NATIONAL PARKS Magazine



Girl Scouts Planning and Planting

Special Education Issue November 1963

The Editorial Page

Immortality of the Dunes

A FORMULATION OF POLICY BY THE Administration, confirming its support for an Indiana Dunes National Lakeshore, long favored by conservationists, and containing a tightly-conditioned approval of the Burns Ditch Harbor, opposed by friends of the Lakeshore, has just been expressed in an admirable communication from the Deputy Director of the Bureau of the Budget to the Secretary of the Army.

The recommendations respecting the Lakeshore excise the shoreline area which has already been leveled for steel-mill construction, and some contiguous ground, but add additional recreational and natural country not included in previous proposals; they seem to represent a necessary adjustment to reality.

The reaffirmation of Presidential support for the Lakeshore, originally expressed in a Presidential message to Congress in 1962, will give new momentum to the movement for the protection of the Dunes and at this writing appears to have broader Congressional support than ever before.

Severe conditions have been imposed by the Budget Bureau on its approval of Burns Ditch Harbor. Two integrated steel mills must be constructed simultaneously with harbor construction, and shipment through the harbor of large quantities of non-steel-company coal must be assured; other reliable assurances in regard to air and water pollution must be given.

The conditions are so stringent that they may never be met, and the harbor thus may never be built. Such stringency is definitely in the national and regional public interest. Great corporations like Bethlehem Steel and National Steel, initiators of the principal industrial developments in question, are well able to stand on their own feet financially, and should be given immense public subsidies like the proposed Harbor only if such projects can be shown conclusively not only to be sound economically but to be otherwise in the public interest. There is grave doubt, as the Bureau's letter shows, that the harbor is a solvent program economically; most certainly, it always has been objectionable in terms of the destruction which it and the related mills would bring to invaluable natural open country in the environs of an exceedingly congested big city.

Sound national policy would have called for a high degree of protection of the entire Dunes country between the Chicago metropolitan area and Michigan City, for the use and enjoyment of the people of the region and the nation; it is a tragedy that mere vestiges of this magnificent original wilderness remain; they must be defended with all the strength the nation can muster. -A.W.S.

Park Road Planning and Finances

THE RECENT RECOMMENDATIONS OF THE General Accounting Office for the transfer of planning functions and funds for the national park road system from the National Park Service to the Bureau of Public Roads are unsound. They misplace planning authority and the essential supporting financial power into a construction agency, rather than, as they should, an agency equipped for general planning.

Perhaps it is inevitable that a specialized bureau like the General Accounting Office, concerned with its accounts and records, and with protecting funds from what may seem to it, in its restricted point of view, to be overlapping and duplications of function, should take such an ill-formed and ill-considered position.

But if so, the GAO recommendations merely underscore once again the proposition that comprehensive public planning, including planning for public lands like national parks, must be and remain the responsibility of policy makers and generalists, and not of technicians charged with mechanical and financial detail.

There is a body of well-established national policy which should and must guide Federal Government operations in these matters: the century-old tradition of protection of natural conditions in the national parks, expressed in a long series of Congressional enactments and supporting administrative regulations.

This nation has declared its purpose time and time again to preserve the great national parks and monuments in as nearly as possible their original natural condition; the majority of the American people have insisted and will doubtless continue to insist increasingly, as congestion grows throughout the nation, on strict adherence to these policies.

This means that road systems within the national parks must be designed in such fashion as to protect the natural setting, and not primarily for high-speed transportation, however appealing to the big-road builders.

The appropriate agency to handle road

system planning, road construction specifications, and the allotment of funds for all road building purposes within the national park system, whether on socalled major or minor projects, is the National Park Service, not the Bureau of Public Roads. It is the Service which has been charged by the American people with protecting the parks, and with making them accessible, consistent with such protection, to the general public. It is the Service which is acquainted with the basic social values involved, and equipped with the dedicated personnel capable of discharging its unique protective responsibilities; the Bureau of Public Roads has no such qualifications.

The policy which should be followed by the Federal Government at this juncture is precisely the opposite of that recommended by the GAO. The limping compromise arrangements which have been embodied in the regulations governing relationships between the Bureau and the Service in the past, giving undue authority to the Bureau in these matters, should be revised by agreement between the Secretaries of Commerce and Interior, and if they can not agree, then by Executive Order.

Specifically, the regulations should make it clear that the Service, not the Bureau, is responsible for planning road and trail systems, determining road locations, determining the nature and width of surfaces, shoulders, gutters, radius of curves, grades, cuts and fills, adherence to contour, and general conformity to the landscape. The Service should have complete control over allocations and allotments of appropriated funds from the Service to the Bureau.

Sound Governmental policy decrees that the appropriations be made in the first instance to the responsible planning agency, namely the Service, and not to the construction agency, the Bureau, and that budget requests be made on that basis.

The park road systems are institutions of a completely different character from the big-road transportation systems planned and financed through the Bureau of Public Roads outside the parks. Fast and allegedly safe transportation appears to be the sole purpose of road building outside the parks; access to unspoiled scenery, protected wildlife, peace and tranquillity, as the objectives the American people have espoused within the park system. Only the National Park Service is equipped to effectuate these objectives within the system. -A.W.S.



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Photograph by courtesy Girl Scouts of the U.S.A.

"Praise the green that shades, the soft, brown earth that springs underfoot, the golden sunlight and dancing rain. Praise dewy mornings filled with bird-song, nighttime skies blazing with stars. Praise the glory of being alive in the outdoors." —Cadette Girl Scout Handbook

The Association and the Magazine

The National Parks Association is a completely independent, private, non-profit, publicservice organization, educational and scientific in character, with over 26,000 members throughout the United States and abroad. It was established in 1919 by Stephen T. Mather, the first Director of the National Park Service. It publishes the monthly *National Parks Magazine*, received by all members.

The responsibilities of the Association relate primarily to the protection of the great national parks and monuments of America, in which it endeavors to cooperate with the Service, while functioning also as a constructive critic; and secondarily to the protection and restoration of the natural environment generally.

Dues are \$5 annual, \$8 supporting, \$15 sustaining, \$25 contributing, \$150 life with no further dues, and \$1000 patron with no further dues. Contributions and bequests are also needed. Dues in excess of \$5 and contributions are deductible for Federal taxable income, and gifts and bequests are deductible for Federal gift and estate tax purposes. As an organization receiving such gifts, the Association is precluded by law and regulations from advocating or opposing legislation to any substantial extent; insofar as our authors may touch on legislation, they write as individuals.

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NATIONAL PARKS ASSOCIATION, 1300 NEW HAMPSHIRE AVENUE, N. W., WASHINGTON, D. C. 20036



Photograph by John Hendry, Jr.

The above photograph, taken in the Indiana Dunes State Park, typifies much of that area of duneland on the south shore of Lake Michigan which conservationists hope to see preserved in an Indiana Dunes National Lakeshore. This latter land is currently under threat of development for steel manufacturing purposes; however, points out the author of the accompanying article, "workers need factories to work in but they also need parks for themselves and their families to play in." The sacrifice of such scenically and scientifically important dunelands as these obviously is not in keeping with a reasonable concept of the best use of land.

Conservation and Progress: Two Inseparables

By Alexander B. Adams

ANY THOUSANDS OF MILES LIE between California's Muir Woods, where giant redwoods line the banks of the stream and coho salmon still struggle against the current to reach their spawning beds, and the faroff Aeolian Islands of Sicily, whose sundried slopes rise from the Mediterranean northwest of the Messina Straits. Yet as I walked through the Bohemian and Cathedral Groves at Muir Woods and heard Redwood Creek play gently among the roots of the azalea bushes, my thoughts kept returning to the parched mountainsides I had seen in Sicily. For here indeed were two contrasting examples of the same elemental truth: Man's future progress is bound up in his ability not only to change, but also to conserve, his environment.

At Muir Woods I was guided through the forest by a park ranger, whose duties were to protect the trees and wildlife and to educate the public concerning their meaning and significance.

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Around us were other visitors, some there for recreation and exercise, others solely to enjoy the beauty that is California's heritage. But in every case they were happy, prosperous people, who realized that the woods were as valuable a part of their possessions as the great steel bridges and highways that led to the area.

From Wealth to Poverty

In Sicily, on the other hand, I met no fellow travelers as I tramped along the deserted mountainsides. Although the island I was on had once been celebrated by Homer as a land where the inhabitants spent their days in feasting and enjoying an endless stock of luxuries, it was now poverty-stricken. Away from the small settlements and the few remaining farms, the only signs of men were deserted sulphur ovens, long since abandoned as uneconomical, and rows of small, square holes that pockmarked the lava. Empty and weathered, they looked like the relics of some ancient race but, in actuality, represented the futile efforts of the modern Italian government to reforest the lands and thus restore to Sicily some small part of the grandeur it had once possessed. But the trees for which those rows of holes had been dug could not survive under the blazing sun and, like many of the civilizations of the Mediterranean, had withered and died, sacrificed to the greed and ignorance that had destroyed the soil and the things that lived on it.

This relationship between poor conservation practices and the decline of once powerful societies has been recently explored with increasing thoroughness. As a result, many Italians today realize that an inch of topsoil spread across the southern half of their nation would have done more for Italy's aspirations than all the grandiose dreams of Mussolini; and in the United States, the dust bowls of the Thirties,



Photograph by the Author

If man must change his environment, he must also conserve it, as witness the above scene on the Island of Sicily. Here, according to Homer, inhabitants once spent their days in feasting and luxury. Today, with much of its forest land and topsoil gone, Sicily is a monument to short-sighted land use.

with their frightening impact on many aspects of American life, helped to stimulate our own awareness. But the lesson is not being learned as rapidly as it should be, in view of man's growing ability to alter his surroundings. Too many people still believe that progress and conservation are antipathetical instead of inseparable. In truth, they go hand in hand, and when one stops, so does the other.

The field of recreation offers perhaps the most obvious example. The United States is justifiably proud of its higher and higher standards of living, which have been accompanied by shorter and shorter working hours. But this improvement is insignificant unless recreational resources for the use of this increased leisure are available. This means that, if the benefits of progress are to be realized, proportionately more —not proportionately less—space must be devoted to park areas. Yet this point is often overlooked by those whose approach to progress is single-minded.

What Is "Cheap" Land?

As an instance, Rock Creek Park in the center of Washington, D.C., is the continual target of highway engineers, who fail to see the value of the park as a park. To them, it is only 'cheap" land, using the word "cheap" as they employ it, which means that its acquisition would not require large out-of-pocket expenditures. This, however, is only because the public has already set it aside, not because it represents a valueless asset. In fact, it is probably irreplaceable; and to take advantage of the foresight that made the park possible in order to use it for a highway site would not be progress; it would be retrogression of the most dramatic sort. For it would convert a long-term asset into a short-term one. The park, as a park, has value as long as there are people in Washington to use it. A highway, however well built, is usually outmoded within a relatively few years.

Or take the over-simplified thinking of one opponent of the proposed national lakeshore area at the Indiana Dunes. He sent out tubes of sand in an effort to arouse public opposition, commenting sarcastically that the sand has been undefiled by bulldozers and therefore had a particular value. Bitterly, he remarked that some people thought it better to keep the sand pure than to erect steel mills, which would bring employment to many workers and prosperity to the region.

While his argument may have been correct, his error was in presupposing that industry in itself always has value. It may, but also it may not. Industry



Photograph courtesy Soil Conservation Service, Department of Agriculture

In sharp contrast to the scene on the page opposite is the photograph above, showing good conservation practice on a farm in the Central Appalachian region of the eastern United States. Strips of farm crops follow the contour lines of the hill in the background to reduce erosion of soil to a minimum, while portions of the farm are allowed to remain in woodlands.

creates wealth sometimes, and employment sometimes. But most of our slums and highest areas of crime have also been created by factories and industrial development. What is needed, therefore—if real progress is to be made—is careful consideration of the apportionment between land used for industry and land set aside for recreation. Both should be kept in their place, but both should have their place. Workers need factories to work in but they also need parks for themselves and their families to play in. Civilization and progress demand both.

Even the construction of highways cannot be necessarily regarded as progress. The true question is this: "Where

are the users of the highway going?" Merely to reply: "Between town and town," is to dodge the issue, as anyone watching the Friday night exodus from New York City can testify. One of the highways' important role is to provide access to uncongested areas. It is senseless therefore from the point of view of overall progress to build more highways at the expense of nearby open spaces. But that is what the Federal Government recently proposed when it suggested that a northsouth highway pass through one of the few remaining open areas near New York City. Such actions merely impose on many car owners the double burden of higher taxes and longer drives.

In addition to recreation, the practice of conservation-or the lack of it-has a vital effect on our future economic growth. While the dust storms of the Thirties are well remembered by many of us, a researcher does not have to look far to find similar startling examples today. To take a single aspect of the problem, unplanned construction, inadequately planted watersheds, and over-farming have combined to create a sediment problem in many of our major rivers. At Cleveland, Ohio, approximately 881,000 cubic yards of sediment must be dredged from the harbor annually. In Baltimore, Maryland, one reservoir finally had to be abandoned because of siltation, and another lost eighty-five percent of its capacity in the short space of twenty years. Such statistics can be duplicated throughout the country, and they certainly do not represent progress. In many cases, the indirect costs of the destruction of natural areas far outweigh the direct value that has been received, and what goes under the name of "progress" is often disguised waste.

Lands As Laboratories

Another aspect of conservation's importance to progress has to do with the scientific worth of open lands. If the biological sciences are to survive, there must be places for the biologists to work, and these places, in many instances, must be unspoiled outdoor areas. To drive a bulldozer through such an area without consideration for its potential scientific value is somewhat like razing an expensive cyclotron in order to build a real-estate development. No one would do such a thing, but only because he would recognize the value of the cyclotron in terms of dollars and cents. Yet many people do not realize that a natural area may also have scientific value even though the initial payment for it was somewhat lower. Once destroyed, however, the natural area in many cases cannot be recreated, for with the destruction of some of the life forms it may contain, their genes-developed by millions of years of nature's experimentation-are lost. Yet no one is able with any surety to prophesy their future value. Many industries are based on the wise utilization of various biological forms that might easily have been eliminated in the name of progress. The most spectacular, of course, are the antibiotics, whose life-saving qualities were found among the moulds that man had long regarded as a nuisance.

To speak in these terms, of course, is merely to underline the economic aspects of scientific research. Of equal importance in the long run are investigations into pure, unapplied science. Since much of man's future is bound up in his success at learning to know himself and discovering his relation to the world in which he lives, it is essential that laboratories for studies of this type be preserved, even though the end results of the research are Mr. Adams has long been actively interested in conservation, and has been published widely on nature and conservation subjects. He is a past president of the Nature Conservancy, national conservation organization of Washington, D.C., and is an honorary Curator-at-Large of the Carnegie Museum.

not now clear to us. To argue that the laboratories themselves should be destroyed to make room for questionable short-run benefits is to abdicate man's role as a farsighted creature.

To mention these three important needs for conservation—recreational, economic and scientific—is to leave out the fourth, which is perhaps of even greater moment to civilized people. That is, the need for beauty.

Weighing an Intangible

No civilization has advanced far without consideration of this side of human life. To destroy all beauty in the world is not a sign of progress, but of retrogression, a back-peddling into the reaches of time; for the destruction of beauty has always been the sign of barbarism. Because there is beauty for many people in an open area, whether it contains a section of Southwestern desert or a stand of virgin firs, using open land for a utilitarian purpose may be just as shortsighted as tearing the pictures out of a museum in order to use the canvas for patches to cover up broken windows. In either case, whether the destroyer is dealing with bits of paintings or bits of land, the end result is the same. An immediate advantage is gained at the expense of important long-term values. The only difference, perhaps, is the fact that we think of canvas as canvas until a picture has been placed on its surface, while we continue to think of land only as land regardless of the use to which it has been consecrated.

As a practical example of these values one might cite the San Francisco Conference on the United Nations, at which time delegates' cars were often seen parked at the entrance of Muir Woods. In their attempts to untangle the web of international affairs, the representatives of many nations came to seek peace and beauty in the deep redwood forest. For, particularly in times of stress, mankind needs more than highways, bridges, real-estate developments and factories.

All this is not to argue that the "stand-patism" and emotionalism too often displayed by conservationists is in itself representative of progress. Not every piece of land should be conserved, just as not every piece of land should be regarded as a possible construction site. Somewhere in between these two extremes lies the road of true progress.

Although it was no coincidence that the delegates to the San Francisco Conference, who were trying to carve a new world out of the old one, went to Muir Woods to find peace of mind and renewed determination to settle their differences, it was equally no coincidence that the conference was held in a country where such areas were still available, instead of on the scorched mountainsides of Sicily. For lack of conservation practices in the past helped to reduce areas like Sicily to their comparative poverty and loss of leadership in world affairs. Progress economically, progress scientifically, and progress in terms of human recreation and ideals of beauty are tightly interwoven with progress in conservation.

To teach and demonstrate this truth is one of the great challenges today facing conservationists and, with them, those people that believe in human values.

LATE NEWS ITEM

Retirement of two top officials of the National Park Service was announced at the mid-October meeting of national park system superintendents in Yosemite National Park.

Conrad L. Wirth, who joined the Service in 1931 as assistant director in charge of land planning and who became sixth Director in 1951, disclosed his retirement from the agency; he will be replaced by George B. Hartzog, Jr., associate director since January, 1963.

Second retirement announced was that of Hillory A. Tolson, assistant director for administration since 1943.





Work Unit Conservationist Martin Gordon, of the Department of Agriculture's Soil Conservation Service, discusses land-use problems in western Maryland with a conservation workshop group, above. At left the group, led by Mr. Gordon, goes into the field to note land-use practices on a hillside. In the same area the group studied contour strip-cropping, terracing, and the use of cover crops as well as local orchard and forest practices.

The Conservation Workshop in Maryland

By Roger L. Norden

ONE NEED ONLY SCAN CURRENT newspapers and magazines to uncover some shocking facts concerning our natural resources and their connection with the predicted future of life on this planet. Students find startling publicity on the use of chemical pesticides, on overpopulation and starvation in some lands, on water scarcity and water pollution in others, on soils eroding or declining in crop productivity, on shortages of certain minerals, on forests and wildlife improperly managed; populations increasing, re-

sources decreasing. Some of these students bring such problems to school, to their teachers. The teachers face the task of trying to intelligently discuss these problems with their students. They also would like to stimulate some of them to a career dedicated to the welfare of future generations—to a career in some field of conservation. Many of these teachers have little, if any, background in the vast areas of conservation. They know it is an interesting field. They have found, in their attempts at integrating conservation in their classwork, that discipline problems often disappeared and many students who formerly lacked interest became attentive.

Teachers in both elementary and secondary schools throughout the country are being encouraged to stress conservation or resource-use in their teaching. Many of the progressive and ambitious teachers have decided to do something about this pressing problem. However, some ask: "What can I do during the summer to gain a better understanding of our natural re-



Conservation workshop class members collect marine specimens from oyster racks on the pier at the Chesapeake Biological Laboratory at Solomons, Maryland, at left; while, at right, the class is seen seining from Chesapeake Bay with Fishery Research Biologist Douglas Ritchie in charge of "operations."

sources, and to better equip myself to cope with the problem of instilling a proper philosophy of resource-use in my students?"

Throughout the United States colleges and universities, as well as State Departments of Conservation and Education, are conducting "Conservation Workshops" for teachers. Most of these are offered during the summer. The Conservation Education Association each spring issues a Directory of Conservation Education Workshops for Teachers and, for 1963, this directory listed more than one hundred workshops for teachers in thirty-two of the fifty States. Many of these workshops offer graduate and undergraduate credit, and for many of them, scholarships are available to the teachers to help defray the cost. These scholarships have been awarded by many agencies and clubs with the majority, it seems, coming from the Garden Clubs and Soil Conservation Districts.

Greatest of Classrooms

The core of the workshop involves using the out-of-doors as the "classroom" for learning. As for a textbook, the following quotation from the Soil Conservation Service's bulletin, *Soil*

Conservation in the School Curriculum. is the essence of the type of "text" used in these summer conservation workshops: "The land is a textbook. Nearly every course in the school curriculum requires a textbook. Some are good, but others are not adapted or are outmoded. For the study of soil conservation, however, there is always one textbook that is entirely reliable and up-to-date. It is the land." Therefore, the workshops include many field trips using the land and water as the basic text, and the out-of-doors as the principal classroom. Here specialists and research technicians bring the problems of resource management into focus and suggest some possible solutions. An example of the up-to-date information presented to teachers was the following comment made by one of the research specialists: "Two weeks ago I would not have been able to answer your question. Today, we have the answer."

In the State of Maryland, summer school workshops have been offered to teachers for many years. Such workshops were instigated by the Maryland Department of Research and Education (now the Natural Resources Institute of the University of Maryland) especially through the efforts of Byron Ashbaugh, who was the conservation education specialist for this department. (Mr. Ashbaugh is now employed by the National Audubon Society as associate director for its Nature Centers Division).

College credit for the workshop was offered by Western Marvland College until 1958, when the University of Maryland's College of Agriculture, in cooperation with the Natural Resources Institute, sponsored the course "Teaching Conservation of Natural Resources" and offered six semester hours of graduate or undergraduate credit for the workshop. The following account is a brief résumé of the six-week workshop offered by the University of Maryland during the summer of 1963, with Dr. Howard Erickson as the instructor. (Another conservation workshop was offered in Maryland this past summer by the State College at Frostburg, with Professor Don Emerson as the instructor).

The 1963 Maryland Workshop

The 1963 Conservation Workshop began on the University campus at College Park with an enrollment of eighteen teachers. The nine men and nine women from throughout the State



In Allegany County of western Maryland, the students inspected a "strip" coal mine (one in which coal lies at or close to the surface of the ground, and may be mined by power-shovel), at left; they examine the smoke outlet of a burning underground coal mine, at right. Here some seams have burned for 100 years.

of Maryland were all recipients of a scholarship of \$150. They included six elementary teachers and secondary teachers with specialties in social studies, geography, general science, industrial arts, chemistry, and biology. Although half of the teachers had taught from two to five years, two were veterans of nineteen years of teaching and one had taught for twentyeight years.

An introduction to the State's natural resources was presented on the campus. The on-campus work was augmented by field trips to the University's soil laboratories and its experimental farm. The Soil Conservation Service assisted in conducting sessions and trips on land use and the soil resource.

Later trips took the students offcampus to such places as the National Agricultural Research Center at Beltsville, where some of the nation's outstanding agricultural research is conducted. For a more comprehensive study of water, a visit was made to the Baltimore municipal water system and the Loch Raven watershed.

When studying the wildlife resources, a trip was made to the U. S. Fish and Wildlife Service's Patuxent Wildlife Refuge Center. Here a guided tour, conducted by biologist Robert F. Scott, showed the group some of the research and experiments being carried on at this refuge to help waterfowl and other wildlife. The tour included a visit to a conservation farm that followed the practices recommended in a farm plan prepared by the Soil Conservation Service and, for contrast, to a farm that had little regard for conservation measures. It was stressed that the final results of man's interference with nature to help wildlife can not always be predicted-that "every action has a reaction," but that "research is a key to progress." Examples of research observed included the experiments on the effects of pesticides on waterfowl, and on types of nesting boxes to use for wildlife. The students noted how a

Dr. Norden, of the University of Maryland, is head of the Conservation Education Division of the University's Natural Resources Institute. He has in the past assisted with conservation workshops as consultant for the Michigan Conservation Department, and more recently was active in such work at Northern Michigan University. multiflora rose hedge, unless controlled, spreads over adjacent orchards and fields. Other lectures given included one on bird banding and one on wildlife diseases and parasites.

Visit to Southern Maryland

One of the highlights of the course was the three-day visit to southern Maryland and to the Natural Resources Institute's Chesapeake Biological Laboratory at Solomons, in Calvert County. At this laboratory-the oldest Statesupported marine laboratory on the East Coast-basic and applied research on the animals and plants of the Bay is conducted. Studies made here have been of value in protecting and improving the catch of oysters, clams, crabs, and many species of fish. Examples of topics presented to the workshop group by approximately twenty research specialists included: "Ecology of the Bay, Physical and Biological Factors Affecting Productivity"; "Conser-vation and Management of Shellfish"; "Research and Problems in Oyster Genetics"; Watermilfoil Research"; and "Conservation and Management of Finfish in the Bay." Interesting field trips included the one to Drum Point to seine in both salt and fresh water, and



In the coal-mining country of western Maryland, Fishery Biologist Richard Reppert takes a sample of stream fauna to note the effects of mine-waste pollution (left). He examines the collected specimens with the conservation workshop students (below).



another to the laboratory's pier where specimens were collected from oyster racks. From these trips students had the opportunity to add to their marine and estuarine collections such species as the tunicate or sea squirt, mud crab, blue crab, goby, blenny, toadfish, oyster, flounder, eel, gar, grass shrimp, bass, barnacles, silversides, and others. Another interesting field trip, conducted by geologist Dr. Robert Biggs, took the group to "Scientists' Cliffs" and "Calvert Cliffs" to collect and study Miocene fossils.

Evening sessions included an illustrated lecture on the cypress swamp and hemlock grove of Calvert County,¹ and another session was on the establishing of a nature center. An evening boat excursion was arranged for those wishing to enjoy a trip on the Chesapeake Bay.

Eastern Maryland

About three days were spent in Eastern Maryland, where the State College at Salisbury was host for sleeping accommodations for the students. The Eastern Shore is an area where drainage is one of the agricultural problems and where truck crops, corn, soybeans, fruit and poultry are important. Trips were made to observe the sea-food processing industries as crabs, clams, oysters, and fish are an important resource of the Chesapeake Bay's Eastern Shore. The vacationland on the Atlantic Ocean, the pine forests, and the quarries of the area were other resources noted.

Western Maryland

About three days were spent in western Maryland for observation of the resources and the conservation practices and problems of a mountainous area. Here, in the Allegheny Mountains and the Piedmont region of the Appalachians, the students made several tours, primarily arranged for the group by Paul Herndon, conservation specialist for the Natural Resources Institute, western Maryland office of which is at LaVale. One trip toured a paper mill, where the students followed step by step the transformation of wood into fine paper. Another trip took them to a deep coal mine producing coal from the Pittsburgh Seam Big Vein. The students donned safety helmets and went down into this mine; thereafter, they visited some "strip" coal mines. The problem of water pollutants from mine wastes and their effects on aquatic life was discussed by biologist Richard Reppert. To study the agricultural industry of the area, the students were conducted by Martin Gordon of the Soil Conservation Service to farms where they observed contour strip cropping, terracing, and cover crops; further, they had the opportunity to study orchard and forest lands. Assistant State Forester A. R. Bond led the group in a study of State forests and parks, and visits were made to the virgin stands of pine in Swallow Falls State Forest and the Herrington Manor State Park. During their investigation of the natural resources of western Maryland, the students were quartered as guests of Frostburg State Teachers College.

¹ The Battle Creek Cypress Swamp Sanctuary and the Hellen Creek Hemlock Preserve. These two areas are under protection of the Nature Conservancy, preservation organization with headquarters in Washington, D.C. The first is a relic stand of bald cypress (Taxodium distichum), a species widespread through Maryland prior to the Pleistocene Epoch but now found growing naturally in but three (possibly four) localities in the State. The Hemlock Preserve encompasses an odd lowland occurrence of the Eastern hemlock (Tsuga canadensis); natural habitat of this species in this latitude is the Appalachian province, many miles to the west.

Projects and Evaluation

The course also included suggestions for teaching basic concepts of conservation and the preparation and evaluation of teaching aids. Teachers enrolled in this workshop are required to complete some project that will better enable them to integrate the study of conservation into whatever subject or grade level they will be teaching when they return to their classrooms in the fall. The project may consist of sets of pictures or slides to help their students better visualize the resources of the State, or it may comprise various nature specimens for display. During the final week of the conservation workshop, a discussion and display of projects is held.

Teachers completing a summer workshop are usually highly complimentary about such a course of training. Their instructor reports that he is always surprised to find how little these teachers know about the various fields of conservation before taking the course, and how gratifying it is to see such people indicate that they have learned so much. The resource technicians of all kinds, who so willingly explain their work and research, never fail to impress the workshop participants with the wealth of career opportunities which exist for their own students in some area of conservation.

It is expected that these teachers, armed with a knowledge of the State's resources, will be the conservation leaders in their school systems; as such, they might well serve on conservation committees, including those dealing with nature centers, outdoor education, or science curriculum studies.

Although many teachers are participating in summer conservation workshops throughout the country, there are still many who have no such opportunity. This is due partly to the fact that many colleges, universities, or State departmental agencies are not sponsoring such programs, or are not expanding their programs, if they exist, to allow a greater number of teachers to participate.

Colleges or universities which hesitate to offer such a workshop should realize that conservation agencies in most States have conservation education consultants or specialists who are trained and anxious to assist in organizing workshops; to contact resources people for lectures and field trips, and to assist in every way possible to make workshops successful. For example, the Natural Resources Institute of the University of Maryland, under the direction of Dr. L. Eugene Cronin, is anxious to promote and assist conservation workshops for teachers in the State of Maryland. Its staff is wholly convinced that such well-trained teachers will be indispensable to a citizenry which must encourage and insist on wise resource use in the future.

WILDERNESS ROAD

- If your drink of water must come from a tap And not from a mountain stream;
- If sleeping means innerspring comfort to you Away from a campfire's gleam;
- If shiny bright kettles and dialed heat
- Are needed for cooking your food While smoke-blackened pots on a crackling fire
- Would ruin your dinner-time mood;
- If a deer would alarm you instead of delight And the river's song keep you awake;
- If you're in a hurry to get there and back And never a byroad take;
- Then just settle down in your easy chair In comfort, content to ignore
- The wilderness road to adventure and fun That is beckoning, "Come, explore!"

-GLADYS B. CUTLER



Plant study



Preparing a meal



Pease Dome shelter

What Is Rockwood?

Rockwood is the National Girl Scout Camp located in Montgomery County, Maryland, just 15 miles from the United States Capitol Building in Washington.

The original portion of this beautiful 93-acre site was willed to the Girl Scouts by Mrs. Carolyn G. Caughey in 1936; for many years plans for its development and use were only a dream. Then, in 1952, Rockwood was officially dedicated the National Girl Scout Camp. Today, operated by the Camping Division of the Girl Scouts of the U.S.A., Rockwood serves as a meeting place for thousands of girls from all parts of the nation. Here Girl Scouts may stay in dormitories or cabins, sleep in tents or set up their own primitive campsites.

Rockwood is open all year. Its buildings and camping sites offer facilities for many different activities, including family camping. It is open to outside groups with principles, ideals and purposes similar to those of the Girl Scout movement.

Welcome!



Nature trail project



Conservation in a Girl Scout Camp

By Lucy Knox

Rockwood National Girl Scout Camp, Potomac, Maryland

HE NATIONAL CONSERVATION Conference called by President Theodore Roosevelt in 1908 did much to focus attention of the general public on the need for sound national conservation programs. More than sixty years later-in 1962-President Kennedy called the second National Conference on Conservation. As a result of this latter conference, our thinking about conservation must transgress the limits set by the first conference to become broader in scope-it must also emphasize the recreational needs of the citizens of this country and ways of meeting these needs. We must continue to work toward conservation of our soil, water, forests and wildlife, but we must widen our efforts to include people and their out-of-doors recreational needs.

This means that we must give more children experience in the out-of-doors so that they will become adults who are able to use the countryside properly and who will aid in preserving it for future generations. What better place can this be done than in a camp?

Girl Scout camps long have been dedicated to the furtherance of good conservation practices. The Conservation Pledge has been learned and recited, "Smokey Bear" posters have been prominently displayed, and the definition of conservation has been learned. Projects have been started and carried to completion—projects to preserve and conserve our natural resources.

Let us look at the Girl Scout program in one particular camp. At Camp Rockwood, in Potomac, Maryland, the girls experience rain, sunshine, snow, warmth, wind—and all have fun. They hike, sing, play games and follow nature trails, using flip-card nature guides. They plan and cook all their meals.



There are many things to be seen and learned along the nature trails of Rockwood; its various kinds of outdoor creatures, trees and plants offer a nature study challenge to young minds. In the photograph above, a group of youngsters investigates the waterlife of a quiet Rockwood stream.

This camp is not seasonal; it is open for the entire year. It is an ideal place for meeting the recreational needs of our people.

At Rockwood, campers see and participate in many of the traditional conservation activities; care of soil, water, forests and wildlife. They see work done by past campers, and help with present projects. The Rockwood staff instructs the girls in several methods which are used to control soil erosion. The girls cut underbrush to enable desirable trees to grow better. They heap brush in high piles as homes for small animals like rabbits. They help rake leaves in order to preserve the grass, which holds the soil in place. The girls build compost heaps of the raked leaves, because they understand that the rotted leaves will be used to enrich the soil. (The leaves are usually piled next to a broad brick fence, so that the girls may jump from the fence into the leaves; the jumping crushes the leaves and hastens the building of compost. A little fun is a great incentive. Dignified adults have been seen assisting the campers with the jumping!)

Hundreds of plants have been set out by campers to control erosion of raw clay-banks. Since clay usually provides a poor home for the underground parts of a tender young plant, earth transfusion (instead of blood transfusion) must be used. Many a young camper has developed a respect for topsoil, compost and sand as transfusion materials—many girls return to see the results of their hard work, and are surprised to see the progress made in their planting project. They find that raw claybanks have been transformed as if by magic into handsome beds of growing plants.

Lashed fences, built of saplings cut from sites cleared for trees, help control erosion caused by walking. A rustic fence reminds a camper that shortcuts up a hill or across a lawn may result in eventual serious loss of soil. The girl who helped build the fence will never forget that she should be careful to protect our soil from damage by walking in improper places.

Girls who learn to identify animal homes, and the habits of animals and their place in the scheme of life, are well on their way to becoming conservationists. Hikers on the Rockwood nature trails see fox dens and the summer and winter homes of squirrels.

(Squirrels build nests in the treetops in the summer, and live in hollow trees in the winter.) Posters are used to point out such interesting facts, and bulletin boards set along the paths are also attention-catchers. Constructionpaper posters, to which pictures have been fastened with rubber cement, appear like magic in many places along the trail. For the Brownies an easel such as might be used by a kindergarten-age artist is used for mounting posters. A child might not stop to look at a poster indoors, but is intrigued when she finds one beside a woodland trail.

Leaders of the girls who have worked on the conservation projects of Rockwood have written:

"It is fun to do conservation work here because the projects are alive, girlsized, worthwhile, and part of a big plan."

"My troop likes to do conservation

work here because [the girls] know exactly what they are to do; because they can choose from several projects; what they do is part of an exciting new plan for the future."

Every visitor to Rockwood is given these reminders: never needlessly or heedlessly destroy any life, either plant or animal; build and handle outdoor fires so as to prevent forest fire; never leave any part of the out-of-doors littered with papers, cans, or garbage; respect the home of every living thing; each girl is a steward of all she surveys.

That which is being done at this Girl Scout camp can be duplicated in every camp in the country. Leaders can give young campers an opportunity to participate in the conservation effort; both leaders and Girl Scouts will find satisfaction in the knowledge that they are participants in the effort to conserve our natural resources for future generations.

Some Facts About Four New Girl Scout Handbooks

O^N SEPTEMBER 9, 1963, four new Girl Scout handbooks were released to launch and implement a new design in the Girl Scout program—a design that will provide a total and continuous program of informal education and recreation for girls from seven through seventeen. The design is based on the latest findings in the field of child psychology and curriculum development, and also reflects three years of research by the Survey Research Center of the University of Michigan on the needs of today's adolescent girls and of Girl Scouts in particular.

The new design in Girl Scouting provides for four age levels, instead of the former three, to correspond with the development of today's girls: Brownies, age 7 and 8; Juniors, age 9, 10, 11; Cadettes, age 12, 13, 14; Seniors, age 15, 16, 17.

The handbooks are for the girls and contain a wide variety of specific project suggestions, do-it-yourself instructions, and lively four-color pictures illustrating Girl Scout activities. Each book is written and illustrated in a manner designed to appeal to girls of its specific age level. The progression from the Brownie to the Senior handbook reflects the increasing ability of girls. The system of Girl Scout ranks and badges has been revised. New badges (in the Junior and Cadette levels) have been added; many of the changes are the results of ideas and suggestions supplied by girls and leaders throughout the country.

The handbooks are priced at \$1.00 each (\$4.00 per set of 4), and are available from: GIRL SCOUTS OF THE U.S.A., 830 Third Avenue, New York City 22, New York.



Four new age levels and four new handbooks and four new uniforms—these are the important changes being introduced to Girl Scouts. The new handbooks will bring to the more than $2\frac{1}{2}$ million girls and 750,000 adults in Girls Scouting a wealth of information and suggestions for troop activities. They embody a continuous program of informal education for girls from seven to seventeen.

Conservation Careers in Government

By Judy H. Caldwell

DURING THE COURSE OF A YEAR THIS Association receives hundreds of letters from students requesting information on how to plan a career in conservation with the Federal government. The letters ask such questions as: What are some of the specific positions that I might prepare for? What are the qualifications needed? What salary can I expect to earn? Where do I begin? How do I begin?

The best way to begin is with a college education; the importance of this cannot be overemphasized. Your chances for obtaining a good job will be greatly increased if you have taken the time to secure the best possible academic background, and a degree. Even advanced degrees are becoming increasingly important, and in some jobs are mandatory.

If you possess an interest in one of the natural sciences such as biology, geology, or zoology, it will provide an excellent background for a career with one of the major conservation agencies such as the National Park Service, the United States Forest Service, or the Fish and Wildlife Service.

The first step in securing a permanent position in any government agency calls for a Federal Service Entrance Examination during your senior year in college, or soon after graduation. (Details concerning this examination are available from your college placement office, Civil Service office, or a post office.) The results of the examination go to an examing board. Assuming that you pass-and it is possible to repeat the examination in case of initial failure-you will be assigned a GS (Government Service) grade which in most cases will be 5, or in exceptional cases perhaps 7. Your name is then put on a register and when openings occur in an agency, positions are filled from this list.

Perhaps it might be said here that if

money is your prime goal, you should choose some field other than conservation. You would very likely be able to earn a higher salary in private industry than with the government, even though government salaries have been liberalized in recent years. The starting salary for a GS-5 is \$4565 per year, and for a GS-7 \$5540 per year; conservation organizations outside of government are likely to pay even less.

In the national parks the three major positions most likely to be open to college graduates are park ranger, park naturalist, and park historian. Generally speaking, the park ranger oversees the public's use of the parks, and protects the forests, lands and wildlife. The park naturalist is an interpreter of the parks' natural features, and must be able to explain to visitors the geology, wildlife, and fauna and flora of the area. The park historian is also an interpreter; a link between past and present in a particular historic area, such as Custer Battlefield. Other positions for which there are occasional openings are those of park archeologist and park architect.

Summer Employment

During the summer months, national park forces are doubled, and for this reason junior and senior college students who are interested in park work after graduation are hired for summer work and training. Those who are accepted as student trainees are assured of permanent positions upon graduation. The Forest Service has a similar program for forestry students, and details may be obtained by writing to the National Park Service, Washington 25, D.C. or the U.S. Forest Service, Washington 25, D.C.

The Forest Service offers perhaps a wider variety of jobs than does the Park Service, since it is a larger agency. To administer its lands, foresters who are graduates of accredited forestry schools or of a university school of forestry are needed. As a forester, you may be engaged in determining the amount and rate of timber growth, management of wildlife, or protection of forests from fire, disease, and insects.

Research is another prime function of the Forest Service. Chemists, physicists, hydrologists, and even economists, psychologists, and sociologists are employed in Service laboratories; although for such research work advanced degrees are generally necessary. Engineers are also greatly needed at present.

The Fish and Wildlife Service also employs many scientists in its biological and technical laboratories. For example, a fishery or wildlife biologist may be doing research on the distribution, habits, life history, and classification of fish or wildlife. Other jobs may involve the development of fishing gear; this requires work afloat. If you are a recent college graduate with your degree in biology you might be working as a member of a team checking salmon runs in Alaska, tagging fish and processing data, or perhaps working on a vessel collecting oceanographic data or making surveys. The Fish and Wildlife Service also has a fellowship program for those interested in doing graduate work; neither the Park nor Forest Services offer this.

If you have a liberal arts degree there may be opportunities for you also. One position, previously mentioned, is that of the park historian in the Park Service. The Park Service and Forest Service both maintain museums in the national parks and forests, and thus need competent people on museum staffs. Artists are employed in creating museum exhibits, and in other artistic work. The journalism or English major might find a position with headquarters information offices in Wash-

(Continued on page 18)

ington, D.C. The Forest Service has a training program for junior and senior journalism students who work in the Washington information office during the summer months. In addition to routine work, these students may write press releases and feature material, or work on publications. Business graduates like accountants, statisticians, or marketing specialists are other examples.

It is here emphasized that a college degree is highly desirable—and necessary in most instances—but nonetheless opportunities are still available in conservation for those who are unable to continue their education beyond high school, or have only a year or two of college work. To support the work of the specialists, skilled technicians and men with mechanical ability are needed. For example, the Fish and Wildlife Service employs fishery aids, technicians, and statistical clerks. Crews are needed on ships, and non-specialists are employed in the national wildlife refuges. And, of course, clerks, typists and stenographers are needed in the offices. Advancement is possible through experience and on-thejob training; it is only fair to say that opportunities for advancement are more limited in these job categories.

Conservation is not for men only—it is also a rewarding field for women, and with few exceptions qualified women are hired for the same positions as men. Exceptions: park ranger, and those positions that require heavy outdoor work. The Forest Service employs a few women foresters, although they have numbered less than 100 during the history of the Service.

Home economics is a rewarding and practical career to many women. What about combining this with conservation? The Fish and Wildlife Service maintains a home economics laboratory in College Park, Maryland, where a staff of home economists develops recipes for fish products and plans and develops recipes for special diets.

Aside from clerical and secretarial jobs, perhaps the greatest number of women conservationists are employed in information offices and on public relations staffs. You would probably begin as an editorial clerk; some begin in secretarial positions, and later move into editorial work. There are Forest Service women who travel around the country speaking before women's clubs and other organizations, carrying out the Service's conservation education program.

Finally, write to the agency concerned and mention your particular interest. The agency will then send you specific and detailed information.

The Editor's Bookshelf

CAREERS IN CONSERVATION. Edited by Henry Clepper. Ronald Press, New York, 1963. 141 pages. \$3.75.

Many young people today finish high school and enter college without a specific vocational goal in mind. Perhaps they may have a vague notion of engineering, law, or business, but they are still uncertain as to their real desires or capabilities. Surely such a person might well peruse the chapters of *Careers in Conservation*. The high school or college counselor—often unaware of the opportunities that exist in conservation work might also do well to add the volume to his library.

Nine specialists in the various fields of conservation each have contributed a chapter and Henry Clepper, managing editor of the *Journal of Forestry* and author of several books on forestry, provides a general opening chapter. The authors include Kenneth D. Carlander, Iowa State University; Roger D. Hale, Natural Resources Council of America; and Daniel Poole, Wildlife Management Institute, as well as others equally well qualified to give conservation-career advice.

Necessary personal and educational qualifications for the field are described, as well as the relative degrees of compensation, the work of Federal and State agencies, and recent technological advances. Lists of colleges and universities are provided together with the fields of specialization offered by each school. A selection of publications for further reference and a roster of technical associations and citizens' organizations concerned with natural resource conservation are found at the back of the volume.

There are also many opportunities for women in the conservation field today a fact that this group of authors has failed to mention. This is a serious oversight. -J.H.C.

FOREST FIRE! By Frances Judge. Alfred A. Knopf, New York, 1963. 143 pages, illustrated. \$3.00.

Both a ruthless destroyer and one of man's greatest aids, fire is an ever-present threat to and a disastrous enemy of our national parks and forests—one which is constantly being combatted by a host of trained fire-fighters.

Mrs. Judge's small book, *Forest Fire*, contains a wealth of information on both the history and methods of fire-fighting. One of a series of books written for young people, it presents the disastrous effects and potential dangers of fire in our forests. Unfortunately if follows the pattern of many children's books in its wealth of platitudes and "cute" passages, which add nothing and often detract from the value of a volume. A salient point that the author fails to mention is the use of fire as an ecological management tool. From time immemorial, lighting fires had been one of the factors operating to maintain an ecological balance in the units now in the national parks system. The recurring fires kept down a heavy understory growth and prevented it from becoming a hazard to the larger trees.

Forest Fire is illustrated with many line drawings by Jo Polseno; these will appeal particularly to the young person. -J.H.C.



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Your National Parks Association at Work

Nibbling Here and There

The solution to seasonal overcrowding in Great Smoky Mountains National Park apparently is to be bigger campgrounds and wider, faster roads by which to reach them. At least this seems to be the philosophy underlying prospective National Park Service acceptance of lands donated by the State of North Carolina for construction of a parkway-type road from State Route 107, near its interchange with Interstate Highway 40 near Hepco, to the eastern boundary of the park in the vicinity of the Cataloochee campground.

Readers of this Magazine will recall several National Parks Association protests to the Park Service over the proposed piece of road construction. The Service has stated that the new blacktopped access road-forty feet wide from gutter to gutter-will be of "modest standards," replacing a winding and gravelsurfaced access road to an essentially natural-type campground. The Association has not agreed with the Service's assessment of the road's standards or, for that matter, with the claimed need for a new access; it has made its views plain in correspondence with the Service, asserting that some brake should be placed on heavy campground usage through retention of park-type roads. The Service has intimated that the higher-standard parkway will be safer than the present gravel road—a point that also might be debated.

In any event, on September 9 the President signed legislation authorizing acceptance by the Service of about 525 acres of North Carolina land to be added to Great Smoky Mountains Park, and the 4.2-mile parkway presumably will be constructed—a parkway which will surely alter the character of a pleasant and hitherto rather secluded campground.

This is an example of the kind of operation which the National Parks Association calls, for lack of a better term, "nibbling at the fringes." The nibbling process, like a "dry" thunderstorm over drought-ridden forest land, touches off fires first here and then there; when the firefighters run in one direction to squelch a blaze, another springs up over yonder.

The bite and the nibble are the more dangerous in that the changes they bring about are of relatively small degree, and pass for the most part unnoticed by the park-going public. Yet their long-term effects are as dangerous to the character of park system units as the bold and open frontal assault which would unblushingly destroy a preservation. Park preservationists have nearly always found this latter line of attack easier to cope with than that first mentioned.

Conservation Education Center Fall Session Opens

The Conservation Education Center of the National Parks Association opened its 1963 fall education program on conservation with a showing, on October 1, of three films at the Smithsonian Institution's Auditorium in Washington, D.C. The three films were: *The Sea Otters* of Amchitka; Blooming Desert, and Glacier National Park.

This showing was followed on October 15 with a lecture by Dr. George C. Ruhle, chief of the National Park Service's Division of International Cooperation, on "National Parks and Conservation in Southeast Asia."

The 1963 field trip associated with the program took place on October 26-27 with a trip to the Potomac River in the vicinity of Petersburg, West Virginia, and included visits to the sites of the proposed Royal Glen, Mount Storm, Bloomington, and Savage River dams and reservoirs proposed by the Corps of Engineers.

On November 12, Judge Russell E. Train, president of the African Wildlife Leadership Foundation, Inc., will talk at the Smithsonian Auditorium on "National Parks and Wildlife Survival in Africa."

Closing the fall session on December 3 will be a film presentation, also at the Auditorium, details of which are yet to be announced. All members of the National Parks Association living within reach of the nation's capital, as well as those who may be visiting, are cordially welcomed to the various events; further information may be obtained from: Conservation Education Center, National Parks Association, 1300 New Hampshire Avenue, N.W., Washington, D.C. 20036.

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THE CONSERVATION DOCKET

AT THIS VERY MOMENT a new Indiana Dunes National Lakeshore bill is being prepared for introduction in the Congress. Release of the Bureau of the Budget's September report recommending conditional authorization of a public harbor at Burns Ditch, Indiana and preservation of more than 11,000 acres of duneland along and near the Lake Michigan shoreline, plus the leveling of more than half of Unit 2 (which area was included in previous legislation) by steel company bulldozers necessitated the current revision.

Administrative support for a National Lakeshore has galvanized the supporters of Indiana dunes preservation, and hopes for hearings on the new bill later this fall are high. Senator Douglas, leading Congressional supporter of the National Lakeshore in the past, expressed disappointment that the beauty of Unit 2 has been almost entirely lost to the public; but the new legislation will seek substitute lands, including the Indiana Dunes State Park. If consent for the transfer of administration is withheld by the State of Indiana, however, cooperative arrangements for the development and administration of the entire area could be worked out by the State and the National Park Service.

The so-called "Cape Cod Formula" will guide acquisition of improved residential property in the dunes area. Owners of improved property may occupy and use their lands in accordance with the standards and zoning regulations established by the Secretary of the Interior and may pass such property on to heirs; may sell outright to the Government; or sell and retain the right of use and occupancy for noncommercial purposes for a term of twenty-five years or less.

Not all of the Lakeshore preservation would be dedicated to the same types of public use. Intensive beach use would characterize most of the shoreline sections near residential and commercial areas. The smaller, inland sections of the dunes would be preserved as natural areas, for which the bill recommends nature centers and trails.



Informal class ín elementary maríne bíology—Acadía Natíonal Park, Maíne