

SUMMARY OF RESEARCH ACTIVITIES WITHIN THE NATIONAL PARK SERVICE AREAS
COOPERATING WITH THE U.W.-N.P.S. RESEARCH CENTER, 1980.

Bighorn Canyon National Recreation Area

- II. Studies Supported With National Park Service Funds.
 - A. Evaluation of water quality and rate of sedimentation in Bighorn Lake.
G. Fred Lee, Colorado State University.
Initiated 1980.

Glacier National Park

- I. Studies Conducted By Park Personnel.
 - A. Grizzly bear population studies.
Cliff Martinka.
Initiated 1967.
Ongoing.
 - B. Aquatic ecosystem inventory.
Leo Marnell.
Initiated 1979.
Ongoing.
 - C. Cutthroat trout genetics studies.
Leo Marnell.
Initiated 1977.
Ongoing.
 - D. Behavior of grizzly bears in relation to people.
Kathy McArthur.
Initiated 1979.
Completion 1982.
 - E. Goat lick monitoring.
Frank Singer.
Initiated 1979.
Completion 1981.
 - F. Local and long range movement of Bald Eagles in autumn concentrations at Glacier National Park.
B. Riley McClelland and L. Young.
Initiated in 1977.
Completion 1982.

- II. Studies Supported With National Park Service Funds.
 - A. Grizzly bear population studies.
Cliff Martinka.
Initiated 1967.
Ongoing.

- B. Aquatic ecosystem inventory.
Leo Marnell.
Initiated 1979.
Ongoing.
 - C. Cutthroat trout genetic studies.
Leo Marnell.
Initiated 1977.
Ongoing.
 - D. Behavior of grizzly bears in relation to people.
Kathy McArthur.
Initiated 1979.
Completion 1982.
- III. Studies Supported By University And Allied Funding Sources.
- A. Impact of fire on recreation.
Henry Vaux, Jr.
Completed 1980.
 - B. Ecology and distribution of the White-tailed Ptarmigan in Montana.
M. Douglas Scott.
Initiated 1980.
Completion 1982.
 - C. Ecology study of American pine marten.
Gary Burnett.
Initiated 1979.
Completion 1981.
 - D. Numerical responses of woodpeckers and their effect on mountain pine beetles in lodgepole pine.
Amy Lester and Riley McClelland.
Initiated 1978.
Completion 1980.
 - E. Ferns.
Warren Wagner.
Initiated 1978.
Completion 1981.
 - F. Glacier snowmelt.
Donald Alford.
Initiated 1980.
Discontinued due to logistical problems.
 - G. Geology and paleoecology of the belt supergroup, Glacier National Park.
Robert J. Horodyski.
Initiated 1969.
Ongoing (Was 75% complete as of 1979).

- H. High elevation and common higher fungi of Glacier National Park.
Orson Miller, Jr.
Initiated 1966.
Completion 1982.
- I. Impact of fluoride pollution from Anaconda Smelter on various wildlife species.
H. J. Zackheim.
Initiated 1980.
Completion 1980.
- J. Impact of kokanee salmon and man on the chemistry and bacteriology of McDonald Creek.
G. Thomas Foggin.
Initiated 1979.
Completion 1982.
- K. Habitat partitioning and niche overlap between bighorn sheep and mountain goats.
William Scott Brown.
Initiated 1977 (95% complete).
- L. Snow algae.
Ronald Hoham, Colgate University.
Initiated 1980.
- M. Local and long range movement of Bald Eagles in autumn concentrations at Glacier National Park.
B. Riley McClelland and L. Young.
Initiated 1977.
Completion 1982.
- IV. Studies Supported By Funds From Other Sources.
 - A. Trauma in grizzly attack victims.
Robert Perkinson.
Initiated 1980.
Discontinued due to lack of funds.
 - B. Wolf ecology.
Robert Ream.
Initiated 1978.
Ongoing.
 - C. Goat lick monitoring.
Frank Singer.
Initiated 1979.
Completion 1981.
 - D. Breeding bird survey.
Steve Gniadek.
Initiated 1980.
Ongoing.

- E. Butterflies of Montana,
Steve Kohler,
Initiated 1971 (75% complete).
- F. Aquatic ecosystem baseline inventories in Glacier National Park.
Larry Peterson,
Initiated 1977.
Currently not funded.
- G. Flathead River Basin study.
Joe Huston.
Initiated 1976 (15% complete).
- H. Evaluation of fluoride concentration in vegetation.
Laural Pye.
Initiated 1979.
Completion 1980.
- I. Geology of Glacier National Park.
Robert Earhart.
Initiated 1979.
Ongoing.
- J. Larvae of North American stonefly genera.
Michael Kudish.
Initiated 1978.
Completion 1981.
- K. Limnology of Flathead Lake-River ecosystem.
Richard Bauer.
Initiated 1977.
Completion 1981.
- L. Benthic invertebrates in natural and regulated waters.
Sue Appert.
Initiated 1979 (50% complete).
- M. High altitude entomology of Glacier National Park.
J. Gordon Edwards.
Initiated 1947.
Ongoing.
- N. Ecology of western redcedar groves in the Northern Rocky Mountains.
Frederic Johnson.
Initiated 1979.
Completion 1982.
- O. Holocene glacier functions.
Gerald Osborne.
Initiated 1974 (Nearing completion).

- P. Glaciologic investigations of Sperry Glacier.
Chuck Dalby.
Initiated 1974.
Ongoing.
- Q. Succession of fuels and vegetation in mountain pine beetle killed lodgepole pine forests.
L. F. Neuenschwander and C. D. Armour.
Initiated 1979.
Completion 1981.

Grand Teton National Park

V. Publications.

- A. Marshall, Kent G., Dennis H. Knight and William J. Barmore, Jr. 1980. An indexed and annotated bibliography on the ecology of Grand Teton National Park. Stored in the University of Wyoming Computer Center. Complete or partial literature printout and key work reference searches are available through the Computer Center.

Theodore Roosevelt National Park

I. Studies Conducted By Park Personnel.

- A. Population inventory of butterflies, North Unit, Theodore Roosevelt National Park.
Skip Snow, District Naturalist.
Initiated 1980.
Completion 1982.

II. Studies Supported With National Park Service Funds.

- A. An ecological study of Theodore Roosevelt National Park, habitat types and their animal components.
G. R. Hoffman, University of South Dakota.
Initiated 1978.
Completion 1980.

III. Studies Supported By Universities and Allied Funding Services

- A. Parasities of Helianthus.
L. D. Charlet, USDA, Sunflower Research, North Dakota State University, Fargo, North Dakota.
Initiated 1980.
Ongoing.
- B. Comparison of utilization of hardwood trees.
J. Butler, North Dakota State University, Fargo, North Dakota.
Initiated 1980.
Ongoing.

- C. Wildlife utilization of Symphoricarpos occidentalis.
J. A. Mastel, North Dakota State University, Fargo, North Dakota.
Initiated 1979.
Completion 1981.
- V. Publication.
 - A. Hansen, P. L., R. B. Hopkins and G. R. Hoffman. 1980. An ecological study of Theodore Roosevelt National Park-habitat types and their components. Dept. of Biol., Univ. of S. Dak., Vermillion. 182 pp.

Wind Cave National Park

- I. Studies Conducted By Park Personnel.
 - A. Fire history of the ponderosa pine forest in Wind Cave National Park.
Visitor Protection and Resources Management Division and the Park Biologist.
Initiated 1980.
Completion 1981.
 - B. Natural mortality of elk and bison in Wind Cave.
Park Staff.
Initiated 1977.
Completion 1980-81.
 - C. The effect of ungulates on certain trees and shrubs.
Visitor Protection and Resources Management Division and the Park Biologist.
Initiated 1977.
Ongoing.
 - D. Snow damage in ponderosa pine.
Resource Management and the Park Biologist.
Initiated 1976.
Ongoing.
- II. Studies Supported With National Park Service Funds.
 - A. Prairie dog dispersal activities.
Monte Garrett, Iowa State University.
Initiated 1979.
Completion 1981 or 1982.
 - B. Bison food habits and interaction with other herbivores.
Jewell Popp, Iowa State University.
Initiated 1978.
Completion 1980.
 - C. Effects of fire on forest floor vegetation in ponderosa pine.
Jane and Carl Bock, University of Colorado.
Initiated 1979.
Initiated 1981.

- D. The effect of fire on bird and small mammal communities in the grasslands of Wind Cave National Park.
Douglas Shown, Michigan Technological University.
Initiated 1980.
Completion 1983.

III. Studies Supported By Universities and Allied Funding Services.

- A. Social behavior and reproductive strategies of the Black-billed Magpie.
Debbie Bruitron, University of Minnesota.
Initiated 1979.
Completion 1982.
- B. Food habits and predator-prey relationships of the bobcat in the Southern Black Hills.
Dave Nomson, South Dakota State University.
Initiated 1979.
Completion 1981.
- C. The effects of prescribed burning in ponderosa pine on wildlife in the Southern Black Hills.
Jane and Carl Bock, University of Colorado.
Source of Support: Eisenhower Consortium.
Initiated 1980.
Completion 1981-1982.
- D. Social behavior of prairie dogs.
John Hoogland, Princeton University.
Source of Support: National Science Foundation.
Initiated 1979
Completion 1982.
- E. Facilitation of energy flow on natural grasslands: a new look at bison-prairie dog interactions.
Layne Coppock, Colorado State University
Source of Support: National Science Foundation.
Initiated 1979.
Completion 1980-1981.