# Appendices

# I. Valley-wide map of mitigation and potential mitigation sites

# C:\My Documents\CNPS\reveg_map.jpgII. 1999 vegetation transect data

“Points” in the following tables are the number of readings on a sub-transect. Typically, this is 200 for a 100 m sub-transect unless the site boundaries have constrained the length of the sub-transect.

Vegetation abbreviations, scientific names, and common names are provided in Appendix IV.

# Five Bridges

These two transects were established using ICWD’s “point frame” method. Each transect consist of 334 points over 100 m.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Laws4** | |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  | total |  |  |  |
| LETR | DISPS2 | CHNA2 | ATLET | GLLE3 | LELA2 | hits | % cover |  |  |
| 88 | 33 | 7 | 5 | 5 | 145 | 283 | 84.7 |  |  |
|  |  |  |  |  |  |  |  |  |  |
| **Laws5** | |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  | total |  |
| LETR | DISPS2 | SPAI | JUBA | CHNA2 | ATLET | GLLE3 | AAFF | hits | % cover |
| 162 | 64 | 31 | 7 | 25 | 3 | 8 | 1 | 301 | 90.1 |

# Laws 118

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | HITS | | | | | |  |  |
| points | transect | BAHY | SATR | IVAX | CHNA2 | SAVE4 | SPAI | totals | % cover |
| 119 | 1.1 |  | 10 | 2 |  |  |  | 12 | 10.1 |
| 200 | 1.2 | 2 | 51 |  |  |  |  | 53 | 26.5 |
| 150 | 2.1 |  | 12 | 1 | 3 |  |  | 16 | 10.7 |
| 200 | 2.2 |  | 10 |  |  |  | 1 | 11 | 5.5 |
| 200 | 3.1 |  | 23 |  | 3 |  |  | 26 | 13.0 |
| 200 | 3.2 |  | 47 |  |  |  |  | 47 | 23.5 |
| 200 | 4.1 |  | 24 | 1 |  |  |  | 25 | 12.5 |
| 200 | 5.1 |  | 38 | 1 |  |  |  | 39 | 19.5 |
| 200 | 5.2 |  | 63 | 2 |  |  |  | 65 | 32.5 |
| 200 | 6.1 |  | 14 |  |  |  |  | 14 | 7.0 |
| 200 | 6.2 |  | 10 |  |  |  |  | 10 | 5.0 |
| 200 | 7.1 |  | 21 |  |  |  |  | 21 | 10.5 |
| 200 | 7.2 |  | 9 |  |  |  |  | 9 | 4.5 |
| 200 | 8.1 |  | 6 | 1 | 1 | 1 | 2 | 11 | 5.5 |
| 200 | 8.2 |  | 10 |  |  |  |  | 10 | 5.0 |
| 200 | 9.1 |  | 39 |  | 13 |  |  | 52 | 26.0 |
| 200 | 9.2 |  | 36 |  |  |  |  | 36 | 18.0 |
| 200 | 10.1 |  | 5 |  |  |  |  | 5 | 2.5 |
| 200 | 10.2 |  | 4 |  |  |  |  | 4 | 2.0 |
| 3669 |  | 2 | 432 | 8 | 20 | 1 | 3 | 466 | 12.7 |

Other species encountered on the site but not hit on the transects: ROPS, POFR3, MACA, and DISPS2.

# Bishop 97

All transects consisted of 200 points

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | HITS | | | | | | |  |
| transect | SATR | BROMU | | ULPU | CHNA2 | ATCA2 | totals | % cover |
| 1.1 | 80 |  | 5 | | 5 |  | 90 | 45.0 |
| 1.2 | 100 |  |  | | 2 |  | 102 | 51.0 |
| 1.3 | 20 |  |  | | 8 |  | 28 | 14.0 |
| 1.4 | 100 |  |  | |  |  | 100 | 50.0 |
| 1.5 | 30 |  |  | | 17 |  | 47 | 23.5 |
| 2.1 | 25 |  |  | | 8 |  | 33 | 16.5 |
| 2.2 | 3 |  |  | | 2 |  | 5 | 2.5 |
| 2.3 | 25 |  |  | | 7 |  | 32 | 16.0 |
| 2.4 | 160 |  |  | |  |  | 160 | 80.0 |
| 2.5 | 160 |  |  | |  |  | 160 | 80.0 |
| 2.6 | 160 |  |  | |  |  | 160 | 80.0 |
| 2.7 | 140 |  |  | |  |  | 140 | 70.0 |
| 2.8 | 40 |  | 8 | | 9 |  | 57 | 28.5 |
| 3.1 | 100 |  |  | |  |  | 100 | 50.0 |
| 3.2 | 90 |  |  | |  |  | 90 | 45.0 |
| 3.3 | 60 |  |  | | 1 |  | 61 | 30.5 |
| 3.4 | 60 |  |  | |  |  | 60 | 30.0 |
| 3.5 | 20 |  |  | |  |  | 20 | 10.0 |
| 3.6 | 30 |  |  | | 2 |  | 32 | 16.0 |
| 3.7 | 20 | 5 |  | | 7 | 2 | 34 | 17.0 |
| 4.1 | 40 |  |  | | 3 |  | 43 | 21.5 |
| 4.2 | 50 |  |  | |  |  | 50 | 25.0 |
| 4.3 | 50 |  |  | |  |  | 50 | 25.0 |
| 4.4 | 2 |  |  | |  |  | 2 | 1.0 |
| 4.5 | 30 |  |  | |  |  | 30 | 15.0 |
| 4.6 | 12 |  |  | | 6 |  | 18 | 9.0 |
| 4.7 |  |  |  | | 25 | 5 | 30 | 15.0 |
| 5.1 |  |  |  | | 17 | 4 | 21 | 10.5 |
| 5.2 | 2 |  | 15 | | 9 | 6 | 32 | 16.0 |
| 5.3 | 2 |  |  | | 3 |  | 5 | 2.5 |
| 5.4 | 2 |  |  | | 1 |  | 3 | 1.5 |
| 5.5 | 2 |  |  | | 9 |  | 11 | 5.5 |
| 5.6 | 4 |  |  | | 1 |  | 5 | 2.5 |
| 6.1 | 20 |  |  | | 4 |  | 24 | 12.0 |
| 6.2 | 30 |  |  | | 9 |  | 39 | 19.5 |
| 6.3 | 30 |  |  | | 4 |  | 34 | 17.0 |
| 6.4 | 20 |  | |  | 1 |  | 21 | 10.5 |
| 6.5 | 70 |  | |  |  |  | 70 | 35.0 |
| 7.1 | 20 |  | | 2 | 1 | 9 | 32 | 16.0 |
| 7.2 |  |  | | 5 |  |  | 5 | 2.5 |
| 7.3 | 60 |  | | 10 | 4 |  | 74 | 37.0 |
| 7.4 | 4 |  | |  | 24 |  | 28 | 14.0 |
|  | 1873 | 5 | | 45 | 189 | 26 | 2138 | 25.5 |

Other species encountered on the site but not hit on the transects: DISPS2, AAFF, AMDU2, BAHY, BRMAR, and AMSIN.

# Big Pine 160

All transects had 200 points, totaling 10800 points.

|  | HITS | | | | | | | | | | | | | % | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| transect | SATR | ROPS | CHNA2 | ATLET | ATCA2 | ATCO | ATPO | KRLA | ARTRT | SAVE4 | HECU3 | SPAI | total | | cover |
| 1.1 | 10 |  | 6 |  | 2 |  |  |  |  |  |  |  | 18 | | 9.0 |
| 1.2 | 11 |  | 1 |  |  |  |  |  |  |  |  |  | 12 | | 6.0 |
| 1.3 | 11 |  | 1 |  |  |  |  |  |  |  |  |  | 12 | | 6.0 |
| 1.4 | 21 |  |  |  |  |  |  |  |  |  |  |  | 21 | | 10.5 |
| 1.5 | 12 |  |  |  |  |  |  |  |  |  |  | 2 | 14 | | 7.0 |
| 1.6 | 3 |  |  |  |  |  |  |  |  |  |  | 1 | 4 | | 2.0 |
| 1.7 | 1 |  | 7 |  |  |  |  |  |  |  |  |  | 8 | | 4.0 |
| 2.1 | 11 |  | 4 | 7 |  |  |  |  |  |  |  | 1 | 23 | | 11.5 |
| 2.2 | 40 |  |  |  |  |  |  |  |  |  |  | 1 | 41 | | 20.5 |
| 2.3 | 38 |  | 2 |  |  |  |  |  |  |  |  |  | 40 | | 20.0 |
| 2.4 | 40 |  |  |  |  |  |  |  |  |  |  |  | 40 | | 20.0 |
| 2.5 | 9 |  |  |  |  |  |  |  |  |  |  |  | 9 | | 4.5 |
| 2.6 | 20 |  | 3 |  |  |  |  |  |  |  |  |  | 23 | | 11.5 |
| 2.7 | 40 |  | 1 |  |  |  |  |  |  |  |  |  | 41 | | 20.5 |
| 3.1 | 4 |  |  |  |  |  |  |  |  |  |  |  | 4 | | 2.0 |
| 3.2 | 40 |  |  |  |  |  |  |  |  |  |  |  | 40 | | 20.0 |
| 3.3 | 80 |  |  |  |  |  |  |  |  |  |  |  | 80 | | 40.0 |
| 3.4 | 80 |  |  |  |  |  |  |  |  |  |  |  | 80 | | 40.0 |
| 3.5 | 120 |  |  |  |  |  |  |  |  |  |  |  | 120 | | 60.0 |
| 3.6 | 10 | 7 |  |  |  |  |  |  |  |  |  |  | 17 | | 8.5 |
| 3.7 | 16 |  | 8 |  |  |  |  |  |  |  |  |  | 24 | | 12.0 |
| 4.1 | 20 |  | 16 |  |  |  |  |  |  |  |  |  | 36 | | 18.0 |
| 4.2 | 100 |  | 1 |  |  |  |  |  |  |  |  |  | 101 | | 50.5 |
| 4.3 | 70 |  | 2 |  |  |  |  |  |  |  |  |  | 72 | | 36.0 |
| 4.4 | 100 |  |  |  |  |  |  |  |  |  |  |  | 100 | | 50.0 |
| 4.5 | 100 |  | 3 |  |  |  |  |  |  |  |  |  | 103 | | 51.5 |
| 4.6 | 30 |  |  |  |  |  |  |  | 5 |  |  |  | 35 | | 17.5 |
| 4.7 | 30 |  |  |  |  |  |  |  |  |  |  |  | 30 | | 15.0 |
| 5.1 | 1 |  |  | 9 |  |  |  |  |  | 6 |  |  | 16 | | 8.0 |
| 5.2 | 27 |  | 3 |  |  |  |  |  |  |  |  |  | 30 | | 15.0 |
| 5.3 | 24 |  | 9 |  |  |  |  |  |  |  |  |  | 33 | | 16.5 |
| 5.4 | 80 |  |  |  |  |  |  |  |  |  |  |  | 80 | | 40.0 |
| 5.5 | 80 |  | 4 |  |  |  |  |  |  |  |  |  | 84 | | 42.0 |
| 5.6 | 70 |  |  |  |  |  |  |  |  |  |  |  | 70 | | 35.0 |
| 5.7 | 20 |  | 5 |  |  |  |  |  |  |  |  |  | 25 | | 12.5 |
| 6.1 | 50 |  | 4 |  |  |  |  |  |  |  |  |  | 54 | | 27.0 |
| 6.2 | 110 |  | 1 |  |  |  |  |  |  |  |  |  | 111 | | 55.5 |
| 6.3 | 80 |  | 3 |  |  |  |  |  |  |  |  |  | 83 | | 41.5 |
| 6.4 | 120 |  |  |  |  |  |  |  |  |  |  |  | 120 | | 60.0 |
| 6.5 | 60 |  | 2 |  |  |  |  |  |  |  |  |  | 62 | | 31.0 |
| 6.6 | 80 |  |  |  |  |  |  |  |  |  |  |  | 80 | | 40.0 |
| 6.7 | 10 |  | 1 |  |  |  |  |  |  |  |  |  | 11 | | 5.5 |
| 7.1 | 10 |  | 1 |  |  |  |  |  |  |  |  |  | 11 | | 5.5 |
| 7.2 | 8 |  | 4 |  |  |  |  |  |  |  | 2 |  | 14 | | 7.0 |
| 7.3 | 10 |  | 3 | 2 |  |  |  |  |  |  |  |  | 15 | | 7.5 |
| 7.4 | 70 |  |  |  |  |  |  |  |  |  |  |  | 70 | | 35.0 |
| 7.5 | 60 |  | 9 |  |  |  |  |  | 1 |  |  | 1 | 71 | | 35.5 |
| 7.6 | 40 |  | 1 |  |  |  |  |  |  |  |  |  | 41 | | 20.5 |
| 7.7 |  |  | 2 | 45 |  |  |  |  |  |  |  |  | 47 | | 23.5 |
| 8.1 |  |  |  | 1 |  | 2 |  |  |  | 9 |  |  | 12 | | 6.0 |
| 8.2 | 12 |  |  | 5 |  |  |  |  |  |  |  | 1 | 18 | | 9.0 |
| 8.3 | 3 |  | 1 | 10 |  |  |  |  |  |  |  |  | 14 | | 7.0 |
| 8.4 |  |  |  | 7 |  |  | 5 |  |  |  |  |  | 12 | | 6.0 |
| 8.5 |  |  |  | 15 |  |  |  | 1 |  |  |  |  | 16 | | 8.0 |
|  | 2092 | 7 | 108 | 101 | 2 | 2 | 5 | 1 | 6 | 15 | 2 | 7 | 2348 | | 21.74 |

Other species encountered on the site but not hit on the transects: ROWOU, BAHY, SAEX, TAPA4, AIAL, ULPU, AMSIN, SIAL2, SPAM2, DISPS2, and MALE2.

# Tinemaha 54

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | HITS | | | | | | | |  |
| points | transect | SPAI | ATLET | SAVE4 | ATCO | BAHY | SATR | BROMU | totals | % cover |
| 29 | 1.1 |  |  |  |  |  |  |  | 0 | 0.0 |
| 32 | 2.1 | 2 | 3 | 1 |  |  |  |  | 6 | 18.8 |
| 36 | 3.1 |  | 2 |  |  |  |  |  | 2 | 5.6 |
| 40 | 4.1 |  | 1 |  |  |  | 1 |  | 2 | 5.0 |
| 44 | 5.1 |  | 1 |  |  |  | 1 |  | 2 | 4.5 |
| 48 | 6.1 |  | 5 |  |  |  | 1 | 1 | 7 | 14.6 |
| 51 | 7.1 |  |  |  | 2 |  |  |  | 2 | 3.9 |
| 48 | 8.1 |  |  |  |  |  | 2 |  | 2 | 4.2 |
| 42 | 9.1 |  | 4 |  |  |  | 2 |  | 6 | 14.3 |
| 37 | 10.1 |  | 2 |  |  |  | 2 | 1 | 5 | 13.5 |
| 32 | 11.1 |  |  |  |  |  | 1 |  | 1 | 3.1 |
| 28 | 12.1 |  |  |  |  |  | 1 |  | 1 | 3.6 |
| 29 | 13.1 |  |  |  |  |  |  |  | 0 | 0.0 |
| 23 | 14.1 |  |  |  |  |  | 2 |  | 2 | 8.7 |
| 18 | 15.1 |  |  |  |  |  |  |  | 0 | 0.0 |
| 13 | 16.1 |  |  |  |  | 2 | 2 |  | 4 | 30.8 |
| 550 |  | 2 | 18 | 1 | 2 | 2 | 15 | 2 | 42 | 7.64 |

Other species encountered on the site but not hit on the transects include CHNA2.

# Blackrock 16E

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | | HITS | | | | | | | | | | | | % | |
| points | transect | DISPS2 | | SPAI | ATCA2 | SAVE4 | ATLET | ARTRT | mallow | STEPH | DESCU | BAHY | SATR | totals | | cover |
| 144 | 1.1 | 2 | |  |  |  | 1 |  | 7 |  |  | 10 |  | 20 | | 13.9 |
| 130 | 2.1 |  | | 2 |  |  |  |  |  |  |  | 30 | 1 | 33 | | 25.4 |
| 66 | 2.2 |  | | 3 |  |  |  |  | 2 |  | 1 | 32 |  | 38 | | 57.6 |
| 83 | 3.1 |  | | 1 |  |  |  |  |  |  |  | 20 | 1 | 22 | | 26.5 |
| 35 | 3.2 | 2 | |  |  |  |  |  | 6 |  |  | 1 |  | 9 | | 25.7 |
| 114 | 4.1 | 1 | |  | 3 |  |  |  | 1 | 1 |  |  | 1 | 7 | | 6.1 |
| 164 | 5.1 | 1 | | 1 |  | 3 | 2 |  | 2 |  |  |  |  | 9 | | 5.5 |
| 197 | 6.1 | 1 | |  |  |  | 1 | 4 | 2 |  |  |  |  | 8 | | 4.1 |
| 117 | 7.1 | 1 | |  |  | 7 |  |  |  |  |  |  | 1 | 9 | | 7.7 |
| 1050 |  | 8 | | 7 | 3 | 10 | 4 | 4 | 20 | 1 | 1 | 93 | 4 | 155 | | 14.8 |

Other species encountered on the site but not hit on transects include SUMO and CLEOM2.

# Independence 105

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | HITS | | | | |  |
| points | transect | ATPO | ATLET | ATCA2 | ATCO | totals | % cover |
| 200 | 1.1 | 6 | 3 |  |  | 9 | 4.5 |
| 200 | 1.2 |  | 13 |  |  | 13 | 6.5 |
| 200 | 2.1 |  | 12 | 2 |  | 14 | 7.0 |
| 200 | 2.2 | 3 | 7 | 1 |  | 11 | 5.5 |
| 200 | 3.1 |  | 12 |  |  | 12 | 6.0 |
| 192 | 3.2 |  | 8 |  |  | 8 | 4.2 |
| 200 | 4.1 |  | 10 | 4 |  | 14 | 7.0 |
| 177 | 4.2 |  | 15 | 4 |  | 19 | 10.7 |
| 200 | 5.1 |  | 28 |  | 1 | 29 | 14.5 |
| 157 | 5.2 |  | 10 | 1 |  | 11 | 7.0 |
| 200 | 6.1 |  | 19 | 4 |  | 23 | 11.5 |
| 135 | 6.2 |  | 19 | 2 |  | 21 | 15.6 |
| 2261 |  | 9 | 156 | 18 | 1 | 184 | 13.5 |

No other species were noted at this site.

# III. Additional site information for monitoring.

The following site maps show the location of fence lines and the permanent transect posts for those sites equipped with them in 1999. Transect posts are identified by the transect number, a decimal, then the sub-transect number. A transect with zero after the decimal is the end of the transect. The direction that the transect was run may vary within the site and the following site maps should be consulted in the field when collecting data. Parallel transects are composed of 100 m sub-transects although occasionally sub-transects are shorter when constrained by the size of the site. The permanent transect posts are shown as circles in the following maps although they may be overlain by a star if the post and a photo point occur at the same location. This typically occurs at the endpoints of the transect. All transect posts were labeled with an aluminum tag. However, these tags should not be considered permanent markers. Two sites, Independence 131 and 123 do not have site maps included in this section because they lack permanent transect posts.

Photos were typically taken at the endpoints facing the other endpoint and at mid-transect facing N, E, S, and W. A list of all photo point locations and the direction the photos were taken is included in Appendix IV.

Test wells are also depicted on the maps if they occur within 20 m of the site, otherwise they are described below the site map. These test wells are shown as triangles and begin with a “T”. Those triangles identified with a number preceded by a “W” are pumping wells. All precipitation gauges used to track site rainfall were located too far from the sites and are not included on the maps but locations are described in the site text

# Laws 118

### C:\Revegdocs\law118.wmfPermanent monitoring transects.

This site is divided into two sections by Laws-Poleta Rd. Transects 1-6 are in the eastern section and are 125 m apart. The western side has transects 7-10 placed 150 m apart. Transects 1-3 are disrupted by a ditch (see map). An additional transect is planned for the eastern edge of the site.

### Photo points

Photos were not taken at this site due to the lateness of the season. However, it is planned to take the baseline photos in 2000.

### Water table test well

The test wells in this area are not adequate for monitoring the site water table. A new test well is planned for installation in 2000.

### Precipitation gauge

The precipitation gauge for this site is located near the Laws museum, approximately 1.4 km NW of the site (RG2).

# Bishop 97

bish97.wmf

### Permanent monitoring transects

Transects are 100 m apart and all sub-transects are 100 m long.

### Photo points

Photos points were established as described in the introduction to this appendix. One photo point, 5.1, was moved approximately 50 m north for better visibility as depicted on the map.

### Water table test well

The test well used for monitoring water table depth, T430, is shown as a triangle. A pumping well, also shown on the map as a triangle, is labeled W141.

### Precipitation gauge

Site precipitation will be tracked by data collected at the LADWP Bishop maintenance yard approximately 2.9 km NW of the site.

# Big Pine 160

### C:\Revegdocs\bigpine160.wmfPermanent monitoring transects.

All eight transects, 150 m apart, consist of seven sub-transects except for transect 8 which has five sub-transects. All sub-transects are 100 m long. Each transect was run in an alternate direction from the previous one.

### Photo points

Photo points were established as described in the introduction to this appendix.

### Test well for water table depth

The test well, T571, is located along the southeastern section of the fence. Because this site is over 200 acres, it is not known if this test well adequately represents the site.

### Precipitation gauge

The precipitation gauge for this site is located approximately 2.6 km SE of the site (RG4).

# tin54.wmfTinemaha 54

### Permanent monitoring transects.

Transects are approximately 5 m apart and vary in lengths less than 100 m.

### Photo points

Photo points are located at the endpoints of odd numbered transects facing the other endpoint.

### Water table test well

The test well, T670, linked to this site may not be an adequate gauge of the site water table, therefore it is planned to install a new test well adjacent to this site in 2000.

### Precipitation gauge

The precipitation data for this site will be averaged between the gauge at Tinemaha Reservoir and at the Los Angeles Aqueduct intake. These gauges are located approximately 4.5 km north and south of the site, respectively.

# Blackrock 16E

### Permanent monitoring transects.



Transects at this site are 50 m apart. A correction to the fence line occurred after transects had been run, thus transects 2 and 3 have a sub-transect less than 100 m.

### Photo points

Photo points are located at endpoints facing the other endpoint.

### Water table test well

The test well, T419, is shown on the bottom left of the map.

### Precipitation gauge

The gauge for this site is located at the Los Angeles Aqueduct intake located approximately 0.9 km SE of the site.

# Independence 105

### Permanent transects



All transects, 50 m apart, are composed of two sub-transects, with the second transect of varying lengths.

### Photo points

Photos points are located at the endpoints and mid-transect.

### Water table test well

The closest test wells are near the aqueduct, irrigated fields, or are too shallow for adequate monitoring purposes. Test wells will be reevaluated as water tables recover in this wellfield.

### Precipitation gauge

Site precipitation will be monitored by data collected at the LADWP Independence maintenance yard approximately 2.8 km NW of the site.

# IV. Baseline photo points

This list only includes those sites where photos were taken in 1999.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Bishop 97**  **transect** | **dir** | **Big Pine 160**  **transect** | **dir** | **Tinemaha 54**  **transect** | **dir** | **Blkrk 16E**  **transect** | **dir** | **Indep 105**  **transect** | **dir** |
| 1.1 | N | 1.1 | N | 1.1 | S | 1.1 | N | 1.1 | N |
| 1.3.5 | N | 1.4.5 | N | 1.0 | N | 1.0 | S | 1.2 | S |
| 1.3.5 | E | 1.4.5 | E | 3.1 | S | 2.1 | N | 1.2 | N |
| 1.3.5 | S | 1.4.5 | S | 3.0 | N | 2.0 | S | 1.0 | S |
| 1.3.5 | W | 1.4.5 | W | 5.1 | S | 3.1 | N | 2.1 | N |
| 1.0 | S | 1.0 | S | 5.0 | N | 3.0 | S | 2.2 | S |
| 2.1 | N | 2.1 | S | 7.1 | S | 4.1 | N | 2.2 | N |
| 2.5 | N | 2.4.5 | N | 7.0 | N | 4.0 | S | 2.0 | S |
| 2.5 | E | 2.4.5 | E | 9.1 | S | 5.1 | N | 3.1 | N |
| 2.5 | S | 2.4.5 | S | 9.0 | N | 5.0 | S | 3.2 | S |
| 2.5 | W | 2.4.5 | W | 11.1 | S | 6.1 | N | 3.2 | N |
| 2.0 | S | 2.0 | N | 11.0 | N | 6.0 | S | 3.0 | S |
| 3.1 | S | 3.1 | N | 13.1 | S | 7.1 | N | 4.1 | N |
| 3.4.5 | N | 3.4.5 | N | 13.0 | N | 7.0 | S | 4.2 | S |
| 3.4.5 | E | 3.4.5 | E | 15.1 | S |  |  | 4.2 | N |
| 3.4.5 | S | 3.4.5 | S | 15.0 | N |  |  | 4.0 | S |
| 3.4.5 | W | 3.4.5 | W |  |  |  |  | 5.1 | N |
| 3.0 | N | 3.0 | S |  |  |  |  | 5.2 | S |
| 4.1 | S | 4.1 | S |  |  |  |  | 5.2 | N |
| 4.4.5 | N | 4.4.5 | N |  |  |  |  | 5.0 | S |
| 4.4.5 | E | 4.4.5 | E |  |  |  |  | 6.1 | N |
| 4.4.5 | S | 4.4.5 | S |  |  |  |  | 6.2 | S |
| 4.4.5 | W | 4.4.5 | W |  |  |  |  | 6.2 | N |
| 4.0 | N | 4.0 | N |  |  |  |  | 6.0 | S |
| 5.1.5 | N | 5.1 | N |  |  |  |  |  |  |
| 5.4 | N | 5.4.5 | N |  |  |  |  |  |  |
| 5.4 | E | 5.4.5 | E |  |  |  |  |  |  |
| 5.4 | S | 5.4.5 | S |  |  |  |  |  |  |
| 5.4 | W | 5.4.5 | W |  |  |  |  |  |  |
| 5.0 | S | 5.0 | S |  |  |  |  |  |  |
| 6.1 | N | 6.1 | S |  |  |  |  |  |  |
| 6.3.5 | N | 6.4.5 | N |  |  |  |  |  |  |
| 6.3.5 | E | 6.4.5 | E |  |  |  |  |  |  |
| 6.3.5 | S | 6.4.5 | S |  |  |  |  |  |  |
| 6.3.5 | W | 6.4.5 | W |  |  |  |  |  |  |
| 6.0 | S | 6.0 | N |  |  |  |  |  |  |
| 7.1 | S | 7.1 | N |  |  |  |  |  |  |
| 7.2.5 | N | 7.4.5 | N |  |  |  |  |  |  |
| 7.2.5 | E | 7.4.5 | E |  |  |  |  |  |  |
| 7.2.5 | S | 7.4.5 | S |  |  |  |  |  |  |
| 7.2.5 | W | 7.4.5 | W |  |  |  |  |  |  |
| 7.0 | N | 7.0 | S |  |  |  |  |  |  |
|  |  | 8.1 | S |  |  |  |  |  |  |
|  |  | 8.3.5 | N |  |  |  |  |  |  |
|  |  | 8.3.5 | W |  |  |  |  |  |  |
|  |  | 8.3.5 | S |  |  |  |  |  |  |
|  |  | 8.0 | N |  |  |  |  |  |  |

# V. Site species list

This list includes species recommended in the Mitigation Plan and those added after a more comprehensive investigation occurred in 1999.

### **Five Bridges**

Shrubs/trees/forbs:

*Allenrolfea occidentalis, Anemopsis californicia, Apocynum cannabinum, Asclepias* sp*., Atriplex canescens, Iris missouriensis, Machaeranthera carnosa, Nitrophila occidentalis, Populus fremontii, Pyrrocoma racemosa, Rosa woodsii* var*. ultramontana, Salix* sp*., Sarcobatus vermiculatus, Suaeda moquinii.*

Graminoids:

*Carex douglasii, Carex praegracilis, Carex* sp*., Distichlis spicata, Eleocharis* sp*., Juncus balticus, Juncus torreyi, Leymus cinereus, Leymus triticoides, Muhlenbergia asperifolia, Poa* sp*., Poa secunda* ssp*. nevadensis, Sporobolus airoides,*

### **Laws 118**

Shrubs/Forbs:

*Ambrosia dumosa, Artemisia spinescens, Atriplex canescens, Atriplex confertifolia, Atriplex parryi, Atriplex polycarpa, Chrysothamnus teretifolius, Encelia frutescens, Ephedra nevadensis, Grayia spinosa, Krascheninnikovia lanata, Lepidium fremontii, Lycium andersonii, Machaeranthera carnosa, Menodora spinescens, Mirabilis* sp*., Psorothamnus arborescens* var*. minutifolius, Psorothamnus polydenius, Sarcobatus vermiculatus, Stanleya pinnata, Stephanomeria* sp*., Tetradymia axillaris, Tetradymia glabrata, Xylorhiza tortifolia*

Graminoids:

*Achnatherum hymenoides, Elymus elymoides, Distichlis spicata*

### **Bishop 97**

Shrubs/Forbs:

*Artemisia spinescens, Atriplex canescens, Atriplex confertifolia, Atriplex polycarpa, Chrysothamnus teretifolius, Chrysothamnus viscidiflorus, Ephedra nevadensis, Ericameria cooperi, Eriogonum fasciculatum, Grayia spinosa, Hymenoclea salsola, Krascheninnikovia lanata, Menodora spinescens, Mirabilis* sp*., Psorothamnus arborescens* var*. minutifolius, Psorothamnus polydenius, Sarcobatus vermiculatus, Tetradymia axillaris, Tetradymia axillaris* var*. longispina, Tetradymia glabrata, Tetradymia stenolepis, Xylorhiza tortifolia*

Graminoids:

*Achnatherum hymenoides, Achnatherum speciosum, Distichlis spicata, Elymus elymoides, Leymus cinereus, Poa secunda* ssp*. secunda, Sporobolus airoides*

### **Big Pine 160**

Shrubs/Forbs:

*Artemisia spinescens, Atriplex canescens, Atriplex confertifolia, Atriplex polycarpa, Chrysothamnus teretifolius, Chrysothamnus viscidiflorus, Ephedra nevadensis, Ericameria cooperi, Eriogonum fasciculatum, Grayia spinosa, Hymenoclea salsola, Krascheninnikovia lanata, Machaeranthera carnosa, Menodora spinescens, Psorothamnus arborescens* var*. minutifolius, Psorothamnus polydenius, Rosa woodsii* var*. ultramontana, Sarcobatus vermiculatus, Stephanomeria* sp*., Suaeda moquinii, Tetradymia axillaris, Tetradymia glabrata, Xylorhiza tortifolia*

Graminoids:

*Achnatherum hymenoides, Achnatherum speciosum, Distichlis spicata, Elymus elymoides, Leymus cinereus, Poa secunda* ssp*. nevadensis, Sporobolus airoides*

### **Tinemaha 54**

Shrubs/forbs:

*Atriplex canescens, Atriplex parryi, Castilleja* sp*., Heliotropium curassavicum, Machaeranthera carnosa, Malvella leprosa, Nitrophila occidentalis, Rosa woodsii* var*. ultramontana, Sarcobatus vermiculatus, Suaeda moquinii*

Graminoids:

*Distichlis spicata, Leymus cinereus, Sporobolus airoides*

### **Blackrock 16E**

Shrubs/forbs:

*Atriplex canescens, Atriplex confertifolia, Forestiera pubescens, Grayia spinosa, Heliotropium curassavicum, Krascheninnikovia lanata, Machaeranthera carnosa, Malvella leprosa, Psorothamnus arborescens* var*. minutifolius, Psorothamnus polydenius, Rosa woodsii* var*. ultramontana, Sarcobatus vermiculatus, Suaeda moquinii*

Graminoids:

*Achnatherum hymenoides, Distichlis spicata, Leymus cinereus, Leymus triticoides, Sporobolus airoides*

### **Independence 105, 131, 123**

Shrubs/Forbs:

*Allenrolfea occidentalis, Artemisia spinescens, Asclepias fascicularis, Atriplex canescens, Atriplex confertifolia, Atriplex parryi, Atriplex polycarpa, Chrysothamnus teretifolius, Ephedra nevadensis, Forestiera pubescens, Heliotropium curassavicum, Machaeranthera carnosa, Malvella leprosa, Rosa woodsii* var*. ultramontana, Sarcobatus vermiculatus, Stephanomeria* sp*., Suaeda moquinii*

Graminoids:

*Achnatherum hymenoides, Distichlis spicata, Leymus cinereus, Sporobolus airoides*

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# VI. Species list

The following list uses the Jepson manual (Hickman 1993) for scientific names, however, if name changes occurred in Jepson, the notes column provides its previous name.

| **Abr.** | **Scientific name** | **native/**  **exotic** | **family** | **common name** | **notes** |  |
| --- | --- | --- | --- | --- | --- | --- |
| AAFF | Annual Forbs |  | \*\* | \*\* |  |  |
| ACHY | Achnatherum hymenoides | N | Poaceae | Indian ricegrass |  |  |
| ACSP | Achnatherum speciosum | N | Poaceae | Desert needlegrass | Stipa speciosa |  |
| AIAL | Ailanthus altissima | E | Simaroubaceae | Tree of heaven |  |  |
| ALOC2 | Allenrolfea occidentalis | N | Chenopodiaceae | Iodine bush |  |  |
| AMDU2 | Ambrosia dumosa | N | Asteraceae | White bursage |  |  |
| AMSIN | Amsinckia sp. |  | Boraginaceae | Fiddleneck |  |  |
| ANCA10 | Anemopsis californica | N | Saururaceae | Yerba mansa |  |  |
| APCA | Apocynum cannabinum | N | Apocynaceae | Hemp dogbane | var. glaberrimum not recognized |  |
| APOCY | Apocynum sp. |  | Apocynaceae | Dogbane |  |  |
| ARSP5 | Artemisia spinescens | N | Asteraceae | Bud sagebrush |  |  |
| ARTRT | Artemisia tridentata ssp. tridentata | N | Asteraceae | Basin big sagebrush |  |  |
| ASFA | Asclepias fascicularis | N | Asclepiadaceae | Narrow-leaf milkweed |  |  |
| ASCLE | Asclepias sp. |  | Asclepiadaceae | Milkweed |  |  |
| ASLE8 | Astragalus lentiginosus | N | Fabaceae | Specklepod loco milkvetch |  |  |
| ATCA2 | Atriplex canescens | N | Chenopodiaceae | Fourwing saltbush |  |  |
| ATCO | Atriplex confertifolia | N | Chenopodiaceae | Shadscale |  |  |
| ATLET | Atriplex lentiformis ssp. torreyi | N | Chenopodiaceae | Nevada saltbush |  |  |
| ATPA3 | Atriplex parryi | N | Chenopodiaceae | Parry saltbush |  |  |
| ATPO | Atriplex polycarpa | N | Chenopodiaceae | Allscale saltbush |  |  |
| BAHY | Bassia hyssopifolia | E | Chenopodiaceae | Fivehook bassia |  |  |
| BEOC2 | Betula occidentalis | N | Betulaceae | Water birch |  |  |
| BRMAR | Bromus madritensis ssp. rubens | E | Poaceae | Red brome | Bromus rubens | |
| BROMU | Bromus sp. |  | Poaceae | Brome |  |  |
| CADO2 | Carex douglasii | N | Cyperaceae | Douglas sedge |  |  |
| CANE2 | Carex nebrascensis | N | Cyperaceae | Nebraska sedge |  |  |
| CAPR5 | Carex praegracilis | N | Cyperaceae | Clustered field sedge |  |  |
| CAREX | Carex sp. |  | Cyperaceae | Sedge/Carex |  |  |
| CASTI2 | Castilleja sp. |  | Scrophulariaceae | Indian paintbrush |  |  |
| CHNA2 | Chrysothamnus nauseosus | N | Asteraceae | Rubber rabbitbrush |  |  |
| CHTE4 | Chrysothamnus teretifolius | N | Asteraceae | Needleleaf rabbitbrush |  |  |
| CHVI8 | Chrysothamnus viscidiflorus | N | Asteraceae | Douglas rabbitbrush |  |  |
| CLEOM2 | Cleomella sp. |  | Capparaceae | Cleomella |  |  |
| DESCU | Descurainia sp. |  | Brassicaceae |  |  |  |
| DISPS2 | Distichlis spicata | N | Poaceae | Saltgrass |  |  |
| ELEOC | Eleocharis sp. |  | Cyperaceae | Spikerush |  |  |
| ELEL5 | Elymus elymoides | N | Poaceae | Bottlebrush squirrel-tail |  |  |
| ENFR | Encelia frutescens | N | Asteraceae | Button encelia |  |  |
| EPNE | Ephedra nevadensis | N | Ephedraceae | Nevada ephedra |  |  |
| ERCO23 | Ericameria cooperi | N | Asteraceae | Cooper goldenbush | Happlopappus cooperi |  |
| ERFA2 | Eriogonum fasciculatum | N | Polygonaceae | California buckwheat |  |  |
| FOPU | Forestiera pubescens | N | Oleaceae | Desert olive | Forestiera neomexicana |  |
| GLLE3 | Glycyrrhiza lepidota | N | Fabaceae | American licorice |  |  |
| GRSP | Grayia spinosa | N | Chenopodiaceae | Spiny hopsage |  |  |
| HECU3 | Heliotropium curassavicum | N | Boraginaceae | Salt heliotrope |  |  |
| HYSA | Hymenoclea salsola | N | Asteraceae | Burrobush |  |  |
| IRMI | Iris missouriensis | N | Iridaceae | Wild iris |  |  |
| IVAX | Iva axillaris ssp. robustior | N | Asteraceae | Povertyweed |  |  |
| JUBA | Juncus balticus | N | Juncaceae | Baltic rush |  |  |
| JUTO | Juncus torreyi | N | Juncaceae | Torrey rush |  |  |
| KRLA | Krascheninnikovia lanata | N | Chenopodiaceae | Winterfat | Ceratoides lanata |  |
| LEFR2 | Lepidium fremontii | N | Brassicaceae | Desert alysum |  |  |
| LELA2 | Lepidium latifolium | E | Brassicaceae | Perennial pepperweed |  |  |
| LECI | Leymus cinereus | N | Poaceae | Great Basin wildrye |  |  |
| LETR | Leymus triticoides | N | Poaceae | Beardless wildrye |  |  |
| LYAN | Lycium andersonii | N | Solanaceae | Anderson wolfberry |  |  |
| MACA | Machaeranthera carnosa | N | Asteraceae | Shrubby alkali aster | Aster intricatus |  |
| MALE2 | Malvella leprosa | N | Malvaceae | Alkali mallow/whiteweed | Sida leprosa |  |
|  | Malvella sp. |  | Malvaceae |  |  |  |
| MESP2 | Menodora spinescens | N | Oleaceae | Spiny menodora |  |  |
| MIAL | Mirabilis alipes | N | Nyctaginaceae | Rose four o'clock |  |  |
| MIBI8 | Mirabilis bigelovii | N | Nyctaginaceae | Wishbone bush |  |  |
| MIRAB | Mirabilis sp. |  | Nyctaginaceae | Four o'clock |  |  |
| MUAS | Muhlenbergia asperifolia | N | Poaceae | Alkali muhly |  |  |
| NIOC2 | Nitrophila occidentalis | N | Chenopodiaceae | Western miterwort |  |  |
| POSEN | Poa secunda ssp. nevadensis | N | Poaceae | Nevada bluegrass |  |  |
| POSES | Poa secunda ssp. secunda | N | Poaceae | Pine bluegrass |  |  |
| POA++ | Poa sp. |  | Poaceae | Bluegrass |  |  |
| POFR3 | Populus fremontii | N | Salicaceae | Fremont's cottonwood |  |  |
| PSARM | Psorothamnus arborescens var. minutifolius | N | Fabaceae | Indigo bush |  |  |
| PSPO | Psorothamnus polydenius | N | Fabaceae | Nevada dalea |  |  |
| PYRA | Pyrrocoma racemosa | N | Asteraceae | Cluster goldenweed/Wand aster | |  |
| ROPS | Robinia pseudoacacia | E | Fabaceae | Black locust |  |  |
| ROWOU | Rosa woodsii var. ultramontana | N | Rosaceae | Wild rose |  |  |
| SAEX | Salix exigua | N | Salicaceae | Narrow-leaf willow |  |  |
| SAGO | Salix gooddingii | N | Salicaceae | Gooding willow |  |  |
| SALA3 | Salix laevigata | N | Salicaceae | Red willow |  |  |
| SALIX | Salix sp. |  | Salicaceae | Willow |  |  |
| SATR | Salsola tragus | E | Chenopodiaceae | Russian-thistle | Salsola kali var. tenuifolia |  |
| SAVE4 | Sarcobatus vermiculatus | N | Chenopodiaceae | Black greasewood |  |  |
| SIAL2 | Sisymbrium altissimum | E | Brassicaceae | Tumble mustard |  |  |
| SPGR | Spartina gracilis | N | Poaceae | Alkali cordgrass |  |  |
| SPAM2 | Sphaeralcea ambigua | N | Malvaceae | Apricot mallow |  |  |
| SPAI | Sporobolus airoides | N | Poaceae | Alkali sacaton |  |  |
| STPI | Stanleya pinnata | N | Brassicaceae | Desert prince's plume |  |  |
| STEPH | Stephanomeria sp. |  | Asteraceae | Wirelettuce |  |  |
| SUMO | Suaeda moquinii | N | Chenopodiaceae | Inkweed |  |  |
| TAPA4 | Tamarix parviflora | E | Tamaricaceae | Small-flower tamarisk |  |  |
| TARA | Tamarix ramosissima | E | Tamaricaceae | Saltcedar |  |  |
| TEAX | Tetradymia axillaris | N | Asteraceae | Longspine horsebrush |  |  |
| TEAXL | Tetradymia axillaris var. longispina | N | Asteraceae | Cottonthorn |  |  |
| TEGL | Tetradymia glabrata | N | Asteraceae | Little horsebrush |  |  |
| TEST2 | Tetradymia stenolepis | N | Asteraceae | Mojave cottonthorn |  |  |
| ULPU | Ulmus pumilia | E | Ulmaceae | Siberian elm |  |  |
| XYTO | Xylorhiza tortifolia | N | Asteraceae | Mojave aster |  |  |