

"GET THE FACTS, AND PUT THEM TO WORK"

COMPREHENSIVE NATURAL HISTORY RESEARCH PROGRAM

for

THE NATIONAL PARKS

United States
Department of the Interior
National Park Service

January 1962

COMPREHENSIVE NATURAL HISTORY RESEARCH PROGRAM

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NEEDS AND OPPORTUNITIES

The National Parks contain the largest and best preserved examples of the original American landscape. They constitute a resource affording outstanding opportunity for basic natural history research. Moreover, the National Park Service requires from research a continuous flow of precise knowledge about the nature and composition of this resource, and about the people who use it. The need is more critical than at any time in the past, and will intensify. The reasons are clearly evident:

Congress has directed that the National Parks be safeguarded and preserved as complete, natural communities of life.

Maintenance of the integrity of these natural properties is a practical requirement for their proper use. Their value for wilderness based recreation, for organized and avocational education in the fields of natural history and conservation, and as a theater for basic research by scientists depends upon the maintenance of the unchanged natural environments contained therein. Each unnatural change or impairment destroys a part of their capacity to serve these purposes.

The National Parks are complex organisms.

The National Parks are extremely varied in geologic, plant, animal, and other natural features contained in them. Moreover, the ecological patterns continuously develop and change under the influence of both nature and man caused factors. The interrelations, interdependence and interactions among elements of the environments, and of the forces at work within them, are exceedingly complex, frequently obscure, and incompletely understood. The results are seldom dramatic and obvious. More often they are insidious, and obscure. Unless under study by trained observers, unnatural changes can approach an irreversible stage before being recognized.

The National Parks are rapidly becoming islands, bounded on all sides by lands ever more intensively managed and manipulated for other purposes.

The Parks are increasingly subjected to adverse influences arising around their borders. Unless recognized and neutralized the inevitable consequence is damage or disturbance of the forests, wildlife, soil, and water relationships, frequently of such scope as to threaten the natural integrity of the whole environment, and in some cases the very existence of some Parks.

Each year, additional millions of people seek recreation in the National Parks.

In their varied pursuits, and in the facilities which they require for access, accommodation and safety, they, too, impose an even heavier impact on the natural environment.

Thus, the first essential task is to manage these properties so as to neutralize, to the greatest degree possible, all unnatural influences, whether arising from unbalanced natural conditions and public use within, or whether invading the Parks from without.

To do so means that the Service must understand, much more completely than it now does, the natural characteristics of these properties, the nature of the normal processes at work within them, the unnatural forces imposed upon them, and, as well, the relationships of Park visitors to the natural environments. If the Service is to protect and preserve, it must know what it is protecting, and what it must protect against. It is the function of research to get at the truth, to develop the fund of knowledge necessary for intelligent and effective management.

* * * * *

Truth is both a
weapon and a shield.

Concurrently, research is essential to public enjoyment and appreciation of Park values. It maintains the vigor and gives substance to the Park interpretive program.

Research, which contributes to preservation and management, has an additional and equally important collateral product. One of the most far reaching benefits of National Parks derives from their capacity to stimulate Park visitors to a greater interest and awareness of the natural world of which they are a part. The same research program which directly supports management, also supplies data, presented through the interpretive programs, to enhance such appreciation and enjoyment, and to influence the visitor's better use of the National Parks. Some research projects are necessary to undergird the interpretive program. The research program feeds the interpretive program and maintains its vigor and substance.

But, in a broader sense, National Parks are important research theaters-- places where superlative materials in natural history may be studied to advance knowledge.

Through research on natural environments, primitive soils and life forms, science has contributed much to agriculture, forestry, medicine, and other practical pursuits. There is still much knowledge to gain through basic research in natural history, and more and more, science goes back to the original life communities to discover new products, to devise better ways to manage and care for producing lands, and to increase general knowledge.

Outside the National Parks, there are few places where studies of the original environments are still possible. These places are fast disappearing, and the National Parks may well offer the only opportunity in this country, if not the world, for such basic and perhaps essential, research in the future.

* * * * *

The responsibilities of the National Park Service are to preserve the resource so that the research opportunity is perpetuated, to encourage and to facilitate independent research, and to pursue its own research program, dictated primarily by Park preservation and interpretive needs, so that it too contributes to the broad fund of scientific knowledge.

A LOOK AT THE RECORD

A substantial amount of research has been accomplished in the National Parks - far more than the meager natural history research budget of the past few years would indicate. In general, present knowledge about the Parks has accumulated through:

Independent research by scientists and universities.

Research by other government agencies, both as a part of their own program, and sometimes for and at the request of the National Park Service.

Research financed by outside organizations for the National Park Service.

Observations and research by field personnel of the National Park Service, related to or incidental to other functions.

Staff research, or contract projects initiated and supported by the National Park Service, chiefly to meet immediate, critical problems.

The National Park Service has been the fortuitous beneficiary of much excellent research performed by others. But, the research attack of the past has lacked continuity, coordination, and depth. Inadequately financed, research has relied largely upon voluntary contributed aid. Quite properly, such research is most frequently oriented toward the researcher's interests, and only incidentally toward Service needs. Research that the Service has supported of necessity, has been directed in piecemeal fashion toward solving immediate problems. Most research has been descriptive and of an inventory nature, rather than analytical. It has identified and catalogued, but provides a very inadequate account of how all elements of the Park scene fit and work together as an ecological whole. Understanding of the how and why and when of the processes operating within these natural environments is the pressing need today.

* * * * *

To safeguard the National Parks, and to enhance their scientific and educational values, the research program must enter a new dimension.

COMPREHENSIVE RESEARCH PROGRAM

The Pattern for the Future.

The proposed natural history research program, in contrast to the year-by-year, piecemeal endeavors of the past, is long-range, comprehensive and continuous. It projects into the future as far as can be reasonably planned. It draws upon all appropriate sciences in describing and appraising the conditions existing in the individual Parks. It contemplates reorientation and strengthening of staff to do the job, and relies heavily upon securing the most capable research people available in universities and other government agencies to conduct specific research projects. It contains the machinery for the direct application of the research findings to Park problems. Its major elements are as follows:

Develop a comprehensive research plan for each Park or research unit in the System.

Based upon the significant natural values of each Park, and upon the factors, known and anticipated, that threaten its natural economy, research master plans will be developed. Each master plan will establish the research objectives and the sequence of the research attack, and will define the specific research projects calculated to develop the required data most quickly, economically, and effectively. In brief, the master plan will establish the framework within which specific research projects will be programmed so as to get the most from each project, and to multiply the value of the succession of studies. Each study builds upon completed ones, points the way and forms the base for those that follow.

Start on a scale practical of accomplishment, and progress into the full scale program in five years.

It will take time to do the basic planning job, to enlist the services of universities and agencies for their part of the task, and to develop the organizational procedures to handle the program effectively. Consequently, it is proposed to move by stages into the full program, reaching full scale by 1967. The comprehensive plan will thus be put into effect progressively in all natural areas over a five-year period. For example, the master plan for Everglades, Isle Royale, Rocky Mountain, Grand Teton, Olympic, Sequoia and Kings Canyon, the Grand Canyon-Zion-Bryce complex, and perhaps Virgin Islands, Big Bend, Death Valley, and Channel Islands might be undertaken in fiscal year 1963. Project research, within the framework of the plan, will start immediately thereafter. Similarly, additional parks will be brought into the new procedure in successive years, and by 1967 all natural history research will be carried out within the framework of the comprehensive program.

Collaborate with research institutions in developing the basic plan.

The master plan will be developed by the Service, collaborating with representatives of universities, research institutions, and other government agencies. Thus, the highest competence will be put to work in developing the strategy of the research attack. Moreover, the scientists who later will be enlisted to conduct much of the research will have a clear understanding of the purpose, scope, and guidelines governing the program.

(Research people who have been consulted, agree that the comprehensive approach is a logical and efficient one, well adapted to Service needs, and advantageous to the universities. With a knowledge of the Park research objectives, and of the plan to carry it out, and with reasonable assurance of continued support, the universities can better plan and strengthen their own research programs in consonance with the plan. Much of the research will have practical use as well as academic purpose - an added stimulus for the researcher. It can be expected that additional research, supported from other sources, will be attracted to the Parks through interest generated by the master plan, and by the vigorous pursuit of research by the Service.)

Program research in logical sequence, and secure the most competent research teams for the work.

Within the framework of the master plan, the research will be carried out as studies sharply focused upon specific subjects. These will be undertaken in the order calculated to yield useful data rapidly, and to provide the best support for the projects which follow.

Most of the project work will be carried out under contract with universities and other research institutions, and by reimbursement to other government agencies, such as the U. S. Geological Survey, and the Bureau of Sport Fisheries and Wildlife. The objective is to enlist the highest competence, wherever found, for each project.

Problems of immediate urgency will be attacked immediately. Problem-oriented research arising from "crises" will, however, be absorbed into the comprehensive program as it develops. Thereafter, "crises" should not develop, because the unfolding comprehensive program will recognize incipient problems and provide the guidance for their solution.

Plan, Administer, and Coordinate.

Most of the project research will be done by others. However, the National Park Service must administer, monitor, and coordinate the whole, conduct such studies as are appropriate to its staff, provide continuity, assess the need for additional research, and apply the results. The Natural History staff is being regrouped to focus directly upon this program. (Research staff functions are described, page 11.)

Followup of the research with periodic inspections, appraisals, and diagnosis of ecological conditions.

Accomplished research has both immediate and long-range aspects. The full value is realized as the knowledge obtained forms the basis for continuous diagnosis of the ecological "health" of Park environments. Consequently, the active intense research projects must phase into complementary programs of periodic inspection of wildlife, forest and meadow, soils and water, and other ecological situations.

As the program develops, both the research staff and field personnel will be increasingly occupied in such periodic inspections and appraisals. The Service must know at all times what is happening, what needs to be corrected, and how to go about it expeditiously.

Put research results to work.

Research must not culminate in reports reposing in forgotten files. The Service has two obligations in this respect: to translate research results into policy and actions, and to make the results available to other conservation agencies and to science.

The research staff will translate reports of completed projects, and of periodic followup inspections, into specific recommendations applicable to use, and interpretive programs. Decisions and actions based thereon represent the immediate product of the research program.

The Service will arrange for the publication of important research reports. The Service is the immediate beneficiary of the research program, but the product of the over-all program will be of value to science, and to other land management agencies.

Stimulate and support the use of National Park natural areas for independent basic research.

The National Parks will afford increasing opportunities for basic research in the future, much of it extending beyond the immediate intent of the comprehensive plan. This is to be encouraged, insofar as is consistent with the maintenance of the natural environment.

* * * * *

The following chart identifies the major elements of the research program, illustrates the character of its development, and estimates its scope over the 5-year period. Figures are in thousands of dollars.

<u>Comprehensive 5-year Program</u>	<u>1963</u>	<u>1964</u>	<u>1965</u>	<u>1966</u>	<u>1967</u>
Emergency Problem Research Projects including projects in progress	125	125	100	50	0
Comprehensive Planning	17.5	50	50	50	25
Comprehensive Research Projects	65	300	500	750	1000
Publication	13.9	50	75	75	100
N.P.S. Research Staff & Administration	31.6	75	150	175	225
Totals	253	600	875	1100	1350

* * * * *

The Service can no longer rely upon fragmented, problem oriented, piecemeal, stop-and-go research of limited scope to support management, preservation, planning and interpretive decisions and actions. A planned, comprehensive attack, approached from a long-range, ecological viewpoint, bringing into play all related natural science disciplines, is indicated. This will enable the Service to meet its problem in stride, and to provide the broad base for handling future needs before they become critical. A comprehensive attack, and reinforced through periodic inspection, the whole being translated into appropriate action, is the pattern for the future.

IMMEDIATE ACTION RESEARCH

The Program for FY 1963

Past experience proves that Park protection, planning and development cannot stand still. These phases of Park operation and management never remain fixed because the factors on which they are based experience constant change. To solve existing critical problems, and to permit planning and use programs to go forward, certain specific knowledge is needed at once.

Certain research projects now in progress must be completed, and others must be undertaken even before the formulation of the comprehensive master plan. Projects of immediate urgency constitute the greater part of the 1963 program, and substantial parts of those of the following three years. A few examples of such projects follow:

(1) Imbalances among elements of the environments within the areas themselves, coupled with adverse influences from the outside, have created and intensified the overpopulation of elk in Yellowstone and Grand Teton National Parks. Effects on both the elk and the vegetative cover on which they depend for food, have reached disastrous proportions. The situation is highly dynamic in that drastic change can occur within relatively short periods of time.

This is an over-all ecological problem for it involves, not only population dynamics, migrations, and other factors pertaining to the elk directly, but plant and soil conditions over the entire range utilized throughout the year, relation to deer, antelope, bison, beaver and other animals coexisting with the elk, the predators, climatic and weather conditions, hunting and other influences outside the Park, and other factors.

While direct measures and expedients may be required to stem the deterioration, and to effect a degree of recovery, the ultimate objective is to attain a self-sustaining relationship among all elements of the environment. The application of corrective measures, and the restoration and maintenance of natural balances, can succeed only if backed-up by complete and accurate knowledge, and continuous appraisal of the ecology of these environments.

(2) Everglades National Park is without doubt the most critical area in the System in its dependence upon exterior factors. The problem here is to determine the water requirements necessary to maintain the fresh, brackish, and salt water environments that characterize this Park, and thus to support claims for the release of water from conservation projects above the Park.

These engineering works have the capacity to shutoff all surface water flow into the Park. Unless the supporting data are developed and properly applied there is real danger that the Everglades may vanish as a sample of distinctive environmental types. The necessary data can be obtained most rapidly through intensive research focused upon requirements of the specific elements of these environments.

(3) The science of geology is fundamental to an understanding of many of the areas of the National Park System. Not only do the Parks exemplify some of the most dramatic manifestations of geologic forces, and require study to support Park interpretive programs, and for preservation purposes, but the science of geology provides the logical and necessary base for the further study of the organic environment. In many cases, specific geologic data are required for planning and development purposes. In a larger sense, the National Parks should tell the basic geologic story of the United States. To do so will require not only certain specific geologic studies in existing Parks so as to take full advantage of geologic interpretive resources now within the System, but as well to identify other natural geologic exhibits to complete the story either as such exhibits may be included in future parks, or encompassed through other means of identification, use, and preservation. This aspect of National Park Geology merits separate attention through library research, and field studies to result in a comprehensive report for the guidance of the Service, and for educational and scientific purposes.

NATIONAL PARK SERVICE RESEARCH STAFF

While much of the research will be carried out by other agencies and institutions, the administration of the program and the basic planning, and the translation of research results into appropriate action must remain responsibilities of the National Park Service. As the program develops, staff responsibilities will increase, a circumstance taken into full account in the phasing schedule (page 8) which sets forth the natural history research staff funding requirements.

The major responsibilities of the research staff are as follows:

NATIONAL PARK ENVIRONMENTS - THEIR SCIENTIFIC VALUE TO SOCIETY

The National Park Service research program is designed to preserve distinctive natural resources, but science and civilization, through research that goes far beyond the scope of the research program of the Service, will also benefit.

In a truly natural environment, one experiences the culmination of the processes and events that have been unfolding since the beginning of time. It is the story of the evolution of the American land, and of the development of life upon it. It is a never ending story, that will continue to unfold, for the inspiration and general welfare of mankind and the advancement of science, so long as the integrity of these "islands of nature" is maintained.

The importance of basic ecological research is becoming evermore widely recognized. Already the units of our National Park System are looked to and sought out by research workers of many countries as unique outdoor laboratories or classrooms where man can obtain a more complete understanding of the natural laws that may govern his future--and possibly his ultimate survival--in lands and environments everywhere.

In 1956 an international symposium of scientists emphasized how profoundly man has changed the face of the earth. (Man's Role in Changing the Face of the Earth, 1956. Edited by W. L. Thomas, Jr.; Chicago: Univ. of Chicago Press. xxxviii - 1193 pp.) Man's influence in this respect has attained the magnitude of a major geological-ecological force.

In 1961 a conference of ecologists from 12 countries concluded that the national parks of the world offer the principal future hope of preserving some scattered fragments of primeval nature for fundamental scientific research. The large primeval parks of the U. S. National Park System were declared to be pre-eminent in this respect, and of international significance and value. This idea has been reiterated at other international forums.

As our society continues to increase in complexity and in sheer population size, such an understanding of natural, balanced environments will become increasingly essential for developing ways of living harmoniously, rather than destructively, on our Nation's lands, which are not increasing in size.

Science needs these environments as a point of reference and as a yardstick with which to measure man's success or failure in the countless land management programs that he carries out in the rest of his environment.

The concept is gaining worldwide recognition and acceptance that National Parks, preserved as natural ecological entities, will furnish the environments which will supply knowledge that civilization will need in an increasing measure.



United States Department of the Interior

NATIONAL PARK SERVICE
WASHINGTON, D.C. 20240

IN REPLY REFER TO:
L54 (499)

Memorandum

To: Regional Directors, NARO, MARO, NCR, SERO, MWRO, RMRO, SWRO,
WRO, PNWRO, and Alaska

Attention: Water Resources Staff

From: Chief, Water Resources Laboratory

Subject: NPS Water Resources Field Support Laboratory

The National Park Service has established a field laboratory for water resources activities in Fort Collins, Colorado.

Initial staffing of the laboratory has come from a reduction within the Washington Office. The primary mission of the laboratory is to foster inter-agency coordination and cooperation with a directed program of water resources activities supporting Park Water Management. The laboratory staff will provide hydrological, geological, and ecological analytical support to the National Park Service Washington and Regional Offices, and to field areas for the purpose of preservation and protection of System area water resources.

The establishment of the laboratory is as a result of many and varied development activities near National Park System areas which are increasing the requirement for inventory of park water needs. The laboratory will enhance and extend the Service's capability for assessing the possible adverse impacts from external developments on park resources; the impact of changing water parameters on park riparian resources; and will assist the regions and parks with problems of collection and analysis of base line data needed for maintaining, enhancing, or restoring water quality and quantity. The staff will develop and implement surface and ground water modeling programs to meet regional requirements for system areas. The laboratory will serve as a focal point for interagency cooperation and for field coordination of involvement in Servicewide water inventory and quantification programs.

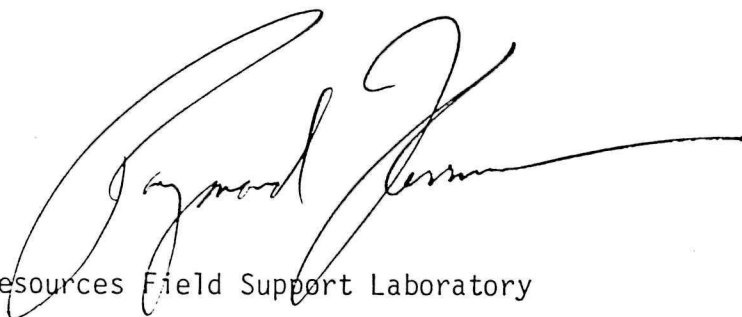


The address of the laboratory is:

National Park Service
Water Resources Laboratory
107C Natural Resources Building
Colorado State University
Fort Collins, Colorado 80523

You may direct your inquiries to Ray Herrmann, Phone (303) 491-7573.

I encourage you to take full advantage of this facility to assist with your Resources Management needs and to forward this information on to your field areas.

A handwritten signature in black ink, appearing to read "Raymond Herrmann", with a long horizontal flourish extending to the right.

Enclosure
Information regarding Water Resources Field Support Laboratory
cc: Regional Chief Scientists, w/enc.

National Park Service

Water Resources Field Support Laboratory

The National Park Service Water Resources Field Support Laboratory is the national water resources center for the Park Service. The staff located at the lab will conduct directed research into pressing Park Service water resources needs and offer expert technical advice on water management.

Fort Collins has become an active center for Federal and state laboratories developing answers to resource management questions. The combined expertise of five special offices of the U.S. Department of Agriculture, two cooperative Department of the Interior study teams, the Natural Resources Ecology Lab, and Colorado State University act like a magnet for other high quality resources study labs. Many of the laboratory's responsibilities will be accomplished in close cooperation with other Federal and state agencies, also located in Fort Collins, Colorado.

The Department of the Interior is building a strong core of research programs in Fort Collins, an important element of which is the Western Energy and Land Use Team, and within it the Instream Flow Group. Team members strive to influence the consideration of fish and wildlife conservation in coal, oil shale, and geothermal energy development, and in the use of water needed to develop these energy resources. To do so, team members identify habitat likely to be affected by energy developments, study them, and transmit results to resource managers in 11 states who need the information to cope with energy development problems. The Instream Flow Group, as part of the Western Land Use Team is responsible for determining how much water is required in the west for the maintenance of aquatic ecosystems and resources. The Park Service Staff will actively cooperate with the Team utilizing the combined superior capabilities for solving Park Service water resource problems.

The U.S. Department of Agriculture has a great many units of research located in Fort Collins, among them the Watershed Systems Development Unit. As an advisory office, it provides a coordinated modeling approach to managing soil, water, and mineral resources of national forests and assistance to national and regional resource specialists where computer support will enhance soil and water programs. The Unit is hooked in to the Fort Collins Computer Center, one of four national USDA data handling centers. The Fort Collins computer is connected to hundreds of computer terminals in remote locations via telecommunications network. Services available from the computer center include systems design and analysis, programming, key punching, and consulting.

The Rocky Mountain Forest and Range Experiment Station is also located in Fort Collins. Station research is directly applicable to NPS needs for data related to fish, wildlife, and forests, and to energy development effects, strip mining recovery and other land-based studies.

Fort Collins is the western center for wildlife and fisheries research with a great number of agency and academic programs. There are the Department of the Interior Cooperative Wildlife and Fishery Research Units located at CSU. The Fish and Wildlife Service maintains two wildlife research centers, one in Denver which requires the Fort Collins facilities and one in Fort Collins affiliated with the Service's National Fish and Wildlife Laboratory at the Smithsonian.

The State of Colorado has located all fish and game research programs in Fort Collins, where they have been since 1961. Researchers examine many problems, among them the dynamics of habitat conditions as they influence fish and game health.

Close connection with the University will provide unique opportunities to the newly formed Water Resources Laboratory and will enlarge the Service's capabilities far beyond its potential in another location. CSU provisions also take full advantage of the capabilities of the College of Forestry and Natural Resources with its specialization in earth resources, recreation resources, fishery and wildlife biology; the College of Engineering, with excellent hydrology research facilities, at the Foothills Research Campus; and the newly incorporated Natural Resources Ecology Laboratory, an offshoot of the International Biological Program, which takes a systematic approach toward studying Western ecosystems and their perturbations.



Cop. to Chief Scientist, W&SO
United States Department of the Interior

REC'D MAR 4 1974
Mc

NATIONAL PARK SERVICE
Southwest Region
P.O. Box 728
Santa Fe, New Mexico 87501

IN REPLY REFER TO:

A40-D

February 22, 1974

Memorandum

To: Director, National Park Service

From: Task Force Chairman

Subject: Task Force Study Team - National Park Service Science Center

During the week of February 11 through 15, the Task Force established by your memorandum of December 20, 1973, convened to discharge its directed assignment.

It should be pointed out that Dr. Smathers, as chairman of the Task Force, recommended that the actual work be chaired by me in order that he could participate more freely and so as not to overly influence the ultimate outcome. The Task Force members and consultants agreed and commend Dr. Smathers for his candor and excellent participation.

Overriding all other considerations was the realization that the highly sophisticated facilities and scientific expertise existing at the NASA-MTF can and should be made available to support the NPS scientific research mission to the extent that such is directly supportive to NPS management requirements. At the same time, extreme care must be taken to insure that we do not go overboard and overextend resources and program thrusts into a realm where once locked in is irrevocable and could extend NPS management into an arena where it does not belong. In summary, "just because it is available at slight initial cost" does not necessarily mean it is a panacea to which we should be overly committed.

Enclosed are the various documents making up the components of the study. These documents include:

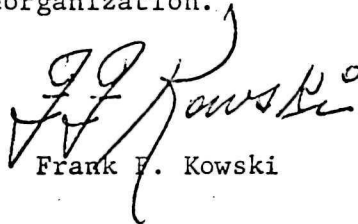
1. A discussion paper that addresses itself to those points of consideration that do not readily appear in the recommended documents.
2. Mission Statement - National Park Service Science Center.

3. Role and Functional Statements.

- a. Chief, National Park Service Science Center
- b. Resources Basic Inventory Project
- c. Ecological Services Division
- d. Natural History Theme Studies and Natural Landmarks Division

4. Proposed Organization and Staffing Charts.

The Task Force recommends approval of the enclosed mission, role and functional statements. The proposed organization and staffing requirements should be the subject of independent consideration, taking into account existing constraints in the same manner as was accomplished during the recent Servicewide reorganization.



Frank F. Kowski

Enclosures

Approved:

Director, National Park Service

DISCUSSION PAPER

Listed below are a number of topics which were discussed at length and in depth by the Task Force. In total substance they provide background for an understanding of the Task Force proposal for a National Park Service Science Center at the Mississippi Test Facility.

Summary of Proposal

1. That the Ecological Services Division (former Environmental Services Laboratory) be left at MTF and broadened in charter to include studies of a biological and physical science nature for both natural and urban parks.
2. That the Natural History Theme Studies and Landmarks Division be left at MTF to function as it is now.
3. That the Resources Basic Inventory function
 - a. Be authorized as a two-year pilot project
 - b. Provide a broad scope of resources inventory information rather than just natural resources information
 - c. Be evaluated in two years by a group of representative users to determine adequacy of the Resources Basic Inventory product and
 - d. Be reviewed in two years to determine permanent location.
4. That the concept of a Management Information System providing natural resource information to a variety of users be shelved until after the evaluation of the two-year pilot program for the Resources Basic Inventory.

Role of Chief Scientist, National Park Service

The recommendations contained in the Task Force documents will necessitate a modification of the existing draft role and function statement for the Chief Scientist. This is particularly important in spelling out the supportive role and relationship this position should have with regard to the pilot Resources Basic Inventory project.

The Task Force did not develop this in light of the fact that it will be an agenda item at the forthcoming Regional Directors meeting.

Role of Chief, National Park Service Science Center

Basic to the successful completion of the Resources Basic Inventory Project is the clearly identified and unmistakably understood role and responsibility of various officials involved.

The Chief, NPS/SC, has a supportive relationship as it relates to the total RBI project. In like manner other program officials provide input into the project and have a supportive relationship. This includes history, archeology, planning, etc.

The Division of Systems Design provides ADP support analysis and insures compliance with OMB Circular A-54, FPMR 101.32, and Departmental Manual 306, DM 1.7.

In summary, the Chief, National Park Service Science Center, is the responsible and accountable official for this project.

Ecological Services Division

Historically this laboratory has addressed itself primarily to horticultural problems within urban parks. While there is a continuing need for this function, it is recognized that the majority of urban horticultural problems can be supported by the National Capital Parks Ecological Services Laboratory. It is recommended that the Ecological Services Division of the Science Center broaden the scope of its task to include biological and physical science problems in both natural and urban park environments. In this latter instance the division will have a close working relationship with the NCP facility to avoid duplication of effort. It is believed that most ecological projects can be accomplished through contract. There are a few projects, however, that because of the unique nature of ecological problems faced by the Service, can only be resolved through an in-house group of professionals. These problems will be assigned by management to the Science Center.

Natural History Theme Studies and Landmarks Division

This ongoing program can operate with equal effectiveness at the Science Center or at several other locations. It should remain at the Science Center for the immediate future so that the staff can utilize the skills and facilities at MTF. The scope of the current program should be maintained as is.

Resources Basic Inventory Project

The need for Resources Basic Inventories has earlier been identified by the management and planning staffs of the Service. RBI guidelines have been drafted that may not be totally responsive to management needs. To insure adequate service to all users, a pilot program is recommended for RBI to be developed by the Science Center in cooperation with others. The pilot program will build upon the experiences now being developed by the Great Smoky Mountain National Park study team. The pilot program should be completed within two years and include total RBI for one park in each Region and a completed Master Plan and EIS for the selected parks. One of the parks will be selected for a complete test of RBI through the preparation of all action plans in addition to the Master Plan. The Regional Directors, Managers of the Denver Service Center and Harpers Ferry Center, and selected representation from WASO will serve as a steering committee to evaluate periodically the progress of the pilot program and to make final recommendations upon completion of the study.

The pilot program will involve planning staffs provided by the Denver Service Center. To assume complete liaison and coordination, the Manager, Denver Service Center, will detail one planner to the Chief, Science Center, for the two-year study. Additional personnel representing users (park management, history, and archeology, Denver Service Center, Harpers Ferry Center, etc.) may be detailed to the project as needs require.

The RBI pilot project is to include inventory information of a broad scope. The initial proposal to limit such information to the natural sciences was rejected because it would result in an incomplete product of relatively little value in meeting current planning needs as defined by NEPA.

This pilot project could function well under the Denver Service Center. However, it was concluded that the project should be assigned to the Chief, Science Center, in order to keep relationships with NASA as simple and direct as possible.

Management Information System

The earlier proposed function of Management Information System has been dropped from consideration for the period of the Resources Basic Inventory pilot project. These two functions proved to be synonymous for the two-year pilot period. At a later date when user demand has developed in sufficient scope, a broad computerized management information system might be advisable.

Administrative Support

Administrative support will be provided by the Rocky Mountain Regional Office and/or NASA or partially by both. An onsite Administrative Officer should be authorized to serve as liaison and coordinator of services provided. He should be personally qualified to provide essential onsite personnel services.

Funding

The consideration of funding sources was discussed. The funding source to the Theme Studies and Natural Landmarks program should continue as presently shown on the approved 10-561. The changed laboratory (shown now as the Ecological Services Division) should be funded with ONPS funds for staff and adequate funds to cover projects after Servicewide research priorities are established by park management.

Resources Basic Inventory funding at present is a conglomeration of override III, master plan and Science Center monies. With approval of the concepts for this project (expressed earlier) it is conceivable during the pilot period to expend a minimum of \$1,500,000. Logically, master plan monies should be utilized. However, with the ramifications to other aspects of the Master Plan program serious consideration should be given to the use of monies available to the Science Center when all program priorities are established Servicewide.

Staffing

Alternatives for staffing each function at the facility were considered. Among them were contract services from NASA, other agencies, universities, private institutions and special assignments of Service personnel. Alternatives were related to the functional responsibility and anticipated workloads. The recommended staffing reflected on the staffing chart enclosed is a basic starting point to place the Science Center in operation.

Peripheral Benefits

The Harpers Ferry Center, the Denver Service Center, the Archeological Centers, and other offices may realize peripheral but valuable benefits from association with NASA. The electronics expertise at the Mississippi Test Facility could help with the design of more reliable audio-visual control equipment. Aerial and satellite photographs and the techniques for handling them should be useful in producing interpretive films, publications and exhibits. The chemistry laboratories should help in the fields of museum specimen preservation, air and water quality analysis and others. We intend that this vein should be mined diligently!

MISSION STATEMENT

NATIONAL PARK SERVICE SCIENCE CENTER

The National Park Service Science Center is responsible for:

1. A variety of biological ~~and~~ ^{and sociological} physical research services as they apply to urban and natural environments of the parks.
2. Operating the servicewide Natural Landmarks and Thematic Studies program.
3. To develop in consultation with others a pilot Resources Basic Inventory to serve management's needs.

ROLE AND FUNCTIONAL STATEMENT

CHIEF, SCIENCE CENTER

The Chief Scientist, WASO, is the line supervisor of Chief, National Park Service Science Center.

The Chief, National Park Service Science Center, is the line supervisor of the Chief, Ecological Services Division and the Chief, Natural History Theme Studies and Natural Landmarks Division. He also supervises the staff administrative officer and the activities of a Resources Basic Inventory project staff which will include other than scientific personnel.

The duty station of this position is the NASA Mississippi Test Facility, Bay St. Louis, Mississippi.

The Chief, National Park Service Science Center, is the on-site representative of the National Park Service in carrying out the responsibilities as set forth in the Memorandum of Agreement with NASA.

He is responsible for the management and the execution of the contracts with universities and other institutions as required to carry out the mission of the center.

He provides ecological services and advice on management problems concerning plants and animals (both native and exotic species), soils, pesticides, and related fields.

He manages the Natural History Theme Studies and Natural Landmarks program that meet the Service's mission and objectives.

He is responsible for developing a pilot program to meet the Resources Basic Inventory needs of the Service as defined by park management.

The Chief, Science Center, has a functional relationship with the Regional Chief Scientists and Park Scientists and a close supportive relationship to the Regional Directors and Managers Denver Service Center and Harpers Ferry Center. He maintains working relationships outside the service with other Federal, State, and private organizations, Institutions and Agencies.

FUNCTIONAL STATEMENT

RESOURCES BASIC INVENTORY PROJECT

This unit, under the direct supervision of the Chief, Science Center, is responsible for developing a pilot program to meet the Resources Basic Inventory needs of the service as defined by park management. This project relates to the organization, analysis and utilization of information essential to the management decision process. This process involves integrating scientific expertise, archival materials, and the technology of computer sciences with management and planning activities.

FUNCTIONAL STATEMENT

ECOLOGICAL SERVICES DIVISION

This Division services servicewide needs for ecological services as identified by Park management. In this respect it is responsible for biological and physical research functions as they apply to the urban and natural environments of the parks. The areas of responsibility include but are not limited to:

1. Research in soils ecology as it relates to the restoration and maintenance of park ecosystems.
2. Research of effects of air and water pollution on park ecosystems.
3. Research in ecology of native and non-native plants and animals in restoration, preservation, and maintenance of park ecosystems.
4. Provides consultation to park managers and scientists on a variety of immediate problems such as turf and ornamental plant management, pesticides, soil management, and propagation of rare and endangered species.

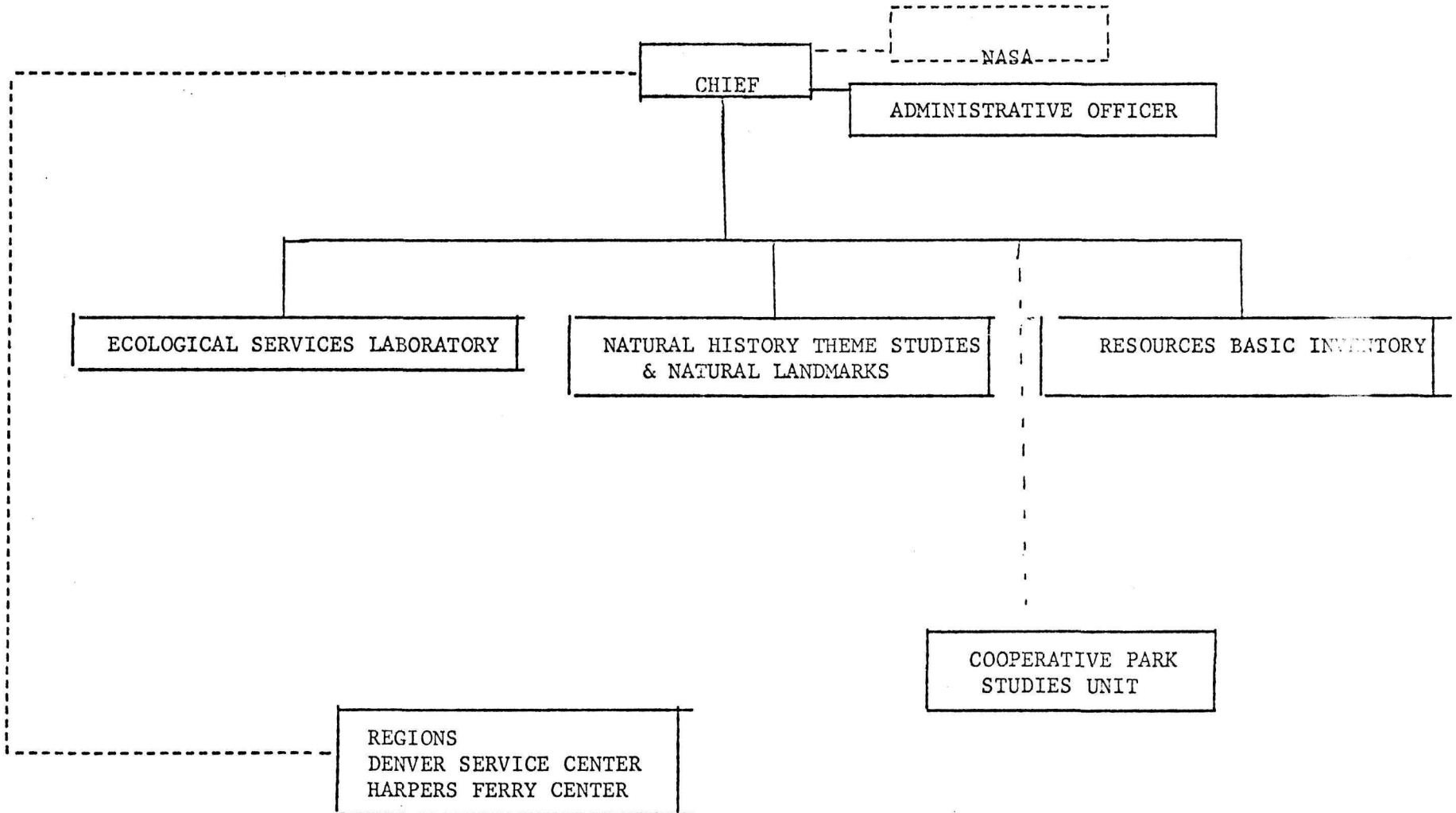
FUNCTIONAL STATEMENT

NATURAL HISTORY THEME STUDIES AND NATURAL LANDMARKS DIVISION

The Natural History Theme Studies and Natural Landmarks Division formulates and maintain the natural history portion of the National Park Service Plan. It conducts studies that permit the updating of this plan as well as identifying and evaluating significant natural areas which may be considered for inclusion in the National Park System, or as Natural Landmarks under other ownership. Responsibilities additionally include the maintenance of the National Registry of Natural Landmarks.

ORGANIZATION

NATIONAL PARK SERVICE SCIENCE CENTER



Functional relationships:

Line/functional relationships with Cooperative Park Studies Unit.

Functional relationships between Regions, Denver Service Center & Harpers Ferry Center

ORGANIZATION & STAFFING

NATIONAL PARK SERVICE SCIENCE CENTER

