

Appendix C

Sediment Tables for the Entire Watershed and Subwatersheds

Table 8. Sediment yield (in yds³/mi²/year, tons/mi²/year and %) by domain and primary land use association, Upper Eel River watershed.

| Domain (Private and Public ownership) ¹ (mi ²) | | Non Earthflow | | | | | | | Earthflow | | | | | | Total sediment yield (non EF+ EF) | |
|---|---|---------------------------------------|-----------------------------|-----------------------------|----------------|-----------|-----------|-----------------------------|-------------|--------------|----------------|-----------|----------|-------------------------|-----------------------------------|------------|
| | | No land use | Field Measured Road Related | SED MODL Input Road Related | Timber Harvest | Ag/ Graze | Fire | Total non EF sediment yield | No land use | Road Related | Timber harvest | Ag/ Graze | Fire | Total EF sediment yield | | |
| Private | Plot <3,000 yds ³ sediment sources | yds ³ /mi ² /yr | 94 | 26 | 22 | 30 | 19 | 0 | 191 | 15 | 0 | 0 | 0 | 0 | 15 | 206 |
| | | tons/mi ² /yr | 145 | 40 | 29 | 46 | 30 | 0 | 290 | 23 | 0 | 0 | 0 | 0 | 23 | 313 |
| | | % | 50 | 14 | 10 | 16 | 10 | 0 | 100 | 100 | 0 | 0 | 0 | 0 | 100 | 100 |
| | >3,000 yds ³ sediment sources ⁵ | yds ³ /mi ² /yr | 56 | 22 | 0 | 30 | 2 | 2 | 112 | 12 | 1 | 0 | 0 | 0 | 13 | 125 |
| | | tons/mi ² /yr | 86 | 35 | 0 | 47 | 3 | 3 | 173 | 18 | 2 | 0 | 0 | 0 | 20 | 192 |
| | | % | 50 | 20 | 0 | 27 | 2 | 1 | 100 | 91 | 9 | 0 | 0 | 0 | 100 | 100 |
| | Sub-total/ % | yds ³ /mi ² /yr | 150 | 48 | 22 | 61 | 21 | 2 | 304 | 26 | 1 | 0 | 0 | 0 | 27 | 331 |
| | | tons/mi ² /yr | 230 | 74 | 29 | 93 | 33 | 3 | 462 | 41 | 2 | 0 | 0 | 0 | 43 | 505 |
| | | % | 50 | 16 | 6 | 20 | 7 | <1 | 100 | 96 | 4 | 0 | 0 | 0 | 100 | 100 |
| Public | Plot <3,000 yds ³ sediment sources | yds ³ /mi ² /yr | 44 | 9 | 9 | 18 | 0 | 0 | 80 | 0 | 0 | 0 | 0 | 0 | 80 | |
| | | tons/mi ² /yr | 68 | 14 | 12 | 28 | 0 | 0 | 122 | 0 | 0 | 0 | 0 | 0 | 122 | |
| | | % | 56 | 11 | 10 | 23 | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 100 | |

Table 8. Sediment yield (in yds³/mi²/year, tons/mi²/year and %) by domain and primary land use association, Upper Eel River watershed.

| Domain (Private and Public ownership) ¹ (mi ²) | | Non Earthflow | | | | | | | Earthflow | | | | | | Total sediment yield (non EF+ EF) | | |
|---|--|---|---------------------------------------|-----------------------------|----------------|-----------|--------------|-----------------------------|-------------|--------------|----------------|--------------|----------|-------------------------|-----------------------------------|------------|-----|
| | | No land use | Field Measured Road Related | SED MODL Input Road Related | Timber Harvest | Ag/ Graze | Fire | Total non EF sediment yield | No land use | Road Related | Timber harvest | Ag/ Graze | Fire | Total EF sediment yield | | | |
| >3000 yds³ sediment sources⁵ | yds ³ /mi ² /yr | 177 | 23 | 0 | 12 | <1 | 1 | 214 | 5 | <1 | <1 | 0 | <1 | 5 | 219 | | |
| | tons/mi ² /yr | 272 | 36 | 0 | 18 | <1 | 2 | 330 | 7 | <1 | <1 | 0 | <1 | 7 | 337 | | |
| | % | 82 | 11 | 0 | 6 | <1 | <1 | 100 | 94 | <1 | <1 | 0 | 5 | 100 | 100 | | |
| | Sub-total/ % | yds ³ /mi ² /yr | 221 | 33 | 9 | 30 | <1 | 1 | 295 | 5 | <1 | <1 | 0 | <1 | 5 | 300 | |
| | | tons/mi ² /yr | 340 | 50 | 12 | 46 | <1 | 2 | 451 | 7 | <1 | <1 | 0 | <1 | 7 | 458 | |
| | | % | 75 | 11 | 3 | 10 | <1 | <1 | 100 | 94 | <1 | <1 | 0 | 5 | 100 | 100 | |
| | Total for the 688.1 mi² Upper Eel River study area | Plot <3,000 yds ³ sediment sources | yds ³ /mi ² /yr | 70 | 18 | 31 | 24 | 10 | 0 | 153 | 8 | 0 | 0 | 0 | 0 | 8 | 161 |
| | | | tons/mi ² /yr | 108 | 28 | 42 | 38 | 16 | 0 | 232 | 12 | 0 | 0 | 0 | 0 | 12 | 244 |
| | | | % | 47 | 12 | 18 | 16 | 7 | 0 | 100 | 100 | 0 | 0 | 0 | 0 | 100 | 100 |
| PWA >3,000 yds ³ sediment sources ⁵ | | yds ³ /mi ² /yr | 114 | 23 | 0 | 22 | 1 | 1 | 160 | 8 | 0.7 | <1 | 0 | <1 | 9 | 170 | |
| | | tons/mi ² /yr | 175 | 35 | 0 | 33 | 2 | 2 | 247 | 13 | 1 | <1 | 0 | <1 | 14 | 261 | |
| | | % | 71 | 14 | 0 | 13 | 1 | 1 | 100 | 93 | 7 | <1 | 0 | <1 | 100 | 100 | |

Table 8. Sediment yield (in yds³/mi²/year, tons/mi²/year and %) by domain and primary land use association, Upper Eel River watershed.

| Domain (Private and Public ownership) ¹ (mi ²) | | Non Earthflow | | | | | | | Earthflow | | | | | | Total sediment yield (non EF+ EF) |
|---|---------------------------------------|---------------|-----------------------------|-----------------------------|----------------|-----------|------|-----------------------------|-------------|--------------|----------------|-----------|------|-------------------------|-----------------------------------|
| | | No land use | Field Measured Road Related | SED MODL Input Road Related | Timber Harvest | Ag/ Graze | Fire | Total non EF sediment yield | No land use | Road Related | Timber harvest | Ag/ Graze | Fire | Total EF sediment yield | |
| Sub-total/ % | yds ³ /mi ² /yr | 184 | 41 | 31 | 46 | 11 | 1.5 | 315 | 16 | 0.7 | <1 | 0 | <1 | 17 | 332 |
| | tons/mi ² /yr | 283 | 63 | 42 | 71 | 17 | 2 | 478 | 25 | 1 | <1 | 0 | <1 | 26 | 504 |
| | % | 59 | 13 | 9 | 15 | 4 | <1 | 100 | 95 | 4 | <1 | 0 | <1 | 100 | 100 |

Table 8. Sediment yield (in yds³/mi²/year, tons/mi²/year and %) by domain and primary land use association, Outlet Creek, Upper Eel River watershed.

| Domain (Private and Public ownership) ¹ (mi ²) | | Non Earthflow | | | | | | | Earthflow | | | | | | Total sediment yield (non EF+ EF) | | |
|---|---|---------------------------------------|-----------------------------|-----------------------------|----------------|-----------|----------|-----------------------------|-------------|--------------|----------------|-----------|----------|-------------------------|-----------------------------------|----------|------------|
| | | No land use | Field Measured Road Related | SED MODL Input Road Related | Timber Harvest | Ag/ Graze | Fire | Total non EF sediment yield | No land use | Road Related | Timber harvest | Ag/ Graze | Fire | Total EF sediment yield | | | |
| | >3000 yds ³ sediment sources ⁵ | yds ³ /mi ² /yr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | tons/mi ² /yr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | % | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Sub-total/ % | yds ³ /mi ² /yr | 0 | 0 | 0.3 | 0 | 0 | 0 | 0.3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.3 |
| | | tons/mi ² /yr | 0 | 0 | 0.4 | 0 | 0 | 0 | 0.4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.4 |
| | | % | 0 | 0 | 100 | 0 | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 |
| Total for the 159.8 Outlet Creek CAL WAA | Plot <3,000 yds ³ sediment sources | yds ³ /mi ² /yr | 77 | 20 | 56 | 10 | 9 | 0 | 172 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 172 |
| | | tons/mi ² /yr | 119 | 30 | 75 | 15 | 14 | 0 | 253 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 253 |
| | | % | 47 | 12 | 30 | 6 | 5 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 |
| | PWA >3,000 yds ³ sediment sources ⁵ | yds ³ /mi ² /yr | 29 | 11 | 0 | 5 | 2 | 0 | 47 | 71 | 1 | 0 | 0 | 0 | 72 | 119 | |
| | | tons/mi ² /yr | 45 | 17 | 0 | 8 | 4 | 0 | 73 | 110 | 2 | 0 | 0 | 0 | 111 | 184 | |
| | | % | 61 | 23 | 0 | 11 | 5 | 0 | 100 | 98 | 2 | 0 | 0 | 0 | 100 | 100 | |

Table 8. Sediment yield (in yds³/mi²/year, tons/mi²/year and %) by domain and primary land use association, Outlet Creek, Upper Eel River watershed.

| Domain (Private and Public ownership) ¹ (mi ²) | | Non Earthflow | | | | | | | Earthflow | | | | | | Total sediment yield (non EF+ EF) |
|---|---------------------------------------|---------------|-----------------------------|-----------------------------|----------------|-----------|------|-----------------------------|-------------|--------------|----------------|-----------|------|-------------------------|-----------------------------------|
| | | No land use | Field Measured Road Related | SED MODL Input Road Related | Timber Harvest | Ag/ Graze | Fire | Total non EF sediment yield | No land use | Road Related | Timber harvest | Ag/ Graze | Fire | Total EF sediment yield | |
| Sub-total/ % | yds ³ /mi ² /yr | 106 | 31 | 56 | 14 | 12 | 0 | 219 | 71 | 1 | 0 | 0 | 0 | 72 | 291 |
| | tons/mi ² /yr | 164 | 47 | 75 | 23 | 18 | 0 | 327 | 110 | 2 | 0 | 0 | 0 | 111 | 438 |
| | % | 50 | 14 | 23 | 7 | 6 | 0 | 100 | 98 | 2 | 0 | 0 | 0 | 100 | 100 |

Table 8. Sediment yield (in yds³/mi²/year, tons/mi²/year and %) by domain and primary land use association, Rice Creek, Upper Eel River watershed.

| Domain (Private and Public ownership) ¹ (mi ²) | | Non Earthflow | | | | | | | Earthflow | | | | | Total sediment yield (non EF+ EF) | |
|---|---|---------------------------------------|-----------------------------|-----------------------------|----------------|-----------|----------|-----------------------------|-------------|--------------|----------------|-----------|-------------------------|-----------------------------------|------------|
| | | No land use | Field Measured Road Related | SED MODL Input Road Related | Timber Harvest | Ag/ Graze | Fire | Total non EF sediment yield | No land use | Road Related | Timber harvest | Ag/ Graze | Total EF sediment yield | | |
| Private | Plot <3,000 yds ³ sediment sources | yds ³ /mi ² /yr | 0 | <1 | 4 | 2 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 7 |
| | | tons/mi ² /yr | 0 | <1 | 5 | 3 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 9 |
| | | % | 0 | 11 | 56 | 33 | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 100 |
| | >3,000 yds ³ sediment sources ⁵ | yds ³ /mi ² /yr | 20 | 3 | 0 | 12 | 0 | 0 | 35 | 0 | 0 | 0 | 0 | 0 | 35 |
| | | tons/mi ² /yr | 32 | 5 | 0 | 18 | 0 | 0 | 55 | 0 | 0 | 0 | 0 | 0 | 55 |
| | | % | 58 | 9 | 0 | 33 | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 100 |
| | Sub-total/ % | yds ³ /mi ² /yr | 20 | 3 | 4 | 13 | 0 | 0 | 40 | 0 | 0 | 0 | 0 | 0 | 40 |
| | | tons/mi ² /yr | 32 | 5 | 5 | 21 | 0 | 0 | 63 | 0 | 0 | 0 | 0 | 0 | 63 |
| | | % | 51 | 8 | 8 | 33 | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 100 |
| Public | Plot <3,000 yds ³ sediment sources | yds ³ /mi ² /yr | 45 | 10 | 14 | 3 | 0 | 0 | 72 | 0 | 0 | 0 | 0 | 72 | |
| | | tons/mi ² /yr | 69 | 15 | 19 | 5 | 0 | 0 | 108 | 0 | 0 | 0 | 0 | 108 | |
| | | % | 64 | 14 | 17 | 5 | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 100 | |

Table 8. Sediment yield (in yds³/mi²/year, tons/mi²/year and %) by domain and primary land use association, Rice Creek, Upper Eel River watershed.

| Domain (Private and Public ownership) ¹ (mi ²) | | Non Earthflow | | | | | | | Earthflow | | | | | Total sediment yield (non EF+ EF) | |
|---|---|---------------------------------------|-----------------------------|-----------------------------|----------------|-----------|----------|-----------------------------|-------------|--------------|----------------|-----------|-------------------------|-----------------------------------|------------|
| | | No land use | Field Measured Road Related | SED MODL Input Road Related | Timber Harvest | Ag/ Graze | Fire | Total non EF sediment yield | No land use | Road Related | Timber harvest | Ag/ Graze | Total EF sediment yield | | |
| | >3000 yds ³ sediment sources ⁵ | yds ³ /mi ² /yr | 84 | 2 | 0 | 7 | 0 | 0 | 93 | 4 | 0 | 0 | 0 | 4 | 97 |
| | | tons/mi ² /yr | 130 | 3 | 0 | 11 | 0 | 0 | 143 | 7 | 0 | 0 | 0 | 7 | 150 |
| | | % | 90 | 2 | 0 | 8 | 0 | 0 | 100 | 100 | 0 | 0 | 0 | 100 | 100 |
| | Sub-total/ % | yds ³ /mi ² /yr | 129 | 11 | 14 | 10 | 0 | 0 | 164 | 4 | 0 | 0 | 0 | 4 | 168 |
| | | tons/mi ² /yr | 198 | 18 | 19 | 15 | 0 | 0 | 250 | 7 | 0 | 0 | 0 | 7 | 257 |
| | | % | 79 | 7 | 8 | 6 | 0 | 0 | 100 | 100 | 0 | 0 | 0 | 100 | 100 |
| Total for the 89.2 mi² Rice Fork CAL WAA | Plot <3,000 yds ³ sediment sources | yds ³ /mi ² /yr | 39 | 8 | 18 | 3 | 0 | 0 | 68 | 0 | 0 | 0 | 0 | 0 | 68 |
| | | tons/mi ² /yr | 60 | 13 | 24 | 4 | 0 | 0 | 101 | 0 | 0 | 0 | 0 | 0 | 101 |
| | | % | 59 | 13 | 24 | 4 | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 100 |
| | PWA >3,000 yds ³ sediment sources ⁵ | yds ³ /mi ² /yr | 76 | 2 | 0 | 8 | 0 | 0 | 86 | 4 | 0 | 0 | 0 | 4 | 90 |
| | | tons/mi ² /yr | 117 | 3 | 0 | 12 | 0 | 0 | 132 | 6 | 0 | 0 | 0 | 6 | 138 |
| | | % | 89 | 2 | 0 | 9 | 0 | 0 | 100 | 100 | 0 | 0 | 0 | 100 | 100 |

Table 8. Sediment yield (in yds³/mi²/year, tons/mi²/year and %) by domain and primary land use association, Rice Creek, Upper Eel River watershed.

| Domain (Private and Public ownership) ¹ (mi ²) | | Non Earthflow | | | | | | | Earthflow | | | | | Total sediment yield (non EF+ EF) |
|---|---------------------------------------|---------------|-----------------------------|-----------------------------|----------------|-----------|------|-----------------------------|-------------|--------------|----------------|-----------|-------------------------|-----------------------------------|
| | | No land use | Field Measured Road Related | SED MODL Input Road Related | Timber Harvest | Ag/ Graze | Fire | Total non EF sediment yield | No land use | Road Related | Timber harvest | Ag/ Graze | Total EF sediment yield | |
| Sub-total/ % | yds ³ /mi ² /yr | 115 | 10 | 18 | 10 | 0 | 0 | 153 | 4 | 0 | 0 | 0 | 4 | 157 |
| | tons/mi ² /yr | 177 | 16 | 24 | 16 | 0 | 0 | 233 | 6 | 0 | 0 | 0 | 6 | 239 |
| | % | 76 | 7 | 10 | 7 | 0 | 0 | 100 | 100 | 0 | 0 | 0 | 100 | 100 |

Table 8. Sediment yield (in yds³/mi²/year, tons/mi²/year and %) by domain and primary land use association, Soda Creek, Upper Eel River watershed.

| Domain (Private and Public ownership) ¹ (mi ²) | | Non Earthflow | | | | | | | Earthflow | | | | | | Total sediment yield (non EF+ EF) | |
|---|---|---------------------------------------|-----------------------------|-----------------------------|----------------|------------|----------|-----------------------------|-------------|--------------|----------------|-----------|----------|-------------------------|-----------------------------------|-------------|
| | | No land use | Field Measured Road Related | SED MODL Input Road Related | Timber Harvest | Ag/ Graze | Fire | Total non EF sediment yield | No land use | Road Related | Timber harvest | Ag/ Graze | Fire | Total EF sediment yield | | |
| Private | Plot <3,000 yds ³ sediment sources | yds ³ /mi ² /yr | 11 | 0 | 12 | 157 | 0 | 0 | 180 | 0 | 0 | 0 | 0 | 0 | 0 | 180 |
| | | tons/mi ² /yr | 17 | 0 | 16 | 242 | 0 | 0 | 275 | 0 | 0 | 0 | 0 | 0 | 0 | 275 |
| | | % | 6 | 0 | 6 | 88 | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 100 |
| | >3,000 yds ³ sediment sources ⁵ | yds ³ /mi ² /yr | 336 | 115 | 0 | 21 | 0 | 28 | 499 | 35 | 7 | 0 | 0 | 0 | 42 | 541 |
| | | tons/mi ² /yr | 518 | 176 | 0 | 32 | 0 | 42 | 768 | 54 | 11 | 0 | 0 | 0 | 65 | 834 |
| | | % | 67 | 23 | 0 | 4 | 0 | 6 | 100 | 83 | 17 | 0 | 0 | 0 | 100 | 100 |
| | Sub-total/ % | yds ³ /mi ² /yr | 348 | 114 | 12 | 178 | 0 | 28 | 680 | 35 | 7 | 0 | 0 | 0 | 42 | 722 |
| | | tons/mi ² /yr | 535 | 176 | 16 | 274 | 0 | 42 | 1043 | 54 | 11 | 0 | 0 | 0 | 65 | 1108 |
| | | % | 51 | 17 | 2 | 26 | 0 | 4 | 100 | 83 | 17 | 0 | 0 | 0 | 100 | 100 |
| Public | Plot <3,000 yds ³ sediment sources | yds ³ /mi ² /yr | 0 | 0 | 15 | 55 | 0 | 0 | 70 | 0 | 0 | 0 | 0 | 0 | 70 | |
| | | tons/mi ² /yr | 0 | 0 | 20 | 84 | 0 | 0 | 104 | 0 | 0 | 0 | 0 | 0 | 104 | |
| | | % | 0 | 0 | 19 | 81 | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 100 | |

Table 8. Sediment yield (in yds³/mi²/year, tons/mi²/year and %) by domain and primary land use association, Soda Creek, Upper Eel River watershed.

| Domain (Private and Public ownership) ¹ (mi ²) | | Non Earthflow | | | | | | | Earthflow | | | | | | Total sediment yield (non EF+ EF) | |
|---|---|---|---------------------------------------|-----------------------------|----------------|------------|----------|-----------------------------|-------------|--------------|----------------|-----------|----------|-------------------------|-----------------------------------|------------|
| | | No land use | Field Measured Road Related | SED MODL Input Road Related | Timber Harvest | Ag/ Graze | Fire | Total non EF sediment yield | No land use | Road Related | Timber harvest | Ag/ Graze | Fire | Total EF sediment yield | | |
| >3000 yds³ sediment sources⁵ | yds ³ /mi ² /yr | 199 | 33 | 0 | 11 | 0 | 0 | 242 | 6 | 0 | 0 | 0 | 2 | 8 | 250 | |
| | tons/mi ² /yr | 307 | 50 | 0 | 17 | 0 | 0 | 373 | 10 | 0 | 0 | 0 | 3 | 13 | 386 | |
| | % | 82 | 13 | 0 | 5 | 0 | 0 | 100 | 74 | 0 | 0 | 0 | 26 | 100 | 100 | |
| | Sub-total/ % | yds³/mi²/yr | 199 | 33 | 15 | 65 | 0 | 0 | 312 | 6 | 0 | 0 | 0 | 2 | 8 | 320 |
| | | tons/mi²/yr | 307 | 50 | 20 | 101 | 0 | 0 | 478 | 10 | 0 | 0 | 0 | 3 | 13 | 491 |
| | | % | 64 | 11 | 4 | 21 | 0 | 0 | 100 | 74 | 0 | 0 | 0 | 26 | 100 | 100 |
| | Total for the 60.1 mi² Soda Creek CAL WAA | Plot <3,000 yds ³ sediment sources | yds ³ /mi ² /yr | 4 | 0 | 26 | 94 | 0 | 0 | 124 | 0 | 0 | 0 | 0 | 0 | 124 |
| | | | tons/mi ² /yr | 7 | 0 | 36 | 144 | 0 | 0 | 187 | 0 | 0 | 0 | 0 | 0 | 187 |
| | | | % | 4 | 0 | 19 | 77 | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 100 |
| PWA >3,000 yds ³ sediment sources ⁵ | | yds ³ /mi ² /yr | 251 | 64 | 0 | 14 | 0 | 10 | 340 | 17 | 3 | 0 | 0 | 1 | 21 | 361 |
| | | tons/mi ² /yr | 387 | 98 | 0 | 22 | 0 | 16 | 523 | 27 | 4 | 0 | 0 | 2 | 33 | 556 |
| | | % | 74 | 19 | 0 | 4 | 0 | 3 | 100 | 81 | 13 | 0 | 0 | 6 | 100 | 100 |

Table 8. Sediment yield (in yds³/mi²/year, tons/mi²/year and %) by domain and primary land use association, Soda Creek, Upper Eel River watershed.

| Domain (Private and Public ownership) ¹ (mi ²) | | Non Earthflow | | | | | | | Earthflow | | | | | | Total sediment yield (non EF+ EF) |
|---|---------------------------------------|---------------|-----------------------------|-----------------------------|----------------|-----------|------|-----------------------------|-------------|--------------|----------------|-----------|------|-------------------------|-----------------------------------|
| | | No land use | Field Measured Road Related | SED MODL Input Road Related | Timber Harvest | Ag/ Graze | Fire | Total non EF sediment yield | No land use | Road Related | Timber harvest | Ag/ Graze | Fire | Total EF sediment yield | |
| Sub-total/ % | yds ³ /mi ² /yr | 255 | 64 | 26 | 108 | 0 | 10 | 463 | 17 | 3 | 0 | 0 | 1 | 21 | 484 |
| | tons/mi ² /yr | 393 | 98 | 36 | 167 | 0 | 16 | 710 | 27 | 4 | 0 | 0 | 2 | 33 | 743 |
| | % | 55 | 14 | 5 | 24 | 0 | 2 | 100 | 81 | 13 | 0 | 0 | 6 | 100 | 100 |

Table 8. Sediment yield (in yds³/mi²/year, tons/mi²/year and %) by domain and primary land use association, Tomki Creek, Upper Eel River watershed.

| Domain (Private and Public ownership) ¹ (mi ²) | | Non Earthflow | | | | | | | Earthflow | | | | | | Total sediment yield (non EF+ EF) | |
|---|---|---------------------------------------|-----------------------------|-----------------------------|----------------|------------|-----------|-----------------------------|-------------|--------------|----------------|-----------|----------|-------------------------|-----------------------------------|------------|
| | | No land use | Field Measured Road Related | SED MODL Input Road Related | Timber Harvest | Ag/ Graze | Fire | Total non EF sediment yield | No land use | Road Related | Timber harvest | Ag/ Graze | Fire | Total EF sediment yield | | |
| Private | Plot <3,000 yds ³ sediment sources | yds ³ /mi ² /yr | 113 | 30 | 22 | 16 | 23 | 0 | 204 | 25 | 0 | 0 | 0 | 0 | 25 | 229 |
| | | tons/mi ² /yr | 175 | 46 | 30 | 24 | 35 | 0 | 310 | 39 | 0 | 0 | 0 | 0 | 39 | 349 |
| | | % | 56 | 15 | 10 | 8 | 11 | 0 | 100 | 100 | 0 | 0 | 0 | 0 | 100 | 100 |
| | >3,000 yds ³ sediment sources ⁵ | yds ³ /mi ² /yr | 41 | 16 | 0 | 57 | 2 | <1 | 116 | 15 | <1 | 0 | 0 | 0 | 15 | 131 |
| | | tons/mi ² /yr | 63 | 25 | 0 | 87 | 4 | <1 | 179 | 22 | 1 | 0 | 0 | 0 | 23 | 202 |
| | | % | 35 | 14 | 0 | 49 | 2 | <1 | 100 | 96 | 4 | 0 | 0 | 0 | 100 | 100 |
| | Sub-total/ % | yds ³ /mi ² /yr | 154 | 46 | 22 | 72 | 25 | <1 | 320 | 40 | <1 | 0 | 0 | 0 | 40 | 360 |
| | | tons/mi ² /yr | 238 | 71 | 30 | 111 | 39 | <1 | 490 | 61 | 1 | 0 | 0 | 0 | 62 | 552 |
| | | % | 49 | 14 | 6 | 23 | 8 | <1 | 100 | 98 | 2 | 0 | 0 | 0 | 100 | 100 |
| Public | Plot <3,000 yds ³ sediment sources | yds ³ /mi ² /yr | 83 | 46 | 0.9 | 28 | 0 | 0 | 158 | 0 | 0 | 0 | 0 | 0 | 158 | |
| | | tons/mi ² /yr | 128 | 70 | 1.3 | 43 | 0 | 0 | 242 | 0 | 0 | 0 | 0 | 0 | 242 | |
| | | % | 53 | 29 | <1 | 18 | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 100 | |

Table 8. Sediment yield (in yds³/mi²/year, tons/mi²/year and %) by domain and primary land use association, Tomki Creek, Upper Eel River watershed.

| Domain (Private and Public ownership) ¹ (mi ²) | | Non Earthflow | | | | | | | Earthflow | | | | | | Total sediment yield (non EF+ EF) | | |
|---|---|---|---------------------------------------|-----------------------------|----------------|-----------|--------------|-----------------------------|-------------|--------------|----------------|-----------|----------|-------------------------|-----------------------------------|------------|-----|
| | | No land use | Field Measured Road Related | SED MODL Input Road Related | Timber Harvest | Ag/ Graze | Fire | Total non EF sediment yield | No land use | Road Related | Timber harvest | Ag/ Graze | Fire | Total EF sediment yield | | | |
| >3000 yds³ sediment sources⁵ | yds ³ /mi ² /yr | 369 | 21 | 0 | 34 | 1 | 8 | 434 | 12 | <1 | 0 | 0 | 0 | 12 | 446 | | |
| | tons/mi ² /yr | 569 | 32 | 0 | 52 | 2 | 13 | 668 | 18 | 1 | 0 | 0 | 0 | 19 | 686 | | |
| | % | 85 | 5 | 0 | 8 | <1 | 2 | 100 | 97 | 3 | 0 | 0 | 0 | 100 | 100 | | |
| | Sub-total/ % | yds³/mi²/yr | 452 | 66 | 0.9 | 62 | 1 | 8 | 591 | 12 | <1 | 0 | 0 | 0 | 12 | 603 | |
| | | tons/mi²/yr | 697 | 102 | 1.3 | 95 | 2 | 13 | 910 | 18 | <1 | 0 | 0 | 0 | 19 | 929 | |
| | | % | 77 | 11 | <1 | 10 | <1 | 1 | 100 | 97 | 3 | 0 | 0 | 0 | 100 | 100 | |
| | Total for the 200 mi² Tomki Creek CAL WAA | Plot <3,000 yds ³ sediment sources | yds ³ /mi ² /yr | 107 | 34 | 23 | 18 | 18 | 0 | 200 | 20 | 0 | 0 | 0 | 0 | 20 | 220 |
| | | | tons/mi ² /yr | 164 | 52 | 32 | 28 | 27 | 0 | 303 | 30 | 0 | 0 | 0 | 0 | 30 | 333 |
| | | | % | 54 | 17 | 11 | 9 | 9 | 0 | 100 | 100 | 0 | 0 | 0 | 0 | 100 | 100 |
| PWA >3,000 yds ³ sediment sources ⁵ | | yds ³ /mi ² /yr | 113 | 17 | 0 | 52 | 2 | 2 | 185 | 14 | <1 | 0 | 0 | 0 | 14 | 200 | |
| | | tons/mi ² /yr | 173 | 26 | 0 | 80 | 3 | 3 | 285 | 21 | 1 | 0 | 0 | 0 | 22 | 308 | |
| | | % | 61 | 9 | 0 | 28 | 1 | 1 | 100 | 96 | 4 | 0 | 0 | 0 | 100 | 100 | |

Table 8. Sediment yield (in yds³/mi²/year, tons/mi²/year and %) by domain and primary land use association, Tomki Creek, Upper Eel River watershed.

| Domain (Private and Public ownership) ¹ (mi ²) | | Non Earthflow | | | | | | | Earthflow | | | | | | Total sediment yield (non EF+ EF) |
|---|---------------------------------------|---------------|-----------------------------|-----------------------------|----------------|-----------|------|-----------------------------|-------------|--------------|----------------|-----------|------|-------------------------|-----------------------------------|
| | | No land use | Field Measured Road Related | SED MODL Input Road Related | Timber Harvest | Ag/ Graze | Fire | Total non EF sediment yield | No land use | Road Related | Timber harvest | Ag/ Graze | Fire | Total EF sediment yield | |
| Sub-total/ % | yds ³ /mi ² /yr | 219 | 51 | 23 | 70 | 20 | 2 | 385 | 33 | <1 | 0 | 0 | 0 | 34 | 419 |
| | tons/mi ² /yr | 338 | 78 | 32 | 108 | 31 | 3 | 590 | 52 | 1 | 0 | 0 | 0 | 53 | 643 |
| | % | 57 | 13 | 6 | 18 | 5 | <1 | 100 | 98 | 2 | 0 | 0 | 0 | 100 | 100 |

Table 8. Sediment yield (in yds³/mi²/year, tons/mi²/year and %) by domain and primary land use association, Upper Main Eel River, Upper Eel River watershed.

| Domain (Private and Public ownership) ¹ (mi ²) | | Non Earthflow | | | | | | | Earthflow | | | | | | Total sediment yield (non EF+ EF) | |
|---|---|---------------------------------------|-----------------------------|-----------------------------|----------------|------------|----------|-----------------------------|-------------|--------------|----------------|-----------|----------|-------------------------|-----------------------------------|------------|
| | | No land use | Field Measured Road Related | SED MODL Input Road Related | Timber Harvest | Ag/ Graze | Fire | Total non EF sediment yield | No land use | Road Related | Timber harvest | Ag/ Graze | Fire | Total EF sediment yield | | |
| Private | Plot <3,000 yds ³ sediment sources | yds ³ /mi ² /yr | <1 | 1 | 4 | 97 | 0 | 0 | 102 | 0 | 0 | 0 | 0 | 0 | 0 | 102 |
| | | tons/mi ² /yr | <1 | 2 | 5 | 150 | 0 | 0 | 157 | 0 | 0 | 0 | 0 | 0 | 0 | 157 |
| | | % | <1 | 1 | 3 | 96 | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 100 |
| | >3,000 yds ³ sediment sources ⁵ | yds ³ /mi ² /yr | 78 | 88 | 0 | 47 | 0 | 0 | 213 | 0 | 0 | 0 | 0 | 0 | 0 | 213 |
| | | tons/mi ² /yr | 121 | 136 | 0 | 72 | 0 | 0 | 328 | 0 | 0 | 0 | 0 | 0 | 0 | 328 |
| | | % | 37 | 41 | 0 | 22 | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 100 |
| | Sub-total/ % | yds ³ /mi ² /yr | 79 | 89 | 4 | 144 | 0 | 0 | 316 | 0 | 0 | 0 | 0 | 0 | 0 | 316 |
| | | tons/mi ² /yr | 121 | 137 | 5 | 222 | 0 | 0 | 485 | 0 | 0 | 0 | 0 | 0 | 0 | 485 |
| | | % | 25 | 28 | 1 | 46 | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 100 |
| Public | Plot <3,000 yds ³ sediment sources | yds ³ /mi ² /yr | 45 | 2 | 22 | 11 | 0 | 0 | 80 | 0 | 0 | 0 | 0 | 0 | 80 | |
| | | tons/mi ² /yr | 69 | 3 | 30 | 17 | 0 | 0 | 119 | 0 | 0 | 0 | 0 | 0 | 119 | |
| | | % | 58 | 3 | 25 | 14 | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 100 | |

Table 8. Sediment yield (in yds³/mi²/year, tons/mi²/year and %) by domain and primary land use association, Upper Main Eel River, Upper Eel River watershed.

| Domain (Private and Public ownership) ¹ (mi ²) | | Non Earthflow | | | | | | | Earthflow | | | | | | Total sediment yield (non EF+ EF) |
|---|---|---------------------------------------|-----------------------------|-----------------------------|----------------|-----------|------|-----------------------------|-------------|--------------|----------------|-----------|----------|-------------------------|-----------------------------------|
| | | No land use | Field Measured Road Related | SED MODL Input Road Related | Timber Harvest | Ag/ Graze | Fire | Total non EF sediment yield | No land use | Road Related | Timber harvest | Ag/ Graze | Fire | Total EF sediment yield | |
| >3000 yds ³ sediment sources ⁵ | yds ³ /mi ² /yr | 169 | 33 | 0 | 9 | <1 | <1 | 211 | 2 | 0 | <1 | 0 | 0 | 2 | 213 |
| | tons/mi ² /yr | 261 | 50 | 0 | 14 | <1 | <1 | 325 | 4 | 0 | <1 | 0 | 0 | 4 | 329 |
| | % | 80 | 15 | 0 | 4 | <1 | <1 | 100 | 98 | 0 | 2 | 0 | 0 | 100 | 100 |
| Sub-total/ % | yds ³ /mi ² /yr | 214 | 35 | 22 | 20 | <1 | <1 | 291 | 2 | 0 | <1 | 0 | 0 | 2 | 293 |
| | tons/mi ² /yr | 329 | 54 | 30 | 31 | <1 | <1 | 444 | 4 | 0 | <1 | 0 | 0 | 4 | 448 |
| | % | 74 | 12 | 7 | 7 | <1 | <1 | 100 | 98 | 0 | 2 | 0 | 0 | 100 | 100 |
| Total for the 179 Upper Main Eel River CAL WAA | Plot <3,000 yds ³ sediment sources | yds ³ /mi ² /yr | 41 | 2 | 26 | 17 | 0 | 0 | 86 | 0 | 0 | 0 | 0 | 0 | 86 |
| | tons/mi ² /yr | 64 | 3 | 35 | 27 | 0 | 0 | 129 | 0 | 0 | 0 | 0 | 0 | 0 | 129 |
| | % | 50 | 2 | 27 | 21 | 0 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 100 |
| PWA >3,000 yds ³ sediment sources ⁵ | yds ³ /mi ² /yr | 163 | 37 | 0 | 12 | <1 | <1 | 211 | 2 | 0 | <1 | 0 | 0 | 2 | 213 |
| | tons/mi ² /yr | 250 | 56 | 0 | 18 | <1 | <1 | 326 | 4 | 0 | <1 | 0 | 0 | 4 | 329 |
| | % | 77 | 17 | 0 | 6 | <1 | <1 | 100 | 98 | 0 | 2 | 0 | 0 | 100 | 100 |

Table 8. Sediment yield (in yds³/mi²/year, tons/mi²/year and %) by domain and primary land use association, Upper Main Eel River, Upper Eel River watershed.

| Domain (Private and Public ownership) ¹ (mi ²) | | Non Earthflow | | | | | | | Earthflow | | | | | | Total sediment yield (non EF+ EF) |
|---|---------------------------------------|---------------|-----------------------------|-----------------------------|----------------|-----------|------|-----------------------------|-------------|--------------|----------------|-----------|------|-------------------------|-----------------------------------|
| | | No land use | Field Measured Road Related | SED MODL Input Road Related | Timber Harvest | Ag/ Graze | Fire | Total non EF sediment yield | No land use | Road Related | Timber harvest | Ag/ Graze | Fire | Total EF sediment yield | |
| Sub-total/ % | yds ³ /mi ² /yr | 204 | 39 | 26 | 29 | <1 | <1 | 298 | 2 | 0 | <1 | 0 | 0 | 2 | 280 |
| | tons/mi ² /yr | 314 | 60 | 35 | 45 | <1 | <1 | 454 | 4 | 0 | <1 | 0 | 0 | 4 | 458 |
| | % | 69 | 13 | 8 | 10 | <1 | <1 | 100 | 98 | 0 | 2 | 0 | 0 | 100 | 100 |

Upper Eel River TMDL SEDMODL2 Analysis

Methods

SEDMODL2 is a GIS based road erosion and delivery model designed to identify road segments with high potential for delivering sediment to streams and to estimate the annual tonnage of delivery. Boise Cascade Corporation and the National Council on Air and Stream Improvement (NCASI) developed version 2.0 of SEDMODL2.

SEDMODL2 uses an elevation grid (Digital Elevation Models, or DEMs) along with road and stream coverages to determine which road segments may deliver to streams. The quantity of sediment delivered from these road segments is determined using road erosion factors from the Washington Department of Natural Resources Standard Method for Conducting Watershed Analysis, surface erosion module (WDNR, 1997) and the Water Erosion prediction Project (WEPP) soil erosion model.

SEDMODL2 data requirements

SEDMODL2 requires GIS coverages including: topography (DEM), stream, road, drainage divide, precipitation, geology, soils (optional), and culverts (optional).

Road attributes used by SEDMODL2 include road use, surface type, road width, construction year, culvert or drainage structure locations, cutslope height, road prism geometry type, percent cutslope cover, and road gradient.

Road use factors are based on WDNR (1997), Reid and Dunne (1984), and Foltz (1996) and are based on how heavily used the road is. Surface type factors were developed by WDNR (1997), Burroughs and King (1989), Swift (1984), and Foltz and Burroughs (1990). Highways are attributed with a use factor of 120. Other paved roads are attributed with a factor of 50. Gravel roads are attributed with a factor of 10.

Surface type for roads in the study area are classified using digital imagery (1-meter pixel digital orthophoto quarter quads – DOQQ) as a guide to determine whether a road is asphalt or gravel with ruts. Since other surface types are difficult to determine with this method, these are the only two surface types determined with certainty.

Road width was estimated to be 40' for highways, 25' for other paved roads, and 18' for gravel roads. Width was estimated based on roads measured by field geologists during the field inventory of random plots. Additional spot checks for these widths were made using digital imagery (DOQQ).

Road age can be of three ranges, zero to one year, one to two years, and greater than two years. Since road construction data are also non-existent, it was assumed all roads are over 2 years in age, the default road age chosen by SEDMODL2.

Cutslope height is not an attribute in the road coverage, this attribute is determined by SEDMODL2 based on hillslope gradient determined with the elevation grid (DEM). SEDMODL2 uses field-averaged cutslope height versus hillside slope from unpublished field measurements taken during Boise Cascade road inventories in Washington, Idaho, and Oregon.

Road prism geometry determines the flow path of water and sediment along each road segment. Road configurations can be outsloped, insloped, or crowned. Since most roads in the study region are insloped and there are no better data, all roads in the study are attributed as insloped.

Percent cutslope cover describes the percent vegetation or rock cover on cutslopes that protect bare soil from erosion. Since no data exist for these features, a default value of 70% was chosen.

Road gradient data are derived for each road segment from the elevation grid (DEM.) A road slope factor is assigned based on a square of this gradient (Luce and Black, 1999, Reinig et al., 1991).

Geologic erosion factors have been related to measured erosion rates reported in studies of road surfacing, traffic, slope, and precipitation factored out (Reid, 1981, Reid and Dunne, 1984, Swift, 1984, Dryess, 1975, Ketcheson and Megahan, 1996, Foltz, 1996, Bilby et al., 1989, Vincent, 1985, Luce and Black, 1999, Kochenderfer and Helvey, 1987). The geologic erosion factor is selected for each road segment based on the geology coverage. Geologic erosion factors for each geologic unit were assigned based on dominant geologic units used in the Upper Eel River TMDL. Erosion factors for dominant geologic units 1 – 5 are 2, 2, 3, 1, 1; respectively.

Precipitation in average annual inches of rainfall is used to create a rainfall factor. Source data for precipitation are from 2001 PRISM climatic data. The PRISM derived rainfall coverage is provided by NCASI. The rain factor = 0.016 (average annual rainfall in inches)^{1.5}. A rainfall factor is assigned to each road segment.

Soil data are not available for the entire basin, so the default average soil depth of 36" is used. The bulk density value used in this analysis was 1.6 g/cc, the highest value possible.

Background sediment input is calculated using an estimate of soil creep derived sediment flux into stream channels. The length of the channel along with the slope from the elevation grid (DEM), are used to determine the average creep rate. The creep volume is determined by relating the creep rate and the bulk density with a conversion factor. The volume is doubled, for each side of the stream.

Results

Model results generate data that include background erosion, as well as road segment erosion. When comparing the ratio of road erosion to soil creep, one can assess whether the road erosion is having a significant impact on water quality. If the road : background ratio is less than 0.5, then roads in the basin are having a minor effect on water quality. If the road : background ratio is 0.5 to 1, then roads are having a small but chronic effect on water quality. If the ratio is larger than 1, then roads are likely having a significant effect on water quality and aquatic resources. Overall, The Upper Eel River watershed TMDL assessment area has an approximate Background/Road sediment ratio equal to 2. Subwatershed Background/Road sediment ratios range from 1 (Rice Fork) to 3 (Outlet Creek). As a result, erosion associated with chronic fine sediment inputs from roads in the Upper Eel River TMDL assessment area are considered to have a significant impact on water quality.

Limitations

Limitations to the certainty of the model output can be directly related to the quality of the data one uses. Poorly located roads or streams can alter the amount of direct sediment delivery on each road segment and the amount of sediment delivered. Incomplete road feature attributes may change the sediment production values as well. If all roads are assumed to be insloped and there are some outsloped roads, the data will be skewed. Road and stream coverages that are incomplete will generate an underestimate in sediment production.

SEDMODL2 was developed using empirical relations based on forest roads in Idaho, Oregon, Washington, and the Appalachian Mountains (North Carolina and West Virginia). Rainfall factors are based on Water Erosion prediction Project (WEPP) runs made with climates from northern California, Idaho, Montana, Oregon, and Washington. The model may not account for variability in these relations if the study is done in an area not mentioned here.

Table 9. Total past erosion and sediment delivery from plot features <3,000 yds³ and PWA identified landslides >3000, by terrain type, to each of the three ownerships , Upper Main Eel River, Upper Eel River watershed study area.

| Ownership | Terrain Type/ Geology | Feature <3,000 yds ³ (plots) ² | | | | Landslides >3,000 yds ³ (PWA air photo identified) | | |
|---------------|-----------------------|--|---|--|---------------------------------------|---|---|---------------------------------------|
| | | Non earthflow Erosion (yds ³) | Non earthflow Sediment Delivery (yds ³) | SEDMODL Road Related Sediment Delivery (yds ³) | Earthflow Erosion (yds ³) | Non earthflow erosion (yds ³) | Non earthflow sediment Delivery (yds ³) | Earthflow erosion (yds ³) |
| Private | 1 | 112,860 | 82,782 | 23,962 | 0 | 149,593 | 130,312 | 2,554 |
| | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3 | 0 | 0 | 7,256 | 0 | 0 | 0 | 0 |
| | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5 | 0 | 0 | 10,779 | 0 | 89,334 | 48,374 | 0 |
| | Totals | 112,860 | 82,782 | 41,997 | 0 | 238,927 | 178,686 | 2,554 |
| Public | 1 | 288,399 | 74,193 | 93,070 | 0 | 2,235,776 | 915,314 | 1,867 |
| | 2 | 378,339 | 207,459 | 101,115 | 0 | 1,692,444 | 788,235 | 45,038 |
| | 3 | 79,732 | 78,338 | 21,410 | 0 | 19,350 | 19,350 | 0 |
| | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5 | 332,964 | 253,833 | 39,825 | 0 | 1,083,937 | 520,916 | 14,442 |
| | Totals | 1,079,433 | 613,823 | 255,420 | 0 | 5,031,507 | 2,243,815 | 61,347 |
| Totals | | 1,192,293 | 696,605 | 297,417 | 251,972 | 5,270,434 | 2,422,501 | 63,901 |

¹ Total erosion and sediment yield for plot features <3,000 yds² for each subwatershed will not add up to the total yield for the entire Upper Eel River basin because each ownership is treated as a separate, smaller sample population which is applied to each domain.

Table 9. Total past erosion and sediment delivery from plot features <3,000 yds³ and PWA identified landslides >3000, by terrain type, to each of the three ownerships Outlet Creek, Upper Eel River watershed study area.

| Ownership | Terrain Type/ Geology | Feature <3,000 yds ³ (plots) ² | | | | Landslides >3,000 yds ³ (PWA air photo identified) | | |
|---------------|-----------------------|--|---|--|---------------------------------------|---|---|---------------------------------------|
| | | Non earthflow Erosion (yds ³) | Non earthflow Sediment Delivery (yds ³) | SEDMODL Road Related Sediment Delivery (yds ³) | Earthflow Erosion (yds ³) | Non earthflow erosion (yds ³) | Non earthflow sediment Delivery (yds ³) | Earthflow erosion (yds ³) |
| Private | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3 | 120,582 | 119,826 | 79,155 | 0 | 0 | 0 | 0 |
| | 4 | 0 | 0 | 134,624 | 0 | 491,310 | 253,948 | 0 |
| | 5 | 1,518,862 | 1,068,638 | 351,922 | 0 | 387,636 | 230,538 | 84,114 |
| | Totals | 1,639,444 | 1,188,464 | 565,701 | 0 | 878,946 | 484,486 | 84,114 |
| Public | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4 | 0 | 0 | 1,729 | 0 | 0 | 0 | 0 |
| | 5 | 0 | 0 | 1,043 | 0 | 0 | 0 | 0 |
| | Totals | 0 | 0 | 2,772 | 0 | 0 | 0 | 0 |
| Totals | | 1,639,444 | 1,188,464 | 568,473 | 0 | 878,946 | 484,486 | 84,114 |

¹ Total erosion and sediment yield for plot features <3,000 yds² for each subwatershed will not add up to the total yield for the entire Upper Eel River basin because each ownership is treated as a separate, smaller sample population which is applied to each domain.

Table 9. Total past erosion and sediment delivery from plot features <3,000 yds³ and PWA identified landslides >3000, by terrain type, to each of the three ownerships , Rice Creek, Upper Eel River watershed study area.

| Ownership | Terrain Type/ Geology | Feature <3,000 yds ³ (plots) ² | | | | Landslides >3,000 yds ³ (PWA air photo identified) | | |
|---------------|-----------------------|--|---|--|---------------------------------------|---|---|---------------------------------------|
| | | Non earthflow Erosion (yds ³) | Non earthflow Sediment Delivery (yds ³) | SEDMODL Road Related Sediment Delivery (yds ³) | Earthflow Erosion (yds ³) | Non earthflow erosion (yds ³) | Non earthflow sediment Delivery (yds ³) | Earthflow erosion (yds ³) |
| Private | 1 | 1,624 | 1,456 | 8,271 | 0 | 3,968 | 1,190 | 0 |
| | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 8,505 |
| | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5 | 0 | 0 | 12,032 | 0 | 72,019 | 25,101 | 5,478 |
| | Totals | 1,624 | 1,456 | 20,303 | 0 | 75,987 | 26,291 | 13,983 |
| Public | 1 | 22,658 | 13,062 | 12,357 | 0 | 59,624 | 15,121 | 830 |
| | 2 | 0 | 0 | 1,054 | 0 | 29,198 | 8,759 | 6,947 |
| | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5 | 382,299 | 270,928 | 66,310 | 0 | 1,088,179 | 438,533 | 42,808 |
| | Totals | 404,957 | 283,990 | 79,721 | 0 | 1,177,001 | 462,413 | 50,585 |
| Totals | | 406,581 | 285,446 | 10,024 | 0 | 1,252,988 | 488,704 | 64,568 |

¹ Total erosion and sediment yield for plot features <3,000 yds² for each subwatershed will not add up to the total yield for the entire Upper Eel River basin because each ownership is treated as a separate, smaller sample population which is applied to each domain.

Table 9. Total past erosion and sediment delivery from plot features <3,000 yds³ and PWA identified landslides >3000, by terrain type, to each of the three ownerships , Soda Creek, Upper Eel River watershed study area.

| Ownership | Terrain Type/ Geology | Feature <3,000 yds ³ (plots) ² | | | | Landslides >3,000 yds ³ (PWA air photo identified) | | |
|---------------|-----------------------|--|---|--|---------------------------------------|---|---|---------------------------------------|
| | | Non earthflow Erosion (yds ³) | Non earthflow Sediment Delivery (yds ³) | SEDMODL Road Related Sediment Delivery (yds ³) | Earthflow Erosion (yds ³) | Non earthflow erosion (yds ³) | Non earthflow sediment Delivery (yds ³) | Earthflow erosion (yds ³) |
| Private | 1 | 1,187,376 | 227,244 | 12,445 | 0 | 674,610 | 428,341 | 27,410 |
| | 2 | 0 | 0 | 16,006 | 0 | 103,509 | 87,836 | 28,376 |
| | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4 | 45,316 | 19,012 | 17,069 | 0 | 459,319 | 211,874 | 14,614 |
| | 5 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| | Totals | 1,232,692 | 246,256 | 45,522 | 0 | 1,237,438 | 728,051 | 70,400 |
| Public | 1 | 220,274 | 130,622 | 56,170 | 0 | 915,639 | 539,462 | 18,553 |
| | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2,,082 |
| | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4 | 0 | 0 | 343 | 0 | 65,516 | 39,213 | 0 |
| | 5 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| | Totals | 220,274 | 130,622 | 56,515 | 0 | 981,155 | 578,675 | 20,635 |
| Totals | 1,452,966 | 376,878 | 102,037 | 0 | 2,218,593 | 1,306,726 | 91,035 | |

¹ Total erosion and sediment yield for plot features <3,000 yds² for each subwatershed will not add up to the total yield for the entire Upper Eel River basin because each ownership is treated as a separate, smaller sample population which is applied to each domain.

Table 9. Total past erosion and sediment delivery from plot features <3,000 yds³ and PWA identified landslides >3000, by terrain type, to each of the three ownerships , Tomki Creek, Upper Eel River watershed study area.

| Ownership | Terrain Type/ Geology | Feature <3,000 yds ³ (plots) ² | | | | Landslides >3,000 yds ³ (PWA air photo identified) | | |
|---------------|-----------------------|--|---|--|---------------------------------------|---|---|---------------------------------------|
| | | Non earthflow Erosion (yds ³) | Non earthflow Sediment Delivery (yds ³) | SEDMODL Road Related Sediment Delivery (yds ³) | Earthflow Erosion (yds ³) | Non earthflow erosion (yds ³) | Non earthflow sediment Delivery (yds ³) | Earthflow erosion (yds ³) |
| Private | 1 | 0 | 0 | 0 | 0 | 2,218,593 | 1,306,726 | 91,035 |
| | 2 | 804,243 | 241,575 | 23,934 | 15,546 | 532,967 | 338,343 | 125,330 |
| | 3 | 0 | 0 | 11,858 | 0 | 0 | 0 | 0 |
| | 4 | 230,615 | 147,105 | 6,152 | 0 | 187,220 | 160,636 | 7,830 |
| | 5 | 2,763,011 | 1,471,254 | 244,641 | 236,426 | 999,388 | 618,871 | 16,978 |
| | Totals | 3,797,869 | 1,859,934 | 286,585 | 251,972 | 1,767,475 | 1,160,510 | 157,742 |
| Public | 1 | 78,776 | 68,242 | 0 | 0 | 1,034,037 | 757,718 | 27,815 |
| | 2 | 0 | 0 | 2,389 | 0 | 48,526 | 21,396 | 5,824 |
| | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4 | 93,342 | 73,704 | 0 | 0 | 240,494 | 220,285 | 0 |
| | 5 | 353,160 | 296,262 | 9,799 | 0 | 625,629 | 213,031 | 0 |
| | Totals | 525,278 | 438,208 | 12,188 | 0 | 1,948,686 | 1,212,430 | 33,639 |
| Totals | | 4,323,147 | 2,298,142 | 298,773 | 251,972 | 3,716,161 | 2,372,940 | 191,381 |

¹ Total erosion and sediment yield for plot features <3,000 yds² for each subwatershed will not add up to the total yield for the entire Upper Eel River basin because each ownership is treated as a separate, smaller sample population which is applied to each domain.

Table 9. Total past erosion and sediment delivery from plot features <3,000 yds³ and PWA identified landslides >3000, by terrain type, to each of the three ownerships in the Upper Eel River watershed study area.

| Ownership | Terrain Type/ Geology | Feature <3,000 yds ³ (plots) ² | | | | Landslides >3,000 yds ³ (PWA air photo identified) | | |
|--|-----------------------|--|---|--|---------------------------------------|---|---|---------------------------------------|
| | | Non earthflow Erosion (yds ³) | Non earthflow Sediment Delivery (yds ³) | SEDMODL Road Related Sediment Delivery (yds ³) | Earthflow Erosion (yds ³) | Non earthflow erosion (yds ³) | Non earthflow sediment Delivery (yds ³) | Earthflow erosion (yds ³) |
| Entire Upper Eel River study area | 1 | 1,369,130 | 467,783 | 206,277 | 0 | 5,121,147 | 2,830,120 | 86,633 |
| | 2 | 1,311,878 | 485,764 | 144,497 | 18,209 | 2,406,644 | 1,244,569 | 222,102 |
| | 3 | 209,884 | 207,674 | 119,679 | 0 | 19,350 | 19,350 | 0 |
| | 4 | 943,469 | 613,337 | 159,918 | 0 | 1,443,858 | 885,955 | 22,444 |
| | 5 | 5,963,218 | 3,627,160 | 736,353 | 320,428 | 4,346,122 | 2,095,365 | 163,821 |
| | Totals | 9,797,579 | 5,401,718 | 1,366,724 | 338,637 | 13,337,121 | 7,075,359 | 495,000 |
| Private | 1 | 829,728 | 237,448 | 44,679 | 0 | 876,071 | 602,504 | 37,568 |
| | 2 | 942,041 | 282,967 | 39,940 | 18,209 | 636,476 | 426,179 | 162,211 |
| | 3 | 130,152 | 129,336 | 98,269 | 0 | 0 | 0 | 0 |
| | 4 | 759,035 | 467,705 | 157,845 | 0 | 1,137,848 | 626,458 | 22,444 |
| | 5 | 4,867,629 | 2,784,053 | 619,374 | 320,428 | 1,548,377 | 922,885 | 106,570 |
| | Totals | 7,528,585 | 3,901,509 | 960,107 | 338,637 | 4,198,772 | 2,578,026 | 328,793 |
| Public | 1 | 539,402 | 230,335 | 161,598 | 0 | 4,245,076 | 2,227,615 | 49,065 |
| | 2 | 369,837 | 202,797 | 104,558 | 0 | 1,770,168 | 818,391 | 59,891 |
| | 3 | 79,732 | 78,338 | 21,410 | 0 | 19,350 | 19,350 | 0 |
| | 4 | 184,434 | 145,632 | 2,072 | 0 | 306,010 | 259,497 | 0 |

Table 9. Total past erosion and sediment delivery from plot features <3,000 yds³ and PWA identified landslides >3000, by terrain type, to each of the three ownerships in the Upper Eel River watershed study area.

| Ownership | Terrain Type/ Geology | Feature <3,000 yds ³ (plots) ² | | | | Landslides >3,000 yds ³ (PWA air photo identified) | | |
|-----------|-----------------------|--|---|--|---------------------------------------|---|---|---------------------------------------|
| | | Non earthflow Erosion (yds ³) | Non earthflow Sediment Delivery (yds ³) | SEDMODL Road Related Sediment Delivery (yds ³) | Earthflow Erosion (yds ³) | Non earthflow erosion (yds ³) | Non earthflow sediment Delivery (yds ³) | Earthflow erosion (yds ³) |
| | 5 | 1,095,589 | 843,107 | 116,979 | 0 | 2,797,765 | 1,172,480 | 57,251 |
| | Totals | 2,268,994 | 1,500,209 | 406,617 | 0 | 9,138,349 | 4,497,333 | 166,207 |

¹ Total erosion and sediment yield for plot features <3,000 yds² for each ownership will not add up to the total yield for the entire Upper Fork Eel River study area because each ownership is treated as a separate, smaller sample population which is applied to each domain.