

**Appendix C**  
**Estimated Average Monthly Unimpaired Flow**



**Table 1. Estimated Monthly Unimpaired Flow (cfs) for Old Cow Creek**

| Water Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep |
|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1950       | 24  | 19  | 20  | 94  | 133 | 87  | 79  | 82  | 55  | 47  | 44  | 26  |
| 1951       | 35  | 59  | 144 | 131 | 131 | 77  | 66  | 81  | 48  | 47  | 45  | 26  |
| 1952       | 28  | 53  | 191 | 188 | 171 | 111 | 92  | 129 | 74  | 58  | 49  | 30  |
| 1953       | 27  | 23  | 146 | 205 | 44  | 57  | 89  | 128 | 103 | 58  | 51  | 29  |
| 1954       | 28  | 37  | 35  | 112 | 97  | 115 | 114 | 73  | 55  | 48  | 48  | 30  |
| 1955       | 27  | 56  | 83  | 57  | 36  | 31  | 75  | 81  | 47  | 45  | 43  | 25  |
| 1956       | 24  | 52  | 224 | 298 | 94  | 58  | 70  | 152 | 70  | 54  | 49  | 29  |
| 1957       | 33  | 23  | 21  | 33  | 70  | 118 | 71  | 106 | 57  | 49  | 46  | 33  |
| 1958       | 47  | 54  | 82  | 150 | 311 | 153 | 145 | 108 | 85  | 62  | 52  | 31  |
| 1959       | 28  | 22  | 24  | 91  | 125 | 46  | 61  | 59  | 45  | 43  | 43  | 28  |
| 1960       | 24  | 17  | 19  | 49  | 131 | 80  | 57  | 67  | 45  | 43  | 42  | 24  |
| 1961       | 24  | 42  | 98  | 51  | 145 | 87  | 74  | 76  | 57  | 45  | 44  | 26  |
| 1962       | 25  | 32  | 94  | 43  | 145 | 93  | 68  | 65  | 48  | 44  | 43  | 25  |
| 1963       | 98  | 32  | 100 | 59  | 100 | 65  | 221 | 124 | 59  | 53  | 47  | 28  |
| 1964       | 29  | 62  | 25  | 66  | 28  | 28  | 51  | 56  | 49  | 44  | 42  | 25  |
| 1965       | 24  | 55  | 175 | 175 | 50  | 39  | 180 | 80  | 53  | 48  | 49  | 27  |
| 1966       | 25  | 46  | 42  | 128 | 86  | 70  | 87  | 63  | 45  | 44  | 42  | 24  |
| 1967       | 23  | 63  | 87  | 186 | 62  | 93  | 154 | 221 | 108 | 57  | 48  | 28  |
| 1968       | 28  | 21  | 40  | 101 | 176 | 84  | 62  | 60  | 47  | 44  | 50  | 26  |
| 1969       | 29  | 33  | 141 | 286 | 232 | 89  | 110 | 127 | 71  | 55  | 49  | 28  |
| 1970       | 30  | 24  | 191 | 379 | 89  | 88  | 57  | 56  | 50  | 48  | 45  | 27  |
| 1971       | 28  | 109 | 170 | 140 | 44  | 138 | 89  | 104 | 76  | 58  | 49  | 30  |
| 1972       | 29  | 26  | 49  | 58  | 74  | 91  | 78  | 64  | 50  | 46  | 45  | 27  |
| 1973       | 32  | 64  | 104 | 201 | 159 | 117 | 76  | 86  | 54  | 49  | 46  | 30  |
| 1974       | 32  | 173 | 183 | 293 | 101 | 211 | 132 | 98  | 68  | 62  | 53  | 30  |
| 1975       | 29  | 24  | 37  | 41  | 164 | 166 | 99  | 108 | 70  | 55  | 51  | 29  |
| 1976       | 38  | 29  | 34  | 22  | 70  | 55  | 68  | 54  | 43  | 43  | 49  | 27  |
| 1977       | 24  | 18  | 18  | 19  | 18  | 22  | 42  | 50  | 40  | 42  | 42  | 28  |
| 1978       | 24  | 24  | 97  | 210 | 153 | 179 | 163 | 95  | 56  | 49  | 46  | 30  |
| 1979       | 29  | 21  | 20  | 62  | 161 | 77  | 74  | 105 | 48  | 45  | 44  | 26  |
| 1980       | 36  | 53  | 117 | 191 | 185 | 103 | 69  | 71  | 55  | 49  | 46  | 29  |
| 1981       | 27  | 20  | 40  | 73  | 85  | 126 | 70  | 58  | 44  | 43  | 43  | 26  |
| 1982       | 32  | 180 | 227 | 131 | 176 | 144 | 156 | 99  | 64  | 60  | 51  | 32  |
| 1983       | 32  | 58  | 131 | 157 | 304 | 361 | 125 | 153 | 102 | 72  | 58  | 37  |
| 1984       | 32  | 81  | 270 | 63  | 75  | 60  | 69  | 79  | 58  | 50  | 48  | 28  |
| 1985       | 34  | 101 | 53  | 27  | 42  | 46  | 64  | 53  | 45  | 45  | 44  | 34  |
| 1986       | 29  | 35  | 57  | 96  | 315 | 194 | 68  | 80  | 52  | 49  | 46  | 34  |
| 1987       | 29  | 21  | 21  | 60  | 86  | 137 | 58  | 49  | 42  | 44  | 43  | 25  |
| 1988       | 23  | 20  | 85  | 116 | 27  | 31  | 56  | 71  | 54  | 45  | 44  | 24  |
| 1989       | 23  | 60  | 37  | 63  | 37  | 230 | 105 | 69  | 49  | 47  | 45  | 32  |
| 1990       | 41  | 22  | 20  | 88  | 41  | 62  | 51  | 93  | 70  | 46  | 44  | 25  |
| 1991       | 23  | 18  | 17  | 17  | 22  | 93  | 53  | 54  | 42  | 43  | 42  | 23  |
| 1992       | 22  | 17  | 23  | 28  | 110 | 57  | 57  | 41  | 39  | 43  | 42  | 23  |
| 1993       | 28  | 20  | 92  | 214 | 152 | 144 | 132 | 136 | 136 | 60  | 53  | 29  |
| 1994       | 37  | 22  | 46  | 32  | 96  | 45  | 55  | 64  | 44  | 43  | 42  | 24  |
| 1995       | 23  | 23  | 59  | 305 | 101 | 310 | 137 | 185 | 92  | 63  | 52  | 30  |
| 1996       | 26  | 20  | 70  | 128 | 173 | 92  | 103 | 142 | 63  | 54  | 48  | 29  |
| 1997       | 27  | 25  | 147 | 257 | 59  | 47  | 65  | 56  | 49  | 48  | 47  | 30  |
| 1998       | 30  | 54  | 65  | 315 | 381 | 151 | 139 | 281 | 181 | 87  | 62  | 36  |
| 1999       | 32  | 91  | 80  | 70  | 205 | 108 | 88  | 90  | 67  | 55  | 51  | 29  |
| 2000       | 28  | 34  | 30  | 122 | 204 | 128 | 79  | 69  | 51  | 50  | 46  | 30  |



**Table 2. Estimated Monthly Unimpaired Flow (cfs) for South Cow Creek**

| Water Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep |
|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1950       | 48  | 39  | 40  | 190 | 271 | 178 | 161 | 167 | 113 | 95  | 90  | 52  |
| 1951       | 72  | 120 | 293 | 266 | 266 | 156 | 134 | 165 | 98  | 96  | 91  | 53  |
| 1952       | 58  | 108 | 388 | 383 | 347 | 225 | 186 | 262 | 151 | 118 | 100 | 61  |
| 1953       | 55  | 47  | 296 | 416 | 90  | 116 | 182 | 260 | 209 | 119 | 103 | 59  |
| 1954       | 56  | 75  | 71  | 228 | 197 | 233 | 233 | 148 | 111 | 97  | 98  | 60  |
| 1955       | 55  | 114 | 169 | 116 | 74  | 64  | 153 | 164 | 96  | 91  | 87  | 51  |
| 1956       | 49  | 105 | 456 | 607 | 192 | 117 | 143 | 309 | 142 | 110 | 99  | 59  |
| 1957       | 67  | 46  | 44  | 67  | 142 | 240 | 144 | 216 | 116 | 99  | 94  | 67  |
| 1958       | 97  | 109 | 167 | 306 | 632 | 311 | 295 | 219 | 174 | 127 | 106 | 63  |
| 1959       | 57  | 46  | 50  | 185 | 254 | 94  | 124 | 121 | 91  | 88  | 87  | 58  |
| 1960       | 49  | 34  | 39  | 99  | 267 | 163 | 117 | 137 | 91  | 87  | 85  | 49  |
| 1961       | 48  | 86  | 200 | 104 | 295 | 177 | 150 | 154 | 116 | 92  | 89  | 52  |
| 1962       | 51  | 66  | 190 | 88  | 295 | 188 | 138 | 133 | 97  | 89  | 88  | 50  |
| 1963       | 199 | 65  | 204 | 121 | 203 | 133 | 450 | 253 | 121 | 107 | 96  | 56  |
| 1964       | 58  | 126 | 51  | 134 | 56  | 56  | 104 | 113 | 100 | 90  | 86  | 50  |
| 1965       | 48  | 112 | 357 | 356 | 102 | 80  | 366 | 162 | 108 | 98  | 100 | 55  |
| 1966       | 51  | 94  | 85  | 261 | 176 | 142 | 177 | 129 | 92  | 89  | 86  | 50  |
| 1967       | 47  | 128 | 177 | 379 | 126 | 190 | 314 | 450 | 219 | 115 | 97  | 56  |
| 1968       | 57  | 43  | 81  | 206 | 358 | 170 | 126 | 122 | 96  | 89  | 102 | 53  |
| 1969       | 59  | 66  | 288 | 582 | 472 | 181 | 225 | 259 | 144 | 113 | 99  | 58  |
| 1970       | 62  | 50  | 390 | 770 | 181 | 178 | 116 | 114 | 102 | 97  | 92  | 54  |
| 1971       | 58  | 222 | 346 | 286 | 89  | 282 | 180 | 211 | 155 | 118 | 101 | 61  |
| 1972       | 59  | 53  | 99  | 118 | 150 | 185 | 158 | 131 | 101 | 94  | 91  | 54  |
| 1973       | 65  | 131 | 212 | 409 | 324 | 237 | 155 | 174 | 110 | 100 | 94  | 61  |
| 1974       | 66  | 352 | 373 | 596 | 205 | 429 | 268 | 200 | 138 | 126 | 108 | 61  |
| 1975       | 58  | 49  | 75  | 84  | 333 | 339 | 201 | 220 | 142 | 112 | 104 | 59  |
| 1976       | 77  | 58  | 69  | 44  | 142 | 112 | 139 | 110 | 88  | 88  | 99  | 55  |
| 1977       | 50  | 37  | 36  | 39  | 36  | 45  | 85  | 101 | 81  | 85  | 85  | 56  |
| 1978       | 49  | 49  | 198 | 428 | 311 | 365 | 331 | 193 | 114 | 101 | 93  | 61  |
| 1979       | 59  | 43  | 40  | 126 | 327 | 156 | 150 | 215 | 98  | 92  | 90  | 53  |
| 1980       | 74  | 109 | 239 | 388 | 376 | 210 | 140 | 144 | 111 | 100 | 94  | 58  |
| 1981       | 55  | 40  | 81  | 148 | 173 | 257 | 142 | 118 | 89  | 88  | 87  | 52  |
| 1982       | 66  | 365 | 461 | 266 | 358 | 292 | 317 | 201 | 130 | 123 | 103 | 65  |
| 1983       | 65  | 118 | 267 | 319 | 618 | 734 | 254 | 312 | 207 | 147 | 117 | 76  |
| 1984       | 64  | 165 | 550 | 129 | 153 | 121 | 141 | 160 | 119 | 102 | 98  | 57  |
| 1985       | 68  | 205 | 108 | 55  | 85  | 93  | 129 | 108 | 91  | 92  | 90  | 68  |
| 1986       | 60  | 71  | 117 | 196 | 641 | 395 | 138 | 164 | 106 | 100 | 94  | 68  |
| 1987       | 59  | 42  | 43  | 123 | 176 | 278 | 117 | 99  | 85  | 90  | 88  | 51  |
| 1988       | 48  | 40  | 172 | 236 | 56  | 63  | 114 | 145 | 109 | 91  | 89  | 50  |
| 1989       | 47  | 122 | 75  | 128 | 75  | 468 | 213 | 141 | 99  | 95  | 91  | 66  |
| 1990       | 83  | 45  | 40  | 179 | 83  | 127 | 104 | 189 | 143 | 94  | 89  | 51  |
| 1991       | 47  | 37  | 35  | 35  | 44  | 188 | 108 | 110 | 86  | 87  | 85  | 47  |
| 1992       | 46  | 34  | 47  | 58  | 224 | 115 | 115 | 84  | 80  | 87  | 85  | 47  |
| 1993       | 56  | 41  | 186 | 436 | 308 | 294 | 269 | 276 | 277 | 122 | 109 | 59  |
| 1994       | 76  | 45  | 94  | 65  | 194 | 91  | 111 | 131 | 90  | 88  | 86  | 49  |
| 1995       | 47  | 46  | 120 | 620 | 206 | 630 | 278 | 377 | 186 | 128 | 105 | 61  |
| 1996       | 53  | 41  | 142 | 261 | 352 | 187 | 209 | 290 | 128 | 110 | 97  | 60  |
| 1997       | 55  | 51  | 299 | 523 | 121 | 96  | 132 | 115 | 101 | 99  | 95  | 60  |
| 1998       | 61  | 109 | 131 | 641 | 775 | 307 | 284 | 573 | 369 | 177 | 126 | 74  |
| 1999       | 65  | 185 | 163 | 142 | 417 | 220 | 180 | 182 | 136 | 111 | 103 | 60  |
| 2000       | 56  | 69  | 61  | 249 | 416 | 261 | 160 | 141 | 103 | 102 | 93  | 62  |