

Nature Study



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Real Abilities



Photo by Henry Kessin

With this Journal issue, ANSS commemorates 1981 as the International Year of Disabled Persons which was proclaimed by the General Assembly of the United Nations. One focus for the Society during this special year is to implement programs which enable disabled persons to experience nature in nature. Implicit in this focus is that there are in America millions of persons whose disabilities are real and their abilities are just as real. They are disabled but are not and need not be handicapped.

Nature as an educational concern touches each person's perception of ethics and morals, of politics and of administration as well as knowledge with the aid of natural sciences. Forces that inspire interest in studying nature are a matter of feeling, emotions, and esthetic appreciation; hence, are within the domain of the humanities.

If it is our aim to educate persons for all seasons, let us use all disciplines in helping all people to appreciate their relations with all dimensions of the world that touches them.

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Nature Study

FEATURES

2 OVERNIGHT CAMPING IN THE WILDS OF BROOKLYN Henry Kessin

Exploring the world of crabs, sand sifters, and rails—all within sight of the Manhattan skyline—Henry Kessin tells of the New York public school system's first camping trip for physically handicapped children.

6 MAINSTREAMING AND THE CONSERVANCY Kenneth Friedman

The director of the Lehigh Valley Conservancy, a Pennsylvania group devoted to land preservation, describes his organization's efforts to provide outdoor opportunities for the handicapped.

8 MORE THAN MARIGOLDS Susan E. Foltz

When you have 145 second, third, and fourth graders plus an ungraded physically handicapped class working together in gardens, you end up with more than marigolds and broccoli.

9 HANDICAPPED GROUPS AT PEEC Anne Cloutier

Hiking a rocky trail in a wheelchair at the Pocono Environmental Education Center.

10 ROMPING THROUGH SUMMER IN A WHEELCHAIR Karen Nolan

A disabled child *can* thrive at summer camp.

DEPARTMENTS

13 GOOD READING

"I feel a little weird being here," said the camp counselor, "so I've made myself a necklace of nuts." Ruth Yarrow reviews *The Acorn People, Is There Life After 504?*, and other books about teaching the handicapped.

14 TIPS WORKING WITH SPECIAL AUDIENCES

From Herman Hoop's personal perspective on being physically disabled, come some useful tips for teachers.

16 DON'T LOOK NOW

Naturalist Jeff Shreiner tells how a sensory trail allows sighted persons to temporarily step into the world of the blind.



18 MEET A MEMBER Anne Cloutier

A new member of ANSS Board of Directors tells of her interests.

18 INSIGHTS FROM A BLINDFOLD WALK

... with training and acceptance, blind persons can lead rich and successful lives.

19 AN INTERVIEW WITH A HANDICAPPED PERSON

"No matter how bad the handicap, there are things that everybody can do...."

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OVERNIGHT CAMPING IN THE WILDS OF BROOKLYN

by Henry Kessin

AS AN AVID CAMPER for many years, I jumped at the opportunity to take the children in my public school classes camping when the New York City Board of Education and Gateway National Recreation Area began to sponsor camping trips for school children. Ever since I learned about this program, I had gone on overnight trips with my various special education and regular classes. When I transferred into the physically handicapped unit of my school, it seemed logical and natural to continue camping with this type of child. It was not until all the arrangements had been made that I learned (very much to my surprise) that this would be the first trip of its kind for a physically handicapped class in the New York City Public Schools.

My school, P.S. 226, is an elementary school located in the heart of Brooklyn. It contains various special education populations as well as the neighborhood children. In this varied setting there is an air of cohesiveness that binds the children together, rather than separates them. In this atmosphere one can also be innovative and attempt this kind of a trip. The principal, Elinore Ehrlich, sets the tone which accommodates adventuresome activity. I cannot stress too strongly, the importance of official support. Without a sympathetic school executive an overnight camping trip is out of the question.

To qualify as a teacher eligible to take classes on an overnight camping trip at Gateway National Park, a teacher must first take a training course at the park, sponsored by the NYC Board of Education. It consists of five two-hour class-



room meetings, and is concluded with a teachers' overnight trip. These training sessions not only teach the educational objectives that are to be communicated to the children, but they teach the practical aspects of camping as well.

WITH PHYSICALLY HANDICAPPED children you run into special problems which must be ameliorated. Most of the children are on crutches or in wheelchairs. All have limited use of various limbs. You must make sure that the area is accessible by bus, without too much walking. You must also be sure that

Photo credit: Henry Kessin
aisles and paths and doorways are wide enough to accommodate wheelchairs. Any buildings you plan on using must have ramps. Toilet facilities must be available nearby, and provisions must be made for special toileting needs. Special facilities must be available in case of rain. It is true that children won't melt in the rain, but wheelchairs can rust, and the wheels will sink in mud. Extra safety precautions are necessary, and a vehicle must be standing by on a twenty-four hour basis in the event of emergency.

Above all, it is necessary to secure enough people to help make the trip a

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Photo by Henry Kessin



success. On our trip, the children and I were joined by parents, student teachers, occupational therapists and school aides, as well as other teachers. In addition, we brought along some children from regular classes who had been helping in the special unit all year. They had pushed wheelchairs and assisted teachers, and have become good friends with the children as well. Above all, we had the boundless help

of Head Ranger Mike Hanowitz, Gateway Park's recreational specialist. I bothered him for weeks in advance with every possible problem, and he always was willing and able to help devise a solution—everything from modifying a program to moving the bathrooms. Because of the help and enthusiasm of Mike and the rest of the Gateway staff, the children of P.S. 226 never ran into any of the myriad

problems that could have marred their first camping experience.

On a sunny Wednesday morning, the long awaited event arrived. The children anxiously counted the minutes until 9:30 when the three hydraulic-lift buses arrived. Nervous anticipation could be seen on each face as we boarded the buses, but the atmosphere changed to sheer delight the second we arrived at the gates of Gateway National Park (established on the old Floyd Bennett Airfield) almost an hour later. Our buses continued into the field, stopping at a secluded corner of the old airport where an evergreen "forest" had been planted. This was to be our campground. The "forest" successfully blocked any view of the main road, and at least partially muffled the traffic noise. For all intent and purpose, the children and I were in the country. Park rangers had aptly named this area of the park "Ecology Village," for during their brief stay here, the children were to begin to understand the relationship of the natural world to their own lives.

SETTING UP CAMP was the first activity. The children previously had practiced putting up tents on the lawn of P.S. 226, and now that we were actually in the woods, I was pleased to see how each child was able to help with a tent. Many of the children in wheelchairs were able to hold a tent pole upright or hold the corner of a fly taut, while others pounded in the stakes. Children with limited mobility were easily able to crawl on the ground to accomplish various objectives. The key here, as with the entire trip, was to provide a minimum of adult help, and only when absolutely necessary. Even if a child took five minutes to wrestle one tent stake into the ground, the child was encouraged to do it by him or herself.

Anyone works up a healthy appetite setting up camp, and these campers were no exception. A cold lunch had been planned for expediency, and this proved a wise choice. Hunger pangs were relieved quickly, and we could move right on to the marine biology area.

My attitude in planning this trip was that **EVERYTHING** was possible, and that virtually any activity was adaptable. But how do you get physically handicapped children to hike three-quarters of a mile, and then hop over a wall to the beach area in order to study marine biology? The

problem was solved with a little advance planning. We arranged to retain the buses until the last possible moment in order to transport the children near to the beach. The buses took us to the only break in the wall which would provide easy access to the beach. An old seaplane ramp, erected in World War Two, furnished a perfect, gradual descent to the beach.

Once on the beach we removed the children from wheelchairs and let everyone sit on the sand. Just watching the children's tactile joy while sitting and playing there would have been worth the trip for me. For some of the children it was their first time ever on the sand, even though they all lived within a few miles of the beach.

AT THE BEACH we were met by Lisa Breslof, a marine biologist working for the National Park Service. I had met her previously, and had discussed modifications in the biology program which would be necessary for children with special needs. One of our first activities was examining the "stuff" we were sitting in. When asked what it was, the children responded, "Oh, just sand." However, once they received individual sand sifters, they discovered shells, bugs and little animals. After an explanation and an animated discussion of the significance of their findings, the children were ready to look toward Jamaica Bay for new adventures. Some of the adults donned hip boots and went out with seining nets. An abundant catch of horseshoe crabs were harvested. The children watched in amazement, and saw that living things were in the ocean too. The children learned how the crabs live, obtain food, protect themselves, reproduce and adjust to different habitats. As we gazed along our secluded beach, with the skyline of Manhattan rising above it, we discussed how man has changed the natural marine environment, and how we might still preserve our environment for the future. The marine biologist had provided a graphic demonstration of the children's relationships to all that surrounded them.

WE HEADED BACK to the campsite, reversing our steps over the same path, but there was an important difference in our "hike" this time. We were now without school buses until the next day. So a caravan of assorted cars and ranger vehicles were enlisted to transport

the children on crutches. The children in wheelchairs traveled along the abandoned airport runways, pushed by the many adult volunteers we had with us. Back at the campsite, we had about an hour for the children to just enjoy nature. Some of the younger children napped, while others played, or listened for the sounds of sandpipers, rails, egrets and herons, and the various other birds which nest on the grounds of this reclaimed airfield. Listening to the sounds around them was an activity which was constantly encouraged. Moreover, radios and other audio devices had been absolutely forbidden.

Dealing with both child and adult hunger pangs again became a priority. Dinner preparation began, with full participation by the children. Cooking is considered an integral part of the functional proficiency curriculum at P.S. 226, so the skills necessary for cooking had been well practiced.

The children had planned a trip menu that was healthy and contained foods from each of the different food groups. Interspersed with our healthy foods were more disruptable classics, however—hot dogs, soda and other items that had been donated by local merchants. The generosity of these local retailers helped keep the cost of our trip minimal, an important factor for some of the children. The cooking routine was shared, much as the tent set up had been shared earlier, and everyone had a chance to do some things toward the dinner preparation. Some children washed the salad, and others helped make it. Some set the table, or turned the meat on the grill. Even a child with severe cerebral palsy who cannot use a knife, can shred the lettuce. The motto was "Everyone works, then everyone eats." All our cooking was done on wood burning shepherd's stoves, for which the children



Photo by Henry Kessin

"For some of the children it was their first time ever on the sand, even though they all lived within a few miles of the beach."



Photo by Henry Kessin

gathered the wood. Once again the ecology cycle was explored, with an awareness of reuseable food and energy sources pointed out.

As with any good camping trip, the campfire was the culmination of the day's events. We sat around toasting marshmallows, and reflecting on the day's activities and insights. The faces of both the children and the adults showed a strength and a certain satisfaction with what had been accomplished. Many parents who could not attend during the day stopped by now, to share in the campfire. The principal of P.S. 226, Mrs. Elinore Ehrlich, not only joined the circle, but led the singing as well. This communal and festive atmosphere lasted long after the sun disappeared. Then, into the tents, and for some children their first night away from their parents.

Two children slept in each tent, and for the sake of independence, none of the parents who remained overnight (all three of them) were permitted to sleep with a child. Some children fell right to sleep, while others loved the idea of being able to whisper to their friends and play typical flashlight games. To the relief and surprise of many parents, no major problems were encountered, and not one child wanted to go home.

Because of time restrictions the next

morning, we ate a cold breakfast and quickly hiked to the gardening area nearby. Cheryl Best, a horticulturist on the staff of the National Park Service, helped the children learn another aspect of the ecosystem. Upon entering the garden, the children were shown growing vegetables and were allowed to pick their own crop. The harvest included snow peas, cabbage, turnips, green beans, and onions. For some children it was a wondrous realization

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that these things do not come from the supermarket wrapped in cellophane. Prior to this trip and our preparatory discussions, some of these children vehemently denied that they had ever "eaten a plant."

FLATS OF SEEDLINGS were prepared so that the children could experience planting as well as harvesting. Gateway had installed raised seedbeds that were the ideal height for a child in a wheelchair to work on. The children were given digging tools, seedlings and the water to nourish them. Once again, little help was necessary after the initial positioning of the children at the seedbeds. The intensity of this hands-on learning experience accomplished something in one day that I could only have hinted at had we remained confined to the classroom.

Then, after the short walk back to the campsite, the children broke camp, ate lunch and boarded the awaiting buses for the ride back to school.

We had an hour in the classroom before it was time for the children to board their regular buses for the trip home. It was an hour of extraordinary peace for me—every one of my campers fell asleep at their desk, happily tired from two days of discovery and growth.

To receive more information about Gateway National Park, you can contact:

Mike Hanowitz

Gateway National Recreation Area
Headquarters Building No. 69
Floyd Bennett Field
Brooklyn, NY 11234

For additional information about the workshops run by the New York City Board of Education concerning overnight camping, contact:

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THE LEHIGH VALLEY CONSERVANCY is a nonprofit land preservation organization that seeks to preserve natural areas and farmland and at the same time serve the public through a broad range of environmental education programs. It owns 270 acres in various parcels in two Pennsylvania counties and is involved in preservation projects involving another 500 acres. Its education programs are conducted on its Pool Wildlife Sanctuary, Emmaus, Pennsylvania, in municipal parks, on school grounds, and in private backyards. From the beginning, serving the handicapped has been a goal given equal status with providing educational service for the general public.

The Conservancy serves children classified by local school systems as Learning Disabled (LD), Educable Mentally Retarded (EMR), Trainable Mentally Retarded (TMR), Physically Handicapped (PH), and socially and emotionally disturbed. The Conservancy also conducts programs for children and adults who are blind or otherwise visually impaired, deaf or otherwise hearing impaired, or who suffer from various classifiable syndromes, and for senior citizens whose ages have affected mobility.

It does not pretend to provide therapeutic services like those of a legitimate special educational institution. Nor does the Conservancy pretend that it can serve those whose physical or behavioral performance deficiencies are so severe as to make the contemplation of "regular" programming impossible. It seeks only to provide equal access and opportunities to as many people as possible, including those who are handicapped. The Conservancy does not work with institutionalized patients.

PROGRAMS FOR SCHOOL AGE CHILDREN

The Conservancy offers a comprehensive elementary school level series of environmental education programs for grades K through 6. These programs are descriptively titled as follows: "Prickles and Tickles" (K); "Web of Life" (1); "Getting to Know a Tree" and "Magic of Flowers" (2); "Wildlife Wisdom" (3); "Aquatic Ecology" (4); "Field-Forest Comparison"

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MAINSTREAMING

AND THE

CONSERVANCY

by Kenneth Friedman

(5); "Discover Wildlife in Your Backyard" and "The World of Endangered Wildlife" (6).

Each of these programs has a basic educational objective that may be modified by a teaching naturalist to fit either a particular study site with its specific natural resources or the particular learning abilities of an age group of school class. Physically handicapped children who are confined to wheelchairs or crutches lack fine or gross motor coordination, and are often suffering from a broad variety of perceptual and cognitive disabilities associated with their handicaps. For this reason, they are offered modified programs based on the classroom teacher's recommendation of education level and scope of topic.

"PRICKLES AND TICKLES,"

for example, involves rubbing bark, smelling plant life, playing nature bingo, and getting into an assortment of other participant activities. It is no different for a physically handicapped group than it is for any other. "Web of Life" always sees the naturalist in a reactive or responsive role, leading children to "discover" all sorts of critters and then leading the children to understand or discover the concepts of habitat and niche. This program also is easily adapted for physically handicapped youngsters as are the others.

Our programs are offered on school grounds where there are lawns, fields, treelines, or adjoining woodlots. Programs are given in alleys, city parks, and on private property where permitted. Since pro-

grams are designed from the beginning to be modifiable because of natural environmental variations from school to school, there is little problem in reshaping programs to encourage participation by children with diverse handicaps. Only aquatic ecology presents some problem, but this is because we have yet to discover a way to transport streams and ponds to schools! Programs have been given, however, with 35 mm slides and tanks and jars filled with aquatic life.

One school where our naturalists work with physically handicapped children has a nearby treeline that is full of plants, decaying logs, insects, birds, soil, and enough diversity to keep a good naturalist going for years. This treeline has provided many a good "catch" in a tracking pit from "wild turkeys" to "roadrunners!"

HORTICULTURAL THERAPY AND GARDENING

We consider environmental education to include an inordinate number of environmental learning situations that can be undertaken in a garden. Typical of the subjects covered in a gardening program are plant-insect and plant-animal interrelationships, botany of all sorts, nutrition, soils and soil conservation, water and water conservation, and general land use and resource management.

FOR A PHYSICALLY HANDICAPPED person, and indeed uncounted others, gardening is both physical and psychological therapy. To a select group of horticulturally oriented professionals at hospitals and clinics, gardening of al-

most any sort may be employed as horticultural therapy. The horticultural therapy field itself has various applications, but for the Conservancy, this program serves to get handicapped children out of the sterile classroom and into a much-needed and highly stimulating outdoor atmosphere. The program is therapeutic by definition and includes physical therapy as well as perceptual and cognitive development.

In our pilot gardening project at an elementary school, the participants include one fourth, two third, two second grade classes; and children of all ages from one ungraded lower, middle and upper class system of physically handicapped youngsters. The fourth and third grade classes share two garden plots 25 ft. by 30 ft. The physically handicapped classes share a third plot. And the second grade classes grew starter plants of marigolds for all gardens and then helped in the handicapped garden. The physically handicapped class has five rectangular 4 ft. by 10 ft. raised planting beds created with railroad ties, and one round bed created with a huge tractor tire. Aisles between the raised beds are 3 feet wide to permit wheelchair access. Creosoted ties are covered with painted plywood to permit children to sit on the ties in order to plant, weed, water, look for insects, and harvest. A naturalist provides basic instruction to teachers and helps with certain introductory classes. The naturalist also designed and organized the garden plot system, from obtaining the plots to obtaining railroad ties, tire and extra soil. Teachers are given a timetable to follow with their classes to start seeds, set started plants out in the garden, weed, and so on. While the current program is scheduled to end with the close of school in June, efforts are underway to work with the school district to provide a program opportunity for the handicapped students during the summer.

PROGRAMS FOR THE BLIND AND VISUALLY IMPAIRED

The Conservancy follows the recommendation of the National Association for the Blind that special trails are costly, static, and unchallenging. Since blind people visit our sanctuary with sighted companions, the companions help serve as interpreters and guides.

WHEN A NATURALIST LEADS

a program for the blind, he or she strives to interpret natural phenomena using senses other than sight. Programs offered include those on wildflowers, weeds, bird "listening," frogs, and general discovery walks among others. In fact, the Conservancy finds almost no restriction as to programs available to the blind. Programs are given in conjunction with a local association for the blind which provides transportation and sighted aides as required. Difficult as it may be to believe, the first program given—at the association's request—was a slide presentation. The naturalist simply added taped sounds, artifacts for touching, and a live skunk—deserted.

OTHER PROGRAMS

The Conservancy offers nonschool children's programs as a Ranger Rick Nature Club and Ranger Rick Summer Camp, with permission of the National Wildlife Federation. The Clubs meet monthly from October through May to explore nature through games and fun projects. Typical topics for the past season were:

Migration	How Spiders
Living in a Leaf Pile	Build Webs
Games Make Learning About the Environment Fun	How Birds Build Nests
Animal Survival in Winter	What is Pollution?
	How Trees Stand the Breeze

The clubs are open to handicapped children, but few have displayed interest.

We also offer several week-long, half-day summer camps that concentrate on ecology as a theme around which games and exploration are centered. These camps are themed each year to aquatic, field, forest and ecology.

IN THE PAST there have been a few handicapped children who have attended but while we have experienced no great difficulty in serving handicapped children at these programs, a lack of extra trained volunteers or staff has held back expansion of this program.

MAINSTREAMING

Our experience with Ranger Rick Clubs and Camps typifies some of the problems with mainstreaming, a term that refers to the practice of integrating handicapped youngsters into regular school classes either on a full or part time basis.

THE CONCEPT OF MAINSTREAMING

cannot be entertained without qualification. Certain handicapped children can be mainstreamed with relative ease. A wheelchair-confined youngster with no learning problem, for example, may require only a school building with one level and appropriate restroom facilities. On the other hand, a physically handicapped child with accompanying and complicating perceptual and cognitive learning disabilities will not mainstream as easily. Educable and trainable mentally retarded children (EMR and TMR) are even more difficult to mainstream. As practiced locally, mainstreaming when possible often includes integration of a handicapped child into physical education, music, and other activities where a delayed proficiency level does not interfere with participation and the peer group. Unfortunately, even physical education offers restricted mainstreaming opportunities when schools emphasize an aggressive competitive sports curriculum rather than individualized sports where lack of body contact or direct interaction between children permits each to work to achieve an individual potential.

We view environmental education as an opportunity for mainstreaming, providing there are adequate aides to assist a handicapped child. The realities of mainstreaming are such that each handicapped child must be judged on an individual basis, to be mainstreamed wherever possible. Where highly structured environmental programs of a purely cognitive nature preclude participation of a student, an informal discovery and sensory experience format might work far better. For Conservancy naturalists, the mainstreaming problem can become one of trying to teach to two learning ability levels at the same time and this is impossible. We try, as schools do, to teach either to a group with "standardized" abilities, or to use only a discovery format.

One approach involves a nonschool program for families. Saturday or Sunday programs can be designed so that families with handicapped children may participate, and with a diverse group of people of various ages, some degree of constructive interaction occurs. Examples of programs that are available to handicapped individuals and their families include

(continued on page 12)

MORE THAN MARIGOLDS

by Susan E. Foltz

WHEN YOU HAVE 145 students from second, third, and fourth grades plus an ungraded physically handicapped class working together in a gardening project with plots adjacent to senior citizen plots you reap much more than marigolds and broccoli, according to Valerie Walter, coordinator of the Lehigh Valley Conservancy garden project carried out with the children of Spring Garden Elementary School in Bethlehem, Pennsylvania.

In fact, the more rewarding outcome of the program is observing students interacting with each other and with members of the community. "It was great to see the kind of respect that students have for their peers who are handicapped," she said.

In addition, the project builds understandings between the generations as senior citizens quickly lay aside their original skepticism about having children in the community gardens.

"Cooperation of this kind is exactly what we hoped for," she said. "Both generations need each other."

THE NATURE CONSERVANCY chose Spring Garden School for their pilot gardening project because of its proximity to Bethlehem's Community Gardens which are available to the public free of charge on a first come-first served basis.

Valerie Walter recalled that a representative from Philadelphia Green, an organization responsible for community gardens in that city, had once discouraged the Conservancy's attempt to get the project under way. "They felt that it would be too difficult to work with youngsters," Walter said.

"So far we've received a great response from the city, students, parents, teachers, and even the school custodians who have

had to deal with additional dirt in the building," she said.

The program which began in January, was primarily funded by the Conservancy at a cost of \$56. However, Mrs. Walter noted, "The city donated the old railroad ties, a country club donated top soil, and the teachers' fund provided us with \$23 toward the purchase of seeds." In addition to donating money for seeds, eight teachers volunteered to participate in the project. These teachers were supplied with seeds and a tentative planting schedule during a series of three informational sessions led by Mrs. Walter.

"Only three of the eight teachers in the program had experience in gardening," she explained, "sometimes this works better because teachers can learn along with the students."

OTHER TEACHERS not directly involved in the program made an effort to relate their lesson plans to the theme of gardening. For instance, in the music classes, students learned songs about plants; in history, they learned about the economics of farming; and in art, they sketched the various plant parts.

The children worked in three plots which are 25' by 30' in size. They were divided among the third grade, fourth grade, and special education sections. Second graders were given the responsibility of growing marigolds for the entire garden.

The one difference in the garden used by the handicapped students is that the plots are raised eight inches off the ground.

This raised garden, which is surrounded by railroad ties, makes it easier for youngsters, especially those who use wheelchairs, crutches or walkers, to get really close to the plants. It also is an effective way of retaining water and using space.

SPACE WAS A SIGNIFICANT FACTOR because the Conservancy wanted to plant a wide variety of seeds. They choose such vegetables as carrots, broccoli, radishes and spinach because they produce high yields, enjoy cold weather, and produce results before the summer vacation. To virtually guarantee fast results, most of the seeds were started indoors.

The students saved their milk cartons which served as germination pots, and popsicle sticks which were used as labels. They brought in broom handles which were used to string up the pea plants, and coffee cans which when inverted over the plants, protected them from rabbits.

In addition to saving a lot of miscellaneous items, the students built a worm compost and toad farm. Valerie Walter designed the worm compost and toad farm in order to keep students interested in working in the garden when the weeds popped up and the work was harder.

It is hoped that the garden project will become a regular part of the school's curriculum next year. In addition, first graders will be included in the program.

As for the future, the Conservancy hopes to develop garden programs at other area schools, organize a gardening club, and sponsor student research projects at science fairs. □

SUSAN E. FOLTZ is a science writing major at Lehigh University, Bethlehem, Pennsylvania.

HANDICAPPED

GROUPS at PEEC

by Anne Cloutier

IMAGINE HIKING a rocky trail in a wheelchair; attempting a sunrise walk unsighted; or going on a moonless night hike with a hearing impairment. For the past decade, handicapped groups have been experiencing such challenges at the Pocono Environmental Education Center (PEEC) in northeastern Pennsylvania. In fact, the United Cerebral Palsy of Scranton, Pennsylvania, under the direction of Lydia Coulter, was the first group to register at PEEC when the residential center opened its doors in 1972. They have returned every summer since, with children, teens, adults, and parents.

The UCP staff comes to PEEC with a twofold purpose: While the children are "making friends with a tree," racing in the Special Olympics, or swimming, their parents are in class, learning about home management, adaptive equipment, and medical considerations. A third, and perhaps most important objective of the weekend experience, is for families to be together in an out-of-doors setting—a rare opportunity for many.

Accessibility to facilities on the hilly PEEC campus, designed originally as a honeymoon resort, has improved since 1972. Ramps have been constructed for wheelchair access inside and outside a number of the cabins; vans transport the children to the dining hall, another ramped facility; a well-trodden, roped Sensory Trail is wide enough to accommodate wheelchairs.

Mrs. Coulter is highly complimentary of the PEEC staff and services. In a letter to PEEC Director John Padalino, she writes, "I have a feeling that the experiences which we are bringing to our clients—opportunities to be in the woods and to participate in things that non-

handicapped children and adults take for granted—is a tremendous plus and a new and exciting experience for them. For that reason, I truly believe that both your purposes and ours are being served."

HEARING-IMPAIRED students from the Scranton area have also made full use of the center since 1975. School-aged children in the Northeastern Educational Intermediate Unit, under the supervision of Frank Chopko, have built fires, studied fossils, walked the Braille Trail, taken bus trips throughout the Delaware Water Gap National Recreation Area, practiced language arts, and swum in PEEC's unique double-heart-shaped pool.

Instruction by PEEC staff has been aided by the I.U. staff, all certified in sign language interpretation. A weekend teacher-training workshop was arranged one year, so that the project staff would be better prepared for the five-day field trip with the more than 100 children in the Hearing Impaired Project.

The Scranton State School for the Deaf followed suit in the late 1970's, bringing a bus load of third grade hearing-impaired students to PEEC for three days of springtime activities. Staff interpreters helped the children with canoe lessons group problem solving (Action Socialization Experiences), hiking, nature crafts orienteering, and swimming. According to school representatives, the outdoor experience was extremely worthwhile and memorable for many of the children, as evidenced by a great deal of eager follow up work in the classroom.

WORK ON MOTOR COORDINATION is strongly emphasized with the developmentally disabled group which have visited PEEC. A good percentage of time is spent in physical activity whether it be in the Creative Playground, on the 15 miles of trails, or in the pool one of the most popular spots at PEEC.

The Easter Seal Society of Hazleton, Pennsylvania, makes maximum use of PEEC's pool during its annual five-day stay. Preschool children with a wide range of developmental disabilities spend two or three periods per day in swimming instruction, followed by organized and free play time; gross motor activities are constantly emphasized.

Organizations serving the mentally retarded, such as the Tri-County Mental Health/Mental Retardation Center in Carbondale, Pennsylvania, want to provide an outdoor overnight experience for their clients—an opportunity few have ever had. They emphasize physical activity, whether it be hiking, swimming, or working in the craft center. The lengthy waiting list continues to grow according to the group's leader, Dan Moriarity. He only wishes that his entire center could experience the beauty and challenge that a visit to PEEC presents. □

We apologize for a whale of an error in *The Sea Around Us*, Vol. 34 Number 1 and 2, page 7. Somehow a report on whales picked up a fishy title. Please delete the word *Fish* and add a question mark or delete the entire title—the story speaks for itself.



ANNE CLOUTIER, a director of the American Nature Study Society, is program co-ordinator at the Pocono Environmental Education Center.

Romping Through Summer in a Wheelchair

by Karen Nolan

ONE OF CHILDHOOD'S special joys is summer camp. The adventures one encounters during those idyllic days in the country are fondly remembered in later years as a personal version of Huck Finn's travels down the Mississippi.

Not every child can run over mountain trails with thoughtless ease, however, and some would think that the physically handicapped would be at a disadvantage where so many obstacles, such as trees and rocks, abound. The very opposite is true, in reality, for a disabled child can and does thrive in those blissful weeks romping through the great out-of-doors.

IN THE WOODED HILLS of northwestern New Jersey, the state's Easter Seal Society devotes its attention to the special needs of the physically handicapped. Camp Merry Heart, a 120-acre residential camp, serves 350 disabled adults and children each summer. These people are typically disabled by cerebral palsy, spina bifida, muscular dystrophy, accidents or strokes, and birth defects. The program is run during the summer, in five sessions, in which 70 campers are hosted at one time.

Easter Seal took over the camp fifteen years ago, and until three years ago, served the disabled community exclusively. Then, it added a new program, in



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the activities the camp offers. They decide that during the course of their stay, they will study arts and crafts, or nature, or go hiking or fishing. They may swim, or participate in other sports. Sometime during the session, they will spend the night under the stars, and sleep in a tent, away from the usual activities of the camp.

The day campers may choose a different activity each day. If they have never before attended the camp, their first project is to attend an orientation program. At this time, they conduct a series of activities, such as maneuvering a wheelchair or walking blindfolded, or on crutches, or without the use of one limb, in order to realize the limitations of the resident campers. From that moment on, they play, or create side by side with the disabled children.

It has worked well. A new awareness grows, a new friend is made. Parents are pleased and tremendously supportive, the children eager, the counselors, most of whom are planning careers in physical therapy or medicine, diligent.

Those long, sultry summer afternoons will long be remembered. □

which 120 local children, between the ages of 5 and 13, attend the camp during the day.

The children play together and all, disabled and non-disabled alike, are enthusiastic about it, as are their parents.

The purpose of the camp is to provide disabled persons with the chance to have fun, make friends, and develop their creativity and leadership potential out-doors. Using the very same activities as non-disabled, they learn their own limitations and abilities while participating in a group. The integration offers non-disabled children the opportunity to become aware of the disabled's particular circumstances and how to act with it.

UPON ENTERING THE CAMP, each child is assigned to a counselor. The number of children per counselor depends upon the severity of the disability. The day campers form a group of seven around the college-age counselor. The walking disabled to counselor ratio is four to one, while that of the wheelchaired campers is two to one.

Once assigned, the disabled consult the planning board upon which are listed all



HOW TO CHOOSE A SUMMER CAMP FOR THE PHYSICALLY HANDICAPPED PERSON

Many camps are accepting the physically handicapped today, but there are specialized camps with counselors trained in providing for the disabled person's particular needs. Mary Ellen Ross, director of Camp Merry Heart, the Easter Seal Society of New Jersey in Hackettstown, suggests a careful investigation when choosing a camp.

Ask if the camp is accredited by the American Camping Association to be sure that the camp meets recognized requirements for safe and healthful operations. Inquire if the standards applying to special campers have been used.

Talk to the director about the

camp and about his background.

Find out about the return rate of campers, and get the names of a few. Call them and learn what their experiences were.

Check on the camp's health and safety procedures and facilities: Is there a resident registered nurse? Is emergency transportation available?

Look at the numbers of campers by age group and disability. If there is a wide range, the program may be too generalized to be challenging.

Check the training and orientation of counselors in handling disabled campers. Also, if the camp is associated with a professional school, or if the counselors receive

college credit, it's an advantage.

How many of the counselors return the next summer? A low rate is a bad symptom.

What is the ratio of male to female counselors? Children need role models of both sexes.

What is the ratio of counselors to campers? For severely disabled youngsters, the ratio should be one to every three or four.

Visit the camp and inspect its maintenance, and the accessibility of indoor and outdoor facilities. Eat a meal and check menus.

Check the variety of daytime and evening activities. Are the campers given choices or is the activity schedule very structured? ☐

MAINSTREAMING AND THE CONSERVANCY (continued)

workshops on maple sugaring, backyard beekeeping, building birdhouses, general discovery walks or pond explorations, and similar general activities. As long as you provide accessibility, most programs are suitable.

MAKING CONTACTS FOR PROGRAMS

Making contacts for programs for the handicapped is often more difficult than giving the programs themselves. Because handicapped people often have problems with mobility, getting to a study site may be difficult. Because most parts of our society do not actively advertise that they accommodate handicapped people, they have become accustomed to lack of access and assume that programs offered through a standard newspaper press release or activity listing does not include them.

One of the best ways for an environmental education organization to serve handicapped people is to take the initiative to contact agencies that themselves serve handicapped people directly, and offer to discuss the services that you might provide. You will win some and you will lose some! Some agencies, un-

fortunately, are staffed by unimaginative administrators who will not give you the opportunity to try to serve their clients. Some administrators refuse your phone calls, others forget to call you back. There will be times when it feels as though you are trying to shove your services down the throats of uncooperative people, but once you reach handicapped clients, you find a receptive audience.

SUMMARY

The easiest way to summarize our programs for handicapped people is to report that our philosophy is that every education program should be designed from the very beginning with handicapped people in mind. Certainly some programs present access problems and exclude certain handicapped people. Learning ability also excludes people from certain activities. But we do not concern ourselves with satisfying all of the people all of the time; just most of the time. A great many programs can be enjoyed by at least a few people with certain handicaps. Staff naturalists are encouraged to "think handicapped" at all times, and to constantly attend to programs that would be suitable

for participation by handicapped individuals. By putting the question of suitability and accessibility first, rather than as an afterthought to a program, serving handicapped people becomes second nature. Teachers and leaders of handicapped classes or groups are given personal attention when they telephone to inquire about programs. To date, no group has been turned away, and the staff looks forward to the day when educational program services to handicapped individuals and groups can be expanded. At present, the only thing holding back expansion of services is available time itself since naturalists are overbooked during peak spring and fall seasons.

THE CONSERVANCY DOES NOT use special trails at its facilities because statistics show that special trails are subject to vandalism and deterioration, and that many are useful only on a one-time basis. The cost of special equipment such as a tape recorder is usually covered by some other aspect of an organization's activities and is thus not a special acquisition. ☐

GOOD READING

The Acorn People by Ron Jones, Bantam paperback, 1977, \$1.50.

This short book is a very moving account of a first experience as a camp counselor for handicapped children. It is vividly and personally written, describing the strong feelings of the author when coping with five severely handicapped pre-adolescent boys.

When the children arrived, their problems overwhelmed him. The first day, as he tried to meet their relentless needs, he began to feel like their resentful slave. His anger spilled over into impatience with them and was compounded by a fear of their illnesses rubbing off on him.

The next morning, he realized from the children's questioning looks that they wondered, as he did himself, if he would last. He was both afraid he couldn't cope, and afraid to admit he couldn't. Assigned to do crafts with them, he started an acorn necklace as an act of helpless frustration. When one boy asked what he was doing, his honest answer was the breakthrough: "I feel a little weird being here, so I've made myself a necklace of nuts." The boys agreed, joined in making more necklaces, and soon they were welded into a group, "the Acorn People." From this they moved on to try swimming, relating to girls, dancing, and even climbing a mountain together. The time at camp grew to be a pinnacle in their lives, made even more poignant in retrospect since all five boys died within four years.

In analyzing the camp's success, Jones makes a telling point. "I walked around thanking stairs, bunk beds and hills because they made all of us behave a little more normally. The camp was not a place for handicapped children and the kids knew it . . . It was a place for children and their expectations and fantasies for life."

I feel that this short book can inspire us to recognize and deal with our own strong feelings about disabilities, and to foster the growth and happiness that result from treating handicapped children as children.

Is There Life After 504? A Guide to Building and Program Accessibility from

the Children's Museum, Boston. Museum Wharf, 300 Congress St., Boston, MA 02210, 1980, 42 pp.

This is an informative, inspiring and refreshingly human publication. The Children's Museum is a remarkable institution, but I still find it impressive to find an institutional publication written with such insight and humor.

Even if your environmental education facility is not a museum this book will be a useful resource if you are contemplating initiating a program for handicapped groups. As the book states, it is meant to help you evaluate buildings and programs, locate and make good use of advisors, train staff to deal successfully with disabled visitors, take advantage of resources and expertise you already have, work with a wider range of disabilities than you thought possible, and understand various disabilities.

The Children's Museum takes its commitment to teach handicapped groups seriously. (1) They run the program once a week, offering one-to-one staffing with 30 staff members available. (2) They have employed personnel who are handicapped and have included their honest assessments of how it has felt to work at the Museum. (3) They selected knowledgeable advisors and really used them. The road to their present program for the disabled was not all smooth. Their willingness to describe mistakes is one reason this booklet is useful and refreshing to read.

Sourcebook: Science Education and the Physically Handicapped. Helenmarie Hofman and Kenneth S. Ricker, Eds. National Science Teachers Association, 1742 Connecticut Ave. N.W., Washington, D.C. 20009, 1979, 284 pp., \$6.00.

Chapter 8 of this Sourcebook, "Extending the Science Program Beyond the School," which includes approaches to environmental education for the handicapped, is disappointing. However sections in other chapters written by scientists who happen to be handicapped are insightful and thought-provoking, and make this collection worth perusing.

Exploring the Environment with the Handicapped. M. Jane Watson, Ed. Ontario Ministry of the Environment, Information Services Branch, 135 St. Clair Ave. West, Toronto, Ont. M4V 1P5, 1979, 264 pp.

In this book containing many familiar environmental education activities, the most useful parts may be the appended "adaptations" sections. Here different emphases or special approaches are suggested for different handicaps. For example, the blind are not omitted from an astronomy lesson, but a heat lamp serves as a model of the sun and constellations are depicted with heavy thread wrapped around map pins. These adaptations could be a good catalyst for teacher creativity in adapting activities to their group's needs.

Environmental Studies for Special Education Teachers. Ontario Ministry of the Environment, Information Services Branch, 135 St. Clair Ave. West, Toronto, Ont. M4V 1P5, 1980, 153 pp.

While this book contains a number of good activities, it is not geared to the handicapped any more than any other collection of environmental education activities. A very brief assessment of the difficulties to be expected with certain disabilities prefaces each activity, but a sensitive teacher could easily make such an assessment about an activity by glancing through it.

Prototypical Park Design: Access for the Handicapped by Mark L. Baker, Stephen G. Gang and Gerald S. O'Morrow. Institute of Community and Area Development, University of Georgia, 1979, 96 pp., \$5.00.

A Guide to Designing Accessible Outdoor Recreation Facilities. Heritage Conservation and Recreation Service, U.S. Department of Interior, Lake Central Regional Office, Ann Arbor, Michigan 48107, 1980, 58 pp.

These two recent books dealing with park design have the same goal—to enable

(continued on page 17)

WORKING WITH SPECIAL AUDIENCES

by Herman Hoops

Take a break!!! Walk to the nearest door or window, throw it open and drink in the sights and sounds before you. Now that you have returned realize that the three functions you have just performed—hearing, seeing and walking—are not available to millions of Americans. In fact, there is a chance that on your way home tonight you could lose one or more of those abilities. If that happened, would you be willing to give up your present work, your hobbies, your interests . . . your “way of life”? Of course you would not easily give up what you have a “right to.” Many people who are handicapped view you and me as temporarily able-bodied.

The tips I am presenting, like the tip of an iceberg, indicate the presence of a larger, more detailed subject below the surface. These are things to *consider* before any of us can become proficient in working with special audiences.

A. DEVELOP PROGRAM GOALS

Programs for hearing-impaired, vision-impaired and physically handicapped persons, like programs for others, should have goals, objectives and pre- and post-site activities. The same educational methods that are used for regular interpretive ac-

tivities (group and individual participation, self-directed activities, developing a sense of wonder and respect for things, factual, conceptual and moral decision making) apply to special audiences, as well. There may be special methods or mechanics in working with special audiences. The same factors that make a program “good” for regular audiences make programs “good” for special audiences.

B. KNOW YOUR RESPONSIBILITIES

We have begun a new day in our attitudes toward handicapped and disabled persons. Society is at last becoming aware of its responsibility to those who have vision, hearing, or physical impairments. The simple desire of those persons to join the mainstream of life and live independent, productive lives has been neglected in the past. You have a responsibility to allow disabled persons to participate in the discovery of their environment. We owe them the same or similar outdoor education experiences that able-bodied people expect. Besides fulfilling moral and legal responsibilities you can receive great personal satisfactions from your efforts. You can expect to encounter hearing-impaired persons, vision-impaired persons and physically handicapped persons in two basic ways: 1) as individuals participating as a part of a “normal” group, or 2) as a homogenous group (from a school or organization). The type of approach you use may differ depending on the type of encounter.

C. ACQUIRE PROFESSIONAL TRAINING

Special audiences do have some special needs and sensitivities. You and your staff will need training from professionals if you intend to work with special audiences. A variety of organizations and schools offer skills training for working with hearing-impaired, vision-impaired and physically handicapped persons. Some contacts for information may be made through the following groups:

- 1) National Association for the Deaf, 814 Thayer Ave., Silver Spring, Maryland 20910.
- 2) American Foundation for the Blind, Inc., 15 West 16th Street, New York, NY 10011.
- 3) Catholic Charities, Diocese of Brooklyn, 191 Joralemon Street, Brooklyn, NY 11201.
- 4) Childrens Defense Fund, 1520 New Hampshire Ave., N.W., Washington, D.C. 20036.
- 5) Merrimack Education Center, 101 Mill Road, Chelmsford, MA 08124.
- 6) Open a New Window, 7708 Holmes Run Drive, Falls Church, VA 22042
- 7) New York Interpreters for the Deaf, Inc., 222 East 19th Street, New York, NY 10003.
- 8) National Center for a Barrier Free Environment, 7th and Florida Ave., N.E., Washington, D.C. 20002.
- 9) National Association for Visually Handicapped, Inc., 305 East 24th Street, New York, NY 10010, or 3201 Balboa Street, San Francisco, CA 94121.

HERMAN HOOPS is a naturalist at the Gateway National Recreation Area. He has also been a high school teacher. In 1971 he broke his neck and was partially paralyzed for a period of time. His expertise in working with special audiences has been developed from his personal and professional experiences.

D. EXPERIENCE AND EVALUATION

At some time during the operation of your program evaluate and audit your efforts: Watch the visitors participating in activities and moving about. Make notes for improvement in presentations, facilities, activities, etc. Then try developing an in-house workshop. You and/or your staff should spend part of a day or attend an in-house program in a wheelchair. Try to use the restrooms, drinking fountains, information desks, etc. Watch a movie without sound. Try to walk using binoculars upside down. Spend part of a day blindfolded. If you have a videotape recorder, use it, and review your activities. The video-recorder is a good tool to use in identifying physical barriers and evaluating programs. It is worth the price of the rental.

E. MAKE GROUPS AWARE OF THEIR RESPONSIBILITIES

When you work with groups of special audiences, make them aware of their responsibilities. Inform them of your rules, the dangers they face, facility idiosyncrasies, and how they can operate within your parameters. Some groups, such as those in wheelchairs, may need a large number of attendants. Find out if the group can utilize trails and facilities as they are, and notify them if attendants are necessary.

F. SPECIAL THOUGHTS FOR SPECIAL PEOPLE

Be aware of the individual differences among deaf, blind or physically handicapped people. Like other people, these adults are found to be in a wide range of intellectual ability—from dull to brilliant. Attempt to learn the ability of the person you are talking to and communicate on that level.

DEAF PERSONS

- 1) Take a course in finger spelling and American sign language. You will be amazed at how easy it is to grasp this form of communication.
- 2) When talking with deaf people, DO face the individual and make sure your hands and face are in full view. The majority of deaf people prefer to focus their eyes on the lips of the person who is talking, so DO move your lips when you communicate, whether you use your voice or not.
- 3) DO talk naturally and look pleasant. A pleasant person is much more fun to

talk to than a grouchy or expressionless person. Some people think that a person can read lips better if you open your mouth more and talk very slowly. This is not true. DO talk naturally and use expressions often. DO give clues whenever you can.

4) DO keep your hands at a position where they will not shield your lips. A good rule is to keep them chest high as most deaf people watch your lips and hands simultaneously.

5) Since conversation is a two-way street, receiving messages is as important as sending them. DO NOT hesitate to ask a deaf person to slow down or to repeat when you do not fully understand. By all means, DO NOT nod your head and pretend to understand something you do not. It is embarrassing to the sender as well as to the receiver. DO NOT guess at the meaning of signs you are not familiar with. Ask what they mean. When you ask a deaf person what a "new" sign means, he will know right away that you are interested.

6) DO NOT be afraid to talk in public. Manual communication is not disgraceful. Although manual communication attracts eyes when in public places, you should be proud that you have the necessary skills to communicate with a deaf person. DO try to interpret what others say and tell the deaf person what the public address system announced. Deaf people do appreciate this and it develops rapport. You do not have to interpret everything, but just give the main idea.

7) DO remember that there are different signs for different words. Some signs look similar to others. DO learn them and use them correctly. When you say something manually and the deaf person does not understand after repeating, rephrase the idea and say it differently. When in doubt about the proper sign, it is always safer to finger-spell the word.

8) Deaf individuals communicate in a variety of ways. Even those termed "profoundly deaf" have what one calls some amount of "residual" hearing (certain environmental sounds can be heard).

BLIND PERSONS

1) Many blind or visually impaired persons can achieve orientation to their

surroundings and have a degree of mobility. The age of the group may relate to their ability to move about. Many of these persons may have some degree of sight and will be able to orient to light and forms. The simple practice of writing larger may be an aid to some.

2) Visually impaired and blind persons can often utilize warmth from the sun, sound, smell, air currents and surface texture to move about. Don't forget to reassure people by describing things: "We will be walking on a loose wood chip trail; there is soft grass at the edges of the trail."

3) In an unfamiliar place the most efficient way for a blind or vision-impaired person to get around is to learn with a sighted person. The normal procedure is to grasp lightly around the elbow. Remember to ask the person if he wants assistance and let them know what you are doing verbally. Don't just grab onto them!!! Some people prefer to take your arm.

4) Blind children may be slower in developing concepts. Encourage them to smell, touch, feel and explore. Each learning experience will help them adjust to life.

5) Not every blind person can read Braille.

6) Do not apologize for or stumble over words: "See the bird over there." They understand that the words see, look, etc. are part of your normal vocabulary.

PHYSICALLY HANDICAPPED PERSONS

1) Some physically handicapped groups may require more time, depending on your facilities to move about. It takes time to load and unload wheelchairs on a lift; if only one barrier-free restroom facility is available, you may make additional time allowances.

2) Most wheelchairs are 2'1" wide and 3'6" long. The head of a person in a wheelchair is approximately 2/3 the height of a standing person.

3) There are standards for wheelchair accessibility, doors and entries, stairs and handrails, ramps, restrooms, and parking for the disabled. There are reasons for the standards—USE THEM!!!

4) Some general guidelines for interpreters working with Special Audiences are:

- a) Involve all the senses in inter-
- (continued on page 17)

A SENSORY TRAIL is a unique experience which allows sighted persons to step into the world of the blind and perceive nature in new ways. Blindfolded, and holding onto a waist-high rope, sighted participants guide themselves along the path, stopping along the way to discover and examine the unseen environment. Such an experience is beneficial to sighted people for three main reasons: It gives them a chance to pay attention to and enjoy senses that they tend to slight when they can see. It allows them to appreciate aspects of an environmental setting which often go unnoticed, and it is a chance for them to understand the experience of being blind, if only for a short time.

A noteworthy example of a sensory trail may be found at the Pocono Environmental Education Center in Dingmans Ferry, Pennsylvania. The variety of habitats through which the trail passes provides changing sounds, smells, textures and temperatures. The trail is approximately one-half kilometer in length. It takes the shape of a giant horseshoe with the beginning and end only a few decameters apart. It starts among evergreens. For the first hundred meters or so, it runs near a forest edge—thickly grown spruces and pines to one side, more sunny, scrubby woods to the other. The path underfoot is badly worn, and roots jut out and up; angular pebbles poke sharp edges at unsuspecting feet. Thus, evidence of the ongoing processes of weathering and erosion force themselves on the trailwalker. The trail swings left, reaches the corner of an old pine plantation, then jogs quickly right, soon reaching the elbow of the horseshoe. There it passes close by a stream which gurgles softly as the water tumbles over its rocky bottom. Completing the bend, the trail emerges from the woods into an overgrown field, passing an old orchard on the left. The fruit trees and invading shrubs attract wildlife. In warm weather animal sounds are abundant. Throughout the year, birds call and flit through the branches. Crossing the field, the path reaches a clump of tall shrubs, winds through them, and ends a short distance beyond.

JEFF SHREINER is chief naturalist at the Pocono Environmental Education Center, Dingmans Ferry, Pennsylvania.

Don't Look Now - -

How to Plan a Sensory Trail

by Jeff Shreiner

THE GOAL IN LEADING A SENSORY TRAIL

activity is to arrange for participants to use their ears, noses, mouths, hands, and feet as much as possible as they interact with the sensory material that is located along the trail. Much of the material may be missed by blindfolded walkers if they merely hold onto the rope and walk along. Sensory involvement may be increased by devising methods of directing participants slightly away from the trail where more sensory opportunities await them. This may be accomplished by designating some participants as "trail guides." The group may be divided in half, and individuals may take turns as guides and blindfolded. Guides and guided can walk the trail together, one to one, stopping wherever the guide chooses. The guides can lead blindfolded participants short distances from the trail (having them walk, crawl, roll, etc.), one by one, focusing their attentions and senses along certain lines of investigation. At trail's end, each pair can switch roles and begin again. An alternative that requires fewer guides is to station guides at regular intervals along the length of the trail, having them intercept walkers as they come by. Five or six guides, stationed about a hundred meters apart, are sufficient.

There are many ways that trail guides can focus attention on the sensory environment adjacent to the trail. It is important, of course, to minimize the impact of group usage by avoiding activities that result in removal of sensory material or damage to the environment. Here is a list

of suggestions which provide a variety of interesting sensory experiences that can easily be carried out without damaging the surroundings. Trail guides may have people:

- get to know a conifer by shaking hands with a branch, removing and examining a cluster of needles, counting the number of needles in a cluster, rolling a needle between finger and thumb, tasting a needle.
- crawl through high weeds (avoid poison ivy), over pine needle duff, over a flat rock slab.
- put nose to ground and smell the ground surface.
- stand straight and breathe deeply.
- turn toward the sun and feel it on their faces.
- point to the sun, point North, point to the beginning of the trail, point to the main building.
- examine a fallen tree or log by feeling the texture of the bark, smelling it, estimating its length and breadth.
- use fingertips to examine mosses, lichens, or rocks located near the ground surface.
- stop, listen, and distinguish among the sounds they hear.
- gently feel spiny plants.
- crawl along or beside the trail until they feel a surface change, then describe various differences between the surfaces.
- kneel and place palms firmly on two different surfaces and describe the difference.
- examine a rodent garbage dump and identify or describe the objects they discover.

- touch, smell, and taste conifer resin found oozing from tree trunks.

ORGANIZING THE ACTIVITY

For each participant, the sensory trail is fundamentally an individual experience, an opportunity to interact quietly and deliberately with the environment which he or she encounters. For the leader, the task is to provide this opportunity for each member of the group. This requires planning and attention to procedural details. We offer the following suggestions to first time group leaders:

- walk the trail beforehand, checking to see that ropes are in place, and identifying sensory material.
- decide how trail guides are to be used.
- plan an introduction to the activity for the whole group. During the introduction, stress the importance of walking quietly, slowly, and deliberately, holding onto but not tugging at the rope.
- have someone start walkers off at regular

intervals. Avoid bunching by allowing a full minute or longer between starts.

have someone meet the walkers at trail's end. If possible, have available another activity, away from the trail, where other walkers will not be disturbed.

RESOURCES

American Forest Institute, Inc. *Project Learning Tree: Supplementary Activity Guide for Grades K-6*. Washington, D.C.; The American Forest Institute, Inc., 1977.

American Forest Institute, Inc. *Project Learning Tree: Supplementary Activity Guide for Grades 7-12*. Washington, D.C.; The American Forest Institute, Inc., 1977.

The "Environmental Awareness" section of each guide includes several nonvisual sensory activities.

Kauffman, Robert B. "The Owl Trail." *The Communicator*, Spring-Summer,

1978.

Provides guidelines for designing and maintaining rope trails.

Pocono Environmental Education Center. "Activities to Enhance Sensory Perception." Unpublished.

This handout describes sensory activities that may be done in the classroom or outdoors in the schoolyard.

U.S. Dept. of the Interior, Bureau of Land Management. *All Around You: An Environmental Study Guide*. Washington, D.C.; U.S. Government Printing Office. Stock Number 2411-0035.

The "Awareness" section emphasizes sensory observation. In workbook format for the elementary school student. Van Matre, Steve. *Acclimatizing*. Martinsville, Indiana; American Camping Association, 1974.

A sensory approach to an environmental ethic. Techniques and exercises in sensory awareness. □

WORKING WITH SPECIAL AUDIENCES (continued)

GOOD READING (continued)

the handicapped to participate in as many normal recreational activities as possible without help.

Prototypical Park Design is the more detailed publication, starting with the physical and psychosocial needs of people with different types of disabilities. It leads the reader through the steps of the planning process, including site location, park design and master plan development. While much of the second half of the book, for example the environmental inventory, is relevant only to this Georgia park, the example of how planning decisions are made could be useful.

The second, *A Guide to Designing Accessible Outdoor Recreation Facilities*, is a helpful reference for the design of a variety of park facilities from trails through fishing docks to historic sites. The descriptions are simple but seem adequate and clear.

If parks were designed as these books suggest, people could enjoy a range of accessibility eliminating the need for "special" facilities. □

pretation.

b) Think ahead for possible changes in your program to accommodate handicapped person when they are present.

c) Encourage handicapped persons to join group activities.

d) Evaluate your program with the help and advice of hearing, vision, perception and physically handicapped persons.

e) Be receptive to your audiences' reactions.

f) Make managers, supervisors, and planners aware of problems and offer solutions.

g) Train ALL personnel to work with disabled persons.

h) Create sensitivity to individual handicaps.

FINALLY, now that you have some orientation to working with hearing impaired, vision-impaired, and physically disabled persons, GO FORTH and spread the word! □

CONFINEMENT TO A WHEELCHAIR

needn't mean the end of a person's gardening activities or enjoyment of public gardens and nature trails. Two Cornell publications, *Designing Barrier-Free Areas* and *Gardening in Containers*, provide information on how to improve access to toolsheds, greenhouses, and outdoor plantings and how to raise plants with less effort by using containers. Recommended gradients and materials for paths, sizes of planting areas, types of tools, and heights of workbenches are illustrated and discussed. *Designing Barrier-Free Areas* is available for two dollars a copy from the Department of Education at Cornell; single copies of *Gardening in Containers* are available free through Cornell Cooperative Extension, Ithaca, NY.

MEET A MEMBER

of the American Nature Study Society

Dingmans Ferry, Pennsylvania
Independence Day, 1981

Dear ANSS Friends:

The Golden Guide to Wildflowers and a field full of nameless plants near the Georgian Bay was my introduction to nature study back in 11th grade; little did I know that 10 years later I'd be writing about those same flowers for *Nature Study*.

My acquaintance with the American Nature Study Society has been short, but busy. As advertising manager for the society's publication and member of the Board of Directors, I've been involved with everything from membership drives to darkroom work.

The experience has been fruitful in

many ways: Working with dedicated naturalists and writers from throughout the northeast has rekindled my interest in writing; requests for illustrations have found me—negatives in hand—learning the subtleties of photographic processing; an advertising campaign has taught me the basics of marketing strategy, a field of which I knew very little.

Among our educational endeavors was a Winter Activities Workshop in February, 1981, sponsored jointly by ANSS and the Pocono Environmental Education Center. ANSS members offered their expertise in such subjects as winter plant identification, birding, and effective interpretive techniques to over 150 environmental educators. A recent issue of *Nature Study*,

(Vol. 33, No. 4) dealt with environmental field study centers in the United States, and the process of environmental study.

It is exciting to be involved with this process, and to have the opportunity to meet so many outstanding teachers and administrators in the field of environmental education. My experiences as volunteer guide at a museum, nature counselor at a day camp, instructor at a zoo, naturalist at environmental education centers and presently, as program coordinator at the Pocono Environmental Education Center, have proved to me that there is a lot of energy and momentum in the nature study movement.

Sincerely,
Anne Cloutier

Insights from a Blindfold Walk

The first time I led a blind walk was at the American Nature Study Society Urban Environment workshop at Bridgeport. The walk was designed to emphasize the fact that we have five senses and to give the participants the opportunity to consciously use more than sight to learn about their environment. Participants selected a partner and one member of the team, with eyes shut, was led by the other following me and the other pairs, down a sidewalk, over the lawn, under a tree, across a city street, past a blooming basswood tree. The partners then switched roles and travelled a similar route to a comfortable shaded site where everyone sat and compared reactions.

Even before discussion began comments made by participants as they were walking with their eyes closed indicated that other learning was taking place.

"I'm glad that I trust you. If I didn't I could never keep my eyes closed."

"I'm terrified. Are you sure that it is safe to cross the street now?"

Group discussion went farther. It could be summarized by the statement of one participant, "Think of the courage that it takes for a blind person to walk alone on a city street."

I have repeated this activity scores of

times in cities and nature centers, with children and adults, with similar results. After the initial personal reaction to being sightless attention is focused on the importance of other senses—touch and pain receptors in the soles of feet, temperature receptors in exposed skin, the impact of fragrant trees, the assault on our ears of a multitude of sounds. One woman at a PEEC workshop startled the group by saying, "I heard less with my eyes closed."

"Why do you say that?"

"I'm a bird enthusiast and I am normally very sensitive to bird calls and songs. As I sit here I am surrounded by bird sounds, but I did not hear any of them as I walked down the road, across the parking lot and up the hill. I was concentrating on automobile noises, on the sounds of my feet, on human voices."

At the ANSS-Wave Hill Urban Environment Workshop last month the "Blind Walk" and discussion was followed by another one led by Wave Hill staff. In this one the whole group was blindfolded and divided into three teams. The blindfolded persons joined hands to form a chain with one of the staff as leader. After a short walk, which stressed texture

and slope under foot, the individual members of the chain were dropped off to study a small square of lawn, then rotated to spots to feel the texture of tree bark, to examine the leaves and leaf arrangement of different trees, to select an interesting pebble, to enjoy the fragrance of a flower, and finally to walk alone, following the voice of the leader.

It was a different experience with a different emphasis. In the first there was a feeling of "What does it mean to be sightless, and how do other senses keep us informed?" In the second, with more structured activities, there was an emphasis on "What can I learn without using my eyes?"

The two activities reinforced each other. Together they were not only good training for the use of all senses, but they helped build understanding of the problems of sightlessness along with an appreciation of the fact that with training and acceptance, blind persons can lead rich and successful lives.

Unfortunately the greatest handicaps that many "handicapped persons" face are the doors closed by unknowing and insensitive persons.

HRR



"SOMEHOW I WAS GOING TO DO IT AND I DID"

How Camping Can Help a Handicapped Child

AN INTERVIEW BY MARY D. HOUTS, CONTRIBUTING EDITOR,
WITH GALE LYNCH AND HER MOTHER.

Gale Lynch is a housewife, mother, Girl Scout leader and secretary at a local V.A. hospital. She is an experienced camper, having started camping at the age of two and a half when she went to Girl Scout camp for the summer with her mother who was the camp nurse. She continued to spend summers in outdoor camps until she was 18 years old, first as a camper at the Girl Scout camp in Cornwall, Pa. directed by Helen Ross Russell, then at a YWCA camp and finally at Camp Hagen, a Lutheran camp in the Pocono mountains where she became a counselor for two years, working as an assistant to the nurse and as a swimming instructor. Gale was born with a bone missing from her right leg and wore a brace and an elevated shoe until the age of eight when the leg was amputated. Since that time she has worn a prosthesis.

Gale was willing to be interviewed by *Nature Study* to give a handicapped person's view of camping, even though, she said, "I don't consider myself handicapped." Still, because she enjoyed camping so much, and thought it was such a good experience for her when she was growing up, she was happy to think that an interview might encourage handicapped children to go camping, and their parents to let them. She asked that her mother, Mrs. Embich, be in on the interview, for her mother was an integral part of making her camping experiences such positive ones.

Nature Study: What do you think was the most helpful part of the camping experience for you?

Gale: Dealing with people, getting along with people. Mainly having them accept me and not consider me as handicapped. There was no special treatment. Either I did things myself or I didn't do them.

Mrs. Embich: Gale was brought up to accept her handicap, that was the main thing. She had to accept it before anybody else could. She was just accepted everywhere she went for the simple reason that she didn't use it as a crutch.

Nature Study: Helen Russell says she can remember when you would go down to the lake at camp and you would sit down, take off the brace, toss it aside, and go into the water as though you didn't have a care in the world. Can you remember how you felt when you did that?

Gale: Oh yes, it didn't bother me in the least. I just didn't think anything of it.

Nature Study: It must have been that sort of thing that earned you the nickname "Breezy."

Gale: I don't know who was responsible for giving me that nickname, "Breezy," but that's what they called me.

Nature Study: Where did you sleep when you were at Girl Scout camp?

Gale: We were in pup tents. I stayed the whole summer in a pup tent. In fact, one week I was in a tent by myself.

Nature Study: So your mother didn't stay in the tent with you?

Mrs. Embich: She didn't want me to stay with her.

Nature Study: Did you worry a lot about her being in the tent, and having to "rough it" in camp?

Mrs. Embich: Not really, because I felt she was O.K. She could handle just about anything.

Nature Study: It sounds as though you, as her Mother, had to make sure that Gale developed that attitude—that she could do anything. And you had to make sure that other people treated her as though she could, too.

Mrs. Embich: Yes. I can remember when she came back from the hospital after having her leg amputated, and went back to school. I had gone to the school and told the teacher I did not want any special privileges for my daughter, because, well, then she would have felt different.

Nature Study: It sounds as though your first camping experiences were very happy ones. What happened when you

reached adolescence? Teen-agers are often so concerned about being different. Did you become more self-conscious? Did the thought of having to wear shorts or a bathing suit make you want to give up going to camp?

Mrs. Embich: She did become more self-conscious. One morning when she was in high school she came down and said, "I'm not taking gym today, we're going outside on the field, and there are boys out there and I'm not going out. Furthermore I'm not feeling well." I said, "O.K., I'll buy that if you're not feeling well, that's O.K." But she wasn't out of the house five minutes when I called the gym teacher and said, "I gave in today because she is not feeling well, but this is the only day. She can go out and take gym the same as anybody else." So that was that. Nothing more was said, and about two or three weeks later Gale said something like, "Well, I guess you know I took gym today." And I said, "Well, what's so different about that?" and she said, "We were outside." So I told her, "Well, that's exactly what I would expect." She was starting to think of boys, but that would have been the worst time in the world to give in. After that she went on to play basketball and everything.

Gale: Up at camp wearing shorts didn't bother me in the least. While I was camping I wasn't treated any different. They accepted me in those shorts.

Mrs. Embich: Her very first year at Camp Hagen when she was fourteen I packed her bathing suit. My idea was that it's her life, if she wants to go swimming the suit is there. If she doesn't want to, she doesn't have to do it.

Nature Study: And you went on to get your senior life-saving certificate.

Gale: I think that as far as overcoming a handicap, the life-saving took the most determination of anything I can remember. I was going to get it, and if I hadn't gotten it the year I tried out, I would have accepted that, but I definitely would have tried again.

Mrs. Embich: That was the one thing I thought she wouldn't get . . . if there was going to be anything that was going to stump her I would have said it would have been that, but she had that great determination.

Gale: Where we went to camp we

swam in the Delaware River and of course the current is strong. We were all down for the final test and I think I was the last one. None of the girls who were supposed to be there drowning went out too far for anybody else, but when it was finally my turn and I got out to the raft where you had to start, I could hardly see them. But you get that added strength when you're out there and you think it's do or die . . . that you can do it. Like I said, it was determination. Somehow I was going to do it, and I did.

Mrs. Embich: That was one of the highlights of my life.

Nature Study: What were some of the other outstanding experiences you had at camp?

Gale: We used to go down the Delaware River on our canoe trip. We'd go overnight. Sometimes the canoes would crack and we'd have to patch them. Then we were in the flood up there also. I had so many experiences . . . I think I had determination because of the parents I had. Now maybe if I had others I wouldn't be here today. I might be in a corner someplace.

Nature Study: And you're still active in camping?

Gale: I'm a Girl Scout leader, and two years in a row now we've gone camping. This past year we went for two nights. After an experience like that you have to come home and rest for a week, but that's more the girls than the camping! But I enjoy it, I really do.

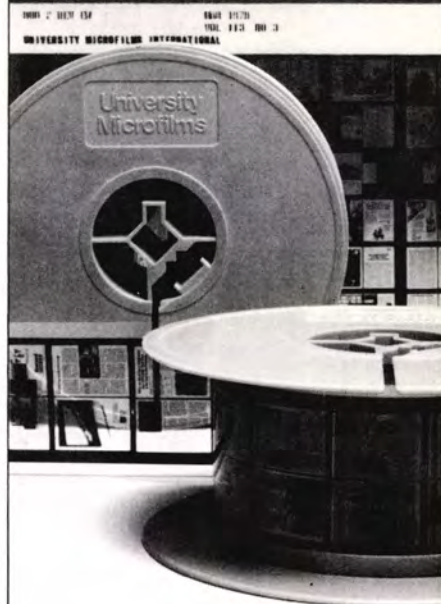
Nature Study: Is there any special message that you'd like to give to handicapped kids about camping?

Gale: Well, I just think that camping is a tremendous experience. Now, if you go to camp and you think, if I don't want to do something, I'll just say my leg hurts or this hurts or that hurts, that's not helping you at all. You have to accept yourself for who you are and you have to have determination. No matter how bad the handicap, there are things that everybody can do, and then you're not the girl with the brace on, you're just like the next person.

Nature Study: Camping, then, becomes a way of having successes . . .

Gale: Yes, I guess you only realize it when you go to a place like camp . . . how normal you really are. □

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In its publications the general public has discovered nature through the writing of some of its leading members such as Liberty Hyde Bailey, Anna Botsford Comstock, and Helen Ross Russell.

In addition, the organization has an enviable record of promoting environmental education in schools. Thousands of teachers have been helped by ANSS workshops and programs.

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