

CHAPTER 5

CONSULTATION, COORDINATION AND PREPARATION

LIST OF PREPARERS

FOREST SERVICE PERSONNEL

NAME/DUTIES	EDUCATION/EXPERIENCE
Dave Carroll NEPA	B.S. Forest Management 21 years experience
Carl Davis Historical Resources	M.A. Anthropology, B.A. Anthropology 20 years experience
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Diane Johnson Human Health	14 years experience
Gerald Meyer Economics, Wild and Scenic Rivers, Research Natural Areas	B.A. History 24 years experience
Dea Nelson Project Team Leader	M.S. Botany, B.A. Biology 18 years experience
Lois Olsen Vegetation	B.S. Range Management 23 years experience
Dave Payne Recreation, Wilderness and Roadless	B.S. Resource Management – Recreation 25 years experience
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CONTRACTOR/CONSULTANTS

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CHAPTER 6

REFERENCES

- Alcock, R. E., M. S. McLachlan, A. E. Johnston, and K. C. Jones. 1998. Evidence for the presence of PCDD/Fs in the environment prior to 1900 and further studies on their temporal trends. *Environ. Sci. Technol.* 32(11):1580-1587.
- Anderson, D., K. Harper and R. Holmgren. 1982. Factors influencing development of cryptogamic soil crusts in Utah deserts. *Journal of Range Management* 35:180-185.
- Arbuckle, T.E. et al. 1999. Exposure to Phenoxy Herbicides and the Risk of Spontaneous Abortion. (Abstract). 10 (6).
- Asher, J. 1998. Wildland weeds: scope, impacts, strategies. National weed symposium. April 8-10.
- Barton, D. and S. Crispin. 2001. Sensitive plants in weed management areas on the Helena National Forest. Unpublished Report. Montana Natural Heritage Program. Helena, MT.
- _____. 2002. Sensitive plant species in weed management areas on the Helena National Forest. Final Report, December 2002. Montana Natural Heritage Program. Helena, Montana.
- Beck, K.G. 1999. Biennial thistles. In: *Biology and management of noxious rangeland weeds*. Eds. R. Sheley and J. Petroff. Oregon State University Press, Corvallis, Oregon.
- Becker Underwood. 2003. Hi-Light takes the guesswork out of spraying!. Available online at www.bucolor.com.
- Bedunah, D. 1992. The complex ecology of weeds, grazing and wildlife. *Western Wildlands* 18:6-11.
- Bedunah, D. and J. Carpenter. 1989. Plant community response following spotted knapweed (*Centaurea maculosa*) control on three elk winter ranges in Western Montana. In *Proceedings of the knapweed symposium*. Montana State University Extension Bulletin 45:205-212.
- Belcher, J. and S. Wilson. 1989. Leafy spurge and the species composition of a mixed grass prairie. *Journal of Range Management* 42:172-175.
- Blair, A. 1996. Risk factors: Pesticides. Pages 99-101 in A. Harris, B.K. Edwards, W.J. Blot, and L.A. Gloeckler Ries, eds. *Cancer Rates and Risks* (4th Edition). U.S. Department of Health and Human Services, Public Health Service, National Institutes of Health. NIH Publication No. 16-691.
- Brady, N.C., and R.R. Weil. 1999. *The Nature and Properties of Soils*. 12th Edition. Prentice Hall. Upper Saddle River, NJ.
- Bowles, A. 1995. Responses of wildlife to noise. In Knight, R. L. and Gutzwiller eds. *Wildlife and Recreationists*. Island Press, Washington D. C. 372 pp.
- Brown, M., C. Duncan, and M. Halstvedt. 1999. Spotted knapweed management with integrated methods. *Proceedings of the Western Society of Weed Science*. Weed Science. Vol. 52, p. 68-70.

- Brown, M., C. Duncan, L. Olsen, R. Beard, and T. Playford. 2002. Effect of herbicide treatments in Dalmatian toadflax establishment and spread in burned forested site. Preliminary Report. Weed Management Services, Helena National Forest, and Dow Agrosiences.
- Bucher, R. 1984. The potential cost of spotted knapweed to Montana range users. Cooperative Extension Service Bulletin. Montana State University. Bozeman.
- Bull, E. and J. Jackson. 1995. The Birds of North America. No. 148, Pileated Woodpecker.
- Buskirk, S.W., Leonard F. Ruggiero. 1994. American Marten. Pp. 7-37 in L.F. Ruggiero, K.B. Aubry, S.W. Buskirk, L.J. Lyon, and W.J. Zielinski, eds. The scientific basis for conserving forest carnivores: American marten, fisher, lynx, and wolverine in the western United States. U.S. Dept. of Agriculture, Forest Service, Gen. Tech. Rep. RM-254.
- Bussan, A. and W. Dyer. 1999. Herbicides and rangeland. In: Biology and management of noxious rangeland weeds. Eds. R. Sheley and J. Petroff. Oregon State University Press, Corvallis, Oregon.
- Callihan, R., F. Northam, J. Johnson, E. Michalson and T. Prather. 1989. Yellow starthistle. Biology and management in pasture and rangeland. University of Idaho Extension Public Service. Moscow.
- Carey, C. and C. Bryant. 1995. Possible interrelations among environmental toxicants, amphibian development, and decline of amphibian populations. Environmental Health Perspectives. Volume 103, Supplement 4. May 1995.
- Charles J.M. et al. 1996. Chronic dietary toxicity/oncogenicity studies on 2,4-Dichlorophenoxyacetic acid in rodents. Fundamental and Applied Toxicology 33: 166-172.
- Citron, M. 1995. Perplexing peroxisome proliferators. Environmental Health Perspectives Volume 103, Number 3. March.
- Clark, T.W. 1987. *Martes Americana*. Mammalian Species No. 289: 1-8.
- Cox, C. 1998. Herbicide Factsheet. Picloram. Journal of Pesticide Reform Vol. 18 No. 1. pgs 13-20. Eugene, Oregon.
- DeBano, Leonard F., Daniel G. Neary and Peter F. Ffolliott. 1998. Fire's effects on ecosystems. John Wiley & Sons, Inc. New York.
- DiTomaso, J. 1999. Risk analysis of various weed control methods. Weed Science as repeated in TechLine. University of California. Davis.
- Duncan, C. 1997. Environmental benefits of weed management. Weed Management Services.
- Dow AgroSciences (DOW). 1999. Picloram and the Environment. Technical Profile. November.
- _____. 2001. Answers to questions about products containing picloram: picloram and animals/wildlife.
- Ecobichon, D.J. 2001. Toxic effects of pesticides. Pages 763-810 in C.D. Klaassen, ed. Casarett and Doull's Toxicology: The basic science of poisons, Sixth ed. McGraw-Hill Medical Publishing Division, New York, NY.
- Esumi K., Y. Takeda, and Y. Koide. 1998. Competitive adsorption of cationic surfactant and pesticide on laponite. *Colloids and Surfaces A: Physicochem. Eng. Aspects*. 135 pp 59-62.

- Faustini, A. et al. 1996. Immunological changes among farmers exposed to phenoxy herbicides: preliminary observations. (Abstract) *Occupational and Environmental Medicine*. 53: 583-585.
- Felsot, A. 2001. Assessing the safety of herbicides for vegetation management in the Missoula Valley region – A question and answer guide to human health issues. Food and Environmental Quality Laboratory. Washington State University. Richland.
- Fletcher, R.A., and A.J. Renney. 1963. A growth inhibitor found in *Centaurea* spp. *Canadian Journal of Plant Science* 43:475-481.
- Forlani, G., M. Mantilli, M. Branzoni, E. Nielsen, and F. Favilli. 1995. Differential sensitivity of plant-associated bacteria to sulfonylurea and imidazolinone herbicides. *Plant and Soil*. 176:243-253.
- Foresman, K. R. 2001. *The Wild Mammals of Montana*. American Society of Mammalogists. Special Publication No. 12.
- Fryrear, D.W. 2000. Wind erosion. G195-G216. In *Handbook of Soil Science*. M.E. Sumner (Ed). CRC Press. Boca Raton, FL.
- Fuhlendorf, S.D., D.M. Engle, D.C. Arnold and T.G. Bidwell. 2001. Influence of herbicide application on forb and arthropod communities of North American tallgrass prairies. *Agriculture Ecosystems and Environment*.
- Garabrant, D.H. and M.A. Philbert. 2002. Review of 2,4-Dichlorophenoxyacetic acid (2,4-D) epidemiology and toxicology. *Crit. Rev. Toxicol.* 32:233-57.
- Gillispie, J. and L. Hedstrom. 1979. Aeroallergens of western Montana. *Rocky Mountain Medical Journal*.
- Glover-Kerkvliet, J. 1995. Environmental assault on immunity. *Environmental health perspectives*. Vol. 103, No. 3, March 1995. Available online at <http://ehpnet1.niehs.nih.gov/docs/1995/103-3/focus.html>.
- Goodwub, K.M and R.L. Sheley. 2001. What to do when fires fuel weeds. A step-by-step guide for managing invasive plants after a wildfire. *Rangelands* 23(6), pp. 15-21 December 2001.
- Gratkowski, H. J. 1977. Seasonal effects of phenoxy herbicides on ponderosa pine and associated brush species. *Forest Science* 23(1): 2-12.
- Gribble, G. W. 1994. The natural production of chlorinated compounds. *Environ. Sci. Technol.* 28(7):310A-319A.
- Guenther, C. 1989. Ecological relationships of bitterbrush communities on the Mount Haggin Wildlife Management Area. MS Thesis. Montana State University. Bozeman.
- Hall, R. and P. Henry. 1992. Assessing effects of pesticides on amphibians and reptiles. Status and Need. *Herpetological Journal* Vol. 2.
- Harris, P. and R. Cranston. 1979. An economic evaluation of control methods for diffuse and spotted knapweed in western Canada. *Canadian Journal of Plant Science*. 59:375-382.
- Hayes, H.M., R.E. Tarone, K.P. Cantor, C.R. Jessen, D.M. McCurnin, and R.C. Richardson. 1991. Case-control study of canine malignant lymphoma: positive association with dog owner's use of 2,4-dichlorophenoxyacetic acid herbicides. *J. Natl. Cancer Inst.* 83:1226-1231.

- Hayes, T.B., A. Collins, M. Lee, M. Mendoza, N. Noriega, A. A. Stuart, and A. Vonk. 2002. Hermaphroditic, demasculinized frogs after exposure to the herbicide atrazine at low ecologically relevant doses. *Proc. Natl. Acad. Sci.* 99:5476-5480.
- Hayes, W. J. Jr. 1991. Dosage and other factors influencing toxicity. *Handbook of Pesticide Toxicology, Vol. 1, General Principles.* W. H. Hayes, Jr. and E. R. Laws, Jr. (ed.). Academic Press, NY:39-105.
- Hendricks, P. 1997. Status, distribution, and biology of sculpins (Cottidae) in Montana: a review. *Montana Natural Heritage Program.* Helena, MT. 29 pp.
- Hoffman, N.J. 1997. Distribution of Picoides woodpeckers in relation to habitat disturbance within the Yellowstone area. M.S. thesis. Montana State Univ. 74 pp.
- Huenneke, L. 1996. Ecological impacts of invasive plants in natural areas. *Proceedings: Western Society of Weed Science* 49:119-121
- Ibrahim, M.A., G.G. Bond, T.A. Birke, P. Cole, F.N. Dost, P.E. Enterline, M. Gough, R.S. Greenburg, W.E. Haplerin, E. McConnell, I.C. Munrun, J.A. Swendberg, S.H. Zahm and J.D. Graham. 1991. Weight of evidence on the Human Carcinogenicity of 2,4-D. *Environmental Health Perspectives* 96:213-222.
- Information Ventures, Inc. 1995a. Glyphosate: Pesticide Fact Sheet. Prepared for the U.S. Forest Service by Information Ventures, Inc. <http://infoventures.com/e-hlth/pesticide/glyphos.html>
- _____ 1995b. Triclopyr: Pesticide Fact Sheet. Prepared for the U.S. Department of Agriculture Forest Service by Information Ventures, Inc. Accessed at <http://infoventures.com/e-hlth/pesticide/triclopy.html>.
- _____ 1995c. Chlorsulfuron pesticide fact sheet. Prepared for the USDA Forest Service. Available on line at <http://infoventures.com/e-hlth/pesticide/chlorsul.html>.
- _____ 1995d. Clopyralid methyl: Pesticide Fact Sheet. Prepared for the U.S. Department of Agriculture Forest Service by Information Ventures, Inc. Accessed at <http://infoventures.com/e-hlth/pesticide/choyrali.html>.
- _____ 1995e. Dicamba Pesticide Fact Sheet. Prepared for the USDA Forest Service. Information Ventures, Inc. Available on line at <http://infoventures.com/e-hlth/pesticide/dicamba.html>.
- _____ 1995f. Hexazinone: Pesticide fact sheet. Prepared for the U.S. Department of Agriculture Forest Service by Information Ventures, Inc. Accessed at <http://infoventures.com/e-hlth/pesticide/hexazino.html>.
- _____ 1995g. Imazapyr: Pesticide Fact Sheet. Prepared for the U.S. Department of Agriculture Forest Service by Information Ventures, Inc. Accessed at <http://infoventures.com/e-hlth/pesticide/imazapyr.html>
- _____ 1995h. Metsulfuron methyl Pesticide Fact Sheet. Prepared for the USDA Forest Service. Information Ventures, Inc. Available on line at <http://infoventures.com/e-hlth/pesticide/metsulf.html>.
- _____ 1995i. Picloram: Pesticide Fact Sheet. Prepared for the U.S. Forest Service by Information Ventures, Inc. <http://infoventures.com/e-hlth/pesticide/picloram.html>

- _____. 1995j. Sulfometuron methyl pesticide fact sheet. Prepared for the USDA Forest Service. Available on line at <http://infoventures.com/e-hlth/pesticide/sulfomet.html>.
- _____. 1995k. 2, 4-D: Pesticide Fact Sheet. Prepared for the U.S. Forest Service by Information Ventures, Inc. <http://infoventures.com/e-hlth/pesticide/24d.html>
- Ka, J.O., P. Burauel, J.A. Bronson, W.E. Holben, and J.M. Tiedje. 1995. DNA probe analysis of microbial community selected in field by long-term 2,4-D application. *Soil Science Society of America Journal*. 59:1581-1587.
- Kelsey, R. G. 2002. Personal communication with R. Kelsey, Research Scientist, USDA FS PNW Research Station, Corvallis, OR.
- Kurz, G. 1995. Ecological implications of Russian knapweed (*Centaurea repens* L.) infestation: Small mammal and habitat associations. M.S. thesis. Department of Rangeland Ecology. University of Wyoming, Laramie.
- Lacey, J.R., C.B. Marlow, and J.R. Lane. 1989. Influence of spotted knapweed (*Centaurea maculosa*) on surface runoff and sediment yield. *Weed Technology*. 3:627-631.
- Lacey, J., P. Husby and G. Handl. 1990. Observations on spotted and diffuse knapweed invasion into ungrazed bunchgrass communities in western Montana. *Rangelands* 12(1):30-32.
- Lacy, C.A., J.R. Lacey, P.K. Fay, J.M. Story, and D.L. Zamora. 1995. Controlling knapweed on Montana rangeland. Montana State University Extension Service. Circular 311.
- Lajeunesse, S., P.K. Fay, D. Cooksey, J.R. Lacey, R.M. Nowierski, and D. Zamora. No Date. Dalmatian and Yellow Toadflax: Weeds of Pasture and Rangeland. Montana State University Extension Service.
- Lauenroth, W.K., O.E. Sala, D. Coffin, and T.B. Kirchner. 1994. The importance of soil water in the recruitment of *Bouteloua gracilis* in the shortgrass steppe. *Ecological Applications*. 4:741-749.
- Loveland. 2003. Phase-II. A new generation MSO adjuvant oil. Loveland Industries Ltd. Cambridge, UK. Available online at <http://www.loveland.co.uk/>.
- Mackie, G. L. 1998. Applied aquatic ecosystem concepts. Available in manuscript form from Univ. Guelph Bookstore, ISBN 0- 901024-3-1.
- Marler, Marilyn. 2000. A survey of exotic plants in federal wilderness areas. USDA Forest Service Proceedings RMRS-P-15-Vol-5. pgs 318-327.
- Mattsson, J.L., J. M. Charles, B. L. Yano, H. C. Cunny, R. D. Wilson, and J. S. Bus. 1997. Single-dose and chronic dietary neurotoxicity screening studies on 2,4 dichlorophenoxyacetic acid in rates. (Abstract.) *Fundamentals and Applied Toxicology* 40:101-119.
- Maxell, B. A., J. K. Werner, P. Hendricks, and D. Flath. 2003. Herpetology in Montana: A History, Status Summary, Checklists, Dichotomous Keys, Accounts for Native, Potentially Native, and Exotic Species, And Indexed Bibliography. Northwest Fauna Number 5, Society for Northwestern Vertebrate Biology.
- Maybank, J., Yoshida, K. wallace, K. and Peters, M. 1978. Spray drift from agricultural pesticide applications. *Air Pollution Control Association Journal*, 28, 10, 1009 - 1014.

- Mayer, F.L. and M. Ellersieck, 1986. Manual of acute toxicology: interpretation and data base for 410 chemicals and 66 species of freshwater animals. US Dept. of the Interior, US Fish and Wildlife Resources Publication 160, 506pp. In: Fairchild, J.A., Sappington, L.C. and Ruessler, D.S., 1997. An Ecological Risk Assessment of the Potential for Herbicide Impacts on Primary Productivity of the Lower Missouri River.
- Mayes, M.A., D.L. Hopkins and D.C. Dill, 1987. Toxicity of picloram (4-amino-3,5,6-trichloropicolinic acid) to the lifestage of the rainbow trout. Bull. Environ. Contam. Toxicol. 38:653-660.
- MCCHB. 2001. Missoula City-County Health Board. Report to Missoula City Council on the health Effects and Environmental Fate of Herbicides as they Pertain to Weed Management. www.ci.missoula.mt.us/packets/council/2001-11-19/referrals/herbicide%20Report.htm
- MDNRC. 2003. Montana Department of Natural Resources and Conservation. Snowtel Station Information. <http://www.dnrc.state.mt.us/wrd/home.htm>.
- MDEQ. 2002a. Circular WQB-7, Montana Numeric Water Quality Standards. Helena, Montana. January 2002.
- _____. 2002b. Montana 303d Information. http://www.deq.state.mt.us/ppa/mdm/303_d/303d_information.asp.
- Minshall, G.W. 1982. Characterization and dynamics of benthic organic matter and invertebrate functional feeding group relationships in the upper Salmon River, Idaho (USA). Int. Revue ges.
- MNHP. 2001. Montana Natural Heritage Program. Montana plant field guide. Available on line at <http://nhp.nris.state.mt.us/>.
- Montana Bull Trout Scientific Group, 1995. Bitterroot river drainage bull trout status report. Prepared for the Montana Bull Trout Restoration Team.
- MT Department of Agriculture. 1992. Final Noxious Weed Trust Fund Programmatic Environmental Impact Statement. Montana Department of Agriculture, Agriculture and Biological Sciences Division.
- MT Department of Commerce. 2001. County profiles, MT Department of Commerce, Research and Analysis Bureau; Employment by Industry, last revised September 2001.
- Mueggler, W. and W. Stewart. 1980. Grassland and shrubland habitat types of western Montana. USDA Forest Service. General Technical Report INT-66. Ogden, Utah.
- Muledeernet 2003. Mule deer News and Information Network. State of Montana Mule Deer Status Report. <http://www.muledeernet.org/statusmontana.htm>.
- Munn, M.A. and P.J. Gilliom., 2001. Pesticide toxicity index for freshwater aquatic organisms. US Geological Survey. Water Resources Investigation and Report 01-4077. National Water Quality Assessment Program.
- Myers, J. and D. Berube. 1983. Diffuse knapweed invasion into rangeland in the dry interior of British Columbia. Canadian Journal of Plant Science 63:981-987.
- Mustonen, R., j. Kangas, P. Vuojolahti and K Linnainmaa. 1986. Effects on phenoxyacetic acids on the induction of chromosome aberrations in vitro and in vivo. (Abstract). Mutagenesis 1:241-245.

- National Academy of Sciences. 1999. *Hormonally active agents in the environment / Committee on Hormonally Active Agents in the Environment, Board on Environmental Studies and Toxicology, Commission on Life Sciences, National Research Council.* National Academy Press. Washington DC.
- National Weather Service. 2002. *Climatography of the United States No. 81. Monthly Normals of Temperature, Precipitation, and Heating and Cooling Degree Days for Montana.* <http://www.nws.noaa.gov/>
- Newmaster, S. and F. Bell. 2002. The effects of silvicultural disturbances on cryptogam diversity in the mixed boreal-mixedwood forest. *Can. J. For. Res.* 32: 38-51.
- Newmaster, S., F. Bell, and D. Vitt. 1999. The effects of glyphosate and triclopyr on common bryophytes and lichens in northwestern Ontario. *Can. J. For. Res.* 29: 1101-1111.
- Nielson, P. 1999. A review of public health and ecological risks associated with the use of picloram and clopyralid herbicides for weed management on Mount Jumbo. Missoula City County Health Department. http://www.co.missoula.mt.us/measures/weeds_jumbo.htm
- Nimmo, D.R. 1985. Pesticides. In *Fundamentals of aquatic toxicology* (Gary Rand and Sam Petrocelli ed.) Hemisphere Publishing Corp. Pages 335-373.
- Norris, L.A., H.W. Lorz, and S.V. Gregory. 1983. William R. Meehan, Technical Editor. *Influence of forest and rangeland management on anadromous fish habitat in western North America*, (9) Forest Chemicals. USDA Forest Service General Technical Report PNW-149, Pacific Northwest Range Experiment Station, Forest Service, Portland Oregon. 95 pp.
- _____. 1991. Chapter 7, *Forest chemicals in: influences of forest and rangeland management on salmonid fishes and their habitats.* American Fisheries Society Special Publication 19. Edited by W. R. Meehan.
- NPS. 2001. *National Park Service, National Rivers Inventory.*
- NRIS. 2002. *Montana Natural Resource Information System Watershed. Information for Fourcodes 10030101, 10030102, 10030103, 10020006, 17010201, & 17010203, Montana.* <http://nr.is.state.mt.us/mapper/watershed>.
- Oakes D.J. and J.K. Pollak. 1999. Effects of a herbicide formulation, Tordon 75D, and its individual components on the oxidative functions of mitochondria. *Toxicology.* 136 pp 41-52.
- Olson, B.E. 1999a. Impacts of noxious weeds on ecologic and economic systems. In *Biology and management of noxious rangeland weeds.* 4-18. Roger L. Sheley and Janet Petroff (eds.). Oregon State University Press. Corvallis, OR.
- _____. 1999b. *Grazing and weeds.* 85-96 IN *Biology and Management of Noxious Weeds.* R. L. Sheley and J. K. Petroff (Eds). Oregon State University Press. Corvallis, OR.
- Olson, B.E., and R.G. Kelsey. 1997. Effect of *Centuarea maculosa* on sheep rumen microbial activity and mass in vitro. *Journal of Chemical Ecology.* 23:1131-1144.
- Omang, R.J., 1992. *Analysis of the magnitude and frequency of floods and the peak-flow gaging network in Montana.* U.S. Geological Survey, Water-Resources Investigations Report 92-4048. Helena, Montana July 1992.

- OSU. 1993a. Oregon State University. EXTTOXNET Extension Toxicology Network, Pesticide Information Profiles. Triclopyr. <http://ace.orst.edu/info/exttoxnet/pips/triclopyr.htm>
- _____. 1996b. Oregon State University. EXTTOXNET Extension Toxicology Network, Pesticide Information Profiles. 2,4-D. <http://ace.orst.edu/info/exttoxnet/pips/2,4-D.htm>
- _____. 1996c. Oregon State University. EXTTOXNET Extension Toxicology Network, Pesticide Information Profiles. Dicamba. <http://ace.orst.edu/info/exttoxnet/pips/dicamba.htm>
- _____. 1996d. Oregon State University. EXTTOXNET Extension Toxicology Network, Pesticide Information Profiles. Picloram. <http://ace.orst.edu/info/exttoxnet/pips/picloram.htm>
- _____. 1996e. Oregon State University. EXTTOXNET Extension Toxicology Network, Pesticide Information Profiles. Imazethapyr. <http://ace.orst.edu/info/exttoxnet/pips/imazetha.htm>
- _____. 1996f. Oregon State University. EXTTOXNET Extension Toxicology Network, Pesticide Information Profiles. Glyphosate. <http://ace.orst.edu/info/exttoxnet/pips/glyphosa.htm>.
- _____. 1996g. (Exttoxnet) Extension Toxicology Network, Pesticide Information Profiles. Hexazinone. Available online at <http://ace.ace.orst.edu/info/exttoxnet/pips/hexazin.htm>
- _____. 1996h. (Exttoxnet) Extension Toxicology Network, Pesticide Information Profiles. Sulfometuron-methyl. Available online at <http://ace.ace.orst.edu/info/exttoxnet/pips/sulfomet.htm>
- Parrett, C., D.R. Johnson, and J.A. Hull, 1989. Estimates of monthly streamflow characteristics at selected sites in the Upper Missouri River Basin, Montana, Base period water years 1937-86. U.S. Geological Survey, Water-Resources Investigations Report 89-4082. Helena, Montana.
- Paulson, N. and J. T. Hatch. 2002. Burbot, Lota lota, member of the Cuskfish family. Fishes of Minnesota-Burbot. Accessed at http://www.gen.umn.edu/faculty_staff/hatch/fishes/burbot.html.
- Pfister, R.D., B.L. Kovalchik, S.F. Arno, and R.C. Presby. 1977. Forest habitat types of Montana. USDA Forest Service Intermountain Forest and Range Experiment Station General Technical Report INT-GTR-34. USDA Forest Service. Ogden, UT
- Pesticide Management Education Program (PMEP). 1983. Chemical facts sheet for dicamba (Banvel) Herbicide Profile. Pesticide Management Education Program, Cornell University. <http://pmep.cce.cornell.edu/profiles/herb-growthreg/dalapon-ethephon/dicamba/herb-prof-dicamba.html>.
- Randall, J. 1996. Weed control for the preservation of biological diversity. *Weed Technology* 10(2):370-393.
- Rees, N.E., P.C. Quimby, Jr., G.L. Piper, E.M. Coombs, C.E. Turner, N.R. Spencer, and L.V. Knutson. 1996. Biological control of weeds in the west. Western Society of Weed Science, USDA Agricultural Research Service, Montana Department of Agriculture, Montana State University. Bozeman, MT.
- Reichel, J. M., and D. Flath. 1995. Identification of Montana's amphibians and reptiles. *Montana Outdoors Magazine*. May/June. 20 p.

- Resh, V.H., A.V. Brown, A.P. Covich, M.E. Gurtz, H.W. Li, G.W. Minshall, S.R. Reice, A.L. Sheldon, J.B. Wallace, and R.C. Wissmar. 1988. The role of disturbance in stream ecology. *Journal of the North American Benthological Society* 7:433-455.
- Rice, P.M. 2000. Restoration of Sawmill Creek Research Natural Area, "Knockout the knapweed & fire the firs" Project report. Division of Biological Sciences. University of Montana. Missoula.
- _____. 2003. INVADERS Database System (<http://invader.dbs.umt.edu>). Division of Biological Sciences, University of Montana, Missoula, MT 59812-4824.
- Rice, P.M. and J. Toney. 1996. Plant population responses to broadcast herbicide applications for spotted knapweed control. *Down to Earth*. vol. 51(2):14-19.
- _____. 1998. Exotic weed control treatments for conservation of fescue grasslands in Montana. *Biological Conservation* 85: 83-95.
- Rice P.M., D.J. Bedunah, and C.E. Carlson. 1992. Plant community diversity after herbicide control of spotted knapweed. Res. Pap. INT-460 Ogden, UT: US Department of Agriculture, Forest Service, Intermountain Research Station. 6 p.
- Rice, P.M., J. Toney, D. Bedunah, and C. Carlson. 1997a. Plant community diversity and growth from responses to herbicide applications for control of *Centaurea maculosa*. *Jour. of Applied Ecology* 34:1397-1412.
- _____. 1997b. Elk winter forage enhancement by herbicide control of spotted knapweed. *Wildlife Society Bull.* 25(3):627-633.
- Robinson , E. and L. A. Fox. 1978. 2,4-D. herbicides in central Washington, APCA J., 28, 1015. in Grover. F. 1991. *Environmental Chemistry of Herbicides*. Nature, transport, and fate of airborne residues.
- Rogers, J.M. and R.J. Kavlock. 2001. Developmental toxicology. Pages 351-386 in C.D. Klaassen, ed. Casarett and Doull's *Toxicology: The basic science of poisons*, Sixth ed. McGraw-Hill Medical Publishing Division, New York, NY.
- Rook, E. J. S. 1999. Lota lota, burbot. Flora, fauna, earth, and sky; the natural history of the Northwoods. Accessed at <http://www.rook.org/earl/bwca/nature/fish/lota.html>.
- Rosentreter, R. 1994. Displacement of rare plants by exotic grasses. In S.B. Monsen and S.G. Kitchen, eds. *Proceedings of Ecology and Management of Annual Rangelands*. Ogden, Utah: USDA FS Intermountain Research Station Gen. Technical Report INT GTR-313. 170-175.
- Ross, J. H., M. H. Dong., and R. I. Krieger. 2000. Conservatism in pesticide exposure assessment. *Regulatory Toxicology and Pharmacology* 31:53-58.
- Rychert, R.C. and J. Skujins. 1974. Nitrogen fixation by blue-green algae-lichen crusts in the Great Basin Desert. *Soil Sci. Soc. Amer. J.* 338: 768-771.
- Safe, S. 1990. Polychlorinated biphenyls (PCBs), dibenzo-p-dioxins (PCDDs), dibenzofurans (PCDFs), and related compounds: environmental and mechanistic considerations which support the development of toxic equivalency factors (TEFs). *Critical Reviews in Toxicology* 21(1):51-88.

- Sanchez-Martin M.J., M.S. Rodriguez-Cruz, and M. Sanchez-Camazano. 2003. Study of the desorption of linuron from soils to water enhanced by the addition of an anionic surfactant to soil-water system. *Water Research*. 37 pp 3110-3117.
- Sheley, R., S. Kedzie-Webb and B. Maxwell. 1999. Pages 57-68. Integrated Weed Management on Rangeland. In: *Biology and Management of Noxious Rangeland Weeds*, Roger L. Sheley and Janet Petroff (eds.). Oregon State University Press. Corvallis.
- Shepard, B.S., B.E. May, and W. Urie. 2003. Status of westslope cutthroat trout (*Oncorhynchus clarki lewisi*) in the United States: 2002. Status Report, Montana Department of Fish Wildlife and Parks, Helena, Montana.
- Siegel, D. I. 2000. Pesticides in Groundwater: Vulnerability, Transport and Fate. Workshop Manual for the Montana Department of Agriculture, November 1-4, 2000. Presented by Environmental Education Enterprises, Inc., Ostrander, Ohio.
- Spoon, C., H. Bowles, and A. Kulla. 1983. Noxious weeds on the Lolo National Forest. A situation analysis paper. U. S. Department of Agriculture. Missoula, MT.
- Strickland, M. and C. Douglas. 1987. Marten. In *Wild Furbearer Management and Conservation in North America*. Novak, M., J. Baker, M. Obbard and B. Malloch, eds.
- Sutter, G. W. 1995. Introduction of ecological risk assessment for aquatic toxic effects, Chap. 28 in Rand, G.M., and Petrocelli, S. R., eds., *Fundamentals of Aquatic Toxicology: Methods and Applications: Washington, D.C., Taylor and Francis Publishers*, pp. 803-816. In: Munn, M.A. and P.J. Gilliom., 2001. Pesticide toxicity index for freshwater aquatic organisms. US Geological Survey. Water resources investigation and report 01-4077. National Water Quality Assessment Program.
- Teske, M.E, and H.W. Thistle. 1999. A simulation of Release Height and Wind Speed Effects for Drift Minimization. American Society of Agricultural Engineers. Transactions of the ASAE. Vol. 42(3):583-391.
- Teske, M.E., H.W. Thistle and R.E. Mickle. 2000. Modeling Finer Droplet Aerial Spray Drift and Deposition. American Society of Agricultural Engineers. Applied Engineering in Agriculture. Vol 16(4):351-357.
- Thistle, H. 2000. Rychert, R.C. and J. Skujins. 1974. Nitrogen fixation by blue-green algae-lichen crusts in the Great Basin Desert. *Soil Sci. Soc. Amer. J.* 338: 768-771.
- Thomas, M.J. and J.A. Thomas. 2001. Toxic responses of the reproductive system. Pages 673-709 in C.D. Klaassen, ed. *Casarett and Doull's Toxicology: The basic science of poisons*, Sixth ed. McGraw-Hill Medical Publishing Division, New York, NY.
- Thompson, M. 1996. Winter foraging response of elk to spotted knapweed removal. *Northwest Science*. 70(1):10-19.
- Tisdall, J.M., and J.M. Oades. 1982. Organic matter and water-stable aggregates in soils. *Journal of Soil Science*. 33:141-163.
- Tomkins, D. J. and W.F. Grant. 1977. Effects of herbicides on species diversity of two plant communities. *Ecology* 58: 398-406.

- Torri, D., and L. Borselli. 2000. Water erosion. G171-G194 In Handbook of Soil Science. M.E. Sumner (Ed). CRC Press. Boca Raton, FL.
- Trammel, M. and J. Butler. 1995. Effects of exotic plants on native ungulate use of habitat. Journal of Wildlife Management. 59(4):808-816.
- Trevathan, W. 2002. Extension Service, Department of Agricultural Chemistry, Environmental Toxicology and Chemistry Program, Oregon State University. *2,4-D Pesticide Fact Sheet: Forestry Use*. Fact Sheet Update.
- Tu, M., C. Hurd, and J. Randall. 2001. Weed Control Methods Handbook: Tools and techniques for use in Natural Areas. The Nature Conservancy. Available at <http://tncweeds.ucdavis.edu/handbook.html>.
- Tyser, R. 1992. Vegetation associated with two alien plant species in fescue grassland in Glacier National Park, Montana. (Abstracts) Great Basin Naturalist 52(2):198-193.
- Tyser, R. and C. Key. 1988. Spotted knapweed in natural area fescue grasslands: An ecological assessment. (Abstract) Northwest Science 62:151-160.
- USBLM. 1985. Northwest Area Noxious Weed Control Program, Environmental Impact Statement. US Department of the Interior, Bureau of Land Management, Oregon State Office.
- _____. 1991. Vegetation Treatment on BLM Lands in thirteen western states (FEIS). US Department of the Interior, Bureau of Land Management.
- _____. 2001. Off-highway vehicle environmental impact statement and proposed plan amendment for Montana, North Dakota and portions of South Dakota. US Department of the Interior, Bureau of Land Management, Montana State Office and USDA Forest Service, Northern Region. Available online at <http://www.mt.blm.gov/ea/ohv/AppendixD.pdf>.
- US Census Bureau. 2002. State and County Quick Facts 2000 Census, last revised September 2002.
- USDA 2002. ECS – Biology – Fish and Wildlife Habitat Management Leaflet Number 11 – American Elk (Order: Cervus elaphus). USDA Natural Resource Conservation Service, Wildlife Habitat Management Institute, Ecological Sciences Technical Note.
- USEPA. 1989. US Environmental Protection Agency. Integrated Risk Information System. 2,4-Dichlorophenoxyacetic acid (2,4-D) (CASRN 94-75-7). <http://www.epa.gov/iris/subst/0150.htm>.
- _____. 1990. US Environmental Protection Agency. Integrated Risk Information System, Hexazinone available online at <http://www.epa.gov/IRIS/subst/0246.htm>.
- _____. 1990a. US Environmental Protection Agency. Integrated Risk Information System, chlorsulfuron available online at <http://www.epa.gov/IRIS/subst/0027.htm>.
- _____. 1995. US Environmental Protection Agency. Reregistration Eligibility Decision (RED) Picloram. August 1995.
- _____. 1996a. US Environmental Protection Agency. Health Effects Test Guidelines OPPTS 870.1100: Acute Oral Toxicity. EPA 712-C-96-190, Washington, DC

-
- _____. 1996b. US Environmental Protection Agency. Health Effects Test Guidelines OPPTS 870.4100: Chronic Toxicity. EPA 712-C-96-192; Washington, D.C.
- _____. 1996c. US Environmental Protection Agency. Health Effects Test Guidelines OPPTS 870.1200: Acute Dermal Toxicity. EPA 712-C-96-210; Washington, D.C.
- _____. 1997a. US Environmental Protection Agency. Carcinogenicity Peer Review (4th) of 2,4-Dichlorophenoxyacetic acid (2,4-D). Washington DC.
- _____. 2000. US Environmental Protection Agency. Drinking Water Standards and Health Advisories. EPA 822-B-00-001. Summer 2000.
- USEPA. 2003. Inert Ingredients in Pesticide Products as found on Internet at: <http://www.epa.gov/opprd001/inerts/>
- USFS. 1986. Forest plan. USDA Forest Service, Helena National Forest. April, 1986
- _____. 1988. Soil Survey of Helena National Forest Area, Montana. Forest Service and Natural Resources Conservation Service
- _____. 1990. Old-growth habitats and associated wildlife species in the Northern Rocky Mountains. N. M. Narrel (ed.). Northern Region Wildlife Habitat Relations Program. RI-90-42.
- _____. 1992. Risk assessment for herbicide use in Forest Service Regions 1, 2, 3, 4, and 10 on Bonneville Power Administration sites. USDA Forest Service, Contract # 53-3187-9-30.
- _____. 1995a. Inland native fish strategy DN and FONSI. USDA Forest Service. Region I.
- _____. 1995b. Blackfoot Landscape Analysis. Forest Service, Helena National Forest. August.
- _____. 1995c. Inland native fish strategy implementation plan. USDA Forest Service. Region I. October 1995.
- _____. 1995d. Vanquish Risk Assessment Final Draft. Syracuse Environmental Research Associates, Inc. under contract with USDA Forest Service. Fayetteville, New York, and Syracuse Research Corporation, Syracuse, New York.
- _____. 1996a. Divide Landscape Analysis, Existing Condition Report, Recreation. USDA Forest Service, Helena National Forest. January.
- _____. 1996b. Mormon Ridge Big Game Winter Range Restoration, Final Environmental Impact Statement. USDA Forest Service, Lolo National Forest, Missoula, MT.
- _____. 1996c. Vanquish (dicamba) risk assessment final report. Syracuse Environmental Research Associates, inc. (SERA) Syracuse, NY under contract to USDA Forest Service.
- _____. 1996d. Selected commercial formulations of triclopyr - Garlon 3a and Garlon 4 risk assessment final report. Syracuse Environmental Research Associates, inc. (SERA) Syracuse, NY under contract to USDA Forest Service.
- _____. 1996e. Selected commercial formulations of glyphosate - Accord, Rodeo, Roundup and Roundup Pro risk assessment final report. Syracuse Environmental Research Associates, inc. (SERA) Syracuse, NY under contract to USDA Forest Service.
-

-
- _____ 1997a. South Elkhorn Range and Vegetation Environmental Assessment. USDA Forest Service, Helena National Forest.
- _____ 1997b. Establishment record for the Cabin Gulch Research Natural Area within Helena National Forest, Lewis and Clark County Montana. USDA Forest Service
- _____ 1997c. USDA Forest Service. Effects of surfactants on the toxicity of glyphosate, with specific reference to Rodeo. Syracuse Environmental Research Associates, inc. (SERA) Syracuse, NY.
- _____ 1997d. USDA Forest Service. Selected commercial formulations of hexazinone – human health and ecological risk assessment final report. Syracuse Environmental Research Associates, inc. (SERA) Syracuse, NY.
- _____ 1997e. USDA Forest Service. Use and assessment of marker dyes used with herbicides. Syracuse Environmental Research Associates, inc. (SERA) Syracuse, NY.
- _____ 1997f. Environmental assessment herbicide weed control. USDA Forest Service, Kootenai National Forest. Libby, Montana.
- _____ 1998a. Nevada/Dalton Project; Including Timber Harvest, Prescribed Fire, Fish and Wildlife Habitat Improvement, Road Construction, Road Obliteration, and Travel Management. USDA Forest Service, Helena National Forest, Lewis and Clark County, Montana. 1998.
- _____ 1998b. 2,4-Dichlorophenoxyacetic acid Formulations- Human Health and Ecological Risk Assessment Final Report. Syracuse Environmental Research Associates, Inc. under contract to USDA Forest Service. Fayetteville, New York September 1998.
- _____ 1998c. Sulfometuron methyl (Oust) final draft. Syracuse Environmental Research Associates, inc. (SERA) Syracuse, NY under contract to USDA Forest Service. Fayetteville, New York September 1998.
- _____ 1999a. North Belts Travel Plan/Magpie-Confederate Vegetation Restoration Project, Draft Environmental Impact Statement. USDA Forest Service, Helena National Forest, Helena, Montana. 1999.
- _____ 1999b. Picloram (Tordon K and Tordon 22K) - Final Report. Syracuse Environmental Research Associates, Inc. under contract to USDA Forest Service. Fayetteville, New York.
- _____ 1999c. Clopyralid (Transline) Final Report. Syracuse Environmental Research Associates, Inc. under contract to USDA Forest Service. Fayetteville, New York. April 1999.
- _____ 1999d. Dicamba Herbicide Information Profile. USDA Forest Service. Pacific Northwest Region.
- _____ 1999e. Imazapyr (Arsenal, Chopper, and Stalker Formulations), Final Report. Syracuse Environmental Research Associates, Inc. Fayetteville, New York.
- _____ 2000a. Cave Gulch Fire Burned Area Emergency Rehabilitation (BAER) Plan, July-August, 2000, Helena, MT. Prepared by Burned Area Rehabilitation Team. Helena National Forest. August 2000.
- _____ 2000b. Metsulfuron methyl (Escort) Final Report. Syracuse Environmental Research Associates, Inc. Fayetteville, New York.
-

-
- _____ 2000. Conflict and collaboration in the communities of place associated with the Flathead and Helena National Forests.
- _____ 2001a. Lolo National Forest Big Game Winter Range and Burned Area Weed Management FEIS USDA Forest Service, Lolo National Forest.
- _____ 2001b. Draft Helena National Forest Roads Analysis – Informing Decisions about Managing the Transportation System. Helena National Forest Forest-wide Analysis of Maintenance Levels 3, 4, and 5 Roads and Roads of Other Jurisdictions. Helena National Forest. July.
- _____ 2001c. Beaverhead-Deerlodge National Forest Noxious Weed Control Draft EIS. August.
- _____ 2001d. USDA Forest Service. Final Environmental Impact Statement and Record of Decision. Maudlow-Toston Post Fire Salvage Sale, Helena National Forest. May 2001.
- _____ 2001e. Biological assessment for herbicide treatment of noxious weeds on the Nez Perce National Forest for 2001.
- _____ 2001f. Imazapic [Plateau and Plateau DG] – Human Health and Ecological Risk Assessment Final Report. Syracuse Environmental Research Associates, Inc. Fayetteville, New York, and Syracuse Research Corporation, Syracuse, New York. USDA Forest Service. January 2001.
- _____ 2001g. Annual heritage resource compliance report, 2001 field season. USDA Forest Service, Northern Region, Helena National Forest.
- _____ 2002a. USDA Forest Service. Final Environmental Impact Statement and Record of Decision. Beaverhead-Deerlodge Noxious Weed Control Program.
- _____ 2002b. Miscellaneous Water Resources Data from Agency Database. Bo Stuart, Hydrologist, Helena National Forest, Helena, MT.
- _____ 2002c. [Draft] Update of goshawk nest monitoring report, Helena National Forest, Helena, Montana. October 2002
- _____ 2002d. Draft Little Blackfoot Watershed Analysis. USDA Forest Service, Helena National Forest.
- _____ 2002d. Aerial herbicide application for noxious weed control in the Northern Region: observations, recommendations, and considerations. Any Kulla, Weed Program Leader, Lolo National Forest. January 2003.
- _____ 2002e. Helena National Forest Annual Monitoring Report, Fiscal Year 2001.
- _____ 2003. USDA Forest Service. Region I National Fire Plan Cohesive Strategy Team. Pileated Woodpecker. http://www.fs.fed.us/r1/cohesive_strategy/integration/wildlife/pw.htm
- _____ n.d. Cultural resource atlas. Mss on file, Helena National Forest Supervisor's Office, Helena, MT. USDA Forest Service.
- USFWS 2002. Threatened, endangered, and candidate species for the Helena National Forest (3/20/03). Species list provided for consultation purposes to the Helena National Forest in reference to proposed weed treatment project EIS.
-

- _____. 2003. Rocky Mountain Wolf Recovery 2002 Annual Report. U.S. Fish and Wildlife Service, the Nez Perce Tribe, the National Park Service, and USDA Wildlife Services. 2003. T. Meier, ed. USFWS, Ecological Services, 100 N. Park, Suite 320, Helena, MT. 64 pp.
- USNRCS. 1995. USDA Natural Resources Conservation Service. Mapping and Digitizing Watershed and Subwatershed Hydrologic Unit Boundaries. Washington D.C.
- Van den Berg et al. 1998. Toxic Equivalency Factors (TEFs) for PCBs, PCDDs, PCDFs for Humans and Wildlife, Environ. Health Perspectives 106:775-792.
- Van Eimeren, P., 1996. Westslope CUTTHROAT TROUT *Oncorhynchus clarki lewsi* In: Conservation assessment for inland cutthroat trout. distribution, status and habitat management implications. US Department of Agriculture, Forest Service, Intermountain Region, Ogden, Utah. D.A. Duff, tech. Ed. pp. 1-10.
- Vincent, F.G., R.E. Tarone, I.R. Hirsch, J.M. Abdalla, D.P. Lombardi, L.K. Long, B.L. Burroughs, D.B. Barr, and J.S. Kesner. Undated. Biomarker correlations of urinary 2,4-D levels in foresters: Genomic instability and endocrine disruption. Environmental Health Perspectives. 109:495-500.
- Virginia Cooperative Extension, 1996. Pesticides and aquatic animals: a guide to reducing impacts on aquatic systems. Publication Number 420-013.
- Walch, L., and B. Stuart. 2002. Personal communication with Helena National Forest Resource Specialists (Oct-Nov.).
- Wardle, D.A., and D. Parkinson. 1991. Relative importance of the effect of 2,4-D, glyphosate, and environmental variables on the soil microbial biomass. Plant and Soil. 134:209-219.
- Wardle, D. A., G. W. Yeates, K. I. Bonner, K. S. Nicholson, and R. N. Watson. 2001. Impacts of ground vegetation management strategies in a kiwifruit orchard on the composition and functioning of the soil biota. (Abstract) Soil biology and biochemistry 33: 893-905.
- Whisenant, S.G. 1990. Changing fire frequencies on Idaho's Snake River Plains: ecological and management implications. In E.D. McArthur, E.V. Romney, S.D. Smith, and P.T. Tueller, eds. Proceedings-Symposium on Cheatgrass Invasion, Shrub Die-off, and Other Aspects of Shrub Biology and Management. Las Vegas, Nevada. 1989. USDA Forest Service Intermountain Research Station Gen. Technical Report, INT-276. 4-10.
- Wilson, L. and H. McCaffrey. 1999. Biological control of noxious rangeland weeds. In Biology and management of noxious rangeland weeds. Sheley and Petroff (eds.). Oregon State University Press. Corvallis.
- Winfield, J. 2003. Cave Gulch fire/weeds monitoring project. Unpublished Report. Helena National Forest. Helena, Montana.
- Woodward, D.F. 1976. Toxicity of the herbicides dinoseb and picloram to cutthroat (*Salmo clarki*) and lake trout (*Salvelinus namaycush*). J. Fish. Res. Board Can. 33: 1671-1676.
- Yates, W.E., N.B. Akesson, and D.E. Bayer. 1978. Drift of glyphosate sprays applied with aerial and ground equipment. Weed Science 26(6):597-604.

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