/97 | 1110 | 1220 | western red-backed salamander | 1 | | | gravel | |
| IP-3 stream | 4/9/97 | 1159 | 1228 | western red-backed salamander | 1 | | 35 | rock | |
| IP-3 stream | 4/9/97 | 1217 | 1235 | western red-backed salamander | 1 | | 10 | gravel | |
| IP-3 stream | 4/9/97 | 1271 | 1240 | western red-backed salamander | 1 | | 35 | rock | |
| IP-3 stream | 4/9/97 | 1275 | 1241 | cascade torrent salamander | 1 f | | | pool | |
| IP-3 stream | 4/9/97 | 1280 | 1246 | western red-backed salamander | 1 | | | rock/gravel | |
| IP-3 stream | 4/9/97 | 1304 | 1252 | western red-backed salamander | 1 | | | rock | |
| IP-3 stream | 4/9/97 | 1362 | 1303 | cascade torrent salamander | 2 | | | rock | |
| IP-3 stream | 4/9/97 | 1530 | 1320 | *headwater; end of survey | | | | | |
| IP-3 stream | 5/1/97 | 26 | | rough-skinned newt | 1 | 160 | 70 | rock | 3 |
| IP-3 stream | 5/1/97 | 108 | | cascade torrent salamander | 1 m | 95 | 45 | bedrock | |
| IP-3 stream | 5/1/97 | 108 | | cascade torrent salamander | 1 f | 90 | 50 | bedrock | |
| IP-3 stream | 5/1/97 | 126 | | Cope's giant salamander | 1 larvae | 65 | 35 | pool | |
| IP-3 stream | 5/1/97 | 144 | | cascade torrent salamander | 1 | 90 | 50 | rock | |
| IP-3 stream | 5/1/97 | 160 | | Cope's giant salamander | 1 larvae | | | pool | |
| IP-3 stream | 5/1/97 | 164 | | western red-backed salamander | 1 | 77 | 37 | rock | |
| IP-3 stream | 5/1/97 | 176 | | cascade torrent salamander | 1 | 80 | 40 | rock | |
| IP-3 stream | 5/1/97 | 193 | | cascade torrent salamander | 1 | | | rock | |
| IP-3 stream | 5/1/97 | 193 | | cascade torrent salamander | 1 | | | rock | |
| IP-3 stream | 5/1/97 | 240 | | cascade torrent salamander | 1 | 85 | 45 | rock | |
| IP-3 stream | 5/1/97 | 250 | | cascade torrent salamander | 1 | 82 | 40 | rock | |
| IP-3 stream | 5/1/97 | 251 | | cascade torrent salamander | 1 | 85 | 45 | litter/rock | |

1996-1997 In-stream amphibian survey results, Yale Hydroelectric Project.

| Site Name | Date | Location | Obs. Time | Species | Total No. | Total Length | SVL | Specific Habitat | Stream Gradient |
|-------------|----------|----------|-----------|------------------------------------|-----------|--------------|-----|--------------------------|-----------------|
| IP-3 stream | 5/1/97 | 276 | | cascade torrent salamander | 1 | 90 | 45 | rock | |
| IP-3 stream | 5/1/97 | 280 | | cascade torrent salamander | 1 | 85 | 45 | rock | |
| IP-3 stream | 5/1/97 | 307 | | western red-backed salamander | 1 | 84 | 40 | litter | |
| IP-3 stream | 5/1/97 | 308 | | cascade torrent salamander | 1 | 90 | 45 | pool | |
| IP-3 stream | 5/1/97 | 374 | | cascade torrent salamander | 1 | 95 | 45 | pool | |
| IP-3 stream | 5/1/97 | 383 | | cascade torrent salamander | 1 | 80 | 45 | bedrock | |
| IP-3 stream | 5/1/97 | 383 | | cascade torrent salamander | 1 | 100 | 50 | bedrock | |
| IP-3 stream | 5/1/97 | 409 | | cascade torrent salamander | 2 | 90 | 50 | rock | |
| IP-3 stream | 5/1/97 | 426 | | western red-backed salamander | 1 juv | 30 | 17 | rock/litter | |
| IP-3 stream | 5/1/97 | 450 | | cascade torrent salamander | 1 | 95 | 50 | rock | |
| IP-3 stream | 5/1/97 | 515 | | cascade torrent salamander | 1 | 85 | 40 | rock | |
| IP-3 stream | 5/1/97 | 565 | | cascade torrent salamander | 1 | 90 | 45 | pool/rock | |
| IP-3 stream | 5/1/97 | 605 | | cascade torrent salamander | 1 m | | 50 | rock | |
| IP-3 stream | 5/1/97 | 697 | | *end survey | | | | | |
| IP-3 stream | 8/19/97 | 0 | 1115 | begin survey at IP road | | | | | 3 |
| IP-3 stream | 8/19/97 | 100 | | western red-backed salamander | 1 | 85 | | | 3 |
| IP-3 stream | 8/19/97 | 200 | | western red-backed salamander | 1 | 40 | | | 3 |
| IP-3 stream | 8/19/97 | 505 | | western red-backed salamander | 1 | 25 | | | 3 |
| IP-3 stream | 8/19/97 | 800 | | narrow, steep chute, end of survey | | | | | 3 |
| IP-3 stream | 10/20/97 | 0 | | Begin survey at IP road | | | | | |
| IP-3 stream | 10/20/97 | 10 | | cascade torrent salamander | adult | 45 | 30 | under rock | 3 |
| IP-3 stream | 10/20/97 | 20 | | cascade torrent salamander | adult | 70 | 35 | under rock | 3 |
| IP-3 stream | 10/20/97 | 30 | | cascade torrent salamander | adult | 100 | 50 | under rock | 3 |
| IP-3 stream | 10/20/97 | 33 | | cascade torrent salamander | adult | 75 | 40 | under rock | 3 |
| IP-3 stream | 10/20/97 | 122 | | cascade torrent salamander | adult | 105 | 60 | under large woody debris | 3 |
| IP-3 stream | 10/20/97 | 125 | | roughskin newt | adult | 110 | 65 | under large woody debris | 3 |
| IP-3 stream | 10/20/97 | 143 | | cascade torrent salamander | adult | 100 | 55 | under leaf | 3 |
| IP-3 stream | 10/20/97 | 150 | | cascade torrent salamander | adult | 75 | 40 | under leaf | 3 |
| IP-3 stream | 10/20/97 | 150 | | cascade torrent salamander | adult | 90 | 55 | under rock | 3 |
| IP-3 stream | 10/20/97 | 188 | | roughskin newt | adult | 75 | 30 | under rock on soil | 3 |
| IP-3 stream | 10/20/97 | 200 | | cascade torrent salamander | adult | 95 | 35 | under rock | 3 |
| IP-3 stream | 10/20/97 | 285 | | western red-backed salamander | adult | 110 | 55 | top of leaves | 3 |
| IP-3 stream | 10/20/97 | 333 | | cascade torrent salamander | adult | 90 | 55 | under rock | 3 |
| IP-3 stream | 10/20/97 | 470 | | cascade torrent salamander | adult | 80 | 55 | under rock | 3 |
| IP-3 stream | 10/20/97 | 490 | | western red-backed salamander | adult | 90 | 45 | under rock | 3 |
| IP-3 stream | 10/20/97 | 771 | | cascade torrent salamander | adult | 100 | 55 | under rock | 3 |
| IP-3 stream | 10/20/97 | 771 | | end of survey | | | | | |
| IP-4 stream | 4/9/97 | 0 | | western red-backed salamander | 1 | 60 | 33 | rock | |
| IP-4 stream | 4/9/97 | 34 | | western red-backed salamander | 1 juv | 24 | 16 | cobble/seep | |
| IP-4 stream | 4/9/97 | 150 | | western red-backed salamander | 1 | 83 | 40 | bed/cobble/leaves | |
| IP-4 stream | 4/9/97 | 150 | | western red-backed salamander | 1 | 84 | 41 | bed/cobble/leaves | |
| IP-4 stream | 4/9/97 | 213 | | western red-backed salamander | 1 | 84 | 39 | log | |
| IP-4 stream | 4/9/97 | 223 | | western red-backed salamander | 1 | 99 | 53 | rocks | |
| IP-4 stream | 4/9/97 | 232 | | cascade torrent salamander | 1 | | | pool/rocks | |
| IP-4 stream | 4/9/97 | 237 | | rough-skinned newt | 1 | 110 | 50 | cobble | |

1996-1997 In-stream amphibian survey results, Yale Hydroelectric Project.

| Site Name | Date | Location | Obs. Time | Species | Total No. | Total Length | SVL | Specific Habitat | Stream Gradient |
|-------------|----------|----------|-----------|---------------------------------------|-----------|--------------|-----|------------------|-----------------|
| IP-4 stream | 4/9/97 | 237 | | western red-backed salamander | 1 | 70 | 35 | rock | |
| IP-4 stream | 4/9/97 | 281 | | cascade torrent salamander | 1 f | 90 | 40 | pool | |
| IP-4 stream | 4/9/97 | 300 | | western red-backed salamander | 1 | 90 | 44 | rock | |
| IP-4 stream | 4/9/97 | 370 | | cascade torrent salamander | 1 f | 90 | 43 | cobble/leaves | |
| IP-4 stream | 4/9/97 | 400 | | western red-backed salamander | 1 juv | 24 | 14 | fractured rock | |
| IP-4 stream | 4/9/97 | 435 | | western red-backed salamander | 1 | 81 | 39 | flat rock | |
| IP-4 stream | 4/9/97 | 460 | | *creek branches; went left | | | | | |
| IP-4 stream | 4/9/97 | 480 | | cascade torrent salamander | 1 m | 90 | 55 | rock/leaves | |
| IP-4 stream | 4/9/97 | 565 | | *no surface flow | | | | | |
| IP-4 stream | 4/9/97 | 625 | | *1-2 cfs | | | | | |
| IP-4 stream | 4/9/97 | 658 | | western red-backed salamander | 1 | 60 | 37 | rock | |
| IP-4 stream | 4/9/97 | 670 | | western red-backed salamander | 1 juv | 30 | 18 | rock | |
| IP-4 stream | 4/9/97 | 747 | | *no surface flow | | | | | |
| IP-4 stream | 4/9/97 | 820 | | western red-backed salamander | 1 | 89 | 43 | rotten log | |
| IP-4 stream | 4/9/97 | 837 | | western red-backed salamander | 1 | 90 | 40 | rock/soil | |
| IP-4 stream | 4/9/97 | 845 | | western red-backed salamander | 1 | 80 | 40 | BLM leaves/rock | |
| IP-4 stream | 4/9/97 | 888 | | western red-backed salamander | 1 juv | 29 | 15 | rock/soil | |
| IP-4 stream | 4/9/97 | 946 | | *end left branch | | | | | |
| IP-4 stream | 5/1/97 | 55 | | western red-backed salamander | 1 | 70 | 35 | litter | |
| IP-4 stream | 5/1/97 | 77 | | western red-backed salamander | 1 | 80 | 40 | litter | |
| IP-4 stream | 5/1/97 | 79 | | western red-backed salamander | 1 | 82 | 43 | log | |
| IP-4 stream | 5/1/97 | 160 | | western red-backed salamander | 1 | 75 | 35 | rock | |
| IP-4 stream | 5/1/97 | 165 | | western red-backed salamander | 1 | 75 | 43 | rock | |
| IP-4 stream | 5/1/97 | 192 | | western red-backed salamander | 1 | 90 | 45 | rock | |
| IP-4 stream | 5/1/97 | 450 | | cascade torrent salamander | 1 | 85 | 55 | log | |
| IP-4 stream | 5/1/97 | 465 | | *stream branches; we went right | | | | | |
| IP-4 stream | 5/1/97 | 478 | | western red-backed salamander | 1 | 84 | 44 | rock/bedrock | |
| IP-4 stream | 5/1/97 | 522 | | western red-backed salamander | 1 | 90 | 45 | moss | |
| IP-4 stream | 5/1/97 | 522 | | *channel turns bedrock; return to 465 | | | | | |
| IP-4 stream | 5/1/97 | 95 | | western red-backed salamander | 1 | 78 | 40 | talus | |
| IP-4 stream | 5/1/97 | 177 | | western red-backed salamander | 1 | 73 | 35 | log/rock | |
| IP-4 stream | 5/1/97 | 177 | | *headwaters; continue up dry channel | | | | | |
| IP-4 stream | 5/1/97 | 239 | | western red-backed salamander | 1 | 65 | 35 | log | |
| IP-4 stream | 5/1/97 | 244 | | western red-backed salamander | 1 juv | 40 | 22 | rock/litter | |
| IP-4 stream | 5/1/97 | 247 | | western red-backed salamander | 1 | 85 | 43 | litter | |
| IP-4 stream | 5/1/97 | 247 | | western red-backed salamander | 1 | | | rock | |
| IP-4 stream | 5/1/97 | 250 | | ensatina | 1 | 110 | 55 | litter | |
| IP-4 stream | 5/1/97 | 264 | | western red-backed salamander | 1 | 67 | 37 | rock/cobble | |
| IP-4 stream | 5/1/97 | 279 | | western red-backed salamander | 1 | 69 | 32 | rock | |
| IP-4 stream | 5/1/97 | 301 | | *end survey | | | | | |
| IP-4 stream | 8/19/97 | 0 | 1350 | begin survey at IP road | | | | | 3 |
| IP-4 stream | 8/19/97 | 300 | 1415 | end survey, creek dry | | | | | 3 |
| IP-4 stream | 10/20/97 | 0 | | Begin survey at IP road | | | | | |
| IP-4 stream | 10/20/97 | 85 | | western red-backed salamander | adult | 75 | 40 | under leaves | 3 |
| IP-4 stream | 10/20/97 | 253 | | western red-backed salamander | adult | 80 | 40 | on gravel | 3 |

1996-1997 In-stream amphibian survey results, Yale Hydroelectric Project.

| Site Name | Date | Location | Obs. Time | Species | Total No. | Total Length | SVL | Specific Habitat | Stream Gradient |
|---------------------------|----------|----------|-----------|---------------------------------------|-----------|--------------|-----|----------------------|-----------------|
| IP-4 stream | 10/20/97 | 305 | | western red-backed salamander | adult | 55 | 35 | under leaves on rock | 3 |
| IP-4 stream | 10/20/97 | 450 | | western red-backed salamander | adult | 100 | 50 | under gravel | 3 |
| IP-4 stream | 10/20/97 | 450 | | western red-backed salamander | adult | 90 | 45 | under gravel | 3 |
| IP-4 stream | 10/20/97 | 500 | | end of survey, stream went dry | | | | | |
| IP-4 stream; right branch | 4/9/97 | 99 | | western red-backed salamander | 1 | 89 | 46 | bed/cobble | |
| IP-4 stream; right branch | 4/9/97 | 130 | | western red-backed salamander | 1 | 110 | 55 | rock | |
| IP-4 stream; right branch | 4/9/97 | 130 | | western red-backed salamander | 1 | 100 | 55 | rock | |
| IP-4 stream; right branch | 4/9/97 | 250 | | *end survey | | | | | |
| IP-5 stream | 4/10/97 | 119 | 1325 | western red-backed salamander | 1 | 90 | 45 | log | |
| IP-5 stream | 4/10/97 | 125 | 1325 | western red-backed salamander | 1 | 83 | 45 | rock | |
| IP-5 stream | 4/10/97 | 247 | 1341 | western red-backed salamander | 1 f | 100 | 50 | leaf litter | |
| IP-5 stream | 4/10/97 | 265 | 1342 | cascade torrent salamander | 1 | 70 | 40 | rock | |
| IP-5 stream | 4/10/97 | 355 | 1356 | western red-backed salamander | 1 | 85 | 50 | rock | |
| IP-5 stream | 4/10/97 | 362 | 1357 | western red-backed salamander | 1 | 35 | 20 | leaf litter | |
| IP-5 stream | 4/10/97 | 385 | 1403 | western red-backed salamander | 1 | 65 | 50 | rock | |
| IP-5 stream | 4/10/97 | 400 | | *waterfall (approx. 30'); walk around | | | | | |
| IP-5 stream | 4/10/97 | 670 | 1426 | cascade torrent salamander | 1 m | 84 | 45 | gravel/leaf litter | |
| IP-5 stream | 4/10/97 | 706 | 1431 | western red-backed salamander | 1 | 98 | 48 | leaf litter | |
| IP-5 stream | 4/10/97 | 700 | 1430 | western red-backed salamander | 1 | | 48 | moss | |
| IP-5 stream | 4/10/97 | 764 | 1440 | western red-backed salamander | 1 | 55 | 28 | bark | |
| IP-5 stream | 4/10/97 | 799 | 1445 | cascade torrent salamander | 1 | 51 | 30 | pool | |
| IP-5 stream | 4/10/97 | 826 | 1449 | cascade torrent salamander | 1 | 70 | 42 | gravel | |
| IP-5 stream | 4/10/97 | 850 | 1454 | western red-backed salamander | 1 | 47 | 27 | gravel/litter | |
| IP-5 stream | 4/10/97 | 1043 | 1518 | western red-backed salamander | 1 | 85 | 40 | litter | |
| IP-5 stream | 4/10/97 | 1048 | 1521 | cascade torrent salamander | 1 | 73 | 38 | rock | |
| IP-5 stream | 4/10/97 | 1163 | 1530 | cascade torrent salamander | 1 | | | pool | |
| IP-5 stream | 4/10/97 | 1164 | 1533 | cascade torrent salamander | 2 | 80 | 45 | rock | |
| IP-5 stream | 4/10/97 | 1235 | 1539 | cascade torrent salamander | 1 | | | pool | |
| IP-5 stream | 4/10/97 | 1235 | | *2 lg. waterfalls; end survey | | | | | |
| IP-5 stream | 5/1/97 | 67 | | western red-backed salamander | 1 | 92 | 46 | rock | 3 |
| IP-5 stream | 5/1/97 | 135 | | cascade torrent salamander | 1 m | 70 | 45 | rock | |
| IP-5 stream | 5/1/97 | 178 | | cascade torrent salamander | 1 m | 89 | 42 | rock | |
| IP-5 stream | 5/1/97 | 217 | | Cope's giant salamander | 1 larvae | 56 | 36 | | |
| IP-5 stream | 5/1/97 | 217 | | Cope's giant salamander | 1 larvae | 52 | 33 | | |
| IP-5 stream | 5/1/97 | 217 | | Cope's giant salamander | 1 larvae | | | | |
| IP-5 stream | 5/1/97 | 235 | | cascade torrent salamander | 1 m | 75 | 41 | rock | |
| IP-5 stream | 5/1/97 | 240 | | cascade torrent salamander | 1 m | 82 | 48 | rock | |
| IP-5 stream | 5/1/97 | 260 | | cascade torrent salamander | 1 | | | | |
| IP-5 stream | 5/1/97 | 265 | | cascade torrent salamander | 1 m | 65 | 35 | rock | |
| IP-5 stream | 5/1/97 | 270 | | rough-skinned newt | 1 | 132 | 59 | leaves | |
| IP-5 stream | 5/1/97 | 270 | | western red-backed salamander | 1 juv | 31 | 16 | rock/leaves | |
| IP-5 stream | 5/1/97 | 275 | | cascade torrent salamander | 1 m | 90 | 45 | | |
| IP-5 stream | 5/1/97 | 275 | | cascade torrent salamander | 1 f | | | | |
| IP-5 stream | 5/1/97 | 357 | | cascade torrent salamander | 1 f | 64 | 36 | cobble | |
| IP-5 stream | 5/1/97 | 360 | | western red-backed salamander | 1 juv | 31 | 19 | cobble/leaves | |

1996-1997 In-stream amphibian survey results, Yale Hydroelectric Project.

| Site Name | Date | Location | Obs. Time | Species | Total No. | Total Length | SVL | Specific Habitat | Stream Gradient |
|-------------|----------|----------|-----------|--|-----------|--------------|-----|--------------------|-----------------|
| IP-5 stream | 5/1/97 | 372 | | cascade torrent salamander | 1 f | 92 | 52 | cobble/gravel/seep | |
| IP-5 stream | 5/1/97 | 500 | | *waterfall | | | | | |
| IP-5 stream | 5/1/97 | 672 | | cascade torrent salamander | 1 f | 65 | 32 | cobble/boulder | |
| IP-5 stream | 5/1/97 | 678 | | cascade torrent salamander | 1 | 40 | 18 | cobble/gravel | |
| IP-5 stream | 5/1/97 | 670 | | cascade torrent salamander | 1 f | 80 | 45 | | |
| IP-5 stream | 5/1/97 | 730 | | *gradient change from 60-80 to 80-100 | | | | | |
| IP-5 stream | 5/1/97 | 750 | | western red-backed salamander | 1 juv | 30 | 17 | rock | |
| IP-5 stream | 5/1/97 | 865 | | cascade torrent salamander | 1 f | 79 | 40 | | |
| IP-5 stream | 5/1/97 | 1125 | | *waterfall; end survey; work back 950 ft | | | | | |
| IP-5 stream | 5/1/97 | 1100 | | Cope's giant salamander | 1 larvae | | | | |
| IP-5 stream | 5/1/97 | 1100 | | Cope's giant salamander | 1 larvae | | | | |
| IP-5 stream | 5/1/97 | 1100 | | Cope's giant salamander | 1 larvae | | | | |
| IP-5 stream | 5/1/97 | 1100 | | Cope's giant salamander | 1 larvae | 105 | 60 | | |
| IP-5 stream | 5/1/97 | 1100 | | cascade torrent salamander | 1 | | | rock | |
| IP-5 stream | 5/1/97 | 1100 | | cascade torrent salamander | 1 | 70 | 36 | rock | |
| IP-5 stream | 8/19/97 | 0 | 1345 | begin survey at IP road | | | | | 2 |
| IP-5 stream | 8/19/97 | 100 | | cascade torrent salamander | 1 | 85 | | | 2 |
| IP-5 stream | 8/19/97 | 450 | | unknown dicamptodon larvae | 1 larvae | 100 | | | 2 |
| IP-5 stream | 8/19/97 | 700 | | Cope's giant salamander | 1 larvae | 60 | | | 2 |
| IP-5 stream | 8/19/97 | 1040 | | Cope's giant salamander | 1 larvae | 45 | | | 2 |
| IP-5 stream | 8/19/97 | 1040 | | Cope's giant salamander | 1 larvae | 60 | | | 2 |
| IP-5 stream | 8/19/97 | 1040 | | cascade torrent salamander | 1 larvae | 30 | | | 2 |
| IP-5 stream | 8/19/97 | 1040 | | cascade torrent salamander | 1 larvae | 45 | | | 2 |
| IP-5 stream | 8/19/97 | 1400 | | Cope's giant salamander | 1 larvae | | | | 2 |
| IP-5 stream | 8/19/97 | 1412 | | end survey | | | | | 2 |
| IP-5 stream | 10/21/97 | 0 | | Begin survey at IP road | | | | | |
| IP-5 stream | 10/21/97 | 42 | | cascade torrent salamander | 1 f | | 36 | | 3 |
| IP-5 stream | 10/21/97 | 71 | | western red-backed salamander | 1 | | 46 | | 3 |
| IP-5 stream | 10/21/97 | 125 | | cascade torrent salamander | 1 f | | 45 | | 3 |
| IP-5 stream | 10/21/97 | 132 | | cascade torrent salamander | 1 m | | 52 | | 3 |
| IP-5 stream | 10/21/97 | 135 | | cascade torrent salamander | 1 | | | | 3 |
| IP-5 stream | 10/21/97 | 205 | | western red-backed salamander | juvenile | | 30 | | 3 |
| IP-5 stream | 10/21/97 | 271 | | cascade torrent salamander | 1 f | | 40 | | 3 |
| IP-5 stream | 10/21/97 | 271 | | cascade torrent salamander | 1 m | | 42 | | 3 |
| IP-5 stream | 10/21/97 | 290 | | cascade torrent salamander | 1 | | | | 3 |
| IP-5 stream | 10/21/97 | 351 | | cascade torrent salamander | 1f | | 51 | | 3 |
| IP-5 stream | 10/21/97 | 365 | | western red-backed salamander | juvenile | | 28 | | 3 |
| IP-5 stream | 10/21/97 | 367 | | cascade torrent salamander | 1 f | | 47 | | 3 |
| IP-5 stream | 10/21/97 | 388 | | cascade torrent salamander | 1 f | | 50 | | 3 |
| IP-5 stream | 10/21/97 | 396 | | cascade torrent salamander | 1m | | 48 | | 3 |
| IP-5 stream | 10/21/97 | 442 | | cascade torrent salamander | 1m | | 48 | | 3 |
| IP-5 stream | 10/21/97 | 470 | | western red-backed salamander | 1 | | 23 | | 3 |
| IP-5 stream | 10/21/97 | 530 | | top of 25 foot water fall | | | | | |
| IP-5 stream | 10/21/97 | 645 | | cascade torrent salamander | 1 | | 45 | | 3 |
| IP-5 stream | 10/21/97 | 699 | | cascade torrent salamander | larvae | | 34 | | 3 |

1996-1997 In-stream amphibian survey results, Yale Hydroelectric Project.

| Site Name | Date | Location | Obs. Time | Species | Total No. | Total Length | SVL | Specific Habitat | Stream Gradient |
|-----------------|----------|----------|-----------|--------------------------------------|-----------|--------------|-----|------------------|-----------------|
| IP-5 stream | 10/21/97 | 699 | | cascade torrent salamander | adult | | | | 3 |
| IP-5 stream | 10/21/97 | 710 | | cascade torrent salamander | adult | | 20 | seepage | 3 |
| IP-5 stream | 10/21/97 | 743 | | cascade torrent salamander | adult | | 48 | | 3 |
| IP-5 stream | 10/21/97 | 755 | | western red-backed salamander | juvenile | | 33 | | 3 |
| IP-5 stream | 10/21/97 | 810 | | cascade torrent salamander | 1 f | | 35 | | 3 |
| IP-5 stream | 10/21/97 | 865 | | cascade torrent salamander | adult | | | below water fall | 3 |
| IP-5 stream | 10/21/97 | 910 | | western red-backed salamander | 1 | | 48 | seep | 3 |
| IP-5 stream | 10/21/97 | 910 | | cascade torrent salamander | 1 f | | 47 | seep | 3 |
| IP-5 stream | 10/21/97 | 910 | | cascade torrent salamander | 1 f | | 45 | seep | 3 |
| IP-5 stream | 10/21/97 | 979 | | cascade torrent salamander | adult | | | | 3 |
| IP-5 stream | 10/21/97 | 979 | | western red-backed salamander | 1 | | 45 | | 3 |
| IP-5 stream | 10/21/97 | 979 | | cascade torrent salamander | 1 f | | 45 | | 3 |
| IP-5 stream | 10/21/97 | 997 | | cascade torrent salamander | 1 f | | 45 | | 3 |
| IP-5 stream | 10/21/97 | 1082 | | cascade torrent salamander | 1 f | | 40 | | 3 |
| IP-5 stream | 10/21/97 | 999 | | cascade torrent salamander | 1 f | | 36 | | 3 |
| IP-5 stream | 10/21/97 | 1040 | | cascade torrent salamander | 1 f | | 40 | | 3 |
| IP-5 stream | 10/21/97 | 1090 | | End of survey at base of small falls | | | | | |
| IP-6 stream | 4/8/97 | 25 | 1630 | western red-backed salamander | 1 | 97 | 48 | rock | |
| IP-6 stream | 4/8/97 | 93 | 1639 | western red-backed salamander | 1 | 65 | 34 | rock | |
| IP-6 stream | 4/8/97 | 114 | 1654 | cascade torrent salamander | 1 m | 90 | 45 | pool | |
| IP-6 stream | 4/8/97 | 120 | 1700 | western red-backed salamander | 1 | 65 | 38 | rock/litter | |
| IP-6 stream | 4/8/97 | 137 | 1702 | western red-backed salamander | 1 | 80 | 40 | moss | |
| IP-6 stream | 4/8/97 | 180 | 1705 | western red-backed salamander | 1 | 55 | 30 | rock | |
| IP-6 stream | 4/8/97 | 193 | 1706 | cascade torrent salamander | 1 f | 100 | 50 | pool | |
| IP-6 stream | 4/8/97 | 197 | 1707 | western red-backed salamander | 1 | 55 | 32 | litter | |
| IP-6 stream | 4/8/97 | 218 | | *end survey | | | | | |
| IP-6 stream | 4/30/97 | 45 | | western red-backed salamander | 1 | | | rock | |
| IP-6 stream | 4/30/97 | 72 | | western red-backed salamander | 1 | 75 | 35 | rock/gravel | |
| IP-6 stream | 4/30/97 | 322 | | cascade torrent salamander | 1 | 55 | 30 | pool | |
| IP-6 stream | 4/30/97 | 336 | | western red-backed salamander | 1 | 80 | 35 | stone/leaf | |
| IP-6 stream | 4/30/97 | 363 | | cascade torrent salamander | 1 f | 80 | 40 | rock | |
| IP-6 stream | 4/30/97 | 386 | | cascade torrent salamander | 1 | | | litter | |
| IP-6 stream | 4/30/97 | 497 | | *end survey | | | | | |
| IP-6 stream | 8/19/97 | 0 | | begin survey at IP road | | | | | 3 |
| IP-6 stream | 8/19/97 | 200 | | western red-backed salamander | 1 | 50 | | | 3 |
| IP-6 stream | 8/19/97 | 400 | | western red-backed salamander | 1 | 55 | | | 3 |
| IP-6 stream | 8/19/97 | 500 | | end survey, poor conditions | | | | | 3 |
| IP-6 stream | 10/21/97 | 0 | | Begin survey at IP road | | | | | |
| IP-6 stream | 10/21/97 | 262 | | western red-backed salamander | 1 | | 45 | | 3 |
| IP-6 stream | 10/21/97 | 378 | | western red-backed salamander | 1 | | 44 | under log | 3 |
| IP-6 stream | 10/21/97 | 425 | | Cope's giant salamander | 1 larvae | | 45 | in seep | 3 |
| IP-6 stream | 10/21/97 | 459 | | cascade torrent salamander | 1 larvae | | 28 | | 3 |
| IP-6 stream | 10/21/97 | 542 | | cascade torrent salamander | 1f | | 51 | bedrock/ cobble | 3 |
| IP-6 stream | 10/21/97 | 600 | | End of Survey | | | | | |
| IP-7 headwaters | 4/11/97 | | | *no observations | | | | | |

1996-1997 In-stream amphibian survey results, Yale Hydroelectric Project.

| Site Name | Date | Location | Obs. Time | Species | Total No. | Total Length | SVL | Specific Habitat | Stream Gradient |
|-------------|---------|----------|-----------|---|-----------|--------------|-----|------------------|-----------------|
| IP-7 stream | 4/10/97 | 100 | 0912 | western red-backed salamander | 1 | 105 | 55 | litter/gravel | |
| IP-7 stream | 4/10/97 | 158 | 0913 | western red-backed salamander | 1 | 92 | 43 | rock/litter | |
| IP-7 stream | 4/10/97 | 170 | 0917 | western red-backed salamander | 1 | 57 | 31 | litter | |
| IP-7 stream | 4/10/97 | 200 | 0919 | western red-backed salamander | 1 | 99 | 49 | moss | |
| IP-7 stream | 4/10/97 | 280 | 0926 | western red-backed salamander | 1 | 86 | 46 | litter | |
| IP-7 stream | 4/10/97 | 377 | 0932 | western red-backed salamander | 1 | 90 | 45 | litter | |
| IP-7 stream | 4/10/97 | 407 | 0937 | western red-backed salamander | 1 | 47 | 25 | litter | |
| IP-7 stream | 4/10/97 | 522 | 0942 | western red-backed salamander | 1 | 50 | 25 | litter | |
| IP-7 stream | 4/10/97 | 625 | 0950 | western red-backed salamander | 1 | 90 | 50 | moss | |
| IP-7 stream | 4/10/97 | 876 | 1004 | western red-backed salamander | 1 | | | bark | |
| IP-7 stream | 4/10/97 | 934 | 1009 | western red-backed salamander | 1 | 92 | 46 | moss | |
| IP-7 stream | 4/10/97 | 970 | 1013 | western red-backed salamander | 1 | 82 | 40 | moss | |
| IP-7 stream | 4/10/97 | 1120 | 1022 | cascade torrent salamander | 1 | 83 | 52 | rock | |
| IP-7 stream | 4/10/97 | 1137 | 1025 | cascade torrent salamander | 1 m | 81 | 41 | rock | |
| IP-7 stream | 4/10/97 | 1289 | 1035 | western red-backed salamander | 1 | 89 | 47 | moss | |
| IP-7 stream | 4/10/97 | 1430 | 1057 | western red-backed salamander | 1 | 95 | 45 | moss | |
| IP-7 stream | 4/10/97 | 1519 | 1104 | western red-backed salamander | 1 | 58 | 30 | moss | |
| IP-7 stream | 4/10/97 | 1543 | 1105 | western red-backed salamander | 1 | 86 | 45 | bark | |
| IP-7 stream | 4/10/97 | 1634 | 1112 | western red-backed salamander | 1 | 60 | 30 | gravel | |
| IP-7 stream | 4/10/97 | 1650 | 1113 | western red-backed salamander | 1 | 97 | 47 | rock | |
| IP-7 stream | 4/10/97 | 1663 | 1117 | western red-backed salamander | 1 | 94 | 44 | litter | |
| IP-7 stream | 4/10/97 | 1732 | 1120 | western red-backed salamander | 1 | 99 | 46 | moss | |
| IP-7 stream | 4/10/97 | 1895 | 1133 | western red-backed salamander | 1 | 83 | 38 | litter | |
| IP-7 stream | 4/10/97 | 1895 | 1133 | western red-backed salamander | 1 | 107 | 53 | gravel | |
| IP-7 stream | 4/10/97 | 1895 | | *stream branches, stayed on mn branch | | | | | |
| IP-7 stream | 4/10/97 | 2069 | 1142 | western red-backed salamander | 1 | 82 | 40 | moss | |
| IP-7 stream | 4/10/97 | 2117 | 1147 | western red-backed salamander | 1 | | | moss | |
| IP-7 stream | 4/10/97 | 2157 | 1148 | western red-backed salamander | 1 | 75 | 37 | moss | |
| IP-7 stream | 4/10/97 | 2190 | 1150 | western red-backed salamander | 1 | 80 | 45 | log | |
| IP-7 stream | 4/10/97 | 2858 | 1218 | western red-backed salamander | 1 | 65 | 34 | litter | |
| IP-7 stream | 4/10/97 | 2974 | 1223 | western red-backed salamander | 1 | | | litter | |
| IP-7 stream | 4/10/97 | 3079 | 1230 | tailed frog | 1 m | | | pool | |
| IP-7 stream | 4/10/97 | 3324 | 1315 | Cope's giant salamander larvae | 1 | 60 | | pool | |
| IP-7 stream | 4/10/97 | 3662 | | *small trib waterfall; surveyed to 100' | | | | | |
| IP-7 stream | 4/10/97 | 3742 | 1351 | western red-backed salamander | 1 | 95 | 42 | gravel | |
| IP-7 stream | 4/10/97 | 3939 | 1403 | western red-backed salamander | 1 f | 95 | 50 | moss | |
| IP-7 stream | 4/10/97 | 4077 | 1411 | western red-backed salamander | 1 | 51 | 26 | rock | |
| IP-7 stream | 4/10/97 | 4248 | 1419 | western red-backed salamander | 1 | 80 | 45 | litter | |
| IP-7 stream | 4/10/97 | 4461 | 1429 | western red-backed salamander | 1 f | 100 | 50 | litter | |
| IP-7 stream | 4/10/97 | 4582 | 1433 | Cope's giant salamander larvae | 1 | 60 | | pool | |
| IP-7 stream | 4/10/97 | 4609 | 1437 | western red-backed salamander | 1 | 100 | 50 | rock | |
| IP-7 stream | 4/10/97 | 4687 | | *end survey | | | | | |
| IP-7 stream | 5/2/97 | 56 | | western red-backed salamander | 1 | 81 | 41 | boulder | |
| IP-7 stream | 5/2/97 | 58 | | western red-backed salamander | 1 | 81 | 41 | boulder | |
| IP-7 stream | 5/2/97 | 58 | | western red-backed salamander | 1 | 125 | 52 | boulder | |

1996-1997 In-stream amphibian survey results, Yale Hydroelectric Project.

| Site Name | Date | Location | Obs. Time | Species | Total No. | Total Length | SVL | Specific Habitat | Stream Gradient |
|-------------|--------|----------|-----------|-------------------------------|-----------|--------------|-----|------------------|-----------------|
| IP-7 stream | 5/2/97 | 58 | | western red-backed salamander | 1 | | 45 | boulder | |
| IP-7 stream | 5/2/97 | 140 | | rough-skinned newt | 1 | | 50 | rock/sand | |
| IP-7 stream | 5/2/97 | 155 | | western red-backed salamander | 1 | | 32 | rock/sand | |
| IP-7 stream | 5/2/97 | 157 | | Pacific giant salamander | 1 | | 75 | rock | |
| IP-7 stream | 5/2/97 | 180 | | western red-backed salamander | 1 | | 32 | rock/sand | |
| IP-7 stream | 5/2/97 | 203 | | western red-backed salamander | 1 | 69 | 35 | rock | |
| IP-7 stream | 5/2/97 | 220 | | western red-backed salamander | 1 | | 40 | rock | |
| IP-7 stream | 5/2/97 | 225 | | western red-backed salamander | 1 | | | rock/soil | |
| IP-7 stream | 5/2/97 | 285 | | western red-backed salamander | 1 | 95 | 48 | bouldber | |
| IP-7 stream | 5/2/97 | 280 | | western red-backed salamander | 1 | | 30 | rock/sand | |
| IP-7 stream | 5/2/97 | 338 | | western red-backed salamander | 1 | | 30 | rock/gravel | |
| IP-7 stream | 5/2/97 | 347 | | western red-backed salamander | 1 | 95 | 45 | rock | |
| IP-7 stream | 5/2/97 | 361 | | dicamp. sp. | 1 larvae | | 40 | pool | |
| IP-7 stream | 5/2/97 | 386 | | western red-backed salamander | 1 | 80 | 43 | rock | |
| IP-7 stream | 5/2/97 | 475 | | western red-backed salamander | 1 | | 35 | rock | |
| IP-7 stream | 5/2/97 | 500 | | dicamp. sp. | 1 larvae | | 40 | pool | |
| IP-7 stream | 5/2/97 | 600 | | western red-backed salamander | 1 | | 20 | | |
| IP-7 stream | 5/2/97 | 600 | | western red-backed salamander | 1 | | 20 | rock/gravel | |
| IP-7 stream | 5/2/97 | 600 | | western red-backed salamander | 1 | | 30 | log/moss | |
| IP-7 stream | 5/2/97 | 617 | | cascade torrent salamander | 1 | | | | |
| IP-7 stream | 5/2/97 | 617 | | cascade torrent salamander | 1 | | 35 | leaves/rock | |
| IP-7 stream | 5/2/97 | 617 | | Pacific giant salamander | 1 larvae | | 52 | | |
| IP-7 stream | 5/2/97 | 775 | | dicamp. sp. | 1 larvae | | 30 | | |
| IP-7 stream | 5/2/97 | 832 | | western red-backed salamander | 1 | 80 | 42 | rock | |
| IP-7 stream | 5/2/97 | 835 | | western red-backed salamander | 1 | | 35 | rock | |
| IP-7 stream | 5/2/97 | 860 | | cascade torrent salamander | 1 m | 82 | 45 | rock | |
| IP-7 stream | 5/2/97 | 1030 | | cascade torrent salamander | 1 f | | 45 | | |
| IP-7 stream | 5/2/97 | 1080 | | cascade torrent salamander | 1 f | | 30 | | |
| IP-7 stream | 5/2/97 | 1140 | | cascade torrent salamander | 1 | | | | |
| IP-7 stream | 5/2/97 | 1140 | | cascade torrent salamander | 1 | | | | |
| IP-7 stream | 5/2/97 | 1300 | | red-legged frog | 1 juv | | | seep/gravel | |
| IP-7 stream | 5/2/97 | 1300 | | cascade torrent salamander | 1 f | | 40 | | |
| IP-7 stream | 5/2/97 | 1300 | | cascade torrent salamander | 1 f | | 40 | rock | |
| IP-7 stream | 5/2/97 | 1500 | | tailed frog | 1 m | | | rock | |
| IP-7 stream | 5/2/97 | 1500 | | cascade torrent salamander | 1 m | | 50 | rock/bark | |
| IP-7 stream | 5/2/97 | 1500 | | cascade torrent salamander | 1 f | | 45 | log/gravel | |
| IP-7 stream | 5/2/97 | 1540 | | western red-backed salamander | 1 | 75 | 36 | bark/rock | |
| IP-7 stream | 5/2/97 | 1540 | | western red-backed salamander | 1 | | 45 | log | |
| IP-7 stream | 5/2/97 | 1560 | | western red-backed salamander | 1 | 92 | 48 | bark/rock | |
| IP-7 stream | 5/2/97 | 1630 | | cascade torrent salamander | 1 m | 80 | 42 | gravel | |
| IP-7 stream | 5/2/97 | 1640 | | cascade torrent salamander | 1 | | | gravel | |
| IP-7 stream | 5/2/97 | 1676 | | western red-backed salamander | 1 | | | rock | |
| IP-7 stream | 5/2/97 | 1690 | | western red-backed salamander | 1 | | 50 | rock | |
| IP-7 stream | 5/2/97 | 1702 | | cascade torrent salamander | 1 larvae | | 35 | pool | |
| IP-7 stream | 5/2/97 | 1702 | | cascade torrent salamander | 1 larvae | | 35 | pool | |

1996-1997 In-stream amphibian survey results, Yale Hydroelectric Project.

| Site Name | Date | Location | Obs. Time | Species | Total No. | Total Length | SVL | Specific Habitat | Stream Gradient |
|-------------|----------|----------|-----------|-------------------------------|-----------|--------------|-----|----------------------------------|-----------------|
| IP-7 stream | 5/2/97 | 1750 | | cascade torrent salamander | 1 f | 102 | 52 | | |
| IP-7 stream | 5/2/97 | 1812 | | cascade torrent salamander | 1 m | | 43 | | |
| IP-7 stream | 5/2/97 | 1800 | | cascade torrent salamander | 1 m | | 50 | | |
| IP-7 stream | 5/2/97 | 1775 | | western red-backed salamander | 1 | | 45 | gravel | |
| IP-7 stream | 5/2/97 | 2040 | | western red-backed salamander | 1 | 63 | 36 | cobble | |
| IP-7 stream | 5/2/97 | 1900 | | cascade torrent salamander | 1 m | | 50 | rock/gravel | |
| IP-7 stream | 5/2/97 | 1900 | | western red-backed salamander | 1 | | 50 | rock/gravel | |
| IP-7 stream | 5/2/97 | 2070 | | western red-backed salamander | 1 | | 35 | rock/gravel | |
| IP-7 stream | 5/2/97 | 2217 | | western red-backed salamander | 1 | 108 | 51 | rock/gravel/litter | |
| IP-7 stream | 5/2/97 | 2300 | | *end survey | | | | | |
| IP-7 stream | 5/2/97 | 2250 | | cascade torrent salamander | 1 f | | 40 | rock/gravel | |
| IP-7 stream | 5/2/97 | 2250 | | cascade torrent salamander | 1 f | | 45 | rock/gravel | |
| IP-7 stream | 5/2/97 | 2250 | | cascade torrent salamander | 1 f | | 50 | rock/gravel | |
| IP-7 stream | 8/20/97 | 0 | | begin survey at IP road | | | | | 2 |
| IP-7 stream | 8/20/97 | 50 | | Cope's giant salamander | 1 larvae | 95 | | pool | 2 |
| IP-7 stream | 8/20/97 | 50 | | Cope's giant salamander | 1 larvae | 90 | | pool | 2 |
| IP-7 stream | 8/20/97 | 50 | | Cope's giant salamander | 1 larvae | 106 | 55 | pool | 2 |
| IP-7 stream | 8/20/97 | 100 | | Tailed frog | 1 juv | 33 | | pool | 2 |
| IP-7 stream | 8/20/97 | 100 | | Tailed frog | 1 juv | 38 | | pool | 2 |
| IP-7 stream | 8/20/97 | 500 | | unknown Dicamptodon | 1 larvae | | | | 2 |
| IP-7 stream | 8/20/97 | 1225 | | Tailed frog female | 1 juv | 37 | | | 2 |
| IP-7 stream | 8/20/97 | 1225 | | unknown Dicamptodon | 1 larvae | | | | 2 |
| IP-7 stream | 8/20/97 | | | small fish (sculpin?) | | | | | |
| IP-7 stream | 8/20/97 | | | unknown Ranid | | | | | |
| IP-7 stream | 8/20/97 | 1600 | | Tailed frog male | 1 adult | 48 | 39 | on rock, out of water | 2 |
| IP-7 stream | 8/20/97 | 1600 | | Tailed frog | 1 larvae | | | | 2 |
| IP-7 stream | 8/20/97 | 2100 | | western red-backed salamander | 1 adult | 54 | | streamside, on rocks | 2 |
| IP-7 stream | 8/20/97 | 2600 | | unknown Dicamptodon | 1 larvae | 60 | | in pool | 2 |
| IP-7 stream | 8/20/97 | 2600 | | unknown frog | | | | | |
| IP-7 stream | 8/20/97 | 2700 | | end survey | | | | | |
| IP-7 stream | 10/22/97 | 0 | | Begin Survey at IP road | | | | | |
| IP-7 stream | 10/22/97 | 115 | | western red-backed salamander | 1 | 47 | 27 | under rock | 2 |
| IP-7 stream | 10/22/97 | 123 | | western red-backed salamander | 1 | 42 | 27 | under leaves, on rocks | 2 |
| IP-7 stream | 10/22/97 | 365 | | western red-backed salamander | 1 | 50 | 30 | under leaf, on soil | 2 |
| IP-7 stream | 10/22/97 | 475 | | western red-backed salamander | 1 | 105 | 50 | under leaf, on soil | 2 |
| IP-7 stream | 10/22/97 | 513 | | western red-backed salamander | 1 | 90 | 45 | under leaf on boulder | 2 |
| IP-7 stream | 10/22/97 | 550 | | cascade torrent salamander | 1 | 60 | 40 | under leaf on cobble | 2 |
| IP-7 stream | 10/22/97 | 560 | | western red-backed salamander | 1 | 90 | 45 | under leaf on soil | 2 |
| IP-7 stream | 10/22/97 | 755 | | western red-backed salamander | 1 | 80 | 45 | under leaf on soil | 2 |
| IP-7 stream | 10/22/97 | 830 | | western red-backed salamander | 1 | 95 | 50 | under leaf on large woody debris | 2 |
| IP-7 stream | 10/22/97 | 830 | | western red-backed salamander | 1 | 95 | 50 | under leaf on large woody debris | 2 |
| IP-7 stream | 10/22/97 | 886 | | western red-backed salamander | 1 | 50 | 25 | under leaf on soil | 2 |
| IP-7 stream | 10/22/97 | 1020 | | western red-backed salamander | 1 | 95 | 45 | under leaf on rock | 2 |
| IP-7 stream | 10/22/97 | 1100 | | cascade torrent salamander | 1 | 85 | 45 | under leaf on rock | 2 |
| IP-7 stream | 10/22/97 | 1145 | | western red-backed salamander | 1 | 80 | 40 | under leaf on rock | 2 |

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| Site Name | Date | Location | Obs. Time | Species | Total No. | Total Length | SVL | Specific Habitat | Stream Gradient |
|------------------|----------|----------|-----------|---------------------------------|-----------|--------------|-----|------------------------------|-----------------|
| IP-7 stream | 10/22/97 | 1275 | | cascade torrent salamander | 1 | 85 | 45 | under leaf on boulder | 2 |
| IP-7 stream | 10/22/97 | 1550 | | cascade torrent salamander | 1 f | 80 | 40 | under leaf on cobble | 2 |
| IP-7 stream | 10/22/97 | 1560 | | western red-backed salamander | 1 | 50 | 30 | under leaf on boulder | 2 |
| IP-7 stream | 10/22/97 | 1585 | | western red-backed salamander | 1 | 95 | 45 | under leaf on cobble | 2 |
| IP-7 stream | 10/22/97 | 1656 | | western red-backed salamander | 1 | 90 | 45 | under leaf on soil | 2 |
| IP-7 stream | 10/22/97 | 1670 | | western red-backed salamander | 1 | 90 | 40 | under rock on gravel | 2 |
| IP-7 stream | 10/22/97 | 1720 | | cascade torrent salamander | 1 | 70 | 35 | top of leaves | 2 |
| IP-7 stream | 10/22/97 | 1740 | | western red-backed salamander | 1 | 100 | 50 | under rock on boulder | 2 |
| IP-7 stream | 10/22/97 | 1740 | | western red-backed salamander | 1 | 80 | 40 | under rock on rock | 2 |
| IP-7 stream | 10/22/97 | 1750 | | western red-backed salamander | 1 | 65 | 35 | under leaf on rock | 2 |
| IP-7 stream | 10/22/97 | 1760 | | western red-backed salamander | 1 | 80 | 45 | under leaf on boulder | 2 |
| IP-7 stream | 10/22/97 | 1850 | | Pacific giant salamander larvae | 1 larvae | 130 | 65 | under leaves in side channel | 2 |
| IP-7 stream | 10/22/97 | 1870 | | cascade torrent salamander | 1 | 70 | 42 | under leaves on gravel | 2 |
| IP-7 stream | 10/22/97 | 1875 | | western red-backed salamander | 1 | 80 | 37 | under leaves on gravel | 2 |
| IP-7 stream | 10/22/97 | 1900 | | western red-backed salamander | 1 | 75 | 40 | under leaf on soil | 2 |
| IP-7 stream | 10/22/97 | 2020 | | western red-backed salamander | 1 | 75 | 40 | under moss on boulder | 2 |
| IP-7 stream | 10/22/97 | 1801 | | western red-backed salamander | 1 | 80 | 40 | under bark on soil | 2 |
| IP-7 stream | 10/22/97 | 2210 | | cascade torrent salamander | 1 | 65 | 35 | under soil on gravel | 2 |
| IP-7 stream | 10/22/97 | 2450 | | ensatina | 1 | 55 | 35 | under leaf on soil | 2 |
| IP-7 stream | 10/22/97 | 125 | | western red-backed salamander | 1 | 87 | 49 | under rocks and leaves | 2 |
| IP-7 stream | 10/22/97 | 219 | | western red-backed salamander | 1 | 84 | 46 | under leaf on cobble | 2 |
| IP-7 stream | 10/22/97 | 525 | | western red-backed salamander | 1 | 78 | 39 | under leaf on cobble | 2 |
| IP-7 stream | 10/22/97 | 646 | | western red-backed salamander | 1 | 82 | 47 | moss and leaves on rock | 2 |
| IP-7 stream | 10/22/97 | 657 | | western red-backed salamander | 1 | 86 | 49 | under leaf on cobble | 2 |
| IP-7 stream | 10/22/97 | 675 | | western red-backed salamander | 1 | 77 | 39 | under leaf on cobble | 2 |
| IP-7 stream | 10/22/97 | 1033 | | cascade torrent salamander | 1 | 97 | 49 | under leaf on rock | 2 |
| IP-7 stream | 10/22/97 | 1332 | | western red-backed salamander | 1 | 85 | 45 | under leaf | 2 |
| IP-7 stream | 10/22/97 | 1365 | | cascade torrent salamander | 1 | 95 | 47 | under leaf | 2 |
| IP-7 stream | 10/22/97 | 1365 | | cascade torrent salamander | 1 | 76 | 36 | under leaf | 2 |
| IP-7 stream | 10/22/97 | 1379 | | western red-backed salamander | 1 | 98 | 51 | under leaf on rock | 2 |
| IP-7 stream | 10/22/97 | 1379 | | western red-backed salamander | 1 | 97 | 47 | under leaf on rock | 2 |
| IP-7 stream | 10/22/97 | 1545 | | cascade torrent salamander | 1 | 95 | 47 | under leaf on rock | 2 |
| IP-7 stream | 10/22/97 | 1740 | | cascade torrent salamander | 1 | 64 | 35 | under leaves | 2 |
| IP-7 stream | 10/22/97 | 1822 | | cascade torrent salamander | 1 | 94 | 45 | under cobbles | 2 |
| IP-7 stream | 10/22/97 | 1822 | | cascade torrent salamander | 1 | 94 | 45 | under cobbles | 2 |
| IP-7 stream | 10/22/97 | 1842 | | western red-backed salamander | 1 | 95 | 45 | under leaves | 2 |
| IP-7 stream | 10/22/97 | 2090 | | cascade torrent salamander | 1 | 90 | 45 | under leaves | 2 |
| IP-7 stream | 10/22/97 | 2220 | | western red-backed salamander | 1 | 85 | 41 | under leaves on moss | 2 |
| IP-7 stream | 10/22/97 | 2232 | | cascade torrent salamander | 1 | 85 | 45 | under leaves on rocks | 2 |
| IP-7 stream | 10/22/97 | 2315 | | cascade torrent salamander | 1 | 70 | 40 | on leaves | 2 |
| IP-7 stream | 10/22/97 | 2373 | | western red-backed salamander | 1 | 75 | 36 | under leaves | 2 |
| IP-7 stream | 10/22/97 | 2454 | | cascade torrent salamander | 1 | 88 | 49 | on rocks | 2 |
| IP-7 stream | 10/22/97 | 2500 | | End of survey | | | | | |
| IP-7 stream-trib | 4/10/97 | 75 | 1338 | cascade torrent salamander | 1 | 80 | 48 | gravel | |
| IP-8 stream | 5/2/97 | 169 | | western red-backed salamander | 1 | 95 | 45 | litter | 1 |

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| Site Name | Date | Location | Obs. Time | Species | Total No. | Total Length | SVL | Specific Habitat | Stream Gradient |
|-------------|----------|----------|-----------|-------------------------------|-----------|--------------|-----|---------------------------|-----------------|
| IP-8 stream | 5/2/97 | 180 | | western red-backed salamander | 1 | 69 | 34 | litter | |
| IP-8 stream | 5/2/97 | 290 | | western red-backed salamander | 1 | 80 | 45 | log | |
| IP-8 stream | 5/2/97 | 317 | | cascade torrent salamander | 1 | 67 | 35 | litter/rock | |
| IP-8 stream | 5/2/97 | 401 | | western red-backed salamander | 1 juv | 25 | 15 | litter | |
| IP-8 stream | 5/2/97 | 475 | | cascade torrent salamander | 1 juv | 40 | 20 | rock | |
| IP-8 stream | 5/2/97 | 507 | | western red-backed salamander | 1 | 90 | 45 | moss/log | |
| IP-8 stream | 5/2/97 | 533 | | cascade torrent salamander | 1 | 85 | 40 | rocks | |
| IP-8 stream | 5/2/97 | 540 | | cascade torrent salamander | 1 m | | | rocks | |
| IP-8 stream | 5/2/97 | 540 | | cascade torrent salamander | 1 | | | rocks | |
| IP-8 stream | 5/2/97 | 560 | | western red-backed salamander | 1 | | | log | |
| IP-8 stream | 5/2/97 | 564 | | cascade torrent salamander | 1 | 86 | 50 | rock | |
| IP-8 stream | 5/2/97 | 601 | | western red-backed salamander | 1 | 62 | 32 | rock | |
| IP-8 stream | 5/2/97 | 603 | | cascade torrent salamander | 1 | 82 | 45 | rock | |
| IP-8 stream | 5/2/97 | 619 | | cascade torrent salamander | 1 | | | pool | |
| IP-8 stream | 5/2/97 | 694 | | western red-backed salamander | 1 | 77 | 37 | litter | |
| IP-8 stream | 5/2/97 | 714 | | western red-backed salamander | 1 | 58 | 28 | litter | |
| IP-8 stream | 5/2/97 | 721 | | cascade torrent salamander | 1 | | | pool | |
| IP-8 stream | 5/2/97 | 736 | | western red-backed salamander | 1 | 88 | 38 | litter/rocks | |
| IP-8 stream | 5/2/97 | 788 | | western red-backed salamander | 1 | 49 | 24 | litter | |
| IP-8 stream | 5/2/97 | 800 | | cascade torrent salamander | 1 | 42 | 28 | litter | |
| IP-8 stream | 5/2/97 | 810 | | western red-backed salamander | 1 | | | litter | |
| IP-8 stream | 5/2/97 | 836 | | Cope's giant salamander | 1 larvae | | 35 | pool | |
| IP-8 stream | 5/2/97 | 856 | | Cope's giant salamander | 1 larvae | | | pool | |
| IP-8 stream | 5/2/97 | 890 | | western red-backed salamander | 1 | 85 | 42 | litter | |
| IP-8 stream | 5/2/97 | 933 | | cascade torrent salamander | 1 | 77 | 40 | rock | |
| IP-8 stream | 5/2/97 | 944 | | western red-backed salamander | 1 | 70 | 34 | litter | |
| IP-8 stream | 5/2/97 | 973 | | cascade torrent salamander | 1 f | 98 | 53 | RTA/moss | |
| IP-8 stream | 5/2/97 | 973 | | cascade torrent salamander | 1 | 78 | 43 | base of falls/large rocks | |
| IP-8 stream | 5/2/97 | 973 | | western red-backed salamander | 1 | 75 | 35 | litter | |
| IP-8 stream | 5/2/97 | 970 | | cascade torrent salamander | 1 m | 80 | 40 | rock | |
| IP-8 stream | 5/2/97 | 964 | | cascade torrent salamander | 1 f | 80 | 40 | rock | |
| IP-8 stream | 5/2/97 | 964 | | cascade torrent salamander | 1 m | 65 | 35 | rock | |
| IP-8 stream | 5/2/97 | 950 | | cascade torrent salamander | 7 | | | spash zone | |
| IP-8 stream | 5/2/97 | 950 | | western red-backed salamander | 1 | 55 | 35 | spash zone | |
| IP-8 stream | 8/20/97 | 0 | | begin survey at IP road | | | | | |
| IP-8 stream | 8/20/97 | 250 | | western red-backed salamander | 1 | 65 | | | 2 |
| IP-8 stream | 8/20/97 | 388 | | flow begins | | | | | |
| IP-8 stream | 8/20/97 | 614 | | Chorus frog | 1 juv | | | in stream | 2 |
| IP-8 stream | 8/20/97 | 614 | | Cascade torrent salamander | 1 | | | in pool | 2 |
| IP-8 stream | 8/20/97 | 890 | | Cascade torrent salamander | 1 adult | 48 | | | 2 |
| IP-8 stream | 8/20/97 | 1110 | | Cope's giant salamander | 1 | 40 | | | 2 |
| IP-8 stream | 8/20/97 | 1150 | | Cope's giant salamander | 3 | 46 | | | 2 |
| IP-8 stream | 8/20/97 | 1285 | | end survey below falls | | | | | |
| IP-8 stream | 10/22/97 | 0 | | Begin survey at IP road | | | | | |
| IP-8 stream | 10/22/97 | 418 | | cascade torrent salamander | 1 f | | 51 | | 3 |

1996-1997 In-stream amphibian survey results, Yale Hydroelectric Project.

| Site Name | Date | Location | Obs. Time | Species | Total No. | Total Length | SVL | Specific Habitat | Stream Gradient |
|-------------|----------|----------|-----------|---|-----------|--------------|-----|------------------|-----------------|
| IP-8 stream | 10/22/97 | 447 | | western red-backed salamander | 1 | | 35 | cutbank boulders | 3 |
| IP-8 stream | 10/22/97 | 452 | | western red-backed salamander | 1 | | 17 | rock | 3 |
| IP-8 stream | 10/22/97 | 452 | | western red-backed salamander | 1 | | | rock | 3 |
| IP-8 stream | 10/22/97 | 463 | | western red-backed salamander | 1 | | 45 | rock in alluvium | 3 |
| IP-8 stream | 10/22/97 | 541 | | cascade torrent salamander | 1 f | | 44 | | 3 |
| IP-8 stream | 10/22/97 | 541 | | cascade torrent salamander | 1 f | | 41 | | 3 |
| IP-8 stream | 10/22/97 | 541 | | cascade torrent salamander | 1 f | | 47 | | 3 |
| IP-8 stream | 10/22/97 | 579 | | cascade torrent salamander | 1 m | | 43 | | 3 |
| IP-8 stream | 10/22/97 | 589 | | cascade torrent salamander | 1 f | | 45 | | 3 |
| IP-8 stream | 10/22/97 | 599 | | cascade torrent salamander | 1 m | | 56 | | 3 |
| IP-8 stream | 10/22/97 | 656 | | cascade torrent salamander | 1 m | | 51 | | 3 |
| IP-8 stream | 10/22/97 | 740 | | cascade torrent salamander | 1 m | | 52 | | 3 |
| IP-8 stream | 10/22/97 | 924 | | cascade torrent salamander | 1 f | | 42 | | 3 |
| IP-8 stream | 10/22/97 | 959 | | western red-backed salamander | 1 | | 29 | | 3 |
| IP-8 stream | 10/22/97 | 959 | | cascade torrent salamander | 1 f | | 50 | | 3 |
| IP-8 stream | 10/22/97 | 1069 | | cascade torrent salamander | 1 m | | 40 | | 3 |
| IP-8 stream | 10/22/97 | 1081 | | cascade torrent salamander | 1 m | | 40 | | 3 |
| IP-8 stream | 10/22/97 | 1115 | | cascade torrent salamander | 1 f | | 41 | | 3 |
| IP-8 stream | 10/22/97 | 1092 | | cascade torrent salamander | 1 m | | | | 3 |
| IP-8 stream | 10/22/97 | 1092 | | cascade torrent salamander | 1 f | | 48 | | 3 |
| IP-8 stream | 10/22/97 | 1123 | | cascade torrent salamander | 1 m | | 40 | on log | 3 |
| IP-8 stream | 10/22/97 | 1124 | | cascade torrent salamander | 1 f | | 41 | | 3 |
| IP-8 stream | 10/22/97 | 1128 | | cascade torrent salamander | 1 f | | 49 | | 3 |
| IP-8 stream | 10/22/97 | 1135 | | cascade torrent salamander | 1 f | | 43 | | 3 |
| IP-8 stream | 10/22/97 | 1158 | | cascade torrent salamander | 1 m | | 49 | | 3 |
| IP-8 stream | 10/22/97 | 1278 | | cascade torrent salamander | 1 f | | 51 | | 3 |
| IP-8 stream | 10/22/97 | 1278 | | cascade torrent salamander | 1 m | | 40 | | 3 |
| IP-8 stream | 10/22/97 | 1285 | | cascade torrent salamander | 1 m | | 52 | | 3 |
| IP-8 stream | 10/22/97 | 1292 | | cascade torrent salamander | 1 f | | 50 | | 3 |
| IP-8 stream | 10/22/97 | 1300 | | cascade torrent salamander | 1 m | | 56 | | 3 |
| IP-8 stream | 10/22/97 | 1300 | | cascade torrent salamander | 1 m | | 56 | | 3 |
| IP-8 stream | 10/22/97 | 1300 | | cascade torrent salamander | 1 m | | 50 | | 3 |
| IP-8 stream | 10/22/97 | 1300 | | End of survey | | | | | |
| IP-9 stream | 4/8/97 | 1010 | 1300 | *road; lots of alders, not many logs | | | | | |
| IP-9 stream | 4/8/97 | 1123 | 1313 | rough-skinned newt | 1 | 140 | 50 | rock in stream | |
| IP-9 stream | 4/8/97 | 1290 | 1325 | ensatina | 1 | 70 | 35 | moss | |
| IP-9 stream | 4/8/97 | 1397 | 1338 | western red-backed salamander | 1 | 35 | 18 | rotten log | |
| IP-9 stream | 4/8/97 | 1400 | 1342 | western red-backed salamander | 1 | 95 | 45 | moss | |
| IP-9 stream | 4/8/97 | 1744 | 1403 | rough-skinned newt | 1 | 100 | 55 | leaf litter | |
| IP-9 stream | 4/8/97 | 1880 | | *stream branches, we took left branch | | | | | |
| IP-9 stream | 4/8/97 | 1956 | 1416 | western red-backed salamander | 1 | 70 | 35 | under log | |
| IP-9 stream | 4/8/97 | 2048 | 1424 | western red-backed salamander | 1 | 45 | 25 | rotten log | |
| IP-9 stream | 4/8/97 | 2016 | 1420 | western red-backed salamander | 1 | 50 | 30 | rock | |
| IP-9 stream | 4/8/97 | 2078 | 1431 | western red-backed salamander | 1 | 55 | 30 | bark | |
| IP-9 stream | 4/8/97 | 2160 | | *enter clearcut; alder in stream buffer | | | | | |

1996-1997 In-stream amphibian survey results, Yale Hydroelectric Project.

| Site Name | Date | Location | Obs. Time | Species | Total No. | Total Length | SVL | Specific Habitat | Stream Gradient |
|------------------------------|----------|----------|-----------|--|-----------|--------------|-----|------------------|-----------------|
| IP-9 stream | 4/8/97 | 2600 | | *end survey on this branch | | | | | |
| IP-9 stream | 5/1/97 | 125 | | rough-skinned newt | 1 | 152 | 73 | soil | 1 |
| IP-9 stream | 5/1/97 | 281 | | ensatina | 1 | 68 | 39 | log/moss | |
| IP-9 stream | 5/1/97 | 282 | | rough-skinned newt | 1 | 150 | 59 | log/moss | |
| IP-9 stream | 5/1/97 | 870 | | western red-backed salamander | 1 | 84 | 41 | log | |
| IP-9 stream | 5/1/97 | 875 | | *stream branches | | | | | |
| IP-9 stream | 5/1/97 | 870 | | western red-backed salamander | 1 | 50 | 30 | log | |
| IP-9 stream | 5/1/97 | 950 | | western red-backed salamander | 1 | 65 | 36 | rock | |
| IP-9 stream | 5/1/97 | 1013 | | ensatina | 1 | 80 | 41 | log | |
| IP-9 stream | 5/1/97 | 1130 | | *edge of clearcut w/ narrow RA buffer | | | | | |
| IP-9 stream | 5/1/97 | 1277 | | western red-backed salamander | 1 | 71 | 38 | log/soil | |
| IP-9 stream | 5/1/97 | 1741 | | *road w/ culvert; good drop, no cover | | | | | |
| IP-9 stream | 5/1/97 | 1818 | | western red-backed salamander | 1 | 58 | 29 | log/soil | |
| IP-9 stream | 5/1/97 | 1975 | | cascade torrent salamander | 1 f | 98 | 45 | | |
| IP-9 stream | 5/1/97 | 2010 | | western red-backed salamander | 1 juv | 30 | 20 | rock | |
| IP-9 stream | 5/1/97 | 2130 | | western red-backed salamander | 1 | 90 | 50 | rock | |
| IP-9 stream | 5/1/97 | 2222 | | cascade torrent salamander | 1 | | | | |
| IP-9 stream | 5/1/97 | 2356 | | *end survey | | | | | |
| IP-9 stream | 8/20/97 | 0 | | begin survey | | | | | |
| IP-9 stream | 8/20/97 | 200 | | Red-legged frog | 1 adult | | | dry creekbed | 1 |
| IP-9 stream | 8/20/97 | 376 | | end of survey | | | | | |
| IP-9 stream | 10/21/97 | 0 | | Begin survey at IP road | | | | | |
| IP-9 stream | 10/21/97 | 1000 | | serious cutbank erosion from 0 ft to 865 ft | | | | | 3 |
| IP-9 stream | 10/21/97 | 1043 | | western red-backed salamander | 1 | | | | 3 |
| IP-9 stream | 10/21/97 | 1050 | | western red-backed salamander | juvenile | | 15 | | 3 |
| IP-9 stream | 10/21/97 | 1140 | | lower edge of clear-cut | | | | | 3 |
| IP-9 stream | 10/21/97 | 1422 | | cascade torrent salamander | 1 f | | 42 | | 3 |
| IP-9 stream | 10/21/97 | 1520 | | western red-backed salamander | 1 | | 43 | | 3 |
| IP-9 stream | 10/21/97 | 1790 | | road through clearcut | | | | | 3 |
| IP-9 stream | 10/21/97 | 1922 | | western red-backed salamander | 1 | | 15 | | 3 |
| IP-9 stream | 10/21/97 | 2051 | | cascade torrent salamander | 1 f | | 45 | | 3 |
| IP-9 stream | 10/21/97 | 2282 | | 8 ft tall bedrock falls, end of survey | | | | | |
| IP-9 stream-sm. right branch | 4/8/97 | 1880 | | *start survey of smaller branch | | | | | |
| IP-9 stream-sm. right branch | 4/8/97 | 2049 | 1520 | *enter clearcut; same buffer as other branch | | | | | |
| IP-9 stream-sm. right branch | 4/8/97 | 2167 | 1530 | *end survey | | | | | |
| Ole Creek | 4/7/97 | 2600 | | *end survey, no species observed | | | | | |
| Ole Creek | 8/21/97 | 0 | | Begin Survey | | | | | |
| Ole Creek | 8/21/97 | 500 | | Tailed frog | 1 larvae | | | | 2 |
| Ole Creek | 8/21/97 | 3000 | | Tailed frog | 1 larvae | | 19 | | 2 |
| Ole Creek | 8/21/97 | 3500 | | Tailed frog | 1 larvae | | 19 | | 2 |
| Ole Creek | 8/21/97 | 4100 | | Red-legged frog | | | | | 2 |
| Ole Creek | 8/21/97 | | | Red-legged frog | 2 adults | | | | 2 |
| Ole Creek | 8/21/97 | 4500 | | End of survey | | | | | |
| Panamaker | 4/11/97 | 0 | | western red-backed salamander | 1 | 98 | 55 | | |
| Panamaker | 4/11/97 | 102 | | rough-skinned newt | 1 | 102 | 45 | bark | |

1996-1997 In-stream amphibian survey results, Yale Hydroelectric Project.

| Site Name | Date | Location | Obs. Time | Species | Total No. | Total Length | SVL | Specific Habitat | Stream Gradient |
|-----------------|----------|----------|-----------|--------------------------------|-----------|--------------|-----|-------------------|-----------------|
| Panamaker | 4/11/97 | 113 | | western red-backed salamander | 1 | 70 | 35 | bark | |
| Panamaker | 4/11/97 | 520 | | western red-backed salamander | 1 | 103 | 53 | rock/leave | |
| Panamaker | 4/11/97 | 744 | | western red-backed salamander | 1 | 100 | 55 | bark/sand | |
| Panamaker | 4/11/97 | 804 | | rough-skinned newt | 1 | 130 | 60 | rock | |
| Panamaker | 4/11/97 | 1300 | | *poor habitat | | | | | |
| Panamaker | 4/11/97 | 1300 | | western red-backed salamander | 1 | 103 | 53 | log jam | |
| Panamaker | 4/11/97 | 1009 | | western red-backed salamander | 1 | 75 | 30 | rock/gravel | |
| Panamaker | 4/11/97 | 1847 | | *old bridge | | | | | |
| Panamaker | 4/11/97 | 2350 | | *end survey | | | | | |
| Panamaker | 4/29/97 | 25 | | northern alligator lizard | 1 | | | bark | |
| Panamaker | 4/29/97 | 130 | | western red-backed salamander | 1 | 55 | 30 | rock | |
| Panamaker | 4/29/97 | 135 | | western red-backed salamander | 1 | 75 | 36 | bark | |
| Panamaker | 4/29/97 | 350 | | western red-backed salamander | 1 | 98 | 52 | log | |
| Panamaker | 4/29/97 | 475 | | western red-backed salamander | 1 | 93 | 48 | log | |
| Panamaker | 4/29/97 | 1372 | | western red-backed salamander | 1 | | 31 | cobble/bedrock | |
| Panamaker | 4/29/97 | 1382 | | western red-backed salamander | 1 | | 26 | cobble/bedrock | |
| Panamaker | 4/29/97 | 1515 | | western red-backed salamander | 1 | | 30 | cobble/bedrock | |
| Panamaker | 4/29/97 | 1572 | | western red-backed salamander | 1 | | 52 | cobble/bedrock | |
| Panamaker | 4/29/97 | 1574 | | western red-backed salamander | 1 | | 47 | cobble/bedrock | |
| Panamaker Creek | 4/7/97 | 450 | 1750 | western red-backed salamander | 1 | 98 | 40 | log | |
| Panamaker Creek | 4/7/97 | 825 | 1815 | rough-skinned newt | 1 | 100 | | log | |
| Panamaker Creek | 4/7/97 | 450 | 1750 | western red-backed salamander | 1 | 80 | 45 | log | |
| Panamaker Creek | 4/7/97 | 795 | 1820 | western red-backed salamander | 1 | | | small rock | |
| Panamaker Creek | 4/7/97 | 796 | 1823 | ensatina | 1 | 60 | 40 | small rock | |
| Panamaker Creek | 4/7/97 | 797 | 1827 | western red-backed salamander | 1 | | | small rock | |
| Panamaker Creek | 4/7/97 | 800 | 1830 | western red-backed salamander | 1 | 55 | 40 | small rock | |
| Panamaker Creek | 4/7/97 | 1223 | 1845 | western red-backed salamander | 2 | | | small rock | |
| Panamaker Creek | 4/7/97 | 1287 | 1900 | *end of survey, near waterfall | | | | | |
| Panamaker Creek | 8/18/97 | 0 | | Begin Survey | | | | | |
| Panamaker Creek | 8/18/97 | 1100 | | End Survey | | | | | 1 |
| Panamaker Creek | 10/23/97 | 0 | | Begin Survey at road | | | | | |
| Panamaker Creek | 10/23/97 | 764 | | western red-backed salamander | 1 | | | in rocks and moss | 1 |
| Panamaker Creek | 10/23/97 | 764 | | western red-backed salamander | 1 | | 49 | seep | 1 |
| Panamaker Creek | 10/23/97 | 1153 | | western red-backed salamander | 1 | | 20 | log jam | 1 |
| Panamaker Creek | 10/23/97 | 1417 | | western red-backed salamander | 1 | | 51 | bedrock/talus | 1 |
| Panamaker Creek | 10/23/97 | 1453 | | rough skin newt | 1 | | 26 | on moss | 1 |
| Panamaker Creek | 10/23/97 | 1450 | | cascade torrent salamander | 1 f | | 46 | | 1 |
| Panamaker Creek | 10/23/97 | 1526 | | End of survey | | | | | |
| Rain Creek | 4/7/97 | 21 | | western red-backed salamander | 1 | 100 | 20 | leaf litter | |
| Rain Creek | 4/7/97 | 163 | | western red-backed salamander | 1 | | | rock with moss | |
| Rain Creek | 4/7/97 | 1300 | | *dense shrubs along shoreline | | | | | |
| Rain Creek | 4/7/97 | 2600 | | *end survey | | | | | |
| Speelyai Creek | 4/4/97 | 715 | 1200 | ensatina | 1 | 78 | 35 | under rock debris | |
| Speelyai Creek | 4/4/97 | 900 | 1225 | garter snake | 1 | | | grass along road | |
| Speelyai Creek | 4/4/97 | 2221 | 1305 | ensatina | 1 | 36 | 18 | in log | |

1996-1997 In-stream amphibian survey results, Yale Hydroelectric Project.

| Site Name | Date | Location | Obs. Time | Species | Total No. | Total Length | SVL | Specific Habitat | Stream Gradient |
|----------------|---------|----------|-----------|---------------|-----------|--------------|-----|------------------|-----------------|
| Speelyai Creek | 4/4/97 | 2249 | 1313 | ensatina | 1 | 88 | 47 | inside stump | |
| Speelyai Creek | 4/4/97 | 2523 | 1320 | ensatina | 1 | 90 | 50 | inside log | |
| Speleyai Creek | 8/21/97 | 0 | | Begin Survey | | | | | |
| Speleyai Creek | 8/21/97 | | | Chorus frog | 1 adult | | | dry channel | 1 |
| Speleyai Creek | 8/21/97 | 2510 | | End of Survey | | | | | |

1996-1997 In-stream amphibian survey results, Yale Hydroelectric Project.

| Site Name | Date | Water/Soil Temp. | Substrate | Dist. from stream | Photo No. | Comments |
|---------------------|----------|------------------|-------------|-------------------|-----------|--|
| Bypass Bridge Seeps | 4/8/97 | W=40F | | | | at water's edge |
| Bypass Bridge Seeps | 4/8/97 | W=40F | | | | 3m from water |
| Bypass Bridge Seeps | 4/8/97 | W=40F | | | | gravid; 20m from water |
| Bypass Bridge Seeps | 4/8/97 | W=40F | | | | 3m from water |
| Bypass Bridge Seeps | 4/8/97 | W=40F | | | | at water's edge |
| Bypass Bridge Seeps | 4/8/97 | W=40F | | | | at water's edge |
| Bypass Bridge Seeps | 4/8/97 | W=40F | | | | gravid; at water's edge |
| Bypass Bridge Seeps | 4/8/97 | W=40F | | | | in channel |
| Bypass Bridge Seeps | 4/8/97 | W=40F | | | | in channel |
| Bypass Bridge Seeps | 4/8/97 | W=40F | | | | in channel |
| Bypass Bridge Seeps | 4/8/97 | W=40F | | | | 5m from water |
| Bypass Bridge Seeps | 4/28/97 | | | | | total tally |
| Bypass Bridge Seeps | 4/28/97 | | | | | total tally |
| Bypass Bridge Seeps | 10/22/97 | | | | | |
| Bypass Bridge Seeps | 10/22/97 | 53 | | | | 200 m wide rock talus slope under bypass bridge, full of seeps |
| Bypass Bridge Seeps | 10/22/97 | 53 | | | | 200 m wide rock talus slope under bypass bridge, full of seeps |
| Bypass Bridge Seeps | 10/22/97 | 53 | | | | 200 m wide rock talus slope under bypass bridge, full of seeps |
| Bypass Bridge Seeps | 10/22/97 | | | | | |
| Cougar Creek | 4/7/97 | | | | | |
| Cougar Creek | 4/7/97 | | log | | | |
| Cougar Creek | 4/7/97 | S=43F | | | | escaped |
| Cougar Creek | 4/7/97 | | | | | upstream of Panamaker |
| Cougar Creek | 4/7/97 | S=43F | | | | |
| Cougar Creek | 4/7/97 | | | | | |
| Cougar Creek | 4/7/97 | S=40F | under log | | | |
| Cougar Creek | 4/7/97 | S=40F | under log | | | next to adult |
| Cougar Creek | 4/7/97 | S=40F | debris/leaf | | | |
| Cougar Creek | 4/7/97 | S=40F | debris/leaf | | | |
| Cougar Creek | 4/7/97 | S=40F | debris/leaf | | | |
| Cougar Creek | 4/7/97 | | | | | |
| Cougar Creek | 4/7/97 | | | | | |
| Cougar Creek | 4/7/97 | | | | | amelanistic, 16 costal groves |
| Cougar Creek | 4/7/97 | | | | | |
| Cougar Creek | 4/29/97 | S=9C | | | 2 | |
| Cougar Creek | 4/29/97 | | | | 3 | |
| Cougar Creek | 4/29/97 | | | | | |
| Cougar Creek | 4/29/97 | | | | 11 | |
| Cougar Creek | 4/29/97 | | | | 11 | |
| Cougar Creek | 4/29/97 | | | | 8 | |
| Cougar Creek | 4/29/97 | | | | 10 | |
| Cougar Creek | 4/29/97 | | soil/sand | | 4 | beaver pond area |
| Cougar Creek | 4/29/97 | | | | 8 | beaver pond area |
| Cougar Creek | 4/29/97 | | | | 10 | beaver pond area |
| Cougar Creek | 4/29/97 | | | | 5 | |
| Cougar Creek | 4/29/97 | | | | 5 | |

1996-1997 In-stream amphibian survey results, Yale Hydroelectric Project.

| Site Name | Date | Water/Soil Temp. | Substrate | Dist. from stream | Photo No. | Comments |
|-------------------------|----------|------------------|----------------|-------------------|-----------|-----------------------------------|
| Cougar Creek | 4/29/97 | | | | 2 | |
| Cougar Creek | 4/29/97 | | | | 2 | |
| Cougar Creek | 4/29/97 | | | | | |
| Cougar Creek | 4/29/97 | | | | 1 | walking on rocks |
| Cougar Creek | 4/29/97 | | | | 2 | |
| Cougar Creek | 4/29/97 | | | | 4 | |
| Cougar Creek | 4/29/97 | | | | 2 | |
| Cougar Creek | 4/29/97 | | | | 8 | |
| Cougar Creek | 4/29/97 | | | | 8 | |
| Cougar Creek | 4/29/97 | | | | 10 | |
| Cougar Creek | 4/29/97 | | | | 5 | |
| Cougar Creek | 8/18/97 | 44 | cobble, gravel | | | wide cold running creek |
| Cougar Creek | 8/18/97 | | mud | | | in seep downstream of beaver pond |
| Cougar Creek | 8/18/97 | | | | | in seep downstream of beaver pond |
| Cougar Creek | 8/18/97 | | | | | in seep downstream of beaver pond |
| Cougar Creek | 8/18/97 | | | | | |
| Cougar Headwaters | 10/21/97 | | | | | |
| Cougar Headwaters | 10/21/97 | 44 | | | 2 | |
| Cougar Headwaters | 10/21/97 | 44 | | | 3 | |
| Cougar Headwaters | 10/21/97 | 44 | | | 6 | |
| Cougar Headwaters | 10/21/97 | 44 | | | 6 | |
| Cougar Headwaters | 10/21/97 | 44 | | | 1 | |
| Cougar Headwaters | 10/21/97 | 44 | | | 1 | together with previous individual |
| Cougar Headwaters | 10/21/97 | 44 | | | 10 | |
| Cougar Headwaters | 10/21/97 | 44 | | | 6 | |
| Cougar Headwaters | 10/21/97 | 44 | | | 5 | |
| Cougar Headwaters | 10/21/97 | 44 | | | 10 | |
| Cougar Headwaters | 10/21/97 | 44 | | | 6 | |
| Cougar Headwaters | 10/21/97 | | | | | |
| Cougar Headwaters-lower | 4/10/97 | W=39F | | | | 1m to water |
| Cougar Headwaters-lower | 4/10/97 | S=40F | | | | water's edge |
| Cougar Headwaters-lower | 4/10/97 | | | | | water's edge |
| Cougar Headwaters-lower | 4/10/97 | | | | | 1.5m to water |
| Cougar Headwaters-lower | 4/10/97 | | | | | 2m from water |
| Cougar Headwaters-lower | 4/10/97 | | | | | 3m from water |
| Cougar Headwaters-lower | 4/10/97 | | | | | 1m from water |
| Cougar Headwaters-lower | 4/10/97 | | | | | 7m from water |
| Cougar Headwaters-lower | 4/10/97 | | | | | 1m from water |
| Cougar Headwaters-lower | 4/10/97 | | gravel/bark | | | 3m from water |
| Cougar Headwaters-lower | 4/10/97 | | gravel/bark | | | 3m from water |
| Cougar Headwaters-lower | 4/10/97 | | | | | |
| Cougar Headwaters-lower | 4/10/97 | | bark/tree | | | 3m from water |
| Cougar Headwaters-lower | 4/10/97 | | mulch | | | 5m from water |
| Cougar Headwaters-lower | 4/10/97 | | mulch | | | 4m from water |
| Cougar Headwaters-lower | 4/10/97 | | | | | 4m from water |

1996-1997 In-stream amphibian survey results, Yale Hydroelectric Project.

| Site Name | Date | Water/Soil Temp. | Substrate | Dist. from stream | Photo No. | Comments |
|-------------------------|----------|------------------|-----------|-------------------|-----------|--|
| Cougar Headwaters-lower | 4/10/97 | | | | | water's edge |
| Cougar Headwaters-lower | 4/10/97 | | | | | 8m from water |
| Cougar Headwaters-lower | 4/10/97 | | | | | gravid; 2m from water |
| Cougar Headwaters-lower | 4/10/97 | | | | | 7m from water |
| Cougar Headwaters-lower | 4/10/97 | | | | | 3m from water |
| Cougar Headwaters-lower | 4/10/97 | | | | | 2.5m from water |
| Cougar Headwaters-lower | 4/10/97 | | | | | |
| Cougar Headwaters-lower | 4/29/97 | W=44F | | | | |
| Cougar Headwaters-lower | 4/29/97 | | | | | |
| Cougar Headwaters-lower | 4/29/97 | | | | 2 | |
| Cougar Headwaters-lower | 4/29/97 | | | | | |
| Cougar Headwaters-lower | 4/29/97 | | | | | |
| Cougar Headwaters-lower | 4/29/97 | | | | 10 | |
| Cougar Headwaters-lower | 4/29/97 | | | | | |
| Cougar Headwaters-lower | 4/29/97 | | | | | |
| Cougar Headwaters-lower | 4/29/97 | | | | | |
| Cougar Headwaters-lower | 4/29/97 | | | | | |
| Cougar Headwaters-lower | 4/29/97 | | | | 5 | |
| Cougar Headwaters-lower | 4/29/97 | | | | | |
| Cougar Headwaters-lower | 4/29/97 | | | | | |
| Cougar Headwaters-lower | 4/29/97 | | | | | |
| Cougar Headwaters-lower | 4/29/97 | | | | | |
| Cougar Headwaters-lower | 4/29/97 | | | | | |
| Cougar Headwaters-lower | 4/29/97 | | gravel | | | |
| Cougar Headwaters-lower | 4/29/97 | | | | | |
| Cougar Headwaters-lower | 4/29/97 | | | | 1.5 | |
| Cougar Headwaters-lower | 4/29/97 | | | | | |
| Cougar Headwaters-lower | 4/29/97 | | | | | |
| Cougar Headwaters-lower | 4/29/97 | | | | 2 | |
| Cougar Headwaters-lower | 4/29/97 | | | | | |
| Cougar Headwaters-lower | 4/29/97 | | | | 6 | |
| Cougar Headwaters-lower | 4/29/97 | | | | | |
| Cougar Headwaters-lower | 4/29/97 | | | | | |
| Cougar Headwaters-lower | 10/23/97 | | | | | |
| Cougar Headwaters-lower | 10/23/97 | 44 | | | | |
| Cougar Headwaters-lower | 10/23/97 | 44 | | | | downstream of fish wier, along disturbed trail |
| Cougar Headwaters-lower | 10/23/97 | 44 | | | | above fish wier |
| Cougar Headwaters-lower | 10/23/97 | 44 | | | | adjacent to first patch of mature cedar/ douglas fir |
| Cougar Headwaters-lower | 10/23/97 | 44 | | | | |
| Cougar Headwaters-lower | 10/23/97 | 44 | | | | |
| Cougar Headwaters-lower | 10/23/97 | 44 | | | | |
| Cougar Headwaters-lower | 10/23/97 | 44 | | | | |

1996-1997 In-stream amphibian survey results, Yale Hydroelectric Project.

| Site Name | Date | Water/Soil Temp. | Substrate | Dist. from stream | Photo No. | Comments |
|-------------------------|----------|------------------|----------------|-------------------|-----------|-----------------------------------|
| Cougar Headwaters-lower | 10/23/97 | | | | | |
| Cougar Headwaters-upper | 4/10/97 | | | | | dry channel debris |
| Cougar Headwaters-upper | 4/10/97 | | mossy hillside | | | 10m from water |
| Cougar Headwaters-upper | 4/10/97 | | | | | water's edge |
| Cougar Headwaters-upper | 4/10/97 | | moss | | | sitting on rock |
| Cougar Headwaters-upper | 4/10/97 | | | | | falls (10') |
| Cougar Headwaters-upper | 4/10/97 | | | | | |
| Cougar Headwaters-upper | 4/10/97 | | | | | |
| Cougar Headwaters-upper | 4/29/97 | | | | | side channel |
| Cougar Headwaters-upper | 4/29/97 | | | | | side channel |
| Cougar Headwaters-upper | 4/29/97 | | | | | side channel |
| Cougar Headwaters-upper | 4/29/97 | | | | | |
| Cougar Headwaters-upper | 4/29/97 | | | | | escaped |
| Cougar Headwaters-upper | 4/29/97 | | | | | |
| Cougar Headwaters-upper | 4/29/97 | | | | | |
| Cougar Headwaters-upper | 8/21/97 | | | | | |
| Cougar Headwaters-upper | 8/21/97 | 44 | gravel | | 0 | headwaters |
| Cougar Headwaters-upper | 8/21/97 | 44 | | | | just above the spring outlet |
| Cougar Headwaters-upper | 8/21/97 | 44 | | | | just above the spring outlet |
| Cougar Headwaters-upper | 8/21/97 | | | | | |
| Cougar Springs | 4/10/97 | | | | | |
| Cougar Springs | 4/10/97 | | | | | |
| Cougar Springs | 4/10/97 | | | | | |
| Cougar Springs | 4/10/97 | | | | | |
| Cougar Springs | 4/10/97 | | | | | |
| Cougar Springs | 4/10/97 | | | | | |
| Cougar Springs | 4/10/97 | | | | | |
| Cougar Springs | 4/10/97 | | | | | |
| Cougar Springs | 4/10/97 | | | | | |
| Cougar Springs | 4/10/97 | | | | | |
| Cougar Springs | 4/10/97 | | | | | |
| Cougar Springs | 4/10/97 | | | | | |
| Cougar Springs | 4/10/97 | | | | | |
| Cougar Springs | 4/10/97 | | | | | |
| Cougar Springs | 4/29/97 | | | | | |
| Dog Creek | 8/21/97 | | | | | |
| Dog Creek | 8/21/97 | 60 | cobble, gravel | | | |
| Dog Creek | 8/21/97 | 60 | cobble, gravel | | | |
| Dog Creek | 8/21/97 | 60 | cobble, gravel | | | |
| Dog Creek | 8/21/97 | | | | | |
| IP-1 stream | 4/8/97 | | rock | | | |
| IP-1 stream | 4/8/97 | | rock | | | |
| IP-1 stream | 4/8/97 | | soil | | | |
| IP-1 stream | 4/8/97 | | soil | | | |
| IP-1 stream | 4/8/97 | W=43F | rocks | | | with another in water; 1 got away |
| IP-1 stream | 4/8/97 | S=8C | soil | | | |
| IP-1 stream | 4/8/97 | | rock | | | |

1996-1997 In-stream amphibian survey results, Yale Hydroelectric Project.

| Site Name | Date | Water/Soil Temp. | Substrate | Dist. from stream | Photo No. | Comments |
|--------------|----------|------------------|-----------|-------------------|-----------|-----------------------|
| IP-1 stream | 8/19/97 | 53 | | | | |
| IP-1 stream | 8/19/97 | 53 | | | | |
| IP-1 stream | 8/19/97 | 53 | | | | |
| IP-1 stream | 8/19/97 | 53 | | | | |
| IP-1 stream | 8/19/97 | | | | | |
| IP-1 stream | 10/20/97 | | | | | |
| IP-1 stream | 10/20/97 | 46 | | | | |
| IP-1 stream | 10/20/97 | 46 | | | | |
| IP-1 stream | 10/20/97 | 46 | | | | |
| IP-1 stream | 10/20/97 | 46 | | | | |
| IP-1 stream | 10/20/97 | 46 | | | | |
| IP-1 stream | 10/20/97 | 46 | | | | |
| IP-1 stream | 10/20/97 | 46 | | | | |
| IP-1 stream | 10/20/97 | 46 | | | | may be metamorphosing |
| IP-1 stream | 10/20/97 | 46 | | | | |
| IP-1 stream | 10/20/97 | 46 | | | | in side stream |
| IP-1 stream | 10/20/97 | 46 | | | | in splash zone |
| IP-1 stream | 10/20/97 | 46 | | | | |
| IP-1 stream | 10/20/97 | 46 | | | | |
| IP-1 stream | 10/20/97 | 46 | | | | |
| IP-1 stream | 10/20/97 | 46 | | | | |
| IP-1 stream | 10/20/97 | 46 | | | | |
| IP-1 stream | 10/20/97 | 46 | | | | |
| IP-1 stream | 10/20/97 | 46 | | | | |
| IP-1 stream | 10/20/97 | 46 | | | | |
| IP-1 stream | 10/20/97 | 46 | | | | |
| IP-1 stream | 10/20/97 | 46 | | | | |
| IP-1 stream | 10/20/97 | 46 | | 3 | | |
| IP-1 stream | 10/20/97 | 46 | | | | |
| IP-1 stream | 10/20/97 | 46 | | | | |
| IP-1 stream | 10/20/97 | 46 | | | | |
| IP-1 stream | 10/20/97 | 46 | | | | |
| IP-1 stream | 10/20/97 | 46 | | | | |
| IP-1 stream | 10/20/97 | 46 | | | | |
| IP-1 stream | 10/20/97 | 46 | | | | |
| IP-1 stream | 10/20/97 | 46 | | | | |
| IP-1 stream | 10/20/97 | 46 | | | | |
| IP-1 stream | 10/20/97 | 46 | | | | |
| IP-1 stream | 10/20/97 | 46 | | | | |
| IP-1 stream | 10/20/97 | 46 | | | | |
| IP-1 stream | 10/20/97 | 46 | | | | |
| IP-1 stream | 10/20/97 | 46 | | | | |
| IP-1 stream | 10/20/97 | 46 | | | | |
| IP-1 stream | 10/20/97 | 46 | | | | |
| IP-1 stream | 10/20/97 | 46 | | | | |
| IP-1 stream | 10/20/97 | 46 | | | | |
| IP-1 stream | 10/20/97 | 46 | | 4 | | |
| IP-1 stream | 10/20/97 | 46 | | | | |
| IP-1 stream | 10/20/97 | 46 | | | | |
| IP-1 stream | 10/20/97 | 46 | | | | |
| IP-1 stream | 10/20/97 | 46 | | | | |
| IP-1 stream | 10/20/97 | 46 | | | | |
| IP-1 stream | 10/20/97 | 46 | | | | |
| IP-1 stream | 10/20/97 | 46 | | | | |
| IP-10 stream | 4/8/97 | S=8C | soil | | | |
| IP-10 stream | 4/8/97 | | soil | | | |
| IP-10 stream | 4/8/97 | | | | | |
| IP-10 stream | 4/8/97 | S=9C | | | | |
| IP-10 stream | 4/8/97 | | | | | |
| IP-10 stream | 4/8/97 | | log | | | |

1996-1997 In-stream amphibian survey results, Yale Hydroelectric Project.

| Site Name | Date | Water/Soil Temp. | Substrate | Dist. from stream | Photo No. | Comments |
|--------------|----------|------------------|-----------|-------------------|-----------|----------------------------------|
| IP-10 stream | 4/8/97 | | log | | | |
| IP-10 stream | 4/8/97 | | soil | | | |
| IP-10 stream | 4/8/97 | | | | | |
| IP-10 stream | 4/8/97 | | | | | |
| IP-10 stream | 4/8/97 | | | | | |
| IP-10 stream | 4/8/97 | | | | | |
| IP-10 stream | 4/30/97 | | | | | |
| IP-10 stream | 4/30/97 | W=45F | | | 3 | |
| IP-10 stream | 4/30/97 | S=43F | | | 8 | |
| IP-10 stream | 4/30/97 | | | | | |
| IP-10 stream | 4/30/97 | | | | | |
| IP-10 stream | 4/30/97 | | | | | |
| IP-10 stream | 4/30/97 | W=48F | | | | in small pool on side of stream |
| IP-10 stream | 4/30/97 | | | | 2 | |
| IP-10 stream | 4/30/97 | | | | 3 | |
| IP-10 stream | 4/30/97 | | | | | |
| IP-10 stream | 4/30/97 | | | | 1.5 | |
| IP-10 stream | 4/30/97 | | | | 3 | |
| IP-10 stream | 4/30/97 | | | | | |
| IP-10 stream | 4/30/97 | | | | | |
| IP-10 stream | 4/30/97 | | | | | |
| IP-10 stream | 4/30/97 | | | | 3 | |
| IP-10 stream | 4/30/97 | | seep | | | |
| IP-10 stream | 4/30/97 | | | | | |
| IP-10 stream | 4/30/97 | | | | | |
| IP-10 stream | 4/30/97 | | | | 2 | |
| IP-10 stream | 4/30/97 | | | | 1 | |
| IP-10 stream | 4/30/97 | | | | | |
| IP-10 stream | 4/30/97 | | bedrock | | 0 | |
| IP-10 stream | 8/20/97 | | | | | |
| IP-10 stream | 8/20/97 | 56 | | | | |
| IP-10 stream | 8/20/97 | | | | | |
| IP-10 stream | 8/20/97 | | | | | |
| IP-10 stream | 8/20/97 | | | | | |
| IP-10 stream | 8/20/97 | | | | | in alder forest along side creek |
| IP-10 stream | 8/20/97 | | | | | landslide above 1500 feet |
| IP-10 stream | 10/23/97 | | | | | |
| IP-10 stream | 10/23/97 | 50 | | | 1 | |
| IP-10 stream | 10/23/97 | 50 | | | 1 | |
| IP-10 stream | 10/23/97 | 50 | | | 3 | |
| IP-10 stream | 10/23/97 | 50 | | | 1 | |
| IP-10 stream | 10/23/97 | 50 | | | 1 | |
| IP-10 stream | 10/23/97 | 50 | | | 2 | |
| IP-10 stream | 10/23/97 | 50 | | | 1 | |
| IP-10 stream | 10/23/97 | 50 | | | 1 | in side channel seep |

1996-1997 In-stream amphibian survey results, Yale Hydroelectric Project.

| Site Name | Date | Water/Soil Temp. | Substrate | Dist. from stream | Photo No. | Comments |
|--------------|----------|------------------|-----------------|-------------------|-----------|---|
| IP-10 stream | 10/23/97 | 50 | | 15 | | in slide area that choked stream- no flow nearby |
| IP-10 stream | 10/23/97 | 50 | | 0.1 | | |
| IP-10 stream | 10/23/97 | 50 | | 0 | | |
| IP-10 stream | 10/23/97 | 50 | | 0 | | |
| IP-10 stream | 10/23/97 | 50 | | 0.5 | | |
| IP-10 stream | 10/23/97 | 50 | | 0 | | |
| IP-10 stream | 10/23/97 | | | | | estimate of distance, hip chain ran out at 1200 |
| IP-11 stream | 4/3/97 | S=45F | log | | 1 | nasolabial groves present; yellow stripe to tail |
| IP-11 stream | 4/3/97 | S=45F | log | | | |
| IP-11 stream | 4/3/97 | S=45F | rock (16") | | | yellow stripe; under 16" rock |
| IP-11 stream | 4/3/97 | S=43F | loam | | | |
| IP-11 stream | 4/3/97 | | | | | |
| IP-11 stream | 4/3/97 | W=44F | muck, rocks | | 2-7 | |
| IP-11 stream | 4/3/97 | W=44F | muck, rocks | | | near eroding seep |
| IP-11 stream | 4/3/97 | | boulder, gravel | | | headwaters of other branch |
| IP-11 stream | 4/3/97 | | | | | |
| IP-11 stream | 4/30/97 | S=8C | | | | |
| IP-11 stream | 4/30/97 | | cobble | | | 10 cm water |
| IP-11 stream | 4/30/97 | | cobble | | | W=8C |
| IP-11 stream | 4/30/97 | | cobble/gravel | | | headwater |
| IP-11 stream | 4/30/97 | | | | | |
| IP-11 stream | 4/30/97 | | cobble/gravel | | | headwaters of middle branch |
| IP-11 stream | 4/30/97 | | | | | |
| IP-11 stream | 4/30/97 | | cobble/gravel | | | headwater |
| IP-11 stream | 4/30/97 | | | | | headwater |
| IP-11 stream | 4/30/97 | | | | | |
| IP-11 stream | 4/30/97 | | | | | |
| IP-11 stream | 4/30/97 | | | | | |
| IP-11 stream | 4/30/97 | | | | | |
| IP-11 stream | 4/30/97 | | cobble | | | escaped |
| IP-11 stream | 4/30/97 | | | | | |
| IP-11 stream | 4/30/97 | | | | | |
| IP-11 stream | 8/20/97 | | cobble, gravel | | | |
| IP-11 stream | 8/20/97 | | | | | |
| IP-11 stream | 8/20/97 | | cobble, gravel | | | end 25 ft. into clear-cut tangles |
| IP-11 stream | 10/23/97 | | | | | |
| IP-11 stream | 10/23/97 | 49 | silt | 0 | | |
| IP-11 stream | 10/23/97 | 49 | silt | 0 | | |
| IP-11 stream | 10/23/97 | 49 | | 0 | | |
| IP-11 stream | 10/23/97 | | | | | main channel branches 3+ times, we followed main and a side |
| IP-13 stream | 8/22/97 | 56 | cobble, gravel | | | escaped |
| IP-13 stream | 8/22/97 | 56 | cobble, gravel | | | they're everywhere! |
| IP-13 stream | 8/22/97 | 56 | cobble, gravel | | | half-acre wetland pool downstream of road. |

1996-1997 In-stream amphibian survey results, Yale Hydroelectric Project.

| Site Name | Date | Water/Soil Temp. | Substrate | Dist. from stream | Photo No. | Comments |
|--------------|----------|------------------|-----------------|-------------------|-----------|--|
| IP-13 stream | 8/22/97 | | | | | |
| IP-2 stream | 4/7/97 | S=9C | soil | | | 2 together |
| IP-2 stream | 4/7/97 | S=9C | soil | | | 2 together |
| IP-2 stream | 4/7/97 | S=9C | soil | | | |
| IP-2 stream | 4/7/97 | S=9C | soil | | | with another |
| IP-2 stream | 4/7/97 | S=9C | soil | | | with another |
| IP-2 stream | 4/7/97 | S=7.5C | soil | | | bright yellow belly |
| IP-2 stream | 4/7/97 | | soil | | | in stream margin |
| IP-2 stream | 4/7/97 | | | | | |
| IP-2 stream | 4/7/97 | S=7.5C | soil | | | |
| IP-2 stream | 4/7/97 | | soil | | | couldn't measure |
| IP-2 stream | 4/7/97 | | | | | |
| IP-2 stream | 4/30/97 | | | 3 | | |
| IP-2 stream | 4/30/97 | | cobble | 0.5 | | gravid |
| IP-2 stream | 4/30/97 | | | 0.5 | | |
| IP-2 stream | 4/30/97 | | | 0 | | |
| IP-2 stream | 4/30/97 | | | 0 | | escaped |
| IP-2 stream | 4/30/97 | | | | | |
| IP-2 stream | 8/19/97 | 56 | bedrock, cobble | | | |
| IP-2 stream | 8/19/97 | 56 | bedrock, cobble | 0 | | unknown sex, within 10m of culvert under IP road |
| IP-2 stream | 8/19/97 | 56 | bedrock, cobble | 0 | | unknown sex, within 10m of culvert under IP road |
| IP-2 stream | 8/19/97 | 56 | bedrock, cobble | 0 | | unknown sex, within 10m of culvert under IP road |
| IP-2 stream | 8/19/97 | 56 | bedrock, cobble | 0 | | unknown sex, within 10m of culvert under IP road |
| IP-2 stream | 8/19/97 | 56 | bedrock, cobble | 0 | | 10m sampling starting at 300 ft from culvert |
| IP-2 stream | 8/19/97 | 56 | bedrock, cobble | 0 | | 10m sampling starting at 300 ft from culvert |
| IP-2 stream | 8/19/97 | 56 | bedrock, cobble | 0 | | 10m sampling starting at 300 ft from culvert |
| IP-2 stream | 8/19/97 | 56 | bedrock, cobble | 0 | | 10m sampling starting at 300 ft from culvert |
| IP-2 stream | 8/19/97 | 56 | bedrock, cobble | 0 | | 10m sampling starting at 300 ft from culvert |
| IP-2 stream | 8/19/97 | | bedrock, cobble | | | end of survey |
| IP-2 stream | 10/20/97 | | | | | |
| IP-2 stream | 10/20/97 | 43 | | 1.5 | | |
| IP-2 stream | 10/20/97 | 43 | | 0.5 | | |
| IP-2 stream | 10/20/97 | 43 | rock | 0 | | |
| IP-2 stream | 10/20/97 | 43 | | 1.5 | | |
| IP-2 stream | 10/20/97 | 43 | | 2 | | |
| IP-2 stream | 10/20/97 | 43 | | 1.5 | | |
| IP-2 stream | 10/20/97 | 43 | rock | 0 | | |
| IP-2 stream | 10/20/97 | 43 | rock | 0 | | |
| IP-2 stream | 10/20/97 | 43 | rock | 0 | | |
| IP-2 stream | 10/20/97 | | | | | impassable chute |
| IP-3 stream | 4/9/97 | | rock | | | |
| IP-3 stream | 4/9/97 | | rock | | | in water |
| IP-3 stream | 4/9/97 | | rock | | | water's edge |
| IP-3 stream | 4/9/97 | | rock | | | 1m from water |
| IP-3 stream | 4/9/97 | | rock | | | 1m from water |

1996-1997 In-stream amphibian survey results, Yale Hydroelectric Project.

| Site Name | Date | Water/Soil Temp. | Substrate | Dist. from stream | Photo No. | Comments |
|-------------|--------|------------------|-------------|-------------------|-----------|-------------------------------------|
| IP-3 stream | 4/9/97 | | rock | | | in water |
| IP-3 stream | 4/9/97 | W=41F | rock | | | in water |
| IP-3 stream | 4/9/97 | S-45F | soil | | | 1m from water |
| IP-3 stream | 4/9/97 | | soil | | | 1m from water |
| IP-3 stream | 4/9/97 | | rock | | | 2m from water |
| IP-3 stream | 4/9/97 | | rock | | | 1m from water |
| IP-3 stream | 4/9/97 | | rock | | | in water; got away |
| IP-3 stream | 4/9/97 | | log | | | 10m from water |
| IP-3 stream | 4/9/97 | | rock | | | 1 pair, gravid female; all in water |
| IP-3 stream | 4/9/97 | | rock | | | water's edge |
| IP-3 stream | 4/9/97 | | rock | | | in water |
| IP-3 stream | 4/9/97 | | rock | | | walking at water's edge |
| IP-3 stream | 4/9/97 | | rock | | | water's edge |
| IP-3 stream | 4/9/97 | | rock | | | water's edge |
| IP-3 stream | 4/9/97 | | rock | | | gravid female; in water |
| IP-3 stream | 4/9/97 | | rock | | | in water |
| IP-3 stream | 4/9/97 | | rock | | | in water; string broke |
| IP-3 stream | 4/9/97 | | soil | | | 3m from water |
| IP-3 stream | 4/9/97 | | soil | | | gravid female |
| IP-3 stream | 4/9/97 | | rock | | | in water |
| IP-3 stream | 4/9/97 | | rock | | | in water; gravid |
| IP-3 stream | 4/9/97 | | rock | | | 1m from water; yearling |
| IP-3 stream | 4/9/97 | | rock | | | in water |
| IP-3 stream | 4/9/97 | | rock | | | 1m from water |
| IP-3 stream | 4/9/97 | | leaf litter | | | |
| IP-3 stream | 4/9/97 | | leaf litter | | | in dry talus area |
| IP-3 stream | 4/9/97 | | leaf litter | | | >1m from water |
| IP-3 stream | 4/9/97 | | rock | | | in water |
| IP-3 stream | 4/9/97 | | soil | | | 1m from water |
| IP-3 stream | 4/9/97 | | rock | | | water's edge |
| IP-3 stream | 4/9/97 | | rock | | | water's edge |
| IP-3 stream | 4/9/97 | | | | | |
| IP-3 stream | 5/1/97 | W=45F | | | 4 | |
| IP-3 stream | 5/1/97 | | | | 2 | |
| IP-3 stream | 5/1/97 | | | | 2 | |
| IP-3 stream | 5/1/97 | | cobble | | | |
| IP-3 stream | 5/1/97 | | | | 0.5 | |
| IP-3 stream | 5/1/97 | | cobble | | | escaped |
| IP-3 stream | 5/1/97 | | | | 1 | |
| IP-3 stream | 5/1/97 | | | | 0.5 | |
| IP-3 stream | 5/1/97 | | | | 1 | escaped |
| IP-3 stream | 5/1/97 | | | | 1 | escaped |
| IP-3 stream | 5/1/97 | | | | 0.5 | |
| IP-3 stream | 5/1/97 | | | | 0.5 | |
| IP-3 stream | 5/1/97 | | | | 1 | |

1996-1997 In-stream amphibian survey results, Yale Hydroelectric Project.

| Site Name | Date | Water/Soil Temp. | Substrate | Dist. from stream | Photo No. | Comments |
|-------------|----------|------------------|-----------------|-------------------|-----------|-----------------------------------|
| IP-3 stream | 5/1/97 | | | 0.5 | | |
| IP-3 stream | 5/1/97 | | | 1 | | |
| IP-3 stream | 5/1/97 | | | 0.5 | | |
| IP-3 stream | 5/1/97 | | bedrock | | | |
| IP-3 stream | 5/1/97 | | bedrock | | | |
| IP-3 stream | 5/1/97 | | | 0 | | |
| IP-3 stream | 5/1/97 | | | 0 | | |
| IP-3 stream | 5/1/97 | | bedrock | 0 | | |
| IP-3 stream | 5/1/97 | | | 2 | | |
| IP-3 stream | 5/1/97 | | bedrock | 0 | | |
| IP-3 stream | 5/1/97 | | | 0.5 | | |
| IP-3 stream | 5/1/97 | | bedrock | | | |
| IP-3 stream | 5/1/97 | | | 0 | | |
| IP-3 stream | 5/1/97 | | | | | |
| IP-3 stream | 8/19/97 | | | | | |
| IP-3 stream | 8/19/97 | 59 | boulder, cobble | 0 | | low flow, relatively dry creekbed |
| IP-3 stream | 8/19/97 | 59 | boulder, cobble | 0 | | low flow, relatively dry creekbed |
| IP-3 stream | 8/19/97 | 59 | boulder, cobble | 0 | | |
| IP-3 stream | 8/19/97 | 59 | bedrock | | | |
| IP-3 stream | 10/20/97 | | | | | |
| IP-3 stream | 10/20/97 | 44 | rock | 0 | | under rock |
| IP-3 stream | 10/20/97 | 44 | rock | 0 | | |
| IP-3 stream | 10/20/97 | 44 | | 0.25 | | |
| IP-3 stream | 10/20/97 | 44 | rock | 0 | | at stream edge, under rock |
| IP-3 stream | 10/20/97 | 44 | rock | 0 | | at stream edge, under rock |
| IP-3 stream | 10/20/97 | 44 | rock | 0 | | at stream edge, under rock |
| IP-3 stream | 10/20/97 | 44 | rock | 0 | | at stream edge, under rock |
| IP-3 stream | 10/20/97 | 44 | rock | 0 | | at stream edge, under rock |
| IP-3 stream | 10/20/97 | 44 | | 2.5 | | |
| IP-3 stream | 10/20/97 | 44 | | 1 | | |
| IP-3 stream | 10/20/97 | 44 | rock | 0 | | at stream edge |
| IP-3 stream | 10/20/97 | 44 | | 1 | | on top of leaves |
| IP-3 stream | 10/20/97 | 44 | rock | 0 | | |
| IP-3 stream | 10/20/97 | 44 | | 0.75 | | |
| IP-3 stream | 10/20/97 | 44 | | 1 | | |
| IP-3 stream | 10/20/97 | 44 | rock | 0 | | |
| IP-3 stream | 10/20/97 | | | | | |
| IP-4 stream | 4/9/97 | S=40F | | | | 10' from road |
| IP-4 stream | 4/9/97 | | | | | fractured rock wall |
| IP-4 stream | 4/9/97 | | | | | 2m from water |
| IP-4 stream | 4/9/97 | | | | | 3m from water |
| IP-4 stream | 4/9/97 | W=43F | bark | | 2 | |
| IP-4 stream | 4/9/97 | | | | | 2m from water |
| IP-4 stream | 4/9/97 | | cobble | | | escaped |
| IP-4 stream | 4/9/97 | | cobble | | | water's edge |

1996-1997 In-stream amphibian survey results, Yale Hydroelectric Project.

| Site Name | Date | Water/Soil Temp. | Substrate | Dist. from stream | Photo No. | Comments |
|-------------|----------|------------------|-------------|-------------------|-----------|-------------------------------|
| IP-4 stream | 4/9/97 | | | | | 1m from water |
| IP-4 stream | 4/9/97 | | rock | | | |
| IP-4 stream | 4/9/97 | | | | | 3m from water |
| IP-4 stream | 4/9/97 | | | | | 1.5m from water |
| IP-4 stream | 4/9/97 | | | | | 2m from water; trickle flow |
| IP-4 stream | 4/9/97 | | | | | 0.5 m from water |
| IP-4 stream | 4/9/97 | | | | | |
| IP-4 stream | 4/9/97 | | | | | 1m from water |
| IP-4 stream | 4/9/97 | | | | | |
| IP-4 stream | 4/9/97 | | | | | |
| IP-4 stream | 4/9/97 | S=6C | | | | 2m from water; in dry channel |
| IP-4 stream | 4/9/97 | W=42F | gravel/soil | | | |
| IP-4 stream | 4/9/97 | | | | | |
| IP-4 stream | 4/9/97 | | log | | | |
| IP-4 stream | 4/9/97 | | | | | |
| IP-4 stream | 4/9/97 | | | | | |
| IP-4 stream | 4/9/97 | | | | | |
| IP-4 stream | 4/9/97 | | | | | |
| IP-4 stream | 5/1/97 | | | | 2 | |
| IP-4 stream | 5/1/97 | | | | 5 | |
| IP-4 stream | 5/1/97 | | | | 4 | |
| IP-4 stream | 5/1/97 | | | | 2 | |
| IP-4 stream | 5/1/97 | | | | 2 | |
| IP-4 stream | 5/1/97 | | | | 1 | |
| IP-4 stream | 5/1/97 | | bedrock | | 0 | |
| IP-4 stream | 5/1/97 | | | | | |
| IP-4 stream | 5/1/97 | | | | 3 | |
| IP-4 stream | 5/1/97 | | | | 6 | |
| IP-4 stream | 5/1/97 | | | | | |
| IP-4 stream | 5/1/97 | | | | 2 | |
| IP-4 stream | 5/1/97 | | | | 4 | |
| IP-4 stream | 5/1/97 | | | | | |
| IP-4 stream | 5/1/97 | | | | | in dry, rocky channel |
| IP-4 stream | 5/1/97 | | | | | in dry, rocky channel |
| IP-4 stream | 5/1/97 | | | | | in dry, rocky channel |
| IP-4 stream | 5/1/97 | | | | | in dry, rocky channel |
| IP-4 stream | 5/1/97 | | | | | in dry, rocky channel |
| IP-4 stream | 5/1/97 | | | | | in dry, rocky channel |
| IP-4 stream | 5/1/97 | | | | | in dry, rocky channel |
| IP-4 stream | 5/1/97 | | | | | in dry, rocky channel |
| IP-4 stream | 5/1/97 | | | | | in dry, rocky channel |
| IP-4 stream | 8/19/97 | | cobble | | | no flow, sample 0-100m |
| IP-4 stream | 8/19/97 | | cobble | | | no flow, sample 0-100m |
| IP-4 stream | 10/20/97 | | | | | |
| IP-4 stream | 10/20/97 | 48 | bedrock | 0.25 | | under leaves |
| IP-4 stream | 10/20/97 | 48 | gravel | 0 | | |

1996-1997 In-stream amphibian survey results, Yale Hydroelectric Project.

| Site Name | Date | Water/Soil Temp. | Substrate | Dist. from stream | Photo No. | Comments |
|---------------------------|----------|------------------|-----------|-------------------|-----------|-----------------------------------|
| IP-4 stream | 10/20/97 | 48 | | | 2 | |
| IP-4 stream | 10/20/97 | 48 | | 0.75 | | |
| IP-4 stream | 10/20/97 | 48 | | 0.75 | | |
| IP-4 stream | 10/20/97 | | | | | |
| IP-4 stream; right branch | 4/9/97 | | | | | trickle |
| IP-4 stream; right branch | 4/9/97 | | | | | |
| IP-4 stream; right branch | 4/9/97 | | | | | |
| IP-4 stream; right branch | 4/9/97 | | | | | |
| IP-5 stream | 4/10/97 | | log | | | |
| IP-5 stream | 4/10/97 | | rock | | | |
| IP-5 stream | 4/10/97 | | litter | | | gravid |
| IP-5 stream | 4/10/97 | | gravel | | | under rock in gravel |
| IP-5 stream | 4/10/97 | | soil | | | |
| IP-5 stream | 4/10/97 | S=7C | soil | | | |
| IP-5 stream | 4/10/97 | | soil | | | |
| IP-5 stream | 4/10/97 | | | | | |
| IP-5 stream | 4/10/97 | | rock | | | 2m from water |
| IP-5 stream | 4/10/97 | | rock | | | |
| IP-5 stream | 4/10/97 | | rock | | | |
| IP-5 stream | 4/10/97 | | log | | | |
| IP-5 stream | 4/10/97 | | rock | | | in water |
| IP-5 stream | 4/10/97 | | rock | | | water's edge |
| IP-5 stream | 4/10/97 | | rock | | | |
| IP-5 stream | 4/10/97 | | soil | | | |
| IP-5 stream | 4/10/97 | | soil | | | |
| IP-5 stream | 4/10/97 | | rock | | | in water |
| IP-5 stream | 4/10/97 | | rock | | | water's edge |
| IP-5 stream | 4/10/97 | | rock | | | |
| IP-5 stream | 4/10/97 | | | | | |
| IP-5 stream | 5/1/97 | S=43F | | | 2 | |
| IP-5 stream | 5/1/97 | | Bl/Co | 1.5 | | |
| IP-5 stream | 5/1/97 | | Bl/Co | 0.5 | | |
| IP-5 stream | 5/1/97 | | Co/Gr | | | 3 in pool (1 sq ft pool, 3" deep) |
| IP-5 stream | 5/1/97 | | Co/Gr | | | 3 in pool (1 sq ft pool, 3" deep) |
| IP-5 stream | 5/1/97 | | Co/Gr | | | 3 in pool (1 sq ft pool, 3" deep) |
| IP-5 stream | 5/1/97 | | Bl/Co | 1 | | |
| IP-5 stream | 5/1/97 | | | 1 | | |
| IP-5 stream | 5/1/97 | | | | | escaped |
| IP-5 stream | 5/1/97 | | | | | |
| IP-5 stream | 5/1/97 | | | 6 | | |
| IP-5 stream | 5/1/97 | | | 3 | | |
| IP-5 stream | 5/1/97 | | | | | mating with female |
| IP-5 stream | 5/1/97 | | | | | mating with male |
| IP-5 stream | 5/1/97 | | Co | | | |
| IP-5 stream | 5/1/97 | | | | | |

1996-1997 In-stream amphibian survey results, Yale Hydroelectric Project.

| Site Name | Date | Water/Soil Temp. | Substrate | Dist. from stream | Photo No. | Comments |
|-----------------|----------|------------------|-----------------|-------------------|-----------|--|
| IP-5 stream | 10/21/97 | 42 | | | | |
| IP-5 stream | 10/21/97 | 42 | | | | |
| IP-5 stream | 10/21/97 | 42 | | | | |
| IP-5 stream | 10/21/97 | 42 | | | | |
| IP-5 stream | 10/21/97 | 42 | | | | |
| IP-5 stream | 10/21/97 | 42 | | | | |
| IP-5 stream | 10/21/97 | 42 | | | | |
| IP-5 stream | 10/21/97 | 42 | | | | |
| IP-5 stream | 10/21/97 | 42 | | | | |
| IP-5 stream | 10/21/97 | 42 | | | | |
| IP-5 stream | 10/21/97 | 42 | | | | |
| IP-5 stream | 10/21/97 | 42 | | | | |
| IP-5 stream | 10/21/97 | 42 | | | | |
| IP-5 stream | 10/21/97 | 42 | | | | |
| IP-5 stream | 10/21/97 | 42 | | | | |
| IP-5 stream | 10/21/97 | 42 | | | | |
| IP-5 stream | 10/21/97 | 42 | | | | |
| IP-5 stream | 10/21/97 | 42 | | | | |
| IP-6 stream | 4/8/97 | | soil | | | |
| IP-6 stream | 4/8/97 | | soil | | | |
| IP-6 stream | 4/8/97 | | rock | | | |
| IP-6 stream | 4/8/97 | | soil | | | |
| IP-6 stream | 4/8/97 | | soil | | | |
| IP-6 stream | 4/8/97 | | soil | | | |
| IP-6 stream | 4/8/97 | | rock | | | gravid; in pool |
| IP-6 stream | 4/8/97 | | rock | | | |
| IP-6 stream | 4/8/97 | | | | | |
| IP-6 stream | 4/30/97 | | | | 2 | escaped |
| IP-6 stream | 4/30/97 | | | | 3 | |
| IP-6 stream | 4/30/97 | | | | | |
| IP-6 stream | 4/30/97 | | | | 3 | |
| IP-6 stream | 4/30/97 | | | | 1 | |
| IP-6 stream | 4/30/97 | | | | 8 | |
| IP-6 stream | 4/30/97 | | | | | |
| IP-6 stream | 8/19/97 | | boulder, cobble | | | |
| IP-6 stream | 8/19/97 | 61 | boulder, cobble | | 2 | in shade, under cobbles, by water |
| IP-6 stream | 8/19/97 | 61 | boulder, cobble | | 1 | in shade, under cobbles, by water |
| IP-6 stream | 8/19/97 | 61 | boulder, cobble | | | old clearcut area, too much algae in water, little flow. |
| IP-6 stream | 10/21/97 | | | | | |
| IP-6 stream | 10/21/97 | 46 | | | | |
| IP-6 stream | 10/21/97 | 46 | | | | |
| IP-6 stream | 10/21/97 | 46 | | | | at top of first bedrock falls |
| IP-6 stream | 10/21/97 | 46 | | | | |
| IP-6 stream | 10/21/97 | 46 | | | | along side of steep bedrock chute |
| IP-6 stream | 10/21/97 | | | | | |
| IP-7 headwaters | 4/11/97 | S=40F | | | | |

1996-1997 In-stream amphibian survey results, Yale Hydroelectric Project.

| Site Name | Date | Water/Soil Temp. | Substrate | Dist. from stream | Photo No. | Comments |
|-------------|---------|------------------|-----------|-------------------|-----------|------------|
| IP-7 stream | 4/10/97 | | soil | | | |
| IP-7 stream | 4/10/97 | | rock | | | |
| IP-7 stream | 4/10/97 | | gravel | | | |
| IP-7 stream | 4/10/97 | | rock | | | |
| IP-7 stream | 4/10/97 | | gravel | | | |
| IP-7 stream | 4/10/97 | S=4C | soil | | | |
| IP-7 stream | 4/10/97 | | gravel | | | |
| IP-7 stream | 4/10/97 | | soil | | | |
| IP-7 stream | 4/10/97 | | rock | | | |
| IP-7 stream | 4/10/97 | | log | | | |
| IP-7 stream | 4/10/97 | | rock | | | |
| IP-7 stream | 4/10/97 | | rock | | | |
| IP-7 stream | 4/10/97 | | gravel | | | |
| IP-7 stream | 4/10/97 | | soil | | | |
| IP-7 stream | 4/10/97 | | rock | | | |
| IP-7 stream | 4/10/97 | | rock | | | |
| IP-7 stream | 4/10/97 | | rock | | | |
| IP-7 stream | 4/10/97 | | log | | | |
| IP-7 stream | 4/10/97 | | rock | | | |
| IP-7 stream | 4/10/97 | | soil | | | |
| IP-7 stream | 4/10/97 | | soil | | | |
| IP-7 stream | 4/10/97 | | rock | | | |
| IP-7 stream | 4/10/97 | | soil | | | |
| IP-7 stream | 4/10/97 | | rock | | | |
| IP-7 stream | 4/10/97 | | rock | | | |
| IP-7 stream | 4/10/97 | | log | | | |
| IP-7 stream | 4/10/97 | | soil | | | |
| IP-7 stream | 4/10/97 | | rock | | | |
| IP-7 stream | 4/10/97 | | rock | | | |
| IP-7 stream | 4/10/97 | | rock | | | |
| IP-7 stream | 4/10/97 | | log | | | |
| IP-7 stream | 4/10/97 | | soil | | | |
| IP-7 stream | 4/10/97 | | rock | | | |
| IP-7 stream | 4/10/97 | | rock | | | |
| IP-7 stream | 4/10/97 | | bark | | | |
| IP-7 stream | 4/10/97 | | gravel | | | |
| IP-7 stream | 4/10/97 | | gravel | | | |
| IP-7 stream | 4/10/97 | W=40F | rock | | | |
| IP-7 stream | 4/10/97 | | | | | |
| IP-7 stream | 4/10/97 | | rock | | | |
| IP-7 stream | 4/10/97 | | rock | | | gravid |
| IP-7 stream | 4/10/97 | | soil | | | |
| IP-7 stream | 4/10/97 | | soil | | | |
| IP-7 stream | 4/10/97 | | soil | | | gravid |
| IP-7 stream | 4/10/97 | | rock | | | under rock |
| IP-7 stream | 4/10/97 | | soil | | | |
| IP-7 stream | 4/10/97 | | | | | |
| IP-7 stream | 5/2/97 | W=40F | | 1.5 | | |
| IP-7 stream | 5/2/97 | | | 1.5 | | |
| IP-7 stream | 5/2/97 | S=41F | | 1.5 | | |

1996-1997 In-stream amphibian survey results, Yale Hydroelectric Project.

| Site Name | Date | Water/Soil Temp. | Substrate | Dist. from stream | Photo No. | Comments |
|-------------|--------|------------------|-----------|-------------------|-----------|-----------------------------|
| IP-7 stream | 5/2/97 | | | 2 | | |
| IP-7 stream | 5/2/97 | | | 2 | | |
| IP-7 stream | 5/2/97 | | | 3 | | |
| IP-7 stream | 5/2/97 | | | 2.5 | | |
| IP-7 stream | 5/2/97 | | | 0.5 | | |
| IP-7 stream | 5/2/97 | | | 1.5 | | |
| IP-7 stream | 5/2/97 | | | | | |
| IP-7 stream | 5/2/97 | | | 1.25 | | escaped |
| IP-7 stream | 5/2/97 | | | 2.5 | | |
| IP-7 stream | 5/2/97 | | | 3 | | |
| IP-7 stream | 5/2/97 | | | | | |
| IP-7 stream | 5/2/97 | | | 2.5 | | |
| IP-7 stream | 5/2/97 | | | | | escaped |
| IP-7 stream | 5/2/97 | | | 1.5 | | |
| IP-7 stream | 5/2/97 | | | | | |
| IP-7 stream | 5/2/97 | | | | | escaped |
| IP-7 stream | 5/2/97 | | | | | |
| IP-7 stream | 5/2/97 | | | | | |
| IP-7 stream | 5/2/97 | | | | | |
| IP-7 stream | 5/2/97 | | | | | |
| IP-7 stream | 5/2/97 | | | 1.5 | | |
| IP-7 stream | 5/2/97 | | | | | |
| IP-7 stream | 5/2/97 | | | | | escaped |
| IP-7 stream | 5/2/97 | | | 2 | | |
| IP-7 stream | 5/2/97 | | | 1.5 | | |
| IP-7 stream | 5/2/97 | | | 2 | | |
| IP-7 stream | 5/2/97 | | | 1 | | nest! |
| IP-7 stream | 5/2/97 | | | | | |
| IP-7 stream | 5/2/97 | | | | | escaped, side channel |
| IP-7 stream | 5/2/97 | | | | | escaped, side channel |
| IP-7 stream | 5/2/97 | | | 1 | | escaped |
| IP-7 stream | 5/2/97 | | | 1 | | |
| IP-7 stream | 5/2/97 | | | 1 | | |
| IP-7 stream | 5/2/97 | | | | | collected for C. Crisafolli |
| IP-7 stream | 5/2/97 | | | 1 | | |
| IP-7 stream | 5/2/97 | | | 1 | | |
| IP-7 stream | 5/2/97 | | | 1.5 | | |
| IP-7 stream | 5/2/97 | | | 2 | | |
| IP-7 stream | 5/2/97 | | | 2 | | |
| IP-7 stream | 5/2/97 | | | 0.25 | | |
| IP-7 stream | 5/2/97 | | | 0.5 | | escaped |
| IP-7 stream | 5/2/97 | | | 2 | | escaped |
| IP-7 stream | 5/2/97 | | | 2 | | |
| IP-7 stream | 5/2/97 | | | 0 | | below 8' waterfall |
| IP-7 stream | 5/2/97 | | | 0 | | below 8' waterfall |

1996-1997 In-stream amphibian survey results, Yale Hydroelectric Project.

| Site Name | Date | Water/Soil Temp. | Substrate | Dist. from stream | Photo No. | Comments |
|-------------|----------|------------------|-----------------|-------------------|-----------|---|
| IP-7 stream | 5/2/97 | | | | 0 | |
| IP-7 stream | 5/2/97 | | | | | |
| IP-7 stream | 5/2/97 | | | | 1 | |
| IP-7 stream | 5/2/97 | | | | 1 | |
| IP-7 stream | 5/2/97 | | | | 1.5 | |
| IP-7 stream | 5/2/97 | | | | 1 | |
| IP-7 stream | 5/2/97 | | | | 5 | |
| IP-7 stream | 5/2/97 | | | | 1 | |
| IP-7 stream | 5/2/97 | | | | 3 | |
| IP-7 stream | 5/2/97 | | | | | |
| IP-7 stream | 5/2/97 | | | | 1 | |
| IP-7 stream | 5/2/97 | | | | 1 | |
| IP-7 stream | 5/2/97 | | | | 1 | |
| IP-7 stream | 8/20/97 | | boulder, cobble | | | |
| IP-7 stream | 8/20/97 | 54 | boulder, cobble | | 0 | in slow moving pools |
| IP-7 stream | 8/20/97 | 54 | boulder, cobble | | 0 | in slow moving pools |
| IP-7 stream | 8/20/97 | 54 | boulder, cobble | | 0 | in slow moving pools |
| IP-7 stream | 8/20/97 | 54 | boulder, cobble | | 0 | in slow moving pools |
| IP-7 stream | 8/20/97 | 54 | boulder, cobble | | 0 | in slow moving pools |
| IP-7 stream | 8/20/97 | 54 | boulder, cobble | | | |
| IP-7 stream | 8/20/97 | 54 | sand | | 0.5 | under maidenhair ferns |
| IP-7 stream | 8/20/97 | 54 | boulder, cobble | | 0 | escaped |
| IP-7 stream | 8/20/97 | | | | | |
| IP-7 stream | 8/20/97 | | | | | |
| IP-7 stream | 8/20/97 | 54 | boulder, cobble | | 0 | |
| IP-7 stream | 8/20/97 | 54 | boulder, cobble | | 0 | attached by mouth to underside of rock |
| IP-7 stream | 8/20/97 | 54 | boulder, cobble | | 1 | on rocks in moss |
| IP-7 stream | 8/20/97 | 54 | boulder, cobble | | 0 | escaped |
| IP-7 stream | 8/20/97 | | | | | escaped |
| IP-7 stream | 8/20/97 | | | | | |
| IP-7 stream | 10/22/97 | | | | | |
| IP-7 stream | 10/22/97 | 47 | | | 1.5 | |
| IP-7 stream | 10/22/97 | 47 | | | 2 | |
| IP-7 stream | 10/22/97 | 47 | | | 1 | |
| IP-7 stream | 10/22/97 | 47 | | | 3 | |
| IP-7 stream | 10/22/97 | 47 | | | 3 | |
| IP-7 stream | 10/22/97 | 47 | | | 2 | |
| IP-7 stream | 10/22/97 | 47 | | | 4 | |
| IP-7 stream | 10/22/97 | 47 | | | 2 | |
| IP-7 stream | 10/22/97 | 47 | | | 4 | |
| IP-7 stream | 10/22/97 | 47 | | | 4 | found together with previous individual |
| IP-7 stream | 10/22/97 | 47 | | | 5 | |
| IP-7 stream | 10/22/97 | 47 | | | 4 | |
| IP-7 stream | 10/22/97 | 47 | | | 3 | |
| IP-7 stream | 10/22/97 | 47 | | | 2 | |

1996-1997 In-stream amphibian survey results, Yale Hydroelectric Project.

| Site Name | Date | Water/Soil Temp. | Substrate | Dist. from stream | Photo No. | Comments |
|------------------|----------|------------------|---------------|-------------------|-----------|---|
| IP-7 stream | 10/22/97 | 47 | | | 1 | |
| IP-7 stream | 10/22/97 | 47 | | | 1 | |
| IP-7 stream | 10/22/97 | 47 | | | 2.5 | |
| IP-7 stream | 10/22/97 | 47 | | | 2 | |
| IP-7 stream | 10/22/97 | 47 | | | 3 | |
| IP-7 stream | 10/22/97 | 47 | | | 1 | |
| IP-7 stream | 10/22/97 | 47 | | | 3 | |
| IP-7 stream | 10/22/97 | 47 | | | 2 | |
| IP-7 stream | 10/22/97 | 47 | | | 1 | |
| IP-7 stream | 10/22/97 | 47 | | | 1 | |
| IP-7 stream | 10/22/97 | 47 | | | 3 | |
| IP-7 stream | 10/22/97 | 47 | gravel/cobble | | 0 | in side channel to main stream, 47 degree water temp. |
| IP-7 stream | 10/22/97 | 47 | | | 2 | |
| IP-7 stream | 10/22/97 | 47 | | | 1 | |
| IP-7 stream | 10/22/97 | 47 | | | 1.5 | |
| IP-7 stream | 10/22/97 | 47 | | | 4 | |
| IP-7 stream | 10/22/97 | 47 | | | 2.5 | |
| IP-7 stream | 10/22/97 | 47 | | | 1.5 | |
| IP-7 stream | 10/22/97 | 47 | | | 1.5 | |
| IP-7 stream | 10/22/97 | 47 | | | 1 | |
| IP-7 stream | 10/22/97 | 47 | | | 2.5 | |
| IP-7 stream | 10/22/97 | 47 | | | 1.5 | |
| IP-7 stream | 10/22/97 | 47 | | | 3.5 | |
| IP-7 stream | 10/22/97 | 47 | | | 2 | |
| IP-7 stream | 10/22/97 | 47 | | | 2 | |
| IP-7 stream | 10/22/97 | 47 | | | 2 | |
| IP-7 stream | 10/22/97 | 47 | | | 1.5 | |
| IP-7 stream | 10/22/97 | 47 | | | 1 | |
| IP-7 stream | 10/22/97 | 47 | | | 1 | together with previous individual |
| IP-7 stream | 10/22/97 | 47 | | | 3 | |
| IP-7 stream | 10/22/97 | 47 | | | 3 | together with previous individual |
| IP-7 stream | 10/22/97 | 47 | | | 1 | |
| IP-7 stream | 10/22/97 | 47 | | | 1 | |
| IP-7 stream | 10/22/97 | 47 | | | 1 | together with previous individual |
| IP-7 stream | 10/22/97 | 47 | | | 5 | 3m from side stream, 5m from main stream |
| IP-7 stream | 10/22/97 | 47 | | | 1 | |
| IP-7 stream | 10/22/97 | 47 | | | 8 | |
| IP-7 stream | 10/22/97 | 47 | | | 1 | |
| IP-7 stream | 10/22/97 | 47 | | | 0.5 | |
| IP-7 stream | 10/22/97 | 47 | | | 0.5 | |
| IP-7 stream | 10/22/97 | 47 | | | 0.5 | |
| IP-7 stream | 10/22/97 | | | | | |
| IP-7 stream-trib | 4/10/97 | | gravel | | | |
| IP-8 stream | 5/2/97 | W=43F | | | 5 | |

1996-1997 In-stream amphibian survey results, Yale Hydroelectric Project.

| Site Name | Date | Water/Soil Temp. | Substrate | Dist. from stream | Photo No. | Comments |
|-------------|----------|------------------|-----------------|-------------------|-----------|-------------------------------|
| IP-8 stream | 5/2/97 | S=44F | | | 3 | |
| IP-8 stream | 5/2/97 | | | | 1.5 | |
| IP-8 stream | 5/2/97 | | | | 2 | |
| IP-8 stream | 5/2/97 | | | | 1 | |
| IP-8 stream | 5/2/97 | | bedrock | | 0 | |
| IP-8 stream | 5/2/97 | | | | 2 | |
| IP-8 stream | 5/2/97 | | | | 0.5 | |
| IP-8 stream | 5/2/97 | | | | 0 | escaped |
| IP-8 stream | 5/2/97 | | | | 0 | escaped |
| IP-8 stream | 5/2/97 | | | | 1 | escaped |
| IP-8 stream | 5/2/97 | | | | 0 | escaped |
| IP-8 stream | 5/2/97 | | | | 2 | |
| IP-8 stream | 5/2/97 | | | | 0 | |
| IP-8 stream | 5/2/97 | | rocks | | | escaped |
| IP-8 stream | 5/2/97 | | | | 2 | |
| IP-8 stream | 5/2/97 | | | | 1 | |
| IP-8 stream | 5/2/97 | | small rocks | | 0 | escaped |
| IP-8 stream | 5/2/97 | | | | 1 | |
| IP-8 stream | 5/2/97 | | | | 1 | |
| IP-8 stream | 5/2/97 | | | | 0.5 | |
| IP-8 stream | 5/2/97 | | | | 0 | |
| IP-8 stream | 5/2/97 | | rocks | | | |
| IP-8 stream | 5/2/97 | | rocks | | | escaped |
| IP-8 stream | 5/2/97 | | | | 1.5 | |
| IP-8 stream | 5/2/97 | | rock | | 0 | |
| IP-8 stream | 5/2/97 | | | | 1 | |
| IP-8 stream | 5/2/97 | | | | 1 | |
| IP-8 stream | 5/2/97 | | | | 0 | |
| IP-8 stream | 5/2/97 | | | | 8 | |
| IP-8 stream | 5/2/97 | | | | 5 | |
| IP-8 stream | 5/2/97 | | | | 5 | |
| IP-8 stream | 5/2/97 | | | | 5 | |
| IP-8 stream | 5/2/97 | | | | 0 | |
| IP-8 stream | 5/2/97 | | | | 0 | |
| IP-8 stream | 8/20/97 | | | | | |
| IP-8 stream | 8/20/97 | 51 | boulder, cobble | | | first 250 ft are dry creekbed |
| IP-8 stream | 8/20/97 | | | | | |
| IP-8 stream | 8/20/97 | 51 | boulder, cobble | | | |
| IP-8 stream | 8/20/97 | 51 | boulder, cobble | | | |
| IP-8 stream | 8/20/97 | 51 | boulder, cobble | | | |
| IP-8 stream | 8/20/97 | 51 | boulder, cobble | | | |
| IP-8 stream | 8/20/97 | 51 | boulder, cobble | | | all three in same pool |
| IP-8 stream | 8/20/97 | | | | | |
| IP-8 stream | 10/22/97 | | | | | |
| IP-8 stream | 10/22/97 | 45 | | | | |

1996-1997 In-stream amphibian survey results, Yale Hydroelectric Project.

| Site Name | Date | Water/Soil Temp. | Substrate | Dist. from stream | Photo No. | Comments |
|------------------------------|----------|------------------|-----------------|-------------------|-----------|--|
| IP-9 stream | 4/8/97 | | | | | |
| IP-9 stream | 5/1/97 | W=41F | cobl/grav/silt | | | on top |
| IP-9 stream | 5/1/97 | S=44F | | | 4 | |
| IP-9 stream | 5/1/97 | | | | 4 | |
| IP-9 stream | 5/1/97 | | 2 | | 2.5 | |
| IP-9 stream | 5/1/97 | | | | | |
| IP-9 stream | 5/1/97 | | 2 | | 2.5 | |
| IP-9 stream | 5/1/97 | | | | | |
| IP-9 stream | 5/1/97 | | | | 2 | |
| IP-9 stream | 5/1/97 | | | | | |
| IP-9 stream | 5/1/97 | | | | 2 | in narrow buffer |
| IP-9 stream | 5/1/97 | | | | | |
| IP-9 stream | 5/1/97 | | | | 1 | better buffer to rim |
| IP-9 stream | 5/1/97 | | | | | |
| IP-9 stream | 5/1/97 | | 2-3 | | 1 | cascades, 20% stream gradient |
| IP-9 stream | 5/1/97 | | | | 3.5 | |
| IP-9 stream | 5/1/97 | | | | | escaped |
| IP-9 stream | 5/1/97 | | | | | |
| IP-9 stream | 8/20/97 | | | | | |
| IP-9 stream | 8/20/97 | 56 | boulder, cobble | | | lower 376 ft of creek dry |
| IP-9 stream | 8/20/97 | | | | | |
| IP-9 stream | 10/21/97 | | | | | |
| IP-9 stream | 10/21/97 | 48 | | | | erosion most definitely from upstream clearcutting |
| IP-9 stream | 10/21/97 | 48 | | | | |
| IP-9 stream | 10/21/97 | 48 | | | | |
| IP-9 stream | 10/21/97 | 48 | | | | |
| IP-9 stream | 10/21/97 | 48 | | | | in riparian buffer of clearcut |
| IP-9 stream | 10/21/97 | 48 | | | | |
| IP-9 stream | 10/21/97 | 48 | | | | |
| IP-9 stream | 10/21/97 | 48 | | | | |
| IP-9 stream | 10/21/97 | 48 | | | | |
| IP-9 stream-sm. right branch | 4/8/97 | | | | | |
| IP-9 stream-sm. right branch | 4/8/97 | | | | | |
| IP-9 stream-sm. right branch | 4/8/97 | | | | | |
| Ole Creek | 4/7/97 | | | | | |
| Ole Creek | 8/21/97 | | | | | |
| Ole Creek | 8/21/97 | 56 | | | | |
| Ole Creek | 8/21/97 | 56 | | | | |
| Ole Creek | 8/21/97 | 56 | | | | |
| Ole Creek | 8/21/97 | 56 | | | | |
| Ole Creek | 8/21/97 | 56 | | | | found on walk down, no distance ideas |
| Ole Creek | 8/21/97 | | | | | |
| Panamaker | 4/11/97 | | | | | 10m to water |
| Panamaker | 4/11/97 | | | | | 10m to water |

1996-1997 In-stream amphibian survey results, Yale Hydroelectric Project.

| Site Name | Date | Water/Soil Temp. | Substrate | Dist. from stream | Photo No. | Comments |
|-----------------|----------|------------------|----------------|-------------------|-----------|---|
| Panamaker | 4/11/97 | | | | | 10m to water |
| Panamaker | 4/11/97 | | | | | 4m from water |
| Panamaker | 4/11/97 | | | | | 10m from water |
| Panamaker | 4/11/97 | | | | | 1m from water |
| Panamaker | 4/11/97 | | | | | |
| Panamaker | 4/11/97 | | | | | 9m from water |
| Panamaker | 4/11/97 | | | | | 10m from water |
| Panamaker | 4/11/97 | | | | | |
| Panamaker | 4/11/97 | | | | | |
| Panamaker | 4/29/97 | | | | 5 | |
| Panamaker | 4/29/97 | | | | 10 | |
| Panamaker | 4/29/97 | | | | | |
| Panamaker | 4/29/97 | | | | | |
| Panamaker | 4/29/97 | | | | | gravid |
| Panamaker | 4/29/97 | | | | | |
| Panamaker | 4/29/97 | | | | | |
| Panamaker | 4/29/97 | | | | | |
| Panamaker | 4/29/97 | | | | | |
| Panamaker | 4/29/97 | | | | | |
| Panamaker Creek | 4/7/97 | S=41F | | | | yellow stripe; scoured |
| Panamaker Creek | 4/7/97 | S=41F | log | | | |
| Panamaker Creek | 4/7/97 | S=41F | | | | |
| Panamaker Creek | 4/7/97 | S=41F | | | | small |
| Panamaker Creek | 4/7/97 | S=41F | | | | |
| Panamaker Creek | 4/7/97 | S=41F | | | | very small |
| Panamaker Creek | 4/7/97 | S=41F | | | | |
| Panamaker Creek | 4/7/97 | S=41F | | | | 1 small, 1 medium size |
| Panamaker Creek | 4/7/97 | | | | | |
| Panamaker Creek | 8/18/97 | | | | | |
| Panamaker Creek | 8/18/97 | 56 | cobble, gravel | | | deep bedrock-lined pools, exposed clearings, algae in exposures |
| Panamaker Creek | 10/23/97 | | | | | |
| Panamaker Creek | 10/23/97 | 47 | | | | |
| Panamaker Creek | 10/23/97 | 47 | | | | upstream of the alluvium from flood |
| Panamaker Creek | 10/23/97 | 47 | | | | at downstream end of canyon |
| Panamaker Creek | 10/23/97 | 47 | | | | at edge of spray zone |
| Panamaker Creek | 10/23/97 | 47 | | | | on vertical cliff |
| Panamaker Creek | 10/23/97 | 47 | | | | |
| Panamaker Creek | 10/23/97 | | | | | |
| Rain Creek | 4/7/97 | S=9C | soil | | | |
| Rain Creek | 4/7/97 | | | | | steep bank |
| Rain Creek | 4/7/97 | | | | | |
| Rain Creek | 4/7/97 | | | | | |
| Speelyai Creek | 4/4/97 | S=45F | soil | | | edge of alnus, prunus, cedar |
| Speelyai Creek | 4/4/97 | | grass | | | near bridge at 900' |
| Speelyai Creek | 4/4/97 | S=45F | log | | | 6 m from shore |

1996-1997 In-stream amphibian survey results, Yale Hydroelectric Project.

| Site Name | Date | Water/Soil Temp. | Substrate | Dist. from stream | Photo No. | Comments |
|----------------|---------|------------------|----------------|-------------------|-----------|---|
| Speelyai Creek | 4/4/97 | S=45F | stump | | | 3 m from water |
| Speelyai Creek | 4/4/97 | S=44F | log | | | 7 m from water |
| Speleyai Creek | 8/21/97 | | | | | |
| Speleyai Creek | 8/21/97 | 63 | cobble, gravel | | | at upstream end of recent channel maintenance |
| Speleyai Creek | 8/21/97 | | | | | |

Appendix 4.3-3

Seasonal Survey Data by Plot and Survey

Yale Hydroelectric Project, Seasonal Wildlife Surveys: Lodgepole Pine

| Species | Spring 1996 | | | | | Summer 1996 | | | | | Fall 1996 | | | | |
|-----------------------------|--------------|-----|-----|-------|------------------------|--------------|-----|-----|-------|------------------------|--------------|-----|-----|-------|------------------------|
| | No. Observed | | | | Relative Abundance (%) | No. Observed | | | | Relative Abundance (%) | No. Observed | | | | Relative Abundance (%) |
| | 1-1 | 1-2 | 1-3 | Total | | 1-1 | 1-2 | 1-3 | Total | | 1-1 | 1-2 | 1-3 | Total | |
| AMERICAN CROW | | | | | | | 1 | | 1 | 5.3 | | | | | |
| AMERICAN ROBIN | | 1 | 1 | 2 | 16.7 | 1 | | 1 | 2 | 1.5 | | 2 | 2 | 4 | 21.5 |
| BLACK-CAPPED CHICKADEE | 1 | | | 1 | 8.3 | | | | | | | | | | |
| BLACK-CHINNED HUMMINGBIRD | | | 1 | 1 | 8.3 | | | | | | | | | | |
| BLACK-THROATED GRAY WARBLER | 1 | | 1 | 2 | 16.7 | 1 | | | 1 | 5.3 | | | | | |
| CHESTNUT-BACKED CHICKADEE | | | | | | | | | | | | | 3 | 3 | 15.8 |
| CHICKADEE (SP.) | | | | | | | | | | | 3 | | 4 | 7 | 36.8 |
| COMMON FLICKER | | | | | | | | | | | | | | | |
| DARK-EYED JUNCO | | 2 | | 2 | 16.7 | 3 | 2 | 2 | 7 | 36.8 | | | | | |
| GOLDEN-CROWNED KINGLET | | | | | | | | | | | | | 1 | 1 | 5.3 |
| HAMMOND'S FLYCATCHER | | 2 | | 2 | 16.7 | | | | | | | | | | |
| HUMMINGBIRD (SP.) | | | | | | | 1 | | 1 | 5.3 | | | | | |
| MOUNTAIN CHICKADEE | | | | | | | | | | | | | 2 | 2 | 1.5 |
| RED-BREASTED NUTHATCH | | | | | | | | | | | | | | | |
| RUBY-CROWNED KINGLET | | | | | | | | | | | | | 2 | 2 | 1.5 |
| RUFOUS HUMMINGBIRD | | | | | | | | | | | | | | | |
| SCRUB JAY | | | | | | | | 1 | 1 | 5.3 | | | | | |
| STELLER'S JAY | | | | | | 1 | 4 | | 5 | 26.3 | | | | | |
| SWAINSON'S THRUSH | 1 | | | 1 | 8.3 | | | | | | | | | | |
| WARBLING VIREO | | | | | | 1 | | | 1 | 5.3 | | | | | |
| WHITE-CROWNED SPARROW | 1 | | | 1 | 8.3 | | | | | | | | | | |
| WINTER WREN | | | | | | | | | | | | | | | |
| Total No. of Individuals | 4.0 | 5 | 3 | 12 | | 7 | 8 | 4 | 19 | | 3 | 2 | 14 | 19 | |
| Total No. of Species | 4 | 3 | 3 | 8 | | 5 | 4 | 3 | 8 | | 1 | 1 | 6 | 6 | |
| Mean Species Richness | | | | 3.3 | | | | | 4.0 | | | | | 2.7 | |

Mammals or Mammal Sign Observed During Seasonal Surveys

| | | | | | | | | | | | | | | | |
|---------------------|---|--|---|--|--|---|---|---|--|--|---|--|--|--|--|
| BLACK-TAILED DEER** | X | | X | | | | X | | | | X | | | | |
| DOUGLAS SQUIRREL | X | | X | | | X | X | X | | | X | | | | |
| ELK** | X | | X | | | | X | | | | X | | | | |

Yale Hydroelectric Project, Seasonal Wildlife Surveys: Lodgepole Pine

| Species | Breeding Season 1996-1997 | | Fall 1996-1997 | | Winter 1997-1998 | |
|-----------------------------|---------------------------|------------------------|--------------------|------------------------|--------------------|------------------------|
| | Total No. Observed | Relative Abundance (%) | Total No. Observed | Relative Abundance (%) | Total No. Observed | Relative Abundance (%) |
| AMERICAN CROW | 1 | 1.5 | | | 1 | 6.7 |
| AMERICAN ROBIN | 7 | 9.9 | 6 | 15.8 | | |
| BLACK-CAPPED CHICKADEE | 1 | 1.5 | | | | |
| BLACK-CHINNED HUMMINGBIRD | 1 | 1.5 | | | | |
| BLACK-THROATED GRAY WARBLER | 3 | 4.2 | | | | |
| CHESTNUT-BACKED CHICKADEE | 3 | 4.2 | 5 | 13.2 | | |
| CHICKADEE (SP.) | | | 7 | 18.4 | | |
| COMMON FLICKER | 2 | 2.8 | 1 | 2.6 | | |
| DARK-EYED JUNCO | 25 | 35.2 | 3 | 7.9 | 10 | 66.7 |
| GOLDEN-CROWNED KINGLET | 3 | 4.2 | 8 | 21.5 | 2 | 13.3 |
| HAMMOND'S FLYCATCHER | 3 | 4.2 | | | | |
| HUMMINGBIRD (SP.) | 2 | 2.8 | | | | |
| MOUNTAIN CHICKADEE | | | 2 | 5.3 | | |
| RED-BREASTED NUTHATCH | 1 | 1.5 | | | | |
| RUBY-CROWNED KINGLET | | | 2 | 5.3 | | |
| RUFOUS HUMMINGBIRD | 5 | 7.4 | | | | |
| SCRUB JAY | 1 | 1.5 | | | | |
| STELLER'S JAY | 8 | 11.3 | 4 | 1.5 | 1 | 6.7 |
| SWAINSON'S THRUSH | 1 | 1.5 | | | | |
| WARBLING VIREO | 2 | 2.8 | | | | |
| WHITE-CROWNED SPARROW | 1 | 1.5 | | | | |
| WINTER WREN | 1 | 1.5 | | | 1 | 6.7 |
| Total No. of Individuals | 71 | | 38 | | 15.0 | |
| Total No. of Species | 19 | | 9 | | 5 | |
| Mean Species Richness | 3.6 | | 6.3 | | 1.3 | |

Mammals or Mammal Sign Observed During Seasonal Surveys

| | | | | | | |
|---------------------|--|--|--|--|--|--|
| BLACK-TAILED DEER** | | | | | | |
| DOUGLAS SQUIRREL | | | | | | |
| ELK** | | | | | | |

Yale Hydroelectric Project, Seasonal Surveys: Mature Conifer

| Species | Spring 1996 | | | | Summer 1996 | | | | Fall 1996 | | | |
|-----------------------------|--------------|-----|-------|------------------------|--------------|-----|-------|------------------------|--------------|-----|-------|------------------------|
| | No. Observed | | | Relative Abundance (%) | No. Observed | | | Relative Abundance (%) | No. Observed | | | Relative Abundance (%) |
| | 1-1 | 2-1 | Total | | 1-1 | 2-1 | Total | | 1-1 | 2-1 | Total | |
| BLACK-CAPPED CHICKADEE | | 3 | 3 | 25.0 | 2 | | 2 | 16.7 | 1 | | 1 | 6.3 |
| BLACK-THROATED GRAY WARBLER | | | | | 1 | | 1 | 8.3 | | | | |
| BROWN CREEPER | | | | | | | | | | | | |
| CHESTNUT-BACKED CHICKADEE | 4 | | 4 | 33.3 | | 3 | 3 | 25.0 | | | | |
| CHICKADEE (SP.) | | | | | | | | | 3 | 2 | 5 | 31.3 |
| DARK-EYED JUNCO | | | | | | | | | | | | |
| GOLDEN-CROWNED KINGLET | 1 | | 1 | 8.3 | | | | | 6 | 1 | 7 | 43.8 |
| HAIRY WOODPECKER | | | | | | | | | | | | |
| HAMMOND'S FLYCATCHER | 1 | | 1 | 8.3 | | | | | | | | |
| HERMIT WARBLER | | | | | | | | | | | | |
| PACIFIC SLOPE FLYCATCHER | | | | | | 1 | 1 | 8.3 | | | | |
| RED-BREASTED NUTHATCH | | | | | 2 | | 2 | 16.7 | | | | |
| STELLER'S JAY | | 1 | 1 | 8.3 | | | | | | | | |
| SWAINSON'S THRUSH | | | | | | | | | | | | |
| TOWNSEND'S WARBLER | | | | | | 1 | 1 | 8.3 | | | | |
| WESTERN Tanager | | | | | | | | | | | | |
| WINTER WREN | 2 | | 2 | 16.7 | 1 | 1 | 2 | 16.7 | 1 | 2 | 3 | 18.8 |
| Total No. of Individuals | 8 | 4 | 12 | | 6 | 6 | 12 | | 11 | 5 | 16 | |
| Total No. of Species | 4 | 2 | 6 | | 4 | 4 | 7 | | 4 | 3 | 4 | |
| Mean Species Richness | | | 3.0 | | | | 4.0 | | | | 3.5 | |

Mammals or Mammal Sign Observed During Seasonal Surveys

| | | | | | | | | | | | | |
|------------------|--|---|--|--|---|---|---|--|---|---|---|--|
| COYOTE | | | | | | | | | | | | |
| DOUGLAS SQUIRREL | | | | | X | | X | | X | X | X | |
| ELK** | | X | | | | X | X | | | | | |

Yale Hydroelectric Project, Seasonal Surveys: Mature Conifer

| Species | Winter 1997 | | | | Spring 1997 | | | | Summer 1997 | | | |
|-----------------------------|--------------|-----|-------|------------------------|--------------|-----|-------|------------------------|--------------|-----|-------|------------------------|
| | No. Observed | | | Relative Abundance (%) | No. Observed | | | Relative Abundance (%) | No. Observed | | | Relative Abundance (%) |
| | 1-1 | 1~2 | Total | | 1-1 | 1~2 | Total | | 1-1 | 2-1 | Total | |
| BLACK-CAPPED CHICKADEE | | | | | | | | | | | | |
| BLACK-THROATED GRAY WARBLER | | | | | | | | | | | | |
| BROWN CREEPER | | | | | | 2 | 2 | 25.0 | | | | |
| CHESTNUT-BACKED CHICKADEE | | | | | 1 | | 1 | 12.5 | 1 | | 1 | 11.1 |
| CHICKADEE (SP.) | | | | | | | | | | | | |
| DARK-EYED JUNCO | | | | | | | | | | | | |
| GOLDEN-CROWNED KINGLET | 1 | | 1 | 50.0 | | | | | | | | |
| HAIRY WOODPECKER | | | | | | | | | | | | |
| HAMMOND'S FLYCATCHER | | | | | | | | | | | | |
| HERMIT WARBLER | | | | | 1 | | 1 | 12.5 | | | | |
| PACIFIC SLOPE FLYCATCHER | | | | | 2 | 1 | 3 | 37.5 | 2 | | 2 | 22.2 |
| RED-BREASTED NUTHATCH | | | | | | | | | | | | |
| STELLER'S JAY | | | | | | | | | | | | |
| SWAINSON'S THRUSH | | | | | | | | | 1 | | 1 | 11.1 |
| TOWNSEND'S WARBLER | | | | | | | | | | | | |
| WESTERN TANAGER | | | | | | | | | 1 | | 1 | 11.1 |
| WINTER WREN | 1 | | 1 | 50.0 | 1 | | 1 | 12.5 | 1 | 3 | 4 | 44.4 |
| | | | | | | | | | | | | |
| Total No. of Individuals | 2 | 0 | 2 | | 5 | 3 | 8 | | 6 | 3 | 9 | |
| Total No. of Species | 2 | 0 | 2 | | 4 | 2 | 5 | | 5 | 1 | 5 | |
| Mean Species Richness | | 0 | 2.0 | | | | 3.0 | | | | 3.0 | |

Mammals or Mammal Sign Observed During Seasonal Surveys

| | | | | | | | | | | | | |
|------------------|---|---|---|--|--|---|--|--|--|--|--|--|
| COYOTE | | | | | | | | | | | | |
| DOUGLAS SQUIRREL | | X | | | | | | | | | | |
| ELK** | X | | X | | | X | | | | | | |

Yale Hydroelectric Project, Seasonal Surveys: Mature Conifer

| Species | Breeding Season 1996-1997 | | Fall 1996-1997 | | Winter 1997-1998 | |
|-----------------------------|---------------------------|------------------------|--------------------|------------------------|--------------------|------------------------|
| | Total No. Observed | Relative Abundance (%) | Total No. Observed | Relative Abundance (%) | Total No. Observed | Relative Abundance (%) |
| BLACK-CAPPED CHICKADEE | 5 | 12.2 | 1 | 3.1 | | |
| BLACK-THROATED GRAY WARBLER | 1 | 2.4 | | | | |
| BROWN CREEPER | 2 | 4.9 | 1 | 3.1 | | |
| CHESTNUT-BACKED CHICKADEE | 9 | 22.0 | | | 2 | 13.3 |
| CHICKADEE (SP.) | | | 6 | 18.8 | | |
| DARK-EYED JUNCO | | | 1 | 3.1 | 2 | 13.3 |
| GOLDEN-CROWNED KINGLET | 1 | 2.4 | 15 | 46.9 | 7 | 46.7 |
| HAIRY WOODPECKER | | | 1 | 3.1 | | |
| HAMMOND'S FLYCATCHER | 1 | 2.4 | | | | |
| HERMIT WARBLER | 1 | 2.4 | | | | |
| PACIFIC SLOPE FLYCATCHER | 6 | 14.6 | | | | |
| RED-BREASTED NUTHATCH | 2 | 4.9 | | | | |
| STELLER'S JAY | 1 | 2.4 | 1 | 3.1 | | |
| SWAINSON'S THRUSH | 1 | 2.4 | | | | |
| TOWNSEND'S WARBLER | 1 | 2.4 | | | | |
| WESTERN TANAGER | 1 | 2.4 | | | | |
| WINTER WREN | 9 | 22.0 | 6 | 18.8 | 4 | 26.7 |
| | | | | | | |
| Total No. of Individuals | 41 | | 32 | | 15 | |
| Total No. of Species | 14 | | 8 | | 4 | |
| Mean Species Richness | 3.3 | | 3.8 | | 1.5 | |

Mammals or Mammal Sign Observed During Seasonal Surveys

| | | | | | | |
|------------------|--|--|--|--|---|--|
| COYOTE | | | | | | |
| DOUGLAS SQUIRREL | | | | | | |
| ELK** | | | | | X | |

Yale Hydroelectric Project, Seasonal Wildlife Surveys: Meadow

| Species | Winter 1997 | | | Spring 1997 | | | Summer 1997 | | |
|-----------------------------|--------------|-------|------------------------|--------------|-------|------------------------|--------------|-------|------------------------|
| | No. Observed | | Relative Abundance (%) | No. Observed | | Relative Abundance (%) | No. Observed | | Relative Abundance (%) |
| | 1-1 | Total | | 1-1 | Total | | 1-1 | Total | |
| AMERICAN ROBIN | | | | | | | | | |
| BARN SWALLOW | | | | | 0 | | 2 | 2 | 18.2 |
| BLACK-CAPPED CHICKADEE | | | | | | | 1 | 1 | 9.1 |
| BLACK-THROATED GRAY WARBLER | | | | 1 | 1 | 12.5 | | | |
| CEDAR WAXWING | | | | | | | | | |
| COMMON YELLOWTHROAT | | | | 2 | 2 | 25 | 1 | 1 | 9.1 |
| DARK-EYED JUNCO | | | | 1 | 1 | 12.5 | | | |
| GOLDEN-CROWNED KINGLET | | | | | | | 1 | 1 | 9.1 |
| GOLDEN-CROWNED SPARROW | | | | | | | | | |
| MACGILLIVARY'S WARBLER | | | | 2 | 2 | 25 | 1 | 1 | 9.1 |
| OLIVE-SIDED FLYCATCHER | | | | | | | | | |
| PACIFIC SLOPE FLYCATCHER | | | | | | | 1 | 1 | 9.1 |
| RUFOUS HUMMINGBIRD | | | | | | | | | |
| SONG SPARROW | | | | | | | | | |
| SPOTTED TOWHEE | | | | | | | | | |
| STELLER'S JAY | | | | | | | | | |
| WESTERN TANAGER | | | | | | | 1 | 1 | 9.1 |
| WHITE-CROWNED SPARROW | | | | | | | | | |
| WILLOW FLYCATCHER | | | | 1 | 1 | 12.5 | 3 | 3 | 27.3 |
| WILSON'S WARBLER | | | | 1 | 1 | 12.5 | | | |
| WINTER WREN | | | | | | | | | |
| Total No. of Individuals | 0 | 0 | | 8 | 8 | | 11 | 11 | |
| Total No. of Species | 0 | 0 | | 6 | 6 | | 8 | 8 | |
| Mean Species Richness | | 0.0 | | | 6.0 | | | 8.0 | |

Mammals or Mammal Sign Observed During Seasonal Surveys

| | | | | | | | | | |
|--------|---|---|--|--|--|--|--|--|--|
| BEAVER | X | X | | | | | | | |
|--------|---|---|--|--|--|--|--|--|--|

Yale Hydroelectric Project, Seasonal Wildlife Surveys: Meadow

| Species | Fall 1997 | | | Winter 1998 | | |
|-----------------------------|--------------|-------|------------------------|--------------|-------|------------------------|
| | No. Observed | | Relative Abundance (%) | No. Observed | | Relative Abundance (%) |
| | 1-1 | Total | | 1-1 | Total | |
| AMERICAN ROBIN | | | | 2 | 2 | 33.3 |
| BARN SWALLOW | | | | | | |
| BLACK-CAPPED CHICKADEE | | | | | | |
| BLACK-THROATED GRAY WARBLER | | | | | | |
| CEDAR WAXWING | | | | | | |
| COMMON YELLOWTHROAT | | | | | | |
| DARK-EYED JUNCO | | | | | | |
| GOLDEN-CROWNED KINGLET | | | | | | |
| GOLDEN-CROWNED SPARROW | 2 | 2 | 20.0 | | | |
| MACGILLIVARY'S WARBLER | | | | | | |
| OLIVE-SIDED FLYCATCHER | | | | | | |
| PACIFIC SLOPE FLYCATCHER | | | | | | |
| RUFIOUS HUMMINGBIRD | | | | | | |
| SONG SPARROW | 2 | 2 | 20.0 | | | |
| SPOTTED TOWHEE | 4 | 4 | 40.0 | | | |
| STELLER'S JAY | | | | 2 | 2 | 33.3 |
| WESTERN TANAGER | | | | | | |
| WHITE-CROWNED SPARROW | | | | | | |
| WILLOW FLYCATCHER | | | | | | |
| WILSON'S WARBLER | | | | | | |
| WINTER WREN | 2 | 2 | 20.0 | 2 | 2 | 33.3 |
| | | | | | | |
| Total No. of Individuals | 10 | 10 | | 6 | 6 | |
| Total No. of Species | 4 | 4 | | 3 | 3 | |
| Mean Species Richness | | 4.0 | | | 3.0 | |

Mammals or Mammal Sign Observed During Seasonal Surveys

| | | | | | | |
|--------|--|--|--|--|--|--|
| BEAVER | | | | | | |
|--------|--|--|--|--|--|--|

Yale Hydroelectric Project, Seasonal Wildlife Surveys: Meadow

| Species | Breeding Season 1996-1997 | | Fall 1996-1997 | | Winter 1997-1998 | |
|-----------------------------|---------------------------|------------------------|--------------------|------------------------|--------------------|------------------------|
| | Total No. Observed | Relative Abundance (%) | Total No. Observed | Relative Abundance (%) | Total No. Observed | Relative Abundance (%) |
| AMERICAN ROBIN | | | | | 2 | 33.3 |
| BARN SWALLOW | 2 | 4.0 | | | | |
| BLACK-CAPPED CHICKADEE | 1 | 2.0 | | | | |
| BLACK-THROATED GRAY WARBLER | 1 | 2.0 | | | | |
| CEDAR WAXWING | 2 | 4.0 | | | | |
| COMMON YELLOWTHROAT | 11 | 22.0 | | | | |
| DARK-EYED JUNCO | 1 | 2.0 | | | | |
| GOLDEN-CROWNED KINGLET | 1 | 2.0 | | | | |
| GOLDEN-CROWNED SPARROW | | | 2.0 | 15.4 | | |
| MACGILLIVARY'S WARBLER | 4 | 8.0 | | | | |
| OLIVE-SIDED FLYCATCHER | 1 | 2.0 | | | | |
| PACIFIC SLOPE FLYCATCHER | 1 | 2.0 | | | | |
| RUFIOUS HUMMINGBIRD | 1 | 2.0 | | | | |
| SONG SPARROW | | | 5.0 | 38.5 | | |
| SPOTTED TOWHEE | | | 4.0 | 30.8 | | |
| STELLER'S JAY | 2 | 4.0 | | | 2 | 33.3 |
| WESTERN TANAGER | 1 | 2.0 | | | | |
| WHITE-CROWNED SPARROW | 1 | 2.0 | | | | |
| WILLOW FLYCATCHER | 15 | 30.0 | | | | |
| WILSON'S WARBLER | 5 | 10.0 | | | | |
| WINTER WREN | | | 2.0 | 15.4 | 2 | 33.3 |
| Total No. of Individuals | 50 | | 13 | | 6 | |
| Total No. of Species | 16 | | 4 | | 3 | |
| Mean Species Richness | 6.3 | | 2.5 | | 1.5 | |

Mammals or Mammal Sign Observed During Seasonal Surveys

| | | | | | | |
|--------|--|--|--|--|--|--|
| BEAVER | | | | | | |
|--------|--|--|--|--|--|--|

Yale Hydroelectric Project, Seasonal Wildlife Surveys: Mid-Successional Conifer

| Species | Breeding Season 1996-1997 | | Fall 1996-1997 | | Winter 1997-1998 | |
|-----------------------------|---------------------------|------------------------|--------------------|------------------------|--------------------|------------------------|
| | Total No. Observed | Relative Abundance (%) | Total No. Observed | Relative Abundance (%) | Total No. Observed | Relative Abundance (%) |
| AMERICAN ROBIN | 1.0 | 0.9 | | | | |
| BLACK-CAPPED CHICKADEE | 3.0 | 2.8 | | | | |
| BLACK-HEADED GROSBEAK | 1.0 | 0.9 | | | | |
| BLACK-THROATED GRAY WARBLER | 18 | 16.7 | | | | |
| CEDAR WAXWING | 1 | 0.9 | | | | |
| CHESTNUT-BACKED CHICKADEE | 8 | 7.4 | 4 | 5.8 | 4 | 9.3 |
| COMMON RAVEN | | | 1 | 1.4 | | |
| DARK-EYED JUNCO | 1 | 0.9 | | | 4 | 9.3 |
| GOLDEN-CROWNED KINGLET | 2 | 1.9 | 30 | 43.5 | 19 | 44.2 |
| HAIRY WOODPECKER | 1 | 0.9 | 1 | 1.4 | | |
| HAMMOND'S FLYCATCHER | 1 | 0.9 | | | | |
| PACIFIC SLOPE FLYCATCHER | 12 | 11.1 | | | | |
| PURPLE FINCH | 1 | 0.9 | | | | |
| RUFIOUS HUMMINGBIRD | 1 | 0.9 | | | | |
| SONG SPARROW | 2 | 1.9 | | | | |
| SPOTTED TOWHEE | 4 | 3.7 | | | | |
| STELLER'S JAY | 4 | 3.7 | 4 | 5.8 | 3 | 7.0 |
| SWAINSON'S THRUSH | 7 | 6.5 | | | | |
| VARIED THRUSH | | | 1 | 1.4 | | |
| WESTERN TANAGER | 4 | 3.7 | | | | |
| WHITE-CROWNED SPARROW | 1 | 0.9 | | | | |
| WILSON'S WARBLER | 4 | 3.7 | | | | |
| WINTER WREN | 31 | 28.7 | 27 | 39.1 | 13 | 30.2 |
| WOODPECKER (SP.) | | | 1 | 1.4 | | |
| | | | | | | |
| Total No. of Individuals | 108 | | 69 | | 43 | |
| Total No. of Species | 21 | | 8 | | 5 | |
| Mean Species Richness | 4.3 | | 2.9 | | 1.9 | |

Mammals or Mammal Sign Observed During Seasonal Surveys

| | | | | | | |
|---------------------|--|--|--|--|---|--|
| BLACK-TAILED DEER** | | | | | | |
| DOUGLAS SQUIRREL | | | | | X | |
| ELK** | | | | | | |

Yale Hydroelectric Project, Seasonal Wildlife Surveys: Mixed Conifer/Deciduous

| Species | Winter 1997 | | | | | Spring 1997 | | | | | Summer 1997 | | | | |
|-----------------------------|--------------|-----|-----|-------|------------------------|--------------|-----|-----|-------|------------------------|--------------|-----|-----|-------|------------------------|
| | No. Observed | | | | Relative Abundance (%) | No. Observed | | | | Relative Abundance (%) | No. Observed | | | | Relative Abundance (%) |
| | 1-1 | 2-1 | 2-2 | Total | | 1-1 | 2-1 | 2-2 | Total | | 1-1 | 2-1 | 2-2 | Total | |
| AMERICAN CROW | | | | | | | | | | | | 1 | 1 | 2.7 | |
| AMERICAN ROBIN | | | | | | | | | | | 1 | | 1 | 2.7 | |
| BLACK-CAPPED CHICKADEE | 1 | | | 1 | 11.1 | 1 | | | 1 | 3.7 | | | | | |
| BLACK-THROATED GRAY WARBLER | | | | | | 1 | 1 | | 2 | 7.4 | 1 | 3 | 1 | 5 | 13.5 |
| CEDAR WAXWING | | | | | | | | | | | 2 | | | 2 | 5.4 |
| CHESTNUT-BACKED CHICKADEE | | | | | | | | | | | | | | | |
| CHICKADEE (SP.) | | 2 | | 2 | 22.2 | | | | | | | | | | |
| COMMON FLICKER | | | | | | | | | | | | | | | |
| DARK-EYED JUNCO | | | | | | | | | | | 2 | | | 2 | 5.4 |
| DOWNY WOODPECKER | | | | | | | | | | | | | | | |
| FLYCATCHER (SP.) | | | | | | | | | | | | | | | |
| GOLDEN-CROWNED KINGLET | | | 1 | 1 | 11.1 | 1 | 1 | | 2 | 7.4 | | | 2 | 2 | 5.4 |
| HAMMOND'S FLYCATCHER | | | | | | | 2 | 1 | 3 | 11.1 | | | | | |
| HERMIT THRUSH | | | | | | | | | | | | 1 | | 1 | 2.7 |
| HUTTON'S VIREO | | | | | | | | | | | | | | | |
| MACGILLIVARY'S WARBLER | | | | | | | | 1 | 1 | 3.7 | | 1 | | 1 | 2.7 |
| MOUNTAIN CHICKADEE | | | | | | | | | | | | | | | |
| PACIFIC SLOPE FLYCATCHER | | | | | | 1 | 2 | 1 | 4 | 14.8 | 3 | 2 | 2 | 7 | 18.9 |
| RUBY-CROWNED KINGLET | | | | | | | | | | | | | | | |
| SONG SPARROW | | 1 | | 1 | 11.1 | | | | | | | | 1 | 1 | 2.7 |
| STELLER'S JAY | | | | | | | | 1 | 1 | 3.7 | | | 1 | 1 | 2.7 |
| SWAINSON'S THRUSH | | | | | | | 1 | | 1 | 3.7 | 2 | | 1 | 3 | 8.1 |
| VARIED THRUSH | | | | | | | | | | | | | | | |
| WARBLING VIREO | | | | | | 1 | 2 | 1 | 4 | 14.8 | 1 | 1 | | 2 | 5.4 |
| WESTERN TANAGER | | | | | | 1 | | | 1 | 3.7 | | 1 | 1 | 2 | 5.4 |
| WHITE-CROWNED SPARROW | | | | | | | | | | | | | | | |
| WILLOW FLYCATCHER | | | | | | | | | | | | | 1 | 1 | 2.7 |
| WILSON'S WARBLER | | | | | | | 1 | | 1 | 3.7 | | | | | |
| WINTER WREN | 2 | | 2 | 4 | 44.4 | 2 | 3 | | 5 | 18.5 | 2 | 1 | 2 | 5 | 13.5 |
| YELLOW-RUMPED WARBLER | | | | | | 1 | | | 1 | 3.7 | | | | | |
| Total No. of Individuals | 3 | 3 | 3 | 9 | | 9 | 13 | 5 | 27 | | 13 | 11 | 13 | 37 | |
| Total No. of Species | 2 | 2 | 2 | 5 | | 8 | 8 | 5 | 13 | | 7 | 8 | 10 | 16 | |
| Mean Species Richness | | | | 2.0 | | | | | 7.0 | | | | | 8.3 | |

Mammals or Mammal Sign Observed During Seasonal Surveys

| | | | | | | | | | | | | | | | |
|---------------------|---|--|---|---|--|--|---|--|---|--|---|--|--|---|--|
| BLACK-TAILED DEER** | | | X | X | | | | | | | | | | | |
| BLACK BEAR | | | | | | | | | | | | | | | |
| DOUGLAS SQUIRREL | | | | | | | X | | X | | | | | | |
| ELK** | X | | | X | | | | | | | | | | | |
| SQUIRREL (SP.) | | | | | | | | | | | X | | | X | |

Yale Hydroelectric Project, Seasonal Wildlife Surveys: Mixed Conifer/Deciduous

| Species | Breeding Season 1996-1997 | | Fall 1996-1997 | | Winter 1997-1998 | |
|-----------------------------|---------------------------|------------------------|--------------------|------------------------|--------------------|------------------------|
| | Total No. Observed | Relative Abundance (%) | Total No. Observed | Relative Abundance (%) | Total No. Observed | Relative Abundance (%) |
| AMERICAN CROW | 2 | 1.9 | | | | |
| AMERICAN ROBIN | 5 | 4.8 | 2 | 6.1 | | |
| BLACK-CAPPED CHICKADEE | 3 | 2.9 | | | 1 | 3.6 |
| BLACK-THROATED GRAY WARBLER | 12 | 11.4 | | | | |
| CEDAR WAXWING | 2 | 1.9 | | | | |
| CHESTNUT-BACKED CHICKADEE | | | 2 | 6.1 | 2 | |
| CHICKADEE (SP.) | 1 | 1.0 | 10 | 30.3 | 2 | 7.1 |
| COMMON FLICKER | 1 | 1.0 | 1 | 3.0 | | |
| DARK-EYED JUNCO | 4 | 3.8 | 1 | 3.0 | 2 | |
| DOWNY WOODPECKER | | | 1 | 3.0 | | |
| FLYCATCHER (SP.) | 2 | 1.9 | | | | |
| GOLDEN-CROWNED KINGLET | 4 | 3.8 | 5 | 15.2 | 3 | 10.7 |
| HAMMOND'S FLYCATCHER | 3 | 2.9 | | | | |
| HERMIT THRUSH | 1 | 1.0 | | | | |
| HUTTON'S VIREO | 1 | 1.0 | | | | |
| MACGILLIVARY'S WARBLER | 2 | 1.9 | | | | |
| MOUNTAIN CHICKADEE | | | 1 | 3.0 | | |
| PACIFIC SLOPE FLYCATCHER | 21 | 20.0 | | | | |
| RUBY-CROWNED KINGLET | | | 2 | 6.1 | | |
| SONG SPARROW | 1 | 1.0 | | | 1 | 3.6 |
| STELLER'S JAY | 2 | 1.9 | | | | |
| SWAINSON'S THRUSH | 7 | 6.7 | | | | |
| VARIED THRUSH | | | | | 5 | 17.9 |
| WARBLING VIREO | 7 | 6.7 | | | | |
| WESTERN TANAGER | 3 | 2.9 | | | | |
| WHITE-CROWNED SPARROW | 1 | 1.0 | | | | |
| WILLOW FLYCATCHER | 4 | 3.8 | | | | |
| WILSON'S WARBLER | 1 | 1.0 | | | | |
| WINTER WREN | 14 | 13.3 | 8 | 24.2 | 12 | 42.9 |
| YELLOW-RUMPED WARBLER | 1 | 1.0 | | | | |
| | | | | | | |
| Total No. of Individuals | 105 | | 33 | | 28 | |
| Total No. of Species | 25 | | 10 | | 8 | |
| Mean Species Richness | 6.3 | | 2.7 | | 2.3 | |

Mammals or Mammal Sign Observed During Seasonal Surveys

| | | | | | | |
|---------------------|--|--|--|--|---|--|
| BLACK-TAILED DEER** | | | | | X | |
| BLACK BEAR | | | | | | |
| DOUGLAS SQUIRREL | | | | | | |
| ELK** | | | | | | |
| SQUIRREL (SP.) | | | | | | |

Yale Hydroelectric Project, Seasonal Wildlife Surveys: Old-growth Conifer

| Species | Spring 1996 | | | | | Summer 1996 | | | | | Fall 1996 | | | | |
|-----------------------------|--------------|-----|-----|-------|------------------------|--------------|-----|-----|-------|------------------------|--------------|-----|-----|-------|------------------------|
| | No. Observed | | | | Relative Abundance (%) | No. Observed | | | | Relative Abundance (%) | No. Observed | | | | Relative Abundance (%) |
| | 1-1 | 2-1 | 2-2 | Total | | 1-1 | 2-1 | 2-2 | Total | | 1-1 | 2-1 | 2-2 | Total | |
| AMERICAN CROW | | | | | | | | | | | | 1 | 1 | 3.4 | |
| AMERICAN ROBIN | | | | | | 1 | | | 1 | 7.1 | 1 | | 1 | 3.4 | |
| BALD EAGLE*** | | | | | | | | | | | | | | | |
| BLACK-CAPPED CHICKADEE | | | | | | | | | | | | | | | |
| BLACK-THROATED GRAY WARBLER | | | | | | | | | | | | | | | |
| BROWN CREEPER | | | | | | | | | | | | 1 | 1 | 3.4 | |
| CHESTNUT-BACKED CHICKADEE | | | | | | | 2 | 2 | 4 | 28.6 | | | | | |
| CHICKADEE (SP.) | | | | | | | | | | | | 3 | 3 | 10.3 | |
| DARK-EYED JUNCO | | | 1 | 1 | 12.5 | | | | | | | | | | |
| DOWNY WOODPECKER | | | | | | | | | | | | | | | |
| EVENING GROSBEAK | | | | | | | | | | | | 1 | 1 | 3.4 | |
| GOLDEN-CROWNED KINGLET | | 1 | | 1 | 12.5 | | | | | | 3 | 2 | 2 | 7 | 24.1 |
| HAIRY WOODPECKER | | | | | | 1 | | | 1 | 7.1 | | | | | |
| HAMMOND'S FLYCATCHER | | | | | | 1 | | | 1 | 7.1 | | | | | |
| HETO WARBLER | | | | | | | | | | | | | | | |
| MACGILLIVARY'S WARBLER | | | | | | | | | | | | | | | |
| PACIFIC SLOPE FLYCATCHER | | 1 | 1 | 2 | 25.0 | | | | | | | | | | |
| PILEATED WOODPECKER*** | 1 | | | 1 | 12.5 | | | | | | | | | | |
| RED-BREASTED NUTHATCH | 1 | | | 1 | 12.5 | | 1 | | 1 | 7.1 | | 2 | 2 | 6.9 | |
| RUFOUS HUMMINGBIRD | | | | | | | 1 | | 1 | 7.1 | | | | | |
| SONG SPARROW | | | | | | | | | | | | | | | |
| STELLER'S JAY | | | | | | 2 | | 1 | 3 | 21.4 | 1 | | | 1 | 3.4 |
| VARIED THRUSH | | | | | | | | | | | | | | | |
| WESTERN Tanager | | | | | | 1 | | | 1 | 7.1 | | | | | |
| WINTER WREN | 1 | | 1 | 2 | 25.0 | | 1 | | 1 | 7.1 | 7 | 2 | 3 | 12 | 41.4 |
| Total No. of Individuals | 3 | 2 | 3 | 8 | | 6 | 5 | 3 | 14 | | 12 | 4 | 13 | 29 | |
| Total No. of Species | 3 | 2 | 3 | 7 | | 5 | 4 | 2 | 10 | | 4 | 2 | 7 | 9 | |
| Mean Species Richness | | | | 2.7 | | | | | 3.7 | | | | | 4.3 | |

Mammals or Mammal Sign Observed During Seasonal Surveys

| | | | | | | | | | | | | | | |
|---------------------|--|--|---|---|--|---|---|---|---|--|---|---|---|--|
| BLACK-TAILED DEER** | | | | | | | X | | X | | | | | |
| DOUGLAS SQUIRREL | | | X | X | | X | | | X | | | | | |
| ELK** | | | | | | | X | | X | | X | X | X | |
| STRIPED SKUNK | | | X | X | | | | | | | | | | |
| TOWNSEND'S CHIPMUNK | | | | | | | | X | X | | | | | |

Yale Hydroelectric Project, Seasonal Wildlife Surveys: Old-growth Conifer

| Species | Breeding Season 1996-1997 | | Fall 1996-1997 | | Winter 1997-1998 | |
|-----------------------------|---------------------------|------------------------|--------------------|------------------------|--------------------|------------------------|
| | Total No. Observed | Relative Abundance (%) | Total No. Observed | Relative Abundance (%) | Total No. Observed | Relative Abundance (%) |
| AMERICAN CROW | | | 1 | 2.0 | | |
| AMERICAN ROBIN | 2 | 4.0 | 2 | 3.9 | 3 | 9.7 |
| BALD EAGLE*** | 1 | 2.0 | | | | |
| BLACK-CAPPED CHICKADEE | 4 | 8.0 | | | 2 | 6.5 |
| BLACK-THROATED GRAY WARBLER | 1 | 2.0 | | | | |
| BROWN CREEPER | 4 | 8.0 | 1 | 2.0 | | |
| CHESTNUT-BACKED CHICKADEE | 7 | 14.0 | 2 | 3.9 | | |
| CHICKADEE (SP.) | | | 4 | 7.8 | 4 | 12.9 |
| DARK-EYED JUNCO | 1 | 2.0 | | | | |
| DOWNY WOODPECKER | | | | | 1 | 3.2 |
| EVENING GROSBEAK | | | 1 | 2.0 | | |
| GOLDEN-CROWNED KINGLET | 4 | 8.0 | 17 | 33.3 | 8 | 25.8 |
| HAIRY WOODPECKER | 1 | 2.0 | | | | |
| HAMMOND'S FLYCATCHER | 1 | 2.0 | | | | |
| HETO WARBLER | 1 | 2.0 | | | | |
| MACGILLIVARY'S WARBLER | 1 | 2.0 | | | | |
| PACIFIC SLOPE FLYCATCHER | 2 | 4.0 | | | | |
| PILEATED WOODPECKER*** | 1 | 2.0 | | | | |
| RED-BREASTED NUTHATCH | 3 | 6.0 | 2 | 3.9 | | |
| RUFOUS HUMMINGBIRD | 2 | 4.0 | | | | |
| SONG SPARROW | | | 1 | 2.0 | | |
| STELLER'S JAY | 5 | 10.0 | 2 | 3.9 | | |
| VARIED THRUSH | | | 2 | 3.9 | 3 | 9.7 |
| WESTERN Tanager | 4 | 8.0 | | | | |
| WINTER WREN | 5 | 10.0 | 16 | 31.4 | 10 | 32.3 |
| | | | | | | |
| Total No. of Individuals | 50 | | 51 | | 31 | |
| Total No. of Species | 19 | | 12 | | 7 | |
| Mean Species Richness | 3.3 | | 4.2 | | 2.0 | |

Mammals or Mammal Sign Observed During Seasonal Surveys

| | | | | | | |
|---------------------|---|--|--|--|--|--|
| BLACK-TAILED DEER** | | | | | | |
| DOUGLAS SQUIRREL | | | | | | |
| ELK** | | | | | | |
| STRIPED SKUNK | X | | | | | |
| TOWNSEND'S CHIPMUNK | X | | | | | |

Yale Hydroelectric Project, Seasonal Wildlife Surveys: Pole Conifer

| Species | Breeding Season 1996-1997 | | Fall 1996-1997 | | Winter 1997-1998 | |
|-----------------------------|---------------------------|------------------------|--------------------|------------------------|--------------------|------------------------|
| | Total No. Observed | Relative Abundance (%) | Total No. Observed | Relative Abundance (%) | Total No. Observed | Relative Abundance (%) |
| AMERICAN ROBIN | 2 | 2.5 | 2 | 4.8 | | |
| BLACK-HEADED GROSBEAK | 2 | 2.5 | | | | |
| BLACK-THROATED GRAY WARBLER | 5 | 6.3 | | | | |
| CHESTNUT-BACKED CHICKADEE | 10 | 12.7 | 4 | 9.5 | 7 | 26.9 |
| CHICKADEE (SP.) | | | | | 4 | 15.4 |
| COMMON FLICKER | | | 1 | 2.4 | | |
| DARK-EYED JUNCO | 1 | 1.3 | | | 2 | 7.7 |
| GOLDEN-CROWNED KINGLET | 6 | 7.6 | 21 | 50 | 8 | 30.8 |
| MOUNTAIN CHICKADEE | 3 | 3.8 | | | | |
| PACIFIC SLOPE FLYCATCHER | 17 | 21.5 | | | | |
| PILEATED WOODPECKER | | | | | 1 | 3.8 |
| RED-BREASTED NUTHATCH | 1 | 1.3 | | | | |
| SPOTTED TOWHEE | 3 | 3.8 | | | | |
| STELLER'S JAY | 3 | 3.8 | 4 | 9.5 | 1 | 3.8 |
| SWAINSON'S THRUSH | 4 | 5.1 | | | | |
| VARIED THRUSH | | | 3 | 7.1 | | |
| WARBLING VIREO | 1 | 1.3 | | | | |
| WESTERN TANAGER | 5 | 6.3 | | | | |
| WILLOW FLYCATCHER | 1 | 1.3 | | | | |
| WILSON'S WARBLER | 1 | 1.3 | | | | |
| WINTER WREN | 14 | 17.7 | 7 | 16.7 | 3 | 11.5 |
| | | | | | | |
| Total No. of Individuals | 79 | | 42 | | 26 | |
| Total No. of Species | 17 | | 7 | | 7 | |
| Mean Species Richness | 4.6 | | 3.3 | | 2.5 | |

Mammals or Mammal Sign Observed During Seasonal Surveys

| | | | | | | |
|---------------------|--|--|--|--|---|--|
| BLACK-TAILED DEER** | | | | | | |
| DOUGLAS SQUIRREL | | | | | X | |
| ELK** | | | | | | |

Yale Hydroelectric Project, Seasonal Surveys: Riparian Deciduous/Riverine

| Species | Winter 1997 | | | | | Relative Abundance (%) | Spring 1997 | | | | | Relative Abundance (%) | Summer 1997 | | | | | Relative Abundance (%) |
|-------------------------------|--------------|-----|-----|-----|-------|------------------------|--------------|-----|-----|-----|-------|------------------------|--------------|-----|-----|-----|-------|------------------------|
| | No. Observed | | | | | | No. Observed | | | | | | No. Observed | | | | | |
| | 1-1 | 2-1 | 2-2 | 2-3 | Total | | 1-1 | 2-1 | 2-2 | 2-3 | Total | | 1-1 | 2-1 | 2-2 | 2-3 | Total | |
| AMERICAN CROW | | | | | | | | 3 | 1 | 4 | 4.8 | | | | 1 | 1 | 1.0 | |
| AMERICAN DIPPER | | | | | | | | | 2 | 2 | 2.4 | | | | | | | |
| AMERICAN GOLDFINCH | | | | | | | | 4 | | 4 | 4.8 | | 1 | 1 | | 2 | 2.1 | |
| AMERICAN ROBIN | | | | | | | 1 | | | 1 | 1.2 | | 1 | 1 | | 2 | 2.1 | |
| BALD EAGLE*** | | | | | | | | | | | | | | | 3 | 3 | 3.1 | |
| BARN SWALLOW | | | | | | | | 4 | | 4 | 4.8 | | | | | | | |
| BELTED KINGFISHER | | | | | | | 2 | | | 2 | 2.4 | | | 1 | | 1 | 1.0 | |
| BLACK-CAPPED CHICKADEE | | | | | | | | | | | | | | | | | | |
| BLACK-THROATED GRAY WARBLER | | | | | | | | | 2 | 2 | 2.4 | | | | 1 | 1 | 1.0 | |
| BROWN-HEADED COWBIRD | | | | | | | | 1 | | 1 | 1.2 | | | | | | | |
| BUSHTIT | | | | | | | | | | | | | | | | | | |
| CALIFORNIA GULL | | | | | | | | | | | | | | | | | | |
| CEDAR WAXWING | | | | | | | | | | | | | 2 | | | 2 | 2.1 | |
| CHESTNUT-BACKED CHICKADEE | | | | | | | | | | | | 3 | | | | 3 | 3.1 | |
| CLIFF SWALLOW | | | | | | | | 4 | 12 | 16 | 19.3 | | | 9 | 8 | 17 | 17.5 | |
| COMMON FLICKER | | | | | | | 1 | 1 | | 2 | 2.4 | | | | | | | |
| COMMON MERGANSER | | | | | | | | | | | | | | | | | | |
| COMMON RAVEN | | | 2 | | 2 | 25 | | | | | | | | | 2 | 2 | 2.1 | |
| COMMON YELLOWTHROAT | | | | | | | | 1 | 1 | 2 | 2.4 | | 1 | | | 1 | 1.0 | |
| DARK-EYED JUNCO | | | | | | | 1 | | | 1 | 1.2 | | | | | | | |
| DOWNY WOODPECKER | | | | | | | | 1 | | 1 | 1.2 | | | 1 | | 1 | 1.0 | |
| EUROPEAN STARLING | | | | | | | | 1 | | 1 | 1.2 | | | | | | | |
| GOLDEN-CROWNED KINGLET | | | | 3 | 3 | 37.5 | 2 | | | 1 | 3 | 3.6 | | | | | | |
| GREAT BLUE HERON** | | | | | | | | | | | | | | | | | | |
| GULL (SP.) | | | | | | | | | | | | | | | | | | |
| HAMMOND'S FLYCATCHER | | | | | | | | | | | | | | | | | | |
| HUMMINGBIRD (SP.) | | | | | | | | | | | | | 2 | | | 2 | 2.1 | |
| KILLDEER | | | | | | | 2 | 1 | | 3 | 3.6 | | 1 | | | 1 | 1.0 | |
| MALLARD | | | | 1 | 1 | 12.5 | | 2 | | 2 | 2.4 | | | | | | | |
| MOURNING DOVE | | | | | | | | | | | | | | | | | | |
| NORTHERN ROUGH-WINGED SWALLOW | | | | | | | | 9 | | 9 | 10.8 | | | 7 | | 7 | 7.2 | |
| ORANGE-CROWNED WARBLER | | | | | | | | | | | | | 1 | | | 1 | | |
| OSPREY*** | | | | | | | | | | | | | | | | | | |
| PACIFIC SLOPE FLYCATCHER | | | | | | | 1 | | 3 | 4 | 4.8 | 1 | | | 2 | 3 | 3.1 | |
| PILEATED WOODPECKER*** | | | | | | | | | | | | | | | | | | |
| RED-BREASTED SAPSUCKER | | | | | | | | | | | | | | | | | | |
| RED-TAILED HAWK | | | | | | | | | | | | | | | | | | |
| RUFOUS HUMMINGBIRD | | | | | | | | | | | | | | | | | | |
| SONG SPARROW | | | | | | | | | | | | | 2 | | | 2 | 2.1 | |
| SPOTTED SANDPIPER | | | | | | | 1 | | | 1 | 1.2 | | | 3 | | 3 | 3.1 | |

Yale Hydroelectric Project, Seasonal Surveys: Riparian Deciduous/Riverine

| Species | Breeding Season 1996-1997 | | Fall 1996-1997 | | Winter 1997-1998 | |
|-------------------------------|---------------------------|------------------------|--------------------|------------------------|--------------------|------------------------|
| | Total No. Observed | Relative Abundance (%) | Total No. Observed | Relative Abundance (%) | Total No. Observed | Relative Abundance (%) |
| AMERICAN CROW | 6 | 2.1 | 17 | 22.4 | 1 | 1.9 |
| AMERICAN DIPPER | 3 | 1.0 | 3 | 3.9 | 5 | 9.6 |
| AMERICAN GOLDFINCH | 7 | 2.4 | | | | |
| AMERICAN ROBIN | 11 | 3.8 | 2 | 2.6 | 2 | 3.8 |
| BALD EAGLE*** | 3 | 1.0 | 1 | 1.3 | | |
| BARN SWALLOW | 17 | 5.9 | | | | |
| BELTED KINGFISHER | 4 | 1.4 | 1 | 1.3 | | |
| BLACK-CAPPED CHICKADEE | | | 11 | 14.5 | 2 | 3.8 |
| BLACK-THROATED GRAY WARBLER | 5 | 1.7 | | | | |
| BROWN-HEADED COWBIRD | 3 | 1.0 | | | | |
| BUSHTIT | | | | | 3 | 5.8 |
| CALIFORNIA GULL | | | 1 | 1.3 | | |
| CEDAR WAXWING | 2 | 0.7 | | | 1 | 1.9 |
| CHESTNUT-BACKED CHICKADEE | 3 | 1.0 | 10 | 13.2 | | |
| CLIFF SWALLOW | 39 | 13.6 | | | | |
| COMMON FLICKER | 3 | 1.0 | 1 | 1.3 | 2 | 3.8 |
| COMMON MERGANSER | | | | | 1 | 1.9 |
| COMMON RAVEN | 2 | 0.7 | | | 2 | 3.8 |
| COMMON YELLOWTHROAT | 5 | 1.7 | | | | |
| DARK-EYED JUNCO | 3 | 1.0 | | | 4 | 7.7 |
| DOWNY WOODPECKER | 2 | 0.7 | | | | |
| EUROPEAN STARLING | 1 | 0.3 | | | 2 | 3.8 |
| GOLDEN-CROWNED KINGLET | 3 | 1.0 | 7 | 9.2 | 3 | 5.8 |
| GREAT BLUE HERON** | | | 1 | 1.3 | | |
| GULL (SP.) | | | | | 3 | 5.8 |
| HAMMOND'S FLYCATCHER | 1 | 0.3 | | | | |
| HUMMINGBIRD (SP.) | 2 | 0.7 | | | | |
| KILLDEER | 4 | 1.4 | | | 3 | 5.8 |
| MALLARD | 5 | 1.7 | | | 3 | 5.8 |
| MOURNING DOVE | | | 1 | 1.3 | | |
| NORTHERN ROUGH-WINGED SWALLOW | 23 | 8.0 | | | | |
| ORANGE-CROWNED WARBLER | 1 | 0.3 | | | | |
| OSPREY*** | 1 | 0.3 | 1 | 1.3 | | |
| PACIFIC SLOPE FLYCATCHER | 10 | 3.5 | | | | |
| PILEATED WOODPECKER*** | 1 | 0.3 | | | | |
| RED-BREASTED SAPSUCKER | 1 | 0.3 | | | | |
| RED-TAILED HAWK | | | 2 | 2.6 | | |
| RUFOUS HUMMINGBIRD | 1 | 0.3 | | | | |
| SONG SPARROW | 6 | 2.1 | 3 | 3.9 | 5 | 9.6 |
| SPOTTED SANDPIPER | 4 | 1.4 | | | | |

Yale Hydroelectric Project, Seasonal Surveys: Riparian Deciduous/Riverine

| Species | Breeding Season 1996-1997 | | Fall 1996-1997 | | Winter 1997-1998 | |
|--------------------------|---------------------------|------------------------|--------------------|------------------------|--------------------|------------------------|
| | Total No. Observed | Relative Abundance (%) | Total No. Observed | Relative Abundance (%) | Total No. Observed | Relative Abundance (%) |
| STELLER'S JAY | 7 | 2.4 | 3 | 3.9 | 2 | 3.8 |
| SWAINSON'S THRUSH | 1 | 0.3 | | | | |
| TREE SWALLOW | 7 | 2.4 | | | | |
| TURKEY VULTURE | 1 | 0.3 | | | | |
| VIOLET GREEN SWALLOW | 46 | 16.0 | | | | |
| WARBLING VIREO | 5 | 1.7 | | | | |
| WESTERN TANAGER | 5 | 1.7 | | | | |
| WHITE-CROWNED SPARROW | 11 | 3.8 | | | | |
| WILLOW FLYCATCHER | 5 | 1.7 | | | | |
| WILSON'S WARBLER | 1 | 0.3 | | | | |
| WINTER WREN | 10 | 3.5 | 11 | 14.5 | 8 | 15.4 |
| WOOD DUCK** | 1 | 0.3 | | | | |
| WOODPECKER (SP.) | 1 | 0.3 | | | | |
| YELLOW WARBLER | 4 | 1.4 | | | | |
| | | | | | | |
| Total No. of Individuals | 287 | | 76 | | 52 | |
| Total No. of Species | 46 | | 17 | | 18 | |
| Mean Species Richness | 8.7 | | 5.5 | | 3.8 | |

Mammals or Mammal Sign Observed During Seasonal Surveys

| | | | | | | |
|---------------------|--|--|--|--|--|--|
| BLACK-TAILED DEER** | | | | | | |
| DEER (SP.) | | | | | | |
| ELK** | | | | | | |

Yale Hydroelectric Project, Seasonal Wildlife Surveys: Reservoir/ Shoreline

| Species | Winter 1997 | | | | | | | | Spring 1997 | | | | | | | | Summer 1997 | | | | | | | | |
|--------------------------|--------------|---|---|---|---|---|-------|------------------------|--------------|---|---|---|---|---|-------|------------------------|--------------|---|----|----|----|----|-------|---|---|
| | No. Observed | | | | | | | Relative Abundance (%) | No. Observed | | | | | | | Relative Abundance (%) | No. Observed | | | | | | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | Total | | 1 | 2 | 3 | 4 | 5 | 6 | Total | | 1 | 2 | 3 | 4 | 5 | 6 | Total | | |
| SWAINSON'S THRUSH | | | | | | | | | | | | | | | | | | | | 2 | | | | | 2 |
| SWALLOW (SP.) | | | | | | | | | | | 7 | | | | 7 | 15.2 | 2 | | | | 7 | | | 9 | |
| TREE SWALLOW | | | | | | | | | | | | | | | | | | | | | | | | | |
| VARIED THRUSH | | | | | | | | | | | | | | | | | | | | | | | | | |
| VIOLET GREEN SWALLOW | | | | | | | | | | 1 | | | | | 1 | 2.2 | 1 | 1 | 2 | | | 1 | 5 | | |
| WARBLING VIREO | | | | | | | | | 1 | | | | | | 1 | 2.2 | | | | | | | | | |
| WATERFOWL (SP.) | | | | | | | | | | | | | | | | | | | | | | | | | |
| WESTERN GREBE | | | | | 2 | | 2 | 15.4 | | | | | | | | | | | | | | | | | |
| WESTERN Tanager | | | | | | | | | | | | | | | | | | | 1 | | | | 1 | | |
| WHITE-CROWNED SPARROW | | | | | | | | | | | | | | | | | | | 1 | 1 | 1 | | 3 | | |
| WILLOW FLYCATCHER | | | | | | | | | | | | | | | | | | | 1 | | | | 1 | | |
| WILSON'S WARBLER | | | | | | | | | | | | | | | | | | | 1 | | | | 1 | | |
| WINTER WREN | | | | | | | | | 1 | | | | | | 1 | 2.2 | | | 1 | | | | 1 | | |
| Total No. of Individuals | 1 | 0 | 1 | 0 | 3 | 8 | 13 | | 17 | 1 | 8 | 8 | 4 | 8 | 46 | | 10 | 1 | 20 | 19 | 10 | 19 | 79 | | |
| Total No. of Species | 1 | | 1 | | 2 | 2 | 4 | | 7 | 1 | 2 | 3 | 1 | 4 | 15 | | 10 | 1 | 17 | 4 | 5 | 6 | 25 | | |
| Mean Species Richness | | | | | | | 1.0 | | | | | | | | 3.0 | | | | | | | | 7.2 | | |

Mammals or Mammal Sign Observed During Seasonal Surveys

| | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| BLACK-TAILED DEER** | | | | | | | | | | | | | | | | | | | | | | | |
| DUGLAS SQUIRREL | | | | | | | | | | | | | | | | | | | | | | | |

Yale Hydroelectric Project, Seasonal Wildlife Surveys: Reservoir/ Shoreline

| Species | Relative Abundance (%) |
|-------------------------------|------------------------|
| AMERICAN CROW | |
| AMERICAN DIPPER | |
| AMERICAN GOLDFINCH | 1.3 |
| AMERICAN ROBIN | 1.3 |
| AMERICAN WIGEON | |
| BALD EAGLE*** | |
| BARN SWALLOW | 2.5 |
| BELTED KINGFISHER | 1.3 |
| BLACK-CAPPED CHICKADEE | |
| BLACK-THROATED GRAY WARBLER | 1.3 |
| BUFFLEHEAD | |
| CALIFORNIA GULL | |
| CEDAR WAXWING | 2.5 |
| CHESTNUT-BACKED CHICKADEE | |
| CLIFF SWALLOW | 32.9 |
| COMMON LOON* | |
| COMMON MERGANSER | 1.3 |
| COMMON RAVEN | 1.3 |
| COMMON YELLOWTHROAT | 1.3 |
| DARK-EYED JUNCO | |
| DOUBLE-CRESTED CORMORANT | |
| DOWNY WOODPECKER | |
| GLAUCOUS-WINGED GULL | |
| GREAT BLUE HERON** | |
| GULL (SP.) | |
| HAMMOND'S FLYCATCHER | |
| KILLDEER | |
| MALLARD | 1.3 |
| NORTHERN ROUGH-WINGED SWALLOW | 11.4 |
| OSPREY*** | 5.1 |
| PACIFIC SLOPE FLYCATCHER | |
| PIED-BILLED GREBE | |
| PILEATED WOODPECKER*** | |
| RING-BILL GULL | |
| RUFOUS HUMMINGBIRD | |
| SOLITARY VIREO | |
| SONG SPARROW | 2.5 |
| SPOTTED SANDPIPER | 1.3 |
| STELLER'S JAY | 2.5 |

Yale Hydroelectric Project, Seasonal Wildlife Surveys: Reservoir/ Shoreline

| Species | Relative Abundance (%) |
|--------------------------|------------------------|
| SWAINSON'S THRUSH | 2.5 |
| SWALLOW (SP.) | 11.4 |
| TREE SWALLOW | |
| VARIED THRUSH | |
| VIOLET GREEN SWALLOW | 6.3 |
| WARBLING VIREO | |
| WATERFOWL (SP.) | |
| WESTERN GREBE | |
| WESTERN Tanager | 1.3 |
| WHITE-CROWNED SPARROW | 3.8 |
| WILLOW FLYCATCHER | 1.3 |
| WILSON'S WARBLER | 1.3 |
| WINTER WREN | 1.3 |
| | |
| Total No. of Individuals | |
| Total No. of Species | |
| Mean Species Richness | |

Mammals or Mammal Sign Observed During Seasonal Surveys

| | |
|---------------------|--|
| BLACK-TAILED DEER** | |
| DUGLAS SQUIRREL | |

Yale Hydroelectric Project, Seasonal Wildlife Surveys: Reservoir/ Shoreline

| Species | Breeding Season 1996-1997 | | Fall 1996-1997 | | Winter 1997-1998 | |
|-------------------------------|---------------------------|------------------------|--------------------|------------------------|--------------------|------------------------|
| | Total No. Observed | Relative Abundance (%) | Total No. Observed | Relative Abundance (%) | Total No. Observed | Relative Abundance (%) |
| AMERICAN CROW | 1 | 0.3 | 3 | 3.1 | | |
| AMERICAN DIPPER | 1 | 0.3 | 1 | 1.0 | | |
| AMERICAN GOLDFINCH | 2 | 0.6 | | | | |
| AMERICAN ROBIN | 8 | 2.6 | | | | |
| AMERICAN WIGEON | | | 16 | 16.7 | | |
| BALD EAGLE*** | | | 4 | 4.2 | 7 | 21.2 |
| BARN SWALLOW | 22 | 7.1 | | | | |
| BELTED KINGFISHER | 2 | 0.6 | 1 | 1.0 | | |
| BLACK-CAPPED CHICKADEE | 2 | 0.6 | | | | |
| BLACK-THROATED GRAY WARBLER | 1 | 0.3 | | | | |
| BUFFLEHEAD | | | 8 | 8.3 | | |
| CALIFORNIA GULL | | | 1 | 1.0 | | |
| CEDAR WAXWING | 5 | 1.6 | | | | |
| CHESTNUT-BACKED CHICKADEE | | | 3 | 3.1 | | |
| CLIFF SWALLOW | 55 | 17.9 | | | | |
| COMMON LOON* | 1 | 0.3 | 1 | 1.0 | | |
| COMMON MERGANSER | 8 | 2.6 | 10 | 10.4 | 3 | 9.1 |
| COMMON RAVEN | 5 | 1.6 | | | | |
| COMMON YELLOWTHROAT | 2 | 0.6 | | | | |
| DARK-EYED JUNCO | 2 | 0.6 | | | | |
| DOUBLE-CRESTED CORMORANT | 2 | 0.6 | 5 | 5.2 | 1 | 3.0 |
| DOWNY WOODPECKER | 1 | 0.3 | | | | |
| GLAUCOUS-WINGED GULL | | | 3 | 3.1 | | |
| GREAT BLUE HERON** | 3 | 1.0 | 15 | 15.6 | | |
| GULL (SP.) | | | 2 | 2.1 | | |
| HAMMOND'S FLYCATCHER | 1 | 0.3 | | | | |
| KILLDEER | 1 | 0.3 | | | 1 | 3.0 |
| MALLARD | 1 | 0.3 | | | 2 | 6.1 |
| NORTHERN ROUGH-WINGED SWALLOW | 48 | 15.6 | | | | |
| OSPREY*** | 12 | 3.9 | 2 | 2.1 | | |
| PACIFIC SLOPE FLYCATCHER | 5 | 1.6 | | | | |
| PIED-BILLED GREBE | | | 1 | 1.0 | | |
| PILEATED WOODPECKER*** | 1 | 0.3 | | | 1 | 3.0 |
| RING-BILL GULL | | | 2 | 2.1 | | |
| RUFIOUS HUMMINGBIRD | 1 | 0.3 | | | | |
| SOLITARY VIREO | 1 | 0.3 | | | | |
| SONG SPARROW | 7 | 2.3 | | | 3 | 9.1 |
| SPOTTED SANDPIPER | 1 | 0.3 | 1 | 1.0 | | |
| STELLER'S JAY | 5 | 1.6 | 1 | 1.0 | | |

Yale Hydroelectric Project, Seasonal Wildlife Surveys: Reservoir/ Shoreline

| Species | Breeding Season 1996-1997 | | Fall 1996-1997 | | Winter 1997-1998 | |
|--------------------------|---------------------------|------------------------|--------------------|------------------------|--------------------|------------------------|
| | Total No. Observed | Relative Abundance (%) | Total No. Observed | Relative Abundance (%) | Total No. Observed | Relative Abundance (%) |
| SWAINSON'S THRUSH | 6 | 1.9 | | | | |
| SWALLOW (SP.) | 55 | 17.9 | | | | |
| TREE SWALLOW | 2 | 0.6 | | | | |
| VARIED THRUSH | 1 | 0.3 | | | | |
| VIOLET GREEN SWALLOW | 10 | 3.2 | | | | |
| WARBLING VIREO | 6 | 1.9 | | | | |
| WATERFOWL (SP.) | | | | | 13 | 39.4 |
| WESTERN GREBE | 2 | 0.6 | 13 | 13.5 | 2 | 6.1 |
| WESTERN Tanager | 1 | 0.3 | | | | |
| WHITE-CROWNED SPARROW | 10 | 3.2 | | | | |
| WILLOW FLYCATCHER | 3 | 1.0 | | | | |
| WILSON'S WARBLER | 2 | 0.6 | | | | |
| WINTER WREN | 3 | 1.0 | 3 | 3.1 | | |
| | | | | | | |
| Total No. of Individuals | 308 | | 96 | | 33 | |
| Total No. of Species | 42 | | 22 | | 4 | |
| Mean Species Richness | 5.3 | | 2.5 | | 16.5 | |

Mammals or Mammal Sign Observed During Seasonal Surveys

| | | | | | | |
|---------------------|--|--|--|--|--|--|
| BLACK-TAILED DEER** | | | | | | |
| DUGLAS SQUIRREL | | | | | | |

Yale Hydroelectric Project, Seasonal Wildlife Surveys: Shrubland

| Species | Winter 1997 | | | | Relative Abundance (%) | Spring 1997 | | | | Relative Abundance (%) | Summer 1997 | | | | Relative Abundance (%) | | |
|-----------------------------|--------------|-----|-----|-------|------------------------|--------------|-----|-----|-------|------------------------|--------------|-----|-----|-------|------------------------|--|--|
| | No. Observed | | | | | No. Observed | | | | | No. Observed | | | | | | |
| | 1-1 | 1-2 | 1-3 | Total | | 1-1 | 1-2 | 1-3 | Total | | 1-1 | 1-2 | 1-3 | Total | | | |
| AMERICAN ROBIN | | | | | | | | | | | | | | | | | |
| BLACK-HEADED GROSBEAK | | | | | | | | | | | | | | | | | |
| BLACK-THROATED GRAY WARBLER | | | | | | 2 | 1 | 3 | 30.0 | 3 | 4 | 4 | 11 | 37.9 | | | |
| CHESTNUT-BACKED CHICKADEE | | | | | | 2 | | 2 | 20.0 | | 3 | | 3 | 10.3 | | | |
| COMMON FLICKER | | | | | | | | | | | | | | | | | |
| DARK-EYED JUNCO | | | | | | | | | | | 1 | 1 | 3.4 | | | | |
| EVENING GROSBEAK | | | | | | | | | | | | | | | | | |
| GOLDEN-CROWNED KINGLET | 6 | | | 6 | 85.7 | | | | | | 1 | 1 | 3.4 | | | | |
| HAMMOND'S FLYCATCHER | | | | | | | | | | | | | | | | | |
| HUTTON'S VIREO | | | | | | | | | | | | | | | | | |
| MACGILLIVARY'S WARBLER | | | | | | | | | | | | | | | | | |
| NASHVILLE WARBLER | | | | | | | | | | | 1 | 1 | 3.4 | | | | |
| PACIFIC SLOPE FLYCATCHER | | | | | | 1 | 1 | 2 | 20.0 | | 1 | | 1 | 3.4 | | | |
| RED-BREASTED NUTHATCH | | | | | | | | | | | | | | | | | |
| RUFOUS HUMMINGBIRD | | | | | | | | | | | | | | | | | |
| SPOTTED TOWHEE | | | | | | | | | | | | | | | | | |
| STELLER'S JAY | | | | | | | | | | 1 | | 1 | 3.4 | | | | |
| SWAINSON'S THRUSH | | | | | | | | | | 2 | 1 | 2 | 5 | 17.2 | | | |
| VARIED THRUSH | | | | | | | | | | | | | | | | | |
| WARBLING VIREO | | | | | | | | | | | | | | | | | |
| WESTERN TANAGER | | | | | | | | | | | 1 | 1 | 3.4 | | | | |
| WILSON'S WARBLER | | | | | | | 1 | 1 | 10.0 | | | | | | | | |
| WINTER WREN | | 1 | | 1 | 14.3 | | | 1 | 1 | 10.0 | 2 | 2 | | 4 | 13.8 | | |
| YELLOW WARBLER | | | | | | | | 1 | 1 | 10.0 | | | | | | | |
| Total No. of Individuals | 6 | 1 | 0 | 7 | | 1 | 6 | 3 | 10 | | 8 | 12 | 9 | 29 | | | |
| Total No. of Species | 1 | 1 | 0 | 2 | | 1 | 4 | 3 | 6 | | 4 | 6 | 5 | 10 | | | |
| Mean Species Richness | | | | 0.7 | | | | | 2.7 | | | | | 5.0 | | | |

Mammals or Mammal Sign Observed During Seasonal Surveys

| | | | | | | | | | | | | | | | | |
|---------------------|--|---|---|---|--|--|--|--|--|---|---|--|---|--|--|--|
| BLACK-TAILED DEER** | | X | X | X | | | | | | X | X | | X | | | |
| DOUGLAS SQUIRREL | | | | | | | | | | | X | | X | | | |
| ELK** | | X | X | X | | | | | | | | | | | | |

Yale Hydroelectric Project, Seasonal Wildlife Surveys: Shrubland

| Species | Breeding Season 1996-1997 | | Fall 1996-1997 | | Winter 1997-1998 | |
|-----------------------------|---------------------------|---------------|----------------|---------------|------------------|---------------|
| | Total No. | Relative | Total No. | Relative | Total No. | Relative |
| | Observed | Abundance (%) | Observed | Abundance (%) | Observed | Abundance (%) |
| AMERICAN ROBIN | | | | | 1 | 4.2 |
| BLACK-HEADED GROSBEAK | 3 | 3.9 | | | | |
| BLACK-THROATED GRAY WARBLER | 21 | 27.3 | | | | |
| CHESTNUT-BACKED CHICKADEE | 7 | 9.1 | 5 | 12.8 | | |
| COMMON FLICKER | | | 1 | 2.6 | | |
| DARK-EYED JUNCO | 1 | 1.3 | | | 3 | 12.5 |
| EVENING GROSBEAK | 1 | 1.3 | | | | |
| GOLDEN-CROWNED KINGLET | 1 | 1.3 | 19 | 48.7 | 13 | 54.2 |
| HAMMOND'S FLYCATCHER | 1 | 1.3 | | | | |
| HUTTON'S VIREO | | | | | 1 | 4.2 |
| MACGILLIVARY'S WARBLER | 2 | 2.6 | | | | |
| NASHVILLE WARBLER | 1 | 1.3 | | | | |
| PACIFIC SLOPE FLYCATCHER | 3 | 3.9 | | | | |
| RED-BREASTED NUTHATCH | 1 | 1.3 | | | | |
| RUFOUS HUMMINGBIRD | 1 | 1.3 | | | | |
| SPOTTED TOWHEE | 3 | 3.9 | 1 | 2.6 | | |
| STELLER'S JAY | 2 | 2.6 | 1 | 2.6 | 1 | 4.2 |
| SWAINSON'S THRUSH | 5 | 6.5 | | | | |
| VARIED THRUSH | | | 1 | 2.6 | | |
| WARBLING VIREO | 1 | 1.3 | | | | |
| WESTERN TANAGER | 2 | 2.6 | | | | |
| WILSON'S WARBLER | 6 | 7.8 | | | | |
| WINTER WREN | 14 | 18.2 | 11 | 28.2 | 6 | 25.0 |
| YELLOW WARBLER | 1 | 1.3 | | | | |
| | | | | | | |
| Total No. of Individuals | 77 | | 39 | | 24 | |
| Total No. of Species | 20 | | 7 | | 6 | |
| Mean Species Richness | 4.0 | | 2.8 | | 1.7 | |

Mammals or Mammal Sign Observed During Seasonal Surveys

| | | | | | | |
|---------------------|--|--|--|--|--|--|
| BLACK-TAILED DEER** | | | | | | |
| DOUGLAS SQUIRREL | | | | | | |
| ELK** | | | | | | |

Yale Hydroelectric Project, Seasonal Wildlife Surveys: Seedling/Sapling

| Species | Breeding Season 1996-1997 | | Fall 1996-1997 | | Winter 1997-1998 | |
|---------------------------|---------------------------|------------------------|--------------------|------------------------|--------------------|------------------------|
| | Total No. Observed | Relative Abundance (%) | Total No. Observed | Relative Abundance (%) | Total No. Observed | Relative Abundance (%) |
| AMERICAN ROBIN | 17 | 14.8 | 1 | 2.9 | | |
| BAND-TAILED PIGEON** | 1 | 0.9 | | | | |
| BLACK-CAPPED CHICKADEE | 4 | 3.5 | | | | |
| CEDAR WAXWING | 5 | 4.3 | | | | |
| CHESTNUT-BACKED CHICKADEE | 7 | 6.1 | 3 | 8.8 | 4 | 30.8 |
| COMMON FLICKER | 4 | 3.5 | | | | |
| DARK-EYED JUNCO | 13 | 11.3 | | | 2 | 15.4 |
| GOLDEN-CROWNED KINGLET | | | 8 | 23.5 | 4 | 30.8 |
| HAIRY WOODPECKER | 1 | 0.9 | 1 | 2.9 | | |
| HUTTON'S VIREO | | | 1 | 2.9 | | |
| MACGILLIVARY'S WARBLER | 10 | 8.7 | | | | |
| PACIFIC SLOPE FLYCATCHER | 1 | 0.9 | | | | |
| PURPLE FINCH | 1 | 0.9 | | | | |
| RED-BREASTED SAPSUCKER | 1 | 0.9 | | | | |
| RUBY-CROWNED KINGLET | | | 1 | 2.9 | | |
| RUFFED GROUSE | 1 | 0.9 | | | | |
| RUFIOUS HUMMINGBIRD | 1 | 0.9 | | | | |
| SHARP-SHINNED HAWK | 1 | 0.9 | | | | |
| SONG SPARROW | 2 | 1.7 | 2 | 5.9 | | |
| SPOTTED TOWHEE | 3 | 2.6 | | | | |
| STELLER'S JAY | 4 | 3.5 | 1 | 2.9 | | |
| SWAINSON'S THRUSH | 4 | 3.5 | | | | |
| VARIED THRUSH | | | 1 | 2.9 | | |
| WESTERN TANAGER | 4 | 3.5 | | | | |
| WHITE-CROWNED SPARROW | 14 | 12.2 | | | | |
| WILLOW FLYCATCHER | 16 | 13.9 | | | | |
| WINTER WREN | | | 15 | 44.1 | 3 | 23.1 |
| | | | | | | |
| Total No. of Individuals | 115 | | 34 | | 13 | |
| Total No. of Species | 22 | | 10 | | 4 | |
| Mean Species Richness | 5.8 | | 2.8 | | 1.3 | |

Mammals or Mammal Sign Observed During Seasonal Surveys

| | | | | | | |
|---------------------|--|--|--|--|--|--|
| BLACK-TAILED DEER** | | | | | | |
| COYOTE | | | | | | |
| DOUGLAS SQUIRREL | | | | | | |
| ELK** | | | | | | |
| POCKET GOPHER (SP.) | | | | | | |

Yale Hydroelectric Project, Seasonal Wildlife Surveys: Upland Deciduous

| Species | Spring 1996 | | | | | | | Relative Abundance (%) | Summer 1996 | | | | | | | Relative Abundance (%) | |
|-----------------------------|--------------|-----|-----|-----|-----|-----|-------|------------------------|--------------|-----|-----|-----|-----|-----|-------|------------------------|------|
| | No. Observed | | | | | | | | No. Observed | | | | | | | | |
| | 1-1 | 2-1 | 3-1 | 4-1 | 5-1 | 5-2 | Total | | 1-1 | 2-1 | 3-1 | 4-1 | 5-1 | 5-2 | Total | | |
| AMERICAN CROW | | | | 2 | | | 2 | 3.8 | | | | | | | | | |
| AMERICAN ROBIN | | | | 1 | 2 | | 3 | 5.7 | | | | | 2 | 2 | 4 | | 7.3 |
| BLACK-CAPPED CHICKADEE | | | | | | | | | | | 2 | | | | 2 | | 3.6 |
| BLACK-CHINNED HUMMINGBIRD | | | | 2 | | | 2 | 3.8 | | | | | | | | | |
| BLACK-HEADED GROSBEAK | | | | | | | | | 1 | | 1 | | | | 2 | | 3.6 |
| BLACK-THROATED GRAY WARBLER | | | 1 | | 1 | | 2 | 3.8 | 3 | | 3 | | | | 6 | | 10.9 |
| BROWN-HEADED COWBIRD | | | | | | | | | | | | | | | | | |
| CHESTNUT-BACKED CHICKADEE | 2 | | | 1 | 4 | | 7 | 13.2 | | | | | | | | | |
| CHICKADEE (SP.) | | | | | | | | | | | | | | | | | |
| COMMON FLICKER | | | | | | | | | | | | | | | | | |
| COMMON YELLOWTHROAT | | | | | | | | | | | 1 | | 1 | | 2 | | 3.6 |
| DARK-EYED JUNCO | | | | | | | | | | | | | | | | | |
| DOWNY WOODPECKER | | | | | | | | | | | | | | | | | |
| GOLDEN-CROWNED KINGLET | | | | | | | | | | | | | | | | | |
| HAIRY WOODPECKER | | | | | | | | | | | | | | | | | |
| HAMMOND'S FLYCATCHER | | | | | 1 | 1 | 2 | 3.8 | | | | | | | | | |
| PACIFIC SLOPE FLYCATCHER | 1 | 2 | 2 | | | 2 | 7 | 13.2 | 2 | 2 | | 1 | 2 | 1 | 8 | | 14.5 |
| PILEATED WOODPECKER*** | | | | | | | | | | | 1 | | 1 | | 2 | | 3.6 |
| SONG SPARROW | 2 | | 2 | | 1 | 1 | 6 | 11.3 | 4 | | 5 | | 1 | 2 | 12 | | 21.8 |
| SPOTTED TOWHEE | | | | 2 | | | 2 | 3.8 | 2 | | 2 | | | | 4 | | 7.3 |
| STELLER'S JAY | | | | 2 | | | 2 | 3.8 | | | | | | | | | |
| SWAINSON'S THRUSH | | | | | 2 | 3 | 5 | 9.4 | 1 | | 1 | | 3 | 1 | 6 | | 10.9 |
| VARIED THRUSH | | | | | | | | | | | | | | | | | |
| WARBLER (SP.) | | | | | | | | | | 1 | | | | | 1 | | 1.8 |
| WARBLING VIREO | | | | | | | | | | 1 | | | | | 1 | | 1.8 |
| WESTERN TANAGER | | | 1 | | | | 1 | 1.9 | | | | | | 1 | 1 | | 1.8 |
| WESTERN WOOD-PEWEE | | | | | | | | | | | | | | | | | |
| WHITE-BREASTED NUTHATCH | | | | 1 | | | 1 | 1.9 | | | | | | | | | |
| WILLOW FLYCATCHER | | | | 2 | | | 2 | 3.8 | | | | | | | | | |
| WILSON'S WARBLER | 1 | | 1 | | | | 2 | 3.8 | | | | | | | | | |
| WINTER WREN | | 1 | 3 | 2 | | 1 | 7 | 13.2 | | 1 | | 1 | 1 | 1 | 4 | | 7.3 |
| Total No. of Individuals | 6 | 3 | 10 | 15 | 11 | 8 | 53 | | 13 | 5 | 16 | 2 | 11 | 8 | 55 | | |
| Total No. of Species | 4 | 2 | 6 | 9 | 6 | 5 | 16 | | 6 | 4 | 8 | 2 | 7 | 6 | 13 | | |
| Mean Species Richness | | | | | | | 5.3 | | | | | | | | 5.5 | | |

Mammals or Mammal Sign Observed During Seasonal Surveys

| | | | | | | | | | | | | | | | | | |
|---------------------|--|--|--|---|--|--|---|--|---|---|--|--|--|--|---|--|--|
| BLACK-TAILED DEER** | | | | X | | | X | | | X | | | | | X | | |
| CHIPMUNK (SP.) | | | | | | | | | | | | | | | | | |
| DOUGLAS SQUIRREL | | | | X | | | X | | | | | | | | | | |
| ELK** | | | | | | | | | | | | | | | | | |
| TOWNSEND'S CHIPMUNK | | | | | | | | | X | | | | | | X | | |

Yale Hydroelectric Project, Seasonal Wildlife Surveys: Upland Deciduous

| Species | Breeding Season 1996-1997 | | Fall 1996-1997 | | Winter 1997-1998 | |
|-----------------------------|---------------------------|------------------------|--------------------|------------------------|--------------------|------------------------|
| | Total No. Observed | Relative Abundance (%) | Total No. Observed | Relative Abundance (%) | Total No. Observed | Relative Abundance (%) |
| AMERICAN CROW | 3 | 1.5 | | | | |
| AMERICAN ROBIN | 11 | 5.5 | | | 3 | 4.8 |
| BLACK-CAPPED CHICKADEE | 4 | 2.0 | 3 | 4.9 | | |
| BLACK-CHINNED HUMMINGBIRD | 2 | 1.0 | | | | |
| BLACK-HEADED GROSBEAK | 2 | 1.0 | | | | |
| BLACK-THROATED GRAY WARBLER | 16 | 8.0 | | | | |
| BROWN-HEADED COWBIRD | 2 | 1.0 | | | | |
| CHESTNUT-BACKED CHICKADEE | 9 | 4.5 | 8 | 13.1 | 6 | 9.5 |
| CHICKADEE (SP.) | | | 5 | 8.2 | 3 | 4.8 |
| COMMON FLICKER | | | 1 | 1.6 | | |
| COMMON YELLOWTHROAT | 2 | 1.0 | | | | |
| DARK-EYED JUNCO | 2 | 1.0 | 3 | 4.9 | 5 | 7.9 |
| DOWNY WOODPECKER | 1 | 0.5 | | | | |
| GOLDEN-CROWNED KINGLET | 4 | 2.0 | 16 | 26.2 | 10 | 15.9 |
| HAIRY WOODPECKER | 1 | 0.5 | 1 | 1.6 | 1 | 1.6 |
| HAMMOND'S FLYCATCHER | 5 | 2.5 | | | | |
| PACIFIC SLOPE FLYCATCHER | 32 | 16.1 | | | | |
| PILEATED WOODPECKER*** | 3 | 1.5 | | | | |
| SONG SPARROW | 26 | 13.1 | 1 | 1.6 | 6 | 9.5 |
| SPOTTED TOWHEE | 9 | 4.5 | | | | |
| STELLER'S JAY | 2 | 1.0 | 2 | 3.3 | 1 | 1.6 |
| SWAINSON'S THRUSH | 15 | 7.5 | | | | |
| VARIED THRUSH | | | 3 | 4.9 | 4 | 6.3 |
| WARBLER (SP.) | 1 | 0.5 | | | | |
| WARBLING VIREO | 9 | 4.5 | | | | |
| WESTERN TANAGER | 6 | 3.0 | | | | |
| WESTERN WOOD-PEWEE | 1 | 0.5 | | | | |
| WHITE-BREASTED NUTHATCH | 1 | 0.5 | | | | |
| WILLOW FLYCATCHER | 2 | 1.0 | | | | |
| WILSON'S WARBLER | 5 | 2.5 | | | | |
| WINTER WREN | 23 | 11.6 | 18 | 29.5 | 24 | 38.1 |
| | | | | | | |
| Total No. of Individuals | 199 | | 61 | | 63 | |
| Total No. of Species | 28 | | 11 | | 10 | |
| Mean Species Richness | 5.5 | | 2.8 | | 2.3 | |

Mammals or Mammal Sign Observed During Seasonal Surveys

| | | | | | | |
|---------------------|--|--|--|--|--|--|
| BLACK-TAILED DEER** | | | | | | |
| CHIPMUNK (SP.) | | | | | | |
| DOUGLAS SQUIRREL | | | | | | |
| ELK** | | | | | | |
| TOWNSEND'S CHIPMUNK | | | | | | |

Yale Hydroelectric Project, Seasonal Surveys: Wetland

| Species | Fall 1996 | | | | | | | | Winter 1997 | | | | | | | |
|---|--------------|----|-----|-----|-----|----|-------|------------------------|-------------|---|-----|-----|-----|----|-------|------------------------|
| | No. Observed | | | | | | | Relative Abundance (%) | | | | | | | | Relative Abundance (%) |
| | 1 | 2 | 3-1 | 3-2 | 3-3 | 4 | Total | | 1 | 2 | 3-1 | 3-2 | 3-3 | 4 | Total | |
| OSPREY*** | | | | | | | | | | | | | | | | |
| PACIFIC SLOPE FLYCATCHER | | | | | | | | | | | | | | | | |
| PILEATED WOODPECKER*** | | | | | | | | | | 1 | | | | | 1 | 1.4 |
| PURPLE FINCH | | | | | | | | | | | | | | | | |
| RED-BREASTED NUTHATCH | | | | | | | | | | | | | | | | |
| RED-BREASTED SAPSUCKER | | | | | | | | | | | | | | | | |
| RED-TAILED HAWK | | | | | | | | | | | | 1 | | | 1 | 1.4 |
| RED-WINGED BLACKBIRD | | | | | | | | | | | | | | | | |
| RING-NECKED DUCK | | | | | | 3 | 3 | 4.2 | | | | | | 1 | 1 | 1.4 |
| RUBY-CROWNED KINGLET | | | | 1 | | | 1 | 1.4 | | | | | | | | |
| RUFOUS HUMMINGBIRD | | | | | | | | | | | | | | | | |
| SOLITARY VIREO | | | | | | | | | | | | | | | | |
| SONG SPARROW | 2 | 11 | 1 | 2 | 2 | | 7 | 9.7 | 2 | 3 | 1 | | | | 6 | 8.2 |
| SPOTTED SANDPIPER | | | | | | | | | | | | | | | | |
| STELLER'S JAY | | | | 2 | | 2 | 4 | 5.6 | | | 1 | 5 | | | 6 | 8.2 |
| SWAINSON'S THRUSH | | | | | | | | | | | | | | | | |
| SWALLOW (SP.) | | | | | | | | | | | | | | | | |
| TREE SWALLOW | | | | | | | | | | | | | | | | |
| VARIED THRUSH | | | | 1 | 2 | | 3 | 4.2 | | | | | | | | |
| VIOLET GREEN SWALLOW | | | | | | | | | | | | | | | | |
| WARBLING VIREO | | | | | | | | | | | | | | | | |
| WESTERN TANAGER | | | | | | | | | | | | | | | | |
| WESTERN WOOD-PEWEE | | | | | | | | | | | | | | | | |
| WHITE-CROWNED SPARROW | | | | | | | | | | | | | | | | |
| WILLOW FLYCATCHER | | | | | | | | | | | | | | | | |
| WILSON'S WARBLER | | | | | | | | | | | | | | | | |
| WINTER WREN | | | | | 2 | 1 | 3 | 4.2 | | 2 | | | | | 2 | 2.7 |
| WOOD DUCK** | | | | | | | | | | | | | | | | |
| WOODPECKER (SP.) | | | | | | | | | | | | | | | | |
| YELLOW-RUMPED WARBLER | | | | | | | | | | | | | | | | |
| YELLOW WARBLER | | | | | | | | | | | | | | | | |
| Total No. of Individuals | 17 | 12 | 4 | 14 | 7 | 29 | 72 | | 17 | 9 | 6 | 8 | 0 | 24 | 73 | |
| Total No. of Species | 7 | 2 | 3 | 7 | 4 | 9 | 19 | | 7 | 4 | 3 | 4 | 0 | 4 | 14 | |
| Mean Species Richness | | | | | | | 5.3 | | | | | | | | 1.8 | |
| Mammals or Mammal Sign Observed During Seasonal Surveys | | | | | | | | | | | | | | | | |
| BEAVER | | | | | | | | | | X | | X | | | X | |
| BLACK-TAILED DEER** | | | | | | | | | | X | X | | | | X | |
| DOUGLAS SQUIRREL | | | | | | | | | | | | | X | | X | |
| ELK** | | | | | | | | | | | X | | | | X | |
| MINK** | | | | | | | | | | | | | | | | |

Yale Hydroelectric Project, Seasonal Surveys: Wetland

| Species | Spring 1997 | | | | | | | | Summer 1997 | | | | | | | |
|-------------------------------|--------------|---|-----|-----|-----|---|-------|------------------------|--------------|---|-----|-----|-----|----|-------|------------------------|
| | No. Observed | | | | | | | Relative Abundance (%) | No. Observed | | | | | | | Relative Abundance (%) |
| | 1 | 2 | 3-1 | 3-2 | 3-3 | 4 | Total | | 1 | 2 | 3-1 | 3-2 | 3-3 | 4 | Total | |
| AMERICAN CROW | | | | | | | | | | | | | | | | |
| AMERICAN DIPPER | | | | | | | | 1.8 | | | | | | | | |
| AMERICAN GOLDFINCH | 1 | | | 2 | | | 3 | | 1 | | | | | | 1 | 0.8 |
| AMERICAN KESTREL | | | | | | | | | | | | | | | | |
| AMERICAN ROBIN | 3 | 1 | | | 2 | 2 | 8 | 4.8 | 1 | 1 | 3 | 3 | 2 | 3 | 13 | 10.4 |
| AMERICAN WIGEON | | | | | | | | | | | | | | | | |
| BALD EAGLE*** | | | | | | | | | | | | | | | | |
| BELTED KINGFISHER | | | | | | | | | 2 | | | | | 4 | 6 | 4.8 |
| BLACK-CAPPED CHICKADEE | | 1 | | | | | 1 | 0.6 | | | 2 | | | | 2 | 1.6 |
| BLACK-HEADED GROSBEAK | | 2 | | | | | 2 | 1.2 | | | | 1 | | | 1 | 0.8 |
| BLACK-THROATED GRAY WARBLER | | 1 | | | 1 | | 2 | 1.2 | | | 1 | | 1 | | 2 | 1.6 |
| BLUE-WINGED TEAL | | | | | | | | | | | | | | | | |
| BREWER'S BLACKBIRD | | | | | | | | | | | | 1 | | | 1 | 0.8 |
| BROWN-HEADED COWBIRD | 1 | | | | 1 | 1 | 3 | 1.8 | 1 | | | 1 | | | 2 | 1.6 |
| BUFFLEHEAD | | | | | | | | | | | | | | | | |
| BULLOCK'S ORIOLE | | | | | | | | | | 2 | | | | | 2 | 1.6 |
| BUSHTIT | | | | 4 | | | 4 | 2.4 | | | | | | | | |
| CANADA GOOSE | 5 | | 14 | | | | 19 | 11.4 | | | | | | | | |
| CEDAR WAXWING | | | | | | | | | | 2 | 2 | | | 10 | 14 | 11.2 |
| CHESTNUT-BACKED CHICKADEE | | 1 | | | | | 1 | 0.6 | | | | | | | | |
| CHICKADEE (SP.) | | | | | | | | | | | | | | | | |
| COMMON FLICKER | | | | | | 2 | 2 | 1.2 | | | 1 | | | | 1 | 0.8 |
| COMMON MERGANSER | | | | | | | | | | | | | | | | |
| COMMON RAVEN | | | | | | | | | | | | | | | | |
| COMMON SNIPE | | | | | | 1 | 1 | 0.6 | | | | | | | | |
| COMMON YELLOWTHROAT | 3 | 1 | 3 | 3 | | 2 | 12 | 7.2 | | | 1 | | | 3 | 4 | 3.2 |
| DARK-EYED JUNCO | | 1 | | | | | 1 | 0.6 | | | | | | | | |
| DOWNY WOODPECKER | | 1 | | 2 | | | 3 | 1.8 | | | 1 | 1 | | | 2 | 1.6 |
| EUROPEAN STARLING | 1 | | | 2 | 1 | 4 | 8 | 4.8 | | | | | | 4 | 4 | 3.2 |
| FLYCATCHER (SP.) | | | | | | | | | | | | | | | | |
| GOLDEN-CROWNED KINGLET | | 1 | | | | | 1 | 0.6 | | | | | | | | |
| GREAT BLUE HERON** | | | 2 | 2 | 1 | | 5 | 3.0 | | | | | | | | |
| GREEN-BACKED HERON | | | | 1 | | | 1 | 0.6 | | | | | | | | |
| GULL (SP.) | | | | | | | | | | | | | | | | |
| HAIRY WOODPECKER | | 1 | | | | | 1 | 0.6 | | | | | | | | |
| HOODED MERGANSER** | | | | | | 1 | 1 | 0.6 | | 1 | | | | 2 | 3 | 2.4 |
| HUMMINGBIRD (SP.) | | | 1 | | | | 1 | 0.6 | | | | | | | | |
| HUTTON'S VIREO | | | | 1 | | | 1 | 0.6 | | | | | | | | |
| KILLDEER | | | | | | | | | 3 | | | | | | 3 | 2.4 |
| LESSER SCAUP | | | | | | | | | | | | | | | | |
| MACGILLIVARY'S WARBLER | | | | | | | | | | 2 | | | | 1 | 3 | 2.4 |
| MALLARD | 2 | | | | | 2 | 4 | 2.4 | | | | | | | | |
| MARSH WREN | | | | | | | | | | | | | | 2 | 2 | 1.6 |
| NORTHERN ORIOLE | | | | | | | | | | | | | | | | |
| NORTHERN ROUGH-WINGED SWALLOW | 1 | 2 | 6 | | | | 9 | 5.4 | 2 | | | | | | 2 | 1.6 |

Yale Hydroelectric Project, Seasonal Surveys: Wetland

| Species | Breeding Season 1996-1997 | | Fall 1996-1997 | | Winter 1997-1998 | |
|-------------------------------|---------------------------|------------------------|--------------------|------------------------|--------------------|------------------------|
| | Total No. Observed | Relative Abundance (%) | Total No. Observed | Relative Abundance (%) | Total No. Observed | Relative Abundance (%) |
| AMERICAN CROW | 4 | 0.7 | 1 | 0.8 | 1 | 0.5 |
| AMERICAN DIPPER | | | 2 | 1.7 | | |
| AMERICAN GOLDFINCH | 10 | 1.8 | | | | |
| AMERICAN KESTREL | | | 1 | 0.8 | | |
| AMERICAN ROBIN | 30 | 5.3 | 2 | 1.7 | 12 | 5.6 |
| AMERICAN WIGEON | | | 10 | 8.3 | | |
| BALD EAGLE*** | | | 1 | 0.8 | 2 | 0.9 |
| BELTED KINGFISHER | 14 | 2.5 | 5 | 4.1 | 4 | 1.9 |
| BLACK-CAPPED CHICKADEE | 6 | 1.1 | 8 | 6.6 | 1 | 0.5 |
| BLACK-HEADED GROSBEAK | 5 | 0.9 | | | | |
| BLACK-THROATED GRAY WARBLER | 5 | 0.9 | | | | |
| BLUE-WINGED TEAL | | | 6 | 5.0 | | |
| BREWER'S BLACKBIRD | 1 | 0.2 | | | | |
| BROWN-HEADED COWBIRD | 5 | 0.9 | | | | |
| BUFFLEHEAD | | | 1 | 0.8 | 54 | 25.0 |
| BULLOCK'S ORIOLE | 2 | 0.4 | | 0.0 | | |
| BUSHTIT | 4 | 0.7 | | | | |
| CANADA GOOSE | 29 | 5.1 | | | | |
| CEDAR WAXWING | 31 | 5.4 | | | | |
| CHESTNUT-BACKED CHICKADEE | 1 | 0.2 | 4 | 3.3 | | |
| CHICKADEE (SP.) | | | 1 | 0.8 | | |
| COMMON FLICKER | 5 | 0.9 | 4 | 3.3 | 3 | 1.4 |
| COMMON MERGANSER | 3 | 0.5 | | | | |
| COMMON RAVEN | 3 | 0.5 | | | | |
| COMMON SNIPE | 1 | 0.2 | | | | |
| COMMON YELLOWTHROAT | 25 | 4.4 | | | | |
| DARK-EYED JUNCO | 2 | 0.4 | 4 | 3.3 | 11 | 5.1 |
| DOWNY WOODPECKER | 9 | 1.6 | | | | |
| EUROPEAN STARLING | 13 | 2.3 | | | | |
| FLYCATCHER (SP.) | | | | | 1 | 0.5 |
| GOLDEN-CROWNED KINGLET | 1 | 0.2 | | | 12 | 5.6 |
| GREAT BLUE HERON** | 6 | 1.1 | 1 | 0.8 | 4 | 1.9 |
| GREEN-BACKED HERON | 1 | 0.2 | | | | |
| GULL (SP.) | 1 | 0.2 | | | | |
| HAIRY WOODPECKER | 2 | 0.4 | | | | |
| HOODED MERGANSER** | 23 | 4.0 | 8 | 6.6 | 4 | 1.9 |
| HUMMINGBIRD (SP.) | 2 | 0.4 | | | | |
| HUTTON'S VIREO | 1 | 0.2 | 1 | 0.8 | | |
| KILLDEER | 8 | 1.4 | | | 1 | 0.5 |
| LESSER SCAUP | | | 2 | 1.7 | | |
| MACGILLIVARY'S WARBLER | 4 | 0.7 | | | | |
| MALLARD | 16 | 2.8 | 13 | 10.7 | 31 | 14.4 |
| MARSH WREN | 2 | 0.4 | 2 | 1.7 | | |
| NORTHERN ORIOLE | 2 | 0.4 | | | | |
| NORTHERN ROUGH-WINGED SWALLOW | 16 | 2.8 | | | | |

Yale Hydroelectric Project, Seasonal Surveys: Wetland

| Species | Breeding Season 1996-1997 | | Fall 1996-1997 | | Winter 1997-1998 | |
|---|---------------------------|------------------------|--------------------|------------------------|--------------------|------------------------|
| | Total No. Observed | Relative Abundance (%) | Total No. Observed | Relative Abundance (%) | Total No. Observed | Relative Abundance (%) |
| OSPREY*** | 3 | 0.5 | | | | |
| PACIFIC SLOPE FLYCATCHER | 4 | 0.7 | | | | |
| PILEATED WOODPECKER*** | 1 | 0.2 | | | 1 | 0.5 |
| PURPLE FINCH | 1 | 0.2 | | | | |
| RED-BREASTED NUTHATCH | 1 | 0.2 | | | | |
| RED-BREASTED SAPSUCKER | 2 | 0.4 | | | | |
| RED-TAILED HAWK | | | | | 2 | 0.9 |
| RED-WINGED BLACKBIRD | 50 | 8.8 | 2 | 1.7 | 13 | 6.0 |
| RING-NECKED DUCK | | | 5 | 4.1 | 7 | 3.2 |
| RUBY-CROWNED KINGLET | | | 1 | 0.8 | | |
| RUFOUS HUMMINGBIRD | 7 | 1.2 | | | | |
| SOLITARY VIREO | 2 | 0.4 | | | | |
| SONG SPARROW | 60 | 10.5 | 16 | 13.2 | 23 | 10.6 |
| SPOTTED SANDPIPER | 1 | 0.2 | | | | |
| STELLER'S JAY | 6 | 1.1 | 9 | 7.4 | 11 | 5.1 |
| SWAINSON'S THRUSH | 11 | 1.9 | | | | |
| SWALLOW (SP.) | 1 | 0.2 | | | | |
| TREE SWALLOW | 23 | 4.0 | | | | |
| VARIED THRUSH | | | 3 | 2.5 | 5 | 2.3 |
| VIOLET GREEN SWALLOW | 16 | 2.8 | | | | |
| WARBLING VIREO | 3 | 0.5 | | | | |
| WESTERN TANAGER | 7 | 1.2 | | | | |
| WESTERN WOOD-PEWEE | 5 | 0.9 | | | | |
| WHITE-CROWNED SPARROW | 4 | 0.7 | | | | |
| WILLOW FLYCATCHER | 24 | 4.2 | | | | |
| WILSON'S WARBLER | 2 | 0.4 | | | | |
| WINTER WREN | 3 | 0.5 | 5 | 4.1 | 11 | 5.1 |
| WOOD DUCK** | 28 | 4.9 | | | 1 | 0.5 |
| WOODPECKER (SP.) | 1 | 0.2 | | | 1 | 0.5 |
| YELLOW-RUMPED WARBLER | | | 3 | 2.5 | | |
| YELLOW WARBLER | 12 | 2.1 | | | | |
| | | | | | | |
| Total No. of Individuals | 571 | | 121 | | 216 | |
| Total No. of Species | 62 | | 28 | | 24 | |
| Mean Species Richness | 10.9 | | 5.1 | | 5.8 | |
| | | | | | | |
| Mammals or Mammal Sign Observed During Seasonal Surveys | | | | | | |
| BEAVER | | | | | | |
| BLACK-TAILED DEER** | | | | | | |
| DOUGLAS SQUIRREL | | | | | | |
| ELK** | | | | | | |
| MINK** | | | | | | |

Yale Hydroelectric Project, Seasonal Surveys: Wetland

| Species | Swift Wetland | | | | | |
|-------------------------------|---------------------|------------------|-------------------|-----------|------------------|----------|
| | Br.Sea9697 total | Relative Abun | Fall9697 total | rel.abun. | win9798 total | rel.abun |
| AMERICAN CROW | | | 1 | 8.3 | 1 | 2.4 |
| AMERICAN DIPPER | | | 2 | 1.7 | | |
| AMERICAN GOLDFINCH | 8 | 7.0 | | | | |
| AMERICAN KESTREL | | | 1 | 0.8 | | |
| AMERICAN ROBIN | 4 | 3.5 | 2 | 1.7 | 3 | 7.1 |
| AMERICAN WIGEON | | | 10 | 8.3 | | |
| BALD EAGLE*** | | | 1 | 0.8 | 1 | 2.4 |
| BELTED KINGFISHER | 4 | 3.5 | 5 | 4.1 | 3 | 7.1 |
| BLACK-CAPPED CHICKADEE | | | 8 | 6.6 | | |
| BLACK-HEADED GROSBEAK | | | | | | |
| BLACK-THROATED GRAY WARBLER | | | | | | |
| BLUE-WINGED TEAL | | | 6 | 5.0 | | |
| BREWER'S BLACKBIRD | | | | | | |
| BROWN-HEADED COWBIRD | 2 | 1.7 | | | | |
| BUFFLEHEAD | | | 1 | 0.8 | 9 | 21.4 |
| BULLOCK'S ORIOLE | | | | | | |
| BUSHTIT | | | | | | |
| CANADA GOOSE | 5 | 4.3 | | | | |
| CEDAR WAXWING | | | | | | |
| CHESTNUT-BACKED CHICKADEE | | | 4 | 3.3 | | |
| CHICKADEE (SP.) | | | 1 | 0.8 | | |
| COMMON FLICKER | | | 4 | 3.3 | 1 | 2.4 |
| COMMON MERGANSER | 3 | 2.6 | | | | |
| COMMON RAVEN | | | | | | |
| COMMON SNIPE | | | | | | |
| COMMON YELLOWTHROAT | 5 | 4.3 | | | | |
| DARK-EYED JUNCO | | | 4 | 3.3 | 3 | 7.1 |
| DOWNY WOODPECKER | | | | | | |
| EUROPEAN STARLING | 1 | 0.9 | | | | |
| FLYCATCHER (SP.) | | | | | 1 | 2.4 |
| GOLDEN-CROWNED KINGLET | | | | | | |
| GREAT BLUE HERON** | | | 1 | 0.8 | 2 | 4.8 |
| GREEN-BACKED HERON | | | | | | |
| GULL (SP.) | | | | | | |
| HAIRY WOODPECKER | | | | | | |
| HOODED MERGANSER** | 1 | 0.9 | 8 | 6.6 | | |
| HUMMINGBIRD (SP.) | | | | | | |
| HUTTON'S VIREO | | | 1 | 0.8 | | |
| KILLDEER | 8 | 7.0 | | | 1 | 2.4 |
| LESSER SCAUP | | | 2 | 1.7 | | |
| MACGILLIVARY'S WARBLER | | | | | | |
| MALLARD | 10 | 8.7 | 13 | 10.7 | 6 | 14.3 |
| MARSH WREN | | | 2 | 1.7 | | |
| NORTHERN ORIOLE | | | | | | |
| NORTHERN ROUGH-WINGED SWALLOW | 8 | 7.0 | | | | |

Yale Hydroelectric Project, Seasonal Surveys: Wetland

| Species | Swift Wetland | | | | | |
|--|---------------------|------------------|-------------------|-----------|------------------|----------|
| | Br.Sea9697 total | Relative Abun | Fall9697 total | rel.abun. | win9798 total | rel.abun |
| OSPREY*** | | | | | | |
| PACIFIC SLOPE FLYCATCHER | | | | | | |
| PILEATED WOODPECKER*** | | | | | | |
| PURPLE FINCH | | | | | | |
| RED-BREASTED NUTHATCH | | | | | | |
| RED-BREASTED SAPSUCKER | | | | | | |
| RED-TAILED HAWK | | | | | | |
| RED-WINGED BLACKBIRD | 24 | 20.9 | 2 | 1.7 | 7 | 16.7 |
| RING-NECKED DUCK | | | 5 | 4.1 | | |
| RUBY-CROWNED KINGLET | | | 1 | 0.8 | | |
| RUFOUS HUMMINGBIRD | 1 | 0.9 | | | | |
| SOLITARY VIREO | | | | | | |
| SONG SPARROW | 8 | 7.0 | 16 | 13.2 | 4 | 9.5 |
| SPOTTED SANDPIPER | 1 | 0.9 | | | | |
| STELLER'S JAY | | | 9 | 7.4 | | |
| SWAINSON'S THRUSH | | | | | | |
| SWALLOW (SP.) | | | | | | |
| TREE SWALLOW | 1 | 0.9 | | | | |
| VARIED THRUSH | | | 3 | 2.5 | | |
| VIOLET GREEN SWALLOW | 7 | 6.1 | | | | |
| WARBLING VIREO | | | | | | |
| WESTERN TANAGER | | | | | | |
| WESTERN WOOD-PEWEE | 4 | 3.5 | | | | |
| WHITE-CROWNED SPARROW | 1 | 0.9 | | | | |
| WILLOW FLYCATCHER | 4 | 3.5 | | | | |
| WILSON'S WARBLER | | | | | | |
| WINTER WREN | | | 5 | 4.1 | | |
| WOOD DUCK** | | | | | | |
| WOODPECKER (SP.) | | | | | | |
| YELLOW-RUMPED WARBLER | | | 3 | 2.5 | | |
| YELLOW WARBLER | 5 | 4.3 | | | | |
| | | | | | | |
| Total No. of Individuals | 115 | | 121 | | 42 | |
| Total No. of Species | 22 | | 28 | | 13 | |
| Mean Species Richness | 12.0 | | 7.0 | | 9.0 | |
| | | | | | | |
| Mammals or Mammal Sign Observed During Seasonal Surveys | | | | | | |
| BEAVER | | | | | | |
| BLACK-TAILED DEER** | | | | | | |
| DOUGLAS SQUIRREL | | | | | | |
| ELK** | | | | | | |
| MINK** | | | | | | |

Yale Hydroelectric Project, Seasonal Surveys: Wetland

| Species | IP Wetland | | | | | |
|-------------------------------|--------------------|---------|-------------------|----------|------------------|-----------|
| | BrSea9697 total | rel.abu | fall9697 toatl | rel.abun | win9697 total | rel.a un. |
| AMERICAN CROW | 1 | 1.4 | | | | |
| AMERICAN DIPPER | | | | | | |
| AMERICAN GOLDFINCH | | | | | | |
| AMERICAN KESTREL | | | | | | |
| AMERICAN ROBIN | 5 | 6.9 | 1 | 5.0 | 1 | 4.8 |
| AMERICAN WIGEON | | | | | | |
| BALD EAGLE*** | | | | | | |
| BELTED KINGFISHER | 1 | 1.4 | | | | |
| BLACK-CAPPED CHICKADEE | 2 | 2.8 | | | | |
| BLACK-HEADED GROSBEAK | 2 | 2.8 | | | | |
| BLACK-THROATED GRAY WARBLER | 1 | 1.4 | | | | |
| BLUE-WINGED TEAL | | | | | | |
| BREWER'S BLACKBIRD | | | | | | |
| BROWN-HEADED COWBIRD | | | | | | |
| BUFFLEHEAD | | | | | | |
| BULLOCK'S ORIOLE | 2 | 2.8 | | | | |
| BUSHTIT | | | | | | |
| CANADA GOOSE | | | | | | |
| CEDAR WAXWING | 8 | 11.1 | | | | |
| CHESTNUT-BACKED CHICKADEE | 1 | 1.4 | 2 | 10.0 | | |
| CHICKADEE (SP.) | | | | | | |
| COMMON FLICKER | | | | | | |
| COMMON MERGANSER | | | | | | |
| COMMON RAVEN | | | | | | |
| COMMON SNIPE | | | | | | |
| COMMON YELLOWTHROAT | 3 | 4.2 | | | | |
| DARK-EYED JUNCO | 1 | 1.4 | | | 3 | 14.3 |
| DOWNY WOODPECKER | 1 | 1.4 | | | | |
| EUROPEAN STARLING | | | | | | |
| FLYCATCHER (SP.) | | | | | | |
| GOLDEN-CROWNED KINGLET | 1 | 1.4 | | | | |
| GREAT BLUE HERON** | | | | | | |
| GREEN-BACKED HERON | | | | | | |
| GULL (SP.) | | | | | | |
| HAIRY WOODPECKER | 1 | 1.4 | | | | |
| HOODED MERGANSER** | 3 | 4.2 | | | | |
| HUMMINGBIRD (SP.) | | | | | | |
| HUTTON'S VIREO | | | | | | |
| KILLDEER | | | | | | |
| LESSER SCAUP | | | | | | |
| MACGILLIVARY'S WARBLER | 3 | 4.2 | | | | |
| MALLARD | | | | | 2 | 9.5 |
| MARSH WREN | | | | | | |
| NORTHERN ORIOLE | 1 | 1.4 | | | | |
| NORTHERN ROUGH-WINGED SWALLOW | 2 | 2.8 | | | | |

Yale Hydroelectric Project, Seasonal Surveys: Wetland

| Species | IP Wetland | | | | | |
|---|--------------------|---------|-------------------|----------|------------------|-----------|
| | BrSea9697 total | rel.abu | fall9697 total | rel.abun | win9697 total | rel.a un. |
| OSPREY*** | | | | | | |
| PACIFIC SLOPE FLYCATCHER | 2 | 2.8 | | | | |
| PILEATED WOODPECKER*** | 1 | 1.4 | | | 1 | 4.8 |
| PURPLE FINCH | | | | | | |
| RED-BREASTED NUTHATCH | | | | | | |
| RED-BREASTED SAPSUCKER | | | | | | |
| RED-TAILED HAWK | | | | | 1 | 4.8 |
| RED-WINGED BLACKBIRD | | | | | | |
| RING-NECKED DUCK | | | | | | |
| RUBY-CROWNED KINGLET | | | | | | |
| RUFOUS HUMMINGBIRD | 4 | 5.6 | | | | |
| SOLITARY VIREO | | | | | | |
| SONG SPARROW | 12 | 16.7 | 14 | 70.0 | 7 | 33.3 |
| SPOTTED SANDPIPER | | | | | | |
| STELLER'S JAY | | | 1 | 5.0 | | |
| SWAINSON'S THRUSH | 7 | 9.7 | | | | |
| SWALLOW (SP.) | | | | | | |
| TREE SWALLOW | 2 | 2.8 | | | | |
| VARIED THRUSH | | | | | 3 | 14.3 |
| VIOLET GREEN SWALLOW | | | | | | |
| WARBLING VIREO | 1 | 1.4 | | | | |
| WESTERN TANAGER | 2 | 2.8 | | | | |
| WESTERN WOOD-PEWEE | 1 | 1.4 | | | | |
| WHITE-CROWNED SPARROW | | | | | | |
| WILLOW FLYCATCHER | | | | | | |
| WILSON'S WARBLER | 1 | 1.4 | | | | |
| WINTER WREN | | | 2 | 10.0 | 3 | 14.3 |
| WOOD DUCK** | | | | | | |
| WOODPECKER (SP.) | | | | | | |
| YELLOW-RUMPED WARBLER | | | | | | |
| YELLOW WARBLER | | | | | | |
| | | | | | | |
| Total No. of Individuals | 72 | | 20 | | 21 | |
| Total No. of Species | 28 | | 5 | | 8 | |
| Mean Species Richness | 11.5 | | 3.0 | | 5.0 | |
| | | | | | | |
| Mammals or Mammal Sign Observed During Seasonal Surveys | | | | | | |
| BEAVER | | | | | | |
| BLACK-TAILED DEER** | | | | | | |
| DOUGLAS SQUIRREL | | | | | | |
| ELK** | | | | | | |
| MINK** | | | | | | |

Yale Hydroelectric Project, Seasonal Surveys: Wetland

| Species | BeaBayWetland | | | | | |
|-------------------------------|--------------------|---------|-------------------|----------|------------------|-----------|
| | BrSea9697 total | rel.abu | fall9697 toatl | rel.abun | win9697 total | rel.a un. |
| AMERICAN CROW | 3.0 | 1.3 | | | | |
| AMERICAN DIPPER | | | | | | |
| AMERICAN GOLDFINCH | 2 | 0.9 | | | | |
| AMERICAN KESTREL | | | 1 | 2.2 | | |
| AMERICAN ROBIN | 15 | 6.7 | 1 | 2.2 | 8 | 12.7 |
| AMERICAN WIGEON | | | | | | |
| BALD EAGLE*** | | | 1 | 2.2 | 1 | 1.6 |
| BELTED KINGFISHER | 1 | 0.4 | 3 | 6.7 | 1 | 1.6 |
| BLACK-CAPPED CHICKADEE | 4 | 1.8 | 8 | 17.8 | 1 | 1.6 |
| BLACK-HEADED GROSBEAK | 2 | 0.9 | | | | |
| BLACK-THROATED GRAY WARBLER | 4 | 1.8 | | | | |
| BLUE-WINGED TEAL | | | | | | |
| BREWER'S BLACKBIRD | 1 | 0.4 | | | | |
| BROWN-HEADED COWBIRD | 2 | 0.9 | | | | |
| BUFFLEHEAD | | | | | | |
| BULLOCK'S ORIOLE | | | | | | |
| BUSHTIT | 4 | 1.8 | | | | |
| CANADA GOOSE | 24 | 10.7 | | | | |
| CEDAR WAXWING | 9 | 4.0 | | | | |
| CHESTNUT-BACKED CHICKADEE | | | 2 | 4.4 | | |
| CHICKADEE (SP.) | | | | | | |
| COMMON FLICKER | 2 | 0.9 | 3 | 6.7 | 2 | 3.2 |
| COMMON MERGANSER | | | | | | |
| COMMON RAVEN | 3 | 1.3 | | | | |
| COMMON SNIPE | | | | | | |
| COMMON YELLOWTHROAT | 9 | 4.0 | | | | |
| DARK-EYED JUNCO | 1 | 0.4 | | | 5 | 7.9 |
| DOWNY WOODPECKER | 8 | 3.6 | | | | |
| EUROPEAN STARLING | 3 | 1.3 | | | | |
| FLYCATCHER (SP.) | | | | | | |
| GOLDEN-CROWNED KINGLET | | | | | 9 | 14.3 |
| GREAT BLUE HERON** | 5 | 2.2 | | | 2 | 3.2 |
| GREEN-BACKED HERON | 1 | 0.4 | | | | |
| GULL (SP.) | 1 | 0.4 | | | | |
| HAIRY WOODPECKER | 1 | 0.4 | | | | |
| HOODED MERGANSER** | | | | | | |
| HUMMINGBIRD (SP.) | 2 | 0.9 | | | | |
| HUTTON'S VIREO | 1 | 0.4 | 1 | 2.2 | | |
| KILLDEER | | | | | | |
| LESSER SCAUP | | | | | | |
| MACGILLIVARY'S WARBLER | | | | | | |
| MALLARD | 3 | 1.3 | 2 | 4.4 | 6 | 9.5 |
| MARSH WREN | | | 2 | 4.4 | | |
| NORTHERN ORIOLE | 1 | 0.4 | | | | |
| NORTHERN ROUGH-WINGED SWALLOW | 6 | 2.7 | | | | |

Yale Hydroelectric Project, Seasonal Surveys: Wetland

| Species | BeaBayWetland | | | | | |
|---|--------------------|---------|-------------------|----------|------------------|-----------|
| | BrSea9697 total | rel.abu | fall9697 toatl | rel.abun | win9697 total | rel.a un. |
| OSPREY*** | 3 | 1.3 | | | | |
| PACIFIC SLOPE FLYCATCHER | 2 | 0.9 | | | | |
| PILEATED WOODPECKER*** | | | | | | |
| PURPLE FINCH | 1 | 0.4 | | | | |
| RED-BREASTED NUTHATCH | 1 | 0.4 | | | | |
| RED-BREASTED SAPSUCKER | 2 | 0.9 | | | | |
| RED-TAILED HAWK | | | | | 1 | 1.6 |
| RED-WINGED BLACKBIRD | 13 | 5.8 | | | 6 | 9.5 |
| RING-NECKED DUCK | | | | | | |
| RUBY-CROWNED KINGLET | | | 1 | 2.2 | | |
| RUFOUS HUMMINGBIRD | 1 | 0.4 | | | | |
| SOLITARY VIREO | 2 | 0.9 | | | | |
| SONG SPARROW | 32 | 14.3 | 9 | 20.0 | 10 | 15.9 |
| SPOTTED SANDPIPER | | | | | | |
| STELLER'S JAY | 3 | 1.3 | 6 | 13.3 | 8 | 12.7 |
| SWAINSON'S THRUSH | 3 | 1.3 | | | | |
| SWALLOW (SP.) | 1 | 0.4 | | | | |
| TREE SWALLOW | | | | | | |
| VARIED THRUSH | | | 3 | 6.7 | 2 | 3.2 |
| VIOLET GREEN SWALLOW | 7 | 3.1 | | | | |
| WARBLING VIREO | 2 | 0.9 | | | | |
| WESTERN TANAGER | 4 | 1.8 | | | | |
| WESTERN WOOD-PEWEE | | | | | | |
| WHITE-CROWNED SPARROW | 3 | 1.3 | | | | |
| WILLOW FLYCATCHER | 14 | 6.3 | | | | |
| WILSON'S WARBLER | 1 | 0.4 | | | | |
| WINTER WREN | 3 | 1.3 | 2 | 4.4 | | |
| WOOD DUCK** | 1 | 0.4 | | | | |
| WOODPECKER (SP.) | | | | | 1 | 1.6 |
| YELLOW-RUMPED WARBLER | | | | | | |
| YELLOW WARBLER | 7 | 3.125 | | | | |
| | | | | | | |
| Total No. of Individuals | 224 | | 45 | | 63 | |
| Total No. of Species | 48 | | 15 | | 15 | |
| Mean Species Richness | 9.8 | | 4.8 | | 4.8 | |
| | | | | | | |
| Mammals or Mammal Sign Observed During Seasonal Surveys | | | | | | |
| BEAVER | | | | | | |
| BLACK-TAILED DEER** | | | | | | |
| DOUGLAS SQUIRREL | | | | | | |
| ELK** | | | | | | |
| MINK** | | | | | | |

Yale Hydroelectric Project, Seasonal Surveys: Wetland

| Species | Frazier Wetland | | | | | |
|-------------------------------|--------------------|---------|-------------------|----------|------------------|-----------|
| | BrSea9697 total | rel.abu | fall9697 total | rel.abun | win9697 total | rel.a un. |
| AMERICAN CROW | | | 1 | 2.9 | | |
| AMERICAN DIPPER | | | | | | |
| AMERICAN GOLDFINCH | | | | | | |
| AMERICAN KESTREL | | | | | | |
| AMERICAN ROBIN | 6 | 3.8 | | | | |
| AMERICAN WIGEON | | | 8 | 23.5 | | |
| BALD EAGLE*** | | | | | | |
| BELTED KINGFISHER | 8 | 5.0 | 1 | 2.9 | | |
| BLACK-CAPPED CHICKADEE | | | | | | |
| BLACK-HEADED GROSBEAK | 1 | 0.6 | | | | |
| BLACK-THROATED GRAY WARBLER | | | | | | |
| BLUE-WINGED TEAL | | | | | | |
| BREWER'S BLACKBIRD | | | | | | |
| BROWN-HEADED COWBIRD | 1 | 0.6 | | | | |
| BUFFLEHEAD | | | | | 45 | 55.6 |
| BULLOCK'S ORIOLE | | | | | | |
| BUSHTIT | | | | | | |
| CANADA GOOSE | | | | | | |
| CEDAR WAXWING | 14 | 8.8 | | | | |
| CHESTNUT-BACKED CHICKADEE | | | | | | |
| CHICKADEE (SP.) | | | | | | |
| COMMON FLICKER | 3 | 1.9 | 1 | 2.9 | | |
| COMMON MERGANSER | | | | | | |
| COMMON RAVEN | | | | | | |
| COMMON SNIPE | 1 | 0.6 | | | | |
| COMMON YELLOWTHROAT | 8 | 5.0 | | | | |
| DARK-EYED JUNCO | | | | | | |
| DOWNY WOODPECKER | | | | | | |
| EUROPEAN STARLING | 9 | 5.6 | | | | |
| FLYCATCHER (SP.) | | | | | | |
| GOLDEN-CROWNED KINGLET | | | | | 3 | 3.7 |
| GREAT BLUE HERON** | 1 | 0.6 | | | | |
| GREEN-BACKED HERON | | | | | | |
| GULL (SP.) | | | | | | |
| HAIRY WOODPECKER | | | | | | |
| HOODED MERGANSER** | 19 | 11.9 | 8 | 23.5 | 4 | 4.9 |
| HUMMINGBIRD (SP.) | | | | | | |
| HUTTON'S VIREO | | | | | | |
| KILLDEER | | | | | | |
| LESSER SCAUP | | | 2 | 5.9 | | |
| MACGILLIVARY'S WARBLER | 1 | 0.6 | | | | |
| MALLARD | 3 | 1.9 | 7 | 20.6 | 8 | 9.9 |
| MARSH WREN | 2 | 1.3 | | | | |
| NORTHERN ORIOLE | | | | | | |
| NORTHERN ROUGH-WINGED SWALLOW | | | | | | |

Yale Hydroelectric Project, Seasonal Surveys: Wetland

| Species | Frazier Wetland | | | | | |
|---|--------------------|---------|-------------------|----------|------------------|-----------|
| | BrSea9697 total | rel.abu | fall9697 toatl | rel.abun | win9697 total | rel.a un. |
| OSPREY*** | | | | | | |
| PACIFIC SLOPE FLYCATCHER | | | | | | |
| PILEATED WOODPECKER*** | | | | | | |
| PURPLE FINCH | | | | | | |
| RED-BREASTED NUTHATCH | | | | | | |
| RED-BREASTED SAPSUCKER | | | | | | |
| RED-TAILED HAWK | | | | | | |
| RED-WINGED BLACKBIRD | 13 | 8.1 | | | | |
| RING-NECKED DUCK | | | 3 | 8.8 | 7 | 8.6 |
| RUBY-CROWNED KINGLET | | | | | | |
| RUFOUS HUMMINGBIRD | 1 | 0.6 | | | | |
| SOLITARY VIREO | | | | | | |
| SONG SPARROW | 8 | 5.0 | | | 2 | 2.5 |
| SPOTTED SANDPIPER | | | | | | |
| STELLER'S JAY | 3 | 1.9 | 2 | 5.9 | 3 | 3.7 |
| SWAINSON'S THRUSH | 1 | 0.6 | | | | |
| SWALLOW (SP.) | | | | | | |
| TREE SWALLOW | 20 | 12.5 | | | | |
| VARIED THRUSH | | | | | | |
| VIOLET GREEN SWALLOW | 2 | 1.3 | | | | |
| WARBLING VIREO | | | | | | |
| WESTERN TANAGER | 1 | 0.6 | | | | |
| WESTERN WOOD-PEWEE | | | | | | |
| WHITE-CROWNED SPARROW | | | | | | |
| WILLOW FLYCATCHER | 6 | 3.8 | | | | |
| WILSON'S WARBLER | | | | | | |
| WINTER WREN | | | 1 | 2.9 | 8 | 9.9 |
| WOOD DUCK** | 27 | 16.9 | | | 1 | 1.2 |
| WOODPECKER (SP.) | 1 | 0.6 | | | | |
| YELLOW-RUMPED WARBLER | | | | | | |
| YELLOW WARBLER | | | | | | |
| | | | | | | |
| Total No. of Individuals | 160 | | 34 | | 81 | |
| Total No. of Species | 25 | | 10 | | 9 | |
| Mean Species Richness | 12.5 | | 6.0 | | 6.0 | |
| | | | | | | |
| Mammals or Mammal Sign Observed During Seasonal Surveys | | | | | | |
| BEAVER | | | | | | |
| BLACK-TAILED DEER** | | | | | | |
| DOUGLAS SQUIRREL | | | | | | |
| ELK** | | | | | | |
| MINK** | | | | | | |

Yale Hydroelectric Project, Seasonal Surveys: Wetland

| Species | Breeding Season 1996-1997 | | Fall 1996-1997 | | Winter 1997-1998 | |
|-------------------------------|---------------------------|------------------------|--------------------|------------------------|--------------------|------------------------|
| | Total No. Observed | Relative Abundance (%) | Total No. Observed | Relative Abundance (%) | Total No. Observed | Relative Abundance (%) |
| AMERICAN CROW | 4 | 0.7 | 1 | 0.8 | 1 | 0.5 |
| AMERICAN DIPPER | | | 2 | 1.7 | | |
| AMERICAN GOLDFINCH | 10 | 1.8 | | | | |
| AMERICAN KESTREL | | | 1 | 0.8 | | |
| AMERICAN ROBIN | 30 | 5.3 | 2 | 1.7 | 12 | 5.6 |
| AMERICAN WIGEON | | | 10 | 8.3 | | |
| BALD EAGLE*** | | | 1 | 0.8 | 2 | 0.9 |
| BELTED KINGFISHER | 14 | 2.5 | 5 | 4.1 | 4 | 1.9 |
| BLACK-CAPPED CHICKADEE | 6 | 1.1 | 8 | 6.6 | 1 | 0.5 |
| BLACK-HEADED GROSBEAK | 5 | 0.9 | | | | |
| BLACK-THROATED GRAY WARBLER | 5 | 0.9 | | | | |
| BLUE-WINGED TEAL | | | 6 | 5.0 | | |
| BREWER'S BLACKBIRD | 1 | 0.2 | | | | |
| BROWN-HEADED COWBIRD | 5 | 0.9 | | | | |
| BUFFLEHEAD | | | 1 | 0.8 | 54 | 25.0 |
| BULLOCK'S ORIOLE | 2 | 0.4 | | 0.0 | | |
| BUSHTIT | 4 | 0.7 | | | | |
| CANADA GOOSE | 29 | 5.1 | | | | |
| CEDAR WAXWING | 31 | 5.4 | | | | |
| CHESTNUT-BACKED CHICKADEE | 1 | 0.2 | 4 | 3.3 | | |
| CHICKADEE (SP.) | | | 1 | 0.8 | | |
| COMMON FLICKER | 5 | 0.9 | 4 | 3.3 | 3 | 1.4 |
| COMMON MERGANSER | 3 | 0.5 | | | | |
| COMMON RAVEN | 3 | 0.5 | | | | |
| COMMON SNIPE | 1 | 0.2 | | | | |
| COMMON YELLOWTHROAT | 25 | 4.4 | | | | |
| DARK-EYED JUNCO | 2 | 0.4 | 4 | 3.3 | 11 | 5.1 |
| DOWNY WOODPECKER | 9 | 1.6 | | | | |
| EUROPEAN STARLING | 13 | 2.3 | | | | |
| FLYCATCHER (SP.) | | | | | 1 | 0.5 |
| GOLDEN-CROWNED KINGLET | 1 | 0.2 | | | 12 | 5.6 |
| GREAT BLUE HERON** | 6 | 1.1 | 1 | 0.8 | 4 | 1.9 |
| GREEN-BACKED HERON | 1 | 0.2 | | | | |
| GULL (SP.) | 1 | 0.2 | | | | |
| HAIRY WOODPECKER | 2 | 0.4 | | | | |
| HOODED MERGANSER** | 23 | 4.0 | 8 | 6.6 | 4 | 1.9 |
| HUMMINGBIRD (SP.) | 2 | 0.4 | | | | |
| HUTTON'S VIREO | 1 | 0.2 | 1 | 0.8 | | |
| KILLDEER | 8 | 1.4 | | | 1 | 0.5 |
| LESSER SCAUP | | | 2 | 1.7 | | |
| MACGILLIVARY'S WARBLER | 4 | 0.7 | | | | |
| MALLARD | 16 | 2.8 | 13 | 10.7 | 31 | 14.4 |
| MARSH WREN | 2 | 0.4 | 2 | 1.7 | | |
| NORTHERN ORIOLE | 2 | 0.4 | | | | |
| NORTHERN ROUGH-WINGED SWALLOW | 16 | 2.8 | | | | |

Yale Hydroelectric Project, Seasonal Surveys: Wetland

| Species | Breeding Season 1996-1997 | | Fall 1996-1997 | | Winter 1997-1998 | |
|---|---------------------------|------------------------|--------------------|------------------------|--------------------|------------------------|
| | Total No. Observed | Relative Abundance (%) | Total No. Observed | Relative Abundance (%) | Total No. Observed | Relative Abundance (%) |
| OSPREY*** | 3 | 0.5 | | | | |
| PACIFIC SLOPE FLYCATCHER | 4 | 0.7 | | | | |
| PILEATED WOODPECKER*** | 1 | 0.2 | | | 1 | 0.5 |
| PURPLE FINCH | 1 | 0.2 | | | | |
| RED-BREASTED NUTHATCH | 1 | 0.2 | | | | |
| RED-BREASTED SAPSUCKER | 2 | 0.4 | | | | |
| RED-TAILED HAWK | | | | | 2 | 0.9 |
| RED-WINGED BLACKBIRD | 50 | 8.8 | 2 | 1.7 | 13 | 6.0 |
| RING-NECKED DUCK | | | 5 | 4.1 | 7 | 3.2 |
| RUBY-CROWNED KINGLET | | | 1 | 0.8 | | |
| RUFOUS HUMMINGBIRD | 7 | 1.2 | | | | |
| SOLITARY VIREO | 2 | 0.4 | | | | |
| SONG SPARROW | 60 | 10.5 | 16 | 13.2 | 23 | 10.6 |
| SPOTTED SANDPIPER | 1 | 0.2 | | | | |
| STELLER'S JAY | 6 | 1.1 | 9 | 7.4 | 11 | 5.1 |
| SWAINSON'S THRUSH | 11 | 1.9 | | | | |
| SWALLOW (SP.) | 1 | 0.2 | | | | |
| TREE SWALLOW | 23 | 4.0 | | | | |
| VARIED THRUSH | | | 3 | 2.5 | 5 | 2.3 |
| VIOLET GREEN SWALLOW | 16 | 2.8 | | | | |
| WARBLING VIREO | 3 | 0.5 | | | | |
| WESTERN TANAGER | 7 | 1.2 | | | | |
| WESTERN WOOD-PEWEE | 5 | 0.9 | | | | |
| WHITE-CROWNED SPARROW | 4 | 0.7 | | | | |
| WILLOW FLYCATCHER | 24 | 4.2 | | | | |
| WILSON'S WARBLER | 2 | 0.4 | | | | |
| WINTER WREN | 3 | 0.5 | 5 | 4.1 | 11 | 5.1 |
| WOOD DUCK** | 28 | 4.9 | | | 1 | 0.5 |
| WOODPECKER (SP.) | 1 | 0.2 | | | 1 | 0.5 |
| YELLOW-RUMPED WARBLER | | | 3 | 2.5 | | |
| YELLOW WARBLER | 12 | 2.1 | | | | |
| | | | | | | |
| Total No. of Individuals | 571 | | 121 | | 216 | |
| Total No. of Species | 62 | | 28 | | 24 | |
| Mean Species Richness | 10.5 | | 9.0 | | 12.4 | |
| | | | | | | |
| Mammals or Mammal Sign Observed During Seasonal Surveys | | | | | | |
| BEAVER | | | | | | |
| BLACK-TAILED DEER** | | | | | | |
| DOUGLAS SQUIRREL | | | | | | |
| ELK** | | | | | | |
| MINK** | | | | | | |