

## Subject Index

- 13-cis-4-oxo-retinoic acid** 2183  
**15-meter river buffer** 1504  
**1985 Food Security Act [Farm Bill]** 2111  
**2002 Farm Bill** 554  
**abdominal implants** 1630  
**Abies amabilis** 1263  
**Abies balsamea** 865, 898, 1008  
**Abies falsamea** 1170  
**Abies lasiocarpa** 1318  
**Abies spp.** 1170, 2012  
**abiotic conditions** 1833  
**abiotic factors** 148, 167, 219, 262, 304, 363, 365, 394, 415, 447, 448, 449, 477, 488, 489, 526, 581, 597, 599, 603, 646, 777, 786, 810, 812, 874, 877, 912, 941, 983, 986, 1026, 1028, 1053, 1137, 1183, 1259, 1279, 1347, 1405, 1437, 1458, 1465, 1466, 1486, 1489, 1511, 1513, 1517, 1537, 1546, 1601, 1641, 1678, 1684, 1699, 1779, 2033, 2072, 2129, 2203, 2272  
**Abitibi Lake Model Forest** 932  
**Abitibi region** 932  
**abundance** 10, 33, 49, 87, 89, 98, 112, 140, 175, 188, 189, 210, 211, 239, 241, 261, 274, 276, 281, 317, 376, 421, 447, 449, 526, 537, 539, 545, 584, 601, 609, 636, 696, 726, 739, 755, 773, 794, 804, 831, 841, 845, 851, 875, 880, 886, 889, 953, 961, 982, 984, 989, 1008, 1015, 1016, 1031, 1037, 1068, 1075, 1096, 1097, 1103, 1105, 1122, 1136, 1139, 1178, 1179, 1205, 1218, 1221, 1224, 1229, 1235, 1257, 1261, 1278, 1297, 1338, 1359, 1366, 1373, 1389, 1398, 1405, 1430, 1434, 1455, 1467, 1504, 1512, 1531, 1563, 1621, 1622, 1698, 1772, 1778, 1811, 1847, 1875, 1886, 1896, 1913, 1931, 1963, 1964, 1974, 2035, 2052, 2077, 2173, 2178, 2235, 2257, 2262, 2272  
**abundance and activity** 242  
**abundance and body condition** 1136  
**abundance and occurrence** 1949  
**abundance effects** 1075  
**abundance estimation** 26, 1000, 1594  
**abundance patterns** 1877, 1938  
**Acacia** 605  
**Acacia rigidula** 2237  
**Acacia spp.** 1182  
**Acadian flycatcher** 993, 1023  
**Acadian flycatchers** 1174  
**Acari** 167, 2182  
**access** 2070, 2248  
**Accipiter gentilis** 956, 1241, 1305, 1329, 1331  
**Accipiter gentilis atricapillus** 1305  
**Accipiter gentilis atricapillus:**  
**forestry** 1344  
**Accipitridae** 153, 746, 1241, 1305, 1331  
**accuracy** 266  
**Acer** 1189, 1971, 2083  
**Acer rubrum** 933, 1024, 1182  
**Acer saccharum** 898, 933, 1033  
**Acer spp.** 1182  
**Aceria** 2182  
**Aceria parapopuli** 2182  
**acetylcholinesterase** 2156  
**Achnatherum** 490  
**Achnatherum hymenoides** 490  
**Achnatherum spinosa** 490  
**acidity** 1790  
**acoustical sampling** 1205  
**Acrididae** 115, 144, 399, 625, 753, 789  
**Acrididae (Saltatoria): farming and agriculture** 412  
**Actinopterygii** 1549  
**active cavity** 1112  
**active forest management** 1230  
**activity** 1336, 2076  
**activity budget** 1613  
**activity cycle variation** 271  
**activity patterns** 179, 271, 529, 918, 970, 1036, 1633  
**Aculeata** 637  
**Adair County** 98  
**ADAPT** 1377, 1394  
**adaptation** 2236  
**adaptive kernels** 152, 878  
**adaptive management** 296, 1194, 1689  
**Adephaga** 738  
**Adirondack Mountains** 1465  
**Adirondack Park** 2046  
**administrative guidance** 2275  
**adult return rates** 68  
**adverse effects** 1685, 2156, 2266  
**Aedes** 1596  
**aerial census** 878  
**aerial invertebrates** 1608  
**aerial photography** 305, 316, 1717, 2092, 2195  
**aerial surveys** 1901, 1947, 2141  
**Aeschnidae** 1655  
**afforestation** 107, 881, 1052, 1177, 1209, 1576, 2282  
**Aflexia rubranura** 590  
**age** 87, 739, 799, 1210, 2200  
**age class** 1190  
**age class distribution** 961, 1420  
**age distribution** 797  
**age of trees** 1024  
**age ratio** 880  
**age-sex relationships** 755, 878, 1261  
**age structure** 907  
**Agelaius** 1649  
**Agelaius phoeniceus** 26, 55, 67, 93, 95, 139, 195, 250, 542, 544, 558, 1649, 1680, 1937, 1953, 2200  
**Agelaius phoeniceus [red winged blackbird] (Passeriformes)** 21  
**Ageneotettix deorum** 753  
**Ageneotettix deorum (Orthoptera): species** 450  
**aggradation** 1387  
**aggregated timber harvest** 2060  
**aggregating behavior** 415, 1538, 1932, 2076  
**agri-environmental indicators** 2065  
**agrichemicals** 1578, 1871  
**agricultural activity** 1458, 1578, 1735  
**agricultural and urban land use patterns** 1458  
**agricultural buffers** 1, 114, 2005  
**agricultural catchment** 1377, 1506  
**agricultural change** 386  
**agricultural chemicals** 1735, 1827, 2135, 2179  
**agricultural conservation** 90  
**Agricultural conservation---Government policy---United States** 1996  
**agricultural conservation programs** 171, 316, 1960  
**agricultural crops** 169, 2226  
**agricultural cultivation** 2037  
**agricultural cultivation effects** 2037  
**agricultural development** 617, 1428, 1703  
**agricultural disturbance** 616, 1740  
**agricultural drain** 1909  
**agricultural drainage** 1870  
**agricultural drainage and pesticide transport model (ADAPT)** 1377, 1394  
**agricultural drainwater bypass** 1405  
**agricultural economics** 195, 291  
**agricultural ecosystem** 84, 114, 522, 591, 616, 1130, 1380, 1580, 1582, 1882, 1942, 2146, 2181, 2205  
**agricultural ecosystems** 47, 2177  
**agricultural entomology** 5, 2179, 2261  
**agricultural environment** 2155  
**agricultural expansion** 1440  
**agricultural field border strips** 30  
**agricultural field runoff control by drop pipe installation** 1904  
**agricultural fields** 276  
**agricultural fields: abandoned** 485  
**agricultural fragmentation of forest and wetland** 2097

- agricultural grassland** 819  
**agricultural habitats** 2021, 2114, 2155  
**agricultural hydrology** 2013  
**agricultural impacts** 1691, 2245  
**agricultural impoundment** 2230  
**agricultural irrigation** 1583, 2062  
**agricultural land** 26, 39, 67, 105, 189, 195, 224, 226, 247, 269, 276, 283, 362, 374, 778, 817, 1052, 1074, 1216, 1337, 1783, 1785, 1860, 1874, 1912, 1918, 1936, 1941, 1944, 1967, 1989, 2070, 2155, 2170, 2171, 2181, 2224, 2261, 2282  
**agricultural land use** 19, 1435  
**agricultural lands** 225  
**agricultural landscape** 19, 1287, 1947, 2033, 2071  
**agricultural landscape riparian filter strips** 516  
**agricultural landscape structure** 2125  
**agricultural landscapes** 516, 591, 817, 1400, 1442, 1751, 2146  
**Agricultural law and legislation---United States** 1996  
**agricultural management** 247, 311, 317  
**agricultural management practices** 311  
**agricultural management systems** 156  
**agricultural non point source pollution** 1632  
**agricultural open space** 2044  
**agricultural pollution** 1390, 1559, 1688, 1890, 2135, 2212  
**agricultural ponds** 1579  
**agricultural population recruitment and management** 2155  
**agricultural practices** 65, 75, 83, 104, 112, 141, 153, 172, 195, 208, 228, 239, 251, 271, 291, 323, 337, 392, 465, 469, 652, 1025, 1125, 1130, 1217, 1350, 1460, 1688, 1735, 1758, 1919, 1920, 1943, 1975, 2028, 2042, 2130, 2183, 2226, 2236  
**agricultural production** 2, 147, 234  
**agricultural products** 39, 953  
**agricultural programs** 2111  
**agricultural regions** 1485  
**Agricultural Resources Conservation Program** 57  
**agricultural riparian buffers** 2254  
**agricultural runoff** 7, 1441, 1460, 1478, 1518, 1519, 1559, 1657, 1744, 1852  
**agricultural runoff effects on wetland community** 1848  
**agricultural sector** 2253  
**agricultural situation** 234  
**agricultural streams** 1513  
**agricultural system ecosystem reconnection** 2074  
**agricultural vs intensively managed plantation landscapes** 69  
**agricultural watersheds** 1369, 1392, 1464, 1511, 1539, 2221  
**agricultural wetlands** 1581, 1610, 1653, 1796  
**agricultural wetlands conservation goals** 1581  
**agricultural wetlands conservation value and management** 1581  
**agricultural wetlands management for conservation** 1581  
**agricultural wildland matrix** 179  
**agriculturally fragmented forest and wetland habitat ecology** 2097  
**agriculture and food agricultural economics** 240  
**agriculture and food agricultural equipment** 57  
**agriculture and food agricultural equipment facilities and operations** 190  
**agriculture field runoff control by drop pipe installation** 1904  
**agriculture (general)** 238  
**agriculture landscape** 2033  
**agriculture, range management** 511  
**agro ecosystem** 571, 2265  
**agro-forestry** 1089  
**agrochemicals** 2135  
**agroecology** 114, 172  
**agroecosystem health** 521  
**agroecosystem management** 2074  
**agroecosystems** 15, 39, 84, 172, 629, 1547, 1971, 1988, 2074, 2181  
**agroforestry** 708, 1239, 1945, 1946, 1971  
**agroforestry buffer zones** 1352  
**agroforestry role** 1121  
**agroforestry: shelterbelt plantings** 2192  
**agronomic benefits** 1584  
**agronomy** 245, 1584, 1979, 2038  
**agronomy: agriculture** 215, 246, 1473  
**Agropyron cristatum** 715, 789  
**Agropyron smithii** 1808  
**Agropyron spicatum** 437  
**AIC** 893  
**AIC model-selection** 517  
**Aiken** 833, 971, 1075, 1228  
**Aimophila** 1962, 2128  
**Aimophila aestivalis** 451, 721, 776, 1082, 1197, 1962, 2128  
**Aimophila aestivalis: habitat management** 862  
**Aimophila botterii** 334, 804  
**Aimophila cassinii** 195, 331, 652, 804  
**air pollution** 1939, 2136  
**Air quality** 190, 191  
**air temperature** 1004  
**Aix sponsa** 1503, 1917  
**Akaike information criterion** 2006  
**Akaike's information criterion** 665, 893, 1280, 1309  
**Akaike weights** 695  
**Akaike's information criteria: mathematical and computer techniques** 582  
**Alabama** 837, 1065, 1148, 1213, 1214, 1222, 1285, 1293, 1437, 1471, 1521, 1948, 2128  
**Alachua County** 219  
**Alberta** 120, 251, 296, 401, 464, 747, 846, 871, 874, 1037, 1076, 1179, 1202, 1313, 1320, 1336, 1363, 1630, 1684, 1923, 2043, 2080, 2235  
**Alberta, Canada** 627, 1218  
**Alces alces** 909, 1100, 1140, 1303  
**Alces alces (Cervidae): forestry** 1090, 1332  
**Alces alces: conservation measures** 1301  
**Alces alces: disturbance by man** 2165  
**Alces alces [moose] (Cervidae): bioindicator** 2265  
**alfalfa** 16, 92, 106  
**alfalfa crop habitats** 363  
**alfalfa fields** 363  
**algae** 1827, 1882  
**algae and seaweeds** 2151  
**algarrobo** 805  
**Algonquin Provincial Park** 1256  
**alien grass** 322  
**Alkali Lakes Core Area** 370  
**alkaline wetland** 1637  
**all-trans-retinol** 2183  
**Allegheny Mountains** 2153  
**Allegheny Plateau** 2153  
**Allegheny woodrat** 1165  
**Allendale and Barnwell Counties** 1075  
**alluvial land** 2282  
**alluvial valley forests** 1311  
**alluvium** 1495  
**Alnus** 1153  
**Alnus oregona** 1357  
**Alnus rubra** 884, 1153  
**Alnus spp.** 1357  
**alteration of flow** 1564  
**altered rangelands** 299  
**alternative agriculture** 84  
**alternative forest management practices** 2104  
**alternative livestock grazing strategies** 823  
**alternative planning** 1591, 1894  
**alternative prey** 2032  
**alternative-state theory** 1925  
**alternative timber harvest practices** 1092  
**altitude** 741, 785, 2151, 2263  
**aluminum** 1771  
**Amadina fasciata** 1436  
**Amara** 172, 1061  
**Ambrosia trifida** 831

Subject Index

- Ambrysus amargosus** 1654  
**Ambystoma** 820, 892, 1662  
**Ambystoma californiense** 1636  
**Ambystoma gracile** 838  
**Ambystoma jeffersonianum** 1220, 2006  
**Ambystoma laterale** 2264  
**Ambystoma maculatum** 1655, 1662, 1690, 1844, 1845, 1850, 2006, 2059, 2264  
**Ambystoma opacum** 1662, 2059  
**Ambystoma talpoideum** 892, 904  
**Ambystoma texanum** 1662  
**Ambystoma tigrinum** 1579, 2006  
**Ambystoma tigrinum mavortium** 1762  
**Ambystomatidae** 892, 2059  
**Ambystomidae** 904  
**Ameiurus melas** 1867  
**Ameiurus nebulosus** 1842  
**amenity and recreation areas** 741, 2070  
**amensalism** 437  
**American avocet** 1667, 1872  
**American badger** 218  
**American beaver** 1965  
**American bittern** 1849  
**American black bear** 878, 1225, 2077  
**American black duck** 1442, 1896, 1947  
**American bullfrog** 1662  
**American coot** 1849  
**American elk** 398, 422, 700  
**American goldfinch** 55, 93  
**American goldfinch (Passeriformes)** 13  
**American kestrel** 1995  
**American marten** 1160  
**American redstart** 1233  
**American robin** 884, 1224  
**American shrew mole** 1129  
**American toad** 792, 1690  
**American tree sparrow (Passeriformes)** 13, 17  
**American woodcock** 1096  
**Ames** 513  
**amino acids** 2068  
**Ammodramus** 317, 845  
**Ammodramus bairdii** 141, 660, 671, 845, 1953  
**Ammodramus henslowi** 2105  
**Ammodramus henslowii** 50, 93, 208, 335, 527, 544, 574, 651, 672, 1059, 2098, 2105  
**Ammodramus henslowii: conservation measures** 41  
**Ammodramus henslowii: habitat management** 124  
**Ammodramus lecontei** 563, 1953  
**Ammodramus maritimus** 1649, 1698  
**Ammodramus maritimus mirabilis** 1699  
**Ammodramus maritimus nigrescens** 349  
**Ammodramus nelsoni** 908  
**Ammodramus savannarum** 55, 68, 93, 95, 175, 195, 205, 291, 309, 317, 331, 461, 527, 544, 606, 651, 660, 672, 721, 776, 845, 1953, 2098  
**Ammodramus savannarum floridanus** 721  
**Ammodramus savannarum [grasshopper sparrow] (Passeriformes)** 21  
**Ammodramus savannarum (Passeriformes)** 17, 222  
**Ammodramus savannature** 1729  
**Ammodramus savannarum** 600  
**Ammospermophilus nelsoni** 650  
**Amphibia** 109, 473, 591, 701, 832, 837, 838, 892, 894, 983, 1024, 1079, 1080, 1088, 1136, 1183, 1198, 1210, 1213, 1221, 1236, 1245, 1279, 1306, 1312, 1322, 1398, 1443, 1502, 1593, 1650, 1655, 1662, 1735, 1747, 1783, 1830, 1948, 1949, 1969, 2006, 2037, 2097, 2107, 2122, 2177, 2178, 2183, 2204, 2207, 2227, 2270, 2272  
**Amphibia: forestry** 1136, 1502, 1948, 2227  
**Amphibia: habitat management** 2270  
**Amphibia, Lissamphibia** 2131  
**Amphibia, Lissamphibia, Anura, Leiopelmatidae** 2129  
**Amphibia, Lissamphibia, Caudata** 2091  
**Amphibia, Lissamphibia, Caudata, Plethodontidae** 950, 1540  
**amphibia [physiology]** 1840  
**amphibian assemblage** 2125  
**amphibian community** 1662, 2204  
**amphibian conservation** 1712  
**amphibian decline** 1840  
**amphibian predator-prey base** 473  
**amphibian predators** 473  
**amphibians** 109, 440, 473, 492, 832, 850, 854, 904, 950, 951, 961, 983, 1027, 1079, 1088, 1101, 1118, 1136, 1183, 1192, 1198, 1213, 1220, 1221, 1236, 1242, 1279, 1306, 1312, 1322, 1398, 1443, 1502, 1525, 1540, 1587, 1594, 1602, 1650, 1661, 1690, 1735, 1745, 1747, 1783, 1802, 1830, 1844, 1845, 1850, 1857, 1905, 1924, 1931, 1948, 1949, 1957, 1969, 2007, 2012, 2031, 2033, 2052, 2091, 2122, 2129, 2131, 2177, 2183, 2216, 2220, 2227, 2270, 2272  
**amphibians and reptiles** 96, 419, 650, 658, 792, 838, 1155, 1424, 1555  
**amphibiotic species** 1615, 1617, 1636, 1762, 1845, 1890  
**Amphipoda** 1886  
**Amphispiza belli** 530, 745, 763  
**Amphispiza belli ssp. belli** 1348  
**Amphiuma means** 892, 1312, 1662, 2204  
**anabat** 970  
**anadromous fish** 1501  
**anadromous species** 1421, 1488, 1892  
**anahuac** 678  
**analysis of models** 1562  
**analysis of variance** 1141  
**analysis of variance: mathematical and computer techniques** 582  
**analysis technique and conservation relationships** 1537  
**analytical method** 173  
**Anapsida** 1065  
**Anas** 91, 162, 178, 402, 497, 537, 594, 618, 673, 818, 1177, 1580, 1670, 1673, 1805, 1839, 1899, 1913, 2231  
**Anas acuta** 251, 323, 537, 1660, 1849, 2232  
**Anas acuta (Anatidae): farming and agriculture** 1789  
**Anas aguta** 2001  
**Anas clypeata** 1660, 1808, 1839, 2001  
**Anas crecca** 1839  
**Anas crecca carolinensis** 1896  
**Anas cyanoptera** 1667, 1886  
**Anas discors** 45, 1660, 1808, 2001  
**Anas fulvigula maculosa** 2170  
**Anas platyrhynchos** 45, 218, 251, 276, 362, 1442, 1630, 1660, 1733, 1753, 1808, 1829, 1886, 1899, 1917, 1927, 1947, 2001, 2022, 2073, 2133, 2162, 2231  
**Anas platyrhynchos (Anatidae)** 2155  
**Anas rubripes** 362, 1442, 1896, 1947  
**Anas spp.** 402, 1805, 1913  
**Anas strepera** 323, 1660, 1808, 1886, 2001  
**Anatidae** 159, 178, 218, 220, 323, 537, 673, 1177, 1580, 1584, 1649, 1673, 1785, 1789, 1805, 1822, 1839, 1872, 1899, 1913, 1916, 1931, 2231  
**Anatinae** 2234  
**Anderson Mesa** 813  
**androgens** 1505  
**Andropogon** 317, 574  
**Andropogon gerardii** 294, 317  
**Andropogon sp.** 383  
**Aneides ferreus** 854  
**Aneides hardii** 1101  
**angiosperms** 741  
**angleworms** 1764, 1847  
**angling** 1538  
**animal (Animalia)** 1881  
**animal behavior** 620, 691, 1296, 1732, 1777, 1829  
**animal care** 1750  
**animal communities** 34, 1011, 2036  
**animal competition** 2206  
**animal constructions** 25, 667, 1026, 1469  
**animal ecology** 722, 795, 987, 1285, 1944

- animal ecology and behavior** 452, 562, 612, 644, 651, 691, 717, 731, 753, 773, 778, 836, 1020, 1076, 1109, 1162, 1200, 1265, 1760, 2016, 2167  
**animal husbandry** 433, 575, 642, 795  
**animal husbandry: agriculture** 233  
**animal interactions** 1965  
**animal morphology** 1481  
**animal nutrition** 651, 722  
**animal pests** 20  
**animal physiology** 795, 1845  
**animal populations** 1398, 1950  
**animal preferences** 722, 1074  
**animal production** 691  
**animal science: animal nutrition** 349  
**animal sciences** 2103  
**animal tissues** 1842  
**Animalia** 299, 374, 450, 461, 504, 938, 1011, 1047, 1195, 1218, 1756, 2011, 2182, 2229  
**animals** 2, 5, 9, 11, 13, 17, 22, 60, 79, 152, 201, 222, 257, 268, 390, 740, 894, 913, 1012, 1047, 1303, 1304, 1378, 1395, 1478, 1528, 1533, 1593, 1672, 1812, 1840, 1881, 1891, 2038, 2061, 2078, 2136, 2192, 2243, 2265, 2275, 2281  
**animals (invertebrates)** 1771  
**animals, non-game** 443, 619, 2147  
**animals, wild** 1303  
**Animas Valley** 447  
**Annelida** 78, 79, 201, 1597  
**Annelida, Oligochaeta** 167, 207  
**Annelids** 78, 167, 207  
**annual harvest area** 1303  
**annual plant biomass** 322  
**annual research report** 1490  
**annula fecundity** 1993  
**Anser** 178, 537, 1177, 1580, 1673, 1839, 1899, 1913  
**Anser albifrons** 1878  
**Anser caerulescens** 1737  
**Anser caerulescens caerulescens** 1580, 1785  
**Anser sp.** 1580  
**Anseriformes** 218, 673, 1789  
**ant-aphid mutualism** 931  
**Antennaria dimorpha** 609  
**Anthophora urbana** 2271  
**anthropogenic** 899  
**anthropogenic activities** 644, 1200, 1760  
**anthropogenic alterations** 2233  
**anthropogenic change** 942  
**anthropogenic disturbances** 837, 1740  
**anthropogenic effect** 1543, 2024, 2046, 2163  
**anthropogenic factors** 1466, 1468, 1592, 1671, 1737, 1772, 1890, 2233  
**anthropogenic habitat** 1724  
**anthropogenic impact** 2233  
**anthropogenic stress** 1873  
**Anthus** 845  
**Anthus spragueii** 660, 671, 845  
**Antilocapra americana** 345, 360, 373, 677, 1941, 2266  
**Antilocapra americana (Bovidae): farming and agriculture** 813  
**Antilocapridae** 373  
**Antrozous pallidus** 691  
**ants** 96, 2042, 2263  
**Anura** 473, 591, 833, 958, 1011, 1163, 1597, 1617, 1662, 1783, 1844, 1845, 1931, 1978, 2066, 2204, 2249  
**Anura: habitat management** 2033  
**anuran** 1966  
**anuran call survey** 1594  
**Anuran densities** 1931  
**anurans** 1931  
**APEX** 708  
**Aphelocoma coerulescens** 716  
**Aphelocoma coerulescens coerulescens: forestry** 1032  
**APHIS Wildlife Services Program** 2275  
**Apidae: farming and agriculture** 127  
**Apomado falcon** 302  
**Apoecrita** 637  
**Aporrectodea** 79  
**Aporrectodea caliginosa** 79  
**Aporrectodea trapezoides (Oligochaeta): farming and agriculture** 78  
**Aporrectodea turgida** 167  
**Appalachia** 959  
**Appalachian Mountains** 1047, 1959  
**Appalachian Plateau** 2153  
**Appalachian Region** 1254, 1265  
**Appalachians** 1297  
**Appanose** 293  
**applied and field techniques: drift fence array** 1643  
**applied and field techniques: electrofishing** 1552  
**applied and field techniques: frog cell** 1643  
**applied and field techniques: funnel trapping** 1643  
**applied and field techniques: pitfall trapping** 1643  
**applied entomology** 83, 115, 2225  
**applied microbiology** 210  
**appropriate technology** 2011  
**aquaculture** 162, 832, 987, 2275  
**aquaculture, aquariology and water use** 1814  
**aquatic animals** 1528, 1722, 1890, 2036, 2116  
**aquatic biology and ecology animals** 1760  
**aquatic biology and ecology general** 2016, 2167  
**aquatic birds** 100, 220, 323, 483, 502, 579, 1582, 1614, 1617, 1626, 1633, 1667, 1670, 1700, 1708, 1722, 1737, 1763, 1786, 1814, 1865, 1874, 1896, 1910, 1927, 2170, 2213  
**aquatic communities** 1404, 1470, 1758, 1888, 1918, 1994, 2137  
**aquatic conservation** 1534  
**aquatic conservation strategy** 2247  
**aquatic diving** 1684  
**aquatic ecology** 1445  
**Aquatic ecology---Environmental aspects---United States** 2194  
**aquatic ecosystem** 1027, 1532, 1545  
**aquatic ecosystems** 1027, 1416, 1516, 1568, 1669, 2050, 2208  
**aquatic entomology** 1669, 1794, 1860  
**aquatic environment** 1406, 1423, 1439, 1470, 1970, 1994, 2049, 2134, 2159, 2180, 2261  
**aquatic environments** 1994, 2049, 2208  
**aquatic faunal community** 1516  
**aquatic habitat** 1369, 1379, 1388, 1406, 1435, 1464, 1481, 1483, 1499, 1500, 1507, 1519, 1541, 1544, 1554, 1614, 1658, 1718, 1719, 1734, 1736, 1795, 1918, 1955, 1991, 2041, 2087, 2088, 2216, 2217, 2256, 2257, 2268  
**aquatic habitat quality** 1541, 1991, 2075  
**aquatic habitat restoration** 1574  
**aquatic insects** 1411, 1422, 1449, 1464, 1482, 1483, 1654, 1669, 1759, 1772, 1794, 1811, 1847, 1871, 1882, 1883, 1890, 1918, 2137  
**aquatic invertebrates** 1245, 1464, 1593, 1595, 1685, 1788, 1857, 2056  
**Aquatic invertebrates---Ecology---Florida** 1935  
**Aquatic invertebrates---Environmental aspects---United States** 1664  
**aquatic life** 1379, 1908, 2007, 2013, 2079  
**aquatic macroinvertebrates** 1400, 1402  
**aquatic mammals** 1617  
**aquatic organisms** 7, 1380, 1527, 1598, 1764, 1832, 1842, 2056, 2134, 2178  
**Aquatic organisms, Effect of contaminated sediments on---United States** 2194  
**Aquatic organisms, Effect of water pollution on---United States** 1496  
**aquatic plant management** 1861  
**aquatic plants** 1658, 1681, 1722, 1748, 1759, 1764, 1771, 1806, 1847, 2151  
**aquatic reptiles** 1617  
**Aquatic resources conservation---United States** 2194  
**aquatic science** 23

Subject Index

- aquatic species** 2259  
**aquatic vegetation** 1585, 1926  
**aquatic vegetation cover** 1644  
**aquatic weeds** 2056  
**aquifers** 1817  
**arable land** 1599, 1995, 2022, 2137  
**Arachnida** 5, 235, 2243  
**arachnids** 167, 846, 1067  
**Araneae** 5, 83, 235, 846, 1029, 1067, 1105, 2225, 2243  
**Aransas National Wildlife Refuge** 1607  
**Arapaho National Wildlife Refuge** 558  
**Arceuthobium** 842, 1237  
**Arctostaphylos uva-ursai** 2082  
**area requirements** 2089  
**area sensitivity** 33, 844, 2030  
**arid ecosystems** 432  
**arid environment** 726, 1559, 2011  
**arid grasslands** 447, 476, 610  
**arid land foxes** 2103  
**arid lands** 717, 1559, 1659, 2266  
**arid rangelands** 301  
**arid regions** 639, 1559, 2250  
**aridity** 810, 2072  
**Arion lusitanicus** 158  
**Aristida stricta** 1978  
**Arizona** 302, 308, 332, 378, 389, 471, 476, 505, 523, 613, 652, 691, 726, 728, 744, 804, 813, 853, 895, 901, 935, 1046, 1126, 1188, 1194, 1195, 1207, 1326, 1344, 2240, 2280  
**Arizona, central region** 662  
**Arizona, northwestern** 1176  
**Arizona strip** 1046  
**Arkansas** 778, 877, 948, 1079, 1113, 1137, 1142, 1148, 1178, 1201, 1280, 1282, 1319, 1338, 2173  
**Arkansas: Drew County** 1035  
**Arkansas: Howard County** 947  
**Arkansas: Pike County** 947  
**armadillo** 1093  
**arrival patterns** 925  
**arrow grass** 2141  
**arsenic** 7, 1771  
**Artemisia** 524, 557, 572, 659, 685, 718, 722, 747, 748  
**Artemisia cana** 747  
**Artemisia, Columbia Plateau** 1999  
**Artemisia filifolia** 29, 615, 625  
**Artemisia spp** 66, 381, 554, 733, 745, 758, 806  
**Artemisia tridentata** 325, 408, 553, 609, 748, 935, 2011, 2181  
**arthropod biomass** 482  
**arthropod community** 72  
**arthropod conservation** 621  
**arthropod galls** 2182  
**Arthropoda** 84, 399, 450, 621, 793, 1029, 2030, 2182  
**Arthropoda: farming and agriculture** 211  
**Arthropoda: forestry** 1075, 1250, 1267  
**Arthropoda: habitat management** 489, 914  
**arthropods** 5, 84, 94, 110, 127, 145, 154, 156, 167, 211, 235, 242, 254, 262, 271, 301, 304, 320, 365, 388, 394, 412, 415, 448, 477, 488, 489, 503, 513, 516, 567, 581, 637, 731, 736, 738, 760, 777, 782, 786, 846, 894, 914, 965, 986, 1026, 1029, 1040, 1067, 1075, 1077, 1091, 1092, 1103, 1114, 1137, 1145, 1228, 1250, 1267, 1678, 1707, 1709, 1721, 1984, 2051, 2106, 2136, 2174, 2241, 2243, 2271  
**artificial burrow installation** 667  
**artificial canopy** 1300  
**artificial cavity** 1112  
**artificial freshwater habitat** 1796  
**artificial nests** 8, 479, 2032, 2133, 2188  
**artificial neural network** 2199  
**artificial salt marsh island** 1607  
**artificial structures** 19, 875, 1192, 1247, 1993  
**artificial substrata** 1874  
**artificial wetlands** 1640, 1658, 1659, 1696, 1720, 1771, 2257  
**Artiodactyla** 303, 306, 366, 373, 380, 389, 395, 416, 500, 599, 605, 630, 678, 737, 740, 755, 757, 758, 797, 812, 813, 909, 1010, 1166, 1239, 1303, 1965, 2139  
**Artiodactyla, Mammalia** 1090, 1332  
**Artiodactyls** 2265  
**Arundinaria gigantea** 1066  
**Ascapus truei** 838, 1163, 1424, 1555, 2129, 2220, 2249  
**Ashley County** 1137  
**aspen** 1096, 1350, 2141  
**aspen dominated forest** 997  
**aspen woodland** 669, 801, 2089  
**assemblage structure** 1382  
**assessment** 848, 1380, 1509, 1519, 1593, 2179  
**assessment method** 1428, 1568, 1791, 2163  
**associations** 127, 254, 341, 986, 1250, 2271  
**Aster oblongifolius** 2120  
**Astragalus malachus** 609  
**Astragalus purshii** 609  
**Athene cunicularia** 29, 687, 1980, 1993  
**Athene cunicularia (Strigidae): habitat management** 667  
**Atlantic Ocean** 1706, 1707, 1709, 1721, 1765, 1778  
**atmospheric chemistry** 868  
**Atriplex spp.** 650  
**attitudes** 2070, 2135, 2145  
**attitudinal survey** 311, 2145  
**attractants** 1168  
**auditory sense** 1116  
**Aurora County** 739  
**autecology** 624  
**autumn** 1074, 1715  
**autumn prescribed burn** 1678  
**availability** 1339, 2261  
**Avena sativa** 265  
**Aves** 15, 22, 25, 27, 38, 46, 60, 65, 84, 87, 95, 100, 106, 132, 136, 139, 204, 213, 251, 256, 257, 264, 278, 283, 288, 292, 311, 313, 317, 330, 334, 340, 341, 351, 355, 373, 374, 377, 386, 418, 451, 455, 461, 469, 504, 525, 526, 527, 537, 545, 547, 574, 589, 601, 618, 626, 641, 656, 666, 670, 673, 681, 726, 735, 750, 752, 773, 787, 793, 801, 804, 805, 806, 810, 823, 832, 839, 843, 845, 855, 857, 859, 871, 872, 873, 874, 875, 877, 880, 926, 930, 932, 938, 941, 956, 959, 968, 980, 984, 991, 993, 997, 999, 1011, 1028, 1039, 1050, 1051, 1059, 1064, 1068, 1095, 1097, 1102, 1122, 1123, 1124, 1125, 1130, 1142, 1144, 1153, 1161, 1170, 1171, 1177, 1181, 1189, 1192, 1195, 1196, 1198, 1204, 1211, 1218, 1224, 1233, 1235, 1238, 1244, 1245, 1259, 1260, 1264, 1275, 1288, 1292, 1302, 1303, 1304, 1313, 1327, 1342, 1346, 1347, 1359, 1436, 1582, 1604, 1605, 1609, 1611, 1612, 1620, 1626, 1629, 1633, 1647, 1649, 1673, 1699, 1737, 1748, 1756, 1763, 1781, 1784, 1786, 1789, 1838, 1839, 1863, 1874, 1875, 1906, 1910, 1923, 1929, 1931, 1938, 1962, 1971, 1972, 1974, 1976, 1977, 1985, 2010, 2011, 2021, 2030, 2039, 2043, 2046, 2081, 2083, 2108, 2153, 2160, 2168, 2172, 2188, 2189, 2196, 2209, 2214, 2223  
**Aves: avian prey** 684  
**Aves, Charadriiformes** 2119  
**Aves, Charadriiformes, Alcidae** 912  
**Aves: conservation** 534  
**Aves: conservation measures** 293, 1260, 2172  
**Aves: disturbance by man** 803, 1612, 2189  
**Aves, Falconiformes, Accipitridae** 1344  
**Aves: farming and agriculture** 25, 330, 396, 608, 636, 656, 735  
**Aves: forestry** 223, 874, 877, 932, 971, 997, 1002, 1039, 1068, 1077, 1184, 1222, 1259, 1308, 1333, 1342, 1977, 2023, 2060  
**Aves, Galliformes, Phasianidae** 69, 82, 135, 148, 272, 289, 293, 414, 556, 1034, 1258, 1323, 2054  
**Aves: habitat management** 30, 86, 278, 292, 313, 338, 355, 405, 407, 626, 751, 843, 857, 859, 1161, 1294, 1610, 1938, 2196, 2203, 2214  
**Aves: industry** 1985  
**Aves, Passeriformes** 1069, 1293, 2071, 2076

- Aves, Passeriformes, Corvidae** 1032
- Aves, Passeriformes, Emberizidae** 41, 124, 597, 862, 1338
- Aves, Passeriformes, Parulidae** 879, 1075, 1113, 1319
- Aves, Passeriformes, Troglodytidae** 1248
- Aves, Passeriformes, Turdidae** 1185
- Aves, Passeriformes, Tyrannidae** 742
- Aves, Piciformes** 918, 1367, 1368
- Aves, Piciformes, Picidae** 1250, 1266
- Aves, Strigiformes, Strigidae** 1273, 2284
- avian** 1966
- avian abundance** 36, 719, 1209
- avian assemblages** 391, 2230
- avian biodiversity** 15
- avian breeding productivity** 959
- avian communities**
- avian communities: bird counts, nest density, nest monitoring, reproductive success, riparian area livestock grazing impacts, species richness** 719
- avian community** 33, 873, 1197, 1211, 1603, 1646
- avian community responses** 1233
- avian conservation** 15, 52
- avian density** 1089
- avian diversity** 686, 899, 1142, 1608, 2021, 2089
- avian ecology** 1186, 1956
- avian habitat** 1510
- avian insectivory** 176
- avian nest placement** 2164
- avian population trends** 19
- avian populations** 873
- avian predator foraging efficiency** 1075
- avian predators** 684, 1034, 1040, 1075, 1250
- avian prey abundance** 72
- avian prey diversity** 72
- avian recruitment** 2024
- avian reproductive success** 315
- avian richness** 1156
- avian species** 1790
- aviary experiment** 1033
- aviation** 2275
- avifauna** 15, 24, 26, 29, 166, 189, 261, 305, 309, 317, 319, 340, 386, 522, 544, 601, 660, 710, 763, 802, 831, 832, 841, 855, 869, 870, 872, 886, 917, 922, 926, 945, 968, 973, 984, 989, 998, 999, 1003, 1008, 1015, 1033, 1059, 1062, 1089, 1095, 1135, 1142, 1143, 1177, 1187, 1189, 1197, 1211, 1226, 1292, 1295, 1313, 1599, 1621, 1646, 1680, 1729, 1739, 1913, 1937, 1942, 1953, 1956, 1961, 1962, 1972, 1974, 1998, 2030, 2089, 2096, 2098, 2153, 2164, 2205, 2223, 2230
- avifaunal composition** 560
- avifaunal recovery** 560
- Aythya** 402
- Aythya (Anatidae)** 673
- Bachman's sparrow** 721, 776, 1082, 2128
- BACI** 1223
- BACI study design** 1414
- Bacillus thuringiensis** 959
- backmarsh elevation** 1648
- backswimmers** 1883
- backwater** 1387
- bacteria** 1390, 1521, 1700
- bacteria (faecal)** 1700
- bacteria (microorganisms)** 959, 1245
- bacterial diseases** 2193
- bacterivore and fungivore populations** 245
- badger** 1980
- Baeolophus bicolor** 973
- Baiomys taylori** 744
- Baird's sparrow** 141
- Baja California Sur** 632
- Baker County** 69
- bald eagle** 956
- balsam poplar** 2141
- Bandelier National Monument** 1114
- Banff National Park** 1202
- bank erosion** 1481
- bank protection** 1571
- bank stabilization** 1534
- bank structure** 785
- bank swallow** 2121
- bank vole** 852
- bankfull** 1387
- Bankhead National Forest** 1437
- banks** 1556, 1772
- bark beetles** 851, 1300
- bark foragers** 1222
- Barnwell and Allendale Counties** 971
- Barnwell County** 2107
- barred owl** 1192
- barred tiger salamander** 1762
- barrens management** 2051
- barrens restoration** 974
- barrier islands** 1905
- barriers** 531
- Bartramia longicauda** 141, 291, 956
- basal area** 340, 935, 1189, 1277
- baseline studies** 2228, 2257
- basic approaches, concepts, and theory** 2208
- basins** 1792, 1875
- bat activity** 967, 970
- bat activity monitoring** 1336
- bat detector** 967
- bat foraging** 1205
- bat mortality** 2267
- bats** 863, 939, 970, 1036, 1191, 1201, 1272, 1321, 1335, 1945, 2020
- batture** 1045
- Bayesian analysis** 1012
- Bayesian model** 1012
- Bayou Lafourche** 1078
- bays** 2138
- Bear Creek** 1514
- Beaver Creek** 1460
- beaver lodges** 987
- beaver ponds** 1917
- beavers** 368, 1357, 1374, 1749, 1790, 2257
- bedforms** 1549, 1550
- beef cattle** 505, 523
- beef producers** 1750
- beehives** 1168
- beetle colonization** 896
- beetles** 156, 172, 262, 271, 394, 525, 846, 851, 896, 914, 965, 1061, 1067, 1077, 1105, 1228, 1257, 1300, 2106
- behavior** 55, 66, 68, 69, 75, 97, 134, 179, 227, 238, 242, 271, 291, 358, 366, 384, 415, 419, 436, 493, 500, 507, 548, 549, 573, 600, 614, 635, 650, 658, 716, 746, 758, 773, 797, 803, 852, 881, 902, 903, 918, 924, 954, 971, 994, 1037, 1050, 1087, 1116, 1124, 1150, 1155, 1176, 1182, 1225, 1241, 1248, 1258, 1261, 1268, 1309, 1331, 1335, 1350, 1360, 1374, 1420, 1469, 1485, 1538, 1623, 1643, 1724, 1897, 1910, 1932, 1934, 1959, 1969, 1980, 2076, 2119, 2130, 2141, 2145, 2193, 2235
- behavior and fate characteristics** 2135
- behavior conservation** 104
- behavior simulation models** 1275
- behavioral ecology** 1337
- behavioral research** 1255
- behavioral response** 755, 1059
- behavioral sex differences** 262, 500
- Bembidion** 172
- beneficial insects** 2171
- beneficial organisms** 583
- benefit cost analysis** 191, 817
- benefit of alternative livestock grazing strategies** 823
- benefits** 2028, 2166
- benthic community** 1462, 1561, 1648, 2150
- benthic community structure and trophic function** 1397
- benthic environment** 1411, 1757
- benthic fauna** 1375, 1380, 1614
- benthic invertebrates** 1784, 2228
- benthic macroinvertebrates** 1494, 1568
- benthos** 1380, 1462, 1569, 1573, 1757, 1892
- Benton** 355

## Subject Index

- best management practices** 1036, 1377, 1401, 1402, 1411, 1414, 1416, 1435, 1460, 1464, 1478, 1487, 1491, 1567, 1568, 2221, 2245  
**beta diversity index** 1668  
*Betula alleghaniensis* 898, 933, 1033  
*Betula lenta* 1024  
*Betula papyrifera* 865, 889  
**Betulaceae** 1153  
**between-winter site fidelity** 925  
*Bidens laevis* 1769  
**big brown bat** 967  
**big game** 106  
**Big Sioux River Basin** 739  
**bioaccumulation** 7, 1771, 1842, 1871, 2013, 2015, 2134, 2212  
**bioassays** 2180  
**bioassessment** 1428, 1568  
**biocenosis** 871, 880, 980, 993, 1125, 1233, 1359  
**biochemical oxygen demand** 1380  
**biochemistry and molecular biophysics** 246, 1632  
**biocides** 170, 279, 1735  
**biodiversity** 38, 72, 113, 198, 305, 326, 327, 375, 399, 426, 444, 576, 601, 616, 649, 688, 734, 817, 832, 834, 835, 840, 848, 867, 868, 873, 880, 894, 928, 949, 953, 978, 999, 1021, 1024, 1029, 1047, 1054, 1057, 1100, 1102, 1103, 1118, 1130, 1131, 1132, 1142, 1152, 1156, 1160, 1187, 1189, 1190, 1195, 1209, 1210, 1211, 1235, 1242, 1245, 1251, 1255, 1274, 1287, 1288, 1292, 1298, 1300, 1312, 1313, 1314, 1327, 1328, 1358, 1421, 1445, 1464, 1466, 1468, 1516, 1518, 1545, 1549, 1577, 1590, 1593, 1597, 1598, 1603, 1617, 1638, 1654, 1663, 1681, 1688, 1712, 1735, 1749, 1756, 1757, 1780, 1811, 1831, 1833, 1840, 1863, 1885, 1891, 1909, 1922, 1931, 1939, 1961, 1966, 1967, 1971, 1973, 1981, 1984, 1987, 1988, 1989, 1990, 2035, 2122, 2138, 2152, 2181, 2197, 2204, 2209, 2261, 2265  
**biodiversity and succession in shrub vegetation islands** 815  
**biodiversity comparisons** 1294  
**biodiversity conservation** 374  
**biodiversity hotspots** 2034  
**biodiversity management** 1990  
**biodiversity patterns** 1534  
**biodiversity preservation** 365, 1127  
**biodiversity protection** 1881  
**bioenergetics** 2068  
**biofuels** 1059  
**biogeography** 93, 253, 328, 555, 584, 1004, 1065, 1157, 1166, 1331, 1598, 1965, 1993, 2285  
**biogeography: population studies** 358, 375, 540, 541, 943, 979, 1287, 1382, 1438, 1444, 1485, 1545, 1561, 1603, 1740, 1873, 1909, 1973, 2025, 2026, 2125, 2175, 2230  
**bioindicators** 294, 305, 866, 1343, 1380, 1567, 1665, 1759, 1863  
**bioindicators of sustainable boreal forest management** 1286  
**biological assessment** 294, 1791  
**biological breakdown** 1026, 1250  
**biological communities** 1543, 1547  
**biological control** 15, 172, 616, 1683, 2035, 2171, 2225  
**biological control agents** 20, 1944  
**biological corridors creation to counteract habitat fragmentation** 1121  
**biological criteria** 1969  
**biological diversity** 29, 58, 1190, 1651, 1919, 1939  
**biological effects** 1378, 2110  
**biological effects of livestock grazing** 2110  
**biological indicators** 576, 848, 1566, 1593, 1920, 1944, 2137  
**biological integrity** 1791  
**biological invasion** 802  
**biological inventory** 868  
**biological monitoring** 1570, 1791  
**biological production** 1676, 2162  
**biological sampling** 1719, 1720, 1798  
**biological surveys** 1708, 1722, 1737, 2228, 2257  
**biology** 23, 108, 140, 155, 190, 791  
**biology and conservation assessment** 41  
**biology, ecology** 511  
**biomagnification** 1812  
**biomanipulation** 2120  
**biomarkers** 1142  
**biomass** 167, 210, 241, 330, 420, 450, 520, 547, 577, 615, 638, 646, 688, 717, 722, 731, 734, 753, 770, 789, 822, 1003, 1059, 1103, 1142, 1190, 1249, 1284, 1398, 1403, 1407, 1410, 1421, 1483, 1486, 1492, 1504, 1507, 1571, 1597, 1721, 1757, 1764, 1773, 1774, 1792, 1798, 1822, 1840, 2141, 2198, 2222, 2224  
**biomass: aboveground, belowground** 1648  
**biomass and biodiversity** 1885  
**biomass burning** 525  
**biomass energy** 1059  
**biomass structure** 473  
  
**biomass yield** 790  
**biometrics** 632, 952, 1037, 1234, 1765, 1778, 1932, 2141, 2198  
**biomonitoring** 294, 1570  
**biophysical interactions** 1971  
**bioprocess engineering** 1632  
**biosphere** 2136  
**biosphere reserve** 1673  
**biota** 1549, 1550, 1564, 1764, 2134  
**biotechnology** 210  
**biotelemetry** 1915  
**biotic community** 868  
**biotic factors** 1482, 1669, 1759, 1918  
**biotic integrity** 1473  
**biotic integrity index** 1438  
**biotic resources** 868  
**biotop** 773, 2077  
**bird** 166, 257, 568, 946, 1879, 1992, 2283  
**bird abundance** 139, 993  
**bird (Aves)** 9, 2078  
**bird (Aves): community response, landscape variables** 2192  
**bird (Aves): pest** 2275  
**bird breeding** 571, 1750  
**bird communities** 90, 316, 353, 452, 869, 870, 872, 873, 1135, 1189, 1218, 1327, 2144  
**bird community response** 880, 1223  
**bird community structure** 1033  
**bird conservation** 495, 544, 1337, 2157  
**bird conservation: behavioral intentions, farmer attitudes** 9  
**bird conservation regions** 873, 1325  
**bird demography** 926  
**bird density** 683, 1729  
**bird diversity** 24, 1868  
**bird eggs** 100  
**bird-forestry relationships** 873  
**bird group size** 924  
**bird population declines** 1974  
**bird population trends** 37  
**bird populations** 118, 873, 1015, 1868, 2113  
**Bird populations, Effect of agricultural conservation on** 28  
**bird response** 1224  
**bird species richness** 884  
**bird-vegetation relationship** 980  
**birds** 2, 8, 9, 11, 13, 17, 22, 25, 27, 30, 31, 41, 46, 47, 49, 53, 55, 60, 61, 62, 65, 66, 69, 73, 75, 80, 82, 86, 87, 88, 97, 98, 104, 106, 120, 124, 132, 134, 135, 136, 138, 140, 141, 148, 152, 153, 155, 166, 169, 170, 174, 175, 181, 184, 187, 195, 203, 208, 209, 210, 213, 217, 218, 222, 223, 227, 228, 241, 256, 257, 264, 268, 272, 274, 275, 278, 279, 281, 283, 288, 289, 291, 292, 293, 313, 317, 329, 330, 332, 336, 338, 339, 340, 341, 351, 353, 355, 368, 370, 377, 392, 396, 405, 407, 413, 414, 418, 429, 434, 436, 439, 443, 451, 455, 456, 465, 469, 480, 482, 522, 526, 533, 534, 535, 547, 556, 568, 569, 589, 597, 600, 601, 602, 603, 608, 614, 619, 620, 626, 635, 636, 641, 648, 652, 655, 656, 659, 666, 667, 670, 672, 673, 674, 681, 684, 685, 726, 735, 742, 745, 746, 750, 751, 752, 773, 787, 791, 796, 801, 803, 804, 806, 810, 823, 828, 829, 835, 839, 843, 857, 858, 859, 861, 862,

- birds (contd.)** 868, 871, 874, 875, 877, 879, 880, 881, 883, 887, 888, 894, 902, 912, 915, 918, 930, 932, 934, 941, 946, 956, 971, 972, 976, 980, 984, 990, 992, 993, 997, 999, 1001, 1002, 1025, 1028, 1032, 1034, 1039, 1040, 1041, 1044, 1048, 1050, 1051, 1064, 1068, 1069, 1075, 1077, 1081, 1094, 1097, 1098, 1102, 1112, 1113, 1120, 1122, 1123, 1124, 1125, 1134, 1142, 1152, 1161, 1169, 1171, 1176, 1181, 1184, 1185, 1189, 1192, 1195, 1198, 1203, 1209, 1215, 1217, 1222, 1224, 1241, 1242, 1244, 1245, 1248, 1250, 1258, 1259, 1260, 1263, 1264, 1266, 1273, 1275, 1293, 1294, 1296, 1303, 1304, 1308, 1310, 1319, 1323, 1327, 1333, 1337, 1338, 1342, 1344, 1345, 1347, 1359, 1366, 1367, 1368, 1431, 1593, 1600, 1602, 1609, 1610, 1611, 1612, 1619, 1620, 1621, 1623, 1628, 1629, 1633, 1646, 1661, 1665, 1684, 1699, 1730, 1737, 1743, 1748, 1755, 1763, 1781, 1786, 1789, 1801, 1809, 1829, 1849, 1853, 1868, 1874, 1875, 1876, 1879, 1891, 1905, 1910, 1917, 1920, 1924, 1931, 1938, 1943, 1956, 1958, 1960, 1963, 1975, 1976, 1977, 1985, 1992, 1998, 2019, 2023, 2030, 2038, 2039, 2040, 2043, 2054, 2060, 2071, 2076, 2078, 2081, 2098, 2101, 2119, 2132, 2152, 2154, 2157, 2160, 2172, 2185, 2189, 2192, 2193, 2196, 2199, 2203, 2205, 2209, 2213, 2214, 2226, 2235, 2236, 2242, 2244, 2275, 2282, 2283, 2284  
**birds and farmlands** 15  
**Birds---Habitat---Conservation---South Dakota** 16  
**Birds---Habitat---Nebraska** 18  
**birds, marsh-dwellers** 2147  
**Birds---Nests---South Dakota** 16  
**birds of prey** 1945  
**birds, passerines** 443, 739, 773  
**Birds, Protection of** 1921  
**birds (waterfowl)** 1700  
**birdwatching** 203, 829  
**birth** 1332  
**bison** 306, 366, 399, 416, 426, 509, 535, 814  
**Bison bison** 306, 366, 368, 399, 416, 509, 535, 797  
**bison grazing** 811  
**bivalve** 1506  
**Bivalvia** 1506  
**black bear** 1045, 1225, 1862  
**black cottonwood** 822  
**black crappie** 1842  
**black duck** 362  
**Black Hills** 1288, 1362  
**Black Hills National Forest** 995  
**Black Kettle National Grassland** 603  
**black-necked stilt** 1872  
**Black Prairie Wildlife Management** 1063  
**black rosy finch** 956  
**black spruce** 1124  
**black-tailed jackrabbit** 373  
**black-tailed prairie dog** 302, 531  
**black tern** 1849, 1865  
**black-throated gray warbler** 884, 1224  
**blackbirds** 1680, 1809  
**blackbirds and cowbirds** 281, 443, 773  
**Blackbody temperature** 657  
**Blackfoot Clearwater Wildlife Management Area** 519  
**blackwater forested wetlands** 109  
**Blackwater River State Forest** 2128  
**Blarina brevicauda** 459, 591, 852, 933, 1269, 1280, 1283, 1297  
**Blarina carolinensis** 1280  
**Blarina hylophaga** 767  
**blood** 948  
**blood chemistry** 799  
**blue crab** 1798  
**blue-gray gnatcatcher** 2244  
**Blue Mountains** 380, 876  
**Blue Ridge Mountains** 1375  
**blue-winged teal** 45, 2001  
**blueberry barrens** 598  
**blunt-nosed leopard lizard** 650  
**BMP effectiveness** 1568  
**BMP evaluation** 1416  
**BMPs** 1036, 1297, 1377, 1401, 1402, 1411, 1414, 1416, 1435, 1460, 1464, 1478, 1487, 1491, 1567, 2221, 2245  
**bobolink** 93, 542, 543, 683, 696, 908, 1346  
**bobolinks (Passeriformes)** 17  
**bobwhite** 119, 165, 255, 359, 657, 829, 990, 1951, 2173, 2251  
**bobwhite quail** 129, 130, 155, 187, 499, 714, 720, 723, 729, 864  
**body composition** 1753  
**body condition** 925, 1004, 1136  
**body length** 2198  
**body mass** 952, 1932  
**body size** 400, 577, 925, 1037, 1109, 1531, 1674, 1762, 1816, 2031  
**body weight** 1714  
**bog lemming** 852  
**Bombus vosnesenskii: pollination** 2271  
**Bombycilla cedrorum** 884  
**Bonasa umbellus** 1071, 1096, 1116, 1160, 1252, 1254  
**boom-bust population dynamics** 624  
**bootstrap** 1418  
**bootstrap technique** 1305  
**boreal** 1118, 1697  
**boreal birds** 917  
**boreal forest** 869, 906, 917, 1064, 1242, 1286, 1313, 1336, 1399  
**boreal forest communities** 874  
**boreal forest-grassland transition area** 2080  
**boreal forestry** 844  
**boreal forests** 898, 987, 1037, 1162, 1167, 1198, 1200, 1303, 1313, 2115  
**boreal lakes** 1684  
**boreal mixed-wood** 1218  
**boreal mixedwood forest** 917, 1303  
**borrow pits** 1901  
**Bos** 399, 740  
**Bos bison** 303, 306, 366, 669  
**Bos bison (Bovidae): food plants** 599  
**Bos indicus** 678  
**Bos taurus** 328, 367, 373, 374, 377, 461, 507, 509, 548, 549, 634, 678, 773, 977, 1580, 1855, 2234  
**Bos taurus and Ovis aries** 179  
**Bosmina** 1867  
**Bostrichidae** 1300  
**botanical composition** 426, 442, 520, 576, 702, 722, 731, 1009, 1277, 1823  
**botany** 155  
**Botaurus lentiginosus** 1849  
**Bothriochloa** 545  
**Botteri's sparrow** 334, 804  
**bottom characteristics** 1498  
**bottom topography** 1770  
**bottom-up control** 399  
**bottom-up effects** 1882  
**bottomland forest** 968, 1077, 1260, 1981, 2124  
**bottomland forested wetlands: habitat** 1791  
**bottomland forests** 881, 1052, 1277  
**bottomland hardwood forests** 883, 857, 993, 970, 1078, 1089, 1111, 1215, 1228, 1230, 1264, 1306, 1311, 1323, 1324, 1625, 2020, 2107  
**bottomland hardwood group selected timber harvest** 971  
**bottomland hardwood reforestation** 1834  
**bottomland hardwood wetlands** 1753, 1824  
**bottomlands** 881, 1240  
**boulder cluster placement** 1524  
**Boulder County** 2200  
**boulders** 1492  
**boundary** 374, 844, 1336, 2152  
**Bouteloua** 734  
**Bouteloua gracilis** 734  
**Bouteloua gracilis (Willd. ex Kunth) Lag. ex Griffiths** 734  
**Bouteloua spp.** 728  
**Bovidae** 303, 306, 366, 416, 599, 740, 797, 813  
**box turtle** 792  
**Brachylagus idahoensis** 328, 430  
**Brachyramphus marmoratus** 2168



Subject Index

- Brachyramphus marmoratus:**  
**disturbance by man** 912  
**brackish habitat** 1601, 1706, 1707, 1709, 1721, 1765, 1778, 1932  
**brackish water** 100  
**brackish water environment** 1671  
**brain sodium** 1864  
**Branchiopoda** 1883  
**branchiopods** 1883  
**Brassica napus** 172  
**breeding** 66, 169, 335, 336, 339, 340, 413, 569, 600, 669, 883, 887, 888, 901, 908, 934, 991, 994, 1063, 1179, 1203, 1268, 1305, 1327, 1525, 1628, 1629, 1655, 1670, 1838, 1896, 1947, 1976, 1978, 2007, 2053, 2132, 2210  
**breeding activity** 411, 1897  
**breeding areas** 411, 1627  
**breeding behavior** 457  
**breeding biology** 68, 1319, 1872  
**breeding bird communities** 885, 1227, 1233  
**breeding bird density** 884  
**breeding bird species** 526  
**Breeding Bird Survey** 19, 49, 117, 214, 1177, 1849, 1956, 2201  
**breeding birds** 214, 305, 337, 467, 886, 968, 1649, 1697, 1964, 2027, 2153  
**breeding community** 338, 547, 997, 1838  
**breeding density** 721, 1002  
**breeding distributions** 597  
**breeding ecology** 804, 1122, 1261  
**breeding grounds** 203, 669, 901, 994, 1305, 1331, 1978  
**breeding habitat** 420, 715, 1589  
**breeding occurrence** 1588  
**breeding pairs** 1927  
**breeding phenology** 908  
**breeding places** 226  
**breeding pond** 1004  
**breeding pond selection** 1978  
**breeding population** 251, 305, 545, 547, 608, 884, 886, 889, 968, 1142, 1197, 1264, 1291  
**breeding productivity** 993  
**breeding range** 250  
**breeding season** 261, 555, 672, 880, 1261, 1630, 1844, 1845, 2155  
**breeding site** 100, 162, 323, 396, 405, 579, 603, 667, 742, 918, 1026, 1066, 1084, 1184, 1185, 1222, 1248, 1332, 1367, 1368, 1469, 1582, 1634, 1678, 1763, 1830, 1897, 1927, 2170  
**breeding species** 1977  
**breeding species abundance** 30  
**breeding species response** 1977  
**breeding species richness** 1264  
**breeding status** 1603  
**breeding success** 162, 220, 315, 407, 579, 726, 773, 1069, 1171, 1331, 1670, 2170  
**Brentidae** 1300  
**Brevoortia patronus** 1798
- Brewer's sparrow** 66  
**British Columbia** 601, 830, 872, 903, 1026, 1039, 1090, 1099, 1106, 1107, 1164, 1184, 1212, 1219, 1221, 1248, 1262, 1273, 1294, 1340, 1360, 1420, 1462, 1474, 1490, 1524, 1537, 1745, 2066, 2167, 2181  
**British Columbia, Prince George area** 1206  
**broad-leaved trees** 1358  
**broad-scale** 675  
**broad-winged hawk** 1192  
**Bromus inermis** 294, 544, 680  
**Bromus tectorum** 745, 935  
**brood** 387  
**brood-egg** 302, 478, 773, 801, 980, 1233, 1309, 1310, 1687, 1993  
**brood parasites** 341  
**brood parasitism** 379, 385, 411, 530, 561, 671, 772, 946, 1135, 1216, 2108  
**brood rearing** 554, 1253  
**brood-rearing habitat** 1631, 1873  
**brood survival** 192, 723, 1442  
**brooding** 614  
**brooding behavior** 152  
**broods** 614, 747  
**broods and brooding** 165, 739, 2147  
**brook char** 1328  
**Brookings** 459  
**Brookings County** 238, 295, 711, 739, 2114  
**Brooks** 2174  
**Brooks County** 500  
**brown bullhead** 1842  
**brown creeper** 995, 1224  
**brown-headed cowbird** 93, 95, 141, 291, 387, 561, 772, 773, 784  
**browse** 1339  
**browse plants** 878  
**browse shrub species** 909  
**browsing** 380, 605, 898, 938, 1111, 2141  
**browsing effect on food plant growth** 380  
**browsing effect on plant growth** 380  
**brucellosis** 2193  
**brush control** 249, 990  
**brush invasion [brush encroachment]** 564  
**brush management timing** 1090  
**brush mouse** 1207  
**brush pile** 2120  
**brushland** 1987  
**brushland habitat** 812  
**Bubalus** 399  
**Bubo virginianus** 153  
**Bubulcus ibis** 1836, 1901  
**Bucephala albeola** 1684  
**Buckingham County** 1031  
**budget control** 919  
**budgeting** 919  
**Buenos Aires National Wildlife Refuge** 804
- buffer design** 2215  
**buffer strips** 1170  
**buffer width** 2115  
**buffer zone** 114, 340, 601, 817, 832, 872, 1008, 1208, 1245, 1399, 1969, 2264  
**buffering** 1979  
**buffers** 32, 139, 340, 817, 885, 1369, 1690  
**Bufo americanus** 591, 792, 1594, 1690, 2204  
**Bufo cognatus** 1762  
**bufo terrestris** 1330  
**Bufo** 1945  
**buildings** 2193  
**bulldozing** 771  
**bullfrogs** 1735  
**bunch grass** 506  
**Buprestidae** 936, 1300  
**Bureau of Land Management** 2247  
**burn cycles** 394  
**burn season** 2105  
**burn techniques** 1181  
**burned and unburned conifer dominated boreal forest** 1179  
**burned forest** 1179  
**burned forest habitat** 1179  
**burned forest stand** 1157  
**burning** 279, 344, 376, 428, 487, 491, 506, 561, 574, 593, 611, 699, 718, 794, 812, 874, 991, 1031, 1103, 1279, 1822, 1875, 1933, 2240  
**burning and mechanical clearing** 812  
**burning and mechanical understorey reduction** 1269  
**burning and thinning** 952  
**burning of upland oak forest** 877  
**burning practices** 2272  
**burrow destruction** 1980  
**burrow longevity** 1980  
**burrow patterns** 475  
**burrow reuse** 1980  
**burrowing activities** 649  
**burrowing owl** 392, 687, 1980, 1993  
**burrows** 392, 667, 1980  
**Buteo jamaicensis** 153, 1995  
**Buteo lagopus** 746  
**Buteo lineatus** 964  
**Buteo regalis** 29, 956  
**butterflies** 344, 960, 1954  
**butterfly abundance** 32  
**cactus** 990  
**cactus wren** 804  
**CAFOs** 1567  
**Calamospiza melanocorys** 95, 166  
**Calathus ingratus** 1257  
**calcareous grassland** 623  
**Calcarius** 845  
**Calcarius mccownii** 1606  
**Calcarius ornatus** 671, 715, 845  
**calcium** 486, 546  
**CALFED Bay Delta Program** 1854  
**Calidris alpina** 1784, 1915  
**Calidris mauri** 1915

- California** 168, 196, 245, 363, 475, 521, 529, 562, 596, 642, 709, 781, 809, 823, 828, 849, 941, 952, 1136, 1157, 1331, 1345, 1348, 1405, 1407, 1477, 1512, 1572, 1581, 1590, 1601, 1612, 1614, 1618, 1619, 1636, 1639, 1653, 1680, 1681, 1715, 1719, 1725, 1744, 1795, 1866, 1870, 1878, 1884, 1886, 1894, 1899, 1910, 1932, 1938, 2009, 2121, 2198, 2212, 2232, 2271  
**California, Central Valley** 1599  
**California: Del Norte County** 1310  
**California Forest Practice Rules** 1331  
**California: Humboldt County** 1120, 1310  
**California killifish** 1719  
**California: Sacramento Valley** 2226  
**California: San Joaquin Valley** 650  
**California: Sierra Nevada** 549  
**California tiger salamander** 1636  
**California vole** 781  
**call count route** 2148  
**call-counts** 2143  
**Callinectes sapidus** 1721, 1798  
**Callinectes sapidus: habitat management** 1707  
**Calling Lake area** 2043  
**Callipepla** 717, 2266  
**Callipepla squamata** 373, 518, 550, 717  
**Calosoma frigidum** 1257  
**calving site fidelity** 1332  
**Campeche** 2189  
**Campostoma oligolepis** 1507  
**Campylorhynchus brunneicapillus** 804  
**Canaan Valley National Wildlife Refuge** 542, 569  
**Canada** 27, 120, 167, 172, 178, 189, 204, 247, 251, 296, 323, 362, 392, 522, 537, 594, 601, 665, 671, 747, 787, 830, 832, 843, 844, 845, 846, 852, 865, 871, 872, 873, 874, 880, 886, 889, 890, 903, 908, 914, 932, 950, 980, 992, 994, 997, 999, 1008, 1026, 1037, 1038, 1039, 1049, 1053, 1064, 1067, 1090, 1097, 1099, 1100, 1106, 1107, 1125, 1144, 1164, 1179, 1184, 1189, 1198, 1202, 1206, 1212, 1218, 1219, 1221, 1229, 1242, 1248, 1253, 1256, 1262, 1267, 1273, 1286, 1292, 1294, 1301, 1303, 1313, 1314, 1318, 1320, 1332, 1336, 1337, 1360, 1363, 1388, 1399, 1420, 1442, 1462, 1474, 1490, 1524, 1537, 1544, 1575, 1594, 1630, 1684, 1735, 1745, 1772, 1789, 1805, 1828, 1917, 1923, 1972, 1974, 2043, 2066, 2080, 2095, 2100, 2115, 2132, 2146, 2174, 2181, 2183, 2231, 2235, 2255  
**Canada, Alberta** 1811, 2190  
**Canada, Alberta, Crowfoot Creek** 1700  
**Canada, British Columbia** 1391, 1556  
**Canada, British Columbia, Adam R.** 1421  
**Canada, British Columbia, Big Silver Creek** 1421  
**Canada, British Columbia, Englishman R.** 1391  
**Canada, British Columbia, Fraser River** 1658  
**Canada, British Columbia, Nicola R.** 1391  
**Canada, British Columbia, Salmon R.** 1422  
**Canada, British Columbia, Thompson R.** 1391  
**Canada, British Columbia, Vancouver I., Keogh R.** 1422  
**Canada, British Columbia, Vedder-Chilliwack R.** 1441  
**Canada goose (Anseriformes)** 13  
**Canada, Manitoba** 2190  
**Canada, Nunavut** 1634  
**Canada, Nunavut, Bylot I.** 1634  
**Canada, Ontario** 1592, 1736, 2190  
**Canada, Ontario, Raisin R.** 1491  
**Canada, Prince Edward Island** 1390, 1896  
**Canada, Quebec** 323  
**Canada, Quebec, St. Lawrence R.** 1806  
**Canada, Quebec, St. Lawrence R., Varenne I.** 483  
**Canada, Saskatchewan** 2190  
**Canada, St. Lawrence R.** 323  
**Canadian federal bird management plans** 1325  
**Canadian Prairie Pothole region** 1789  
**Canadian Species at Risk Act** 1325  
**canals** 1717  
**Cancer magister** 1892  
**cane field** 1973  
**canid** 150  
**Canidae** 150, 1292, 2285  
**Canis familiaris** 326  
**Canis latrans** 141, 150, 218, 221, 326, 826  
**Canis lupus** 2285  
**Canis lupus: damage to livestock** 179  
**CANOCO** 1689  
**canonical correspondence analysis** 1974  
**canopy** 348, 442, 505, 638, 762, 789, 833, 894, 935, 1080  
**canopy arthropod community** 931  
**canopy cover** 564, 587, 727, 1101, 1190  
**canopy cover relationships** 325  
**canopy coverage** 1065  
**canopy gaps** 993, 1076, 1111, 1300, 1265, 2204  
**canopy growth** 420  
**canopy height** 994  
**canopy light penetration** 1150  
**canopy shading** 1477  
**canopy thinning** 1061  
**Capra hircus** 552  
**Capreolus capreolus (Cervidae): bioindicator, deer** 2265  
**Capsicum frutescens** 2021  
**captive animal care** 2210  
**captive broodstock program** 1440  
**capture rate** 262, 1004  
**capturing methods** 982  
**Carabidae** 142, 172, 525, 738, 846, 1057, 1061, 1077, 1105, 1944, 2241  
**Carabidae: community structure** 738  
**Carabidae: farming and agriculture** 156, 271, 2241  
**Carabidae: forestry** 1067, 1228  
**Carabidae: habitat management** 394, 2106  
**Caraboidea** 738  
**Caraboidea, Adephega, Coleoptera, Insecta** 1077, 2241  
**Carabus nemoralis** 1257  
**Carabus sylvosus** 1257  
**Caracara cheriway** 372  
**carbohydrates** 699, 2281  
**carbon** 1009  
**carbon availability** 1632  
**carbon cycle** 1009  
**carbon:nitrogen ratio** 1648  
**carbon sequestration** 798, 1209, 1971, 2152  
**carcass composition** 1714  
**carcass weight** 948  
**carcasses** 1422  
**carcinogenesis** 2156  
**cardinal** 2244  
**Carduelis tristis** 55, 93  
**care and rearing of young** 1261  
**Carex** 638, 974  
**Carex lyngbyei** 1671  
**Carex pensylvanica** 974  
**caribou** 1049, 1303, 1360  
**caribou: forestry** 1164  
**caribou habitat supply** 1303  
**Carnivora** 570, 1042, 1087, 1193, 1199, 1225, 1261, 1303, 1361, 1980, 2285  
**carnivore-human conflict** 2285  
**carnivores** 82, 106, 179, 1204, 1320, 1363, 2257, 2285  
**Carolina Bay** 1205  
**Carolina Sandhills National Wildlife Refuge** 1169  
**Caroline County** 1183  
**Carolinensis** 1172, 1280  
**carp** 1816  
**carrying capacity** 161, 1196, 1633, 1634, 1753, 1907, 1912, 2141  
**Carter County** 1016  
**Carya** 1071  
**Carya cordiformis** 898  
**Carya glabra** 1024

Subject Index

- Carya spp.** 1016, 1254, 1330  
**Cascade Mountains** 918  
**Cascade Range** 887, 927  
**Cascade Range and Coast Range**  
 2131  
**Cascades salamander** 1555  
**case studies** 34, 1380  
**Cassin's sparrow** 195, 652, 804  
**Castor canadensis** 368, 987, 1187,  
 1357, 1374, 1749, 1790, 1965, 2080,  
 2139  
**Castoridae** 1193, 1965, 2080, 2139  
**catchment** 1506, 1542, 2112, 2280  
**catchment areas** 7, 1466, 1507,  
 1511, 1519, 1539, 1700  
**catchment hydrology** 1558  
**caterpillar** 528  
**Catharus bicknelli** 865  
**Catharus fuscescens** 879, 1185  
**Catharus guttatus** 925, 945, 1185,  
 1292  
**Catharus ustulatus** 831, 865, 999  
**cation exchange capacity** 103  
**Catoptrophorus semipalmatus**  
 141  
**cattails** 1635, 1806, 1847  
**cattle** 339, 347, 349, 350, 352, 367,  
 377, 381, 393, 401, 422, 424, 434,  
 438, 439, 444, 461, 486, 507, 515,  
 520, 548, 549, 575, 634, 645, 662,  
 698, 699, 700, 707, 740, 773, 794,  
 808, 814, 826, 948, 977, 1375, 1396,  
 1482, 1554, 1759, 1761, 1855, 1976,  
 2126, 2151, 2206, 2234  
**cattle exclusion** 813, 1535  
**cattle grazing** 323, 376, 389, 396,  
 412, 432, 459, 464, 468, 475, 476,  
 506, 674, 895, 907, 1434, 2047  
**cattle industry** 429  
**cattle management** 437  
**cattle management strategies** 351  
**cattle management strategies**  
**applications** 351  
**cattle production** 442  
**cattle production systems** 629  
**cattle ranch** 727, 1897  
**cattle removal** 726  
**cattle stocking** 948, 1759  
**cattle stocking rate** 411  
**Caudata** 892, 894, 903, 957, 1000,  
 1312, 1507, 1579, 1636, 1690, 2059,  
 2204  
**Caudata: forestry** 961, 2131  
**caves** 1208  
**cavities** 1195  
**cavity** 896, 922, 998, 1112  
**cavity-dwelling bat species** 1150  
**cavity-nester habitat** 847  
**cavity nesters** 1222  
**cavity nesting** 985, 1001, 1102  
**cavity-nesting birds** 1015, 1102,  
 1108, 1195, 1244, 1288, 1289  
**cavity tree** 1112  
**Ceanothus** 2141  
**Cedar Creek Natural History Area**  
 503  
**Cedrus spp.** 2120  
**cellular organisms** 299  
**Celtis** 605  
**Celtis pallida** 2237  
**census-survey methods** 120, 471,  
 829, 1234, 1943, 1997, 2141, 2244  
**center pivot irrigation** 1743  
**Central America** 374  
**Central Dissected Till Plains** 1508  
**Central Flyway** 1627  
**central United States** 19  
**Central Valley** 521, 1681, 1884,  
 1899, 2212  
**Central Valley Joint Venture** 1878  
**Centre County** 1322, 1498, 2196  
**Centre County, Barrens Grouse**  
**Management Area** 1233  
**Centrocerus** 748  
**Centrocerus minimus** 143, 357,  
 703  
**Centrocerus spp.** 357  
**Centrocerus urophasianus** 263,  
 296, 299, 345, 357, 404, 408, 553,  
 554, 557, 572, 609, 627, 634, 680,  
 694, 703, 718, 733, 745, 747, 748,  
 799, 806  
**Centrocerus urophasianus**  
**(Phasianidae): farming and**  
**agriculture** 641  
**Centrocerus urophasianus**  
**(Phasianidae): habitat management**  
 659, 685  
**Cephalanthus occidentalis** 1799  
**Cerambycidae** 936, 1300  
**Ceriodaphnia (Cladocera)** 1704  
**Ceriodaphnia dubia** 1893  
**Certhia americana** 884, 995, 1189,  
 1224  
**Certhiidae** 563  
**certification** 1130  
**Cervidae** 306, 380, 389, 395, 500,  
 605, 630, 634, 678, 737, 755, 757,  
 758, 812, 909, 938, 1010, 1090,  
 1100, 1166, 1207, 1239, 1303, 1780,  
 1965, 2139  
**Cervus** 1408  
**Cervus canadensis** 306, 507, 508,  
 548, 699, 757, 1965  
**Cervus canadensis (Cervidae):**  
**farming and agriculture** 737  
**Cervus elaphus** 306, 345, 360, 380,  
 395, 417, 493, 507, 520, 634, 638,  
 700, 722, 758, 897, 1012, 1965,  
 2139, 2141, 2206  
**Cervus elaphus canadensis** 505,  
 697  
**Cervus elaphus: habitat**  
**management** 1202  
**Cervus elaphus Nelsoni** 345, 398,  
 437, 506, 508, 548, 634  
**Chaetodipus hispidus** 744, 800  
**Chamela** 2042  
**Champaign County** 2142  
**Champaign County, Illinois** 1549,  
 1550  
**Champlain Valley** 311  
**change in vegetation** 366, 387,  
 801, 977  
**changes detrimental to wildlife**  
 279, 281, 471  
**channel aggradation** 1492  
**channel flow** 1419, 1481, 1485  
**channel geometry** 1549  
**channel incision** 1381  
**channel morphology** 1481, 1506,  
 1535, 1552, 1559, 1719  
**channel reconfiguration** 1553  
**channel scouring** 1492  
**channel types** 785  
**channeled ephemeral drains** 1208  
**channelization** 1382, 1385, 1534,  
 1549, 2092  
**Channels** 1393, 1415, 1497, 1550,  
 1556, 2154  
**Chaoboridae** 1847  
**chaparral** 2081  
**Chaparral Wildlife Management**  
**Area** 573  
**Chapleau** 1267  
**char** 1557  
**characteristics and selection** 1367  
**Charadrii: habitat management**  
 2119  
**Charadriiformes** 1884  
**Charadriiformes, Aves** 184  
**Charadrius alexandrinus** 1872  
**Charadrius melodus** 370  
**Charadrius montanus** 166, 168,  
 193  
**Charadrius vociferous** 29, 1872  
**Charadrius vociferus** 166, 1784,  
 1872, 1874  
**Chasmistes cujus** 1431  
**Chelicerates** 167, 846, 1067  
**Chelonia** 1065, 1193  
**chemical analysis** 699  
**chemical composition** 2237  
**chemical control** 2056  
**chemical factors** 148, 219, 1279,  
 1546, 1779, 1848, 2033  
**chemical integrity** 1791  
**chemical pollution** 1578, 1583,  
 1752  
**chemicals** 2136  
**Chen c. caerulescens** 1880  
**Chen caerulescens** 1737  
**Chen caerulescens atlantica** 1634  
**Chen caerulescens caerulescens**  
 1785  
**Chen rossii** 1880  
**Chequamegon National Forest**  
 1160  
**Chesapeake Bay** 2138  
**chestnut-collared longspur** 715  
**chi square** 1410  
**Chiapas, Mexico** 1130  
**Chicago** 816  
**chick provisioning** 1645  
**chickadees** 1001, 1102  
**chicks** 275  
**Chihuahua Province** 373, 1880  
**Chihuahuan desertscrub** 518

- Chilcotin Plateau** 1039  
**Chilliwack and Nooksack Drainage Basins** 903  
**chinook salmon** 1457, 2228  
**chipmunks** 1016, 1056  
**Chippewa River** 1539  
**chironomid** 1667  
**chironomid deformity** 1694  
**chironomidae** 1482, 1483, 1640, 1669, 1792, 1847  
**Chironomus tentans (Chironomidae)** 1704  
**Chiroptera** 691, 967, 1006, 1037, 1150, 1205, 1208, 1336, 1945, 2266, 2267  
**Chiroptera: forestry** 1191, 1272  
**chisel plowing** 246  
**chisel-till** 142  
**Chlidonias niger** 1849, 1865  
**Chlordane** 1842  
**chlorophyll** 1422, 1820  
**chlorophyll a** 1507  
**chlorpyrifos** 1994  
**Choctawhatchee River** 1471  
**choice of species** 1052  
**cholinesterase** 2276  
**Chondestes grammacus** 331, 622  
**Chordata** 268, 740, 894, 1521, 1528, 1549, 1593  
**chordates** 2, 9, 11, 13, 17, 22, 25, 30, 41, 60, 61, 69, 82, 86, 109, 124, 135, 136, 148, 152, 174, 179, 184, 222, 223, 257, 272, 278, 289, 292, 293, 295, 307, 313, 330, 338, 341, 351, 355, 363, 380, 389, 390, 395, 396, 397, 405, 407, 414, 447, 459, 473, 476, 500, 526, 534, 547, 556, 573, 589, 597, 599, 603, 608, 610, 626, 630, 632, 636, 641, 656, 659, 666, 667, 670, 672, 673, 678, 684, 685, 689, 692, 706, 711, 724, 735, 737, 742, 751, 752, 765, 766, 787, 803, 810, 813, 815, 816, 823, 828, 843, 857, 859, 862, 874, 877, 879, 912, 918, 930, 932, 940, 941, 950, 952, 961, 971, 983, 992, 997, 1002, 1019, 1028, 1032, 1034, 1039, 1040, 1046, 1053, 1068, 1069, 1075, 1077, 1079, 1084, 1085, 1088, 1090, 1113, 1123, 1136, 1161, 1164, 1181, 1183, 1184, 1185, 1191, 1198, 1202, 1206, 1212, 1213, 1221, 1222, 1236, 1248, 1249, 1250, 1256, 1258, 1259, 1260, 1262, 1264, 1266, 1269, 1270, 1272, 1273, 1275, 1279, 1282, 1286, 1293, 1294, 1299, 1301, 1306, 1308, 1319, 1320, 1322, 1323, 1332, 1333, 1338, 1342, 1344, 1345, 1347, 1349, 1363, 1367, 1368, 1378, 1383, 1403, 1420, 1426, 1452, 1458, 1469, 1474, 1489, 1490, 1502, 1504, 1508, 1513, 1514, 1517, 1520, 1537, 1538, 1540, 1544, 1546, 1574, 1601, 1610, 1611, 1612, 1684, 1699, 1706, 1709, 1747, 1765, 1778, 1781, 1789, 1861, 1885, 1891, 1917, 1932, 1938, 1948, 1949, 1969, 1977, 1985, 2009, 2023, 2033, 2038, 2039, 2043, 2054, 2058, 2060, 2061, 2064, 2071, 2076, 2078, 2091, 2099, 2101, 2114, 2119, 2129, 2131, 2140, 2142, 2165, 2172, 2189, 2192, 2196, 2198, 2203, 2214, 2227, 2235, 2255, 2265, 2270, 2272, 2275, 2284  
**Choristoneura fumiferana** 898  
**Chowan River basin** 1604  
**chromatography, gas** 1812  
**chronic wasting disease** 2193  
**chronology** 362  
**Chrysomya arctostaphyli** 1237  
**Cicadellidae** 590  
**Cichlasoma** 1446  
**Cichlasoma nigrofasciatum** 1446  
**Cichlidae** 1446  
**Ciconiiformes** 141, 153, 746, 1241, 1305  
**Cinara** 931  
**cinnamon teal** 1744  
**circadian activity** 179, 271  
**Circus cyaneus** 146, 1953, 1995, 2098  
**Cirsium arvense** 92  
**Cistothorus platensis** 93, 217, 563, 606, 1059, 1953  
**citizen participation** 34  
**citrus** 2021  
**civil engineering** 1548  
**cladocera** 1758, 1847, 1886, 1936  
**Clarion County** 672  
**classification** 1451, 1480, 1495  
**classification by gender** 878  
**Clay and Lowndes Counties** 30  
**clay-colored sparrow** 669, 683, 1346  
**clay soils** 439  
**clay substrates** 1643  
**Cle Elum** 1068  
**Clean Water Act** 1791  
**clear felling** 1024, 1080  
**clearcut** 917, 969, 1037, 1122, 1274, 1295, 2030  
**clearcut forested landscape** 1308  
**clearcut habitat** 1166  
**clearcut harvesting** 957  
**clearcut logging** 903, 957, 1179, 1218  
**clearcut matrix** 1067  
**clearcutting** 74, 838, 870, 945, 953, 958, 1067, 1135, 1163, 1210, 1218, 1264, 1295, 1306, 1308, 1312, 1313, 1596, 2040, 2126, 2249  
**clearcutting and patch retention harvesting** 1264  
**cleared, thinned and unharvested forest** 1037  
**Clemmys muhlenbergii** 1731  
**Cleridae** 1300  
**Clethrionomys gapperi** 591, 852, 933, 1129, 1139, 1314  
**Clethrionomys gapperi: habitat management** 1349  
**cliffline habitats** 1208  
**climate** 104, 369, 433, 734, 829, 878, 907, 1714, 1805, 1978, 2162  
**climate and weather** 262, 777, 1465, 2072  
**climate change scenarios** 1748  
**climate models** 1748  
**climate warming** 358  
**climatic change** 734, 775, 1384, 1636, 1805, 1939, 1989, 2092  
**climatic regions** 1478  
**climatology** 957, 1302  
**climatology: environmental sciences** 358, 369, 1682, 2230  
**climax communities** 1024  
**climax community** 1804  
**clipping** 485  
**clonal growth** 2017  
**Cloquet Forestry Center** 1116  
**clover** 84  
**cluster analysis** 876, 2239  
**clutch** 2073  
**clutch size** 362, 713, 959, 1872, 1993, 2022  
**clutches** 195  
**coal mine** 544  
**coarse woody debris** 904, 955, 999, 1018, 1095, 1274, 1276, 1300, 1318, 1354, 1686, 2204  
**coarse woody debris in forest** 1349  
**coarse woody debris utilization** 1026  
**coast defences** 1892  
**Coast Range** 1017  
**Coast Range Mountains** 1524  
**Coast Range, Tillamook Burn** 1224  
**coastal areas** 2269  
**Coastal Bend, Texas** 510  
**coastal fisheries enhancement** 1991, 2075  
**coastal forests** 601, 1141  
**coastal geomorphology** 1748  
**coastal habitat** 1120, 2242  
**coastal headwater streams** 1486  
**coastal inlets** 1671  
**coastal marshes** 1591, 1822  
**coastal mixed conifer forest** 1221  
**coastal mountain ranges** 1486  
**coastal pine savanna** 2105  
**coastal plain** 955, 1509, 1701, 2105  
**coastal plain and piedmont regions** 2254  
**Coastal Prairie Conservation Initiative** 707  
**coastal salt marshes** 2044  
**coastal subshrub vegetation** 1348  
**coastal waters** 1815, 1859  
**coastal wetland fauna** 1641  
**coastal wetlands** 1641, 1739, 1796, 1839, 1922, 1925  
**coastal zone** 953, 1421, 1501, 1671, 1822, 1837

Subject Index

- coastal zone management** 1803, 1837, 1859, 2228  
**coasts** 1693, 1816, 1837  
**Coccinellidae** 621  
**Coccothraustes vespertinus** 1224  
**Coccyzus** 831  
**Coconino County, Kaibab National Forest** 895  
**coconut matting restoration techniques** 1709  
**coexistence** 865  
**coffee** 1130  
**coffee agroecosystems** 1130  
**Colaptes auratus** 1102  
**Coleoptera** 36, 172, 294, 374, 525, 621, 738, 965, 1029, 1061, 1076, 1105, 1257, 1300, 1886  
**Coleoptera: forestry** 965  
**coleopterans** 965, 1077  
**coleopterans beetles** 738, 2241  
**Colfax County** 341, 443, 773  
**coliform bacteria** 1521  
**Colinus** 657, 1007, 1951  
**Colinus virginianus** 40, 47, 62, 85, 107, 119, 121, 123, 129, 130, 154, 165, 187, 228, 229, 255, 273, 333, 342, 359, 423, 439, 496, 499, 550, 566, 583, 593, 602, 624, 657, 675, 676, 713, 714, 720, 723, 729, 778, 795, 829, 990, 1007, 1025, 1063, 1178, 1951, 1975, 2123, 2143, 2173, 2199, 2251, 2252, 2277  
**Colinus virginianus: farming and agriculture** 148, 272  
**Colinus virginianus: habitat management** 69, 82  
**Colinus virginianus (Phasianidae): survival** 2101  
**Colinus virginianus: Relative abundance** 2054  
**collaborative management** 613  
**collection method** 485  
**Collembola** 167  
**Collembola: farming and agriculture** 110  
**Collembola: forestry** 1137  
**colonies** 1670, 1992  
**colonization** 68, 1196, 1422, 1623, 1643, 1644, 1662, 1669, 1675, 1794, 1844, 1883, 2285  
**colony growth** 661  
**colony size** 1208  
**color-marking** 250  
**Colorado** 81, 134, 151, 193, 203, 301, 412, 448, 555, 635, 674, 765, 807, 824, 1217, 1374, 1489, 1726, 1893, 1950, 1965, 2139, 2200  
**Colorado, northeastern** 75, 203  
**Colorado River** 1046, 1673, 2092  
**Colorado River Delta** 2092  
**Colorado, Sheep Creek** 1563  
**Colorado, USA** 558  
**Coluber constrictor** 428, 792  
**Colubridae** 428  
**Columbia Basin** 430, 2284  
**Columbia Basin pygmy rabbit** 430  
**Columbia Basin, Turnbull National Wildlife Refuge** 985  
**Columbia River** 1488  
**Columbia River and Basin** 1371  
**Columbia River Basin** 287  
**Columbia torrent salamander** 1424  
**Columbian mouse** 1129  
**Columbian sharp-tailed grouse** 134, 151, 299  
**Columbiformes** 373, 804  
**Comanche National Grasslands** 448  
**combustion** 891, 1059, 1255, 1313  
**commentary** 768  
**commercial activities** 25, 78, 109, 110, 127, 128, 148, 156, 167, 180, 184, 185, 207, 211, 219, 223, 245, 254, 262, 271, 272, 301, 330, 341, 351, 363, 389, 396, 412, 447, 459, 473, 476, 500, 521, 599, 608, 630, 632, 633, 636, 637, 641, 646, 654, 656, 670, 672, 673, 706, 724, 735, 737, 754, 777, 810, 813, 823, 830, 846, 874, 877, 930, 932, 940, 941, 944, 950, 952, 961, 965, 971, 983, 992, 997, 1002, 1017, 1019, 1022, 1026, 1032, 1039, 1046, 1053, 1067, 1068, 1075, 1077, 1079, 1085, 1090, 1092, 1113, 1121, 1127, 1136, 1137, 1146, 1147, 1157, 1164, 1167, 1181, 1183, 1184, 1185, 1191, 1198, 1206, 1212, 1213, 1221, 1222, 1228, 1236, 1248, 1250, 1256, 1259, 1264, 1266, 1267, 1269, 1272, 1273, 1275, 1279, 1282, 1286, 1293, 1306, 1308, 1322, 1332, 1333, 1338, 1342, 1344, 1345, 1352, 1356, 1363, 1375, 1383, 1426, 1452, 1458, 1486, 1502, 1504, 1537, 1538, 1684, 1789, 1889, 1948, 1977, 1985, 2023, 2039, 2050, 2058, 2060, 2064, 2074, 2104, 2110, 2114, 2129, 2131, 2140, 2174, 2202, 2219, 2227, 2235, 2241, 2254, 2255, 2271, 2272  
**commercial enterprises** 19, 302, 430, 844, 876, 895, 901, 903, 909, 925, 948, 954, 957, 958, 980, 981, 993, 995, 1000, 1021, 1037, 1038, 1042, 1110, 1116, 1166, 1199, 1219, 1224, 1233, 1247, 1261, 1303, 1305, 1331, 1336, 1361, 1690, 1980, 2059, 2066  
**commercial fishing** 1384, 1488  
**commercial forest management** 1065  
**commercial thinning** 954  
**common carp** 1816  
**common garter snake** 792, 1398  
**common juniper** 555  
**common nighthawk** 469  
**common pheasant** 45, 132, 227, 279, 2262  
**common raccoon** 1261  
**common snipe** 141, 1874  
**common yellowbird** 2244  
**common yellowthroat** 55, 93, 413  
**common yellowthroat (Passeriformes)** 17  
**communication** 1116  
**communities** 31, 55, 93, 98, 195, 210, 436, 469, 535, 699, 765, 773, 801, 804, 861, 871, 875, 880, 915, 976, 980, 993, 995, 1044, 1122, 1125, 1129, 1179, 1203, 1219, 1233, 1549, 1558, 1579, 1609, 1690, 1821, 1853, 1920, 2046, 2171, 2226, 2244  
**community comparisons** 765  
**community composition** 172, 189, 220, 361, 621, 855, 886, 907, 960, 1095, 1118, 1135, 1257, 1295, 1314, 1398, 1449, 1466, 1468, 1482, 1493, 1511, 1512, 1592, 1598, 1626, 1651, 1665, 1669, 1719, 1722, 1748, 1759, 1769, 1771, 1772, 1786, 1794, 1804, 1822, 1844, 1847, 1883, 1908, 1910, 1911, 1918, 1929, 1936, 1937, 1972, 2058, 2122, 2257  
**community development** 1804  
**community diversity** 322, 1522  
**community dynamics** 590, 1189, 1867, 2046, 2089  
**community dynamics and distribution** 1985  
**community ecology** 420, 489, 564, 1006, 1024, 1675, 1967, 2137  
**community ecology and management** 1866  
**community effects** 1279  
**community function** 1485  
**community-level diversity** 1011  
**community patterns** 1619  
**community response** 294, 869, 884, 1430, 1443, 2107, 2204  
**community response to nutrient enrichment** 1605  
**community responses** 1465, 1486, 2107  
**community responses to fire** 646  
**community responses to helicopter timber harvesting** 1948  
**community responses to logging** 1486  
**community responses to timber harvest** 1948  
**community structure** 25, 29, 30, 36, 82, 109, 110, 136, 156, 167, 180, 207, 219, 271, 289, 292, 294, 295, 301, 313, 330, 338, 394, 405, 412, 447, 449, 473, 476, 477, 488, 489, 503, 513, 526, 547, 558, 581, 591, 601, 637, 646, 670, 684, 711, 754, 760, 766, 782, 815, 846, 859, 870, 872, 874, 877, 914, 937, 960, 961, 965, 971, 983, 986, 997, 1002, 1011, 1019, 1022, 1039, 1061, 1062, 1067, 1077, 1079, 1088, 1091, 1092, 1114, 1133, 1135, 1137, 1161, 1162, 1189, 1213, 1221, 1222, 1226, 1228, 1249, 1250, 1259, 1264, 1267, 1269, 1270, 1279, 1280, 1282, 1293, 1294, 1300, 1306, 1322, 1328, 1342, 1380, 1383, 1397, 1405, 1429, 1437, 1451, 1458,

- community structure (contd.)**  
 1462, 1474, 1484, 1485, 1486, 1502,  
 1508, 1513, 1514, 1524, 1570, 1596,  
 1604, 1605, 1611, 1612, 1641, 1662,  
 1669, 1677, 1684, 1709, 1747, 1757,  
 1759, 1765, 1771, 1774, 1779, 1791,  
 1804, 1807, 1825, 1838, 1844, 1848,  
 1885, 1889, 1904, 1936, 1948, 1961,  
 1962, 1985, 2023, 2033, 2037, 2039,  
 2042, 2044, 2051, 2054, 2058, 2072,  
 2097, 2104, 2106, 2107, 2191, 2196,  
 2203, 2205, 2207, 2214, 2222, 2227,  
 2241, 2254
- community structure among  
 restored riparian habitat** 313
- community structure and habitat  
 use** 1039
- community structure and  
 reproduction** 25
- community structure correlations**  
 1513
- community structure effects** 477,  
 983, 1213, 1259, 1889
- community structure in created vs.  
 natural forest wetlands** 1604
- community structure in intensively  
 grazed pasture** 738
- community structure in restored  
 habitat** 313
- community structure in upland oak  
 forest** 877
- community structure of neotropical  
 migrants** 2214
- community structure relationship**  
 1077, 1546
- community structures and habitat  
 use survey** 1904
- community studies** 1582, 1815
- commute distance** 411
- comparative studies** 1617, 1626,  
 1669
- comparison of different types of  
 managed forests** 1322
- comparison of grazed and  
 ungrazed grassland** 765
- comparison studies** 1511, 1658
- comparison with created  
 freshwater marshes** 1807
- comparison with native prairie** 711
- comparison with other early  
 successional habitats** 859
- comparisons** 765
- comparisons of grazed and  
 ungrazed grassland** 765
- compatibility of management  
 practices with ranching** 706
- compensatory mitigation** 1712
- compensatory predation** 2032
- competition** 433, 507, 549, 565,  
 678, 891, 913, 948
- competition control** 1271
- competitive suppression** 909
- complex history** 995
- complexity** 710
- compliance provisions** 2111
- composition** 1059, 1102, 1597
- compost** 1939
- compound disturbance** 1274
- comprehensive zoology** 174, 823,  
 1752
- comprehensive zoology:  
 disturbance by man** 1779
- comprehensive zoology: farming  
 and agriculture** 128, 185, 351, 521,  
 633, 654, 1352, 2074, 2110, 2219,  
 2254
- comprehensive zoology: forestry**  
 830, 944, 1017, 1121, 1127, 1146,  
 1147, 1167, 1356, 2050, 2202
- comprehensive zoology: habitat  
 management** 815, 916, 937, 1013,  
 1180, 1562, 1725, 2215, 2218
- comprehensive zoology: watershed  
 land use** 1677
- compression** 528
- Comptonia peregrina** 2082
- computer and library sciences**  
 1200
- computer simulation** 708, 1160
- computer software** 298
- conceptual model** 1863
- condition** 740, 948
- condition factor** 1778
- cone of vulnerability** 512
- Conecuh National Forest** 2128
- confined animal feeding operations**  
 1567
- conflicts** 1303
- conifer (Coniferopsida)** 2061
- conifer-dominated boreal forest**  
 1179
- conifer forest** 988
- conifer plantations** 909
- Coniferales** 27
- Coniferophyta** 204, 408, 1029,  
 1064, 1071, 1153, 1292, 1316, 1472,  
 2081, 2122
- coniferous forest** 601, 741, 867,  
 935, 1161, 1074, 1109, 1195, 1202,  
 1261, 1316, 1349, 1962
- coniferous forest management**  
 940
- conifers** 1076
- conjunctive use** 2186
- Connecticut Valley** 1838
- connectivity** 1143, 1775, 1826,  
 1966
- conservation areas** 121, 159, 161,  
 200, 238, 778
- conservation assessment** 41, 54,  
 2001
- conservation banking** 2258
- conservation benefit of alternative  
 livestock grazing strategies** 823
- conservation biology** 136, 564,  
 761, 907, 1122, 1643
- conservation buffers** 116, 269,  
 647, 731, 817, 2169, 2274
- conservation compliance** 1652
- conservation easement** 1780
- conservation ecology** 664
- conservation education** 1997
- conservation effectiveness: local  
 factors, regional factors** 1751
- conservation impact** 2260
- conservation implications** 136,  
 405, 815, 916, 1039, 1145, 1260,  
 1320, 1678, 2072
- conservation interests** 1881
- conservation land acquisition**  
 1881
- conservation management** 29,  
 139, 204, 317, 340, 541, 613, 621,  
 628, 705, 917, 920, 973, 1015, 1064,  
 1117, 1130, 1177, 1187, 1291, 1599,  
 1767, 1899, 1961, 1974, 2163, 2205,  
 2223, 2239
- conservation of natural resources  
 [history]** 913
- conservation of natural resources  
 [legislation and jurisprudence]**  
 913
- conservation of natural resources  
 [methods]** 913, 1533, 1840
- Conservation of natural resources  
 ---Nebraska** 102
- Conservation of natural resources  
 ---United States** 56
- conservation planning** 63, 836,  
 1036, 1186, 1571, 1872, 1899, 1907,  
 1957
- conservation plans** 296, 1342,  
 1999
- conservation planting** 1010
- conservation policy** 1560
- conservation programs** 4, 31, 34,  
 48, 49, 55, 62, 66, 98, 125, 137, 163,  
 175, 195, 196, 228, 255, 274, 279,  
 280, 281, 739, 778, 1997, 2000,  
 2003, 2005, 2038, 2063, 2085, 2086,  
 2087, 2094, 2109, 2176, 2210, 2273,  
 2274, 2277
- conservation reserve** 2238
- Conservation Reserve  
 Enhancement Program** 1372,  
 1516, 2000
- Conservation Reserve Program** 3,  
 6, 10, 12, 13, 14, 17, 19, 21, 22, 31,  
 33, 35, 37, 38, 48, 49, 50, 51, 52, 53,  
 54, 55, 57, 58, 59, 61, 63, 64, 66, 70,  
 72, 75, 76, 77, 81, 85, 89, 90, 92, 94,  
 95, 96, 97, 99, 106, 107, 108, 111,  
 114, 117, 118, 121, 122, 123, 126,  
 129, 130, 131, 134, 135, 137, 138,  
 139, 140, 141, 143, 146, 149, 151,  
 152, 157, 160, 162, 163, 164, 169,  
 174, 175, 186, 187, 188, 190, 192,  
 195, 199, 202, 205, 206, 209, 210,  
 212, 214, 222, 224, 225, 229, 230,  
 231, 232, 233, 237, 240, 241, 246,  
 252, 255, 259, 260, 263, 266, 267,  
 270, 273, 275, 277, 279, 280, 282,  
 283, 284, 286, 287, 288, 289, 290,  
 291, 297, 391, 455, 703, 704, 715,  
 790, 791, 1197, 1394, 1652, 1716,

Subject Index

- Conservation Reserve Program (contd.)** 1869, 1964, 1997, 2001, 2002, 2109, 2111, 2176, 2236, 2273, 2279  
**Conservation Reserve Program fields** 86, 293  
**Conservation Reserve Program lands** 1941  
**Conservation Reserve Program (U.S.)** 16, 28  
**Conservation Reserve Program---United States** 18, 43, 56  
**Conservation Reserve Programs** 119, 194, 227, 238  
**conservation resource management** 2038  
**conservation role of livestock grazing** 630  
**Conservation Securities Act** 2279  
**Conservation Security Program** 703, 1394, 2003, 2273  
**conservation significance** 128, 1604, 1885  
**conservation status** 690, 785, 786, 1244, 1316, 1364, 1621, 1880, 1959  
**conservation strategies** 666, 1535  
**conservation threats** 534  
**conservation tillage** 5, 42, 84, 201, 583, 2243  
**conservation tools** 1127  
**conservation value** 917, 1653  
**conspicifics** 1762  
**constraints** 2253  
**constructed wetland mesocosms** 1704  
**constructed wetlands** 1487, 1632, 1647, 1667, 1680, 1697, 1711, 1757, 1799, 1802, 1930, 2113  
**Constructed wetlands---United States** 1728  
**Constructed wetlands---United States---Case studies** 1656  
**construction** 2257  
**consumer participation** 1780  
**consumer surplus** 268  
**contaminants** 1893  
**contaminated sediments** 7  
**Contaminated sediments---United States** 1496  
**contamination** 1842, 2013, 2212  
**contemporary evolution** 2004  
**contingent valuation** 2029  
**Continuous Conservation Reserve Program** 2005  
**continuous grassland habitat maintenance** 68  
**continuous grazed pastures** 403  
**continuous grazing** 510  
**Contopus virens** 856, 1197, 1265, 2205  
**contracts** 57  
**control** 145, 531, 1157, 1531, 2056, 2240  
**controlled burning** 1268, 2237  
**controlled study** 734  
**controlling competing shrubs** 909  
**controls** 1549  
**conventional** 25  
**conventional tillage** 198  
**converted hayfield** 2200  
**Cook County** 803  
**cool season** 89  
**cool season and warm season grass fields** 136  
**Coosawhatchie River** 1264  
**Coosawhatchie River floodplain** 1774  
**Cope's giant salamander** 1424  
**Copepoda** 1483, 1847, 1936  
**copepods** 1483, 1847, 1936  
**coppicing** 858  
**cordgrass** 1925  
**core** 776  
**core area** 1023  
**core use area** 954  
**Corixidae** 1847, 1886  
**corn** 154, 166, 2252  
**corn belt** 695, 2179  
**corporate timberlands** 1065  
**correlated benefits** 1560  
**correlation analysis** 133, 2178  
**correspondence analysis** 1689  
**corridor restoration** 2009  
**corridor retention** 953  
**corridor use by diverse taxa in experimentally fragmented forest** 916  
**corridors** 24, 62, 247, 835, 917, 955, 1023, 1321, 2043, 2102, 2193, 2205  
**Corvidae** 716, 1124, 1175  
**Corvus brachyrhynchos** 1175  
**Corynorhinus rafinesquii** 1208, 1335  
**Corynorhinus townsendii** 1208  
**cost analysis** 196, 612, 1392  
**cost benefit analysis** 1439, 1564, 1571, 2028, 2266  
**cost benefit balance** 1428  
**cost effectiveness** 891, 1392  
**cost minimization** 1754  
**cost sharing land management program** 798  
**Costa Rica** 374, 629  
**costs** 429, 1571, 1590, 1780, 2028  
**Cottidae** 1416  
**cotton** 84  
**cotton-rat** 244  
**cottontail rabbits** 406  
**cottonwood** 339, 1217, 1374, 1510  
**cottonwood plantations** 1089  
**cottonwoods** 1431, 2182  
**Coturnix** 1154  
**count regression** 1899  
**coupling** 1275  
**course woody debris** 1000  
**cove hardwood forest** 1002  
**cove hardwoods** 1312  
**cover** 4, 45, 89, 125, 255, 281, 324, 376, 377, 471, 549, 739, 878, 1035, 1124, 1389, 1412, 1951  
**cover crop and nitrogen levels** 167  
**cover crops** 84, 1945, 2002  
**cover management** 2231  
**cover, nesting** 49, 165  
**cover quality** 61  
**cover type** 198, 214, 878  
**cover type selection** 1995  
**coverboard clusters** 957  
**covert** 657  
**cowbird management** 385  
**cowbird removal programs** 411  
**cows** 348  
**Cox proportional hazard** 627  
**coyote** 141, 221, 218, 662  
**crawfish management** 1796  
**crawfish ponds** 1796  
**Crawford County** 2069  
**crayfish** 1741  
**created ponds** 1850  
**created standing dead tree use** 918  
**created vs. natural forest wetland communities** 1604  
**created wetland** 1873, 1902  
**created wetland habitats use and community structures** 1904  
**created wetlands: habitat** 1643  
**creation of standing dead trees** 918  
**creek drainages: habitat** 1419  
**creeks** 785  
**creeping vole** 1129  
**Crenichthys baileyi baileyi** 1446  
**Crepis modocensis** 609  
**crested wheatgrass** 715  
**Cricetidae** 744, 781  
**Cricetinae** 591, 1207, 1280  
**cricket** 528  
**critical analysis** 906  
**crop budgets** 1979  
**crop damage** 166, 202, 1337  
**crop field habitat** 271  
**crop fields** 13, 2106  
**crop harvesting** 2114  
**crop husbandry** 1944  
**crop management** 1616  
**crop pests** 27, 166  
**crop plant** 189  
**crop production** 246, 2265  
**crop production potential** 790  
**crop residues** 271, 1777, 1933  
**crop trees** 1314  
**crop yields** 57  
**cropland** 2, 51, 54, 73, 130, 186, 251, 280, 346, 537, 1516, 1852, 1987, 1995, 2123  
**cropland area** 1820  
**cropland burning** 103  
**cropland conversion** 103  
**cropland landscapes** 2047  
**cropland-rangeland comparisons** 2101  
**cropping area extension** 616  
**cropping practice** 1979  
**cropping systems** 142

- crops** 20, 1245, 1960, 2011, 2224  
**cross sections** 1549  
**Crossett Experimental Forest** 1137  
**crown volume** 822  
**CRP** 58, 89, 108, 129, 139, 212, 260, 263, 273, 287, 703, 1197  
**CRP databases** 118  
**CRP fields** 36, 210, 241, 1964  
**crude protein** 486, 510, 638, 908, 2237  
**Crustacea** 1651, 1709  
**Crustacea, Malacostraca, Eumalacostraca, Eucarida, Decapoda, Natantia** 1721  
**Crustacea, Malacostraca, Eumalacostraca, Eucarida, Decapoda, Reptantia, Brachyura** 1707  
**crustaceans** 1707, 1709, 1721, 1798, 1886  
**Cryptodira** 1065  
**Cryptoporus volvatus** 896  
**CSP** 703  
**Cuivre River State Park** 984  
**Culex tarsalis** 1882  
**Culicidae** 1596, 1759  
**cultivated farmland** 4, 125, 165, 238, 255, 274, 279, 281, 619, 739, 1951, 2067, 2068  
**cultivated land** 44, 128, 803, 1758  
**cultivated land and shrub steppe** 2284  
**cultivated land habitat** 25, 30, 69, 78, 82, 86, 110, 127, 128, 145, 156, 167, 179, 180, 184, 185, 207, 211, 219, 242, 254, 262, 271, 272, 289, 292, 293, 330, 363, 503, 516, 521, 636, 678, 724, 828, 1581, 1610, 2033, 2071, 2074, 2097, 2101, 2106, 2114, 2119, 2142, 2155, 2219, 2241, 2284  
**cultivated soil habitat** 78  
**cultivation** 1772, 1944  
**cultivation intensity** 2197  
**culture of other aquatic animals** 162  
**culverts** 1387  
**Cumberland Mountains** 859  
**Cumberland Plateau** 1213, 1222, 1293  
**Curcubita** 127  
**Curculionidae** 621, 936, 1300  
**curlleaf cercocarpus** 2141  
**Custer State Park** 897  
**cut-to-length** 885  
**cutthroat trout** 1457  
**cutting** 281, 982, 999, 1016, 1165, 1297, 1846, 1961, 2240  
**Cyanocitta cristata** 1175  
**cycling** 1777  
**Cyclotrachelus constrictus** 1061  
**Cygnus buccinator** 1737  
**Cynodon** 681  
**Cynomys ludovicianus: conservation** 610  
**Cynomys ludovicianus** 29, 302, 531  
**Cynomys ludovicianus: farming and agriculture** 706  
**Cynoscion nebulosus** 1798  
**Cynoscion regalis** 1778  
**Cyprinidae** 1446, 1917  
**Cypriniformes** 1549  
**Cyprinodon latifasciatus** 1512  
**Cyprinodon macularius** 1512  
**Cyprinus carpio** 1816  
**Cyrtonyx montezumae** 1188  
**Cyrtonyx montezumae mearnsi** 471  
**Dabbling ducks** 162  
**Dactylis** 317  
**Dactylis glomerata** 317  
**daggerblade grass shrimp** 1798  
**daily survival rate** 994  
**dairy** 769  
**dairy farming** 311  
**Dakota** 33  
**dam construction** 1382, 1440  
**dam outflows** 1820  
**dam removal** 1501, 1564  
**damage** 367, 1727, 1894  
**damage caused by animals** 179  
**damage [forest]** 977, 1965  
**dams** 1371, 1404, 1439, 1488, 1501, 1523, 1554, 1564, 1854, 1890, 1981  
**dams and impoundments** 1383  
**damselflies** 1811  
**Daphnia** 1764, 1936, 2056  
**dark-eyed junco** 895  
**dark eyed junco (Passeriformes)** 13  
**Dasypus novemcinctus** 1093  
**data acquisition** 216, 1142, 1288  
**data analysis** 1097  
**data collection** 1021, 1533, 1688, 1700, 1819, 1842  
**data quality control** 216  
**data reduction** 663, 1780  
**Davison County** 739  
**Dawson Creek Forest District** 1294  
**day roosting** 2124  
**daytime** 1633  
**DDE** 1842  
**DDE: pesticide** 2078  
**DDT** 1813, 1842, 2210, 2213  
**DDT: pesticide** 2078  
**dead standing trees** 1108  
**dead tree characteristics** 1068  
**dead tree use** 1084  
**dead trees** 932  
**dead wood** 852, 898, 923, 980, 1050, 1080, 1290, 1470, 1495  
**dead wood density** 1085  
**dead wood role in maintaining faunal diversity on forest floor** 1250  
**dead wood use** 1046, 1084  
**debris** 904, 1018, 1472  
**debris deposition** 1495  
**debris fans** 1495  
**debris-jam frequency** 1472  
**debris jams** 1472  
**decadent tree** 1263  
**Decapoda (Crustacea)** 1756, 1788  
**decay development** 896  
**deciduous foliage** 1033  
**deciduous forest anthropods** 959  
**deciduous forest management** 1150  
**deciduous forest restoration** 914  
**deciduous forest restoration treatments effect** 914  
**deciduous forest restoration treatments effect on abundance and community structure** 914  
**deciduous forests** 741, 841, 870, 914, 994, 1024, 1135, 1231, 1261, 1324  
**deciduous forests: habitat** 907  
**decision making** 57, 1021, 1041, 1304, 1899, 2220, 2221  
**decision support systems** 708  
**decision support techniques** 1304  
**declines** 1712  
**declining species** 2096  
**decomposition** 922, 1777, 1933, 2243  
**decreased fire frequency** 597  
**deer** 393, 592, 634, 1303, 2126  
**deer hunting benefits** 2029  
**deer mouse** 166, 584, 852, 988, 1099, 1129, 1207  
**deer movement** 1166  
**deer, mule** 324, 424, 431, 662  
**deer, white tailed** 238  
**defence** 2237  
**deferred rotation** 437  
**deferred rotation grazing** 95  
**deforestation** 170, 1384, 1423, 1499, 1530, 2090  
**degradation** 1477, 1817, 1925, 2028  
**degraded forests** 1052  
**degraded land** 1052  
**degraded pinon juniper** 1114  
**degree of forestation** 1247  
**Dehnel Effect** 1932  
**Delaware Bay** 1707, 1765, 1766, 1778  
**delayed hay cutting** 571  
**The Delhi** 167  
**Delmarva fox squirrel** 1246  
**delphi survey** 1192  
**Delphi survey approach** 1192  
**delta** 1673  
**delta habitat comparison implications** 1725  
**demographic changes** 1891  
**demographic characteristics** 68  
**demographic effects** 925  
**demographic models** 2010



Subject Index

- demographic parameters** 907  
**demographic studies** 69  
**demography** 460, 926, 927, 1015, 1845  
**Dempsey Creek** 1738  
**den** 1045, 1237, 1965, 1980  
**Dendrobaena** 79  
**Dendrobaena octaedra** 79  
**dendrochronology** 935  
**Dendroctonus** 896  
**Dendroica caerulescens** 992, 1033  
**Dendroica caerulescens: habitat management** 879  
**Dendroica cerulea: forestry** 1113  
**Dendroica cerulea: habitat management** 1319  
**Dendroica coronata** 1008, 1292  
**Dendroica discolor** 1338, 2030  
**Dendroica kirtlandii** 1196  
**Dendroica nigrescens** 884, 1224  
**Dendroica pensylvanica** 999, 1189, 1327  
**Dendroica petechia** 558, 827, 1292  
**Dendroica pinus** 973, 1197  
**Dendroica striata** 831, 1008  
**Dendroica virens** 999, 1033  
**denning** 1045  
**dense nesting cover** 323  
**density** 25, 73, 169, 195, 221, 227, 309, 331, 387, 676, 721, 871, 880, 906, 927, 963, 976, 1000, 1089, 1203, 1346, 1361, 1491, 1507, 1773, 1953, 1993, 1995, 2130, 2164, 2264  
**density and distribution** 363  
**density dependent matrix model: mathematical and computer techniques** 928  
**density gradient centrifugation** 2035  
**density management studies** 2247  
**Department of Fisheries and Oceans, Canada** 1493  
**deposition** 1378  
**depredation** 221, 1956  
**depressional wetlands** 1647, 1723  
**depth** 1456, 1760, 1933, 2033, 2151  
**desert** 388, 2081  
**desert cienaga** 2048  
**desert cottontails** 373  
**desert ecosystem** 322  
**Desert Experimental Range** 547  
**desert grasslands** 332, 771, 804  
**desert habitat** 478, 547, 637, 1261, 1360  
**desert river** 1673  
**desert rodents** 2266  
**Desert Tortoise Research Natural Area** 322  
**desert water harvesting** 2011  
**desert wildlife** 2250  
**desertification** 771  
**desertification reversal due to livestock watering** 810  
**deserts** 373, 462, 490, 662  
**Desha County** 1113, 1319  
**Desmognathus** 1312  
**Desmognathus aeneus** 1312  
**Desmognathus monticola** 1312  
**Desmognathus ocoee** 1312  
**Desmognathus quadramaculatus** 1312  
**DeSoto National Wildlife Refuge** 730, 1238  
**detection** 1783  
**detectors** 863  
**deterioration** 1481  
**detritus** 1423, 1882  
**detritus feeders** 1883  
**development** 473, 1034, 1706, 1785, 2144  
**development: agricultural, industrial, urban** 1922  
**development projects** 1439, 1573  
**Diadophis punctatus** 951  
**diameter** 1277, 1340  
**diameter at breast height** 1038  
**diameter-limit** 1235, 1297  
**Dicamptodon** 1424  
**Dicamptodon copei** 1424  
**Dicamptodon tenebrosus** 903, 1373, 1424, 1555, 2129  
**Dicamptodontidae** 903  
**dickcissel** 55, 73, 93, 97, 181, 291, 413, 2184, 2244  
**dickcissels (Passeriformes)** 17  
**dicofol: pesticide** 2078  
**dicotyledons** 741  
**Dieldrin** 1842  
**diet** 71, 82, 127, 154, 156, 179, 380, 395, 407, 473, 599, 605, 630, 659, 669, 678, 684, 685, 736, 758, 813, 897, 909, 1034, 1040, 1075, 1090, 1091, 1092, 1109, 1199, 1207, 1250, 1273, 1320, 1326, 1326, 1361, 1645, 1674, 1684, 1714, 1778, 1917, 1944, 1965, 1980, 2009, 2033, 2106, 2139, 2271  
**diet, artificial** 2240  
**diet quality** 546  
**dietary composition** 678  
**dietary protein** 799  
**dietary structure** 678  
**difference equation: mathematical and computer techniques** 420  
**digestibility** 417, 510  
**dike breach project** 1702  
**diked areas** 1601  
**dipnetting** 1643  
**Dipodidae** 933  
**Dipodomys** 147, 562  
**Dipodomys ingens** 650  
**Dipodomys merriami** 744  
**Dipodomys nitratoides** 650  
**Dipodomys spectabilis** 462  
**Dipodomys stephensi** 562  
**Diptera** 1008, 1640, 1667  
**direct seeding** 1239  
**disc of vulnerability** 1178  
**discing** 731  
**discrete time stochastic compartment model: mathematical and computer techniques** 420  
**disease resistance** 2049  
**diseases** 709, 2193  
**dispersal** 68, 235, 248, 531, 573, 839, 1048, 1196, 1679, 1775, 1826, 1919, 1985, 2017, 2035  
**dispersal along habitat corridors of diverse taxa** 916  
**Dispersal in fragmented landscapes** 397  
**dispersal patterns** 250  
**dispersed retention system** 1248  
**dispersion** 119, 132, 416, 478, 549, 584, 755, 757, 797, 869, 880, 902, 954, 981, 1037, 1097, 1122, 1179, 1205, 1224, 1261, 1305, 1309, 1360, 1687, 1772, 1919, 2077, 2173  
**displays** 203  
**dissolved materials** 1521  
**dissolved oxygen** 1512, 1521, 1739, 1771, 1852, 2151  
**dissolved solids** 2014  
**distance** 1165  
**distance measurement** 1142  
**distance statistics** 775  
**distribution** 41, 66, 68, 134, 195, 221, 235, 325, 751, 752, 797, 829, 838, 844, 880, 903, 954, 957, 958, 976, 1122, 1165, 1166, 1205, 1316, 1366, 1424, 1555, 1622, 1818, 1829, 1880, 1884, 2130  
**distribution and density impact and influencing factors** 2131  
**distribution and trophic structure** 1383  
**distribution within habitat** 30, 69, 135, 289, 363, 394, 397, 415, 573, 672, 777, 803, 916, 932, 971, 1022, 1026, 1034, 1164, 1258, 1262, 1293, 1308, 1383, 1465, 1469, 1538, 1601, 1641, 1738, 1932, 1969, 1985, 2097, 2114, 2131, 2222  
**distributional status in relation to fire management** 786  
**disturbance-dependent species** 1187  
**disturbance intensity** 578  
**disturbance regimes** 1245, 1274, 1534, 1831  
**disturbance severity** 354  
**disturbance tolerance** 460  
**disturbances** 19, 302, 317, 399, 430, 495, 508, 584, 605, 709, 745, 761, 844, 876, 889, 895, 901, 903, 909, 925, 948, 954, 956, 957, 958, 980, 981, 993, 995, 1000, 1021, 1037, 1038, 1042, 1110, 1116, 1166, 1187, 1199, 1219, 1224, 1233, 1247, 1261, 1276, 1303, 1305, 1331, 1336, 1361, 1498, 1593, 1690, 1705, 1746, 1769, 1850, 1980, 1998, 2059, 2066, 2223  
**disturbed habitat [fire]** 2069  
**disturbed land** 356  
**disturbed sagebrush rangelands** 815  
**ditching** 1419

- diurnal activity** 271  
**diurnal rhythm** 658, 902, 1350  
**diurnal variation** 238, 1633, 1744  
**diverse taxa** 916  
**diversification** 243  
**diversionary food** 1099  
**diversity** 32, 172, 188, 195, 201, 306, 367, 732, 757, 761, 852, 875, 880, 980, 1050, 1334, 1359, 1934, 2144  
**diversity relationships** 2137  
**diving waterbirds** 1913  
**Dixie harrow** 554  
**DNA fingerprinting** 158  
**dogma** 310  
**Dolichonyx oryzivorus** 93, 309, 542, 543, 606, 660, 683, 779, 908, 1346, 1953, 2098  
**Dolichonyx oryzivorus (Passeriformes)** 17  
**Dolly Varden trout** 1457  
**domestic animal** 734  
**domestic goat** 552  
**domestic sheep** 977  
**domestic species** 326  
**domestic wastes** 1384  
**dominant species** 323, 1483, 1617, 1759, 2257  
**dominant substrate composition** 1485  
**Dona Ana County, New Mexico** 301  
**Douglas Creek and Rocky Mountain National Park** 1965  
**Douglas-fir** 838, 896, 927, 978, 1050, 1086, 1120, 1131, 1289, 1424, 2012  
**Douglas-fir forest** 884, 1019, 1133  
**dove, mourning** 125  
**downed wood in managed forest habitat** 1212  
**dragonflies** 1811  
**drainage** 1549, 1591, 1616, 1651, 1676, 1749, 1772, 1851, 2014, 2212  
**drainage basins** 1495, 1521, 1550, 1703  
**drainage channels** 1487  
**drainage ditches** 1483, 1548  
**drainage management** 1833  
**drainage practices** 1543  
**drainage water** 1487, 1512, 1819, 1893, 2015, 2212  
**drawdown** 1766, 1772  
**dredged material** 1757  
**dredging** 1384, 1757, 1852, 1981  
**drift** 1762  
**drift-fence arrays** 1312  
**drift plain prairie** 526  
**driftless area** 856  
**drinking** 691  
**drinking trough** 2011  
**drinking water** 2135  
**drip irrigation** 2011  
**drought** 197, 203, 312, 373, 602, 709, 717, 727, 987, 1190, 1600, 1682, 1840, 1850, 2193  
**drought stress** 1600, 1850  
**droughts** 1615, 1626, 1845  
**drumming** 1116  
**dry coniferous forests** 1351  
**dry mixed-grass prairie** 464  
**dry prairie** 721, 776  
**dry weight biomass** 785  
**dryland** 166  
**dryland farming** 166  
**Dryocopus pileatus** 896, 1038, 1263  
**Dryocopus pileatus: forestry** 1266  
**duck nests** 73  
**duck populations** 402  
**ducks** 49, 76, 160, 220, 323, 401, 438, 464, 470, 502, 618, 818, 1622, 1666, 1695, 1716, 1742, 1744, 1785, 1927, 2001, 2015, 2024, 2232, 2234  
**Ducks Unlimited** 1922  
**Dumetella carolinensis** 1197  
**dunlin** 1784, 1900  
**Dunn's salamander** 1424, 1555  
**Dupuyer** 395  
**Durango** 1880  
**duration** 731, 1265, 2266  
**Durham Regional Forest** 914  
**dusky-footed woodrat** 1120  
**dusky seaside sparrow** 349  
**Duval County** 96  
**Duwamish Waterway** 1671  
**dynamic habitats** 1897  
**dynamic programming** 612  
**dynamic spatial structure** 1348  
**dynamic zoning** 1160  
**dynamics** 1844  
**Dytiscidae** 1886  
**early brood rearing** 404  
**early succession** 882, 1295, 1959, 1998  
**early-successional forest** 2030  
**early successional grassland habitat** 2195  
**early successional habitats** 859, 1096, 1187, 1233, 2027  
**earthworms** 79, 201, 347, 528, 1764, 1847, 2224  
**East Cascades** 1068  
**eastern box turtle** 1192  
**eastern Canada** 204  
**eastern cottontails** 406  
**eastern deciduous forest** 868, 2083  
**Eastern Highland Rim Ecoregion** 1521  
**eastern meadowlark** 55, 93, 209, 542, 652, 2244  
**eastern pipistrelle** 967  
**eastern red-backed salamander** 1690  
**eastern redcedar** 802, 2120  
**eastern small-footed bat** 1208  
**eastern spadefoot** 1978  
**eastern spadefoot toad** 1617  
**eastern United States** 19, 34  
**eastern wild turkey** 258, 902, 1073, 2252  
**eastern wood-pewee** 2244  
**eastern woodrat** 2130  
**eastern Wyoming** 517  
**Echinacea paradoxa** 2120  
**echolocation** 1205  
**ecolabeling** 1130  
**ecological adaptations** 628  
**ecological analysis** 1710  
**ecological assessment** 332  
**ecological associations** 1640  
**ecological distribution** 1512, 1748, 1910, 2170, 2177  
**ecological disturbance** 933, 1775  
**ecological diversity** 2079  
**ecological economic model** 612  
**ecological economics** 1130  
**ecological energetics** 1725  
**ecological function** 1162, 1167, 1487  
**ecological function considerations and new management paradigm** 1167  
**ecological functions and stream** 2218  
**ecological impact** 326, 340, 802, 938, 945, 970, 989, 999, 1064, 1160, 1216, 1226, 1232, 1291, 1292, 1313, 1430, 1450, 1484, 1599, 1661, 1698, 1739, 1890, 1957, 2042, 2153  
**ecological impact assessment** 1342  
**ecological impact of water development** 1564, 1785  
**ecological impairment** 1661  
**ecological importance of presence of hardwoods and habitat management implications** 937  
**ecological indicators** 1057  
**ecological integrity and timber production trade offs in old growth forests** 1017  
**ecological land types** 868  
**ecological modeling** 568, 622, 1012, 1073, 1143, 1160, 1580, 1899  
**ecological monitoring** 1780  
**ecological relationships** 940  
**ecological requirements** 125, 279, 302, 478, 839, 880, 924, 1038, 1120, 1179, 1192, 1303, 1305, 1309, 1687, 2077, 2173, 2251  
**ecological restoration** 524, 649, 651, 935, 942, 1141, 1392, 1760, 1906, 2016, 2277  
**ecological services** 183  
**ecological succession** 717, 1804, 1883  
**ecological techniques** 262, 1345, 1537  
**ecological trap** 8, 334, 1023, 2163  
**ecological uncertainty** 2220  
**ecological value** 1966  
**ecological value of shrub vegetation islands** 815

Subject Index

- ecological zonation** 1620  
**ecologically productive area** 571  
**ecology and reproduction** 1458  
**ecology: environmental sciences** 616, 2197, 2230  
**ecology of riparian corridors and fluvial systems along altitude gradient** 2218  
**econometric models** 1209  
**economic analysis** 40, 612, 1586, 1590, 1940, 2070  
**economic aspects** 1696, 2028  
**economic attitudes** 2  
**economic changes** 1891  
**economic effects** 196  
**economic evaluation** 268  
**economic impact** 57, 161, 232, 234, 297  
**economic incentives** 910, 2127  
**economic reality** 1750  
**economic valuation** 1215  
**economic value** 196  
**economics** 246, 429, 798, 1333, 1377, 1814, 1928, 1940  
**economics of land development, land reform and utilization** 259  
**ecoregion** 1451, 2146  
**ecosystem analysis** 1736  
**ecosystem approach** 2233  
**ecosystem conditions** 332  
**ecosystem conservation applications** 735  
**ecosystem disturbance** 991, 1380, 1398, 1413, 1449, 1466, 1482, 1586, 1650, 1705, 1719, 1764, 1811, 1832, 1851, 1890, 1918, 1927, 1936, 2090, 2135  
**ecosystem fire history** 1027  
**ecosystem function** 835, 1011, 1144, 1445, 1576, 2191  
**ecosystem health** 2233  
**ecosystem integrity** 432  
**ecosystem management** 62, 80, 141, 303, 651, 731, 915, 921, 942, 976, 978, 991, 1011, 1012, 1021, 1070, 1134, 1141, 1144, 1153, 1176, 1197, 1240, 1241, 1398, 1423, 1580, 1633, 1634, 1737, 1760, 1764, 1775, 1782, 1786, 1793, 1816, 1830, 1834, 1851, 1859, 1874, 1910, 1919, 1943, 1997, 2096, 2138, 2166, 2210, 2239, 2257, 2263  
**ecosystem processes** 1854  
**ecosystem productivity** 1522  
**ecosystem rehabilitation** 1381  
**ecosystem resilience** 1564  
**ecosystem restoration** 822, 1431, 1780, 1863  
**ecosystem service** 798  
**ecosystem stress** 2245  
**ecosystems and energetics** 1803, 1859, 2212  
**ecotoxicology** 1428, 2212  
**ecotypes** 2178  
**edge** 776, 2030  
**edge avoidance** 844, 2164  
**edge contrast types** 957  
**edge effect** 401, 410, 464, 561, 618, 669, 776, 779, 945, 946, 962, 1023, 1154, 1172, 1216, 1307, 1729, 1899, 1983, 2100, 2160, 2164, 2188  
**edge effects patch size** 926  
**edge habitat** 97, 228, 1148  
**edge permeability** 343  
**edge relation** 222  
**edge species** 1238  
**edges** 949  
**Edmonton** 1320  
**education** 1817, 2038  
**effective trapping area** 1284  
**effectiveness monitoring** 964  
**effectiveness of habitat manipulation** 1403  
**egg banks** 1691  
**egg laying** 1678  
**egg mass and larval abundances** 1678  
**eggs** 387, 1772, 1845, 2035, 2213  
**eggshell thickness** 2078  
**Eglin Air Force Base** 1141  
**Egretta thula** 1836  
**Eire, Munster, Cork, Douglas R.** 1423  
**El Bajio** 8  
**El Niño** 1673  
**Elaphe obsoleta** 792  
**Elasticity** 379  
**electric fishing** 1531  
**electric power generation** 1059  
**electrical conductivity** 79  
**element cycles** 245  
**elevation** 1045, 1550, 1769  
**elk** 360, 393, 424, 444, 506, 507, 548, 634, 699, 722, 2141  
**Elk Island National Park** 2080  
**elkhorn** 437  
**Elliott State Forest And Northern Coast Range** 1309  
**EMAP** 216  
**Embarass River** 1549, 1550  
**Emberizidae** 68, 555, 669, 672, 715, 1699, 2105  
**Emberizinae** 1649  
**embryonic development** 1772  
**emergency grazing** 143  
**emergency use** 92  
**emergent aquatic vegetation** 1905  
**emergent habitat pattern** 1303  
**emergent multiple-predator effect** 931  
**emergent vegetation** 1811  
**emigration** 916, 1825  
**Emigration Canyon** 324  
**Empidonax** 984  
**Empidonax difficilis** 884, 1224  
**Empidonax hammondii** 1224  
**Empidonax traillii** 558, 827, 1673  
**Empidonax traillii extimus: disturbance by man** 742  
**Empidonax traillii (Tyrannidae)** 823  
**Empidonax virescens** 968, 984, 993, 1023  
**empirical assessment** 1538  
**Emydidae** 1799  
**Emydoidea blandingii** 1799  
**enclosures and exclosures** 431  
**Encoptolophus costalis (Orthoptera): species** 450  
**endangered avian predator relations** 1250  
**endangered predator relationships** 1250  
**endangered species** 140, 147, 197, 349, 458, 491, 562, 612, 687, 721, 747, 776, 784, 795, 849, 912, 920, 974, 1117, 1196, 1245, 1255, 1321, 1654, 1673, 1799, 2121, 2171, 2250, 2258, 2277  
**Endangered Species Act** 613, 911, 1984  
**endangered species habitat management effects on relative abundance of declining gamebird** 2054  
**endangered species management** 649  
**Endangered species---West---United States** 1417  
**endangered status** 304, 786, 1299, 2099  
**endangered taxa** 2099  
**endangered-threatened species** 153, 370, 430, 650, 1048, 1120, 1246, 1310, 1997  
**endemic species** 1155, 1681, 2128  
**endemism** 198  
**endophytic communities of prairie perennials** 581  
**endophytic community** 581  
**energetic cost** 1714  
**energetics** 657  
**energy crops** 210, 241, 1059  
**energy demand and human activity** 414  
**energy utilization** 1059  
**engineering** 1548  
**enhancement** 2038  
**enhancement program** 1440  
**enhancement through potential use of managed matrix vegetation** 1069  
**Ensatina eschscholtzii** 838, 854  
**entomology related** 612, 731, 753, 1162  
**entrainment estimate** 2064  
**environment design** 817, 1472  
**environment-ecology** 36, 73, 88, 89, 214, 1712, 2232  
**environment management** 100, 256, 323, 726, 866, 1413, 1423, 1427, 1434, 1449, 1488, 1511, 1620, 1634, 1669, 1719, 1794, 1834, 1837, 1894, 1896, 1910, 1918, 1936, 1939, 2138, 2166, 2170, 2190, 2208

- environmental action** 866, 1564, 1665, 1837, 1928, 1939, 1940, 2028, 2135, 2186, 2208  
**environmental assessment** 1894  
**environmental benefits** 252  
**environmental changes** 1764  
**environmental conditions** 331, 1433, 1764  
**environmental degradation** 474, 1470, 1479, 1551, 1561  
**environmental disturbance** 299, 907, 1542, 2038  
**environmental economics** 1584, 1590, 2035  
**environmental education** 1984  
**environmental engineering** 817, 1370, 1805, 1894  
**environmental factor** 2162  
**environmental gradient** 1429, 1534  
**environmental heterogeneity** 1534  
**environmental impact assessment** 1600  
**environmental indicators** 637, 754, 1114, 1198, 1286, 1342, 1462, 1707, 1709, 2254  
**environmental influences** 1513  
**environmental law** 429  
**environmental legislation** 1255  
**environmental management** 34, 38, 39, 311, 653, 734, 758, 1568, 1571, 1600, 1822, 2004, 2208, 2224  
**environmental monitoring** 39, 216, 734, 1380, 1665, 1672, 1805, 1845, 2138, 2166, 2257  
**environmental monitoring and assessment program** 216  
**environmental monitoring [methods]** 1533  
**environmental planning** 39  
**environmental policy** 126, 282, 866, 2070, 2253  
**environmental pollution and control** 190  
**environmental quality** 1483, 1554, 1564, 1763, 2135, 2213  
**Environmental Quality Incentives Program** 116, 703, 2063, 2111, 2273  
**environmental regulations** 1817  
**environmental restoration** 46, 991, 1205, 1554, 1564, 1590, 1626, 1658, 1705, 1719, 1720, 1723, 1736, 1737, 1763, 1782, 1794, 1798, 1816, 1844, 1845, 1851, 1894, 1896, 1936, 1939, 2090, 2208  
**environmental stress** 1380, 1600, 1741, 1890  
**environmental stress indicators** 771  
**environmental surveillance** 1871  
**environmental variables** 1428, 1641  
**enzyme activity** 2156  
**Ephemeroptera** 1482  
**Epilobium angustifolium** 1340  
**Eptesicus fuscus** 967  
**EQIP** 703  
**equations** 1558  
**Equidae** 1756  
**Equus caballus** 977, 1756  
**Eragrostis** 334  
**Eragrostis curvula** 197, 800  
**Eragrostis intermedia** 728  
**Eremophila** 442, 845  
**Eremophila alpestris** 29, 166, 331, 845, 1937  
**Eretettix simplex (Orthoptera): species** 450  
**Erie Lake** 1748, 1816  
**Eriophyidae** 2182  
**erosion** 104, 466, 741, 1370, 1387, 1396, 1461, 1470, 1479, 1527, 1542, 1549, 1556, 1573, 1591, 1823, 1859, 1958, 2070, 2152, 2253  
**erosion and sedimentation** 1413, 1719  
**erosion control** 116, 149, 177, 191, 231, 236, 1433, 1470, 1661, 1939, 1940  
**erosive soils** 1542  
**error polygons** 878  
**escapement** 1421, 1854  
**Esox lucius** 1816  
**Essigella** 931  
**establishing translocated populations** 1489  
**establishment** 661  
**establishment and activities** 941  
**establishment method** 733  
**estimating** 1837  
**estimation** 1074, 1907  
**estimation method** 906  
**estrogen** 1505  
**estuaries** 1384, 1591, 1658, 1673, 1815, 1835, 1836, 2138  
**estuaries: habitat** 1645  
**estuarine dynamics** 1892  
**estuarine ecology: ecology,**  
**estuarine ecosystem** 1756, 1836, 1868, 1915  
**estuarine environment** 1620  
**estuarine organisms** 2138  
**estuarine wetland restoration** 1702  
**Etheostoma** 2257  
**ethology** 306, 508  
**Euarctos americanus** 878  
**Euclidean distance** 1414  
**Euclidean distance analysis** 1321  
**Eugene area** 736  
**euphorbia esula** 161  
**Eupoda montana** 130  
**European carp** 1816  
**European starling (Passeriformes)** 13  
**Eurycea** 1312  
**Eurycea bislineata** 1312  
**Eurycea cirrigera: disturbance by man** 1540  
**eutrophication** 1679, 1703, 1705, 1759, 1852, 1859, 1890, 1936  
**evaluation** 175, 191, 840, 1017, 1553, 1556, 1723, 1763, 1936, 1958, 2067, 2068, 2070, 2224, 2227, 2253  
**evaluation of corridor use by diverse taxa** 916  
**evaluation of value for enhancing fishery species populations** 1721  
**evaluation process** 1590, 2135  
**evaporation** 1905  
**evaporation ponds** 1864  
**evapotranspiration** 1009  
**even-age management** 870, 1096, 1135, 1187, 1324  
**even-aged reproduction stands** 1327  
**even aged silvicultural systems** 1136  
**even-aged vs. uneven-aged forest** 1011  
**evening bat** 967  
**evening grosbeak** 1224  
**Everglades** 1600, 1741, 1760, 1782, 1863, 1877, 1885  
**Everglades National Park** 1699  
**Everglades, North** 1848  
**evidence for success** 1114  
**evolution** 1804  
**excavation** 1817  
**exclosure experiments** 577  
**exclosure fencing** 688  
**exclosures** 444  
**exclusion experiment** 265, 688, 1103  
**excretory products** 1390  
**existing fescue hayfield conversion to switchgrass** 724  
**exotic grass pasture** 364  
**exotic grasses** 334, 467, 518, 544  
**exotic grassland** 295, 715  
**exotic plant** 715  
**exotic plant invasion and management implications** 1861  
**exotic species** 650, 709, 794, 801, 1705, 1890, 2193  
**exotic woody plants** 784  
**exotics** 1679  
**expenditure** 234  
**experiment** 306, 552, 605, 812, 1359  
**experimental design** 841, 1480, 1556, 2266  
**experimental forestry treatment** 958  
**experimental reclamation** 2017  
**experimental research** 1994  
**exposure** 2276  
**exposure tolerance** 2134  
**extended harvest** 2053  
**extended rotations** 1156  
**extensive agriculture** 4, 288  
**extent** 2034  
**extermination-endanger** 302, 924  
**external pH** 2033  
**extinction risk** 2010

## Subject Index

- extirpation** 68, 392  
**Fabaceae** 741  
**Fabales** 741  
**facilitated succession** 1013  
**facilitation** 634  
**facilities and operations** 57  
**faecal analysis** 678  
**Fagus grandifolia** 933  
**Fagus spp.** 1038  
**Fairchild** 567  
**Falco femoralis septentrionalis** 302  
**Falco peregrinus** 956  
**Falco sparverius** 1995  
**Falconidae** 302  
**Falconiformes** 302, 1042, 1305, 1331, 2284  
**fall** 699, 1613  
**fallow field** 272, 1973  
**fallow field borders** 82  
**fallow field management for brood habitat improvement** 272  
**famphur: pesticide** 2078  
**Farfantepenaeus aztecus** 1721, 1798  
**Farm and Ranch Lands Protection Program** 703  
**Farm Bill** 63, 137, 199, 229, 321, 554, 1652, 1716, 1898, 2000, 2002, 2003, 2005, 2038, 2063, 2085, 2086, 2087, 2088, 2094, 2109, 2176, 2260, 2273, 2274, 2279  
**Farm Bill of 1990** 57  
**farm conservation** 32  
**farm costs and returns surveys** 64  
**farm crops** 1245, 2011  
**farm habitat** 82  
**farm income** 64  
**farm management** 57, 145, 374, 575, 1946  
**farm policy** 229  
**Farm Service Agency** 118  
**farm surveys** 64  
**farmers** 390, 1377  
**farmers' attitudes** 285, 311, 2135, 2179  
**farming** 232, 2221  
**farming and agriculture** 19, 61, 302, 430, 637, 670, 895, 948, 1458, 1581, 1583, 1752, 1848, 1904, 1980, 2037, 2039, 2097  
**farming impact on wildlife** 185  
**farming practices** 78, 127, 363, 1419  
**farming practices effects** 78  
**farming systems** 25, 116, 235, 1972, 1979, 2152  
**farmland** 6, 19, 62, 97, 107, 141, 169, 185, 187, 200, 204, 291, 371, 598, 829, 1337, 1609, 1755, 1993, 2074, 2130  
**farmland birds** 27, 176, 189, 1974  
**farmland management for wildlife** 185  
**farmland retirement** 297  
**farms** 4, 39, 155, 165, 245, 446, 1411, 1616, 1785, 1940, 2028, 2067, 2068, 2135  
**farmstead** 1362  
**fat** 948, 1714  
**fate of pollutants** 1700, 1842, 1994  
**fauna** 576, 852, 875, 880, 898, 966, 1050, 1076, 1233, 1426, 1598, 1946  
**fauna and abundance relationships** 1322  
**fauna life history adaptations** 2222  
**faunal composition** 2051  
**faunal diversity** 374  
**faunal responses** 476, 1228, 1236  
**faunal responses to riparian buffers** 2215  
**faunal survey** 1322  
**fawn** 596  
**fawn hiding cover** 813  
**fecal analysis: analytical method** 1645  
**fecal coliforms** 1700  
**feces** 981, 1680  
**fecundity** 55, 136, 1993  
**federal conservation programs** 703  
**federal partnership** 1856  
**federal programs** 6, 40, 55, 91, 97, 105, 126, 195, 279, 284, 291, 1780, 1940  
**fee-hunting** 2248  
**feed industry** 429  
**feeding** 154, 728, 1035, 1613  
**feeding behavior** 181, 341, 380, 389, 659, 678, 685, 828, 918, 937, 947, 1034, 1075, 1084, 1164, 1222, 1250, 1266, 1368, 1481, 1636, 1681, 1684, 2009, 2076, 2165, 2196  
**feeding characteristics** 1485  
**feeding damage** 1099  
**feeding ecology** 1674, 2232  
**feeding efficiency** 546, 1724  
**feeding ground** 1912  
**feeding method** 424  
**feeding preferences** 383, 1340  
**feeding rate** 1778  
**feeding sites** 2141  
**feedlot runoff** 1817  
**Felidae** 1193, 1199, 1361, 1662  
**Felis catus** 326  
**female** 662, 807, 878, 902, 1074, 1258, 1630  
**femur** 948  
**fence** 306, 605  
**fenced enclosures** 2044  
**fencerows** 228, 522  
**fences** 339, 424, 691, 1214, 1975  
**fencing** 490, 750, 1379, 1531, 1558, 1976  
**feral organism** 1756  
**ferrallitic soils** 770  
**ferruginous hawk** 956  
**fertility** 227, 387, 2105  
**fertility-recruitment** 773, 924, 977, 1305, 1310, 1980, 1993  
**fertilization** 508  
**fertilization effects** 1925  
**fertilization, soil and water** 376, 794, 2067, 2069, 2240  
**fertilizer and pesticide pollution** 1605, 1704  
**fertilizers** 508, 1242, 1421, 1422, 1616, 1679, 1688, 1828, 1956, 2136  
**fertilizers and pesticides** 148, 1279, 1605, 1704  
**fescue** 376, 699, 794  
**fescue prairie grazing regimes** 354  
**Festuca altaica** 520  
**Festuca arundinacea** 423, 544, 593  
**Festuca Idahoensis** 437, 638  
**Festuca scabrella** 437  
**fetch** 1798  
**fiber debris** 1018  
**fibers** 1242  
**fibre content** 2237  
**fidelity** 2168  
**field border width** 292  
**field border width effects on winter community structure** 292  
**field connection** 803  
**field crops** 2171  
**field enlargement** 803  
**field equipment** 101  
**field experiment: experimental method** 354  
**field experimentation** 1480  
**field margin** 27, 204, 247, 261, 522, 616  
**field method** 458  
**field size** 93, 464, 618  
**field sparrow** 55, 93, 1233  
**field surveys** 1783, 2120  
**field technique** 584, 981, 993, 1097, 1205  
**fields** 17, 33, 87, 214  
**fields management** 86  
**Fillmore County** 1968  
**filter feeders** 1883  
**filter strip** 32, 139, 647  
**filters** 1726  
**fine-scale** 675  
**fine sediment** 1378  
**Finney** 414  
**fir** 1360  
**fire** 148, 304, 312, 337, 365, 381, 394, 399, 415, 416, 447, 448, 451, 477, 488, 508, 526, 527, 581, 597, 603, 613, 646, 709, 718, 745, 757, 786, 797, 804, 812, 851, 871, 874, 877, 889, 899, 941, 960, 980, 983, 984, 986, 998, 1027, 1028, 1029, 1030, 1031, 1056, 1093, 1103, 1137, 1150, 1179, 1183, 1259, 1276, 1279, 1290, 1600, 1678, 1689, 1699, 1998, 2008, 2079, 2081, 2082, 2105, 2223, 2229, 2240  
**fire ants** 88  
**fire behavior** 935  
**fire ecology** 249, 408, 524, 734, 753, 849, 987, 1061, 1231, 1265, 2128  
**fire economics** 2029

- fire-enhanced flowering** 609  
**fire frequency** 420, 525, 899, 1637  
**fire-grazing interaction** 303  
**fire hazard reduction** 849, 1231, 1265, 1285  
**fire hazards** 190  
**fire history** 1190, 1348, 2083  
**fire intensity** 899  
**fire interval** 325  
**fire-maintained ecosystems** 1117  
**fire management** 413, 423, 449, 504, 555, 700, 721, 960, 1027, 1347, 1574, 2084  
**fire management effect on distributional status** 786  
**fire management relationships** 786  
**fire regimes** 366, 745, 1086  
**fire response** 2203  
**fire rotation** 524  
**fire rotation interval** 1348  
**fire suppression** 597, 899, 1064, 2083  
**fire suppression effects** 942  
**fire surrogate** 1284  
**firebreak management** 1145  
**fires** 426, 956, 987, 1027, 1029, 1064, 1103, 1195, 1226, 1822, 2159  
**fires-burns** 62, 96, 300, 349, 366, 384, 416, 428, 445, 481, 493, 508, 535, 555, 658, 676, 716, 733, 758, 767, 792, 804, 871, 985, 1094, 1150, 1169, 1176, 1179, 1182, 1203, 1217, 1246, 1268, 1290, 2080, 2105, 2193  
**firewood extraction** 907  
**first-order stream** 1690  
**fish** 7, 137, 307, 332, 1153, 1245, 1377, 1378, 1381, 1383, 1385, 1388, 1403, 1411, 1413, 1416, 1420, 1426, 1435, 1452, 1458, 1459, 1469, 1474, 1476, 1489, 1490, 1495, 1497, 1501, 1504, 1508, 1513, 1514, 1517, 1520, 1537, 1538, 1539, 1544, 1546, 1571, 1574, 1593, 1661, 1684, 1686, 1706, 1709, 1710, 1736, 1765, 1778, 1804, 1819, 1842, 1861, 1885, 1890, 1917, 1918, 2000, 2002, 2003, 2005, 2006, 2033, 2061, 2063, 2064, 2085, 2086, 2094, 2109, 2115, 2140, 2151, 2166, 2198, 2268, 2274  
**Fish and Wildlife Service** 429  
**fish assemblages** 1372, 1437, 1565  
**fish assemblages: stability** 1543  
**fish bearing criterion** 1452  
**fish bearing streams** 1495  
**fish community composition** 1518  
**fish culture** 2049  
**fish ecology** 1475, 1557  
**fish establishment** 1720  
**fish habitat** 1457  
**Fish Lake Natl. Forest** 507  
**fish management** 1481, 1529, 1816  
**fish movements** 1535  
**fish passage** 1387, 1418, 1501, 1564, 1816  
**fish population restoration** 1854  
**fish populations** 1453, 1475, 1499, 1511, 1519, 1720, 1804, 1816, 1842, 2257  
**fish production** 1522  
**fish recruitment** 1720  
**fish transportation** 1418  
**fish use trends** 1702  
**fisheries** 1393, 1394, 1395, 1423, 1439, 1457, 1479, 1501, 1507, 1551, 1798, 1814, 1928, 2158, 2268  
**fisheries engineering** 1816  
**fishery data** 1432  
**fishery limnology** 1421, 1422  
**fishery management** 1377, 1393, 1421, 1422, 1433, 1463, 1477, 1529, 1657, 1671, 2090  
**fishery resources** 1798, 1928, 1991, 2075  
**fishery sciences** 1671  
**fishes** 1245, 1370, 1404, 1411, 1439, 1448, 1470, 1528, 1548, 1672  
**Fishes---Ecology---Florida** 1935  
**fishes, freshwater** 1498, 1924  
**fishes [metabolism]** 1812  
**fishes [physiology]** 1395  
**fishing** 1529  
**fishing, public** 196  
**fishpass structure** 1501  
**fishways** 1816  
**fitness** 627, 924  
**fixed point observations: survey method** 1645  
**fixed-radius point counting** 1247  
**flame retardants** 1064  
**Flaming Gorge Dam [map]** 1374  
**fledging success** 25, 405  
**fledging** 1230  
**fledging rate** 908  
**fledgling stage** 2184  
**fledglings per year** 543  
**flexible conservation management** 612  
**Flint Hills** 492, 599, 646  
**flock characteristics** 2076  
**flocking** 2076  
**flood control** 817, 1591  
**flood control measures** 1909  
**flood plain habitat** 2222  
**flood pulse** 1535, 2223  
**flooded areas** 1643  
**flooded conditions** 1715  
**flooded rice** 1878  
**flooding** 1045, 1230, 1283, 1419, 1599, 1620, 1633, 1666, 1676, 1717, 1777, 1882, 1887, 1892, 1933, 2222, 2223  
**flooding impact** 1637  
**floodplain forest** 1576  
**floodplain forested wetlands** 1948  
**floodplain grasslands: habitat** 577  
**floodplain management** 2025, 2026, 2116  
**floodplain restoration** 1443  
**floodplain systems** 1534  
**floodplains** 7, 1387, 1439, 1487, 1603, 1631, 2154  
**floods** 276, 741, 1187, 1439, 1753, 1760, 1834, 1924, 1981, 2067, 2068, 2116, 2159  
**floral richness** 797  
**Florida** 15, 219, 272, 349, 488, 716, 1032, 1081, 1093, 1141, 1148, 1250, 1285, 1605, 1611, 1616, 1640, 1657, 1699, 1720, 1759, 1760, 1782, 1807, 1842, 1848, 1851, 1856, 1885, 1906, 1949, 2008, 2033, 2128, 2251  
**Florida grasshopper sparrow** 721, 776  
**Florida habitat** 1232  
**Florida, Marion County** 1978  
**Florida, Putnam County** 1978  
**flow** 1374  
**flow regimes** 1374  
**flow regulation** 1429, 1430, 1534  
**flowing waters** 1385  
**fluvial features** 1423, 1549, 2092  
**fluvial geomorphology** 710  
**fluvial morphology** 1432, 1447, 1477, 1481, 1497, 1564, 1719  
**fluvial sedimentation** 1549  
**fluvial systems along altitude gradient** 2218  
**flying squirrels** 1056  
**focal species** 1192  
**foliage structure** 1033  
**Fomitopsis cajanderi** 847, 896  
**Fomitopsis pinicola** 896  
**food** 302, 306, 366, 416, 445, 549, 552, 605, 757, 812, 878, 913, 924, 948, 977, 1035, 1038, 1225, 1507, 1733, 1792, 1965  
**food abundance** 1724  
**food availability** 162, 181, 407, 472, 482, 603, 615, 625, 812, 813, 979, 1202, 1320, 1441, 1614, 1634, 1684, 1784, 1886, 1917, 1992  
**food chains** 1413, 1814, 2134, 2212  
**food competition** 948  
**food consumption** 265, 416  
**food crops** 4, 244, 279, 2067, 2068  
**food crops seasons** 2069  
**food elements** 2069  
**food habits** 424, 431, 662, 1753  
**food habits studies** 1038, 2141  
**food limitation** 959  
**food plants** 127, 630, 659, 685, 736, 813, 1090, 1091, 1092, 1250, 2009  
**food plots** 265  
**food preferences** 678  
**food quality** 2179  
**food resource availability relationship** 1917  
**food resource partitioning** 1645  
**food resources** 1907  
**food safety** 2179

## Subject Index

- Food Security Act of 1985** 57, 149, 2111
- food supplementation** 1099
- food supply** 279, 302, 384, 424, 471, 600, 614, 699, 729, 947, 948, 1035, 1134, 1165, 1176, 1199, 1350, 1361, 1965, 2069, 2141, 2193
- food web interaction** 2120
- food web structure** 1703
- food webs** 180, 1825, 1882
- food webs and community composition** 180
- foods-feeding** 96, 366, 377, 384, 416, 507, 548, 552, 605, 614, 669, 758, 844, 909, 924, 939, 1025, 1037, 1038, 1120, 1165, 1199, 1205, 1336, 1360, 1361, 1371, 1965, 1980, 2139, 2141
- forage** 345, 393, 444, 486, 638, 755, 783, 897, 1614, 2045, 2152
- forage availability** 755, 878
- forage crops** 311
- forage growth modeling** 708
- forage management** 437
- forage production** 722, 757
- forage quality** 722
- foraging** 380, 389, 433, 918, 937, 970, 1084, 1164, 1222, 1266, 1368, 1374, 1684, 1770, 1777, 1799, 1907, 2038, 2165, 2196
- foraging activity** 411
- foraging areas** 1006
- foraging behavior** 154, 819, 922, 970, 998, 1033, 1036, 1582, 1683, 1865, 1992, 2100
- foraging behavior related to forest harvesting** 1684
- foraging carrying capacity** 1912
- foraging conditions** 1065
- foraging ecology** 1645
- foraging habitat quality** 924
- foraging habitat relationship** 1205
- foraging habitat use in fragmented habitat** 570
- foraging habits** 1164, 1315
- foraging habits and habitat use** 1164
- foraging pattern** 1038
- foraging performance** 1724
- foraging resources** 2124
- foraging selectivity** 546
- foraging site selection** 758
- forb availability** 813
- forb biomass** 322
- forbs** 347, 404, 520, 722, 731, 1823
- forest age** 873
- forest and tundra** 1164
- Forest and Vilas Counties** 1308
- forest and woodland** 69, 109, 223, 488, 597, 636, 830, 843, 846, 857, 859, 862, 874, 877, 879, 912, 914, 916, 918, 930, 932, 937, 941, 944, 950, 952, 961, 965, 971, 983, 986, 992, 997, 1002, 1013, 1017, 1019, 1022, 1026, 1034, 1039, 1040, 1046, 1053, 1067, 1068, 1069, 1075, 1077, 1079, 1084, 1085, 1088, 1092, 1113, 1114, 1121, 1127, 1133, 1136, 1137, 1145, 1146, 1147, 1157, 1161, 1164, 1167, 1180, 1183, 1185, 1191, 1198, 1202, 1206, 1212, 1213, 1221, 1228, 1248, 1249, 1250, 1256, 1258, 1259, 1260, 1262, 1264, 1266, 1269, 1270, 1272, 1273, 1279, 1282, 1286, 1293, 1301, 1306, 1308, 1319, 1320, 1323, 1333, 1338, 1342, 1344, 1345, 1347, 1349, 1352, 1356, 1363, 1367, 1368, 1397, 1502, 1604, 1774, 1889, 1938, 1948, 1977, 2009, 2023, 2033, 2043, 2050, 2051, 2054, 2058, 2060, 2071, 2097, 2099, 2104, 2107, 2131, 2202, 2214, 2215, 2222, 2227, 2235, 2255, 2270, 2272
- forest bird movements** 2167
- forest birds** 1081, 1089, 1130, 1223, 1295
- forest buffer strips** 2235
- forest burning and thinning** 952
- forest canopy** 1098, 1507
- forest canopy closure effect** 1262
- forest canopy types** 2115
- forest clearcuts** 961
- forest clearing management** 1040
- forest cohesion and agriculture edge density** 1087
- forest community ecology** 1022
- forest cover** 1679, 2205
- forest cutblocks** 1206
- forest damage** 605, 851
- forest density management** 2215
- forest dynamics** 943
- forest ecology** 840, 848, 849, 978, 987, 1024, 1479, 2016, 2115
- forest ecosystem** 926, 942, 962, 966, 1086, 1103, 1111, 1141, 1197, 1295, 1364, 2265
- forest ecosystem management** 2202
- forest edge** 945, 2030
- forest environments** 837, 2233
- forest fauna** 1053, 1183
- forest fire management** 524, 849, 853, 935, 1265, 1285
- forest fires** 848, 853, 889, 1027, 1076, 1103, 1195, 1226, 1231, 1265, 1285, 1875, 2272
- forest floor** 854, 1105
- forest floor communities** 2104
- forest-floor small mammals** 1139
- forest fragment** 312
- forest fragmentation** 24, 848, 856, 1162, 1307, 1983, 2021, 2188
- forest fringe** 844, 1309
- forest fuel reduction** 1285
- forest fuels** 1231
- forest gaps** 994, 2107
- forest grazing land** 977
- forest habitat association** 1042
- forest habitat characteristics and management strategies relations** 1079
- forest habitat management** 1272, 1317
- forest habitat retention practices** 1221
- forest habitats** 118, 837, 975, 983, 999, 1075, 1076, 1081, 1141, 1148, 1162, 1200, 1231, 1259, 1265, 1285, 1345, 1363, 1959, 2016, 2018, 2107, 2167, 2233, 2270
- forest harvest** 1227
- forest harvest treatment** 1361
- forest harvesting** 1160, 1399, 1493
- forest harvesting intensity** 992
- forest health** 894, 1061, 1334, 1343
- forest health restoration practices** 1042
- forest history** 1625
- forest industry** 1421, 1422, 1676, 1764, 1832
- forest industry lands** 1191
- forest insects** 1076, 1265
- forest interior** 1110
- forest-interior birds** 2083
- forest inventory** 868
- forest litter** 846, 935, 1076, 1080, 1133, 1231, 1265, 1283
- forest litter arthropods** 1105
- forest management** 34, 832, 834, 838, 840, 841, 844, 848, 850, 854, 863, 864, 867, 868, 870, 873, 884, 887, 888, 890, 898, 900, 901, 905, 906, 919, 920, 930, 943, 948, 953, 955, 956, 960, 962, 963, 964, 972, 974, 978, 989, 994, 997, 998, 999, 1000, 1001, 1007, 1009, 1011, 1012, 1015, 1018, 1024, 1029, 1030, 1036, 1041, 1043, 1045, 1049, 1054, 1056, 1061, 1074, 1080, 1088, 1089, 1091, 1096, 1098, 1101, 1102, 1106, 1107, 1117, 1123, 1131, 1132, 1138, 1142, 1143, 1149, 1153, 1156, 1160, 1163, 1178, 1185, 1187, 1189, 1198, 1200, 1201, 1210, 1211, 1218, 1220, 1224, 1225, 1233, 1236, 1237, 1251, 1257, 1261, 1263, 1264, 1270, 1277, 1283, 1291, 1292, 1294, 1297, 1300, 1302, 1314, 1318, 1326, 1341, 1353, 1355, 1358, 1363, 1367, 1368, 1399, 1402, 1479, 1532, 1591, 1676, 1690, 2016, 2030, 2115, 2122, 2191, 2216, 2220, 2239
- forest management activities** 1342
- forest management changes** 1208
- forest management effects** 1089, 1185
- forest management effects at multiple spatial scales** 2129
- forest management for wildlife** 1147
- forest management impact** 1256
- forest management impacts on wildlife habitat** 1198
- forest management implications** 1046, 1367
- forest management plan application** 912

- forest management practices** 965, 1164, 1308  
**forest management strategies** 1006, 1017, 1146  
**forest management treatments** 1068  
**forest mensuration and description** 935  
**forest operations** 905  
**forest pests** 898  
**forest plantations** 107, 417, 840, 1009, 1024, 1052, 1141, 1210, 1251, 1339  
**forest policy** 2016  
**forest practices** 878, 881, 982, 1016, 1165, 1592, 1624  
**forest productivity** 1274  
**forest products** 1142  
**forest products industry** 873  
**forest regeneration** 938, 2043  
**forest regeneration treatment** 1222  
**forest resource management plans** 1552  
**forest restoration** 1001, 1029, 1126, 1159, 1281  
**forest restoration programs** 942  
**forest restoration treatments** 1046  
**forest roads** 1074, 1247  
**forest shelterbelts** 2185  
**forest shelterwood harvesting and site preparation effects** 950  
**forest soil** 1022  
**forest songbirds** 1218, 1313, 1328  
**forest stand productivity relationships** 2198  
**forest stand structure** 1026  
**forest stands** 853, 924, 1006, 1074, 1076, 2115  
**forest stream riparian habitat** 1502  
**forest streams** 1502  
**forest strip** 999  
**forest structural classes** 876  
**forest structure** 873, 1118, 1305  
**forest succession** 880, 1076, 2115  
**forest taxa responses** 1053  
**forest thinning** 108, 849, 935, 1074, 1109, 1224, 1285  
**forest thinning effects on litter fauna** 1133  
**Forest thinning---United States** 56  
**forest treatment** 1214  
**forest trees** 935, 1076, 1109, 1265  
**forest type effect on stream benthic community structure and trophic function** 1397  
**forest understory** 1358  
**forest vegetation management** 1251  
**forest-wetland-habitat relationships** 1838  
**forest wildlife relations** 853, 1109, 1231, 1265, 1945, 2016  
**forest zones** 1245  
**forested** 1858  
**forested buffers** 1262, 1518  
**forested freshwater wetland** 2222  
**forested habitat** 2195  
**forested landscapes** 1233, 1247, 1268, 2122  
**forested riparian wetlands** 1603  
**forested stream ecosystems** 1485  
**forested watersheds** 1457, 1495  
**forested wetlands** 1047, 1734, 1774, 1838, 1948, 1959  
**forestlands** 1327  
**forestry** 74, 170, 601, 708, 734, 832, 863, 866, 868, 873, 883, 886, 891, 904, 905, 910, 919, 943, 949, 953, 969, 970, 979, 993, 999, 1012, 1014, 1018, 1027, 1029, 1037, 1043, 1047, 1056, 1060, 1064, 1100, 1102, 1103, 1108, 1115, 1138, 1142, 1152, 1157, 1160, 1170, 1187, 1195, 1226, 1230, 1235, 1242, 1245, 1255, 1278, 1288, 1292, 1297, 1300, 1302, 1303, 1312, 1313, 1317, 1318, 1327, 1328, 1352, 1374, 1405, 1472, 1493, 1522, 1533, 1592, 1638, 1764, 1832, 1961, 1981, 1990, 2061, 2107, 2122, 2124, 2140, 2150, 2169, 2207, 2211, 2247, 2272, 2281  
**forestry disturbance** 1262  
**forestry disturbance avoidance** 1262  
**forestry [economics]** 1021  
**forestry [history]** 913  
**forestry impact and conservation relations** 1537  
**forestry impact and conservation relationships** 1537  
**forestry impact relationships** 1537  
**forestry management** 901, 1113, 1275, 1363, 1453, 1475  
**forestry management effects** 1113  
**forestry management effects on habitat utilization and nest site selection** 1185  
**forestry management implications** 1363  
**forestry management techniques** 2227  
**forestry methods** 1304  
**forestry [organization and administration]** 913  
**forestry policy** 1209  
**forestry practice implications** 1164  
**forestry practices** 749, 838, 844, 871, 873, 875, 876, 880, 881, 901, 903, 909, 915, 921, 924, 925, 933, 939, 954, 957, 958, 967, 971, 976, 980, 981, 993, 994, 995, 1000, 1010, 1015, 1021, 1035, 1037, 1038, 1042, 1044, 1050, 1078, 1110, 1116, 1120, 1124, 1125, 1128, 1129, 1134, 1155, 1163, 1164, 1165, 1166, 1199, 1205, 1208, 1214, 1219, 1224, 1233, 1234, 1239, 1241, 1246, 1247, 1261, 1290, 1303, 1305, 1310, 1331, 1336, 1350, 1357, 1360, 1361, 1366, 1555, 1593, 1690, 1888, 2059, 2066, 2140, 2249, 2255  
**forestry practices effect** 1077  
**forestry practices effect on riparian community structure and population density** 1502  
**forestry production artificial regeneration** 1109, 1945  
**forestry production general** 1200, 2115  
**forestry production harvesting and engineering** 1200  
**forestry production natural regeneration** 524, 853, 935  
**forestry regimes** 2202  
**forestry related** 34, 836, 935, 1020, 1076, 1109, 1141, 1162, 1265, 1392, 1495, 2167  
**forestry strategies effect on prey abundance relations** 1075  
**forestry strategies effects** 1075  
**forestry technique** 2227  
**forestry thinning impact on distribution and density and influencing factors** 2131  
**forestry thinning techniques** 1199  
**forestry treatments** 958  
**forests** 340, 620, 734, 741, 755, 757, 773, 801, 830, 833, 837, 851, 854, 875, 876, 878, 880, 881, 885, 894, 895, 898, 901, 903, 905, 909, 913, 918, 919, 921, 924, 925, 930, 932, 933, 937, 939, 941, 948, 954, 957, 958, 976, 980, 981, 985, 991, 993, 994, 995, 999, 1000, 1016, 1021, 1031, 1037, 1038, 1039, 1042, 1043, 1050, 1051, 1052, 1055, 1061, 1065, 1068, 1080, 1084, 1087, 1097, 1099, 1110, 1116, 1118, 1122, 1128, 1133, 1134, 1135, 1142, 1150, 1152, 1158, 1166, 1170, 1171, 1179, 1192, 1199, 1210, 1219, 1224, 1225, 1233, 1242, 1247, 1254, 1261, 1268, 1277, 1283, 1290, 1304, 1305, 1313, 1318, 1320, 1331, 1336, 1339, 1340, 1359, 1361, 1483, 1617, 1690, 1745, 1787, 1851, 1858, 1888, 1916, 1939, 1952, 1976, 2002, 2008, 2012, 2021, 2036, 2052, 2059, 2066, 2079, 2090, 2105, 2116, 2130, 2131, 2149, 2160, 2168, 2177, 2251  
**forests, boreal** 871, 1124, 1125  
**forests, coniferous** 838, 1094, 1120, 1129, 1176, 1241, 1350, 1357, 1360, 1424  
**forests, deciduous** 861, 881, 1035, 1120, 1182, 1203, 1240, 1366  
**forests: habitat** 1643  
**forests, mixed** 902, 1035, 1125, 1203, 1310, 1350  
**forests, old-growth** 1129, 1360, 1366  
**former agricultural land** 405



Subject Index

- Formicidae** 88, 301, 637, 1029, 1343, 2042  
**Formicidae: farming and agriculture** 301  
**Formicidae: forestry** 1026  
**Formicidae: habitat management** 488  
**Formicoidea** 637  
**Formicoidea, Aculeata, Apocrita, Hymenoptera, Insecta** 301  
**formulations** 1102  
**Fort A.P. Hill** 1183  
**Fort Lewis Military Reservation** 1019  
**fossil fuel waste disposal** 2062  
**fragmentation** 29, 73, 391, 402, 495, 522, 530, 621, 664, 801, 820, 917, 1172, 1177, 1946, 2098, 2168, 2201, 2205  
**fragmented forest patches** 2195  
**fragmented habitats** 1331, 2242  
**fragmented landscapes** 68, 397, 629, 916  
**fragmented pine forest** 916  
**France** 452  
**Franklin's ground squirrel** 218  
**Fraser River Basin** 1462  
**Fraxinus** 1971  
**Fraxinus pennsylvanica** 1005  
**free-living nematodes** 347  
**frequency** 426, 987  
**frequent cool ground fires** 995  
**freshwater** 100, 1411, 1530, 1533, 1780, 1840  
**freshwater crustaceans** 1651, 1759, 1847, 1883, 1890  
**freshwater ecology** 1439, 1579, 1675, 1820, 1994  
**freshwater ecology: ecology, environmental sciences** 101, 1230, 1382, 1438, 1444, 1467, 1473, 1485, 1493, 1516, 1522, 1535, 1543, 1561, 1638, 1703, 1854, 1856, 1873, 1897, 1922, 2125, 2150, 2245  
**freshwater environments** 1396, 1427, 1471, 1506, 1655, 1759, 1814, 1890, 2233  
**freshwater fish** 7, 1376, 1380, 1384, 1405, 1421, 1422, 1423, 1427, 1437, 1439, 1477, 1481, 1491, 1497, 1499, 1511, 1519, 1539, 1722, 1804, 1816, 1890, 1918, 2090  
**freshwater habitat** 307, 473, 1375, 1383, 1397, 1403, 1420, 1426, 1452, 1462, 1465, 1474, 1486, 1489, 1490, 1504, 1508, 1513, 1514, 1517, 1520, 1524, 1537, 1540, 1546, 1562, 1574, 1677, 1684, 1725, 1779, 1796, 1858, 1861, 1917, 2058, 2064, 2129, 2140, 2202, 2215, 2218, 2219, 2254, 2272  
**freshwater molluscs** 1669, 1890  
**freshwater mussels** 1506  
**freshwater organisms** 2138  
**freshwater pollution** 1842, 1994, 2213  
**freshwater streams** 1471  
**Freshwater zooplankton---Ecology ---Florida** 1935  
**Fringillidae** 55, 66, 97, 141, 175, 195, 349, 555, 563, 669, 715, 745, 773, 993, 1082, 1175, 1959, 2105, 2200  
**frogs** 1024, 1735, 1783, 1844, 1931, 1945, 2183  
**frost damage** 909  
**Frugivory** 1302  
**fruit consumption** 1302  
**fruit-feeding butterflies** 1130  
**fruit phenology** 1302  
**fruit production** 1302  
**fruit trees** 2185  
**fruits** 1302  
**fry** 1422  
**Ft Lewis Military Reservation** 1133  
**fuel break** 960  
**fuel management** 927, 1042  
**fuel reduction** 1027, 1104, 1351  
**fuel reduction impact in forest habitat** 1266  
**fuel reduction treatment** 1057  
**fuel wood timber harvest** 1032  
**fuels** 1027, 1059  
**fuels management** 1159  
**Fulica americana** 1849  
**functional analysis** 2091  
**functional equivalency** 1724  
**functional feeding groups** 1414  
**functional groups** 856, 1343, 1679  
**functional insectivores** 15  
**functions** 996, 1108, 1509, 1576  
**fund allocation** 1560  
**funding** 153, 1240, 1997  
**Fundulus heteroclitus** 1732  
**Fundulus parvipinnis** 1719  
**Fundy National Park** 886  
**Fungal inoculation** 896  
**fungi** 1109, 1245, 1326  
**future of environmental sociology** 2004  
**future planning projected** 57  
**future scenarios** 1954, 1957  
**fuzzy logic** 2180  
**gadwall** 323, 1896, 2001  
**Galliformes** 27, 62, 84, 119, 134, 153, 187, 227, 255, 268, 279, 317, 351, 357, 373, 377, 595, 614, 641, 676, 707, 733, 745, 959, 999, 1025, 1095, 1116, 1254, 1346, 1436, 1962, 1974, 2188  
**Galliformes, Aves** 603, 659, 685, 2101  
**gallinaceous birds** 359, 512  
**Gallinago gallinago** 141, 1874  
**Galveston Bay** 1721  
**Gambelia sila** 650  
**Gambusia** 1446  
**Gambusia affinis** 1446, 2212  
**Gambusia holbrooki and Jordanella Floridae** 2033  
**game animals** 20, 631  
**game, big** 424  
**game farms** 1997  
**game management** 65  
**game species** 2252  
**gamebird** 20, 112, 154, 296, 310, 359, 557, 615, 617, 624, 625, 644, 657, 675, 680, 694, 703, 713, 717, 718, 747, 748, 795, 1007, 1073, 1074, 1096, 1188, 1194, 1232, 1252, 2024, 2143, 2266  
**gamebird young** 1034  
**gap sensitivity** 917  
**gap size** 968  
**gap vegetation** 968  
**gaps** 2204  
**Gastropoda** 211, 1669, 1886, 2178  
**Gastropoda: habitat management** 449  
**gastropods** 1669  
**Gavia immer: forestry** 1684  
**geese** 1689  
**gender and microclimate** 262  
**gene banks** 2004  
**general environmental engineering** 866  
**generalist** 558  
**generalized linear mixed model** 980  
**genetic diversity** 1967  
**genetic engineering** 20, 2224  
**genetic isolation** 1373  
**genetic structure** 158  
**genetics** 1651  
**genotype** 2182  
**geographic information systems** 132, 266, 298, 820, 836, 864, 1021, 1516, 1650, 1701, 1785, 1823, 1959, 2206, 2262  
**geographic origin** 251  
**geographical distribution** 131, 1210, 1441, 1519, 1701, 1842  
**geographical range** 1157  
**geographical variation** 1616  
**geography** 104, 1533  
**geologic sediments** 1370  
**geological sedimentation** 1404, 1558, 1573  
**geological terraces** 1798  
**geology** 1451, 1533, 1573  
**geomorphology** 1432, 1466, 1481, 1497, 1535, 1549, 1550, 1552, 1577, 1748, 2092, 2158  
**Geomyidae** 363  
**George Washington and Jefferson National Forests** 1040  
**George Washington National Forest** 724  
**Georgia** 69, 84, 108, 123, 184, 242, 342, 862, 1051, 1082, 1083, 1148, 1197, 1204, 1499, 1504, 1507, 1591, 1764, 1908, 2008, 2023, 2032, 2251  
**geospatial models** 2259  
**Geothlypis trichas** 55, 93, 139, 544, 968, 1089, 1953  
**Geothlypis trichas (Passeriformes)** 17  
**Geotrupes bayli** 1257  
**germination** 1271

- gestagen** 1505  
**giant kangaroo rat** 650  
**giant salamander** 1424  
**Gila National Forest** 742, 1094  
**Gila River Bird Area** 742  
**GIS** 132, 266, 617, 1341, 1533, 1899, 1959  
**GIS, applied and field techniques** 1516  
**GIS data** 1021  
**gizzard mass** 1714  
**glaciated plateau** 2006  
**glade habitat restoration** 2120  
**Glaucomys** 820, 842, 1109, 1138  
**Glaucomys sabrinus** 927, 978, 1019, 1138, 1157, 1256  
**Glaucomys volans** 1256  
**global warming** 170, 1939  
**globulin** 948  
**Glucine max** 2077  
**glucose** 948  
**Glycine Fabaceae** 583  
**Glycine max** 67, 189, 583, 1971  
**glyphosate** 423, 593, 1007, 1685, 1847, 1879, 2056  
**glyphosate herbicide** 1100  
**glyphosate herbicide: pesticide, soil pollutant, toxin** 2265  
**gnatcatchers** 443  
**Gold Creek** 758  
**golden-crowned kinglet** 1224  
**golden-winged warbler** 1959  
**Goodhue County** 1517  
**goose, Canada** 2068  
**Goosenset Ranger District** 941  
**gopher tortoises** 1058  
**Gopherus** 2229  
**Gopherus berlandieri: habitat management** 573  
**Gopherus polyphemus** 1058, 1065, 2229  
**Gossypium** 84  
**Gossypium hirsutum** 84, 953  
**government agency** 429  
**government policy** 46, 65, 157, 208, 239, 1817, 2221  
**government regulations** 1817  
**governmental programs and projects** 259  
**governments** 1845  
**GPS accuracy** 1262  
**grading** 1556  
**Graham County** 1959  
**Graham County, Pinaleno Mountains** 901  
**grain** 4, 2034  
**grain size** 1512  
**Grand Ronde basin** 1562  
**grants** 1785  
**Grantsburg soil** 246  
**GRASIM** 708  
**grass buffers** 587, 1411  
**grass prairies** 1960  
**grass riparian filter strip** 1473  
**grass shrimp** 1788  
**grass-shrub birds** 1177  
**grass-shrubland habitats** 389  
**grass sward** 327  
**grasses** 191, 259, 429, 431, 550, 681, 699, 722, 734, 762, 791, 1340, 1412, 1726, 1823  
**grasshopper** 115, 399, 517, 721  
**grasshopper assemblage** 450  
**grasshopper sparrow** 55, 93, 95, 175, 195, 205, 291, 413, 461, 469, 696  
**grasshopper sparrow (Passeriformes)** 17, 222  
**grassland and wetland population changes** 355  
**grassland avifauna** 332  
**grassland bird conservation** 89  
**grassland birds** 29, 33, 38, 140, 212, 241, 305, 332, 379, 465, 487, 527, 536, 538, 542, 544, 545, 598, 617, 647, 669, 686, 715, 730, 761, 776, 801, 802, 908, 1059, 1177, 1238, 1729, 1937, 2096, 2113, 2184  
**grassland community structure** 412  
**grassland conservation** 787  
**Grassland Easement Program** 703  
**grassland ecosystems** 790  
**grassland fire** 450  
**grassland grazing** 794  
**grassland habitat** 68, 400, 402, 538, 571  
**grassland habitat management** 584, 626  
**Grassland habitat quality improvement** 148  
**grassland habitats** 626  
**grassland management** 453, 491, 497, 538, 539, 540, 543, 576, 588, 740, 1479, 1727, 1823, 2161, 2237  
**grassland management influence on populations of small taxa** 724  
**grassland management strategy** 666  
**grassland oak savanna** 727  
**grassland plant community** 395  
**grassland plants** 730, 1238  
**grassland productivity** 354  
**grassland reconstruction** 540  
**grassland regeneration** 540  
**Grassland Reserve Program** 703, 705, 2094, 2273  
**grassland restoration** 103, 205, 306, 536, 541, 690  
**grassland restoration effort success** 315  
**grassland revegetation** 733  
**grassland soils** 770  
**grassland songbirds** 311  
**grassland species** 289, 405, 534, 803  
**grassland species abundance** 135  
**grassland types** 724  
**grassland vegetation** 2025, 2026  
**grassland water district** 1405  
**grassland watersheds** 1574  
**grasslands** 4, 10, 19, 30, 38, 46, 49, 51, 55, 61, 66, 68, 75, 86, 88, 91, 92, 93, 98, 118, 120, 125, 135, 136, 141, 146, 148, 153, 157, 163, 169, 195, 213, 214, 217, 239, 241, 243, 253, 256, 274, 279, 281, 287, 289, 291, 296, 298, 302, 304, 305, 306, 309, 310, 317, 320, 327, 331, 332, 338, 346, 355, 356, 365, 366, 368, 370, 377, 387, 389, 391, 394, 395, 396, 397, 402, 405, 407, 410, 412, 413, 414, 415, 428, 430, 447, 448, 449, 453, 456, 459, 462, 471, 475, 476, 477, 481, 482, 489, 490, 491, 497, 503, 504, 509, 513, 515, 526, 533, 534, 535, 537, 542, 544, 545, 556, 562, 567, 569, 576, 581, 584, 588, 595, 597, 599, 606, 608, 612, 614, 619, 620, 626, 628, 630, 635, 636, 641, 646, 648, 649, 652, 656, 659, 661, 664, 666, 669, 670, 672, 678, 685, 688, 692, 695, 703, 711, 712, 715, 721, 724, 731, 733, 734, 736, 738, 739, 740, 744, 751, 754, 760, 765, 766, 767, 777, 778, 781, 782, 786, 787, 792, 797, 801, 802, 803, 804, 810, 816, 908, 946, 1059, 1177, 1178, 1346, 1479, 1578, 1678, 1699, 1701, 1726, 1727, 1729, 1738, 1752, 1755, 1762, 1781, 1801, 1823, 1843, 1876, 1949, 1951, 1953, 1962, 1963, 1964, 1987, 1998, 2022, 2047, 2051, 2054, 2072, 2081, 2089, 2093, 2094, 2096, 2098, 2099, 2105, 2114, 2130, 2137, 2142, 2154, 2155, 2159, 2200, 2201, 2212, 2237, 2241, 2269  
**grasslands adjacent to wheat fields** 2241  
**grasslands: habitat** 479  
**grasslands: land use practices, native earthworm populations** 578  
**grassy woodland** 540, 541  
**Gratiot County** 281  
**gravel** 1407  
**gravel bed stream** 1407  
**gravel mining** 1440  
**gray catbird** 2244  
**gray jay** 1124  
**gray partridge** 10  
**gray squirrel** 864  
**gray-tailed voles** 42  
**gray wolf** 2285  
**grazed and ungrazed grassland** 765  
**grazer** 822  
**grazing** 94, 95, 106, 161, 206, 296, 298, 300, 301, 302, 306, 312, 323, 324, 327, 328, 329, 333, 339, 342, 344, 345, 349, 350, 366, 367, 373, 378, 381, 385, 387, 393, 399, 401, 417, 418, 419, 421, 422, 424, 425, 426, 431, 433, 434, 435, 436, 438, 439, 441, 443, 444, 445, 452, 453, 455, 456, 457, 461, 462, 463, 469,

Subject Index

- grazing (contd.)** 470, 471, 474, 486, 487, 490, 491, 493, 498, 502, 505, 507, 508, 515, 518, 523, 525, 535, 539, 545, 548, 549, 551, 552, 561, 562, 569, 576, 579, 580, 582, 585, 586, 588, 592, 600, 611, 613, 617, 624, 631, 634, 636, 638, 639, 640, 642, 648, 650, 652, 654, 658, 662, 677, 682, 693, 697, 699, 700, 702, 705, 709, 710, 720, 722, 725, 727, 728, 734, 740, 744, 746, 762, 764, 767, 769, 771, 773, 774, 780, 781, 783, 808, 819, 822, 824, 895, 947, 1188, 1190, 1340, 1379, 1385, 1386, 1396, 1433, 1434, 1446, 1447, 1449, 1461, 1475, 1476, 1477, 1479, 1480, 1481, 1482, 1498, 1500, 1531, 1551, 1554, 1559, 1563, 1634, 1636, 1681, 1727, 1759, 1761, 1791, 1801, 1811, 1823, 1856, 1929, 2009, 2055, 2057, 2094, 2117, 2126, 2141, 2151, 2152, 2161, 2170, 2206, 2236, 2240, 2243, 2269
- grazing behavior** 298, 490, 577, 604, 649
- grazing effects** 308, 420, 460, 814, 1648, 2044
- grazing exclosures** 422
- grazing habitat deterioration** 596
- grazing impact on grassland plant community** 395
- grazing impact on small mammalian population size** 599
- grazing impacts** 472, 2158
- grazing intensity** 348, 352, 416, 439, 442, 472, 520, 523, 628, 717, 759, 770, 775, 1457, 1479, 1727
- grazing lands** 225, 353, 441, 1453
- grazing management** 302, 472, 501, 551, 634, 690, 708, 735, 737, 775, 826, 1060, 1982
- grazing management regimes** 608
- grazing management strategies** 1457
- grazing pastures** 564
- grazing practices** 714
- grazing pressure** 411
- grazing pressure management** 1808
- grazing recovery exclosure** 354
- grazing resources** 678
- grazing responses** 785
- grazing system: rotational, season long** 668
- grazing systems** 236, 604, 639, 732, 770, 1573, 1727
- Great Basin** 592, 1999, 2263
- great crested flycatcher** 1169, 2244
- great horned owl** 153
- Great Lakes** 1641, 2028, 2112, 2233
- Great Lakes coastal wetlands** 1621
- Great Lakes region** 965
- Great Plains** 59, 112, 130, 141, 166, 266, 312, 455, 545, 735, 802, 2001, 2242
- Great Plains grasslands** 214
- Great Plains Region United States** 57
- Great Plains toad** 1762
- greater prairie-chicken** 192, 617, 694
- greater sage-grouse** 263, 296, 299, 381, 404, 554, 627, 747, 799, 806, 1999
- greater snow goose** 1634
- greater white-fronted geese** 1878
- Green and Kenosha Counties** 365
- green frog** 1662
- Green Mountain National Forest** 1247
- Green Mountain Range** 1000
- green payments** 1394
- Green River** 1374, 1376
- Green River Game Land** 1269
- Green River Game Management Area** 986
- green space planning** 1192
- green-tailed towhee** 555
- green-tree retention** 1289
- green-up delay** 1303
- green-winged teal** 1744, 1896
- Greene, Morgan and Oconee Counties** 184
- greenhouse gases** 1939
- greentree reservoir management** 1824
- greentree reservoirs** 1666
- GRFs, field equipment** 1473
- grizzly bear** 1168
- ground beetles** 225, 525
- ground cover** 197, 490, 491, 1080, 1197, 1252
- ground dwelling community** 965
- ground dwelling taxa** 965
- ground level** 262
- ground nesters** 1313
- ground nesting** 479
- ground-nesting birds** 387, 2024
- ground squirrels** 475, 669
- ground truthing** 2169
- ground vegetation** 759, 1231
- ground vegetation density** 994
- ground water hydrology** 1637
- ground water systems** 2245
- groundwater** 147, 190, 191, 1415, 1548, 1715, 1851, 2179
- groundwater aquifers** 1534
- groundwater basins inland water environment** 1415
- groundwater flow** 147
- groundwater level** 2154
- groundwater recharge** 1817, 1851
- group selection** 968, 1111, 1295
- group selection forestry method** 969
- group selection opening size effects** 969
- group selection silviculture** 970
- group size** 797, 924
- grouse management** 694
- growing season** 1061, 2128
- growth** 460, 881, 1277, 1706, 1827
- growth and development** 1533
- growth and yield** 1251
- growth kinetics** 1138
- growth rate** 1762
- GRP** 703
- Gruidae** 828
- Gruiformes, Aves** 828
- Grus americana** 427
- Grus canadensis** 427, 1737
- Grus canadensis tabida** 468
- Grus canadensis tabida [greater sandhill crane] (Gruiformes)** 2
- Grus canadensis tabida (Gruidae): foraging** 828
- Gryllotalpa major: mating** 415
- guidelines** 557, 2115
- guild** 467, 1144, 2046
- guild composition** 1909
- guild structure** 621
- guilds and habitat associations** 2196
- Gulf Coast Chenier Plain** 1698, 1822
- gulf coastal plain** 1739, 1796
- gulf menhaden** 1798
- Gulf of Mexico** 1709, 1721, 1739, 1839
- Gulf of Mexico region** 1141
- gully** 1661
- gully erosion** 1661
- Gunnison sage-grouse** 143
- gymnosperms** 2061
- gypsy moth** 959, 972
- Gyrinophilus** 1312
- Gyrinophilus porphyriticus** 1312
- habitat amount** 517
- habitat analysis** 2285
- habitat and practices** 1974
- habitat assessment** 216
- habitat association** 1437, 1937
- habitat availability** 555, 755, 862, 880, 920, 1188, 1430, 1847, 1849, 1987
- habitat buffers** 836
- habitat buffers for upland birds** 229
- habitat change** 4, 175, 279, 369, 387, 416, 564, 600, 619, 801, 954, 982, 1016, 1037, 1125, 1192, 1224, 1225, 1268, 1303, 1305, 1389, 1582, 1650, 1965, 1968, 2200, 2278
- habitat changes invertebrates** 1498
- habitat characteristic effect** 1287
- habitat characteristics** 472, 656, 1493, 1959, 2195
- habitat characteristics and management strategies** 1079
- habitat choice** 1645
- habitat classification** 119, 255
- habitat clutter** 1205
- habitat colonization** 489, 857, 1825
- habitat colonization relations** 857

- habitat community** 1671  
**habitat community studies** 1413, 1617, 1794, 1830, 1834, 1845, 1858  
**habitat complexity** 1471, 1791  
**habitat composition** 1959  
**habitat conditions** 1416, 2239  
**habitat configuration** 517  
**habitat connectivity** 1312  
**habitat conservation** 58, 65, 296, 346, 386, 402, 408, 572, 594, 613, 687, 778, 787, 793, 910, 1000, 1205, 1784, 1799, 1906, 2096, 2268  
**habitat conservation benefit** 823  
**habitat conservation value** 86  
**habitat conservationist** 571  
**habitat construction** 1757  
**habitat corridor** 24, 247, 809, 916, 917, 953, 1216, 2035  
**habitat creation** 1587, 2223  
**habitat degradation** 357, 690, 822, 1922  
**habitat density** 152  
**habitat: description** 1120  
**habitat destruction** 342, 474, 732, 895, 1404, 1439, 1551, 1799  
**habitat differences** 1645  
**habitat disturbance** 499, 600, 729, 1783, 2211  
**habitat disturbance [fire]** 427  
**habitat diversity** 953, 1280  
**Habitat---Ecology---Modification---United States---Case studies** 1656  
**habitat enhancement** 1273, 1520  
**habitat evaluation** 392, 924, 1225, 1303, 1533, 2285  
**habitat exploitation** 765, 1916  
**habitat exploitation and wildlife management** 1916  
**habitat features** 924  
**habitat fragmentation** 24, 38, 71, 343, 357, 360, 402, 522, 584, 618, 621, 664, 695, 763, 776, 779, 803, 809, 821, 834, 845, 917, 926, 955, 1062, 1076, 1122, 1143, 1154, 1162, 1174, 1287, 1291, 1650, 1775, 1956, 2010, 2021, 2039, 2098, 2164, 2167, 2168, 2177, 2188  
**habitat generalists** 917  
**habitat gradient** 2144  
**habitat guidelines** 964  
**habitat heterogeneity** 399, 1934, 2197  
**habitat improvement** 162, 323, 1391, 1419, 1447, 1468, 1481, 1491, 1511, 1556, 1575, 1585, 1617, 1671, 1723, 1737, 1762, 1763, 1772, 1782, 1794, 1798, 1851, 1852, 1892, 1939, 1940, 2090, 2138, 2166, 2228, 2280  
**habitat improvement (biological)** 991, 1433, 1640  
**habitat improvement (chemical)** 1421, 1422  
**habitat improvement (physical)** 100, 1441, 1640  
**habitat influence** 2230  
**habitat interior** 2164  
**habitat islands** 75, 218, 871, 1920  
**habitat linkage** 1087  
**habitat loss** 68, 357, 402, 527, 617, 664, 748, 821, 872, 926, 1775, 1922, 1986, 2010, 2098, 2250  
**habitat loss and fragmentation** 665  
**habitat management by short duration grazing** 810  
**habitat management for fish** 1389  
**habitat management for wildlife** 4, 125, 165, 185, 255, 279, 524, 619, 644, 709, 739, 881, 902, 1109, 1147, 1165, 1924, 1951, 2147, 2240  
**habitat management implications** 1039, 2091, 2284  
**habitat management practices** 1354  
**habitat management success** 1522  
**habitat manipulations** 755  
**habitat mitigation** 2270  
**habitat model** 663, 1156, 1205, 1348, 1947  
**habitat modeling** 1073, 1159  
**habitat modification** 547, 1987  
**habitat monitoring program** 1490  
**habitat mosaic** 420, 660, 1303  
**habitat needs** 571  
**habitat-network mapping** 2099  
**habitat occupancy model** 1158  
**habitat parameters** 1516  
**habitat patch** 924, 2164  
**habitat patchiness** 1791  
**habitat preference** 69, 115, 452, 480, 667, 722, 751, 752, 828, 862, 930, 965, 987, 1046, 1068, 1069, 1074, 1085, 1200, 1262, 1273, 1286, 1332, 1367, 1458, 1483, 1520, 1612, 1668, 1738, 1932, 2076, 2095, 2129, 2155, 2195, 2196  
**habitat preservation** 2006, 2038  
**habitat profiles** 785  
**habitat protection** 827, 2050  
**habitat quality** 258, 334, 372, 472, 501, 555, 568, 603, 737, 748, 906, 925, 958, 969, 993, 1038, 1054, 1061, 1188, 1215, 1305, 1328, 1378, 1428, 1515, 1709, 2163, 2200, 2239  
**habitat quality and reproductive behavior** 1069  
**habitat recovery** 560  
**habitat rehabilitation** 1981, 2112  
**habitat related behavior** 15  
**habitat relationships** 744, 1126, 1234, 1326, 1729, 1932  
**habitat requirements** 368, 785  
**habitat responses** 1522  
**habitat restoration** 287, 299, 379, 495, 511, 703, 711, 734, 736, 754, 766, 782, 784, 835, 1014, 1178, 1194, 1268, 1344, 1427, 1440, 1450, 1501, 1510, 1526, 1541, 1542, 1545, 1562, 1571, 1594, 1630, 1646, 1659, 1662, 1703, 1725, 1729, 1765, 1899, 1901, 1958, 2007, 2010, 2017, 2025, 2026, 2031, 2113, 2128, 2173, 2185, 2200, 2209, 2233  
**habitat restoration outcomes prediction** 1725  
**habitat revegetation** 733  
**habitat role of submerged aquatic vegetation in lakes** 1861  
**habitat selection** 67, 79, 210, 226, 238, 248, 497, 542, 553, 564, 566, 574, 617, 657, 836, 884, 925, 933, 958, 1045, 1066, 1072, 1073, 1116, 1188, 1207, 1215, 1252, 1261, 1296, 1305, 1324, 1329, 1339, 1531, 1575, 1614, 1620, 1629, 1674, 1731, 1732, 1738, 1786, 1829, 1899, 1910, 1927, 1941, 1961, 1995, 2100, 2164, 2170, 2223, 2232  
**habitat size** 1000  
**habitat stability** 1430  
**habitat structure** 334, 359, 362, 512, 601, 608, 622, 802, 870, 999, 1033, 1062, 1072, 1102, 1229, 1326, 1471, 1532, 1783, 1962  
**habitat substrate** 1465  
**habitat suitability** 385, 513, 555, 663, 690, 862, 967, 1305, 1520, 1644, 1655, 2175  
**habitat suitability index** 216, 392, 1225, 1276  
**habitat suitability modeling** 1186, 1303  
**habitat supply** 1303  
**habitat surveys** 255, 392, 806, 921, 1350, 1533, 1555, 1755, 1821, 2141  
**habitat trend** 2239  
**habitat type** 72, 305, 309, 539  
**habitat types** 1485, 1734, 1831, 1959  
**habitat typing** 1495  
**habitat use** 19, 26, 27, 66, 68, 93, 96, 97, 106, 139, 143, 150, 153, 169, 189, 203, 216, 218, 221, 228, 238, 265, 291, 306, 319, 366, 377, 384, 389, 419, 428, 430, 431, 436, 481, 508, 522, 549, 552, 555, 568, 570, 584, 600, 615, 625, 635, 650, 658, 660, 669, 676, 680, 716, 723, 746, 747, 758, 773, 797, 801, 804, 806, 829, 833, 844, 859, 863, 865, 876, 878, 880, 881, 882, 897, 901, 902, 903, 904, 915, 922, 924, 925, 939, 948, 954, 957, 958, 968, 970, 980, 981, 985, 993, 994, 995, 1000, 1025, 1036, 1037, 1038, 1042, 1048, 1055, 1063, 1064, 1065, 1073, 1085, 1087, 1094, 1095, 1100, 1102, 1104, 1116, 1122, 1150, 1155, 1158, 1166, 1176, 1179, 1182, 1192, 1194, 1199, 1205, 1215, 1219, 1224, 1225, 1233, 1234, 1237, 1241, 1247, 1254, 1261, 1268, 1288, 1295, 1305, 1309, 1321, 1335, 1336, 1350, 1357, 1360, 1361, 1365, 1366, 1424, 1436, 1442, 1555, 1557,

Subject Index

- habitat use (contd.)** 1579, 1585, 1646, 1680, 1690, 1734, 1744, 1768, 1770, 1784, 1808, 1818, 1878, 1879, 1880, 1884, 1897, 1899, 1913, 1915, 1926, 1931, 1937, 1959, 1965, 1975, 1978, 1980, 1993, 2007, 2030, 2047, 2059, 2066, 2080, 2095, 2100, 2102, 2103, 2105, 2130, 2139, 2141, 2184, 2195, 2210, 2232, 2249, 2255, 2283, 2285
- habitat use and behavior** 2076
- habitat use and nesting responses** 405
- habitat use and nesting success relations** 1338
- habitat use patterns** 954
- habitat utilization** 46, 69, 135, 179, 184, 278, 283, 293, 389, 405, 414, 489, 516, 589, 667, 724, 751, 752, 812, 813, 815, 828, 843, 857, 859, 862, 916, 918, 930, 932, 965, 971, 1026, 1039, 1046, 1068, 1069, 1084, 1085, 1113, 1157, 1161, 1164, 1184, 1185, 1206, 1212, 1222, 1248, 1250, 1260, 1262, 1266, 1273, 1286, 1293, 1301, 1319, 1320, 1332, 1338, 1349, 1356, 1363, 1367, 1368, 1458, 1489, 1520, 1538, 1582, 1612, 1620, 1633, 1719, 1738, 1763, 1774, 1861, 1865, 1874, 1904, 1910, 1917, 1927, 1932, 1969, 2043, 2076, 2091, 2101, 2129, 2196, 2255, 2284
- habitat utilization by waterfowl** 278
- habits-behavior** 153, 169, 203, 366, 829, 915, 939, 1025, 1048, 1150, 1165, 1169, 1234, 1241, 1357, 1366, 1424, 1555
- Habplan** 1156
- hairy woodpecker** 1224
- Haliaeetus leucocephalus** 956, 2213
- hammocks** 1949
- Hammond's flycatcher** 1224
- handcutting** 2153
- Hankin Reeves Survey** 1552
- Hanson County** 739
- harbors** 1483
- hard mast species restoration** 1239
- hardwood-dominated watersheds** 1472
- hardwood forest habitats** 1055, 1075
- hardwood forest structural complexity enhancement** 1000
- hardwood forests** 879, 925, 965, 1000, 1074, 1265, 1269, 1596, 1608, 2270
- hardwood hammock patches** 2033
- hardwood removal** 1093
- hardwood stand area** 1110
- hardwood stands** 1043
- hardwoods** 881, 970, 999, 1031, 1043, 1152, 1160, 1231, 1235, 1280, 1300, 1312, 1328, 1472, 1507, 2016, 2116, 2166
- hare, varying** 982
- harlequin duck** 956
- Harpalus** 1061
- harriers** 146
- Hart Mountain National Antelope Refuge** 609, 733
- harvest** 330, 340, 675, 869, 885, 996, 1503, 2069, 2240
- harvest block proximity** 1303
- harvest block size** 1303
- harvest methods** 109
- harvest mice** 584
- harvest practices** 1264
- harvest scheduler** 1156
- harvest treatment** 1361
- harvested forest** 995
- harvested forest management** 1191
- harvesters** 2011
- harvesting** 675, 870, 905, 919, 933, 953, 961, 970, 999, 1018, 1108, 1152, 1160, 1189, 1226, 1235, 1242, 1297, 1313, 1384, 1399, 1832, 2011, 2252
- harvesting intensity** 992
- harvesting landscape** 1274
- hatching** 959, 1845, 1872
- hatching success** 25
- hay** 67, 92, 160, 537, 908, 2152
- hay cutting** 908
- hayfield management** 571
- hayfields** 311, 543
- haying** 92, 160, 466, 537, 705
- haying: management method** 628
- hayland** 537
- haymaking** 107, 159
- head** 1792
- headwater riparian and upland forests** 2215
- headwater riparian zones** 2104
- headwater stream riparian zones** 2104
- headwater streams** 1452, 1522, 1690, 2129, 2150, 2215
- headwaters** 1483
- health** 2179
- health hazard** 1871
- heart-rot fungi** 1263
- heat stress** 624
- heat sums** 789
- heathland** 630
- heavily browsed environment** 1965
- heavily grazed areas** 472
- heavily managed ecosystem** 1854
- heavy grazing regime** 354
- heavy metals** 1771, 1970, 2013, 2134, 2224
- hedgerow network** 247
- hedgerows** 8, 27, 204, 247, 829, 2130
- hedges** 2152, 2159
- height** 442, 759
- Helianthus annuus** 176, 1879
- helicopter harvesting effects on communities** 1948
- helminths** 242, 1022
- Helmitheros** 984
- Helmitheros vermivorus** 984, 1265
- Hemi-marsh** 1606
- Hemidactylum scutatum** 1617
- Hemileuca eglanterina: habitat management** 1678
- Hemileuca maia: habitat management** 1145
- Hemiptera** 731
- hen survival** 362
- Hendersonville** 986
- Henslow's sparrow** 50, 93, 335, 696, 761, 2105
- heptachlor** 1813
- herb** 609
- herbaceous biomass** 734
- herbaceous control** 2045
- herbaceous detrital resources** 1791
- herbaceous filter strips** 2106
- herbicide and prescribed fire management tools assessment** 148
- herbicide application** 1279
- herbicide control** 909
- herbicides** 112, 408, 423, 593, 645, 755, 951, 973, 991, 1007, 1054, 1148, 1152, 1220, 1251, 1460, 1694, 1847, 1961, 2045, 2056, 2153
- herbivore diversity** 1091
- herbivores** 5, 323, 822, 987, 1100, 1482, 1634, 2182
- herbivorous grazing** 758
- herbivory** 577, 634, 814, 816, 938, 1111, 1239, 1374, 1648, 2139
- hermit thrush** 925
- herpetile community** 1278
- herpetofauna** 440, 591, 1398, 1443, 1802, 2122, 2204
- Hesperotettix viridis** 753
- Heterocera: habitat management** 760
- heterogeneity** 512, 761, 1211, 1992, 2121
- Heteromyidae** 632, 744
- Heteroneura, Glossata, Lepidoptera, Insecta** 2051
- Heteroptera** 1886
- Hexapoda** 15, 408, 621, 938, 1302, 1532, 1882
- HGM** 1577, 1639
- Hiawatha National Forest** 879
- hibernacula** 1208
- hibernation** 1960
- hickory** 1016
- Hickory Corners** 156
- Hidalgo County** 447
- Hidden Valley** 724
- hierarchical modeling** 696, 1303
- hierarchy** 664, 802
- high elevation conifer forest** 1219
- high energy seed** 1733
- high-grading** 1235

- High Plains** 112, 232  
**high-yield conservation** 1251  
**highlands** 401  
**Highlands County** 2033  
**highly erodible land** 2111  
**highway crossings** 1791  
**highway underpass positioning** 1087  
**highways** 360  
**Himantopus mexicanus** 1872, 1884, 1915  
**hispid cotton rat** 584  
**historic** 302  
**historical abundance** 1444  
**historical account** 1529, 1651, 1736  
**historical distribution** 1444  
**historical ecology** 1651, 1737  
**historical environmental conditions** 420  
**historical nest areas** 1329  
**historical range of variability** 1186  
**historical record** 785, 1190, 1316  
**history** 57, 153, 281, 324, 384, 424, 524, 935, 1393, 1772, 2016, 2092, 2210, 2240  
**history, 20th century** 913  
**Histrionicus histrionicus** 956  
**holes** 1195  
**Holt County** 692  
**Holt County, Squaw Creek National Wildlife Refuge** 481  
**home range** 68, 69, 150, 151, 179, 248, 389, 500, 508, 549, 573, 574, 839, 903, 927, 954, 1082, 1083, 1102, 1104, 1165, 1225, 1258, 1309, 1738, 2077, 2100, 2103  
**home range patterns** 954  
**home range size** 152, 435, 500, 529, 878  
**home range size relationships** 500  
**home range-territory** 66, 549, 716, 902, 924, 954, 1087, 1225, 1241, 1246, 1261, 1268, 1309, 1331, 1959  
**home range use** 1738  
**home range use and movement patterns** 1738  
**home-range use relationships** 1738  
**Homestead National Monument** 754  
**Homestead Range Renewal Initiative** 651  
**Homochitto National Forest** 1962, 2054  
**Homoptera** 590  
**honey mesquite** 605  
**hooded warbler** 993, 994  
**Hordeum vulgare** 172  
**Hordeum vulgare subsp. vulgare** 1971  
**horned lark** 469  
**horned lark (Passeriformes)** 13  
**horned lizards** 658  
**horse** 977  
**host parasite interaction** 411, 2108  
**host plants** 1162  
**hosts** 1091, 1250  
**house wren** 876  
**household surveys** 34  
**Houston and Fillmore Counties** 1367  
**Houston area** 1026  
**Houston County** 1968  
**Howard and Pike Counties** 948  
**Howard County** 244  
**Huachuca Mountains** 2240  
**Hudson R.** 1384  
**human activity** 299, 741, 827, 1549, 1593, 1891, 1913, 2062, 2092, 2121  
**human dimensions** 1956, 2145  
**human disturbances** 322, 995, 1428, 1597  
**human-dominated landscapes** 1956  
**human ecology: anthropology** 1467, 1983  
**human factors** 1859  
**human health** 2118  
**human impact** 213, 956, 1764, 1803  
**human impact gradient** 2046  
**human wildlife conflicts** 2, 360  
**humans** 2, 390, 1021, 2275  
**humidity** 5, 262  
**hunting** 40, 162, 234, 268, 424, 511, 1856, 2070, 2248  
**hunting and anti-hunting** 228, 2210  
**hunting lease** 409  
**Huntley Diversion** 1538  
**Hutchinson County** 739  
**Hutton's vireo** 1224  
**Hyalella azteca (Amphipoda)** 1704  
**hybridization** 2182  
**Hyde** 82  
**Hydracarina** 1847  
**hydraulic structures** 1439  
**hydraulics** 1478  
**hydrodynamics** 2154  
**hydroelectric power plant** 1450  
**hydrogen ion concentration** 1764  
**hydrogeomorphic** 1577  
**hydrologic alteration** 1430  
**hydrologic connectivity** 1445  
**hydrologic cycle** 1775, 2222  
**hydrological data** 1701  
**hydrological modification** 1922  
**hydrological regime** 1488, 1890  
**hydrological response** 1805  
**hydrologically modified landscape** 1897  
**hydrology** 741, 1230, 1376, 1550, 1589, 1636, 1663, 1676, 1705, 1715, 1723, 1739, 1744, 1760, 1762, 1782, 1792, 1803, 1805, 1814, 1830, 1839, 1851, 1856, 1857, 1906, 2092, 2122, 2158  
**hydrology and topography effects** 2072  
**hydroperiod** 1643, 1712, 1741, 1857, 1873, 1877  
**Hydrophilidae** 1883, 1886  
**hydrophytes** 1595, 1691  
**Hyla cinerea** 833  
**Hylidae** 833  
**Hylochichla mustelina** 963, 1003, 1089, 1364, 1365  
**Hylocichla mustelina** 963, 984, 1041, 1185  
**Hymenoclea** 490  
**Hymenoclea salsola** 490  
**Hymenoptera** 88, 637, 1008, 2042  
**hymenopterans** 127, 211, 254, 301, 488, 637, 1026, 2271  
**hypersaline water** 1864  
**hyporheic corridor concept** 1535  
**hyporheic zone chemistry** 101  
**hypothesis testing** 779  
**Iberville** 1323  
**IBI** 1647  
**Icaricia icarioides fenderi (Lycaenidae): habitat management** 736  
**ice storm impacted streams** 1465  
**ichthyofauna** 1429, 1430, 1565, 1867  
**Icteria virens** 1089, 1175, 1338, 1962, 2030  
**Icteridae** 1649, 2200  
**Icteridae: foraging** 2076  
**Icterus** 831  
**Icterus galbula** 2205  
**Idaho** 262, 329, 457, 473, 493, 586, 667, 725, 777, 1217, 1371, 1386, 2011  
**Idaho ground squirrel** 384  
**Idaho, Summit Creek** 1531  
**Idaho, West-central** 384  
**identification** 2224  
**identification keys** 2090  
**identification of temperature sensitive streams** 1537  
**IKONOS** 663  
**Illinois** 4, 47, 124, 155, 165, 181, 208, 213, 338, 365, 397, 477, 489, 568, 581, 803, 816, 1174, 1432, 1483, 1533, 1549, 1550, 1651, 1730, 1800, 2142, 2270  
**Illinois: south and west central** 174  
**Imazapic** 593  
**imazapyr** 1007, 1694  
**immediate landscape scale impacts** 1088  
**immigration** 397, 1825  
**immunity** 2049  
**immunology** 2049  
**Imperial Valley** 168  
**implementation** 57  
**Impleta** 968, 984

## Subject Index

- implications for prioritizing stream barrier removal 1469  
 implications for recovery of rangelands 815  
 implications of role as habitat in lakes 1861  
 implications of seasonal use of canopy gaps 1260  
 importance 1513  
 importance and ecological functions of woody detritus in boreal forests 1167  
 importance assessment 2254  
 important species changes 630  
 impoundments 1739, 1746, 1766, 1767, 1841, 2257  
 impoundments: habitat 1627  
 improvement 191  
 in-stream habitat improvement 1553  
 in stream restoration 1522  
 in vitro digestibility 638  
 incentives 594, 911, 1997, 2258  
 incineration 1875  
 incorporation 1933  
 increment 1277  
 index method 568, 906, 1515  
 Index of abundance 2199  
 index of biotic integrity 305, 1369, 1372, 1428, 1429, 1565, 2046  
 Indian Pine Natural Resources Area 2097  
 Indiana 224, 365, 477, 544, 1383, 1392, 1985, 2097  
 Indiana and Wisconsin 477  
 Indiana bat 1208  
 Indiana, South Bend, Juday Creek 1468  
 indicator bacteria 1396  
 indicator organism 1061  
 indicator species 294, 1596, 1665, 1759, 1811, 2171, 2224  
 indicator taxa 2034  
 indicators 580, 820, 1142, 1192, 1509, 1772, 1863, 1988  
 indigenous population 509  
 indigenous species 2257  
 indigo bunting 1233  
 Indigofera 968, 984, 1189  
 indirect competition 437  
 indirect pesticide effects 959  
 individual-based model 1957  
 individual tree selection silviculture 1344  
 industrial forestry 844, 1143  
 industrial sites 2224  
 INE, Canada, British Columbia, Georgia Basin 1892  
 INE, Washington, Everett 1892  
 INE, Washington, Puget Sound 1892  
 INE, Washington, Snohomish Estuary, Union Slough 1892  
 information exchange 2135  
 information systems 1533, 2135  
 information-theoretic model choice 402  
 information theory 1224  
 Infrared camera 1232  
 inhibition 2156  
 initial responses 1765  
 initial responses to overstory reduction and slash mulching treatment 1114  
 initial responses to salt marsh restoration 1765  
 initiation date 2231  
 injury 466  
 inland water environment 1890  
 innovative state 1856  
 insect 590, 621, 623, 1008, 1532, 2035  
 insect abundance 422, 1205  
 insect biomass 95, 1003  
 insect communities 621, 1162, 1675  
 insect community ecology 931  
 Insect conservation 183, 344  
 insect control 753, 789, 863, 1300, 1399  
 insect ecology 1076  
 insect pests 20, 753, 898, 1334, 2152  
 insect responses 628  
 Insecta 15, 110, 320, 365, 399, 408, 412, 448, 450, 461, 477, 504, 581, 621, 637, 738, 777, 782, 938, 965, 986, 1091, 1092, 1137, 1302, 1449, 1484, 1532, 1794, 1882, 2136, 2225  
 Insecta: biological control 145  
 Insecta, Coleoptera, Adephaga, Caraboidea 156, 271, 394, 914, 1228, 2106  
 Insecta, Coleoptera, Adephaga, Caraboidea, Carabidae 262  
 Insecta: conservation 365  
 Insecta: habitat management 477, 581, 1040, 1091  
 Insecta, Hymenoptera, Apocrita, Aculeata, Apoidea, Apidae 127, 2271  
 Insecta, Hymenoptera, Apocrita, Aculeata, Apoidea, Megachilidae 254  
 Insecta, Hymenoptera, Apocrita, Aculeata, Formicoidea 488, 1026  
 Insecta, Lepidoptera 760  
 Insecta, Lepidoptera, Glossata, Heteroneura 503, 513, 516, 1114  
 Insecta, Lepidoptera, Glossata, Heteroneura, Bombycoidea, Saturniidae 1145, 1678  
 Insecta, Lepidoptera, Glossata, Heteroneura, Noctuoidea, Noctuidae 304  
 Insecta, Lepidoptera, Glossata, Heteroneura, Papilionoidea, Lycaenidae 567  
 Insecta, Lepidoptera, Glossata, Heteroneura, Papilionoidea, Nymphalidae 786  
 Insecta, Odonata 2174  
 Insecta, Orthoptera, Saltatoria 415  
 Insecta: pollination 986  
 insecticides 115, 1812, 1813, 1943, 1994  
 Insectivora 852, 2114  
 Insectivora, Mammalia 1932  
 insectivores 74, 459, 852, 1008, 1024, 1269, 1297, 2114  
 insectivorous birds 1033  
 insectivory 15, 1033  
 insects 110, 127, 144, 145, 156, 167, 211, 242, 254, 262, 271, 301, 304, 320, 365, 388, 394, 412, 415, 448, 477, 488, 503, 513, 516, 567, 581, 637, 736, 738, 760, 777, 782, 786, 846, 894, 898, 914, 965, 986, 1026, 1040, 1067, 1077, 1091, 1092, 1103, 1114, 1137, 1145, 1228, 1413, 1449, 1669, 1675, 1678, 1886, 1944, 2051, 2106, 2136, 2152, 2174, 2241, 2271  
 insert cavity 1112  
 Insertae and Sedis 1374  
 inshore transects: survey method 1645  
 instream flow 1488  
 instream habitat 1430, 1454  
 instream habitat and physical conditions 1513  
 instream large woody debris 1520  
 instream structures 1381  
 Integer programming 1990, 2238  
 integrated approach 1766, 1767  
 integrated assessment 1966  
 integrated habitat based landscape management 1922  
 integrated management 2285  
 integrated pest management 84, 1788, 2024, 2171  
 integrated restoration approach 1461  
 intense browsing 2139  
 intensity gradient 1130  
 intensive agriculture 27, 1974  
 intensive fire suppression 995  
 Intensive forest management 1242  
 intensive forestry 1280  
 intensive livestock farming 575  
 intensive silviculture 1251  
 intensively grazed dairy pastures 738  
 intensively grazed pastures 738  
 intensively managed pine landscape 1110  
 intensively managed pine stands 1034  
 interacting disturbances 366  
 interactions 425, 1675  
 interagency cooperation 1460  
 intercolony differences 1645  
 intercropping 5, 172  
 intercrops 176  
 Interior Columbia Basin 659, 685, 2099, 2239

- Interior Columbia Basin Ecosystem Management Project** 2239  
**Interior Flatwoods Resource Area** 1034, 1258  
**interior highlands** 1880  
**Interior Northwest Landscape Analysis System (INLAS)** 1159  
**interior transects** 1247  
**Interlachen Karstic Highland** 488  
**intermediate forest stand thinning** 1065  
**intermediate wheatgrass** 92  
**intermittent streams** 1452  
**internal decay** 847  
**International Center for the Preservation of Wild Animals** 689  
**interseasonal variation** 1119  
**intersite differences** 907  
**intersite variability** 790  
**interspecies relationships** 324, 377, 443, 493, 535, 548, 662, 709, 773, 948, 1965, 1968, 2139  
**interspecies relationships or intraspecies relationships** 948  
**interspecific competition** 678  
**interspecific differences** 1770  
**interspecific interaction** 865  
**interspecific relationships** 699, 729, 1463  
**intertidal areas** 1607, 1798  
**intertidal environment** 1798  
**intertidal zone** 2228  
**intertidal zone elevations** 1702  
**intraguild predation** 931  
**intraspecies relationships** 366, 755, 1155, 1965, 2139  
**introduced species** 20, 236, 1384, 1429, 1512, 1681, 1823, 1875, 1890  
**invasive species** 205, 1780, 1831, 2275  
**Invertebrata** 407, 450, 461, 504, 625, 1153, 1245, 1378, 1454, 1569, 1581, 1597, 1614, 1641, 1669, 1688, 1758, 1759, 1764, 1771, 1772, 1774, 1784, 1793, 1807, 1839, 1847, 1848, 1866, 1883, 1885, 1887, 1917, 1918, 2178  
**Invertebrata, Animalia** 1485  
**Invertebrata: biomass** 473  
**Invertebrata: forestry** 1889, 2104  
**Invertebrata: habitat management** 1133, 2072  
**Invertebrata: population density** 1034  
**invertebrate** 294, 404, 615, 966, 1003, 1378, 1451, 1773, 1839, 1886  
**invertebrate abundance** 1900  
**invertebrate biomass** 257, 615, 625  
**invertebrate conservation** 616  
**invertebrate diversity** 616  
**invertebrates** 5, 78, 79, 110, 127, 145, 156, 167, 180, 201, 207, 211, 219, 235, 242, 245, 254, 262, 271, 275, 301, 304, 320, 327, 356, 365, 394, 407, 412, 415, 448, 449, 467, 473, 477, 488, 489, 503, 513, 515, 516, 567, 581, 614, 637, 646, 736, 738, 754, 760, 777, 782, 786, 846, 894, 914, 965, 986, 1022, 1026, 1034, 1040, 1067, 1075, 1077, 1091, 1092, 1098, 1114, 1133, 1137, 1145, 1153, 1228, 1250, 1267, 1351, 1375, 1397, 1411, 1451, 1462, 1465, 1486, 1507, 1514, 1524, 1546, 1597, 1614, 1633, 1640, 1658, 1672, 1678, 1688, 1707, 1709, 1721, 1747, 1758, 1759, 1764, 1771, 1772, 1773, 1800, 1819, 1827, 1839, 1847, 1885, 1886, 1889, 1908, 1917, 1918, 2051, 2072, 2104, 2106, 2136, 2174, 2241, 2243, 2271  
**invertebrates [physiology]** 1395  
**Iowa** 4, 73, 77, 93, 139, 226, 241, 261, 293, 306, 330, 355, 394, 513, 695, 731, 760, 782, 1238, 1514, 1626, 1729, 1763, 1786, 1821, 1957, 2210  
**Iowa and Lafayette Counties** 670  
**Iowa, Big Spring** 1415  
**Iowa County** 355  
**Iowa watersheds** 1954  
**irradiance** 1820  
**irreversible transition** 1925  
**irrigation** 1444, 1459, 1744, 1819, 2011, 2014, 2015  
**irrigation and drainage** 1487  
**irrigation canals** 1538  
**irrigation districts** 1717  
**irrigation effects** 1744, 2013  
**Irrigation farming---West---United States** 1417  
**irrigation practices** 1744  
**irrigation reservoir** 2064  
**irrigation system** 2064  
**irrigation water** 147, 1893  
**Irvine** 1612  
**Ischnura verticalis: Alberta** 2174  
**island biogeography** 1598  
**islands** 323, 348, 1958  
**isolated and integrated prairie reconstructions** 513  
**isolated habitats** 1541  
**isolated wetland** 2207  
**isolated wetland taxa responses** 2207  
**isolation** 695  
**Isopoda** 1597  
**isotope fractionation** 1777  
**Issaquena County** 857, 1077  
**IVDOM** 510  
**IWEBP** 155  
**Ixoreus naevius** 1224  
**J. Clark Salyer National Wildlife Refuge** 801  
**jack pine** 974, 1196  
**jack pine plantations** 1267  
**Jackson County** 807, 1213, 1293  
**Jasper County** 165, 1261  
**Jasper County, Mississippi** 902  
**Jasper County, Walnut Creek Watershed** 306  
**Jefferson County** 584  
**Joaquin kit foxes** 2103  
**joint venture** 1177  
**Juglans** 1971  
**jumping mouse** 852  
**Junco hyemalis** 446, 884, 895, 1235, 1937  
**Juncus effusus** 1759  
**june bug** 528  
**juniper** 214, 391, 773  
**Juniperus** 734, 2081  
**Juniperus communis** 555  
**Juniperus monosperma** 734  
**Juniperus monosperma (Engelm.) Sarg.** 734  
**Juniperus osteosperma** 935  
**Juniperus spp** 316, 745  
**Juniperus virginiana** 664, 802, 2120  
**juvenile dispersal from prairie island within agricultural landscape** 2142  
**juvenile fish** 1430  
**juvenile salmon** 2228  
**juveniles** 1436, 1452, 2073, 1557  
**Kaibab Plateau** 1344  
**Kansas** 14, 80, 97, 104, 112, 125, 192, 202, 239, 249, 275, 279, 291, 366, 399, 413, 414, 426, 428, 440, 525, 584, 599, 615, 625, 644, 646, 651, 754, 766, 786, 794, 946, 1708, 1726, 2101  
**Kansas and Nebraska** 754  
**Kansas Army Ammunition Plant** 766  
**Kansas Conservation Reserve Program** 257  
**Kansas: Geary County** 767  
**Kansas: Osborne County** 2130  
**Kansas: Riley County** 767  
**Kansas: Russell County** 2130  
**Kansas: Smith County** 2130  
**karsted upper watershed** 1516  
**Katharine Ordway Preserve** 488  
**Kearny and Hamilton Counties** 414  
**Keetch-Byram drought index** 749  
**Kelowna** 1184  
**Kemper County** 1034, 1258, 1279  
**Kentucky** 1148, 2119  
**Kentucky bluegrass** 2141  
**Kentucky warbler** 993, 2244  
**Kern County** 322  
**Kern National Wildlife Refuge** 1744  
**kernel ranges** 2053  
**Kesterson Reservoir** 1870, 2212  
**keystone species** 29, 1192, 1245, 1749  
**keystone species distribution** 661  
**kidneys** 948  
**killdeer** 469, 1784, 1872, 1874, 1900



Subject Index

- killifish 1719  
**King Ranch** 500  
**Kingsbury County** 238, 739  
**Kirtland's warbler** 974  
**Kissimmee River** 1949  
**Klamath National Park** 941  
**Klamath River Basin** 196  
**Know County** 98  
**known fate models** 1630  
**Knox and Clark Counties** 2071  
**Knox County** 55, 136, 274  
**Konza Prairie** 399, 525, 754, 814  
**Konza Prairie Biological Station**  
 366, 428, 599, 646  
**La Crosse County** 1367  
**La Foret Montmorency** 2255  
**La Grande** 1266  
**Labette County** 766  
**laboratory conditions** 577  
**Labrador** 889, 980  
**Labrador, Churchill Falls** 980  
**Lac Saint-Jean area** 844  
**ladder-backed woodpecker** 804  
**Lagomorpha** 373, 981, 1199, 1361,  
 2266  
**lagomorphs** 265, 289, 1104, 2265  
**Laguna Atascosa National Wildlife  
 Refuge** 1768  
**Lake County** 238, 739  
**lake drainage** 1833  
**Lake Latonka** 1546  
**Lake Mead** 2092  
**lake reclamation** 1852  
**lake recolonization** 1833  
**lake restoration** 1833, 1852  
**lakes** 1118, 1328, 1374, 1471,  
 1548, 1597, 1677, 1684, 1779, 1861,  
 1893, 1987, 2112, 2115, 2208, 2233  
**Lampropeltis calligaster** 792  
**land** 266, 1705  
**land acquisition** 1997  
**land and freshwater zones** 25, 78,  
 86, 109, 136, 174, 184, 211, 242,  
 301, 341, 363, 365, 380, 389, 395,  
 412, 447, 477, 489, 500, 534, 547,  
 599, 603, 630, 632, 633, 636, 659,  
 667, 670, 672, 673, 678, 685, 735,  
 736, 738, 765, 777, 803, 823, 828,  
 857, 961, 965, 971, 992, 997, 1013,  
 1019, 1022, 1053, 1077, 1090, 1127,  
 1183, 1267, 1275, 1308, 1322, 1332,  
 1333, 1345, 1426, 1489, 1520, 1601,  
 1781, 1789, 1885, 1932, 1948, 2009,  
 2043, 2051, 2060, 2099, 2101, 2110,  
 2219, 2227, 2235, 2241, 2255, 2270  
**land areas** 155  
**land banks** 157, 159  
**land classification** 2146  
**land clearing** 2116  
**land conservation** 57, 1796  
**land conversion** 1922  
**land cover** 123, 1122, 1521, 1542  
**land development, land reform, and  
 utilization (macroeconomics)** 55,  
 97, 195, 279, 291  
**land diversion** 147, 149, 195, 234,  
 268, 284, 2070  
**land management** 44, 64, 126, 118,  
 224, 279, 294, 299, 561, 610, 755,  
 878, 1012, 1211, 1298, 1377, 1472,  
 1665, 1705, 1837, 1845, 1874, 2046,  
 2062, 2070, 2229, 2250  
**land management practice** 22  
**land, military** 794  
**land owners role** 1299  
**land ownership** 57, 1787, 1810  
**land policy** 259, 2070  
**land pollution** 2212  
**land, private** 62, 141, 175, 203,  
 238, 255, 881, 1997  
**land, public** 1997  
**land reclamation** 1705, 1722, 1816,  
 1837, 1924, 2212  
**land resources** 409, 651, 1392,  
 1593, 2016  
**land restoration** 731, 1665, 1705  
**land retirement programs** 191,  
 2111  
**land stewardship** 2003  
**land tenure** 613  
**land trusts** 1881  
**land type** 868  
**land use** 4, 34, 44, 47, 57, 125, 158,  
 162, 175, 177, 188, 190, 195, 234,  
 267, 281, 291, 346, 390, 454, 462,  
 493, 499, 537, 564, 613, 617, 663,  
 664, 729, 773, 796, 840, 921, 976,  
 1012, 1043, 1048, 1052, 1165, 1370,  
 1411, 1438, 1447, 1454, 1464, 1467,  
 1468, 1472, 1477, 1506, 1516, 1519,  
 1521, 1531, 1543, 1569, 1575, 1580,  
 1586, 1589, 1591, 1593, 1650, 1651,  
 1665, 1679, 1705, 1749, 1758, 1759,  
 1762, 1785, 1805, 1830, 1834, 1840,  
 1851, 1852, 1856, 1859, 1881, 1918,  
 1924, 1933, 1940, 1946, 1989, 1993,  
 1997, 2016, 2036, 2046, 2070, 2090,  
 2137, 2138, 2143, 2144, 2146, 2161,  
 2177, 2199, 2271  
**land use change** 67, 178, 289, 326,  
 346, 775, 778, 1209, 1805, 1957,  
 1987, 1988, 2047, 2175  
**land use effect on shallow lake  
 community structure** 1779  
**land use gradient** 1820, 2209  
**land use management** 2046  
**land use planning** 178, 1462, 1946  
**land use practices** 656  
**land-use variables** 2199  
**land zones** 19, 30, 41, 68, 69, 82,  
 93, 124, 127, 135, 148, 156, 167,  
 179, 207, 219, 223, 245, 254, 262,  
 271, 272, 278, 289, 292, 293, 295,  
 302, 304, 306, 307, 313, 320, 330,  
 338, 351, 355, 357, 366, 394, 396,  
 397, 405, 407, 414, 415, 416, 428,  
 430, 448, 449, 459, 473, 476, 481,  
 488, 503, 513, 516, 521, 531, 555,  
 556, 567, 570, 573, 581, 584, 589,  
 597, 605, 608, 610, 626, 637, 646,  
 654, 656, 666, 669, 676, 684, 689,  
 692, 711, 715, 716, 724, 733, 737,  
 742, 751, 752, 754, 755, 758, 760,  
 766, 782, 786, 787, 797, 801, 804,  
 812, 813, 815, 816, 830, 833, 843,  
 844, 846, 859, 862, 874, 876, 877,  
 878, 879, 880, 895, 901, 903, 909,  
 912, 914, 916, 918, 924, 925, 930,  
 932, 937, 940, 941, 948, 950, 952,  
 954, 957, 958, 980, 981, 983, 985,  
 986, 993, 994, 995, 1000, 1002,  
 1017, 1021, 1026, 1028, 1032, 1034,  
 1037, 1038, 1039, 1040, 1042, 1046,  
 1055, 1065, 1067, 1068, 1075, 1079,  
 1084, 1085, 1087, 1088, 1091, 1092,  
 1110, 1113, 1114, 1116, 1122, 1123,  
 1133, 1136, 1137, 1145, 1146, 1150,  
 1157, 1158, 1161, 1164, 1166, 1179,  
 1180, 1181, 1184, 1185, 1191, 1192,  
 1198, 1199, 1202, 1205, 1206, 1212,  
 1213, 1219, 1221, 1222, 1224, 1225,  
 1228, 1233, 1236, 1247, 1248, 1249,  
 1250, 1254, 1256, 1258, 1259, 1260,  
 1261, 1262, 1264, 1266, 1268, 1269,  
 1270, 1272, 1273, 1279, 1282, 1286,  
 1293, 1294, 1299, 1301, 1303, 1305,  
 1306, 1309, 1319, 1320, 1323, 1331,  
 1336, 1338, 1344, 1347, 1349, 1356,  
 1361, 1363, 1367, 1368, 1375, 1383,  
 1397, 1403, 1420, 1452, 1458, 1462,  
 1465, 1469, 1474, 1486, 1490, 1502,  
 1504, 1508, 1513, 1514, 1517, 1524,  
 1537, 1538, 1540, 1544, 1546, 1562,  
 1574, 1579, 1610, 1611, 1612, 1677,  
 1678, 1684, 1690, 1699, 1709, 1725,  
 1747, 1779, 1861, 1884, 1889, 1917,  
 1938, 1949, 1959, 1965, 1977, 1978,  
 1980, 1985, 1993, 2023, 2033, 2039,  
 2050, 2054, 2058, 2059, 2064, 2066,  
 2071, 2072, 2076, 2080, 2091, 2104,  
 2106, 2114, 2119, 2129, 2131, 2139,  
 2140, 2142, 2172, 2174, 2189, 2196,  
 2198, 2200, 2202, 2203, 2214, 2215,  
 2218, 2254, 2271, 2272, 2284, 2285  
**landbird communities** 1119  
**landbirds** 726, 1599, 1999  
**landform evolution** 2092  
**landform management** 775  
**landforms** 1102, 1142, 1312, 1495,  
 1787  
**LANDIS** 1160, 1276  
**landowner** 1780,  
**landowner assistance program  
 effectiveness** 919  
**landowner outreach** 1440  
**landowner perception** 798  
**landowners** 34, 62, 90, 203, 228,  
 1255, 1780, 1956, 1975, 1997, 2145,  
 2152, 2277  
**LANDSAT** 663  
**LANDSAT thematic mapper** 1987,  
 2146  
**LANDSAT TM imagery data** 2047  
**landscape** 36, 123, 140, 251, 410,  
 522, 617, 621, 682, 695, 772, 839,  
 856, 900, 1059, 1102, 1122, 1125,  
 1126, 1142, 1160, 1189, 1192, 1211,

- landscape (contd.)** 1451, 1542, 1593, 1621, 1712, 1782, 1783, 1785, 1786, 1956, 1962, 1989, 2090, 2092, 2121, 2143, 2148, 2168, 2177, 2201, 2205, 2278  
**landscape analysis** 2239  
**landscape change** 664, 1144, 1329, 1878, 1954, 1957  
**landscape characteristics** 402, 1467, 1588  
**landscape characterization** 374  
**landscape composition** 93, 537, 618, 683, 1102, 1122, 1274, 2123  
**landscape composition: influence** 173  
**landscape condition** 2161  
**landscape configuration** 1274  
**landscape connectivity** 374, 917  
**landscape context** 32, 1621  
**landscape delineation** 2146  
**landscape dynamics** 247, 664  
**landscape ecology** 408, 616, 621, 1186, 1462, 1533, 1598, 1784, 1898, 1957, 1967, 1984, 1987, 2035, 2143, 2146, 2149, 2152, 2195, 2197, 2239  
**landscape effects** 530, 1122  
**landscape experiment study** 916  
**landscape factors** 1247  
**landscape features** 2197  
**landscape fragmentation** 1729, 2195  
**landscape heterogeneity** 1142  
**landscape level experiment** 916  
**landscape level management** 1053  
**landscape management** 52, 584, 1150, 2105, 2157, 2163, 2234, 2251  
**landscape matrix** 1934  
**landscape metrics** 266  
**landscape model** 1348  
**landscape modification** 371  
**landscape pattern** 391, 1122, 1160  
**landscape planning** 817  
**landscape scale** 1767, 2000  
**landscape-scale assessments** 873  
**landscape-scale farming practices** 128  
**landscape setting** 1831  
**landscape spatial scale** 1287  
**landscape structure** 174, 400, 618, 629, 664, 723, 763, 1062, 1102, 1162, 1211, 2022, 2197  
**landscape survey** 1781  
**landscape types** 2047  
**landslides** 1211, 1495  
**Laniidae** 2105  
**Lanius ludovicianus** 568, 763, 2105  
**lapland longspur (Passeriformes)** 13  
**large fish communities** 1877  
**large scale ecological research project** 941  
**large scale forage conservation** 1750  
**large scale forest management** 1127  
**large woody debris [LWD]** 1437, 1472, 1485, 1552  
**largemouth bass** 1842  
**Larix spp.** 1042, 1290  
**lark bunting** 95  
**larvae** 1491, 1845  
**Las Palomas Wildlife Management Area** 1013  
**Lasionycteris noctivagans** 967, 1037, 1336  
**Lasionycteris seminolus** 967  
**Lasiurus borealis** 967, 1036, 1182  
**late season grazing: avian response** 318  
**late-seral forests** 1138  
**late successional forest habitat** 2195  
**latitude** 741  
**latitudinal gradient** 713  
**Lauderdale and Shelby Counties** 1319  
**Laurentian Mountains** 2255  
**law** 1928  
**law, policy, economics and social sciences** 1785  
**laws and regulations** 1652  
**laws-law enforcement** 1997  
**laws, legislation and regulations** 199  
**Lawson aerator** 554  
**LDI, laboratory techniques** 1473  
**Le Conte's sparrow** 563  
**leaching** 2212  
**leaf chewing communities** 1092  
**leaf litter** 1128  
**leaf litter arthropods** 1029  
**leaf morphology** 1033  
**leaf retention** 1522  
**leafhoppers** 2035  
**leasing** 2248  
**least desired index** 1473  
**Lee County** 489  
**legislation** 149, 1391, 1590, 1654, 1817, 1928, 1933, 1984  
**legumes** 259  
**Leiopelmatidae** 1163, 2249  
**Leiostomus xanthurus** 1778  
**leisure and sport** 1538  
**lek** 617, 718  
**lek behavior** 203  
**Lemna** 2056  
**lentic environment** 1811, 2257  
**lentic systems** 1535  
**lentic water** 473, 1677, 1684, 1779, 1861, 1917, 2064  
**Leon County** 272  
**leopard frog** 1662  
**Lepidoptera** 343, 504, 590, 621, 731, 894, 959, 960, 1162  
**Lepidoptera: forestry** 1092  
**Lepidoptera: habitat management** 320, 782  
**lepidopterans** 304, 320, 503, 513, 516, 567, 736, 760, 782, 786, 1092, 1114, 1145, 1678, 2051  
**Lepidosauria** 428, 481  
**Leporidae** 373, 981, 1199, 1361, 1945  
**Lepus** 1100, 1104  
**Lepus americanus** 893, 981, 982, 1100, 1104, 1107, 1140, 1199, 1361  
**Lepus californicus** 166, 265, 373  
**Lepus spp. [hare] (Leporidae): bioindicator** 2265  
**Lepus townsendii** 166, 289  
**lesser prairie chicken** 130, 192, 615, 625, 664, 694  
**lesser snow geese** 1785, 1880  
**lethal effects** 1539, 2134  
**Leucosticte atrata** 956  
**Lewis' woodpecker** 1217  
**Liatris** 504  
**Liatris scariosa** 504  
**life cycle** 473, 503, 736, 789, 1297, 1681, 1845, 2222  
**life cycle and development** 503, 736, 1034, 1706  
**life history** 736, 1532, 1598  
**life history attributes** 503  
**life span** 1615  
**light attenuation** 1820  
**light grazing regime** 354  
**light limitation** 1820  
**light saturation** 1820  
**Limnodromus scolopaceus** 1915  
**limnology** 1827  
**Limnothlypis swainsonii** 993, 1066, 1072, 1324  
**Limosa fedoa** 141  
**Line Creek Plateau** 758  
**line transect** 1995  
**linear elements** 629  
**linear habitat** 2102  
**Linn County** 55, 98, 136, 274, 515  
**Linyphiidae** 356  
**lipid** 1714  
**Liquidambar styraciflua** 1277  
**Liriodendron tulipifera** 933  
**LISREL algorithm** 621  
**Lissamphibia** 473, 833, 903, 957, 958, 1000, 1163, 1978, 2059, 2066, 2249  
**Lissamphibia, Amphibia** 961  
**Lithocarpus densifloris** 1086  
**Litopenaeus setiferus** 1798  
**Litopenaeus setiferus: habitat management** 1721  
**litter** 712, 904, 1105, 1875  
**litter accumulation** 577  
**litter biomass** 432  
**litter habitat** 846, 1133  
**little brown bat** 1182  
**Little Missouri National Grassland** 1747  
**Little Snake River** 1374  
**littoral environment** 1662  
**littoral zone** 1929

Subject Index

- live trapping: monitoring method** 435
- livestock** 20, 96, 206, 345, 377, 378, 384, 398, 421, 425, 427, 443, 463, 470, 471, 474, 494, 498, 499, 502, 514, 515, 518, 579, 585, 586, 592, 595, 600, 631, 634, 636, 640, 650, 658, 691, 697, 699, 709, 714, 720, 725, 729, 734, 756, 773, 783, 824, 947, 1168, 1188, 1350, 1379, 1408, 1475, 1476, 1477, 1500, 1551, 1554, 1559, 1563, 1759, 1823, 1943, 2141, 2152, 2252, 2275
- livestock conflicts management** 179
- livestock depredation** 2285
- livestock exclosures** 475, 727, 2219
- livestock farming** 639
- livestock grazing** 322, 334, 341, 388, 408, 447, 472, 473, 532, 560, 579, 607, 613, 630, 633, 637, 643, 719, 773, 777, 793, 899, 1398, 1426, 1602, 2039, 2048, 2110
- livestock grazing effects** 653, 975
- livestock grazing exclusion** 632
- livestock grazing intensity** 1637
- livestock grazing management** 1478
- livestock grazing: plant community structure, soil health, soil quality** 354
- livestock grazing regime** 314
- livestock grazing systems** 673
- livestock impacts on herbaceous components of sagebrush habitat** 641
- livestock management** 385
- livestock nutrition** 908
- livestock trampling of burrows** 1980
- livestock troughs** 2267
- livestock water developments** 2267
- lizards** 421
- loading** 1539
- loam soil** 1065
- loblolly pine** 934, 1035, 1132, 1205, 1215, 1278, 1330
- loblolly pine plantations** 223
- local decision makers** 390
- local diversity** 1485
- local knowledge** 374
- localized flooding** 1897
- locomotion** 1684
- lodge occupancy** 2080
- lodgepole chipmunk** 988
- lodgepole pine** 1100, 1138, 1139, 1140, 1184
- log drives** 1522
- Logan County** 765
- logged forest** 830
- loggerhead shrike** 1192, 2105
- logging** 830, 866, 874, 917, 933, 993, 1037, 1076, 1184, 1200, 1402, 1414, 1486, 1527, 1568, 1596, 1676, 1764, 1955, 2116
- logging activity** 1067
- logging effects** 1486, 1527
- logging (forestry)** 905
- logging of riparian buffer zones** 1504
- logging residue pile use** 1320
- logging roads** 1210
- logging slash** 734
- logging (timber)** 998, 1064, 1189
- logistic exposure** 543
- logistic regression** 214, 627, 680, 1073, 1783
- logs** 1245, 1392, 2159
- Lomatium canbyi** 609
- Lomatium nevadense** 609
- Lomatium watsonii** 609
- Long and Hotophia Creeks** 684
- long-billed curlew** 457, 1737
- long-billed dowitcher** 1915
- long range time** 190
- long-tailed shrew** 852
- long-term changes** 412, 1665, 1764
- long term conservation** 975
- long term experiments** 740
- long term forest management plan** 1345
- long term impact of even aged timber management** 1136
- long term impact on abundance and body condition** 1136
- long-term records** 1651
- long term recovery** 1637
- long term research projects** 1184, 1294
- long term response to changes in wetlands and agriculture** 1789
- long-term study** 399
- long term trends** 420
- long term viability plans** 1308
- longleaf pine** 368, 451, 1058, 1082, 1115, 1169, 1197, 1205, 1978, 2126
- longleaf pine ecosystem** 2128
- Lonicera japonica** 1731
- Lophodytes cucullatus: habitat management** 1917
- Los Tuxtlas** 24, 2021, 2188
- loss of birds** 1986
- loss of habitat** 279, 839, 913, 2200
- loss on ignition** 103
- losses** 191, 234
- losses from soil** 1558
- Lostwood National Wildlife Refuge** 454
- lotic environment** 1378, 2257
- lotic water** 473, 1375, 1383, 1397, 1403, 1420, 1452, 1462, 1465, 1474, 1486, 1489, 1490, 1504, 1508, 1513, 1514, 1517, 1520, 1524, 1537, 1540, 1546, 1562, 1725, 2058, 2129, 2202, 2215, 2218, 2254, 2272
- Louisiana** 211, 383, 486, 574, 778, 857, 925, 934, 993, 1007, 1072, 1078, 1148, 1323, 1610, 1624, 1692, 1693, 1739, 1797, 1798, 1822, 1839, 1841, 1939, 2170
- Louisiana and Mississippi** 857
- low biodiversity** 1885
- low density populations** 777
- low gradient streams** 1485
- low-impact silviculture** 999
- low input agriculture** 1616
- low shrub** 547
- low temperature effects** 1416
- low-tillage** 166
- Lower Coastal Plain** 1110, 1264
- Lower Flint River System** 862
- Lower Mississippi Alluvial Valley** 928
- Lower Rio Grande Valley** 1249
- Lower San Joaquin River map** 1405
- lowland forests** 1074, 1596, 1945, 2016, 2040
- lowlands** 576, 824, 1609, 1768, 2031, 2113
- Lowndes County** 148
- Lucas** 293
- lumber** 1160
- lumber harvesting** 907
- Lumbricidae** 79
- Lumbricus** 79
- Lumbricus rubellus** 79
- Lumbricus terrestris** 158
- Lupinus sulphureus kincaidii** 736
- Luxapallila Creek** 1427
- Lycaeides melissa samuelis: habitat management** 567
- Lycaenidae** 612, 736
- Lymantria** 959
- Lymantria dispar** 959, 972
- Lymantriidae** 959
- lynx** 893
- Lynx canadensis** 893, 1159, 1199, 1361
- Lynx lynx** 893
- Lyon County** 2101
- Lythrum salicaria** 2056
- Mackinac County** 879
- Macon County** 55, 98, 136, 274
- macro ecology** 2197
- macrofauna** 1482, 1598, 1669, 1793, 1794, 1883, 1908, 1918
- macrohabitat** 1287
- Macroinvertebrata** 1514, 1546, 1825, 2222
- Macroinvertebrata: community structure** 1465
- Macroinvertebrata: disturbance by man** 1747
- Macroinvertebrata: farming and agriculture** 646, 1375
- Macroinvertebrata: food webs** 1397
- Macroinvertebrata: forestry** 1486
- Macroinvertebrata: habitat management** 1462, 1524
- macroinvertebrate abundance** 1471

- macroinvertebrate communities** 1414  
**macroinvertebrate (Invertebrata): common, clinger, sprawler, swimmer** 1485  
**macroinvertebrates** 294, 769, 966, 1128, 1328, 1380, 1407, 1411, 1451, 1471, 1483, 1484, 1487, 1507, 1567, 1597, 1647, 1694, 1759, 1790, 1882, 1883  
**macrophytes** 1827  
**Maculinea teleius** 612  
**Madden Creek** 1550  
**Madison Parish** 857  
**MADM** 2221  
**Madrean evergreen woodland** 1188  
**Magnolia** 933  
**Maine** 254, 893, 958, 1361, 1690, 1757  
**Maine, northern region** 982  
**maintenance** 1772, 2153  
**Malacosoma disstria** 1162  
**male** 878, 954  
**mallard** 45, 218, 251, 276, 362, 1442, 1630, 1666, 1744, 1753, 1899, 1927, 1947, 2001, 2073, 2133, 2162, 2231  
**Malus** 189  
**Malus x domestica** 2181  
**mammal (Mammalia): pest** 2275  
**Mammalia** 182, 220, 288, 295, 361, 373, 380, 389, 395, 399, 447, 476, 500, 525, 591, 599, 630, 632, 678, 711, 724, 737, 765, 766, 815, 832, 839, 938, 940, 953, 1100, 1191, 1192, 1198, 1207, 1245, 1249, 1270, 1272, 1280, 1282, 1286, 1297, 1303, 1971, 2009, 2114, 2181, 2188, 2255  
**Mammalia, Artiodactyla, Bovidae** 1262  
**Mammalia, Artiodactyla, Cervidae** 1164, 1202, 2165  
**Mammalia, Carnivora, Canidae** 179  
**Mammalia, Carnivora, Mustelidae** 1320, 1363  
**Mammalia: community structure** 765  
**Mammalia: farming and agriculture** 724, 810, 823  
**Mammalia: forestry** 930, 940, 941, 1282, 1286, 2255  
**Mammalia: habitat management** 295, 711, 766, 1270  
**Mammalia, Insectivora, Soricidae** 459, 1269  
**Mammalia, Rodentia, Muridae** 397, 689, 816, 1046, 1212, 1349  
**Mammalia, Rodentia, Sciuridae** 610, 706, 952, 1256, 2142  
**mammalian and reptilian predators** 684  
**mammalian predators** 82, 684  
**mammalian prey** 179, 1320  
**mammalian prey abundance** 1199, 1320  
**mammalian prey density and accessibility** 1361  
**mammals** 2, 74, 82, 141, 179, 218, 220, 238, 244, 288, 289, 295, 329, 332, 351, 363, 367, 376, 380, 384, 389, 390, 395, 397, 447, 459, 476, 493, 500, 507, 535, 548, 549, 599, 610, 630, 632, 635, 650, 669, 678, 684, 689, 706, 711, 724, 732, 737, 740, 764, 765, 766, 810, 813, 815, 816, 823, 839, 852, 854, 930, 939, 940, 941, 952, 982, 983, 1016, 1018, 1019, 1025, 1031, 1046, 1090, 1098, 1100, 1120, 1124, 1129, 1134, 1164, 1165, 1182, 1191, 1192, 1198, 1199, 1202, 1212, 1232, 1234, 1242, 1245, 1246, 1249, 1256, 1261, 1262, 1269, 1270, 1272, 1279, 1282, 1286, 1294, 1301, 1303, 1320, 1332, 1349, 1350, 1357, 1360, 1361, 1363, 1410, 1601, 1625, 1661, 1924, 1932, 1980, 2009, 2019, 2114, 2130, 2141, 2142, 2156, 2165, 2193, 2236, 2255, 2265, 2275  
**man-induced effects** 323, 1398, 1421, 1422, 1432, 1441, 1488, 1512, 1529, 1592, 1651, 1671, 1723, 1764, 1772, 1794, 1803, 1859, 1919, 2177, 2190, 2257  
**man-made habitat** 25, 30, 69, 78, 82, 86, 110, 127, 128, 145, 156, 167, 179, 180, 184, 185, 207, 211, 219, 242, 254, 262, 271, 272, 289, 292, 293, 330, 363, 503, 516, 521, 636, 678, 689, 724, 803, 828, 1610, 1611, 1778, 2033, 2064, 2071, 2074, 2101, 2106, 2107, 2114, 2119, 2142, 2165, 2219, 2241, 2271, 2284  
**man-made structures** 1208  
**man-made wetland** 1902  
**man made wetland site** 1668  
**managed forest habitat** 1322  
**managed forests** 978, 1122, 1233, 1288, 1302, 1315  
**managed landscape** 1233  
**managed pine landscape** 1258  
**managed pinewoods** 1110  
**managed thornscrub ecosystem** 573  
**managed timberlands** 1331  
**managed vs unmanaged marsh** 1709  
**managed wetlands** 1770  
**management** 47, 48, 55, 62, 92, 97, 119, 120, 134, 141, 153, 162, 169, 175, 187, 194, 195, 205, 227, 228, 238, 239, 253, 255, 256, 279, 291, 390, 478, 507, 546, 557, 675, 694, 875, 881, 915, 939, 976, 1025, 1043, 1044, 1048, 1050, 1129, 1169, 1232, 1240, 1241, 1290, 1303, 1309, 1310, 1318, 1357, 1366, 1371, 1385, 1386, 1396, 1423, 1425, 1446, 1479, 1529, 1533, 1555, 1633, 1634, 1687, 1727, 1814, 1821, 1853, 1910, 1975, 1997, 2057, 2112, 2122, 2149, 2187, 2193, 2210, 2226, 2233  
**management actions** 1925  
**management activities ecological impact assessment** 1342  
**management burning** 477  
**management effects on habitat utilization and nest site selection** 1185  
**management impact on soil community ecology** 1022  
**management implications** 459, 930, 1167, 1319, 1323, 1338, 2198  
**management information systems** 216  
**management method** 485, 690, 1702  
**management of woody detritus** 1167  
**management plan** 1180  
**management planning** 2186  
**management practices** 311, 712, 978, 1003, 1112, 1131, 1132, 1151, 1168, 1204, 1244, 1255, 1322, 1570, 2024  
**management priorities** 1926  
**management scheme** 571  
**management strategies effect on species diversity** 1079  
**management strategy** 905, 1868, 2112  
**management techniques** 834  
**managers** 1302, 1749  
**managing for wildlife habitat in westside production forests** 1146  
**Manistee National Forest** 863  
**Manitoba** 120, 296, 392, 1630, 1923  
**manure** 1396, 1558  
**maple** 2083  
**maple forests** 1189  
**mapping** 709, 1876  
**marbled godwit** 141  
**marbled salamanders** 2006  
**Mariana Lake region** 1179  
**marine biology** 1416, 1557  
**marine birds** 1620  
**marine crustaceans** 1798  
**marine ecology: ecology, environmental sciences** 1909  
**marine environment** 100, 1528, 1571  
**marine fishes** 1528  
**marine pollution** 1859  
**marine resources** 1837  
**marine zones** 1706, 1707, 1709, 1721, 1765, 1778  
**Marion County** 2207  
**maritime shrub** 1083  
**mark-recapture** 492, 517, 1284  
**mark-recapture method** 1326  
**markers** 2276  
**market-based conservation** 1130  
**marking** 807, 1246  
**marsh endemic** 1746

Subject Index

- marsh management 1746  
marsh monitoring program 1594  
marsh process 1822  
marsh terracing 1709  
marsh upland ecotone 2044  
marshes 579, 1591, 1620, 1628, 1649, 1650, 1658, 1692, 1695, 1697, 1698, 1723, 1736, 1748, 1793, 1797, 1798, 1804, 1806, 1807, 1822, 1841, 1892, 2036  
marshes, salt 2200  
marshland management 458  
marsupials 82  
marten 1316  
marten habitat supply 1303  
*Martes americana* 1160, 1237, 1303, 1316  
*Martes americana*: forestry 1363  
Martha's Vineyard 1145  
Maryland 127, 1464, 1565, 1617, 1629, 1731, 1943, 2254  
Maryland, Susquehanna R. 2138  
Mason County 338  
Massachusetts 480, 1145, 1503, 1832, 1838  
mast 1165, 2069, 2240  
mast yield 1165  
mastication 1029  
mate attraction 198  
mate fidelity 1268  
maternal condition 799  
maternity colony 2124  
mathematical and computer techniques 198, 1603, 2175  
mathematical biology:  
computational biology 1682  
mathematical model 1682  
mathematical models 39, 620, 663, 708, 795, 1012, 1108, 1160, 1211, 1377, 1990, 2073  
mathematics and statistics 849, 987  
mating 221, 1268  
mating grounds 125  
mating season 755  
matrix effects 517  
mature forest 1233, 1248  
mature hardwood stands 1110  
mature mixed wood forests 1294  
mature vs harvested aspen forests 1294  
mayflies 1482  
MBSS 1565  
McCurtain County 948  
McHenry County 669  
meadow mouse 1129  
meadow vole 141, 852  
meadowlark 10, 13, 17, 291, 413  
meadowlarks, blackbirds and orioles 98  
meadows 171, 569, 596, 1701, 1823, 1960, 2031, 2154  
mean annual precipitation (MAP) 2011  
meandering 1432  
meanders 1549  
measurement 1715  
measurement method 512  
mechanical and natural changes 1413, 1592, 1651, 1719, 1794, 1919  
mechanical manipulation 755  
mechanical restoration treatment 1190  
mechanical thinning 1190  
*Medicago sativa* 67, 92  
medicine 140, 155, 190, 791  
Medicine Lake National Wildlife Refuge 715  
Mediterranean-climate streams 1472  
Megadrili: farming and agriculture 207  
*Megascops asio* 1081  
*Melampsorella caryophyllacearum* 1237  
*Melanerpes* 1095  
*Melanerpes erythrocephalus* 1095  
*Melanerpes lewis* 1217  
*Melanoplus* 753  
*Melanoplus bowditchi* 753  
*Melanoplus femurrubrum* (Orthoptera): species 450  
*Melanoplus flavidus* 753  
*Melanoplus gladstoni* (Orthoptera): species 450  
*Melanoplus infantilis* (Orthoptera): species 450  
*Melanoplus sanguinipes* 789  
*Melanoplus sanguinipes* (Orthoptera): species 450  
*Melanoplus sanguinipes* (Saltatoria): farming and agriculture 777  
*Meleagris gallopavo*: habitat management 1323  
*Meleagris gallopavo* 826, 902, 1073, 1173, 1194, 1232  
*Meleagris gallopavo intermedia* 499, 501  
*Meleagris gallopavo merriami* 1194, 1362  
*Meleagris gallopavo silvestris* 258, 902, 1034, 1073, 1074, 2252  
*Meleagris gallopavo silvestris*: habitat management 1258  
*Meleagris gallopavo sylvestris* 1040, 1173  
*Melospiza georgiana* 446, 563  
*Melospiza lincolni* 558  
*Melospiza melodia* 93, 139, 317, 386, 446, 558, 884  
Mendocino County 2009  
Mendon Ponds County Park 68  
menhaden 1798  
Mephitis 141  
*Mephitis mephitis* 218, 570, 695, 2100  
Mercer County 1546  
mercury 7  
mercury-197 7  
Merriam's turkey 1362  
Merriami's kangaroo rat 322  
mesocosms 1669  
mesoscale stratification 1303  
meta-analysis 926, 1011  
meta analysis: analytical method 432  
metabolic activation 2156  
metabolism 1575, 2068, 2156  
metabolites 2156  
metamorphosis 1845  
metapopulation 1348, 1651, 2121  
metapopulation dynamics 1712  
meteorological conditions 1897  
meteorology and climatology 1760  
method 322, 1395  
methodology 593, 718, 848, 1665, 2070  
methods and instruments 2180  
methods and techniques 101, 758, 980, 993, 1473, 1833, 2105  
methyl parathion 1704  
methylation 2212  
metrics 1429, 1791  
Metzger Marsh 1816  
Mexican avifaunas 1244  
Mexican spotted owl 1207  
Mexican woodrat 1207  
Mexico 8, 24, 373, 632, 678, 1244, 1673, 1880, 2021, 2042, 2092, 2185, 2188, 2189  
Mexico: Baja California Sur 421  
mice, deer 244, 982, 1016  
mice, harvest 244  
mice, white-footed 244, 1016, 1031  
Michaux State Forest 2059  
Michigan 87, 156, 281, 863, 879, 965, 1196, 1257, 1395, 1485, 1506, 1621, 1710, 2106, 2285  
Michigan, Kalamazoo 1519  
micro-basin scale 1401  
micro-catchment 2011  
Microarthropoda: farming and agriculture 167  
Microchiroptera 1037, 1150, 1205, 1336  
microclimate 262, 577, 657, 771, 894, 949, 1532, 2216  
microclimate alteration 472  
microcosms 1827  
*Microgadus tomcod* 1384  
microhabitat 472, 658, 762, 850, 894, 933, 1210, 1214, 1252, 1287, 1350, 1555, 1557, 2170, 2195  
microhabitat association 1157  
microhabitat preference 907  
microhabitat use 435  
Microlepidoptera 504  
microorganisms 1688, 2212  
*Micropogonias undulatus*: growth rate 1706  
*Micropogonias undulatus*: habitat management 1778  
*Micropterus* 1686  
*Micropterus salmoides* 1455, 1686, 1842  
*Microtus* 584, 1099, 1283

- Microtus arvalis** 158  
**Microtus californicus** 781  
**Microtus canicaudus** 42  
**Microtus chrotorrhinus** 852  
**Microtus mexicanus** 1207  
**Microtus montanus** 1099  
**Microtus ochrogaster** 459, 584, 767  
**Microtus ochrogaster: Emigration** 397  
**Microtus oregoni** 1129  
**Microtus pennsylvanicus** 141, 459, 671, 852, 1617  
**Microtus pennsylvanicus: feeding behavior** 816  
**Microtus pennsylvanicus: habitat management** 689  
**Microtus richardsoni** 580  
**Mid America Airport** 2270  
**mid successional shrub** 2195  
**Midewin National Tallgrass Prairie** 568  
**midges** 1380, 1482, 1614, 1669, 1759, 1847  
**Midland County** 2106  
**midrotation pine management** 1279  
**midstory** 924  
**midstory control** 1065  
**midstory removal** 1962  
**Midwest** 164, 1550  
**Midwest, United States** 1956  
**midwestern United States** 856  
**migrant communities** 971  
**migrants** 636  
**migration** 881, 971, 1420, 1469, 1587, 1674, 1768, 1796, 1875, 1969, 2018, 2090, 2119, 2193  
**migration chronology** 1898  
**migration distance** 2264  
**migration ecology** 1119  
**migration routes** 2185  
**migratory birds** 1141, 1302, 1773, 1862, 1964, 2010  
**migratory population** 1980, 2010  
**migratory species** 589, 831, 1143, 1564, 1633, 1673, 1874, 2021  
**migratory staging area** 2076  
**migratory stock restoration efforts evaluation** 1420  
**migratory waterfowl** 1580  
**military lands** 2250  
**Millard County** 547  
**Mimidae** 831  
**Mimosoideae** 741  
**mine grasslands** 544  
**mine reclamation** 151, 790  
**mineral licks** 1262  
**mineralization** 2243  
**minimal effects** 1577  
**minimization of burrow trampling by livestock** 1980  
**minimum convex polygons** 152  
**minimum habitat requirements** 1489  
**minimum tillage and organic farmland** 25  
**minimum tillage and organic farms** 25  
**minimum tillage regime** 198  
**mining** 134, 1444, 1657  
**Minnesota** 10, 31, 32, 38, 61, 70, 135, 179, 218, 259, 267, 289, 340, 503, 516, 885, 909, 1116, 1367, 1389, 1485, 1511, 1513, 1517, 1529, 1539, 1579, 1593, 1650, 1665, 1670, 1722, 1743, 1846, 1861, 1927, 1968, 1977, 2262  
**Minnesota and North Dakota** 1513  
**Minnesota and Wisconsin** 1367  
**Minnesota: Fillmore County** 829  
**Minnesota, Houston County** 1579  
**Minnesota, north central** 1889  
**Minnesota River** 1511  
**Minnesota River Basin and Red River** 1513  
**Minnesota, southwestern** 169  
**Minnesota, western** 31  
**Minnesota, Winona County** 1579  
**Mississippi** 30, 148, 223, 292, 313, 386, 684, 723, 857, 864, 1022, 1034, 1036, 1063, 1065, 1073, 1074, 1077, 1148, 1258, 1261, 1278, 1279, 1304, 1359, 1427, 1584, 1595, 1618, 1704, 1904, 1912, 1962, 2054, 2105, 2252  
**Mississippi Alluvial Valley** 276, 1045, 1171, 1584, 1625, 1753, 1862, 1907, 1912, 2020  
**Mississippi: central region** 902  
**Mississippi Delta** 1713  
**Mississippi, George L.** 1834  
**Mississippi River** 7, 1874, 2016, 2116  
**Mississippi River and Basin** 1240  
**Mississippi River Valley** 1014, 1939  
**Mississippi sandhill crane** 2105  
**Missoula County** 1349  
**Missouri** 12, 55, 86, 98, 121, 131, 136, 210, 228, 244, 255, 273, 274, 481, 515, 692, 791, 984, 1016, 1020, 1088, 1091, 1092, 1123, 1134, 1150, 1270, 1355, 1508, 1887, 1945, 1975, 2068, 2069, 2071, 2244  
**Missouri and Big Sioux Rivers** 2214  
**Missouri Coteau** 402  
**Missouri: Dade County** 792  
**Missouri Ozark Forest Ecosystem Project** 1011  
**Missouri Ozarks** 882, 1011  
**Missouri River** 514, 1867  
**mist netting** 1006  
**mistletoes** 842  
**mitigation** 1577, 1587, 1597, 1639, 1712, 1931  
**mitigation banks** 1850  
**mitigation success** 1931  
**mitigation wetland** 1597, 1711, 1902, 1931  
**mixed and pine forest habitats** 983  
**mixed-conifer** 2081  
**mixed conifer forest** 901, 952  
**mixed conifer forest: habitat** 643  
**mixed-effects models** 665  
**mixed forest habitat** 1338  
**mixed forests** 741, 987, 1024, 1080, 1178, 1184, 1277, 1339  
**mixed grass prairie** 450, 608, 665, 669, 801  
**mixed grass prairie: prescribe burned** 780  
**mixed models** 402  
**mixed open pasture and mesquite stands** 570  
**mixedwood boreal forest** 869  
**Mniotilta varia** 1265, 1327  
**mobility** 374  
**model selection** 665, 1284  
**model studies** 1539, 1894, 2180  
**modeled effects and evaluation** 659, 685  
**modeling** 98, 117, 119, 196, 281, 392, 893, 902, 921, 1070, 1193, 1345, 1369, 1504, 1555, 1603, 1951, 2162, 2164  
**modeling framework** 409  
**modeling, mathematics, computer applications** 1782, 2221  
**models** 89, 140, 188, 191, 298, 410, 1296, 1304, 1380, 1715, 1782, 1804, 1829, 2092, 2221  
**models and simulations** 1303, 2200  
**models and simulations: computational biology** 1682, 2175  
**models, biological** 1533  
**models, theoretical** 817, 1303, 1600  
**modernization** 663  
**moist maritime forests** 1127  
**moist-soil** 276  
**moist-soil management** 1595, 1773, 1913, 1914  
**moist-soil management practices** 1633  
**Mojave Desert** 637  
**Mokelumne River** 1407  
**moldboard plowing** 246  
**mole salamanders** 904  
**Mollusca** 211, 449, 1483  
**mollusks** 211, 449, 1413, 1483  
**Molothrus** 845, 2108  
**Molothrus aeneus** 845  
**Molothrus ater** 93, 95, 141, 291, 341, 558, 561, 671, 773, 826, 845, 856, 870, 945, 968, 989, 1175, 1189, 1197, 1216, 1953, 1961, 2108  
**Molothrus ater (Icteridae)** 823  
**monitoring** 153, 658, 751, 752, 848, 886, 894, 955, 1098, 1176, 1246, 1381, 1413, 1439, 1491, 1553, 1556, 1573, 1633, 1700, 1719, 1755, 1780, 1805, 1844, 1845, 1863, 1894, 1997

Subject Index

- monitoring (contd.)** 2154, 2166,  
 2224, 2228, 2239, 2257, 2276  
**monitoring adaptive management  
 in coniferous forest** 1161  
**monitoring avian nest predators  
 and brood parasite among restored  
 riparian habitats** 684  
**monitoring program** 118  
**monitoring protocol** 1835  
**monoculture** 1009  
**Monroe and Wayne Counties** 293  
**Monroe County, NY** 68  
**Montana** 122, 162, 370, 393, 395,  
 398, 418, 437, 514, 520, 548, 697,  
 699, 700, 715, 722, 737, 757, 758,  
 806, 981, 1042, 1168, 1199, 1349,  
 1371, 1538, 1893, 1941  
**montane forest management** 981  
**montane forests** 981, 1074, 1265,  
 1282, 1318  
**montane habitat** 555, 1360, 1959  
**montane riparian system** 314  
**montane shrew** 1129  
**montane shrubland** 555  
**Montezuma quail** 1188  
**Monticola** 1312  
**Moody County** 739  
**moose** 909, 1106, 1303, 2095  
**moose wintering habitat supply**  
 1303  
**moraines** 1481  
**Morella cerifera** 1302  
**Morone saxatilis** 1384  
**morphology** 609, 709, 1037, 1554,  
 1719  
**Morrow County** 1980  
**mortality** 25, 221, 360, 396, 397,  
 443, 466, 481, 583, 692, 701, 709,  
 729, 789, 792, 829, 875, 959, 1063,  
 1109, 1247, 1268, 1310, 1350, 1523,  
 1539, 1836, 1893, 1980, 2064, 2103,  
 2200, 2213  
**mortality causes** 1539, 1845  
**mortality rate** 481, 692  
**Morton Arboretum** 816  
**mosquito control** 1746  
**mosquitoes** 1759, 1882  
**mosquitofish** 2212  
**mosses** 898  
**moths** 528, 1162  
**Mount Trumbull** 1046  
**mountain areas** 933, 1080  
**mountain bluebird** 876  
**mountain caribou** 1360  
**mountain forests** 620, 933, 1080,  
 1347  
**mountain grasslands** 580  
**mountain habitat** 1282  
**mountain mahogany** 2141  
**mountain plover** 130, 168, 193  
**mountain wetlands** 1959  
**mountains** 437  
**mountaintop mining** 1983  
**mourning dove** 13, 125, 373, 469,  
 804, 2244, 2252  
**mouse, house** 244  
**movement areas** 1006  
**movement patterns** 903, 1738  
**movements** 203, 424, 496, 574,  
 584, 902, 1083, 1164, 1165, 1182,  
 1310, 1365, 1373, 1442, 1732, 1915,  
 2193, 2232  
**movements during dispersal** 958  
**mowed trail effects** 479  
**mowing** 217, 480, 481, 485, 539,  
 542, 562, 569, 612, 647, 672, 746,  
 1238, 2153, 2237  
**mowing and fertilization** 646  
**mowing and fertilization effects on  
 tallgrass prairie soil communities**  
 646  
**mowing: applied and field  
 techniques** 819  
**mowing: management method** 628  
**mowing prior to summer burning**  
 692  
**mowing versus fir** 661  
**mu-basin** 1494  
**mudflats** 1757, 1934  
**Mugil cephalus** 1798  
**mulching** 5  
**mule deer** 360, 445, 549, 783, 897,  
 1106  
**mullet** 1798  
**multi disciplinary approach** 1190  
**multi-disciplinary studies** 1719  
**multifunctional** 1966  
**multimetric** 1570  
**multiple ecological consequences**  
 407  
**multiple habitat qualitative  
 sampling approach** 1485  
**multiple interactive pathways**  
 1534  
**multiple land ownership** 1461  
**multiple regression** 1820  
**multiple resource management**  
 2215  
**multiple spatial scales** 402  
**multiple use** 2044  
**multiple use of resources** 1463,  
 2186  
**multiscale analysis** 123  
**multispecies approach to wetland  
 management** 1923  
**multispecies management** 1922  
**multispecies testing** 2180  
**multivariate analysis** 189, 1380,  
 1428, 1454, 1429, 1719, 2146  
**multivariate analysis: analytical  
 method** 1724  
**municipal wastewater** 1817  
**Muridae** 584, 744, 781, 1207, 1601  
**murrelet** 2168  
**muskrats** 1806  
**mussels** 1523, 1890  
**Mustela erminea: habitat  
 management** 1320  
**mustela nivalis** 131  
**mustelid** 1237, 2100  
**Mustelidae** 570, 1042, 1303, 1980  
**Mustelinae** 1316  
**mutualism** 127, 254, 931, 986,  
 1056, 2271  
**Myadestes townsendi** 1224  
**Mycophagy** 927  
**Mycteria americana** 1901  
**Myiarchus** 1095  
**Myiarchus crinitus** 1095, 1169,  
 1189, 2205  
**Myotis** 691, 1182  
**Myotis austroriparius** 1205  
**Myotis leibii** 1208  
**Myotis lucifugus** 1037, 1336  
**Myotis septentrionalis** 1037, 1336  
**Myotis sodalis** 1208, 1321  
**Myrica** 1302  
**Myricaceae** 1302  
**NABCI** 2146  
**Nakina Forest Management Unit**  
 1303  
**Napaeozapus insignis** 852  
**narrow forest canopy breaks** 1247  
**natal recruitment** 1993  
**National Fire and Fire Surrogate  
 Project** 1285  
**National Fish Habitat Initiative**  
 2268  
**national parks and reserves** 135,  
 289, 441, 912  
**National Resources Inventory** 35,  
 2065, 2123  
**National Wetlands Inventory maps**  
 2047  
**native and restored tallgrass prairie**  
 711  
**native fishes** 1867  
**native grasslands** 295, 454, 715  
**native groundcover** 1197  
**native habitat** 681  
**native prairie** 686, 715  
**native riparian vegetation** 1461  
**native species** 326, 1061, 1429,  
 1574  
**native ungulate activity** 306  
**native warm-season grasses** 593  
**native woodland** 1013, 1249  
**natural and altered communities**  
 207  
**natural area preservation** 390  
**natural bottomland forest** 1668  
**natural channels** 1559  
**natural disasters** 1600  
**natural disturbance** 873, 995,  
 1230, 1292  
**natural disturbance and  
 herpetofauna** 2204  
**natural flatwoods marshes** 1807  
**natural grasslands** 462, 620  
**natural habitat potential** 2074  
**natural range of variation** 942  
**natural regeneration** 935, 1210,  
 1239, 1296  
**natural resource management** 57,  
 155, 791, 1060, 2268  
**natural resource policy** 1580, 2268

- natural resources** 2, 55, 155, 191, 216, 238, 279, 285, 291, 300, 349, 741, 773, 838, 881, 1285, 2257  
**natural resources and earth sciences** 57, 190, 191, 791  
**natural resources and earth sciences natural resource management** 140, 240  
**natural resources conservation** 240, 1956  
**Natural Resources Conservation Service** 375, 705, 1856, 1991, 2075  
**natural resources land resources** 195  
**natural restored marsh comparisons: avifaunal food value, vegetation** 1903  
**natural salt marsh island** 1607  
**natural soil erosion** 1980  
**natural system processes** 1663  
**natural variability** 1854  
**natural vegetation** 1702  
**natural vs managed forest** 932  
**natural vs restored sites** 1778  
**natural wetlands** 33, 1626, 1647  
**natural wood recruitment** 1492  
**natural wood regimes** 1552  
**natural woody hedgerow** 204  
**Nature Conservancy's Tallgrass Prairie Preserve** 415  
**nature conservation** 100, 147, 178, 197, 291, 323, 327, 372, 453, 491, 576, 579, 580, 620, 726, 840, 848, 866, 1210, 1439, 1488, 1491, 1512, 1556, 1560, 1590, 1615, 1617, 1633, 1650, 1654, 1657, 1669, 1670, 1675, 1681, 1701, 1705, 1717, 1723, 1727, 1732, 1782, 1785, 1815, 1817, 1830, 1832, 1851, 1888, 1890, 1894, 1896, 1928, 1933, 1942, 2028, 2036, 2138, 2149, 2152, 2177, 2269  
**nature reserves** 107, 159, 182, 490  
**NAWMP** 1594, 1630  
**Nebraska** 104, 377, 535, 536, 754, 1717, 1875, 1937, 2064, 2072  
**Nebraska, southeastern** 222  
**nekton** 1798  
**nekton assemblage composition** 1709  
**nekton community structure** 1709  
**Nelson Environmental Study Area** 584  
**Nematoda** 180, 245, 754  
**Nematoda: activity patterns** 242  
**Nematoda: farming and agriculture** 180, 219, 245, 754  
**Nematoda: forestry** 1022  
**nematodes** 180, 219, 242, 245, 754, 1022  
**Neotamias speciosus** 988  
**Neotamias speciosus: forestry** 952  
**Neotoma** 1207  
**Neotoma floridana** 2130  
**Neotoma fuscipes** 1120  
**Neotoma lepida** 632  
**Neotoma magister** 1165  
**Neotoma mexicana** 1207, 1281  
**neotropical migrant birds** 784, 959, 1143, 2021  
**neotropical migrant songbirds** 773, 963, 2163  
**neotropical migrants** 316, 881, 968, 989, 1002, 1141, 1218, 1307, 1959, 2236, 2242  
**neotropical migrants in riparian corridor woodlands and farmstead woodlots** 2214  
**neotropics** 2149, 2188  
**Neotyphodium coenophialum** 593  
**nephelometers** 1413  
**nest abandonment** 1331  
**nest basal area** 994  
**nest boxes** 1124, 1169, 1503, 1958  
**nest concealment** 1247  
**nest density** 195, 387, 403, 454, 1308, 2164  
**nest depredation** 479, 1230  
**nest initiation curves** 2155  
**nest initiation date** 799  
**nest losses** 25  
**nest parasitism** 153, 291, 341, 773, 994  
**nest phenology** 713  
**nest placement** 793  
**nest predation** 21, 75, 218, 379, 671, 713, 772, 799, 875, 946, 1003, 1124, 1135, 1154, 1169, 1170, 1204, 1216, 1217, 2032, 2188  
**nest predation rates** 314, 1247  
**nest site** 139, 359, 537, 553, 603, 622, 669, 680, 918, 922, 998, 1102, 1172, 1195, 1244, 1305, 1329, 1901, 2164  
**nest site characteristics** 667, 901, 1331  
**nest-site selection** 555, 994 1173, 1185, 1305, 1367, 1873  
**nest success** 49, 68, 139, 193, 241, 314, 353, 403, 454, 461, 495, 527, 537, 542, 543, 555, 618, 665, 668, 683, 713, 715, 776, 856, 906, 949, 964, 1230, 1980, 2001, 2032, 2071  
**nest survival** 192, 402, 530, 555, 668, 669, 979, 1003, 2071  
**nest survival rate** 353, 555, 715  
**nest trees** 1108, 1367  
**nesting** 76, 91, 100, 160, 197, 227, 264, 335, 348, 350, 401, 423, 470, 483, 497, 498, 644, 655, 693, 723, 732, 747, 793, 818, 836, 858, 896, 989, 1065, 1095, 1108, 1171, 1253, 1263, 1628, 1698, 1743, 1992, 2019, 2132, 2155, 2170, 2212  
**nesting behavior** 152, 671, 1865, 2153, 2170  
**nesting cover** 346  
**nesting density** 673  
**nesting ecology** 2153  
**nesting habitat** 260, 403, 566, 1305, 1315, 1368, 2047, 2242  
**nesting habitat availability** 1637  
**nesting season** 672  
**nesting season occupancy** 672  
**nesting sites** 97, 195, 392, 396, 667, 1025, 1120, 1176, 1184, 2130, 2155  
**nesting structure** 2133  
**nesting success** 21, 91, 136, 139, 251, 330, 362, 396, 402, 537, 542, 553, 622, 669, 673, 713, 772, 883, 895, 945, 989, 990, 1003, 1023, 1135, 1172, 1175, 1204, 1235, 1307, 1308, 1338, 1346, 1699, 1808, 1961, 1964, 1980, 1993, 2032, 2231, 2242  
**nesting success and fecundity** 136  
**nesting waterfowl** 1886  
**nestling diet** 36  
**nestlings** 1176, 2168  
**nests** 25, 45, 80, 123, 125, 136, 157, 181, 197, 213, 220, 227, 249, 256, 283, 323, 350, 410, 498, 553, 667, 773, 803, 875, 1026, 1120, 1171, 1263, 1503, 1670, 1980  
**nests and nesting** 49, 98, 125, 165, 274, 443, 471, 619, 773, 1951, 1968  
**nests-nesting** 55, 75, 97, 195, 218, 291, 377, 392, 773, 1025, 1120, 1124, 1169, 1176, 1217, 1623, 2130  
**net primary productivity** 306  
**nets-netting** 2210  
**Neurotricha** 2171  
**Neurotrichus gibbsii** 1129  
**neutral landscape models** 2010  
**Nevada** 640, 698, 764, 1446, 1447, 2013, 2014  
**Nevada: Ash Springs** 1446  
**Nevada: Brownie Spring** 1446  
**Nevada: Elko County** 2141  
**New Brunswick** 852, 886, 992, 1038  
**New Brunswick, Canada** 1783  
**New England** 598, 1712, 2027  
**New Hampshire** 957, 1033  
**New Hampshire, northern** 875  
**New Hampshire: White Mountain National Forest** 875  
**New Jersey** 1384, 1707, 1765, 1778, 1855  
**New Mexico** 194, 236, 301, 302, 308, 332, 341, 443, 447, 531, 610, 613, 652, 717, 742, 773, 836, 853, 1094, 1101, 1114, 1476, 1489, 1633, 1752, 1817  
**New Mexico, Vacas R.** 1433  
**New York** 68, 543, 738, 858, 1465, 1628, 1794, 1799, 1914, 2046  
**Newfoundland** 980, 1170  
**Newfoundland, central region** 1301  
**Newfoundland Small Stream Buffer Study, Phase 1** 1493  
**Newton County** 365



Subject Index

- Newton County, Mississippi** 902  
**Nicaragua** 374  
**niche diversity** 628  
**Nicolet National Forest** 1308  
**Nicrophorus defodiens** 1257  
**Nicrophorus sayi** 1257  
**Nicrophorus tomentosus** 1257  
**nighttime** 1633  
**nighttime cover** 1733  
**NIPFs** 911  
**nitrate** 1632  
**nitrate nitrogen** 79  
**nitrogen** 347, 416, 688, 1421, 1446, 1498, 1579, 1680, 1742, 1777, 2036  
**nitrogen addition** 1925  
**nitrogen cycling** 577  
**nitrogen fixation** 1153  
**nitrogen mineralization function** 245  
**nitrogen:phosphorus ratio** 1648  
**nitrogen-protein** 757  
**no net loss** 1388  
**no-till** 142, 406, 1494  
**no-tillage** 201, 246, 264, 583, 2252  
**Noctuidae** 590  
**nocturnal use** 184  
**non-breeding season** 1913  
**non-crop and orchard habitats** 2181  
**non-industrial private forests** 911, 920, 1255, 1354  
**non point pollution** 1859  
**nonconsumptive use** 2248  
**noncrop habitat** 247  
**nongame management** 2248  
**nongame wildlife** 195  
**nonhuman** 1571  
**nonhuman mammals** 2265, 2275  
**nonhuman vertebrates** 2, 9, 11, 13, 17, 22, 60, 152, 222, 257, 1378, 1891, 2038, 2061, 2078, 2192, 2265, 2275  
**nonpoint pollution sources** 1460, 1819  
**nonpoint source pollution** 817, 1377, 1416, 1435, 1478, 1567, 1568, 1859  
**nontarget effects** 2056, 2179  
**nontarget organisms** 1599, 1685, 1813, 2276  
**nonvolatile suspended solids** 1820  
**North America, Great Lakes** 1491, 1705, 1748  
**North American Bird Conservation Initiative** 1177  
**North American Breeding Bird Survey** 60, 2123  
**North American grassland** 36  
**North American Landbird Conservation Plan** 1325  
**North American Waterfowl Management Plan** 1177  
**North Atlantic** 1706, 1707, 1709, 1721, 1765, 1778  
**North Carolina** 82, 920, 924, 986, 1002, 1087, 1122, 1148, 1192, 1193, 1225, 1231, 1265, 1269, 1397, 1409, 1463, 1487, 1509, 1540, 1844, 1845, 1850, 1959, 2077, 2091, 2145  
**North Carolina, Chaney Creek** 1554  
**North Dakota** 25, 49, 53, 70, 79, 95, 122, 159, 161, 162, 217, 218, 241, 264, 297, 305, 336, 350, 370, 402, 442, 455, 456, 502, 600, 608, 618, 648, 656, 669, 673, 789, 801, 1513, 1635, 1646, 1670, 1747, 1758, 1761, 1847, 1849, 1918, 1927, 2001, 2089, 2133, 2155  
**North Everglades** 1605  
**North West Atlantic** 1707, 1765  
**northeastern Oregon** 1602  
**northeastern United States** 769, 1836  
**northern Aplomado falcon** 302  
**northern bobwhite** 85, 118, 123, 154, 183, 229, 273, 496, 566, 593, 602, 624, 663, 675, 713, 1007, 1178, 1192, 2123, 2143, 2199  
**Northern Bobwhite Conservation Initiative** 229  
**northern bobwhite (Galliformes)** 13  
**northern bobwhite quail** 228, 1063, 1975, 2252  
**northern fence lizard** 2120  
**northern flying squirrel** 927  
**northern forested wetland** 1638  
**northern goshawk** 956, 1241, 1305, 1329  
**northern grassland** 669  
**northern Great Plains** 230, 250, 305  
**northern hardwood forests** 1295, 1308, 1484  
**northern hardwoods** 1033  
**northern harrier** 1995  
**northern hawk owl** 1179  
**northern interior wetbelt** 830  
**northern lapwing** 579  
**northern Lower Peninsula** 2285  
**northern pike** 1816  
**northern pintail** 251, 323, 537, 1744, 2001, 2232  
**Northern Plains** 49  
**Northern Plains States of USA** 231  
**northern Rockies** 1161  
**northern shoveler** 276, 1744, 2001  
**northern spotted owl** 954, 1120, 1309, 1310, 1315  
**northern three-toed woodpecker** 844  
**northern tolerant hardwoods** 1223  
**Northern Virginia** 1372  
**northern white shrimp** 1798  
**Northwest, Black Brook District** 1038  
**Northwest Forest Plan** 1525, 2247  
**northwestern Texas** 227  
**northwestern United States** 913  
**Notonectidae** 1883  
**Notophthalmus** 1312  
**Notophthalmus viridescens** 1312, 1662, 1844, 2264  
**Notophthalmus viridescens viridescens** 2006  
**Notropis hudsonius** 1384  
**Notropis topeka** 1455  
**Nova Scotia** 120, 908  
**NRCS** 705, 1856, 2274  
**NRI** 2065  
**nuclear power plants** 991  
**nucleation** 2017  
**Nuevo Leon** 678  
**Numenius americanus** 457, 1737  
**numerical analysis** 2180  
**numerical studies** 1609  
**Nunn** 412  
**nuthatches** 1001  
**nutrient concentrations** 1380, 1700, 1759  
**nutrient content** 486, 2237  
**nutrient cycles** 1822  
**nutrient cycling** 1979  
**nutrient enrichment** 688, 1680, 1936  
**nutrient enrichments effects on community** 1848  
**nutrient load** 1856  
**nutrient management** 116  
**nutrient removal** 1680  
**nutrient reserve** 1714  
**nutrients** 548, 699, 708, 734, 1521, 1558, 1700, 1759, 1814, 1859, 1970, 2068, 2069, 2141, 2180, 2243, 2261  
**nutrients (mineral)** 1421, 1422, 1859, 2180  
**nutrition** 82, 127, 156, 179, 242, 302, 341, 366, 380, 384, 389, 395, 407, 416, 473, 519, 599, 603, 605, 630, 659, 669, 678, 684, 685, 708, 736, 758, 799, 812, 813, 816, 828, 844, 909, 918, 924, 937, 947, 948, 1034, 1037, 1038, 1040, 1075, 1084, 1090, 1091, 1092, 1164, 1199, 1202, 1205, 1222, 1250, 1266, 1273, 1320, 1336, 1350, 1361, 1368, 1663, 1684, 1750, 1778, 1917, 1965, 1980, 2009, 2033, 2068, 2076, 2106, 2139, 2141, 2165, 2196, 2252, 2271  
**nutrition [physio./biochem.]** 548  
**nutritional condition** 948  
**nutritional quality** 757  
**nutritional requirements** 755  
**nutritional status** 734  
**nutritional tonnages** 2281  
**nutritional value** 1090  
**nutritive value** 325, 486, 722, 2237  
**Nyctea scandiaca: habitat management** 2284  
**Nycticeius humeralis** 967, 1150  
**Nycticorax nycticorax** 1836  
**oak** 324, 881, 984, 1016, 1031, 1182, 1203, 2083  
**oak forests** 1092, 1367  
**oak herbivore diversity** 1091

- oak-hickory 1276  
oak-hickory forest 989, 1222, 1293, 2059  
oak regeneration 1181  
oak savanna 475, 2018  
oak woodlands 899  
Oakwood Lakes Game Production Area 295  
objective-driven 63  
objectives 825, 840  
observational studies 2247  
Ocala National Forest 1978  
occupancy rates 1627, 2133  
occupational safety 2135  
occurrence 627  
occurrence data analysis and management implications 843  
ocean habitats 1012, 1557, 1571, 1597, 1956  
Ochrotomys nuttalli 1280  
Odocoileus 417, 520, 1100  
Odocoileus hemionus 166, 345, 360, 417, 431, 445, 493, 529, 549, 565, 897, 1012, 1100, 1140, 1408, 1941, 2206, 2266  
Odocoileus hemionus californicus 596  
Odocoileus hemionus (Cervidae): farming and agriculture 630  
Odocoileus hemionus (Cervidae): food plants 380, 395  
Odocoileus hemionus crooki: farming and agriculture 389  
Odocoileus hemionus hemionus 445, 596  
Odocoileus spp. (Cervidae): bioindicator, deer 2265  
Odocoileus virginianus 166, 238, 265, 289, 382, 383, 486, 510, 546, 552, 605, 679, 755, 812, 826, 897, 898, 947, 1010, 1012, 1025, 1111, 1166, 1232, 1339, 1350, 1760, 1941, 2069, 2237, 2252, 2266  
Odocoileus virginianus (Cervidae): farming and agriculture 500  
Odocoileus virginianus texanus (Cervidae): food plants 678  
Odonata 1811  
Odontophoridae 62, 119, 187, 255, 1025  
offshore transects: survey method 1645  
Ohio 67, 207, 283, 689, 1380, 1466, 1566, 1662, 1723, 1804, 1816, 1958, 2006, 2030, 2113, 2177, 2179  
Ohio River Islands National Wildlife Refuge 1958  
Ohio, Southern 1203  
Oiceoptoma noveboracensis 1257  
oil-gas development 2193  
Oklahoma 29, 130, 133, 214, 361, 391, 396, 407, 415, 416, 561, 603, 713, 753, 761, 778, 793, 797, 948, 1148, 1282, 2143, 2241  
Oklahoma: McCurtain County 947  
old field habitat 584  
old field management strategy 184  
old field pastures 564  
old fields 80  
old-forest specialists 917  
old growth 900, 1625, 2168  
old-growth attributes 1138  
old-growth forest 848, 954, 1017, 1138, 1180, 1273, 1314, 2115  
old growth forest availability 1273  
old growth forest management plan 1180  
old-growth forest specialization 844  
old growth restoration 978  
Oligochaeta 78, 79, 201, 1764, 1847  
Oligochaeta (Metazoa) 1597  
oligochaetes 1483, 1614, 1764, 1847, 1900  
oligotrophic wetland biomass 1885  
oligotrophic wetlands 1605, 1885  
Olmsted County 1968  
Olor buccinator 1737  
Olympic Mountains 1520  
Olympic Peninsula 2058  
Omus cazieri 1105  
Oncorhynchus 1391, 1436, 1501, 1658, 1671  
Oncorhynchus aguabonita 1477  
Oncorhynchus clarki 1436, 1557  
Oncorhynchus clarki (Salmonidae): release and relocation programmes 1489  
Oncorhynchus kisutch 1422, 1441, 1892  
Oncorhynchus mykiss 1407, 1421, 1422, 1456, 1472, 1499  
Oncorhynchus mykiss: forestry 1537  
Oncorhynchus mykiss: habitat management 1469  
Oncorhynchus nerka: conservation measures 1420  
Oncorhynchus tshawytscha 1450, 1892  
Ondatra zibethicus 1806  
Ontario 167, 189, 880, 914, 932, 950, 964, 994, 1053, 1067, 1097, 1189, 1198, 1200, 1242, 1256, 1286, 1303, 1332, 1697, 1917, 1974  
Ontario and Quebec 932  
Ontario L. 1748  
Ontario, northern 1267  
Onychomys leucogaster 166  
Opeia obscura (Orthoptera): species 450  
open even-aged stands 995  
open habitats: burning 628  
open-marsh water management 1746  
open space 559  
open space planning 1192  
open water 1987  
open woodlands 1006  
opening shape 969  
opening size 969, 1187  
Opequon Creek Watershed 1458  
operational planning 873  
Opheodrys aestivus 792  
Ophisaurus attenuatus 792  
Oporornis 984  
Oporornis formosus 984, 993  
opportunities for conservation research 2172  
opportunity costs 234  
optimization 559, 1200, 1899, 1990  
Opuntia 990  
orchards 2171, 2181, 2224, 2226  
ordination tests 1791  
Oreamnos americanus: habitat management 1262  
Oregon 78, 380, 417, 434, 444, 585, 597, 638, 733, 736, 740, 855, 876, 896, 918, 921, 923, 954, 1017, 1105, 1109, 1158, 1224, 1266, 1290, 1305, 1309, 1315, 1329, 1408, 1469, 1482, 1495, 1502, 1562, 1678, 1784, 1980, 2104, 2129, 2131, 2151, 2215, 2216, 2227, 2278, 2284  
Oregon, central 861  
Oregon Coast Range 1289, 1309, 2129, 2227  
Oregon, eastern region 2218  
Oregon, northeastern 1104  
Oregon, western 1555  
Oregon, Willamette Valley 1737  
Oreoscoptes montanus 530, 597, 745  
organic 142, 2049  
organic compounds 2049  
organic farms 1974  
organic matter 1483  
organic wastes 1390, 1970  
organismal community 1061, 1328, 1515  
organochlorine compounds 1842  
Organochlorine compounds---Environmental aspects---United States 1496  
organochlorines 1812  
organophosphorus insecticides 2276  
organophosphorus pesticides 2134, 2156  
original and reconstructed tallgrass prairie habitats 394  
ornate box turtle 792  
Orono, Dwight B. Demeritt and Penobscot Forests 958  
Orthic Black Chernozemic: Udic Haploboroll 354  
orthophosphates 1483  
Orthoptera 115, 144, 294, 412, 450, 517, 621, 777, 811  
Orthoptera: community structure 448  
Oryctolagus cuniculus 328  
Oryza rufipogon 1584

Subject Index

- Oryza saliva** 1912  
**Oryza sativa** 1580, 1584, 1785, 1860, 2170  
**Oryzomys palustris** 953  
**Osage and Washington Counties** 407  
**Osage County** 396  
**Osage County, Tallgrass Prairie Preserve** 416  
**Osceola National Forest** 1250  
**Oscines: fledging success** 2071  
**Oscines: forestry** 1293  
**Oscines (Passeriformes): distribution within habitat** 2043  
**Osmerus mordax** 1384  
**Osmia: farming and agriculture** 254  
**Osteichthyes** 1549  
**Ostracoda** 1847, 1883, 1886  
**ostracods** 1759, 1847, 1883  
**Ouachita Mountains** 1280, 1282  
**Ouachita National Forest** 1338  
**Ouachita Parish** 1078  
**outdoor recreation** 234, 2070  
**ova** 2151  
**ovenbird** 995, 1233  
**overabundant populations** 2275  
**overfishing** 1421  
**overgrazing** 740, 1419  
**overstory** 734, 849  
**overstory retention** 1293  
**overstory tree retention** 1213  
**overuse** 1965  
**overwater structure** 2228  
**overwinter survivorship** 925  
**overwintering** 446, 548, 574, 746, 1050, 1350, 1360, 1737, 1785, 1915, 1937, 2068, 2193  
**oviposition sites** 1678  
**Ovis aries** 977, 1757  
**Ovis canadensis** 702, 2266  
**Owl River** 1320  
**owls** 853  
**ownership** 1021, 1956  
**Owyhee Mountains** 473  
**Oxford, Miss.** 1704  
**oxygen** 1521  
**Oxyura jamaicensis** 1864  
**Ozark Forest** 1092  
**Ozark Highlands** 1276  
**Ozark National Forest** 1201  
**Ozark Plateau region** 2069  
**Ozark region** 877  
**Ozarks** 1088, 1091, 1123, 1270  
**Pacific Flyway** 1818  
**Pacific giant salamander** 903, 1373, 1424, 1555  
**Pacific Northwest** 740, 872, 930, 937, 978, 1084, 1085, 1086, 1098, 1127, 1146, 1180, 1263, 1396, 1525, 1528, 2012, 2249  
**Pacific silver fir** 1263  
**Pacific-slope flycatcher** 884, 1224  
**Pacific states** 1316  
**paddy** 1882  
**paddy field** 1882  
**painted bunting** 1083  
**pair formation** 1268, 2235  
**paired male** 1714  
**pairing success** 2235  
**Palaemonetes** 1788  
**Palaemonetes pugio** 1798  
**palatability** 2237  
**paleolimnology** 1703  
**Palouse region** 262  
**palustrine wetlands** 1922  
**Panicum** 317  
**Panicum hemitomon** 1759  
**Panicum spp.** 2068  
**Panicum Virgatum** 241, 317, 1059  
**Panola County** 684, 1904  
**Panthera pardus** 1662  
**Papaipema eryngii** 590  
**Papaipema silphii: habitat management** 304  
**Papilio glaucus** 820  
**Papilionoidea** 374, 1130, 2051  
**Papilionoidea: community structure** 516  
**Papilionoidea: habitat management** 503, 513, 1114, 2051  
**Papilionoidea, Heteroneura, Glossata, Lepidoptera, Insecta** 736  
**parasites** 1815, 2193  
**parasites diseases and disorders** 341, 684, 1091, 1250  
**parasitic habits** 773  
**parasitism** 2035  
**parasitism rates** 643, 1307  
**parasitoids** 1162  
**parental care** 937  
**Paridae** 1102, 1172  
**Paridae: habitat management** 1069  
**parks** 2193, 2244  
**partial cutting** 979  
**partial cutting of forest** 1039  
**partial harvesting** 1218, 1235  
**partial harvests** 1690  
**partial-regression analysis** 1122  
**particle size** 79, 1507  
**Partners in Flight** 1177, 1304, 1999  
**partnership approach** 594  
**partnerships** 594  
**partridge** 132  
**parturition** 755  
**Parula americana** 968  
**Parulidae** 992, 994, 1033, 1158, 1303, 1959, 2235  
**Parus atricapillus** 1288, 1937  
**Parus carolinensis** 1172  
**Pascopyrum smithii** 505  
**Passerculus sandwichensis** 217, 309, 386, 446, 542, 543, 558, 563, 606, 660, 671, 683, 845, 908, 1346, 1729, 1953, 2098  
**Passerculus sandwichensis (Emberizidae): farming and agriculture** 672  
**Passerella** 1292  
**Passeri** 38, 84, 311, 832, 845, 959, 1218, 1235, 1292, 1313, 1962, 2010, 2128  
**Passeridae** 317, 334, 386, 461, 527, 574, 1292, 1962, 2128  
**Passeriformes** 22, 55, 66, 68, 93, 97, 141, 169, 175, 195, 341, 348, 349, 442, 555, 563, 642, 669, 715, 716, 726, 745, 773, 804, 832, 845, 876, 880, 925, 974, 980, 985, 993, 994, 995, 1082, 1122, 1124, 1158, 1169, 1172, 1175, 1224, 1233, 1294, 1296, 1303, 1316, 1699, 1959, 2043, 2105, 2200  
**Passeriformes: agricultural activity** 547  
**Passeriformes, Aves** 672, 992, 2235  
**Passeriformes: farming and agriculture** 341  
**Passeriformes: forestry** 1181  
**Passeriformes: habitat management** 526  
**Passerina ciris** 1083  
**Passerina cyanea** 860, 968, 984, 1089, 1189, 1197, 1233, 1265, 2030  
**Passerina cyanea: forestry** 1338  
**passerines** 22, 38, 67, 95, 139, 446, 574, 606, 721, 776, 779, 845, 865, 906, 963, 974, 999, 1066, 1154, 1172, 1196, 1316, 1324, 1348, 1364, 1599, 1698, 2082, 2108, 2121, 2128  
**passive-integrated-transponder tag** 1418  
**pastoralism** 649  
**pasture habitats** 1949  
**pasture management** 616, 670  
**pasture modeling** 708  
**pasture streams** 719  
**pastures** 169, 291, 317, 347, 361, 382, 410, 423, 425, 498, 569, 575, 678, 681, 717, 719, 769, 829, 1060, 1296, 1415, 1516, 1558, 1759, 1949, 2206, 2243, 2252, 2269  
**pastures: continuously grazed, rotationally grazed** 587  
**patch** 220, 682, 1783, 2177  
**patch area** 969  
**patch-burn mosaic** 797  
**patch dynamics** 845  
**patch isolation** 926  
**patch retention harvesting** 1264  
**patch size** 220, 266, 400, 618, 683, 747, 845, 1400, 1953, 1966, 2030, 2164  
**patch use** 154, 1621  
**patchiness** 512, 1783, 1826, 2177  
**paternal behavior** 181  
**path of pollutants** 1460  
**pathogens** 1334, 1845  
**patterns** 1941  
**patterns and influences** 573  
**Pawhuska** 797  
**PCB compounds** 2213  
**Peace River area** 1037, 1336  
**peatland** 1783

- peatland drainage 1638  
**Pedioecetes phasianellus**  
 columbianus 151  
 Pelobatidae 1978  
 Pendleton 78  
 peninsular ranges 709  
 Pennsylvania 672, 738, 750, 759, 870, 1135, 1233, 1322, 1327, 1498, 1546, 1787, 2059, 2138, 2196  
 Pennsylvania and Vermont 738  
 Pennsylvania, Erie 1748  
 Pennsylvania, Lancaster Cty. 1415  
 percent fines: streambed 587  
 percent plant cover 785  
 perception 2, 2135  
 perception as distinct habitat 843  
 perched wetland 1867  
 perching 1387  
 Perciformes 1686  
**Perdix perdix** 10, 132, 135, 289  
 peregrine falcon 956  
 perennial cover 2133  
 perennial forage 1750  
 perennial plant 504  
 perforation harvest patterns 1219  
 performance measure 1388, 1863  
**Perisoreus canadensis** 1124  
 permanent grasslands 195, 259, 2269  
 Permanent non fire refugium management in fire managed sites 320  
**Perognathus flavus** 744  
**Perognathus spinatus** (Heteromyidae) 632  
**Peromyscus** 1207, 1280, 1283, 1284, 1285  
**Peromyscus boylii** 1046, 1207  
**Peromyscus eva** (Muridae): farming and agriculture 632  
**Peromyscus leucopus** 584, 767, 933, 1231, 1617  
**Peromyscus maniculatus** 166, 459, 584, 591, 767, 800, 852, 933, 988, 1046, 1099, 1129, 1207, 1281  
**Peromyscus maniculatus: forestry** 1212  
**Peromyscus oreas** 1129  
**Peromyscus truei: forestry** 1046  
 perennial grasses 378  
 persistence 259, 627  
 personal satisfaction 1780  
 perturbation tests 1791  
 pest control 15, 83, 115, 235, 1099, 1944  
 pest damage 166, 1099  
 pest management 616  
 pest potential 20  
 pesticide residues 1828, 2183  
 pesticides 148, 170, 279, 1688, 1735, 1827, 1842, 1943, 1970, 1994, 2049, 2078, 2134, 2135, 2136, 2152, 2179, 2180, 2183, 2224, 2225, 2261  
**Pesticides---Environmental aspects---United States** 1496, 2246  
**Pesticides---Government policy---United States** 2246  
 pesticides (organochlorine) 1842, 2213  
 pests 20  
 pests of plants insects 753, 1162  
**Petrochelidon pyrrhonota** 1992  
 pH 1521  
**PHABSIM** 1430  
**Phacelia congesta** 959  
**Phalaris arundinacea** 348  
**Phalaropus tricolor** 141, 1667  
 phantom midges 1847  
**Phasianidae** 134, 151, 153, 227, 248, 268, 279, 299, 350, 351, 377, 595, 603, 625, 634, 641, 659, 676, 685, 707, 733, 739, 745, 748, 1071, 1116, 1177, 1254, 1951, 2101  
**Phasianidae: Galliformes, Aves** 174  
 phasianus 739  
**Phasianus colchicus** 10, 35, 45, 89, 112, 132, 135, 153, 227, 248, 267, 279, 289, 695, 739, 1879, 2187, 2262, 2283  
**Phasianus colchicus (Galliformes)** 11, 17  
**Phasianus colchicus (Galliformes): female, male** 152  
**Phasianus colchicus (Phasianidae)** 61  
**Phasmatodea** 399  
**Phasmida** 399  
 pheasant, ring necked 281, 739  
 pheasants 149, 241, 268, 352  
**Phellinus pini** 896  
**Phenology** 609, 713, 908  
**Pheretima sieboldi** 1971  
**Pheucticus** 831  
**Pheucticus ludovicianus** 999  
 philopatry 1268, 1980, 1993  
**Phlebiopsis gigantea** 896  
**Phlox gracilis** 609  
**Phlox longifolia** 609  
**Phoetaliotes nebrascensis (Orthoptera): species** 450  
 phosphates 1605, 1657  
 phosphorus 79, 259, 347, 486, 546, 1421, 1422, 1579, 1680  
 phosphorus deficiency 624  
 photosynthetic parameters 1820  
**Phragmites australis** 348  
**Phrynosoma cornutum** 96, 658  
**Physella** 1483  
 physical condition 948  
 physical disturbance 525  
 physical factors 148, 262, 304, 365, 394, 415, 447, 448, 449, 477, 488, 489, 526, 581, 597, 599, 603, 646, 777, 786, 810, 812, 874, 877, 941, 983, 986, 1026, 1028, 1053, 1137, 1259, 1279, 1347, 1465, 1486, 1513, 1517, 1537, 1601, 1678, 1684, 1699, 2033, 2072, 2129, 2203  
 physical habitat 1407, 1411, 1416, 1438, 1561  
 physical habitat: stream quality parameter 587  
 physical habitat structure 1522  
 physical integrity 1791  
 physical properties 1477, 1719  
**Physidae** 1597  
 physiological condition 1136, 1778  
 physiological indices 948  
 physiological response 1735  
 physiology 948  
 physiology, biology, biochemistry 1405  
 phytophagous insects 1162  
 phytoplankton 1422  
**Piatt County, Illinois** 1550  
**Picea** 898, 1064, 1292, 1971  
**Picea engelmannii** 901, 1318  
**Picea mariana** 1124, 1292  
**Picea spp.** 1116  
**Picidae** 844, 924, 984, 1038, 1064, 1095, 1115, 1275, 1366, 1962, 2173  
**Picidae: habitat management** 918, 1367, 1368  
**Piciformes** 749, 804, 844, 924, 980, 985, 1038, 1115, 1224, 1275, 1366  
**Picoides** 1064, 1962  
**Picoides arcticus** 1064, 1242  
**Picoides borealis** 451, 749, 920, 924, 929, 963, 973, 1041, 1112, 1115, 1117, 1178, 1250, 1255, 1275, 1365, 1962  
**Picoides pubescens** 1102  
**Picoides scalaris** 804  
**Picoides tridactylus** 844, 1064  
**Picoides villosus** 896, 1102, 1224, 1288  
 pied-billed grebe 1849  
 Piedmont region 967, 1031  
 piezometer 101  
**Pigeon Creek Watershed** 1985  
**Piketon** 207  
 pileated woodpecker 1192, 1263  
**Pimenta dioica** 2021  
**Pimephales promelas** 1893  
**Pimephales promelas (Cyprinidae)** 1704  
 pine 902, 1016, 1261, 1277, 1764  
 pine and larch stands 1042  
 pine and mixed forest habitats 1259  
 pine density 924  
 pine flatwoods 1232  
 pine forest habitat 1137  
 pine forests 888, 1007, 1261  
 pine grassland communities 2054  
 pine-grassland habitat 2173  
 pine-grassland restoration 1178, 1962  
 pine litter 904  
 pine management 2045  
 pine matrix 1110  
 pine-oak 2081

Subject Index

- pine oak barrens 2051  
 pine-oak forest 1083  
 pine plantation and hardwood forests 925  
 pine plantation management 953  
 pine plantations 258, 915, 953, 955, 994, 1023, 1072, 1215, 1279, 1280  
 pine regeneration treatments 1282  
 pine savanna 488, 1205, 2105  
 pine stands 108  
 pine timber management 905  
 pine trees 1764  
 pine woodland 985  
**Pinus** 107, 108, 853, 953, 1043, 1074, 1138, 1152, 1277, 1764  
**Pinus banksiana** 974, 1196, 1226  
**Pinus contorta** 1099, 1100, 1104, 1138, 1229, 1314  
**Pinus echinata** 749, 1080, 1143, 1178  
**Pinus edulis** 734, 935, 2081  
**Pinus elliottii** 342, 1330  
**Pinus palustris** 342, 368, 383, 451, 574, 776, 929, 973, 1058, 1065, 1082, 1103, 1115, 1141, 1197, 1204, 1205, 1978, 2126, 2128  
**Pinus ponderosa** 895, 897, 931, 935, 942, 956, 995, 1001, 1042, 1061, 1094, 1119, 1126, 1194, 1195, 1207, 1217, 1281, 1288, 1290, 1326, 2081, 2206  
**Pinus resinosa** 863  
**Pinus spp.** 368, 749, 864, 915, 924, 967, 985, 1016, 1094, 1110, 1116, 1217, 1290, 1330, 1978, 2077, 2105  
**Pinus strobus** 1024  
**Pinus taeda** 892, 904, 925, 934, 955, 1035, 1072, 1095, 1132, 1143, 1205, 1215, 1330, 1365, 2077  
 pinyon juniper forest: habitat 643  
 pinyon juniper woodland restoration 1190  
 pinyon pine 773  
 pipe 2011  
 pipelines 1404  
**Pipilio erythrophthalmus** 1135  
**Pipilo** 1095, 2153  
**Pipilo chlorurus** 555, 597  
**Pipilo erythrophthalmus** 1095, 2153  
 piping 2011  
 piping plover 370  
**Pipistrellus subflavus** 967  
**Piranga ludoviciana** 1224  
**Piscataquis County** 982  
 piscean predators 2033  
 piscean prey 1684, 1917  
**Pisces** 7, 307, 1153, 1378, 1380, 1383, 1429, 1458, 1474, 1497, 1508, 1513, 1514, 1519, 1521, 1546, 1549, 1564, 1574, 1684, 1719, 1720, 1756, 1765, 1804, 1842, 1848, 1861, 1918, 2049, 2061, 2178  
**Pisces, Actinopterygii, Cypriniformes** 1917  
**Pisces, Actinopterygii, Cyprinodontiformes, Cyprinodontidae** 2033  
**Pisces, Actinopterygii, Perciformes, Centrarchidae** 2064  
**Pisces, Actinopterygii, Perciformes, Percidae** 1538  
**Pisces, Actinopterygii, Perciformes, Sciaenidae** 1706, 1778  
**Pisces, Actinopterygii, Salmoniformes** 1403, 1452, 2198  
**Pisces, Actinopterygii, Salmoniformes, Salmonidae** 1420, 1469, 1490, 1504, 1517, 1537, 1544  
**Pisces: biomass** 1885  
**Pisces: community structure** 1546  
**Pisces: conservation measures** 1490  
**Pisces: disturbance by man** 1508  
**Pisces: farming and agriculture** 1426  
**Pisces: forestry** 2140  
**Pisces: habitat management** 307, 1474, 1513, 1514, 1574, 1709, 1765, 1861  
**Pisces: Industry** 1383  
**Pisces: Urban land use patterns** 1458  
 piscivory 1645  
**Pisgah National Forest** 1122, 1225  
**Pisum sativum** 172, 1454  
 pitch pine 1145  
 pitfall trap 525, 1105  
 pitfall trap capture rate 262  
 pitfall trapping 262, 525, 1029  
 Pittman Island 1077  
 plague 2193  
 plains 221, 316  
 planing 873  
 plankton 1936, 2180  
 planning 310, 848, 1439, 1785, 1990, 1997  
 planning, strategic 2240  
**Planorbidae** 1597  
 plant animal interactions 577  
 plant biomass 1585, 1822, 2044  
 plant communities 204, 317, 426, 490, 544, 722, 731, 741, 762, 763, 814, 898, 1340, 1487, 1573, 1822, 2036  
 plant community restoration 816  
 plant competition 1340  
 plant composition 546, 2237  
 plant control 1847, 2067  
 plant cover 734, 1190, 2044  
 plant cover impacts 472  
 plant culture 1785  
 plant debris 166  
 plant diversity 204, 1679  
 plant ecology 259, 327, 349, 651, 731, 741, 849, 987, 1076, 2016, 2115, 2167  
 plant height 1009, 1727, 2237, 2269  
 plant-herbivore interaction 938, 1302, 2182  
 plant hosts 1091, 1250  
 plant introduction 20  
 plant invasions 802  
 plant invasions and management implications 1861  
 plant leaves 734  
 plant litter 401, 442, 575, 702, 717, 731, 734, 759  
 plant pests 898, 2152  
 plant (**Plantae**) 1881  
 plant (**Plantae**): bioindicator 2265  
 plant population change 732  
 plant populations 1477, 1592, 1620, 1771, 1803, 1834, 1847, 1896, 2170  
 plant production 773  
 plant production range and pasture grasses 452, 572, 651, 753  
 plant protection 697  
 plant residue 1683  
 plant resistance 2182  
 plant response 731  
 plant secondary metabolites 605  
 plant species composition 545  
 plant species composition arable land 356  
 plant species dominance 1603  
 plant species richness 204, 1603  
 plant species structure 1603  
 plant stand structure 1061  
 plant strata 442  
 plant succession 183, 491, 576, 741, 881, 1009, 1024, 1210, 1412, 1824, 2282  
**Plantae** 22, 1047, 1764, 1824  
 plantation forestry 863  
 plantation silviculture 904  
 plantations 863, 886, 905, 953, 974, 1152, 1532, 2045, 2226  
 planted cover 2231  
 planted hedgerow 204  
 planting 107, 191, 881, 1271, 2016, 2240  
 planting management 1526, 1659  
 plantings 2226  
 plants 22, 601, 741, 873, 1047, 1102, 1245, 1327, 1592, 1672, 1764, 1819, 1821, 1824, 1827, 1871, 1881, 1943, 2045, 2061, 2192, 2265  
 plants, botany 190, 1100, 1245, 1302, 1327, 1749, 1780, 1822, 1956, 2045  
 plants, miscellaneous 709, 794  
 plasma 2183  
 plasticine egg 8  
**Platte River Valley** 1937, 2072  
**Platynus decentis** 1257  
**Platyrhynchos** 251  
 playa lakes 1825, 1872  
 playa lakes colonization patterns 1825  
 playa lakes: habitat 1627  
 playa wetlands 1752, 2037

- playas** 1606, 1613, 1633, 1708, 1726, 1762, 1773, 1817, 1872, 1873, 1883, 2031, 2236  
**Plegadis falcinellus** 1836  
**Plethodon** 1312, 1424  
**Plethodon cinereus** 951, 957, 1000, 1220, 1617, 1690  
**Plethodon cinereus: forestry** 950  
**Plethodon dunni** 1424, 1555  
**Plethodon glutinosus** 1312  
**Plethodon jordani** 1312  
**Plethodon serratus** 1312  
**Plethodon spp.** 1086  
**Plethodon vandykei** 1424  
**Plethodon vehiculum** 838, 1424  
**Plethodontidae** 957, 1000  
**Plethodontidae: habitat management** 2091  
**Poa pratensis** 347, 669, 2141  
**Poaceae** 139, 317, 334, 408, 734, 1173, 1340, 1533, 1584, 1823, 2081  
**Podilymbus podiceps** 1849, 1865  
**Poecile** 1172  
**Poecile atricapillus** 1135, 1288  
**Poecile carolinensis** 973, 1172  
**Poecilia** 1446  
**Poecilia mexicana** 1446  
**Poeciliidae** 1446  
**Poecilus lucublandus** 262  
**Poecilus scitulus** 262  
**Poephila guttata** 1154  
**point counts** 305, 993, 1608  
**Point Coupee and St. Martin Parishes** 1323  
**Pokegama Lake tributary streams** 1977  
**pole habitat** 2195  
**policies and programs** 4, 49, 165, 238, 1968  
**policy** 310, 705, 1255, 1590, 1785, 1928, 2112, 2127, 2233  
**policy and planning** 2221  
**policy development** 310  
**policy, management, education or information** 1396  
**policy planning** 296  
**policy tools** 1388  
**Polk County** 1269  
**pollination** 127, 254  
**pollinator** 682  
**pollinator conservation and agricultural significance** 254  
**pollutants** 1009, 1546, 1704, 2049  
**polluted soils** 2224  
**polluted water** 2036  
**pollution** 1392, 1444, 1446, 1464, 1495, 1546, 1632, 1828, 1885, 1943, 1970, 2261  
**pollution assessment control and management** 1428, 1444, 1543, 1632, 1703  
**pollution control** 1392, 1539, 1940, 2028, 2138, 2212  
**pollution dispersion** 1842  
**pollution effects** 1380, 1539, 1688, 1735, 1859, 1890, 1994, 2014, 2134, 2180, 2183, 2212  
**pollution effects on organisms** 2213  
**pollution environment** 1859  
**pollution indicators** 1380, 1759  
**pollution monitoring** 1460, 1483, 1491, 2138  
**pollution monitoring and detection** 1665  
**pollution (soil)** 7  
**pollution (water)** 7  
**polychlorinated biphenyls** 1812, 2213  
**polyculture** 172  
**Polygonum** 1759  
**Polygonum amphibium** 2068  
**Polyphemus** 2229  
**polyvinyl chlorides** 2011  
**Pomoxis: farming and agriculture** 2064  
**Pomoxis nigromaculatus** 1842  
**ponderosa pine** 895, 927, 956, 985, 995, 1001, 1042, 1057, 1094, 1119, 1126, 1176, 1195, 1217, 1241, 1288, 1290, 1326, 1350, 1362  
**ponderosa pine forests** 942, 1368  
**ponderosa pine-Gambel oak forest** 1207  
**ponderosa pine savanna displacement** 1190  
**ponding** 1749  
**ponds** 473, 1579, 1587, 1655, 1739, 1745, 1845, 1888, 1927, 1929, 2113, 2147, 2151  
**ponds: habitat** 1627  
**Poocetes** 317  
**Poocetes gramineus** 537, 597, 669, 804  
**pools** 1481  
**poor colonizers** 1669  
**POPAN** 492  
**Poplar Creek Preserve** 803  
**poplars** 741  
**population abundance** 2048  
**population censuses** 2214  
**population changes** 355, 690  
**population composition** 797  
**population control** 1816  
**population decline** 67, 217, 251, 386, 408, 557, 617, 664, 675, 687, 721, 747, 803, 1003, 1027, 1065, 1096, 1177, 1364, 1455, 1890, 1959, 1974, 1987, 1998, 2010, 2183, 2223  
**population demography** 2163  
**population density** 30, 78, 83, 91, 98, 105, 135, 136, 144, 165, 211, 242, 274, 276, 279, 289, 304, 323, 333, 363, 369, 386, 424, 434, 439, 442, 446, 448, 459, 462, 471, 476, 532, 547, 558, 562, 579, 606, 608, 632, 646, 662, 670, 673, 726, 751, 752, 753, 777, 786, 789, 803, 865, 907, 914, 963, 979, 982, 988, 1002, 1015, 1020, 1022, 1068, 1092, 1109, 1123, 1212, 1215, 1256, 1264, 1265, 1267, 1281, 1282, 1284, 1285, 1296, 1308, 1322, 1346, 1398, 1403, 1410, 1421, 1422, 1465, 1467, 1469, 1477, 1483, 1486, 1502, 1519, 1523, 1641, 1667, 1685, 1699, 1707, 1719, 1732, 1778, 1786, 1793, 1798, 1807, 1838, 1839, 1840, 1846, 1848, 1874, 1917, 1926, 1941, 1963, 1995, 2036, 2037, 2054, 2064, 2093, 2114, 2131, 2147, 2154, 2170, 2222, 2235, 2282  
**population density erosion** 1498  
**population density impact** 1256  
**population distribution** 79, 1316, 1783, 2240  
**population dynamics** 25, 30, 55, 69, 78, 83, 124, 127, 135, 136, 156, 167, 207, 211, 242, 245, 279, 289, 304, 355, 363, 365, 396, 397, 407, 408, 420, 442, 447, 448, 449, 459, 473, 476, 489, 502, 526, 547, 579, 599, 602, 608, 624, 632, 636, 646, 659, 670, 673, 684, 685, 688, 689, 692, 724, 734, 751, 752, 764, 777, 778, 786, 795, 803, 810, 811, 851, 859, 879, 914, 916, 950, 952, 961, 977, 986, 1002, 1019, 1022, 1034, 1053, 1068, 1075, 1092, 1099, 1123, 1126, 1136, 1138, 1139, 1161, 1212, 1221, 1229, 1256, 1264, 1267, 1282, 1286, 1303, 1304, 1308, 1320, 1322, 1323, 1326, 1338, 1395, 1403, 1413, 1420, 1421, 1432, 1465, 1469, 1474, 1486, 1488, 1499, 1502, 1504, 1533, 1538, 1540, 1610, 1634, 1670, 1672, 1678, 1684, 1699, 1706, 1707, 1721, 1741, 1744, 1760, 1765, 1772, 1775, 1778, 1789, 1830, 1840, 1845, 1849, 1917, 1918, 1927, 1938, 1948, 1951, 1957, 1963, 2054, 2064, 2071, 2073, 2101, 2114, 2131, 2155, 2163, 2165, 2182, 2187, 2189, 2199, 2207, 2214, 2219, 2235, 2272  
**population ecology** 19, 68, 134, 144, 175, 203, 228, 384, 392, 428, 481, 555, 584, 669, 676, 778, 806, 833, 880, 924, 945, 957, 962, 985, 1000, 1042, 1063, 1117, 1176, 1203, 1219, 1224, 1247, 1254, 1268, 1285, 1361, 1714, 1760, 1884, 1975, 1980, 1993, 1997, 2105, 2141, 2193  
**population ecology birds** 1233  
**population-environment relations** 1764  
**population estimation** 251, 1880, 2143  
**population expansion** 1196  
**population genetics** 1651  
**population growth** 157, 963, 1196  
**population level processes** 1854  
**population level response based evaluation of salt marsh restoration** 1707  
**population levels** 1433

## Subject Index

- population loss** 279  
**population modeling** 35, 1348, 2162, 2163  
**population number** 1634  
**population projection models** 379  
**population recovery** 943, 1535  
**population recovery dynamics** 1538  
**population recruitment** 2155  
**population regulation** 694  
**population responses** 212, 1221, 2037  
**population responses to agricultural cultivation** 2037  
**population restoration** 1467  
**population size** 156, 447, 449, 562, 684, 690, 717, 724, 731, 859, 950, 961, 978, 986, 1075, 1076, 1109, 1136, 1504, 1540, 1765, 1789, 1799, 1850, 1938, 2229, 2272  
**population stability** 163, 2078  
**population statistics** 688, 1138, 1328  
**population status** 47, 208  
**population structure** 323, 952, 961, 1212, 1376, 1420, 1421, 1422, 1482, 1511, 1617, 1707, 1759, 1786  
**population studies** 19, 68, 450, 690, 925, 1467, 1775, 1854  
**population sustainability** 411  
**population trends** 36, 49, 53, 124, 214, 1233, 1999  
**population viability** 627, 2239  
**population viability analysis** 1348  
**populations** 74, 89, 155, 157, 201, 557, 732, 791, 913, 1503, 1665, 1712, 1927, 2123  
**Populus** 1971, 2089  
**Populus angustifolia** 2182  
**Populus balsamifera** 2141  
**Populus berolinensis** 2182  
**Populus deltoides** 741, 860, 1089, 1217, 2205  
**Populus deltoides wislizenii** 1374  
**Populus fremontii** 1431, 2182  
**Populus sp.** 1160  
**Populus ssp.** 120, 901, 1116, 1233, 2141  
**Populus tremuloides** 565, 596, 669, 764, 801, 935, 1108, 1218, 1226, 1340  
**post-breeding** 882  
**post harvest treatments** 1911  
**postfire salvage logging** 2050  
**postfire succession** 676  
**Potamogeton** 1771  
**potassium** 79, 259, 347  
**potential effects on mortality rate** 692  
**potential indicators** 1198  
**potential livestock conflicts and management implications** 179  
**potential oviposition sites** 472  
**potential recolonization** 2285  
**potential resources** 133  
**potential use of managed matrix vegetation** 1069  
**potential use of managed matrix vegetation to improve breeding success** 1069  
**potential vegetation types** 299  
**pothole habitat** 1776  
**poultry** 2118  
**power analysis** 906  
**practice effects** 1372  
**practices** 1077, 1338  
**prairie biodiversity** 1752  
**prairie birds** 665  
**prairie chicken** 153  
**Prairie Coteau** 739  
**prairie dog colony** 531  
**prairie ecology** 527  
**Prairie Farm Rehabilitation Administration** 2132  
**prairie farmland** 198  
**prairie fragmentation: breeding bird nest success** 484  
**Prairie Grassland Habitat Restoration Project** 736  
**prairie grasslands** 736, 1750  
**prairie grouse** 212, 310, 1177  
**prairie habitat** 304, 320, 477, 786, 1699  
**prairie habitat conservation** 403  
**prairie insects** 590  
**prairie kingsnake** 792  
**prairie landscapes** 2047  
**prairie management** 489, 656, 2051  
**prairie marsh** 1776  
**prairie-parkland region** 2162  
**prairie perennials** 581  
**prairie planting project** 405  
**Prairie Pothole Joint Venture (PPJV)** 403  
**prairie pothole landscapes** 2073  
**Prairie Pothole Region** 25, 76, 122, 160, 162, 220, 305, 402, 537, 618, 1630, 1716, 1729, 1758, 1772, 1781, 1849, 1869, 1898, 1918, 1924, 1979, 2001, 2132, 2161, 2231  
**prairie pothole wetlands** 1805  
**prairie potholes** 1691, 1924  
**prairie provinces** 392  
**prairie reserve burning** 365  
**prairie reserves** 365  
**prairie restoration** 485, 730  
**prairie sharp-tailed grouse** 296  
**prairie vegetation** 797  
**prairie vole** 584  
**prairie wetland ecosystems** 1578  
**prairie wetlands** 33, 1781, 1805, 1865, 2161  
**prairie wildlife** 206  
**prairies** 4, 29, 45, 54, 71, 73, 75, 126, 130, 132, 146, 150, 153, 159, 171, 178, 218, 288, 296, 302, 304, 310, 316, 336, 348, 361, 366, 367, 368, 370, 376, 387, 392, 401, 407, 426, 442, 451, 469, 489, 508, 525, 533, 535, 569, 584, 590, 594, 608, 615, 619, 620, 621, 622, 635, 644, 649, 651, 660, 672, 692, 703, 705, 712, 723, 736, 767, 773, 789, 792, 793, 797, 801, 804, 811, 818, 845, 1144, 1238, 1623, 1651, 1678, 1695, 1700, 1701, 1752, 1755, 1758, 1772, 1786, 1811, 1827, 1876, 1924, 1953, 1963, 1972, 1998, 2031, 2051, 2073, 2137, 2200, 2234, 2236  
**prairies, meadows** 221  
**pre-commercial thinning** 1100, 1138, 1139, 1140  
**pre-Euro-American settlement** 1186  
**prebasic molt** 1753  
**precipitation** 79, 580, 753, 785, 878, 903, 1004, 1283, 1636, 1682, 2011, 2031, 2141  
**precipitation intensity** 602  
**precipitation (meteorology)** 2011  
**precocious flowering oak use** 1239  
**precommercial thinning** 1199, 1314  
**precommercial tree thinning** 981  
**precommercially thinned balsam fir stands** 1301  
**predation** 8, 153, 213, 235, 410, 443, 504, 619, 662, 669, 694, 695, 807, 809, 895, 1120, 1124, 1135, 1199, 1340, 1361, 1371, 1589, 1630, 1662, 1667, 1800, 1815, 1836, 1872, 1980, 2006, 2024, 2035, 2160, 2171, 2187, 2242, 2243  
**predation genetics** 709  
**predation management** 1081, 1204, 2032  
**predation risk** 402, 657, 695, 1081, 1154, 2024  
**predation threat** 1724  
**predator abundance** 407  
**predator augmentation** 176  
**predator control** 100, 370, 1204  
**predator foraging efficiency** 1075  
**predator-prey interaction** 615, 695, 1207, 1667, 1886, 2024, 2225  
**predator-prey relationships** 5, 218, 419, 694  
**predators** 25, 82, 104, 153, 218, 220, 370, 407, 419, 669, 684, 695, 716, 1034, 1040, 1075, 1124, 1199, 1217, 1250, 1320, 1361, 1477, 1512, 1684, 1883, 1917, 1944, 1975, 1980, 2019, 2033, 2102, 2147, 2240, 2243, 2266  
**predators of insect pests** 2171  
**predatory insects** 1944  
**prediction** 778, 1466, 1504, 1748, 2092  
**prediction using landscape models** 1469  
**predictive modeling** 1570  
**predictive models** 1073  
**pregnancy** 948  
**preliminary results** 983  
**premature dispersal** 1331

- prescribed burn** 960, 1029  
**prescribed burning** 197, 205, 236, 249, 304, 342, 365, 399, 429, 448, 452, 486, 523, 524, 539, 572, 581, 590, 609, 613, 651, 701, 722, 730, 731, 734, 749, 753, 757, 758, 804, 811, 849, 853, 905, 935, 942, 973, 983, 984, 985, 987, 989, 1005, 1007, 1028, 1030, 1058, 1061, 1064, 1074, 1082, 1103, 1105, 1117, 1137, 1141, 1152, 1183, 1202, 1204, 1208, 1210, 1231, 1232, 1238, 1259, 1265, 1285, 1364, 1365, 1649, 1689, 1693, 1698, 1822, 1846, 1961, 2032, 2042, 2052, 2080, 2081, 2082, 2105, 2128, 2203  
**prescribed burning and thinning** 983, 1259  
**prescribed burning: applied and field techniques** 780, 1843  
**prescribed burning compatibility** 365  
**prescribed burning costs** 2029  
**prescribed burning effects** 304, 1137  
**prescribed burns** 42, 406, 440, 480, 700, 1201  
**prescribed fire** 428, 488, 489, 495, 526, 598, 603, 609, 676, 721, 793, 988, 1007, 1027, 1061, 1065, 1105, 1152, 1178, 1204, 1232, 1278, 1351, 1746, 1962, 2032, 2053, 2080, 2083, 2128, 2263  
**prescribed fire and fire surrogates** 986  
**prescribed fire history** 526  
**prescribed forest burns** 1150  
**prescribed grazing** 393  
**presence of hardwood trees relationship** 937  
**preservation** 155, 1950, 1997  
**pretreatment** 1558  
**prevention and control** 2212  
**previous year mowing** 672  
**prey** 82, 179, 235, 407, 490, 684, 913, 1040, 1273, 1320, 1684, 1778, 1917, 2033, 2243  
**prey abundance** 407, 1207  
**prey availability** 732, 959, 1040, 1207  
**prey availability in brood habitat** 1040  
**prey biomass** 302  
**prey breeding success** 407  
**prey choice** 1645  
**prey density** 2038  
**prey diversity** 72  
**prey habitat** 1207  
**prey resource selection** 1034  
**prey type** 1778  
**primary cavity excavators** 1068  
**primary production** 1422, 1466, 1820, 1822  
**primary productivity** 1648  
**primates** 2, 390, 2275  
**Prince Albert Model Forest Area** 997  
**principal component analysis** 173, 247, 1621  
**principal component analysis: PCA, mathematical method** 587  
**principal components analysis** 1521  
**principle component analysis: mathematical and computer techniques** 775  
**principle response curves** 885  
**priorities** 1950  
**prioritization using landscape models of redd distribution and density** 1469  
**private forestlands** 1333  
**private land** 63, 91, 276, 279, 372, 703, 878, 920, 1472, 1713, 1956, 2145, 2229, 2248, 2258  
**private land management** 2111  
**private land use** 2  
**private landowners** 1168  
**private-lands management** 1912  
**private nonindustrial forest management** 919  
**private nonindustrial forestland** 919  
**private ownership** 91  
**private property** 2229  
**private sector** 1021  
**proactive land management** 2285  
**probability** 663, 1195  
**Procambarus alleni** 1741  
**process domain concept** 1535  
**processes** 2092  
**Procyon** 1204  
**Procyon lotor** 141, 695, 826, 1204, 1261  
**Procyonidae** 1261  
**production** 4, 431, 662, 699, 2162  
**production forests** 1146  
**productivity** 5, 39, 87, 97, 120, 195, 218, 227, 281, 291, 306, 370, 404, 416, 669, 715, 716, 739, 757, 773, 812, 873, 875, 895, 948, 994, 1169, 1176, 1217, 1230, 1254, 1268, 1310, 1324, 1331, 1503, 1579, 1822, 1827, 1836, 1951, 1980, 1993, 2078, 2147, 2166, 2198, 2222, 2243  
**progestins** 1505  
**program development** 1780  
**program participants** 2176  
**project management** 1981  
**pronghorn** 360, 373, 424, 677  
**proportion coefficient** 1668  
**Prosopis** 605, 741  
**Prosopis glandulosa** 2237  
**Prosopis spp.** 805  
**protected areas** 1244  
**protection** 134, 153, 191, 458, 1371, 1507, 1542, 1997  
**protection of forests** 848  
**protective effect** 322  
**protective measures and control** 1564, 1665, 1782, 1798, 1939, 1940  
**protein digestibility** 2237  
**proteins** 416, 431, 546, 1714, 2068, 2141  
**prothonotary warbler** 993  
**Protonotaria citrea** 993  
**proximity to wetland** 2033  
**Prunus pensylvanica** 865  
**Prunus pumila** 2082  
**Prunus serotina** 933  
**Pseudacris crucifer** 1594  
**Pseudoregneria spicata** 638  
**Pseudotriton** 1312  
**Pseudotriton ruber** 1312  
**Pseudotsuga menziesii** 417, 838, 842, 896, 978, 1086, 1109, 1131, 1289, 2206  
**Pseudotsuga spp.** 1050, 1424  
**Psittacidae** 1244  
**Pterostichus adstrictus** 1257  
**Pterostichus herculeanus** 1105  
**Pterostichus melanarius** 1257  
**Pterostichus melanarius: farming and agriculture** 262  
**Pterostichus mutus** 1257  
**Pterostichus pensylvanicus** 1257  
**Pterostichus setosus** 1105  
**Pterostichus tristis** 1257  
**public attitude** 1255  
**public concern** 2135  
**public grazing lands** 409  
**public health** 2013, 2062  
**public land** 878, 1999  
**public lands conservation management for migratory species** 2119  
**public opinion** 240  
**public recreation** 1856  
**public relations** 291, 1943, 1997  
**Puget Sound** 2228  
**pumpkin** 127  
**pumps** 1404, 1616  
**pygmy rabbit** 328  
**quail** 62, 121, 359, 778, 990, 1025, 1177  
**quail, Mearns harlequin** 471  
**quail populations** 118  
**quality assurance** 1597  
**quality habitat** 1597  
**quantitative distribution** 1806  
**Quebec** 27, 348, 371, 591, 843, 844, 874, 890, 932, 999, 1049, 1125, 1253, 1337, 1442, 1544, 1735, 2146, 2183, 2255  
**queen snake** 1398  
**Queets River** 1520  
**Quercus** 984, 989, 1080, 1188, 1204, 1277, 1364, 1945, 1971, 2083  
**Quercus alba** 1024, 1091, 1092  
**Quercus gambelii** 935, 1207  
**Quercus montana** 1024  
**Quercus phellos** 1043  
**Quercus rubra** 1024



Subject Index

- Quercus spp.** 716, 1016, 1031, 1055, 1203, 1233, 1254, 1330  
**Quercus velutina** 1091  
**Quercus vetulina** 1092  
**Quiscalus major** 1649  
**rabbits** 1945  
**rabbits and hares** 376  
**raccoon** 141, 695, 1204, 2102  
**racer** 792  
**radar** 904  
**radio frequency identification** 1799  
**radio marking** 1317  
**radio-telemetry** 1261, 1915  
**radiotelemetry** 192, 566, 963, 1150, 1204, 1309, 1630, 1878, 2105, 2184  
**radiotelemetry: monitoring method** 564  
**Rafinesque's big-eared bat** 1208, 1335  
**rain** 638, 734, 789, 878, 1327, 2031, 2072  
**rainbow trout** 2056  
**rainfall** 771, 1620, 1762, 1905  
**rainforest** 24  
**Rainwater Basin Region** 536  
**Raisin River** 1506  
**raking** 485  
**Rallus** 1673  
**Rallus longirostris yumanensis** 1673  
**Rana** 2151  
**Rana aurora** 838, 2066  
**Rana catesbeiana** 1662, 1735, 2183  
**Rana clamitans** 1594, 1662, 1783  
**Rana luteiventris** 473  
**Rana pipiens** 591, 1594  
**Rana pretiosa (Ranidae)** 1738  
**Rana sphenoccephala** 1840  
**Rana sylvatica** 591, 958, 1594, 1617, 1655, 1662, 1690, 1844, 1845, 1850, 2006, 2264  
**Ranavirus** 1845, 1850  
**ranches** 1168  
**ranching** 326, 706, 707, 1447, 1681  
**Rancho Sandoval** 2189  
**Randolph County** 1166, 1185  
**randomization test** 37  
**range and pasture grasses** 773  
**range ecology** 300  
**range expansion** 661, 1196  
**range extension** 66  
**range management** 206, 236, 298, 300, 308, 347, 348, 383, 442, 452, 456, 490, 491, 520, 532, 572, 639, 648, 651, 655, 697, 753, 756, 789, 805, 825, 1398, 1447, 1761  
**range size** 574  
**range use** 1738  
**rangeland conservation** 432  
**rangeland ecosystem conservation** 735  
**rangeland ecosystems** 299  
**rangeland grazing** 735  
**rangeland habitat** 351, 385, 654, 813  
**rangeland habitat management applications** 351  
**rangeland management** 501, 737, 1453, 1475, 2239  
**rangelands** 80, 144, 298, 299, 329, 333, 350, 351, 367, 377, 418, 453, 455, 491, 506, 512, 548, 572, 602, 613, 631, 639, 651, 664, 676, 678, 698, 737, 761, 771, 777, 1448, 1500, 1551, 1995, 2101, 2117, 2206  
**Rangifer tarandus** 1164, 1200, 1303, 1360  
**Rangifer tarandus [American term]** 1303  
**Rangifer tarandus caribou** 1360  
**Ranidae** 473, 958, 1945, 2066  
**rapids sections** 1522  
**raptors** 106, 372, 1151, 1207, 1329, 1599, 1995  
**rare birds** 1697  
**Rare fishes---Columbia River---Watershed** 1536  
**rare species** 956, 1488, 1512, 1615, 1636, 1681, 1832  
**rarity** 1966  
**rat snake** 792  
**rates** 2103  
**rats, wood** 1016, 1165  
**realtors** 390  
**rearing location** 937  
**recharging (underground waters)** 1663  
**reclaimed coal mines** 544  
**reclaimed mine landscape** 1983, 2195  
**reclaimed surface mine lands** 81  
**reclaimed surface mined habitats** 689  
**reclaimed surface mines** 335, 672, 859  
**reclaimed wet pasture** 1702  
**reclamation** 134, 1052, 1549, 1564, 1626, 1719, 1763, 1782, 1794, 1798, 1803, 1816, 1834, 1844, 1845, 1894, 2208  
**recolonization** 489, 590, 628, 1775, 2285  
**recombinant DNA** 20  
**reconciliation ecology** 2209  
**recovery** 784, 2154  
**recreation** 57, 1928, 2070  
**recreational trails** 582  
**recruitment** 162, 227, 387, 397, 1005, 1420, 1615, 1669, 1772, 1792, 1845, 1875, 1927, 2017, 2105, 2155, 2187  
**Recurvirostra americana** 1667, 1826, 1872, 1884  
**Recurvirostridae** 1884  
**red alder** 1153, 1357  
**red-backed mouse** 852  
**red-backed vole** 852  
**red bat** 967, 1182  
**red-breasted nuthatch** 995  
**Red Butte Canyon** 324  
**red-cockaded woodpecker** 749, 920, 924, 1041, 1112, 1115, 1117, 1178, 1962  
**red deer** 2206  
**red-eyed vireo** 959, 1233  
**red fox** 141, 218, 695, 2102  
**Red Hills region** 2008  
**red rice** 1584  
**Red River** 1513  
**Red River Valley** 179  
**red-shouldered hawk** 964  
**red spotted newts** 2006  
**red squirrel** 1124  
**red-tailed hawk** 153, 1995  
**red-winged blackbird** 55, 67, 93, 95, 195, 250, 413, 542, 2200  
**redback salamanders** 957  
**redds** 1469  
**reduced river flows** 2019  
**redwood** 1120  
**reference conditions** 942  
**reference framework** 1509  
**reference wetlands** 1711, 1712, 1902, 1931  
**reference works** 795  
**reforestation** 905, 1014, 1078, 1961, 2016, 2090, 2150  
**reforestation strategy relations** 857  
**reforestation strategies** 857  
**refuge habitats** 1076, 1715  
**refuge maintenance** 489  
**refuges** 468, 1767, 2193, 2244  
**regenerating forest** 859  
**regeneration** 893, 977, 1005, 1111  
**regeneration harvest** 905  
**regenerators** 1187  
**Regina septemvittata** 1398  
**regional administration and planning** 57  
**regional analysis** 1380, 2196  
**regional assessment** 216, 1835  
**regional conservation** 2144  
**regional conservation programs** 59, 99, 122, 230, 1869  
**regional diversity** 2197  
**regional patterns** 1485  
**regional planning** 1380, 1785, 1837, 2186, 2221  
**regional surveys** 259  
**regression** 680  
**regression analysis** 663, 1074, 1211, 1303, 1437, 1598, 1621  
**regression trees** 561  
**regrowth** 491  
**regulated flow** 1374  
**regulated rivers** 1488, 1564, 1890  
**regulations** 1639, 1701, 1817, 1979  
**regulatory agencies** 429  
**Regulus satrapa** 884, 1224  
**rehabilitation** 196, 881, 1052, 1389, 1439, 1470, 1481, 1491, 1658, 1719, 1842, 1894, 1924  
**reintroduction** 661, 1382, 1517  
**reintroduction implications** 1517

- Reithrodontomys fulvescens** 744  
**Reithrodontomys megalotis** 166, 584, 744, 800, 1099  
**Reithrodontomys raviventris (Muridae): habitat management** 1601  
**relative abundance** 30, 82, 167, 289, 295, 330, 435, 574, 582, 646, 712, 951, 1019, 1104, 1111, 1207, 1220, 1228, 1269, 1280, 1282, 1506, 1937, 2195, 2199, 2204  
**relative habitat use** 1140  
**relay stripcover** 84  
**release and relocation programs** 1517  
**release treatment** 1054  
**remediation** 2212  
**remnant forests** 2020  
**remote sensing** 266, 663, 778, 1755, 1876, 2092, 2146  
**removal** 1523  
**remuneration** 107  
**Rendell Creek Valley** 1184  
**renewing** 379, 799  
**replanted and secondary succession sites** 1249  
**replication** 683  
**reproduction** 25, 41, 55, 68, 69, 91, 97, 98, 125, 136, 262, 274, 315, 317, 330, 341, 358, 387, 396, 405, 407, 415, 500, 555, 603, 667, 669, 670, 672, 673, 709, 713, 715, 716, 721, 742, 755, 773, 853, 878, 895, 901, 918, 924, 937, 948, 959, 962, 992, 994, 1026, 1045, 1069, 1084, 1123, 1185, 1222, 1235, 1248, 1254, 1261, 1268, 1296, 1305, 1308, 1310, 1319, 1323, 1327, 1331, 1332, 1338, 1367, 1458, 1469, 1579, 1615, 1636, 1678, 1699, 1714, 1762, 1845, 1850, 1951, 1968, 1978, 1980, 1993, 2071, 2200, 2213, 2235  
**reproduction and structure** 380  
**reproduction biology** 140, 791  
**reproduction: nest structure, nest site** 1120  
**reproductive behavior** 341, 396, 405, 415, 603, 667, 672, 742, 906, 918, 937, 1026, 1069, 1084, 1184, 1185, 1222, 1248, 1332, 1367, 1368, 1469, 1678, 2170, 2235  
**reproductive biology** 1872  
**reproductive effort** 1811  
**reproductive energy demand** 529  
**reproductive performance** 159  
**reproductive productivity** 25, 69, 136, 330, 396, 405, 407, 670, 673, 992, 1069, 1123, 1308, 1323, 1338, 1699, 2071, 2155  
**reproductive success** 222, 334, 618, 671, 715, 716, 721, 776, 841, 906, 969, 989, 992, 1123, 1215, 1216, 1268, 1331, 1579, 1686, 1836, 1872, 1993, 2078  
**reproductive success: brood parasitism, nest predation** 484  
**reptiles** 109, 440, 492, 573, 650, 684, 692, 701, 837, 951, 983, 1079, 1080, 1088, 1183, 1192, 1198, 1213, 1220, 1236, 1279, 1306, 1322, 1398, 1443, 1661, 1802, 1855, 1905, 1924, 1949, 1969, 2122, 2266, 2272  
**Reptilia** 591, 684, 1312, 1398, 1443, 2107, 2122, 2178, 2204, 2207  
**Reptilia, Anapsida, Testudines, Cryptodira, Testudinidae** 573  
**Reptilia: forestry** 109, 983, 1079, 1183, 1198, 1213, 1236, 1279, 1306, 1322  
**Reptilia: habitat management** 1088, 1969  
**Reptilia, Lepidosauria, Squamata, Serpentes, Viperidae** 692  
**Reptilia: terrestrial habitat** 1949  
**reptilian predators** 684  
**research needs assessment** 2275  
**research priorities** 1659, 1939  
**research programs** 1433, 1939  
**research: rivers and streams** 1385, 1386, 1425, 2057  
**reseeded grasslands** 295  
**reserve design** 559, 917, 1990  
**reserve site selection** 1899  
**reserve size** 917  
**reserves** 57, 279, 913, 2193, 2244  
**reservoirs** 1371, 1523, 1820, 2064, 2212, 2257  
**residence time** 1520  
**resident birds** 1141  
**residual grass** 553  
**residual shape** 1076  
**residual size** 1076  
**residual tree patch retention** 2066  
**residual tree retention** 1218  
**residual trees** 869, 870, 1327  
**residual vegetation cover** 668  
**resource allocation** 298  
**resource base** 2048  
**resource conservation** 57, 149, 231, 1593, 2221  
**resource management** 697, 790, 808, 1047, 1428, 1451, 1463, 1468, 1593, 1636, 1676, 1837, 1952, 1989, 2221  
**resource managers** 390  
**resource selection** 924  
**resource selection and habitat use** 924  
**resource selection function** 1038, 1200  
**resources management** 1477, 1590, 1928  
**response analysis** 1229  
**response guilds** 391  
**response to riparian forest management** 1977  
**responses** 842  
**responses to helicopter timber harvesting** 1948  
**rest-rotation grazing** 507, 604  
**rest rotation grazing system** 737  
**resting eggs** 1691  
**restoration** 141, 153, 203, 228, 299, 344, 609, 939, 984, 1070, 1176, 1194, 1197, 1203, 1240, 1241, 1246, 1421, 1422, 1468, 1491, 1497, 1509, 1564, 1590, 1601, 1619, 1665, 1669, 1671, 1729, 1737, 1765, 1772, 1780, 1798, 1803, 1816, 1842, 1844, 1845, 1853, 1862, 1863, 1892, 1896, 1906, 1914, 1934, 1936, 1975, 1997, 2096, 2121, 2138, 2166, 2210, 2239, 2257  
**restoration assessment** 1381  
**restoration ecology** 509, 544, 609, 733, 748, 867, 942, 984, 1005, 1029, 1197, 1238, 1364, 1443, 1560, 1576, 1749, 1780, 1850, 1863, 1903, 1915, 1925, 1962, 2017, 2121, 2200  
**restoration management** 541  
**restoration measures** 2112  
**restoration outcome, evaluating** 1925  
**restoration outcomes prediction** 1725  
**restoration planning** 1973  
**restoration projects** 1522  
**restoration projects: implementation, monitoring, planning** 1552  
**restoration sites** 1780  
**restoration success** 1522  
**restoration techniques: instream, riparian** 1419  
**restoration threshold** 1925  
**restoration treatments effect on abundance and community structure** 914  
**restored and remnant habitats** 760, 782  
**restored and remnant riparian forests** 1938  
**restored and remnant tallgrass prairie** 760, 782  
**restored field habitat: small mammal populations** 788  
**restored grassland** 405  
**restored habitats** 684  
**restored native grassland** 364  
**restored riparian habitat** 313  
**restored salt marsh** 1778  
**restored tallgrass prairie** 711  
**restored wetland utilization by waterfowl** 278  
**restored wetlands** 278, 1644, 1902  
**resuspended sediments** 1539  
**retention levels** 1313  
**retention of corridors between habitat patches** 916  
**retinoid** 1735  
**Retinol** 1735, 2183  
**Retinyl ester** 1735  
**revegetation** 149, 231, 490, 733, 991, 1558, 1673, 2226  
**revegetation programs** 1013

- Revised Universal Soil Loss Equation** 273  
**Reynolds County** 1016  
**Rhinichthys** 1446  
**Rhinichthys osculus** 1446  
**rhizome expansion** 1271  
**Rhyacotriton cascadae** 1555  
**Rhyacotriton: forestry** 2129  
**Rhyacotriton kezeri** 1424  
**Rhyacotriton variegatus** 1555  
**rice** 276, 953, 1584, 1683, 1688, 1713, 1777, 1785, 1860, 1882, 1907, 1912, 1933, 2226  
**rice farming** 1653  
**rice field aquaculture** 1785  
**rice fields** 1582, 1688, 1724, 1785, 1911, 2170  
**rice production** 1795, 1841  
**rice straw** 1777  
**rice sustainability** 1683  
**ricelands** 1818  
**richness estimation** 517, 1211  
**Ridge and Valley Physiographic Province** 2196  
**riffle step restoration** 101  
**rifle and shotgun inoculation** 847  
**right-of-way** 951, 1220, 1961, 2153  
**Riley Brook Area** 992  
**Riley County** 97, 125, 291  
**ring-necked ducks** 1896  
**ring-necked pheasant** 10, 13, 17, 35, 89, 112, 117, 130, 153, 248, 260, 267, 2187, 2262  
**Rinker Lake Research Area** 1067  
**riparia** 139, 591, 601, 613, 832, 872, 1036, 1153, 1280, 1297, 1321, 1324, 1377, 1443, 1484, 1530, 1532, 1542, 1673, 2121, 2250  
**riparian** 340, 784, 885, 900, 960, 1118, 1245, 1324, 1328, 1509, 1534, 1673, 2081, 2121, 2205  
**riparian and fluvial systems along altitude gradient** 2218  
**Riparian animals---United States** 743  
**riparian area management** 2115  
**riparian area processes** 2247  
**riparian areas** 418, 585, 613, 719, 731, 750, 759, 1020, 1297, 1411, 1618, 2115, 2217  
**Riparian areas---United States** 743  
**riparian bird community** 884  
**riparian buffer management** 587  
**riparian buffer strips** 1514, 2227, 2235  
**riparian buffer studies** 2247  
**riparian buffer type management** 1517  
**riparian buffer width** 884  
**riparian buffer zones** 2058  
**riparian buffers** 329, 434, 474, 575, 764, 1020, 1372, 1392, 1400, 1409, 1435, 1464, 1476, 1516, 1525, 1745, 2043, 2115, 2129, 2167, 2215, 2216  
**riparian community** 2039, 2058  
**riparian corridor tree harvesting** 2023  
**riparian corridor woodlands and farmstead woodlots** 2214  
**riparian corridors** 114, 1461, 2023  
**riparian corridors along altitude gradient** 2218  
**riparian ecology** 2217  
**riparian ecosystem** 589, 1530, 1982  
**riparian environments** 726, 785, 1171, 1398, 1434, 1449, 1466, 1511, 1531, 1559, 1563, 1569, 1764, 1919, 2092  
**riparian farming areas** 2219  
**riparian fauna** 2058  
**riparian filter strips** 516  
**riparian floodplain** 1776  
**riparian forest corridors** 1985  
**riparian forest management** 884, 1977  
**riparian forests** 340, 601, 710, 741, 832, 872, 884, 887, 1020, 1153, 1210, 1283, 1297, 1392, 1479, 1484, 1593, 1952, 1955, 2071, 2124, 2150, 2167, 2181, 2202, 2235, 2255  
**riparian forests restoration** 1938  
**riparian grasslands** 139, 740, 1479, 1480, 1727, 1823, 2093  
**riparian habitat** 62, 313, 355, 371, 380, 385, 516, 564, 565, 589, 596, 601, 636, 684, 742, 902, 1148, 1163, 1217, 1234, 1240, 1321, 1337, 1371, 1385, 1386, 1425, 1498, 1502, 1533, 1555, 1690, 1796, 1920, 1938, 1969, 1976, 1985, 2039, 2043, 2057, 2061, 2071, 2091, 2104, 2110, 2130, 2139, 2158, 2202, 2214, 2215, 2117, 2218, 2219, 2226, 2235, 2236, 2241, 2255  
**riparian habitat restoration** 355, 1562  
**riparian land** 1171, 1483, 1499, 1519, 1526, 1559, 1659  
**riparian management** 587, 1553, 2247  
**riparian meadow system** 560  
**riparian processes** 2247  
**riparian related questions** 2247  
**riparian restoration** 1372, 1461, 2158  
**riparian restoration role in breeding habitat creation** 742  
**riparian rights** 2186  
**riparian strips** 591  
**riparian timber harvesting** 1690  
**riparian timber management** 1690  
**riparian vegetation** 726, 741, 820, 855, 1337, 1398, 1404, 1439, 1460, 1479, 1480, 1483, 1511, 1532, 1535, 1542, 1573, 1593, 1659, 1671, 1888, 1952, 2028, 2149, 2154, 2158, 2166, 2228  
**riparian waters** 1526, 1659  
**riparian wetland** 1873  
**riparian width** 1443  
**riparian woodlands** 686, 2009  
**riparian zone** 74, 139, 319, 591, 809, 850, 1008, 1156, 1280, 1321, 1399, 1443, 1511, 1518, 1556, 1560, 1661, 1690, 1749, 1955, 2035, 2191, 2205  
**riparian zone proximity** 1205  
**riparian zones adjacent to wheat fields** 2241  
**riprap** 1671  
**risk** 20, 2179, 2221  
**risk assessment** 849, 1341, 1380, 1600, 2220  
**risk modeling** 849  
**Rita Blanca Natl. Grasslands** 469  
**river banks** 1433, 1550, 1556, 1559, 1563  
**river basin management** 1466, 1491, 2186, 2221  
**river basin projects** 1501  
**river basins** 1415, 1429, 1468, 1488, 1499, 1511, 1515, 1516, 1737, 1950  
**river continuum concept** 1535  
**river discharge** 1421  
**river ecosystem** 1451  
**river engineering** 1564, 1719, 1890  
**river enhancement** 1407  
**river fisheries** 1422, 1497  
**river flow** 1488  
**river flow management** 2072  
**river management** 1451, 1501, 1571  
**river regulation** 1431  
**river restoration** 1381  
**river sedimentation** 1378  
**river valleys** 1737  
**riverbank protection** 820  
**riverine environments** 1535  
**riverine fishes** 1430  
**riverine flood plain forest** 2222  
**riverine landscapes** 1534  
**riverine wetlands** 1922  
**rivers** 196, 784, 1371, 1374, 1384, 1385, 1387, 1411, 1420, 1421, 1422, 1423, 1424, 1427, 1432, 1439, 1445, 1459, 1460, 1463, 1471, 1472, 1478, 1481, 1482, 1483, 1488, 1495, 1497, 1504, 1520, 1533, 1538, 1548, 1555, 1564, 1575, 1690, 1725, 1787, 1920, 1981, 2112, 2138, 2154, 2208, 2218, 2233, 2242  
**rivers and streams** 1446  
**riverscapes** 1535  
**road baiting** 496  
**road construction** 848  
**road edge habitat** 1247  
**roads** 956, 966, 1192, 1210, 1247, 1350, 1592, 1787, 2036, 2137, 2193, 2201, 2285  
**roadside environment** 793  
**roadside habitat** 2165  
**roadside survey: applied and field techniques** 1627  
**roadside vegetation management to reduce vehicular collisions** 2165

- Roberts Creek Study Forest** 1248  
**Robinia** 935  
**Robinia neomexicana** 935  
**Robson Valley surrounds** 1262  
**Rockefeller State Wildlife Refuge** 1839  
**rocks** 1297  
**Rocky Branch Watershed** 1465  
**Rocky Mountain National Park** 555  
**Rocky Mountains** 674, 1347, 2140  
**Rodentia** 302, 531, 584, 632, 669, 744, 781, 852, 901, 953, 1042, 1157, 1193, 1320, 1965, 2080, 2139  
**Rodentia: farming and agriculture** 447, 476, 2114  
**Rodentia: habitat management** 1249  
**Rodentia, Mammalia** 363, 1019, 1601  
**rodents** 29, 74, 244, 265, 376, 397, 441, 459, 476, 562, 610, 662, 688, 689, 706, 744, 816, 852, 952, 978, 1016, 1024, 1031, 1046, 1099, 1138, 1212, 1229, 1249, 1256, 1320, 1326, 1349, 1749, 2114, 2142  
**Roger Mills County** 603  
**role as indicator** 754  
**role as indicator of land use change** 754  
**role of fallow land patches** 521  
**role of grazing management** 735  
**role of shrub vegetation islands** 815  
**role of submersed aquatic vegetation as habitat** 1861  
**rolling plains** 232, 676  
**roost site** 657, 1194, 1263  
**roosting** 902, 918, 939, 1150, 1335  
**roosting preference** 1150  
**roosting site selection** 1150  
**roosts** 657, 902, 939, 1150, 1263  
**root production method** 1945  
**rooted aquatic plants** 2212  
**rooting zone** 246  
**roots** 2036  
**Rosa woodsii** 1808  
**rose-breasted grosbeak** 2244  
**Ross's geese** 1880  
**rotation** 978, 1080  
**rotation grazing: applied and field techniques** 780  
**rotational cattle grazing** 403  
**rotational grazing** 233, 323, 347, 350, 352, 398, 494, 497, 505, 514, 520, 575, 655, 679, 697, 698, 770, 789, 1456, 2093  
**rotationally grazed pasture** 403, 543  
**Rotifera** 347  
**rough green snake** 792  
**roughskin newt** 1555  
**row crop agroecosystems** 207  
**rowcrop field** 21  
**rowcrop fields: bird use** 173  
**Rubus spectabilis** 884  
**Rubus trivialis** 2170  
**Rudbeckia missouriensis** 2120  
**ruddy ducks** 1744, 1864  
**ruffed grouse** 1096, 1160, 1253  
**rufous-sided towhee** 2244  
**ruminants** 740  
**runoff** 7, 1370, 1377, 1408, 1550, 1859  
**rural areas** 234, 541, 1956  
**rural economies** 234, 297  
**rural landscape** 374, 1987  
**rural recreation** 234, 2070  
**Rush Ranch** 1932  
**RUSLE** 273  
**Sabine National Wildlife Refuge** 1709  
**Sacaton** 334  
**Sacramento River** 1938, 2121  
**Sacramento-San Joaquin Delta** 1725  
**Sacramento Valley** 828, 1619, 1795, 2232  
**safe harbor** 2258  
**safe sites** 2017  
**safety** 2212  
**Safford, Arizona** 390  
**sage grouse** 553, 557, 607, 609, 640, 680, 694, 718, 768  
**sage grouse habitat restoration** 733  
**sage sparrow** 1348  
**sagebrush** 381, 404, 553, 554, 557, 609, 627, 680, 718, 747, 796, 806, 807, 1999, 2141  
**sagebrush ecosystems** 745  
**sagebrush habitat** 357, 641, 758  
**sagebrush habitat management** 758  
**sagebrush habitat use** 758  
**sagebrush rangeland enhancement requirement** 357  
**sagebrush rangelands** 607, 815  
**sagebrush steppe** 597, 659, 685, 733  
**sagebrush steppe restoration** 659, 685  
**sagebrush vegetation** 420  
**Saginaw Bay** 1710  
**Saint Lucie County** 716  
**salamanders** 951, 1086, 1101, 1220, 1312, 1409, 1507, 1555, 1844, 2204  
**Salamandridae** 1312, 1662  
**Salicaceae** 741  
**Salicales** 741  
**Salientia** 1690  
**saline lakes** 1872, 1873  
**salinity** 1648, 1692, 1702, 1739, 1905, 2134  
**salinity effects** 1512, 2134, 2212  
**Salix** 434, 741, 764, 1043, 1340, 1470, 1673, 1965  
**Salix boothii and Salix geyeriana** 380  
**Salix exigua** 1374, 1431  
**Salix lasiandra** 2139  
**Salix scouleriana (Scouler's willow)** 1090  
**Salix spp.** 558, 596, 2139  
**Salmo** 1389, 1563  
**Salmo gairdneri** 1531  
**Salmo salar** 1544, 2277  
**Salmo trutta** 1389, 1416, 1423, 1499, 1529, 1539  
**salmon** 1407, 1488, 1556, 1658  
**Salmon Bay** 2228  
**salmon fisheries** 1391, 1421, 1422  
**Salmon fisheries---Columbia River ---Watershed** 1536  
**salmon restoration** 1560  
**salmonid** 1385, 1407, 1436, 1450, 1475, 1557, 1560  
**salmonid habitat recovery** 822  
**Salmonidae** 1385, 1389, 1407, 1416, 1421, 1433, 1436, 1472, 1481, 1489, 1520, 1531, 1575, 1892, 2154  
**Salmonidae: forestry** 1452  
**Salmonidae: habitat management** 1403, 1520, 2198  
**Salmoniformes, Actinopterygii, Pisces** 1489, 1520  
**Salmoninae: forestry** 1504  
**salt desert shrub community** 435  
**salt encrustation** 1864  
**salt evaporation ponds** 1895  
**salt marsh** 1591, 1620, 1648, 1707, 1709, 1721, 1732, 1756, 1765, 1769, 1778, 1803, 1835, 1837, 1932  
**salt marsh levee** 1601  
**salt marsh restoration** 1706, 1707, 1765, 1778  
**salt marsh restoration projects** 1721  
**salt ponds** 1895  
**salt toxicosis** 1864  
**Saltatoria** 412, 777  
**Salton Sea** 1512  
**salvage logging** 980, 1274  
**Salvelinus confluentus** 1557  
**Salvelinus fontinalis** 1328, 1404, 1434, 1529, 1531  
**Salvelinus fontinalis: habitat management** 1517  
**Salvia** 299, 748  
**sampling** 262, 274, 515, 619, 773, 794, 982, 1138, 1482, 1491, 1640, 1708, 1883, 1907, 2141, 2229  
**San Bernard National Wildlife Refuge** 1620  
**San Diego Bay** 1719, 1894  
**San Diego County, California** 1348  
**San Francisco Bay** 1837, 1895, 1915  
**San Francisco County** 1837  
**San Gabriel River** 1572  
**San Joaquin antelope squirrel** 650  
**San Joaquin kanagaroo rat** 650  
**San Joaquin River Valley** 650  
**San Joaquin Valley** 1614, 1744, 1886, 1910, 2232

## Subject Index

- San Joaquin Wildlife Sanctuary** 1612  
**San Pablo Bay National Wildlife Refuge** 1601  
**San Patricio County** 605  
**San Pedro R.** 726  
**sand** 1523  
**sand fraction** 79  
**sand prairie** 567  
**sand prairie habitat mitigation and management case study** 567  
**sand sagebrush** 414, 615, 625  
**sand sagebrush habitat** 414  
**sand shinnery** 512  
**Sander canadensis: farming and agriculture** 1538  
**sandhill crane** 1737  
**sandhills** 924, 1141  
**sandy loam soils** 439  
**sandy soil** 1065  
**Sangamon River** 1550  
**Sangre de Cristo Mountains** 773  
**Santa Cruz County** 471  
**Santa Rita Experimental Range** 389  
**Sapelo Island** 1083  
**Sapindaceae** 2083  
**Saproxylic** 1300  
**saproxylic organism** 1300  
**sapsuckers** 1102  
**Saskatchewan** 178, 251, 392, 465, 537, 671, 687, 787, 845, 874, 987, 997, 1630, 1772, 1923  
**satellite imagery** 1645  
**saturated conditions** 1715  
**Sauria** 2120  
**savanna** 628, 638, 734, 895, 1998, 2081, 2083  
**savanna ecoregion** 2211  
**Savannah R.** 991  
**Savannah River National Environment Research Park** 916  
**Savannah River Site** 915, 976, 1260, 1302, 2107  
**Savannah River Site Nuclear Production Facility** 1228  
**Savannah sparrow** 217, 542, 543, 563, 683, 1346  
**Savannas Preserve State Park** 716  
**scale** 617, 664, 682, 1679, 2034, 2168  
**scale effect** 621, 664  
**scaled quail** 373  
**Scaphinotus rugiceps** 1105  
**Scaphiopus holbrookii** 1617, 1978  
**Sceloporus scalaris** 419  
**Sceloporus undulatus** 2120  
**Sceloporus woodi** 1155  
**Schizachyrium scoparium** 2120  
**Schizolachnus** 931  
**Schoenoplectus acutus** 1680  
**Schoenoplectus californicus** 1680  
**scientific method** 841  
**scientific soil nutrients** 1274  
**scientist perceptions** 2275  
**Scirpus** 1771  
**Scirpus acutus** 1811  
**Scirpus maritima** 1671  
**Sciuridae** 29, 147, 302, 531, 669, 901, 1019, 1042, 1138, 1157  
**Sciurus aberti** 1126, 1326  
**Sciurus niger cinereus** 1246  
**Scolopacidae** 141, 184  
**Scolopax minor** 1096  
**Scolopax minor (Scolopacidae): farming and agriculture** 184  
**Scolytinae** 936, 1300  
**Scotland** 2071  
**Scott County, Mississippi** 902  
**scour** 1387  
**scrub** 389, 573, 597, 603, 641, 734, 812, 1032, 1145, 2099  
**scrub jay** 716  
**scrub oak barrens** 1145  
**scrub-shrub habitats** 2027  
**sea surface temperature** 1645  
**seabirds** 1906, 2168  
**seaside sparrow** 349  
**seasonal abundance** 1610, 1818  
**seasonal activities** 238, 658, 902, 1261, 1350  
**seasonal and annual home ranges** 1258  
**seasonal and semipermanent wetlands** 1866  
**seasonal availability** 757  
**seasonal changes** 25  
**seasonal changes and influences** 1320  
**seasonal checklist** 1610  
**seasonal differences** 1647  
**seasonal distribution and movements** 1538  
**seasonal dynamics** 420  
**seasonal forest pools** 1857  
**seasonal forest wetlands** 1889  
**seasonal habitat selection** 1261  
**seasonal habitat use** 1262  
**seasonal influence** 2230  
**seasonal movements** 151  
**seasonal ponds** 1227  
**seasonal productivity** 530  
**seasonal use of canopy gaps** 1260  
**seasonal variation** 105, 238, 722, 1339, 1549, 1720, 1744, 1772, 1941, 2124, 2231  
**seasonal wetlands** 1619, 1715, 1808, 2025, 2026  
**seasonality** 17, 189, 383, 437, 454, 529, 546, 728, 1257, 1867  
**seasons** 238, 519, 797, 902, 1031, 1303, 1309, 1359, 1768, 2141  
**Seattle** 1671  
**Secale cereale** 1943  
**second-growth forests** 954, 1492  
**secondary forests** 838  
**secondary succession** 623, 889  
**sedge wren** 93, 217, 563, 696  
**sediment** 741, 1370, 1404, 1456, 1495, 1523, 1527, 1539, 1549, 1558, 1703, 1757, 1819, 1827, 1839, 1852, 1970, 1981, 2092, 2261  
**sediment composition and accretion rates** 1486  
**sediment contamination** 7, 1726, 1842, 2212  
**sediment deposition** 1495  
**sediment load** 1413, 1539, 1564, 1890  
**sediment loading** 1370  
**sediment loss** 1190  
**sediment plugs** 1669  
**sediment pollution** 7, 1539, 1842, 2212  
**sediment texture** 1512  
**sediment transport** 1387, 1564  
**Sediment transport--United States** 2194  
**sedimentation** 1396, 1411, 1413, 1432, 1461, 1468, 1473, 1498, 1549, 1569, 1663, 1691, 1705, 1736, 1890  
**sedimentation rates** 1493, 1852  
**seed addition** 306  
**seed banks** 1691, 1831, 2004  
**seed dispersal** 2017  
**seed output** 491  
**seed predation** 485, 1944  
**seed sources** 2017  
**seeding** 165, 881  
**seedling emergence** 306  
**seedling establishment** 822  
**seedlings** 1340, 2045, 2240  
**seeds** 42, 170, 239, 306, 490, 1245, 1633, 1772, 1924, 2045, 2068, 2281  
**seining** 1892  
**Seiurus** 984  
**Seiurus aurocapillus** 945, 949, 962, 984, 989, 995, 999, 1135, 1233, 1303  
**Seiurus aurocapillus (Parulidae): forestry** 992, 2235  
**selection** 964, 1362  
**selection criteria** 284  
**selection cutting** 1228  
**selection harvest** 1223  
**selection logging** 1484  
**selective felling** 1080  
**selective forest logging** 994  
**selective grazing** 604  
**selective harvesting** 1037, 1056  
**selective logging** 993, 994, 999, 1484  
**selective timber harvest treatments** 1306  
**selective withdrawal** 1488  
**selectivity** 678  
**selenium** 1771, 1819, 1870, 2014, 2015, 2212  
**selenium concentration** 1405  
**selenium: trace metals** 2062  
**self design** 1712  
**semi-arid habitat** 652, 2236  
**semi arid landscape** 1747  
**semiaquatic habitat** 278, 355, 1578, 1583, 1604, 1605, 1610, 1611, 1612, 1641, 1704, 1738, 1747, 1752, 1774, 1781, 1789, 1838, 1848, 1866,

- semiaquatic habitat (contd.)** 1885, 1887, 1889, 1904, 1916, 1923, 1948, 1969, 2033, 2037, 2097, 2119, 2155, 2207, 2222, 2270  
**semiarid region** 624  
**semiarid shrublands: habitat** 564  
**semiarid zones** 333, 741  
**semidesert grasslands** 518  
**seminatural wetland habitat** 1724  
**Seminole bat** 967  
**Seminole County** 1032  
**sensitivity analysis** 2030  
**Sequoia Riverlands Trust** 2025, 2026  
**seral stages** 717, 1024  
**serial continuity concept** 1535  
**Serpentes** 428, 481, 1436, 2204  
**set-aside land** 113  
**set-aside program lands** 212  
**Setophaga ruticilla** 856, 1033, 1189  
**Setophaga ruticilla** 1233  
**settlement** 1125, 1192, 1993, 2278  
**Sewage---Purification---Biological treatment---United States---Case studies** 1656  
**sex differences** 262, 500, 1674, 1714  
**sexual aggregation** 755  
**sexual dimorphism** 755  
**sexual reproduction** 1936  
**sexual segregation** 755  
**sexual selection** 1845  
**shade coffee** 1130  
**shading** 2082  
**shallow connected lake** 1833  
**shallow lake community structure** 1779  
**shallow lake species diversity** 1677  
**shallow lakes** 1779  
**shallow water** 1806  
**shallow water habitats** 1884  
**Shannon County** 1016  
**Shannon diversity** 1103  
**sharp-tailed grouse** 81, 106, 203, 377, 463, 494, 595, 694, 756  
**shearing** 1324  
**sheep** 347, 417, 638, 677, 702, 1340  
**sheep grazing** 356, 547  
**Sheeprock Mountains** 431  
**sheetwater wetland** 1733  
**Shelby County** 98  
**shelterbelts** 216, 2242  
**sheltered habitats** 1441  
**shelterwood** 964, 1181  
**shelterwood and selection silviculture** 1256  
**shelterwood logging** 995  
**Sherman County** 2064  
**Sherman Reservoir** 2064  
**shinnery oak habitat** 603  
**shorebirds** 168, 464, 1613, 1653, 1767, 1768, 1800, 1826, 1839, 1912, 1913, 1934, 2232  
**shoreline modifications** 2228  
**shoreline restoration** 2228  
**shores and banks** 1389  
**shores and banks fences** 1498  
**short-duration grazing** 510, 727  
**short duration grazing use** 810  
**short-tailed shrew** 852  
**short term and continuous cattle grazing** 500  
**short term breeding population responses** 1264  
**short-term effects** 1268  
**short term variations** 760  
**shortgrass prairie** 751, 752  
**Shortgrass Prairie Bird Conservation Region** 751, 752  
**shrews** 376, 982, 1031, 1297  
**shrimp** 1788  
**shrub grasslands** 430, 436, 555, 716, 758, 2141  
**shrub habitat** 1959  
**shrub-removal** 388  
**shrub-scrub** 1998  
**shrub-steppe** 1993, 2284  
**shrub-steppe habitat** 430  
**shrub willow floodplain: habitat** 318  
**shrubland** 54, 118, 130, 480, 512, 609, 744, 772, 1187, 1961, 2030  
**shrubland birds** 598, 1937, 1961  
**shrubland conditions** 338  
**shrubland management** 1961  
**shrubland matrix** 755  
**shrubland restoration** 338  
**shrubs** 231, 638, 662, 728, 762, 878, 1265, 1313, 1412, 1556, 1823  
**shrubsteppe** 263, 287, 530  
**Sialia currucoides** 876  
**Sialia mexicana** 1176  
**Sialia sialis** 1265  
**Sicamous area** 1219  
**Sichuan pheasants** 260  
**Sierra de la Laguna** 632  
**Sierra Nevada** 596, 682, 823, 952  
**Sierra Nevada Mountains** 988  
**Sierra Nevada, south** 1157  
**Sigmodon fluviiventer** 744  
**Sigmodon hispidus** 584, 688, 953  
**signals** 1116  
**silt** 1483, 1523  
**silt load** 1852  
**siltation** 1691  
**silver-haired bat** 967  
**silvicultural management** 1311  
**silvicultural management techniques** 1273  
**silvicultural practices** 1019, 1100, 1149, 1267, 1272, 1355, 1945, 2016, 2040  
**silvicultural prescription** 1319  
**silvicultural systems** 842, 1080, 1187  
**silvicultural techniques** 1273  
**silviculturally-accepted systems** 1235  
**silviculture** 155, 832, 839, 842, 844, 851, 878, 904, 913, 923, 924, 929, 945, 954, 968, 969, 970, 977, 978, 980, 981, 993, 999, 1000, 1003, 1015, 1035, 1037, 1038, 1050, 1052, 1064, 1089, 1100, 1124, 1125, 1127, 1175, 1179, 1187, 1189, 1224, 1225, 1226, 1233, 1242, 1261, 1273, 1277, 1283, 1291, 1303, 1305, 1314, 1318, 1336, 1360, 1365, 1366, 1690, 2077, 2173, 2223, 2278  
**silviculture guidelines** 1189  
**silviculture impact on forest population density** 1256  
**silviculture methods in forest habitat** 1256  
**silviculture: riparian responses** 2247  
**silvopasture** 708  
**simulation** 147, 839, 1051, 1143, 1276, 1305, 1497, 1590, 1754  
**simulation model: mathematical and computer techniques** 420  
**simulation models** 147, 298, 778, 849, 1160, 1200, 2115  
**single-tree selection cutting** 999  
**single tree selection harvesting** 1230  
**sink environment** 2239  
**Sipsey Fork River** 1437  
**Sistrurus catenatus** 481  
**Sistrurus catenatus catenatus: habitat management** 692  
**site accessibility** 2238  
**site drainage** 1702  
**site fidelity** 68, 1082, 1268  
**site-occupancy model** 1783  
**site preferences** 937  
**site preparation** 1054  
**site selection** 80, 213, 256, 559, 622, 1150, 1237, 1614, 1990  
**Sitta canadensis** 995, 1102, 1288  
**Sitta pusilla** 973  
**size** 500, 515, 807, 1389, 1412, 1765, 1778, 2103, 2198  
**size and weight relationships** 632  
**skidder rut wetlands** 2107  
**skidder ruts** 2107  
**Skookumchuck Creek** 1490  
**skunk** 141  
**slash mulching** 1190  
**slash pine** 1330  
**slash pine forests** 1356  
**slash pine timber production** 1356  
**sleeping** 1613  
**sleeping place** 902, 1150  
**slender glass lizard** 792  
**slope** 2154  
**sloughs** 1805  
**slugs** 528, 1669  
**small** 2048  
**small farms** 1945

Subject Index

- small isolated prairie reserves** 365  
**small isolated wetlands** 2122  
**small mammal communities** 1100  
**small mammals** 106, 166, 243, 425, 575, 586, 591, 674, 725, 744, 759, 762, 832, 894, 933, 953, 988, 1024, 1118, 1214, 1231, 1278, 1280, 1283, 1284, 1285, 1314, 2181  
**small montane streams** 1375  
**small-mouthed salamander** 1662  
**small patch cut harvesting** 1230  
**small taxa** 295, 711, 765, 1270  
**small taxa abundance** 1282  
**small taxa community responses** 766  
**small taxa evaluation** 1286  
**small taxa population responses to grassland management** 724  
**small taxa responses to habitat restoration** 766  
**small terrestrial fauna** 940  
**small watersheds** 2198  
**small wetlands** 1594  
**smallmouth salamanders** 2006  
**smartweed** 2068  
**Smith County, Mississippi** 902  
**smolts** 1422, 1658  
**SMZ** 1297  
**snag cavity use** 1206  
**snag density** 1288  
**snag-forest** 980  
**snag retention** 1206  
**snag variables** 1288  
**snags** 889, 896, 921, 922, 936, 967, 980, 998, 1001, 1048, 1094, 1095, 1129, 1169, 1195, 1263, 1288, 1289, 1290, 1318, 1368, 2124  
**snails** 528, 1669, 1886  
**snake refugia** 428  
**Snake River Birds of Prey National Conservation Area** 667  
**snakes** 951, 1220  
**snag trapping** 485  
**snow** 981, 1960, 2141  
**snow goose** 1737  
**snowberry** 2141  
**snowfall** 11  
**snowshoe hare** 890, 981, 1104, 1107  
**snowy plover** 1872  
**social aspects** 919, 2028  
**social attitudes** 2  
**social behavior** 415, 755, 797, 878, 1155, 1538, 1932, 2076  
**social changes** 1891  
**social effect** 240  
**social organization** 755, 1932  
**social sciences** 1928  
**social survey** 1956  
**societies and institutions** 39  
**socio-economic studies** 196, 1555, 1997  
**socioeconomics** 390, 2028, 2090  
**sociological aspects** 1586, 1814, 1940, 2135  
**sociology, general** 511  
**Socorro County, New Mexico** 301  
**sod field** 1973  
**Sodbuster** 2273  
**softwoods** 905, 1043  
**soil and water** 508  
**soil bulk density** 354, 432  
**soil chemical properties** 79  
**soil chemistry** 734  
**soil chemistry and physics** 1715  
**soil community** 219, 771  
**soil community structure** 2072  
**soil compaction** 347  
**soil conservation** 92, 149, 177, 191, 231, 285, 1495, 1727, 1940, 2028, 2152, 2253  
**Soil conservation---Government policy---United States** 43  
**Soil conservation---United States** 2194  
**soil contamination** 7, 1842  
**soil cultivation and cropping systems** 1945  
**soil depth** 354  
**soil development** 1648  
**soil erosion** 133, 190, 215, 233, 246, 734, 1377, 1432, 1939, 2028  
**Soil erosion---United States** 2194  
**soil exposure** 1190  
**soil fauna** 180, 770, 966  
**soil fertility** 259, 347  
**soil fertility, fertilizers, and manures** 259  
**soil food webs and community composition** 180  
**soil habitat** 78, 110, 167, 180, 242, 245, 646, 1022, 2072  
**soil losses** 1411  
**soil management** 219, 245, 775, 1633  
**soil microtopography** 1190  
**soil moisture** 354, 775, 1190  
**soil nutrient content** 219  
**soil organic carbon changes** 246  
**soil organic matter** 79, 1274  
**soil parameters** 577  
**soil pH** 79, 259  
**soil physical properties** 79  
**soil pollutants** 1812  
**soil pollution** 2136, 2224  
**soil pollution: monitoring, control, remediation** 2212  
**soil population responses to tillage regime** 167  
**soil properties** 790, 1831  
**soil protection** 375  
**soil remediation** 2212  
**soil science** 103, 191, 246, 1378  
**soil tamping** 485  
**soil temperature** 354, 850  
**soil transplantation** 1794  
**soil type** 763, 770  
**soil-water** 1661, 1715  
**soil-water-plant relationships** 1526, 1659  
**soils** 699, 734, 785, 817, 907, 919, 948, 1377, 1451, 1591, 1842, 2120  
**Solano County** 1932  
**Solanum lycopersicum** 2271  
**solid wastes** 1817  
**Solidago** 544  
**song sparrow** 93  
**songbird communities** 1226  
**songbird conservation** 411, 465, 1218  
**songbirds** 84, 108, 311, 401, 442, 464, 465, 542, 671, 712, 726, 772, 773, 841, 882, 889, 906, 993, 1015, 1118, 1216, 1218, 1235, 1291, 1313, 1625, 1945, 1962, 1964, 2163  
**Sonoma County** 809, 1601  
**Sonoran Desert** 2280  
**Sora** 1849  
**Sorensen's Similarity Index: mathematical and computer techniques** 611  
**Sorex** 852, 1283  
**Sorex cinereus** 591, 1297  
**Sorex cinereus: farming and agriculture** 459  
**Sorex dispar** 1297  
**Sorex fumeus** 591, 1269, 1297  
**Sorex hoyi** 1269, 1297  
**Sorex longirostris: forestry** 1269  
**Sorex monticolus** 1129  
**Sorex ornatus sinuosus (Soricidae): habitat management** 1932  
**Sorex trowbridgii** 854, 1129  
**Sorex vagrans** 1129  
**Sorghum** 496  
**Sorghum vulgare** 2068  
**Soricidae** 1024, 1280, 1297, 1932  
**Soricids** 1297  
**source environment** 2239  
**source habitats** 2239  
**source-sink** 2163  
**source-sink dynamics** 776, 2163, 2200, 2239  
**source-sink model** 2200  
**sources and fate of pollution** 1842  
**South Carolina** 109, 833, 851, 916, 953, 955, 968, 971, 983, 991, 1021, 1023, 1025, 1075, 1110, 1111, 1148, 1169, 1205, 1228, 1259, 1260, 1264, 1300, 1324, 1330, 1333, 1335, 1596, 1774, 1840, 2107, 2207  
**South Carolina coastal plain** 2122  
**South Carolina, western** 915, 976  
**South Dakota** 49, 89, 91, 104, 111, 122, 159, 162, 218, 237, 238, 248, 250, 295, 346, 459, 595, 704, 711, 897, 995, 1362, 1646, 1670, 1685, 1722, 1781, 1865, 1963, 2001, 2076, 2114, 2214  
**South Dakota: Butte County** 66  
**South Dakota: eastern region** 739  
**South Dakota: Pennington and Lawrence Counties** 1350  
**South Dakota, western region** 619, 2147

- South Fork Edisto River** 109  
**South Platte River** 824  
**South Platte River basin** 1950  
**South Platte State Wildlife Area** 765  
**South Texas** 467  
**Southeast** 302  
**southeastern Myotis** 1205  
**southeastern U.S. river** 1430  
**southern Appalachian herpetofauna** 2204  
**southern Appalachian Mountains** 1002  
**southern Appalachian reptiles** 2204  
**southern Appalachians** 1312, 2091  
**Southern California** 1298  
**southern Great Plains** 664, 1817, 1825  
**southern High Plains** 1606, 1613, 1633, 1726, 1752, 1762, 2037  
**Southern Iowa Drift Plain** 330  
**southern leopard frog** 1840  
**southern Olympic** 1555  
**southern Ontario** 1494  
**southern pine bluestem forests** 948  
**southern plains states of USA** 231  
**southern Quebec** 1947  
**southern red-backed vole** 1129  
**southern toad** 1330  
**Southlands Forest** 2023  
**Southwest** 302, 784, 2054  
**southwestern willow flycatcher** 784  
**sown grasslands** 236  
**soybeans** 154, 166, 276, 583  
**sparrow habitat** 349  
**sparrows** 98, 175  
**Spartina** 1756  
**Spartina foliosa** 1925  
**Spartina patens** 1649  
**spatial** 1542, 2168  
**spatial analysis** 803, 1533, 2017, 2239  
**spatial arrangement** 1271  
**spatial data** 778, 1200, 1495, 2092  
**spatial distribution** 79, 774, 775, 778, 779, 984, 1085, 1305, 1448, 1455, 1506, 1511, 1700, 1842, 1880, 1944, 1950, 1959, 2035, 2168  
**spatial distribution of low density populations** 777  
**spatial distributions of male mating aggregations** 415  
**spatial environment** 526  
**spatial harvest planning model** 1303  
**spatial heterogeneity** 777  
**spatial isolation** 1373  
**spatial models** 1334, 1341  
**spatial optimization model** 2175  
**spatial patterns** 803, 2017  
**spatial scale** 665, 790, 1162, 1831, 1877  
**spatial scaling** 1535  
**spatial variability** 540  
**spatial variables measurement** 1142  
**spatial variation** 247, 774, 1162, 1302, 1549, 1823, 1849, 1876, 2115  
**spatially explicit models** 1309  
**spatially explicit population model** 1957  
**spatially explicit simulation** 1143  
**spatiotemporal analysis** 1300  
**Spatula clypeata** 276  
**spawning** 1407, 1450, 1491  
**spawning ground** 1686  
**Spea multiplicata** 1762  
**species** 195, 197  
**species abundance** 13, 17, 21, 97, 198, 226, 257, 560, 643, 727, 785, 985, 1004, 1190, 1210, 1233, 1305, 1492, 1543, 1897, 1909, 1983, 2035  
**species accumulation** 356  
**species accumulation curves** 1142  
**species-area** 1679  
**species-area relationships** 872  
**species composition** 13, 144, 182, 790, 832, 880, 1142, 1437, 1603, 1648, 1668, 1719, 1897  
**species composition changes** 1985  
**species conservation** 38, 296, 310, 509, 593, 664, 703, 718, 1177, 1218, 1255, 1263, 1337, 1998, 2108, 2182, 2229, 2250  
**species density** 95, 385, 972, 1627, 1648  
**species differences** 753  
**species distribution** 385, 932, 1428  
**species diversity** 15, 30, 55, 94, 98, 105, 120, 157, 161, 169, 172, 182, 195, 204, 226, 243, 244, 274, 295, 348, 361, 367, 376, 386, 405, 432, 447, 462, 490, 491, 509, 525, 575, 576, 582, 611, 635, 670, 702, 722, 731, 734, 741, 759, 762, 770, 780, 838, 861, 875, 881, 886, 898, 907, 936, 937, 951, 953, 955, 960, 961, 976, 995, 1002, 1007, 1009, 1016, 1020, 1024, 1050, 1076, 1079, 1091, 1100, 1103, 1111, 1129, 1139, 1162, 1197, 1210, 1220, 1228, 1234, 1250, 1257, 1264, 1265, 1280, 1294, 1312, 1313, 1398, 1407, 1422, 1443, 1464, 1466, 1511, 1521, 1579, 1592, 1598, 1617, 1620, 1633, 1638, 1643, 1651, 1654, 1661, 1662, 1677, 1681, 1729, 1748, 1752, 1757, 1759, 1763, 1772, 1773, 1823, 1830, 1833, 1838, 1844, 1875, 1883, 1885, 1908, 1910, 1918, 1919, 1931, 1936, 1944, 1950, 1960, 1963, 1967, 1995, 1997, 2021, 2042, 2052, 2060, 2090, 2122, 2138, 2154, 2178, 2224, 2227, 2230, 2257  
**species diversity relations** 1079  
**species evenness** 907  
**species extinction** 1650, 1651  
**species groups** 1011, 2239  
**species-habitat models** 1899  
**species interactions: general** 100  
**species interactions: parasites and diseases** 1815  
**species loss** 492  
**species management** 460  
**species occurrence** 1594, 1783, 1849, 1953, 1983  
**species of concern** 1299  
**species of focus** 2239  
**species presence** 961  
**species productivity** 198  
**species reintroduction** 1061  
**species representation** 2238  
**species retention** 1206  
**species richness** 24, 32, 87, 205, 243, 257, 388, 432, 449, 522, 525, 560, 576, 582, 601, 611, 790, 814, 831, 838, 855, 858, 872, 898, 936, 953, 972, 1029, 1054, 1089, 1119, 1142, 1143, 1190, 1211, 1228, 1233, 1244, 1257, 1277, 1283, 1287, 1295, 1312, 1398, 1470, 1506, 1515, 1592, 1597, 1621, 1668, 1681, 1740, 1757, 1759, 1823, 1833, 1868, 1875, 1883, 1909, 1911, 1913, 1931, 1936, 1974, 2036, 2044, 2093, 2181, 2197, 2204, 2227, 2265, 2282  
**species richness and diversity** 1314  
**species-specific edge effects** 1308  
**species survey and seasonal abundance** 1610  
**species trait analysis use** 782  
**species turnover** 884  
**specific conductance** 1428  
**Speotyto cunicularia** 392, 1980, 1993  
**Spermatophyta** 741  
**spermatophytes** 2061, 2192  
**Spermophilus** 1285  
**Spermophilus brunneus brunneus** 384  
**Spermophilus franklinii** 218  
**Spermophilus franklinii: distribution within habitat** 2142  
**Spermophilus lateralis** 1281  
**Spermophilus tridecemlineatus** 166, 669  
**Speyeria idalia: habitat management** 786  
**Sphaerium** 1483  
**Sphaeroderus lecontei** 1257  
**Sphyracticus varius** 1102  
**spider diversity** 2044  
**spiders** 528, 1105  
**Spilogale gracilis** 570  
**Spiza** 139, 527  
**Spiza americana** 17, 21, 26, 55, 93, 97, 139, 181, 291, 527, 544, 946, 2184  
**Spizella** 317  
**Spizella arborea** 1937



## Subject Index

- Spizella arborea (Passeriformes)** 17
- Spizella breweri** 66, 530, 745, 763
- Spizella breweri: disturbance by man** 597
- Spizella pallida** 660, 669, 671, 683, 845, 1346, 1953
- Spizella passerina** 317, 446, 973
- Spizella pusilla** 55, 93, 317, 446, 1175, 1233, 2030
- Sporobolus wrightii** 334
- sport fishing** 1529
- spotted owl** 913, 1056, 1120, 1268, 1309, 1310
- spotted salamander** 1655, 1690, 1844, 1845, 2006
- spotted seatrout** 1798
- spring** 520, 699, 1074, 1613, 1799
- spring active assemblage composition** 1067
- spring bird migration** 1311
- Spring Creek** 1524
- spring migration** 250
- sprouting** 1271
- sprouts** 2237
- spruce forest management** 1067
- Squamata** 428, 481, 2204
- squash** 127
- Squaw Creek National Wildlife Refuge** 692
- squirrel, flying** 1016
- squirrels** 978, 1109
- St. John's River basin** 349
- St. Johns River Water Management District** 1856
- St. Landry Parish** 1610
- stabilization** 1622
- stable isotope ratios** 1645
- stable isotopes** 251
- stakeholder perceptions** 2275
- stakeholders** 252
- stand age** 997
- stand characteristics** 1024, 1296
- stand composition** 2115
- stand density** 849, 935, 967, 1024, 1314
- stand density index** 929
- stand development** 1305
- stand management** 1115
- stand structure** 576, 849, 863, 935, 1009, 1076, 1100, 1142, 1277, 1296, 1314, 1318, 1823
- standardized broadcast call technique** 2195
- standards** 840, 2257
- standing biomass** 897
- standing crops** 699, 1389, 1507, 1535
- standing dead trees** 1195
- standing stock** 1563
- Staphylinidae: forestry** 846
- starvation** 1350
- state conservation programs** 12, 14, 53, 70, 77, 111, 122, 237, 270, 286, 704
- state wildlife management areas** 244
- statistical analysis** 117, 198, 1141, 1521, 1772, 1876
- statistical design** 1925
- statistical method** 1297, 1428, 1791
- statistical models** 987
- statistics** 49, 55, 98, 196, 274, 281, 443, 515, 902, 982, 1165, 1412, 1810, 1951, 1968, 2147
- status** 68, 134, 153, 279, 291, 428, 658, 797, 806, 833, 924, 925, 957, 976, 995, 1000, 1042, 1122, 1179, 1224, 1233, 1246, 1366, 1424, 1609, 1880, 1884, 2130
- status survey** 2229
- steelhead** 1472
- steelhead trout** 1457
- Steens Mountain** 597
- stem density** 1142
- stems** 638, 935
- steppe** 748
- stewardship** 594, 687, 787, 2248
- Stillwater** 2014, 2241
- Stillwater State Forest** 981
- Stillwater Wildlife Management Area** 2013
- stimulus reaction** 531
- Stipa viridula** 1808
- stochastic dynamic programming** 612
- stochastic processes** 612
- stock assessment and management** 1928
- stock ponds** 1602, 2047
- stocking density** 1759
- stocking diagram** 929
- stocking intensity** 948
- stocking level** 433
- stocking (organisms)** 1669
- stocking rate** 298, 352, 638, 780, 1408, 1759
- stocking rate reduction** 411
- stocking-transplanting** 153, 302, 1246, 2210, 2240
- stocks** 1759
- stomach fullness** 1778
- stopover** 831
- stopover site** 1674
- storage tanks** 2011
- Storeria occipitomaculata** 951
- stormwater runoff** 7
- stormwater treatment wetlands** 1611
- strategic planning** 873, 1043
- strategies in agroecosystems** 521
- strategy** 605, 1075
- stratified tag-recapture** 1418
- straw** 1777
- straw disposal** 1584, 1742
- Strawberry Valley** 680
- stream agroecosystems** 1401
- stream amphibians** 1245
- stream bank protection** 1571
- stream bank stability** 1419
- stream banks** 1398
- stream barrier removal** 1469
- stream benthic community** 1397
- stream bioassessment** 1462
- stream biota** 1529
- stream buffer** 2245
- stream channel structure** 1522
- stream channelization** 1508
- stream channels** 1487, 1495
- stream classification** 1495
- stream communities** 1328, 2058
- stream community structure effects** 1514
- stream conditions** 1516
- stream corridors** 1548
- stream culverts** 1373
- stream depth** 785
- stream discharge** 1481
- stream ecology** 1471, 2254
- stream ecosystems** 1369, 1501
- stream enhancement** 1522
- stream erosion** 1456
- stream fauna** 2058
- stream flow** 133, 1399, 1416, 1432, 1470, 1478, 1488, 1497, 1557
- stream flow rate** 1564
- stream habitat** 1402, 1440
- stream habitat management** 1537
- stream habitat restoration** 1492
- stream habitats in urbanizing watersheds** 1540
- stream improvement** 1498
- stream inflows** 1820
- stream insect communities** 1484
- stream management** 1451, 1452
- stream morphology** 1492
- stream pollution** 1415, 1460, 1519
- stream processes** 1522
- stream quality** 587, 1401, 1494
- stream restoration** 587, 1387, 1461, 1513, 1526, 1535, 1547, 1553, 1571
- stream riparian habitat** 1502, 1562
- stream riparian interactions** 1535
- stream salamanders** 1690
- stream theory** 1411
- stream water quality** 1478
- streambank erosion** 1571
- streambank fencing** 1398
- streambank protection with rip rap** 1474
- streambanks** 371, 1379
- streamflow** 1506, 1550, 1564, 2092
- streams** 340, 473, 575, 750, 866, 885, 1370, 1379, 1380, 1383, 1385, 1387, 1389, 1392, 1397, 1399, 1403, 1404, 1408, 1413, 1414, 1415, 1423, 1439, 1445, 1448, 1451, 1455, 1456, 1458, 1462, 1464, 1470, 1473, 1474, 1476, 1480, 1483, 1484, 1486, 1489, 1490, 1493, 1495, 1498, 1499, 1507, 1511, 1513, 1514, 1515, 1517, 1519, 1521, 1524, 1525, 1528, 1537, 1539, 1540, 1542, 1546, 1549, 1550, 1551, 1554, 1556, 1558, 1559, 1562, 1565,

- streams (contd.)** 1568, 1570, 1573, 1679, 2090, 2115, 2129, 2154, 2159, 2166, 2191, 2202, 2216, 2217, 2254, 2257, 2272
- streams (in natural channels)** 1511
- streamside elevation** 1648
- streamside forest management** 2058
- streamside management zones (SMZ)** 1280
- streamside resources** 2202
- stress** 1035, 2224
- Strigidae** 153, 823, 954, 1048, 1120, 1179, 1244, 1268, 1309, 1310, 1345, 1980, 1993
- Strigiformes** 153, 823, 913, 954, 1048, 1120, 1151, 1179, 1207, 1268, 1309, 1310, 1980, 1993
- Strigiformes, Aves** 667, 1345
- strip cover** 139
- strip mowing** 584
- striped mullet** 1798
- striped skunk** 218, 695, 2102
- Strix nebulosa (Strigidae)** 823
- Strix occidentalis** 836, 849, 853, 913, 954, 1048, 1120, 1268, 1309, 1315
- Strix occidentalis caurina** 954, 1151, 1309, 1310
- Strix occidentalis caurina: forestry** 1273
- Strix occidentalis caurina (Strigidae): forestry** 1345
- Strix occidentalis lucida** 1207
- structural complexity** 797, 1000
- structural equation modeling** 621
- structural habitat attribute** 1000
- structural heterogeneity** 775
- structural marsh management** 1692, 1746, 1822
- structure** 1483
- structured cut-blocks** 869
- stub use patterns** 1184
- stubble** 112, 505, 1933
- stubble height** 112
- studies** 1374
- study methods** 120, 806, 921, 1038, 1048, 1158, 1176, 1246, 1303, 1943, 2141
- stump number** 994
- Sturnella** 10, 29, 527
- Sturnella: habitat management** 135
- Sturnella (Icteridae)** 61
- Sturnella magna** 55, 80, 93, 209, 291, 309, 542, 544, 606, 651, 652
- Sturnella neglecta** 93, 166, 195, 606, 671, 845, 1937, 1953
- Sturnella spp. (Passeriformes)** 17
- Sturnidae** 745
- sub-watershed** 1966
- subalpine fir** 1360
- subarctic forest** 889, 980
- sublethal effects** 1539
- submerged aquatic plants** 1799
- submergence** 1933
- subsidies** 2243
- substrates** 1483
- subsurface irrigation drainage** 1583
- subsurface layer** 246
- suburban** 1809
- suburban development** 1192
- suburban wildlife space planning** 1192
- success** 73, 993, 1120
- succession** 66, 182, 228, 384, 392, 861, 880, 881, 893, 921, 968, 1120, 1125, 1129, 1134, 1143, 1160, 1187, 1233, 1290, 1292, 1359, 1360, 1533, 1585, 1772, 1883, 1961, 2042, 2082
- succession in habitats** 815
- successional habitats** 1959, 2223
- successional old fields** 503
- sugarcane fields** 211
- Suisun Bay** 1932
- summer** 279, 520, 1074, 1321, 1620, 1799, 2206
- summer burning** 481
- summer distribution** 1884
- summer fallow** 198
- summer forage availability** 1202
- summer monsoon** 1190
- summer tanager** 2244
- Summerland, BC** 1099, 2181
- Sunflower County** 292
- sunflower damage** 250
- sunflower seed** 1099
- Superior National Forest** 909
- supplemental feeding** 496, 2069, 2193
- supplemental prey** 2032
- supporting science** 2157
- supports** 1318
- surface active community** 110
- surface area** 2151
- surface drainage** 1817
- surface-groundwater relations** 1415
- surface layer** 246
- surface mining** 1985
- surface mining habitat reclamation** 1985
- surface water** 1009, 1406, 1415, 1521, 1665, 1700, 1851, 1936, 1970, 2011, 2092, 2152
- surface water level** 1637, 1715, 1760, 1906
- Surnia ulula** 1179
- surrogate species** 464
- surrounding landscape** 2017
- survey data use to assess importance of agricultural riparian buffers** 2254
- survey study** 1322
- surveys** 79, 190, 196, 202, 240, 252, 279, 443, 619, 739, 740, 773, 778, 1288, 1472, 1629, 1682, 1713, 1774, 1787, 1810, 2067, 2135, 2147, 2162, 2176, 2240, 2257
- survival** 68, 79, 125, 153, 218, 220, 221, 235, 241, 248, 256, 362, 370, 379, 384, 402, 496, 569, 580, 590, 662, 669, 955, 963, 990, 1063, 1082, 1104, 1171, 1212, 1239, 1268, 1323, 1442, 1488, 1630, 1704, 1714, 1888, 1944, 1951, 2071, 2073, 2078, 2101, 2103, 2105, 2170, 2283
- survival analysis** 793, 2184
- survival and nest success of females** 1323
- survival probability** 1630
- survivorship** 466
- suspended load** 1539
- suspended particulate matter** 1539
- suspended sediments** 1370, 1377, 1413, 1460, 1539
- suspended solids** 1404, 1700
- sustainability** 39, 1009, 1011, 1334, 1478, 1984, 2224
- sustainable agriculture** 114, 1971
- sustainable boreal forest management** 1286
- sustainable development** 2221
- sustainable ecosystems** 1922
- sustainable fishing** 2004
- sustainable forest management** 1142
- sustainable forest programs** 1142
- sustainable forestry initiative** 1156
- sustainable use** 2221
- Swainson's warbler** 993, 1072, 1324
- swamp sparrow** 563
- Swampbuster** 1716, 2109, 2273
- swamps** 1616, 1851
- swamps: habitat** 1791
- sweep sampling: applied and field techniques** 611
- Sweetwater Marsh National Wildlife Refuge** 1894
- swift foxes** 71, 221, 2103
- swimming** 1684
- swine** 2118
- switchgrass** 241, 330, 1059
- switchgrass fields** 790
- switchgrass (Panicum virgatum)** 210
- Sylvilagus auduboni** 373
- Sylvilagus floridanus** 265, 406, 2053
- Sylvilagus floridanus: habitat management** 289
- sympatric species overlap** 678
- Symphoricarpos occidentalis** 1808
- Synaptomys cooperi** 852
- synecology** 1024
- synthesis of monitoring and research results** 1180
- Synuchus dubius** 1061
- Synuchus impunctatus** 1257
- systematic conservation** 1899
- systematics and taxonomy** 1682

Subject Index

- systems modeling** 1580  
**tables data** 191  
**tagging** 203, 1246  
**tailed frog** 1163, 1424, 1555, 2220, 2249  
**tall fescue hayland** 246  
**Tall Timbers Research Station** 272  
**Tallapoosa River** 1430  
**tallgrass prairie** 306, 312, 338, 344, 366, 415, 428, 440, 487, 525, 527, 561, 590, 611, 621, 730, 754, 766, 782, 788, 794, 797, 816, 1238, 1346, 1729, 2184, 2211  
**tallgrass prairie fire mosaic** 797  
**tallgrass prairie habitat** 599, 760, 782  
**tallgrass prairie management** 407  
**tallgrass prairie preserve** 396, 761  
**tallgrass prairie remnants** 656  
**tallgrass prairie restoration** 306, 760  
**tallgrass prairie soil community responses to fire** 646  
**tallgrass prairie soils** 646  
**Tama County** 355  
**Tamaulipan Biotic Province** 564  
**Tamias** 1284, 1285  
**Tamias amoenus** 1229  
**Tamias cinereicollis** 1281  
**Tamias striatus** 933, 1256  
**Tamias townsendii** 978, 1019  
**Tamiasciurus douglasii** 978  
**Tamiasciurus douglasii (Sciuridae): forestry** 1019  
**Tamiasciurus hudsonicus** 842, 1124, 1138  
**Tamiasciurus hudsonicus: forestry** 1256  
**Tamiasciurus hudsonicus grahamensis** 901  
**tan oak** 1086  
**Taney County, Drury Conservation Area** 1150  
**Tangipahoa Parish** 925  
**tannins** 2237  
**Tar Pamlico River Basin** 1397  
**targeting** 1560  
**targeting criteria** 1560  
**Taricha granulosa** 1555  
**tassel-eared squirrels** 1126, 1326  
**taxation** 919  
**Taxidea taxus** 218, 250, 1980  
**taxon richness: areal, numerical** 1791  
**taxonomy** 709, 1936, 1994, 2224  
**Tayassu tajacu** 826  
**TCDD** 2213  
**Teakettle Experimental Forest** 952  
**Tebuthiuron** 554  
**techniques** 120, 153, 175, 262, 302, 915, 939, 976, 1025, 1038, 1048, 1158, 1165, 1234, 1241, 1262, 1303, 1345, 1389, 1533, 1537, 1555, 1624, 2141, 2210, 2226, 2244  
**techniques of planning** 1837, 2186, 2221  
**technology** 1554  
**telemetry** 153, 238, 657, 658, 807, 878, 1165, 1225, 1246, 1261, 1309, 1350, 1624, 2141  
**Teleostei** 1549  
**telephone survey** 2145  
**temperate climate** 2265  
**temperate forests** 849, 1690  
**temperate mixedwood forests** 843  
**temperate zones** 1688, 2149  
**temperature** 262, 785, 1493, 1517, 1537, 1632, 2162, 2216  
**temperature effects** 1636  
**temperature, environment** 1412  
**temperature, environment phosphorus** 1498  
**temperature sensitive stream habitat identification** 1537  
**temporal** 1831, 2168  
**temporal analysis** 1329  
**temporal distribution** 1700, 2168  
**temporal heterogeneity** 814  
**temporal patterns** 1300  
**temporal scaling** 1535  
**temporal spatial distribution** 797  
**temporal variation** 247, 261, 1302, 1849, 1883, 1886, 2115  
**temporarily flooded wetlands** 1887  
**temporary ponds** 1651, 1758, 1883  
**temporary water** 1825  
**temporary wetland community** 2197  
**temporary wetlands** 1712, 1740, 1897  
**Tenebrionidae** 1057  
**Tennessee** 614, 859, 868, 1122, 1148, 1319, 1460, 1521, 2091  
**Tennessee River** 1521  
**terraced sites** 1643  
**terraces** 26, 1798  
**Terrapene carolina** 792  
**Terrapene ornata** 792  
**terrestrial ecology** 19, 68, 257, 303, 312, 314, 357, 366, 428, 481, 715, 733, 749, 755, 757, 758, 797, 804, 833, 844, 876, 895, 909, 925, 954, 958, 985, 995, 1006, 1037, 1038, 1042, 1110, 1122, 1150, 1224, 1225, 1233, 1239, 1247, 1261, 1268, 1305, 1309, 1336, 1959, 1980, 2105, 2120, 2264, 2267  
**terrestrial ecology: ecology, environmental sciences** 72, 173, 315, 358, 364, 369, 375, 400, 450, 479, 485, 540, 541, 571, 578, 661, 790, 798, 969, 979, 1190, 1230, 1287, 1317, 1461, 1643, 1791, 1833, 1922, 1973, 1983, 1987, 2018, 2025, 2026, 2175, 2195, 2247  
**terrestrial ecosystem** 2265  
**terrestrial habitat** 1, 30, 69, 78, 86, 109, 110, 135, 136, 148, 167, 180, 223, 242, 245, 289, 295, 301, 304, 307, 313, 320, 321, 338, 351, 355, 365, 380, 389, 394, 395, 396, 397, 405, 407, 412, 414, 415, 447, 448, 449, 459, 476, 477, 488, 489, 503, 513, 516, 526, 534, 538, 547, 556, 567, 573, 581, 589, 597, 599, 603, 608, 610, 626, 630, 636, 637, 641, 646, 654, 656, 659, 666, 670, 672, 678, 684, 685, 692, 711, 724, 735, 736, 737, 738, 742, 751, 752, 754, 760, 765, 766, 777, 782, 786, 787, 803, 810, 812, 813, 815, 816, 823, 830, 843, 857, 859, 862, 874, 877, 879, 912, 914, 916, 918, 930, 932, 937, 941, 944, 950, 952, 961, 965, 971, 983, 986, 992, 997, 1002, 1013, 1017, 1019, 1022, 1026, 1032, 1034, 1039, 1040, 1046, 1053, 1067, 1068, 1069, 1075, 1077, 1079, 1084, 1085, 1088, 1092, 1113, 1114, 1121, 1123, 1127, 1133, 1136, 1137, 1145, 1146, 1147, 1157, 1161, 1164, 1167, 1180, 1183, 1184, 1185, 1191, 1198, 1202, 1206, 1212, 1213, 1221, 1222, 1228, 1248, 1249, 1250, 1256, 1258, 1259, 1260, 1262, 1264, 1266, 1269, 1270, 1272, 1273, 1279, 1282, 1286, 1293, 1294, 1301, 1306, 1308, 1319, 1320, 1323, 1333, 1338, 1342, 1344, 1345, 1347, 1349, 1352, 1356, 1363, 1367, 1368, 1397, 1406, 1502, 1678, 1699, 1718, 1781, 1889, 1938, 1948, 1949, 1969, 1977, 1985, 2009, 2023, 2033, 2039, 2041, 2043, 2050, 2051, 2054, 2058, 2060, 2071, 2072, 2087, 2088, 2091, 2099, 2101, 2104, 2110, 2114, 2131, 2142, 2202, 2214, 2215, 2218, 2219, 2227, 2235, 2241, 2255, 2256, 2270, 2272, 2284  
**terrestrial migration distances** 1969  
**terrestrial salamanders** 1341  
**terrestrial vertebrates** 2239  
**terrestrial wildlife** 308  
**territorial defense** 68, 716, 1268, 1331, 1959  
**territoriality** 803, 1248, 2235  
**territory** 68, 839, 903, 1230, 1268, 1959  
**territory characteristics** 1959, 2235  
**territory density** 1247  
**territory occupancy** 1331  
**territory size** 716, 925  
**Testudines** 1065  
**Testudinidae** 1065, 2229  
**Tettigoniidae** 399  
**Texas** 40, 65, 71, 96, 104, 130, 146, 150, 182, 197, 232, 265, 270, 333, 351, 382, 427, 438, 439, 469, 498, 499, 500, 501, 551, 566, 570, 573, 602, 605, 624, 676, 679, 681, 707, 714, 720, 729, 755, 778, 812, 826, 888, 990, 1013, 1148, 1173, 1249, 1306, 1598, 1613, 1620, 1633, 1693, 1721, 1726, 1752, 1768, 1785, 1817, 1868, 1872, 1883, 1929, 2037, 2103, 2199

- Texas: Dimmit County** 658  
**Texas High Plains** 36  
**Texas horned lizard** 96, 658  
**Texas: La Salle County** 658  
**Texas, southern** 195, 436, 658  
**Texas, southern High Plains** 1598  
**Texas: Zavala County** 552  
**Thamnophis sirtalis** 428, 792, 1398  
**thematic mapper** 517  
**Theobroma cacao** 2021  
**theory-model** 1051, 2251  
**thermal effects** 1399  
**thermal pollution** 1443  
**thermoregulation** 657  
**thin leaf alder** 822  
**thinned forest stand** 1157  
**thinning** 842, 863, 867, 883, 888, 897, 905, 942, 961, 973, 978, 1037, 1043, 1061, 1072, 1098, 1100, 1104, 1106, 1107, 1138, 1152, 1229, 1277, 1284, 1314, 1351, 1365, 2012, 2126, 2131, 2215, 2216  
**thirteen-lined ground squirrel** 669  
**Thomomys bottae (Geomysidae): farming and agriculture** 363  
**thornscrub ecosystems** 564  
**threatened habitat impacts** 2044  
**threatened species** 562, 613, 853  
**threats to playa wetland habitats** 1752  
**threshold effects** 1560  
**threshold levels** 1539  
**threshold limits** 1539  
**thresholds** 1126  
**thrips** 2035  
**Thryothorus** 1095  
**Thryothorus ludovicianus** 1095  
**Thuja** 1971  
**Thuja plicata** 1263  
**Thunder Bay** 1067  
**Thurston County** 1019, 1738  
**tidal currents** 1671, 1803  
**tidal effects** 1803  
**tidal flow restoration** 1702  
**tidal inundation** 1648  
**tidal marsh habitat** 1932  
**tidal marshes** 1719  
**tidal restoration** 1835  
**tides** 1719, 1803  
**tiger salamanders** 1579, 2006  
**tile drainage waters** 1632  
**till plains** 2006  
**tillage** 5, 112, 201, 235, 244, 246, 583, 1691, 2243  
**tillage agriculture** 2047  
**tillage and continuous cropping** 180  
**tillage effect on pitfall trap capture rate** 262  
**tillage systems** 1494  
**tilled and untilled agroecosystems** 242  
**tilling** 485  
**timber** 905, 919, 970, 1043, 1108, 1152, 1165, 1297, 1341, 2275  
**timber and wildlife resource compatibility analysis** 944  
**timber harvest** 109, 873, 993, 1015, 1166, 1230, 1246, 1276, 1452, 1570, 2249  
**timber harvest methods** 1091  
**timber harvest objectives** 1303  
**timber harvest practices** 1221  
**timber harvesting** 340, 1002, 1003, 1015, 1160, 1292, 1303, 1332, 1570, 1889, 2058, 2059, 2235  
**timber harvesting buffer zones** 1889  
**timber harvesting constraints** 1303  
**timber industry** 1065  
**timber management** 1003, 1043, 1200  
**timber production** 928, 1017  
**timber supply** 1200  
**time allocation** 1724  
**time budgets** 1753  
**time-series analysis** 1225  
**timing of breeding** 959  
**Tippecanoe and Warren Counties** 2097  
**tissues** 1842  
**toads** 1945  
**tolerant hardwoods** 964  
**Tom Green County, San Angelo** 570  
**tomato production** 2271  
**Tonto Basin** 662  
**topographic effect** 606  
**topography** 426, 505, 907, 1045, 1305, 1803, 1831, 2072, 2278  
**topping** 347  
**total beach habitat** 1637  
**total plasma protein** 799  
**total suspended solids** 1516  
**Townsend's solitaire** 1224  
**toxic effects** 1704  
**toxic effects of methyl parathion** 1704  
**toxicity** 1827, 1828, 1871, 1893, 2013, 2014, 2056, 2134, 2156  
**toxicity testing** 2180  
**toxicity tests** 1539, 2180  
**toxicology** 2156  
**toxicology and health** 2134, 2180, 2213  
**Toxostoma rufum** 860  
**trace elements** 1771  
**Tracheophyta** 525, 2181  
**Trachyrhachys klowa (Orthoptera): species** 450  
**track stations** 695  
**tracking study** 343  
**tracking techniques** 1262  
**trade-off** 1599  
**trait-mediated indirect interaction** 931  
**trajectories** 1894  
**trampling** 425, 528, 649, 1558  
**transect surveys** 165, 794, 963, 982, 1234, 1963, 2141  
**transgenic plants** 20  
**transgenic soybean farming** 110  
**transgenic soybean fields** 110  
**translocation** 690, 1489  
**transmission of disease** 2193  
**transplantation** 1669  
**transport** 1378  
**trapping** 807, 982, 1031  
**traps-trapping** 203, 2210  
**travel cost method** 2029  
**travel distance** 152  
**treatment** 2012  
**treatments effect on abundance and community structure** 914  
**tree age** 1190  
**tree cavity use** 930  
**tree cavity use in relation to tree diameter and height** 930  
**tree control** 951, 1220  
**tree cover** 1004  
**tree density** 1004  
**tree establishment success** 1010  
**tree growth** 967, 1314  
**tree harvesting** 2023  
**tree hole** 1150  
**tree mortality** 1265  
**tree plantings** 686  
**tree recovery** 822  
**tree (Spermatophyta)** 2192  
**tree stem number** 994  
**tree topping** 847  
**treehole** 1195  
**treelines** 803  
**treelines between fields** 803  
**trees** 231, 247, 662, 734, 868, 878, 913, 999, 1170, 1303, 1304, 1672, 1832, 2016  
**trees and coarse woody debris used by wildlife** 830  
**trees plants** 191  
**trends** 1566  
**Triangle region** 1192  
**tribal lands** 509  
**tribal peoples** 890  
**Trichachne californicum** 728  
**Trichaptum abietinum** 847, 896  
**triclopyr** 2056  
**Tridactylus** 1064  
**Trifolium** 84  
**Trifolium repens** 347  
**Triticum aestivum** 112, 144, 146, 1971  
**Triticum spp.** 244, 1943, 2077  
**Troglodytes** 831  
**Troglodytes aedon** 876, 1172  
**Troglodytes troglodytes** 884, 1059, 1095, 1172  
**Troglodytes troglodytes pacificus: forestry** 1248  
**Troglodytinae** 1172  
**trophic cascade** 2120  
**trophic characteristics** 1485

Subject Index

- trophic ecology** 1535  
**trophic interactions** 1153, 1814  
**trophic level** 1883  
**trophic level bioaccumulation** 2078  
**trophic level interaction** 2048  
**trophic levels** 1413, 1883  
**trophic relationships** 635, 1918, 1920  
**trophic structure** 180, 219, 914, 1383, 1397, 1422, 1458, 1848, 1883  
**trophy hunting** 2004  
**tropical deciduous forest** 2042  
**tropical rain forests** 24  
**trout** 1370, 1404, 1423, 1477, 1481, 1499, 1529, 1554, 1557, 1798  
**trout, brown** 1389, 1498  
**trout [physiology]** 1395  
**Trowbridge's shrew** 1129  
**trumpeter swan** 1737  
**Tsuga heterophylla** 978, 1263  
**Tsuga spp.** 1004  
**tuberculosis** 2193  
**Tulare Basin** 2232  
**Tulula Creek** 1959  
**tundra** 1164  
**turbidimetry** 1539  
**turbidity** 587, 1413, 1516, 1527, 1539, 1936  
**turbulence** 2204  
**Turdidae** 925, 1292  
**Turdus merula** 139, 250  
**Turdus migratorius** 558, 884, 1224  
**Turdus migratorius: forestry** 1185  
**turkeys** 258, 498, 1074, 1173, 2240  
**turnover** 1310  
**turtles** 1220, 1731, 1799  
**two-aged regeneration** 1297  
**Tyler County** 1306  
**Tympanuchus** 310  
**Tympanuchus cupido** 153, 192, 527, 595, 617, 651, 694, 703  
**Tympanuchus cupido attwateri** 707  
**Tympanuchus cupido pinnatus** 253, 595  
**Tympanuchus pallidicinctus** 130, 192, 615, 625, 644, 664, 694, 703  
**Tympanuchus pallidicinctus: conservation measures** 556  
**Tympanuchus pallidicinctus: disturbance by man** 414  
**Tympanuchus pallidicinctus (Phasianidae): habitat management** 603  
**Tympanuchus phasianellus** 106, 151, 203, 296, 299, 377, 595, 694, 703  
**Tympanuchus phasianellus columbianus** 134, 151  
**Tympanuchus phasianellus Jamesi** 595  
**Tympanuchus phasianellus (Phasianidae): farming and agriculture** 673  
**Tympanuchus spp.** 310  
**Typha** 1673, 1685, 1792, 1806, 1847, 1879, 1896, 2283  
**Tyrannidae** 993, 1169  
**Tyrannus tyrannus** 1953  
**Tyrell and Wilson County** 82  
**U.S. Department of Agriculture** 19, 215, 233, 375, 1716, 1856, 1991, 2075  
**U.S. Fish and Wildlife Service** 1959  
**U.S. Forest Service** 1208  
**ultra-infrasound** 1205  
**ultrasonic detectors** 863  
**ultrasonic devices** 863  
**umbrella species** 1192  
**uncertainty** 1041  
**understory** 1100, 1152, 1231, 1265, 2126  
**understory removal** 1231  
**understory vegetation** 1100, 1118  
**understory vegetation suppression** 1190  
**undisturbed grassland effects** 124  
**undisturbed grassland establishment** 124  
**uneven-aged timber harvest** 1004  
**ungrazed pastures** 472  
**Ungulata** 367, 621, 977, 1756  
**Ungulata (Mammalia): habitat management** 2009  
**ungulate grazing** 308  
**ungulates** 289, 351, 367, 737, 740, 774, 813, 897, 938, 977, 987, 1012, 1164, 1202, 1262, 1301, 1756, 2165  
**Unionidae** 1506  
**United States, eastern region** 866  
**United States Farm Service Agency** 215  
**United States Forest Service** 690  
**United States, Great Lakes** 2213  
**United States, Maritime Pacific Northwest** 1028  
**United States, Mid-Atlantic states** 2135  
**United States, Midwest** 163, 449, 1497, 1828  
**United States, Minnesota** 220  
**United States, Missouri** 2221  
**United States, Montana** 256  
**United States, New England** 1803, 2090  
**United States, New Mexico, Rio Grande River** 2186  
**United States, north central region** 1578, 1755, 1812  
**United States, North Dakota** 220  
**United States, northwestern region** 2272  
**United States, Oregon** 956  
**United States, South Dakota** 220  
**United States, Southeast** 1676, 2002, 2222  
**United States, southeastern region** 48, 107, 290, 451, 1054, 1181, 1211, 1236, 1278, 1356, 1553, 1959, 2016  
**United States, southern region** 1243, 1299, 1916  
**United States, Southwest** 307, 1241, 1268  
**United States, southwestern region** 332, 474, 942, 1426, 1574, 2081, 2203  
**United States, Washington** 956  
**United States, western region** 589, 633, 752, 1042, 1285, 1351, 1502, 1559, 1583, 2039, 2050, 2215, 2219  
**Universal Soil Loss Equation** 1823  
**University of California** 245  
**unpaved roads** 1247  
**upland areas** 497  
**upland birds** 1697  
**upland dry forests** 887  
**upland forest habitat** 1213  
**upland forest management** 2207  
**upland game** 359  
**upland habitat** 218, 614, 1755  
**upland landscape** 1740  
**upland mesic forests** 887  
**upland nesting** 49  
**upland oak forest** 877  
**upland pasture wetland mosaic** 1738  
**upland region** 1532  
**upland sandpiper** 141, 291, 598, 696, 761, 956  
**upland streams: habitat** 1492, 1552  
**upland wildlife habitat** 174  
**uplands** 681, 1776  
**Upper Adams River** 1420  
**upper and lower coastal plain** 223  
**Upper Butte Basin** 828  
**upper coastal plain** 1205  
**Upper Fraser and Skeena Rivers** 1537  
**Upper Gila River** 390  
**Upper Little Colorado River Watershed Partnership** 1461  
**Upper Meadow Creek** 380  
**upper piedmont** 983, 1259  
**Upper St. Johns River** 1901  
**Upper Wabash River Basin** 1383  
**upslope forest stand management** 2247  
**upslope management activities: riparian system impacts** 2247  
**upslope thinning and headwater riparian reserves** 1502  
**upstream-downstream linkage** 1534  
**urban** 772, 1809  
**urban and regional technology and development** 57  
**urban areas** 1464, 2112, 2149, 2224  
**urban development** 326, 541  
**urban habitat** 1192, 1993  
**urban landscapes** 1751  
**urban planning** 1817  
**urban population** 1533  
**urban runoff** 1591

- Urbana** 397, 2142  
**urbanization** 37, 228, 559, 569, 821, 1350, 1384, 1441, 1519, 1565, 1740, 1854, 1920, 1987, 2112, 2123  
**urbanizing watersheds** 1540  
**Ursidae** 878, 1087, 1225  
**Ursus americanus** 878, 1045, 1087, 1225, 2077  
**Ursus americanus luteolus** 1862  
**Ursus arctos** 1168  
**usable space** 675, 1178  
**USDA** 137, 1516, 1856, 2000, 2002, 2003, 2005, 2063, 2085, 2086, 2094, 2109, 2176, 2274, 2275  
**USDA Forest Service** 785, 909  
**use by diverse taxa** 916  
**use of crops** 189  
**use of fuel wood timber harvest** 1032  
**use of habitat corridors by diverse taxa** 916  
**use of individual tree selection silviculture evaluation** 1344  
**use of stream ecology survey data** 2254  
**USGS** 1521  
**Utah** 143, 324, 357, 431, 470, 507, 547, 554, 630, 677, 680, 762, 783, 1030, 1551, 1793, 1819  
**utility right of way** 859  
**utilization** 165, 238, 431, 699, 878, 2147  
**utilization by waterfowl relationship** 278  
**Vaccinium angustifolium** 254, 974, 2082  
**Valeriana** 1340  
**validation research** 2239  
**valley streams: habitat** 1492  
**valleys** 497, 1737  
**valuation** 268, 2070  
**values conflicts** 509  
**Van Dyke's salamander** 1424  
**Vancouver** 1146  
**Vancouver Forest Region** 1221  
**Vancouver Island** 601, 872, 2066  
**Vancouver Island, British Columbia** 2167  
**Vanderhoof** 1090  
**Vanellus vanellus** 579  
**variability** 683, 1346, 2178  
**variable density thinning** 1133  
**variable retention harvesting** 1745  
**variable retention system** 870  
**variable source areas** 817  
**variation partitioning** 1974  
**variations** 2092  
**varied thrush** 1224  
**vascular plants** 2061, 2181, 2192  
**vegetated strips** 820  
**vegetation** 4, 36, 85, 89, 98, 125, 165, 214, 241, 243, 255, 274, 279, 281, 305, 306, 324, 335, 366, 376, 416, 431, 443, 491, 507, 515, 522, 577, 601, 605, 619, 644, 662, 680, 699, 731, 739, 757, 773, 791, 794, 801, 807, 812, 873, 891, 905, 948, 977, 993, 1035, 1038, 1059, 1100, 1102, 1108, 1153, 1245, 1292, 1327, 1359, 1412, 1415, 1483, 1550, 1573, 1591, 1647, 1663, 1669, 1690, 1705, 1764, 1787, 1806, 1810, 1811, 1924, 1929, 1961, 1963, 1965, 2045, 2067, 2069, 2092, 2147, 2153, 2181, 2191, 2212, 2247, 2278  
**vegetation analysis** 544  
**vegetation changes** 649, 1419  
**vegetation characteristics** 1072  
**vegetation class** 1589  
**vegetation composition** 314, 1603  
**vegetation cover** 323, 645, 717, 895, 991, 1433, 1436, 1477, 1511, 1640, 1771, 1799, 1803, 1834, 1851, 1929, 2047, 2082, 2089, 2231  
**vegetation damage** 771  
**vegetation density** 1643  
**vegetation dynamics** 748, 1346, 2044  
**vegetation encroachment** 1637  
**vegetation establishment** 1659, 1824  
**vegetation gradient** 2018  
**vegetation growth** 1239  
**vegetation height** 95  
**vegetation management** 211, 409, 775, 2025, 2026, 2265  
**vegetation management in pine plantations** 223  
**vegetation patterns** 366, 1640  
**vegetation reestablishment** 1856  
**vegetation removal** 519  
**vegetation response** 527  
**vegetation richness** 2044  
**vegetation structure** 17, 72, 86, 205, 301, 314, 359, 399, 401, 512, 525, 545, 558, 606, 802, 845, 1007, 1023, 1033, 1346, 1603, 1769, 2044  
**vegetation types** 226, 564, 741, 855, 1479, 2036  
**vegetational composition** 628  
**vegetational structure** 21, 628  
**vegetative buffers** 183  
**vegetative conditions** 878  
**vegetative cover** 432, 719  
**vegetative diversity** 72  
**vegetative ground cover** 727  
**vegetative physiognomy** 72  
**vegetative structure** 719  
**vehicular collisions** 2165  
**Veracruz** 2021  
**Veratrum californicum** 596  
**Vermilion County** 489  
**Vermilion River** 1550  
**Vermivora celata** 831, 1158  
**Vermivora chrysoptera** 1959  
**Vermivora pinus** 2030  
**Vermivora ruficapilla** 831  
**Vermont** 311, 347, 543, 738, 1000, 1247  
**vernal pool** 1608, 1639, 1712, 2264  
**Vertebrata** 328, 407, 832, 959, 1302, 1521, 1549, 1592, 1904, 2178, 2183, 2223  
**Vertebrata: disturbance by man** 1299  
**Vertebrata: forestry** 1053, 1085, 1206, 2058  
**Vertebrata: habitat management** 1084, 2099  
**vertebrate pests** 202, 2152  
**vertebrates** 2, 9, 11, 13, 17, 22, 25, 30, 41, 60, 61, 69, 82, 86, 109, 124, 135, 136, 148, 152, 174, 179, 184, 223, 257, 268, 272, 278, 289, 292, 293, 295, 307, 313, 327, 330, 338, 341, 351, 355, 363, 380, 389, 390, 395, 396, 397, 405, 407, 414, 447, 459, 473, 476, 500, 526, 534, 547, 556, 573, 589, 597, 599, 603, 608, 610, 626, 630, 632, 636, 641, 656, 659, 666, 667, 670, 672, 673, 678, 684, 685, 689, 692, 706, 711, 724, 735, 737, 740, 742, 751, 752, 765, 766, 787, 803, 810, 813, 815, 816, 823, 828, 843, 854, 857, 859, 862, 874, 877, 879, 894, 912, 918, 923, 930, 932, 940, 941, 950, 952, 961, 971, 983, 992, 997, 1002, 1019, 1028, 1032, 1034, 1039, 1040, 1046, 1053, 1068, 1069, 1075, 1077, 1079, 1084, 1085, 1088, 1090, 1113, 1123, 1136, 1161, 1164, 1181, 1183, 1184, 1185, 1191, 1198, 1202, 1206, 1212, 1213, 1221, 1222, 1236, 1242, 1248, 1249, 1250, 1256, 1258, 1259, 1260, 1262, 1264, 1266, 1269, 1270, 1272, 1273, 1275, 1279, 1282, 1286, 1293, 1294, 1299, 1301, 1306, 1308, 1319, 1320, 1322, 1323, 1332, 1333, 1338, 1342, 1344, 1345, 1347, 1349, 1363, 1367, 1368, 1378, 1383, 1403, 1420, 1426, 1452, 1458, 1469, 1474, 1489, 1490, 1502, 1504, 1508, 1513, 1514, 1517, 1520, 1528, 1537, 1538, 1540, 1544, 1546, 1574, 1592, 1593, 1601, 1610, 1611, 1612, 1684, 1699, 1706, 1709, 1747, 1765, 1778, 1781, 1789, 1861, 1885, 1891, 1917, 1932, 1938, 1948, 1949, 1969, 1977, 1985, 2009, 2023, 2033, 2038, 2039, 2043, 2054, 2058, 2060, 2061, 2064, 2071, 2076, 2078, 2091, 2099, 2101, 2114, 2119, 2129, 2131, 2140, 2142, 2165, 2172, 2189, 2192, 2196, 2198, 2203, 2214, 2227, 2235, 2239, 2255, 2265, 2270, 2272, 2275, 2278, 2284  
**vertical and horizontal habitat structure** 999  
**vesper sparrow** 537, 598, 669, 804  
**Vespertilionidae** 967, 1037, 1150, 1205, 1208, 1336

Subject Index

- viability** 1109, 1348, 2239  
**video monitoring** 2280  
**video tapes** 1176  
**vineyards** 809, 2035  
**Viola** 816  
**violet-green swallow** 899  
**Viperidae** 481  
**Vireo** 1962  
**Vireo bellii** 860  
**Vireo gilvus** 2205  
**Vireo griseus** 968, 993, 1089, 1175  
**Vireo huttoni** 1224  
**Vireo olivaceus** 710, 870, 959, 1233, 1962  
**Vireonidae** 959, 993, 1175, 1962  
**virgin forests** 848  
**Virginia** 119, 127, 286, 724, 1031, 1040, 1183, 1375, 1604, 2200, 2257  
**Virginia big-eared bat** 1208  
**Virginia: Chincoteague National Wildlife Refuge** 1246  
**visual obstruction** 512  
**visual obstruction reading (VOR)** 403  
**vitamin A** 624  
**vitamin blood level** 2183  
**Vitis** 189  
**vocalization** 66, 829, 1205  
**voles** 244, 982, 1099  
**volume** 1009, 1715  
**voluntary conservation agreements** 911  
**vulnerability** 1615, 1636  
**Vulpes** 147  
**Vulpes velox** 71, 221, 2103  
**Vulpes vulpes** 141, 218, 695  
**Wabasha County** 1968  
**wader** 1600, 1784, 1836, 1839, 1872, 1901  
**wading bird colonies** 1901  
**wading birds** 1600, 1653, 1767, 1836, 1839, 1863  
**Wake County** 1540  
**walleye** 1491  
**wallowing** 366, 649  
**wapiti** 306, 507, 508, 548, 757, 1965  
**warblers** 1033  
**warm season** 89  
**warm-season grasses** 205  
**warm water stream** 1435  
**warmwater fish** 1370  
**Warrick County** 1985  
**Wasatch Mountains** 324  
**Washington** 263, 287, 328, 430, 506, 530, 693, 838, 878, 887, 903, 921, 923, 939, 961, 985, 1019, 1068, 1129, 1133, 1146, 1158, 1290, 1305, 1371, 1385, 1486, 1520, 1525, 1542, 1671, 1738, 1993, 2058, 2218, 2228, 2278  
**Washington County, Albemarle-Pamlico Peninsula** 1087  
**Washington, southeastern area** 508  
**Washington, southwestern area** 1357, 1424  
**Washington: Thurston County** 1050  
**Washington, western area** 1234  
**waste contamination** 1516  
**waste disposal, fluid [methods]** 1672  
**waste management** 1933  
**wastewater treatment** 1680, 1696, 1771  
**water** 1391, 1505, 1933, 2240  
**water and plants** 1592  
**water animals** 1027  
**water availability** 2011  
**water balance** 1715  
**water birds** 1614, 1945, 2015, 2212  
**Water birds---Ecology** 1921  
**water boatman** 1847  
**water budget** 1488  
**water catchments** 1924  
**water, chemical properties** 1498, 1924  
**water chemistry** 1376, 1483, 1644, 1779, 1790  
**water chemistry: stream quality parameter** 587  
**water column** 1507, 1759  
**water conservation** 1528, 2011  
**water contaminants** 2118  
**water control** 1806, 1851, 2014  
**water deprivation** 624  
**water depth** 1428, 1614, 1739, 1770, 1820, 1910, 1913, 2033  
**water development** 1890, 2280  
**water development impact on wetland communities** 1747  
**water development impacts** 1950  
**water distribution** 442  
**water diversions** 1854  
**water erosion** 1495, 1823  
**water fleas** 1758, 1847, 1936  
**water flow** 1498, 1673, 1760  
**water harvester (guzzler)** 2011  
**water law and institutions** 1928  
**water level fluctuations** 1806  
**water levels** 1577, 1676, 1748, 1768, 1772, 1793, 1806  
**water management** 276, 1459, 1487, 1511, 1554, 1591, 1600, 1715, 1744, 1782, 1806, 1933, 2011, 2062, 2186, 2268  
**water management projects** 1230  
**water masses: delineation** 1645  
**water measurement** 1819  
**water movements** 1530, 1601, 1641, 1805  
**water, physical properties** 1498  
**water, physical properties invertebrates** 1924  
**water policy** 2268  
**water pollutant** 1505  
**water pollutants, chemical** 1505, 1812  
**water pollution** 7, 1009, 1390, 1392, 1464, 1559, 1842, 1871, 1893, 1955, 2036, 2136, 2213  
**water pollution control** 1460, 1940  
**water pollution effects** 1539, 1696, 1827, 1994, 2013, 2014, 2015  
**water pollution: monitoring, control and remediation** 1842, 1844, 1845  
**water pollution sources** 1819, 1852, 2015  
**Water---pollution---United States** 1496  
**water preservation** 1831  
**water quality** 44, 133, 191, 375, 741, 817, 820, 832, 1280, 1369, 1370, 1376, 1394, 1396, 1398, 1402, 1405, 1428, 1429, 1451, 1456, 1468, 1473, 1477, 1478, 1479, 1483, 1487, 1494, 1506, 1512, 1515, 1516, 1519, 1521, 1546, 1554, 1558, 1559, 1561, 1567, 1572, 1573, 1700, 1702, 1703, 1705, 1811, 1814, 1819, 1893, 1908, 1930, 1970, 2013, 2014, 2025, 2026, 2028, 2036, 2070, 2135, 2179, 2212, 2245, 2266  
**water quality and habitat characteristics relationship** 1546  
**water quality control** 866, 1413, 1460, 1657, 1719, 1845, 1894, 2028, 2138  
**water quality management** 1553  
**Water quality management---United States** 1728  
**water quality (natural waters)** 1511, 1700, 1705  
**water quality protection** 928  
**water quality standards** 1539  
**Water quality---United States** 1728  
**water quantity** 1715  
**water recreation** 2070  
**water reservoirs** 2212  
**water resources** 1528, 1539, 1671, 1888, 2186, 2266, 2268  
**water resources and management** 1495, 1715, 1760, 2115  
**water resources and supplies** 866  
**water resources development** 1526, 1659  
**Water resources development---West---United States** 1417  
**water resources management** 196, 1526, 1659, 2067  
**water rights** 2186  
**water runoff** 215  
**water scavenger beetles** 1883  
**water sheds** 1472  
**water shortages** 2267  
**water supply** 1461, 1472, 1600, 2011, 2186  
**water supply system habitat** 2064  
**water table** 741, 1897  
**water table depth** 2072  
**water table rise** 1717

- water temperature** 991, 1399, 1416, 1499, 1517, 1702, 1739, 1764, 1799, 2150, 2154  
**water treatment** 1663, 1680  
**water troughs** 691  
**Water---United States---Pesticide content** 2246  
**water use** 1009, 1881  
**water yield** 798  
**waterbird communities** 1909  
**waterbirds** 1631, 1692, 1766, 1891, 1895, 1914  
**waterbodies** 1643  
**waterfowl** 49, 76, 160, 178, 251, 276, 277, 346, 348, 362, 402, 537, 618, 693, 818, 1442, 1503, 1580, 1584, 1585, 1591, 1599, 1606, 1622, 1630, 1631, 1633, 1646, 1649, 1653, 1666, 1680, 1683, 1685, 1695, 1737, 1744, 1749, 1754, 1761, 1763, 1766, 1767, 1777, 1785, 1795, 1819, 1828, 1839, 1841, 1876, 1880, 1886, 1899, 1906, 1907, 1912, 1913, 1914, 1915, 1927, 1936, 2014, 2015, 2022, 2055, 2102, 2133, 2147, 2162, 2231, 2232, 2269  
**waterfowl broods** 1790  
**waterfowl foraging** 1683  
**waterfowl habitat** 1595, 1683  
**waterfowl management** 2161  
**waterfowl production areas** 49, 2001  
**waters** 1533, 1690, 2079  
**watershed hydrology** 1487, 1495  
**watershed management** 1392, 1406, 1416, 1435, 1472, 1511, 1526, 1528, 1529, 1541, 1566, 1572, 1693, 1991, 2075, 2112, 2221  
**watershed ponds** 1987  
**watershed protection** 44, 1529, 1665, 1940, 2221  
**watershed scale** 1190  
**watersheds** 7, 133, 210, 282, 580, 587, 708, 741, 817, 820, 1012, 1142, 1328, 1370, 1372, 1384, 1410, 1411, 1413, 1415, 1439, 1447, 1448, 1451, 1460, 1463, 1466, 1468, 1472, 1511, 1528, 1531, 1539, 1542, 1550, 1566, 1573, 1617, 1700, 1701, 1817, 1820, 1823, 1852, 1854, 1936, 2050, 2112, 2138, 2158, 2166, 2257, 2259  
**waterways** 1549, 1787  
**Waushara County** 405  
**weasels** 131  
**weather** 10, 11, 602, 699, 913, 1978, 2199  
**weed control** 20, 112, 161, 1340, 1683, 1847, 1879, 2056, 2265  
**weed eating insects** 20  
**weed management** 1683  
**weeds** 20, 576, 1340, 1944, 2056, 2152  
**weight** 948, 952, 1778, 1932  
**weighted regression** 1284  
**Weld County, Colorado** 301  
**Wells Creek** 1517, 1539  
**West side production forest** 1271  
**West Virginia** 127, 542, 569, 1166, 1185, 1458, 1597, 1920, 1931  
**West Virginia: Tucker County** 1182  
**western bluebird** 899, 1176  
**western Great Plains** 666  
**western harvest mice** 1099  
**western hemlock** 1263  
**western jumping mouse** 674  
**western Kansas** 2103  
**western kingbird** 899  
**western meadowlark** 93, 195, 469  
**western mosquitofish** 2212  
**western red-backed salamander** 1424  
**western redcedar** 1263  
**western tanager** 1224  
**wet meadow soil** 2072  
**wet meadow soil community structure** 2072  
**wet meadows** 1621, 2072  
**wet meadows community structure** 2072  
**wet montane forests** 1318  
**wet prairie grassland** 1678  
**wet prairies** 481, 1678  
**wetland agriculture** 1996  
**wetland and waterbird management** 1767  
**Wetland animals---Ecology** 1921  
**wetland associated uplands** 1922  
**wetland birds** 1697  
**wetland buffer strips** 1979  
**wetland buffer width** 1004  
**wetland characteristics** 1790  
**wetland communities** 1641, 1751  
**wetland community response to nutrient enrichment** 1605  
**wetland complex** 1898  
**wetland condition** 1691  
**wetland conservation** 731, 1578, 1718, 1784, 1922, 2107, 2115  
**wetland conservation and management** 1621  
**Wetland conservation---United States---Planning** 1642  
**wetland construction** 1597  
**wetland construction for nitrate removal vs wildlife requirements** 1612  
**wetland creation** 1587, 1712, 2107  
**wetland degradation** 1691  
**wetland-dependent species** 1931  
**wetland drainage** 1382  
**wetland draining** 1920, 2193  
**wetland ecology** 2161  
**Wetland ecology---United States** 1728  
**wetland fauna** 1583  
**wetland forests** 996, 1916, 2124  
**wetland functions** 1577  
**wetland habitat** 1687, 1749, 1909, 1969  
**wetland habitats created by drop pipe installation in field** 1904  
**wetland hydrology** 1805, 1897, 2161  
**wetland landscape** 1900  
**wetland landscape planning** 1784  
**wetland management** 1595, 1621, 1711, 1714, 1718, 1742, 1766, 1773, 1826, 1878, 1902, 1911, 1913, 1914, 1922, 1925  
**wetland management program** 1909  
**wetland mitigation** 1588, 1662, 1711, 1902, 2200, 2270  
**wetland modeling** 2161  
**wetland monitoring** 1712  
**wetland plant community** 1689  
**wetland prairie** 1843  
**wetland recovery** 1840  
**wetland restoration** 278, 1526, 1594, 1625, 1629, 1646, 1659, 1710, 1711, 1741, 1776, 1856, 1901, 1922, 1924  
**wetland restoration, coastal** 1925  
**wetland restoration ecology** 1831  
**Wetland restoration---Florida** 1935  
**wetland size** 1897  
**wetland soils** 1715  
**wetland taxa** 2207  
**wetland taxa community** 2207  
**wetland types** 1926  
**wetland upland pasture mosaic** 1738  
**wetland use** 1790  
**wetland water budget** 2161  
**wetland water level** 2161  
**wetland-wildlife relationships** 2193  
**wetlands** 7, 137, 218, 244, 277, 305, 346, 468, 620, 719, 741, 817, 818, 866, 987, 1024, 1060, 1083, 1277, 1460, 1510, 1577, 1579, 1580, 1582, 1583, 1584, 1585, 1586, 1590, 1591, 1592, 1593, 1594, 1596, 1597, 1598, 1606, 1608, 1609, 1614, 1615, 1617, 1618, 1622, 1623, 1626, 1630, 1631, 1633, 1634, 1636, 1639, 1640, 1646, 1650, 1651, 1657, 1662, 1663, 1665, 1666, 1669, 1671, 1673, 1675, 1676, 1679, 1681, 1685, 1688, 1690, 1692, 1693, 1694, 1695, 1700, 1701, 1705, 1708, 1717, 1719, 1722, 1723, 1726, 1730, 1737, 1741, 1743, 1747, 1748, 1749, 1755, 1758, 1759, 1760, 1762, 1763, 1764, 1766, 1767, 1768, 1771, 1772, 1773, 1775, 1777, 1780, 1782, 1784, 1785, 1786, 1787, 1792, 1794, 1795, 1797, 1798, 1799, 1800, 1801, 1804, 1805, 1806, 1811, 1814, 1815, 1816, 1817, 1818, 1819, 1821,



## Subject Index

- wetlands (contd.)** 1822, 1823, 1827, 1829, 1830, 1832, 1834, 1837, 1841, 1842, 1844, 1845, 1846, 1847, 1848, 1849, 1850, 1851, 1853, 1855, 1858, 1860, 1862, 1863, 1865, 1867, 1868, 1872, 1874, 1875, 1876, 1879, 1882, 1883, 1884, 1886, 1888, 1893, 1894, 1896, 1899, 1906, 1908, 1910, 1915, 1916, 1918, 1919, 1920, 1924, 1927, 1928, 1930, 1931, 1933, 1936, 1939, 1959, 1969, 1972, 1979, 2000, 2003, 2006, 2013, 2014, 2015, 2016, 2031, 2036, 2040, 2047, 2055, 2056, 2063, 2067, 2068, 2084, 2085, 2086, 2094, 2096, 2098, 2109, 2117, 2122, 2132, 2137, 2138, 2147, 2149, 2152, 2155, 2158, 2159, 2162, 2170, 2177, 2200, 2201, 2208, 2212, 2232, 2236, 2253, 2269, 2270, 2274, 2283  
**wetlands condition** 1856  
**wetlands conservation** 2001  
**wetlands ecology** 1603  
**wetlands excavation** 1747  
**wetlands: function, structure** 1648  
**wetlands: habitat** 355, 1535, 1891, 2001  
**wetlands habitat characteristics** 2033  
**wetlands management** 1824, 1923  
**Wetlands Reserve Program (WRP)** 731, 1576, 1618, 1652, 1730, 1780, 1801, 1862, 1881, 1914, 1928, 1979, 2109, 2111, 2273, 2274  
**wetlands restoration** 1824  
**wetlands treatment** 1696  
**Wetlands---United States** 1664  
**wetlands vegetation** 1748  
**Weyerhaeuser's Grande Prairie Forest Management Area** 1363  
**wheat** 112, 243  
**wheat fields** 2241  
**wheat stubble** 112  
**white-eyed vireo** 993  
**white-footed mice** 584  
**White Mountain National Forest** 957  
**white oak** 861  
**white pine forest** 950  
**White River area** 880, 1286  
**white shrimp** 1798  
**white spruce** 1350  
**white-tailed deer** 238, 265, 552, 605, 679, 755, 812, 864, 897, 948, 1010, 1025, 1111, 1232, 1350, 2252  
**Whittaker plot technique** 790  
**whole animal physiology** 1136, 1778  
**whooping crane** 368  
**width** 1456, 1787, 2115  
**wild animals** 298, 327, 490, 491, 604, 795, 933, 1024, 1080, 1339, 1799, 1941, 2206, 2269  
**wild birds** 55, 97, 105, 157, 195, 197, 199, 226, 249, 291, 348, 352, 452, 462, 490, 491, 523, 620, 651, 731, 773, 778, 849, 881, 1020, 1074, 1141, 1265, 1296, 1777, 1846, 1933, 2149, 2154, 2167, 2266, 2269, 2282  
**wild pollinator populations** 127  
**wild turkey** 499, 864, 902, 1232, 1362  
**wilderness** 1117  
**wildfire** 628, 645, 846, 849, 1005, 1057, 1195, 1231, 1268, 1284, 1292, 2081  
**wildlife habitat** 440, 444  
**wildland areas** 2044  
**wildland fire** 1027  
**wildland fire management** 1265  
**wildlife** 48, 54, 55, 57, 62, 64, 85, 90, 97, 104, 119, 120, 134, 137, 149, 153, 155, 157, 161, 169, 175, 186, 187, 190, 191, 194, 195, 210, 216, 221, 224, 227, 228, 231, 232, 238, 240, 252, 255, 263, 273, 279, 284, 287, 291, 300, 329, 332, 456, 474, 507, 511, 514, 551, 585, 586, 631, 648, 654, 663, 698, 764, 808, 824, 840, 844, 875, 881, 900, 905, 915, 921, 939, 954, 976, 1009, 1025, 1030, 1035, 1043, 1044, 1047, 1048, 1050, 1054, 1056, 1098, 1129, 1131, 1132, 1134, 1149, 1152, 1153, 1160, 1169, 1170, 1174, 1195, 1232, 1234, 1240, 1241, 1255, 1276, 1278, 1290, 1302, 1303, 1309, 1310, 1340, 1350, 1351, 1355, 1357, 1366, 1371, 1500, 1533, 1555, 1579, 1597, 1615, 1663, 1696, 1702, 1710, 1760, 1797, 1809, 1821, 1828, 1853, 1863, 1931, 1943, 1946, 1975, 1997, 2000, 2003, 2005, 2014, 2045, 2063, 2070, 2084, 2085, 2086, 2094, 2098, 2109, 2118, 2135, 2152, 2191, 2193, 2210, 2212, 2217, 2226, 2239, 2252, 2253, 2274, 2276, 2281  
**wildlife abundance** 1243  
**wildlife benefits** 705  
**wildlife borne diseases** 2275  
**wildlife communities** 848, 1280  
**wildlife conservation** 6, 55, 97, 105, 130, 137, 147, 157, 163, 170, 200, 234, 327, 571, 588, 795, 835, 898, 933, 1009, 1080, 1192, 1277, 1285, 1296, 1352, 1487, 1829, 1876, 1928, 1940, 1952, 1956, 1989, 2000, 2002, 2003, 2005, 2063, 2085, 2086, 2094, 2109, 2111, 2149, 2176, 2274, 2279  
**wildlife conservation board** 2025, 2026  
**Wildlife conservation---Columbia River---Watershed** 1536  
**Wildlife conservation---Nebraska** 102  
**Wildlife conservation---United States** 43  
**wildlife corridors** 1174  
**wildlife cover** 647  
**wildlife damage management** 2024, 2275  
**wildlife density** 90  
**wildlife distribution** 171  
**wildlife diversity** 1243, 1922  
**wildlife drinking water** 2267  
**wildlife enhancement** 2025, 2026  
**wildlife enhancement bonus programs** 155  
**wildlife enterprises** 2248  
**wildlife food habits** 722, 1109  
**wildlife forage** 647  
**wildlife habitat** 3, 34, 42, 51, 63, 71, 92, 129, 130, 138, 164, 209, 233, 266, 269, 277, 282, 290, 336, 337, 373, 378, 401, 406, 413, 452, 562, 572, 595, 633, 651, 717, 722, 731, 745, 750, 778, 798, 817, 834, 853, 858, 887, 896, 905, 910, 919, 928, 934, 935, 987, 1006, 1014, 1020, 1043, 1074, 1101, 1106, 1107, 1115, 1141, 1159, 1192, 1193, 1200, 1231, 1253, 1265, 1285, 1314, 1318, 1358, 1377, 1392, 1461, 1487, 1526, 1533, 1580, 1590, 1618, 1628, 1635, 1652, 1666, 1730, 1750, 1760, 1776, 1797, 1799, 1800, 1802, 1827, 1838, 1870, 1894, 1930, 1945, 1950, 1954, 1955, 1988, 2002, 2013, 2015, 2025, 2026, 2028, 2065, 2115, 2116, 2132, 2146, 2167, 2176, 2230, 2249, 2260, 2268, 2274, 2277  
**wildlife habitat enhancement** 1127, 1856  
**wildlife habitat improvement** 300, 1353  
**Wildlife habitat improvement---United States** 56, 1996  
**Wildlife Habitat Incentives Program [WHIP]** 790, 2086, 2111, 2268, 2273, 2277  
**wildlife habitat management** 186, 1146, 1271  
**wildlife habitat management in production forests** 1146  
**wildlife habitat preservation** 594  
**wildlife-habitat relationships** 55, 97, 98, 120, 175, 228, 279, 306, 324, 366, 370, 376, 377, 392, 424, 548, 619, 635, 644, 650, 652, 658, 792, 838, 852, 861, 871, 875, 878, 915, 921, 1044, 1050, 1094, 1120, 1124, 1125, 1155, 1165, 1217, 1241, 1246, 1290, 1357, 1360, 1371, 1424, 1555, 1755, 1920, 1963, 1968, 2130, 2141, 2147, 2193, 2236, 2239, 2244  
**wildlife-human conflicts** 2275  
**wildlife-human relationships** 19, 302, 430, 531, 844, 876, 895, 901, 903, 909, 925, 948, 954, 957, 958, 980, 981, 993, 995, 1000, 1021, 1037, 1038, 1042, 1110, 1116, 1166, 1199, 1219, 1224, 1233, 1247, 1261, 1303, 1305, 1331, 1336, 1361, 1690, 1980, 2059, 2066, 2193

- wildlife-invertebrate relationships** 401, 520, 614, 642, 697
- wildlife-livestock relationships** 324, 377, 424, 431, 469, 471, 493, 507, 508, 549, 552, 635, 652, 746, 767, 773, 947, 2141, 2193
- wildlife management** 1, 3, 11, 17, 51, 65, 68, 112, 116, 138, 140, 154, 162, 164, 177, 199, 222, 232, 236, 265, 277, 283, 285, 290, 296, 300, 302, 308, 310, 321, 323, 333, 342, 348, 357, 366, 370, 374, 382, 401, 430, 452, 454, 481, 505, 512, 520, 523, 524, 529, 531, 538, 555, 557, 562, 570, 584, 593, 594, 612, 615, 624, 642, 644, 660, 669, 674, 675, 676, 697, 701, 702, 715, 716, 718, 733, 755, 758, 778, 793, 795, 801, 804, 806, 836, 849, 853, 861, 864, 876, 881, 896, 901, 903, 905, 909, 924, 925, 948, 967, 980, 981, 985, 990, 993, 994, 995, 1000, 1020, 1021, 1037, 1038, 1042, 1043, 1055, 1060, 1063, 1065, 1074, 1078, 1087, 1103, 1109, 1110, 1116, 1135, 1158, 1166, 1171, 1179, 1192, 1199, 1200, 1205, 1207, 1208, 1219, 1224, 1225, 1246, 1247, 1251, 1254, 1277, 1280, 1285, 1301, 1303, 1331, 1336, 1339, 1353, 1356, 1361, 1406, 1408, 1448, 1541, 1584, 1620, 1622, 1634, 1690, 1717, 1718, 1754, 1761, 1786, 1793, 1799, 1816, 1830, 1849, 1874, 1912, 1916, 1927, 1928, 1945, 1950, 1956, 1980, 1993, 2011, 2027, 2041, 2066, 2073, 2075, 2080, 2087, 2088, 2105, 2133, 2139, 2145, 2149, 2155, 2162, 2187, 2200, 2202, 2231, 2240, 2248, 2256, 2266, 2277, 2279, 2282, 2285
- wildlife management areas** 902, 1013, 1031, 2068
- wildlife management: conservation** 101, 103, 173, 198, 246, 315, 358, 364, 369, 400, 479, 484, 485, 540, 541, 571, 578, 616, 649, 661, 690, 788, 821, 943, 969, 979, 1271, 1287, 1317, 1382, 1440, 1444, 1467, 1493, 1522, 1545, 1632, 1682, 1702, 1740, 1750, 1751, 1775, 1791, 1854, 1856, 1922, 1973, 1983, 1991, 2018, 2025, 2026, 2044, 2124, 2125, 2148, 2169, 2175, 2230
- wildlife management: future needs, history, status** 2111
- Wildlife management---Nebraska** 102
- wildlife manager perceptions** 2275
- wildlife models** 1209
- wildlife movement patterns** 1978
- wildlife populations** 2200
- wildlife preservation** 390
- wildlife refuges** 1881
- wildlife relationships** 1134
- wildlife response** 163, 288, 2111
- wildlife species** 1, 118, 321, 538, 1406, 1718, 2041, 2087, 2088, 2256, 2259, 2260
- wildlife sustainability** 2127
- wildlife-tree management** 1184
- wildlife trees** 1354
- wildlife viewing** 2070
- Willamette National Forest** 918, 2104
- Willamette River** 855
- Willamette River Basin** 1469
- Willamette Valley** 1678, 1784
- Willapa Hills** 961
- willet** 141
- willingness-to-pay** 2029
- willow** 1374, 1470, 1510
- willow-beaver restoration** 2139
- Wilson's phalarope** 141, 1667
- Wilson's warbler** 674
- Wilsonia canadensis** 1235
- Wilsonia citrina** 993, 994, 1075, 1265
- Wilsonia pusilla** 831
- wind** 569, 1187, 1276, 1327, 2204
- windbreak** 27, 200, 204, 216
- windthrow** 2204
- wings** 1037
- Winona County** 1968
- winter** 13, 239, 265, 279, 462, 508, 981, 1074, 1339, 1359, 1360, 1363, 1575, 1633, 1713, 1768, 1910, 1912, 2101, 2105, 2141, 2282
- winter aggregations** 1932
- winter burns** 1649
- winter community structure** 292
- winter cover** 2101
- winter cover crops** 211
- winter feeding** 423
- winter flooding** 276, 1584
- winter foraging habitat** 828
- winter habitat** 1742, 2262
- winter habitat manipulation by livestock grazing** 630
- winter habitat preference** 1361
- winter habitat use** 293, 981, 1363
- winter habitat use implications** 1363
- winter high tides** 1601
- winter populations** 1880
- winter range habitat** 653
- winter survival estimates** 2105
- winter use of tree plantations** 2284
- winter weeds** 1584
- winter wheat** 243
- winter wren** 884
- wintering** 925
- wintering birds** 184, 1937
- wintering ecology** 1915
- wintering habitat** 364, 1692, 2105
- wintering migrants and resident species** 2189
- wintering waterbirds** 1739, 1900
- wire fences** 360
- wiregrass** 1978
- Wisconsin** 209, 278, 304, 320, 352, 365, 405, 477, 567, 617, 626, 670, 816, 965, 1059, 1160, 1186, 1196, 1257, 1308, 1367, 1412, 1456, 1481, 1569, 1677, 1779, 1780, 1936, 2060, 2234
- witches' brooms** 842
- wolf** 2285
- wood** 1018, 1189, 1226, 1318, 1423
- wood abundance** 1485
- wood buffer** 587
- wood debris** 1472
- wood distribution** 1485
- wood duck** 1503
- wood frog** 1655, 1690, 1844, 1845, 2006
- wood quality** 1251
- wood thrush** 963, 1041
- wood wastes** 1939
- woodborers** 1300
- Woodbury Tract** 2207
- wooded buffers** 1411
- woodland** 773, 831, 1005, 1987, 2017, 2018, 2089
- woodland and scrub** 1145
- woodland birds** 1937
- woodland climax** 471, 1963
- woodland density** 1190
- woodland jumping mouse** 852
- woodland restoration** 1114
- woodland salamander** 1424
- woodland vernal pools** 1857
- woodlots** 1307, 2242
- woodpeckers** 924, 1001, 1102, 1108, 1366, 2173
- woody browse** 1090
- woody cover** 2205
- woody debris** 854, 904, 999, 1318, 1471, 1774
- woody debris removal** 1465
- woody detritus in boreal forests** 1167
- woody plant encroachment** 802
- woody plant invasion** 214
- woody plants** 200, 731, 802
- woody riparian vegetation** 1400
- woody vegetation** 669, 801
- woody vegetation invasion** 584
- Wyoming** 524, 553, 995, 1403, 1434, 1585, 1749, 1893, 2193
- Wyoming: Crook and Weston Counties** 1350
- Xanthocephalus xanthocephalus** 1865
- xeric environment** 432
- xeric habitat** 728
- xeric scrub restoration** 1032
- Yamaska River** 2183
- Yampa River** 1374
- Yazoo River watershed** 313
- yearly crop rotation system** 246
- yellow-billed cuckoo** 883, 2244

**yellow-headed blackbird** 1865  
**Yellowstone River** 1538  
**yield** 1009, 1054, 1242, 1251, 1558  
**Yolo County** 363  
**young Douglas-fir forest thinning**  
1224  
**young forests** 1309  
**young-growth management** 1153  
**young montane and subalpine  
forests** 1199  
**Yuma** 1673  
**Zacotus matthewsii** 1105  
**Zapus hudsonius** 591, 820, 852  
**Zapus princeps** 674  
**Zea mays** 67, 189, 496, 1380, 1971,  
2021, 2183  
**Zenaida** 2266  
**Zenaida macroura** 125, 166, 373,  
804, 826, 1953, 2252  
**Zizania aquatica** 1769  
**zonation** 1601  
**zoning** 1160  
**Zonotrichia albicollis** 446, 906  
**Zonotrichia leucophrys** 558  
**zoobenthos** 1380, 1415, 1422,  
1482, 1483, 1491, 1556, 1614, 1667,  
1669, 1739, 1759, 1892, 1908  
**zoogeography** 218, 1985  
**zoology** 155, 791  
**zooplankton** 1413, 1867, 1936  
**zooplankton production** 1867  
**Zygoptera** 1811