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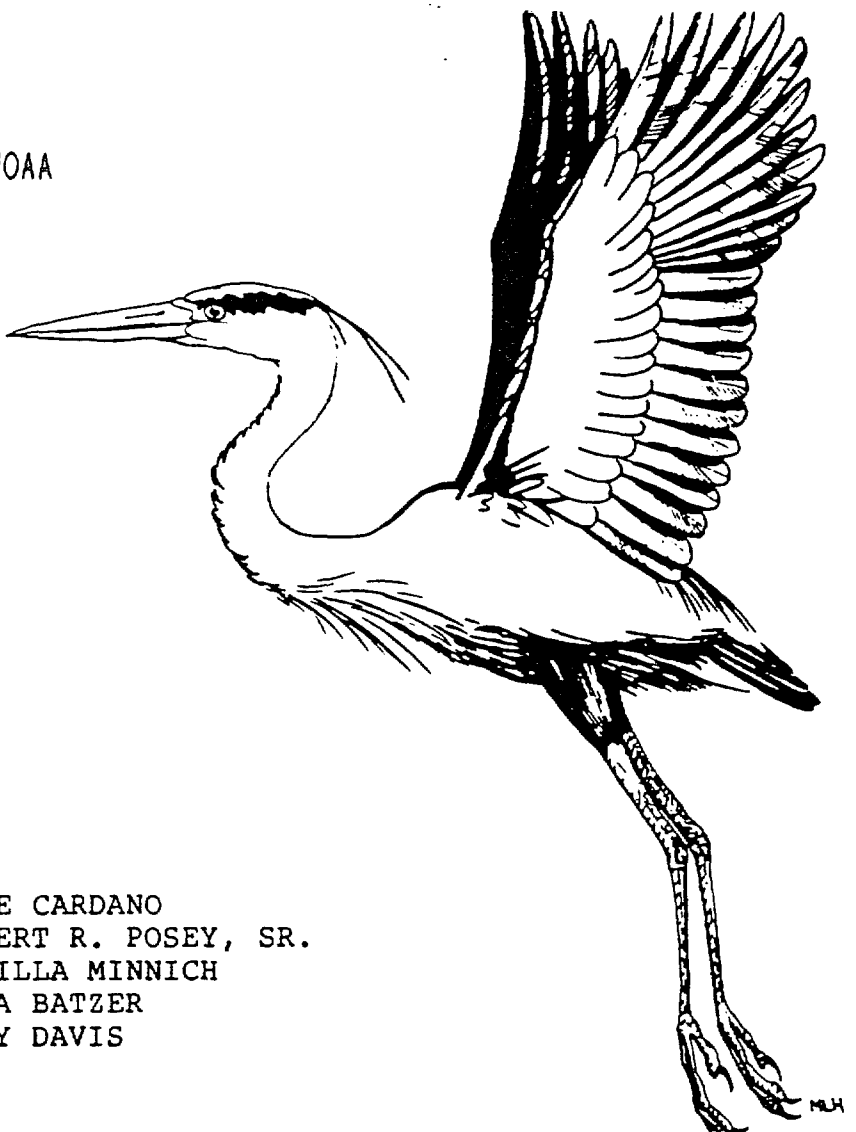

THE GREAT BLUE HERONS OF NANJEMOY, MARYLAND

PREPARED BY: STEVE CARDANO
CALVERT R. POSEY, SR.
PRICILLA MINNICH
PAULA BATZER
KATHY DAVIS

MAR 1990

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NANJEMOY CREEK ENVIRONMENTAL EDUCATION CENTER
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* The Nanjemoy Heron Rookery is located on property owned by The Nature Conservancy. Groups can not enter the Rookery at certain times during the year. All other times groups must make reservations by calling Reserve Manager Mr. Calvert R. Posey, Sr. (301) 743-5079.

ON A PLATFORM OF sticks high in the top of a spruce tree sat a great blue heron. She was the color of the sea at dawn. Beneath her breast lay five large eggs with shells of ancient blue-green, nearly ready to hatch. She ruffled the feathers of her huge wings and drew them closer about her. Spread, her wings spanned a full six feet. Her powerful bill could crush almost any adversary, yet she was uneasy.

Two black forms had been stealthily slipping through the darkness of the spruces, ever closer to the big shaggy nest. Although she kept her eye on the pair of ravens hopping silently from branch to branch, they did not really worry the heron. She could handle them if they came too close. What bothered her was the boat that had crossed the bay and circled her small island several times. A man had beached the boat and was working his way through the trees where the heron nests were.

She could catch an occasional glimpse of the intruder. She was familiar with the human form, but the alien silhouette of the knapsack on his back may have contributed further to the heron's unease. However, she had never had a direct interaction with man, so she was able to sit tight. She held her head high, eyes glaring alertly, head cocked tautly. The crack of dry branches on the ground told her his footsteps were coming near. Carefully she shifted her weight over the eggs. She raised the feathers of her crest, arched her neck, stretched for one more look, and then drew her head and long neck down flat against her back.

Below her the ground was carpeted with spruce needles stained white with the droppings of all the herons which came to this island in Penobscot Bay on the coast of Maine. Here the great blue herons for miles around came to roost at night and to build their nests and raise their young.

The man who was making his way in the shadows of the spruces grimaced at the strong smell of the droppings which whitewashed the rocks and trees. Then he smiled, for he could see the heron and her nest silhouetted above him. He smiled, for he came in peace.

The man shifted the camera he was carrying to his shoulder and began to climb the tree beside the heron's nest. He chose this nest from all the others because it stood at the outer edge of the group of nests in the heronry. He did not wish to disturb the birds.

Slowly, the man pulled himself up from branch to branch. He proceeded cautiously, because many of the branches would not bear his weight. The lower branches had died because the sunlight no longer reached them; nearer the top of the tree the limbs had been killed by heron guano. The spruce was treacherously slippery with the wetness and the growth upon it. Nearly all the branches carried old-man's-beard, a greenish-gray lichen. It hung in wisps from the damp dark limbs; rain that never fell, flourishing in the Maine fogs.

Higher and higher climbed the man, smiling all the while at the heron. He did not see the two black ravens, darker than the shadows around them. He had eyes only for the heron on her nest.

She glared at him and flattened her body over her precious eggs a bit more. Her heart pounded against the shells.

The man inched his way along the last limb that was big enough to bear him and his camera. He sighted through his camera and thought happily about the fine photographs he would have. He loved the bay and admired the great herons he had so often watched feeding in the coves. He was delighted to have discovered the island nesting place of the great blue herons.

Awkwardly he groped behind him for the light meter he carried in his knapsack. His arm brushed a dead branch, breaking it with a loud snap.

The heron could remain frozen no longer. She exploded from the nest and wheeled away into the air in alarm. As the two hungry ravens flashed up to the unprotected nest the man watched in helpless horror. Each raven gave an egg a quick blow with its powerful beak and carried away a dripping shell.

The air rang with the disconsolate-sounding cries of the heron circling above. She could not master her fear to return to her nest.

The photographer realized it was his doing that the coast would know fewer of the wonderful great blue herons this summer. He climbed down through the clawing spruce branches, made his way back to the boat on the beach, and headed out to sea with a heavy heart. The croaking cry of a raven came across the water to mock him.

The heron spread her dusky wings to brake her flight and landed her long legs onto the edge of the plundered nest. She studied the fragments of shell and the smear of albumen that was all that remained of two of her offspring. As she settled herself gently down on the remaining eggs, she heard the first faint peeps from within them. In these eggs still beat the hearts of herons to come, and perhaps she could raise three.

A few months ago, the cold winds of April had blown across the gray waters of the bay, and patches of snow still lay in the shade of the spruces when the herons had come back from the south. Sky-blue hepaticas were blooming promises of spring. Robins were back; noisy flocks of red-winged blackbirds filled bare treetops and boiled up from barren fields. Long lines of Canada geese came honking by in the night.

In the pearly light of dawn the herons had danced together on the mud flat of the cove across from the island. At least it looked like a dance. Groups of herons—loners for most of their lives—stood near one another on the icy flats. As birds approached each other they found themselves rebuffed by mildly hostile signals. A few days later male herons chose a nest site, usually an old nest which over the years may have become quite substantial. Some, chiefly younger birds, had to accept less desirable locations in the treetops on the edge of the circle to build their rickety platforms.

Each male defended his nest vigorously against all comers, even the females. Eventually these bachelors accepted a female, but at the first, theirs was a very tense relationship. Again and again the male would stab at the face of the female, who would draw back her head

Independent
Waldorf, Maryland Wednesday, March 29, 1989 48 pages, 4 sections plu

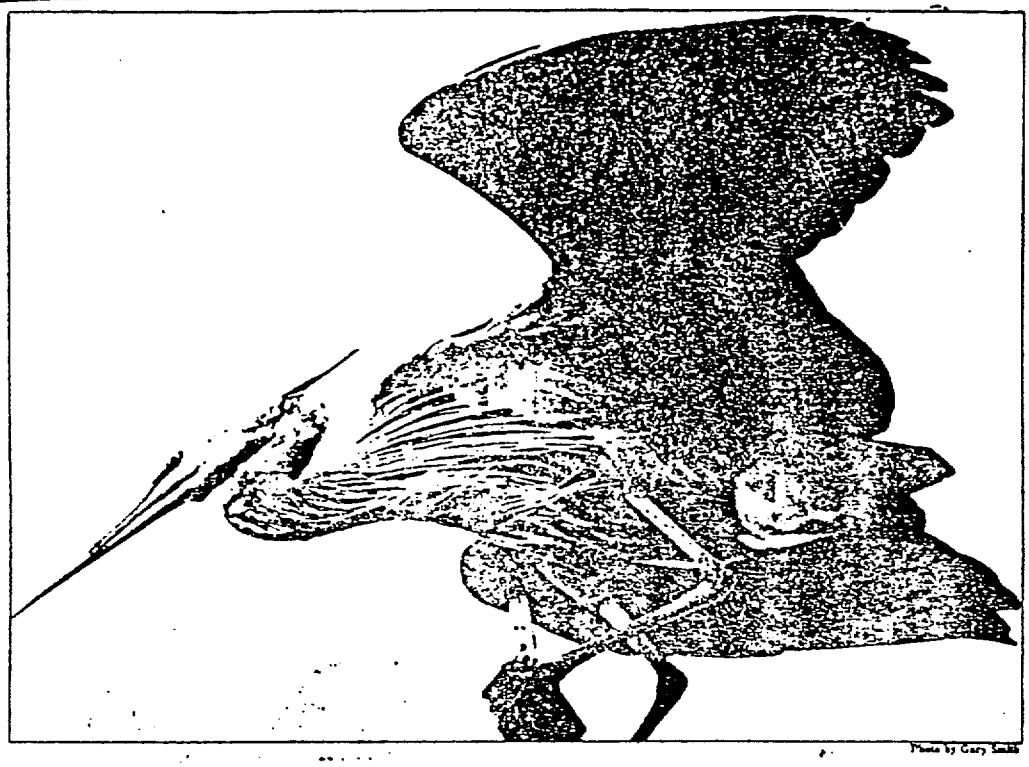


Photo by Gary Smith

A great blue heron spreads its wings from a perch high in a Nanjemoy treetop in the Nature Conservancy rookery, where about 2,000 of the birds come each year to breed and to raise their young.

Herons land amid range controversy

By James Hettinger
Staff Reporter

As they have every year since the mid-1940s, the great blue herons descended on Nanjemoy in February. An estimated 2,000 of the prehistoric-looking birds — with long, bony legs, small bodies and 6-foot wing spans —began arriving around Valentine's Day to nest and mate near Nanjemoy Creek, home of one of the Atlantic Coast's largest heron rookeries.

The birds, according to Nanjemoy resident and rookery manager Calvert Posey, have been going about business-as-usual for the last six weeks: fixing their treetop nests, fanning out to feed on "trash fish" from local waterways, and waiting for their young to hatch in April and begin flying in June.

But this year, when the herons came north to the area they call home from February to July, they landed unknowingly in the middle of a heated debate over a firing range proposed for a site near their rookery.

The St. Charles Sportsman's Club wants to put outdoor shotgun, rifle and pistol and archery ranges about one mile from the rookery, on a 164-acre, heavily wooded site adjacent to several houses in Nanjemoy.

Local residents object to the proposal, fearing it will create bothersome noise, endanger children and animals, and interfere with wetlands on the site — fears the sportsman's club maintains can be allayed by safety and buffering precautions.

Naturalists worry that the herons, skittish birds that can be set to squawking and flurried activity by a single person walking through the woods, may be scared off by gunshot fire.

The 300-member sportsman's club, which was unaware of the rookery when it contracted to buy the land between Route 6 and Adams Willett Road, believes the range won't have a negative impact on the birds, and has vowed not to build if proof surfaces that it will.

The firing range's fate rests with the Charles County Board of Zoning Appeals, which controls the granting of "special exceptions" that allow such facilities in residential zones. The board heard arguments for and against the range in January, then opted to reopen discussion of the herons issue upon realizing how close the rookery is to the proposed firing site. A second, "limited issue" public hearing to discuss only the firing range's potential effect on the great blue herons is scheduled for April 11.

In preparation for the hearing, both sides are researching the herons' possible reaction to gunfire noise. Both admit it is a difficult thing to predict, and emphasize the need for caution.

Whether the firing range will disturb the birds "can't be proved by either side," said Mary Droege, land steward for the Nature Conservancy, a nonprofit environmental organization that owns the 288-acre preserve containing the rookery. "It's ridiculous for us to say that the range shouldn't be there," Droege said, but, "We just don't want to take a chance ... There's a potential that it's going to have

See Herons, A-8

Pterodactyl-like birds call Charles County home

Four feet tall, with enormous wings, spindly legs, sharply curved necks and pointed beaks, great blue herons would not look out of place in a monster movie, or history book dealing with prehistoric times.

The pterodactyl-like creatures also feel right at home in Charles County, where they nest in hundreds of pairs each spring and summer. They are the official county bird.

The great blue heron rookery near Nanjemoy Creek — with 1,400 nests in the tops of beech and poplar trees, spread over a 25-acre area — attracts about 2,000 birds from February to July. It's the largest heron rookery in Maryland, containing approximately 25 percent of the state's breeding population, and is believed to be the East Coast's largest such nesting ground north of Florida.

The birds have been coming to Nanjemoy since the mid-1940s, according to rookery manager and longtime Nanjemoy resident Calvert Posey, who believes he was the first person to notice their presence. Over the years, the colony "has gotten bigger and spread out," Posey said, estimating that the rookery originally contained 150 to 200 nests.

The herons once nested along Mattawoman Swamp, but were driven off by a combination of lumbering and hunters. They relocated to Nanjemoy, Posey said, because of the site's isolated nature and proximity to feeding areas in the Potomac River and several creeks. The Nanjemoy rookery was threatened by development in the late-1970s, but saved when the Nature Conservancy, a private environmental organization seeking to protect ecologically important areas, purchased the surrounding 288-acre preserve.

Though great blue herons are not particularly rare — and are actually quite plentiful in the

See Home, A-8

Herons

Cont'd from A-1

a detrimental effect on the herons, and that's what we're concerned about."

The sportsman's club, meanwhile, doesn't think its range will have "that much of a detrimental effect on the wildlife" or create "any real problem," according to publicity director Danny Mitchell. He noted, though, that the club will defer to the opinion of environmental experts, and find another location if the Nanjemoy site is judged unsuitable. "We're conservationists first," Mitchell said. "We definitely are not going to move down there and infringe on the birds in any way."

Droege suggested an "acceptable compromise" might be for the club to keep the range closed from Feb. 1 to May 15, the time the birds are "most vulnerable to noise" because of mating, incubating and early birdhood activities. Young birds, Droege noted in a Feb. 13 letter to the zoning board, "will jump out of their nest to their death if agitated or startled."

The club has requested a seven-day-per-week, dawn-to-dusk operating schedule to accommodate members who work odd days and hours. Club attorney Stephen Braun told the zoning board Jan. 24 that the sportsman's group has "limited resources" and "can't compromise on days or hours."

Mitchell expects the range to be used for an average of five to 10 hours a week, with most activity taking place on weekends, and the busiest times being several weekends of organized shoots and marksmanship programs. The club plans a maximum of 15 firing points, and anticipates no more than 50 people shooting throughout a weekend, Mitchell said.

Asserting that "wildlife are adaptable," Mitchell said deer wander along trails near the sportsman's club's present firing range on Piney Church Road in Waldorf. Great blue herons are not an endangered species that has failed to adjust to human activity, and might be able to forge a similar co-existence with the Nanjemoy firing range, he added.

Posey is not so sure. "Who knows how they're going to react?" he asked, maintaining that the heron colony now in Nanjemoy once nested near Mattawoman Swamp, but left after the area became popular with hunters. Herons have "survived" some instances of noise intrusion, but have been unable to adjust to others, according to Chandler Robbins, a wildlife biologist with the U.S. Fish and Wildlife Service.

Firing range supporters point out that the Nanjemoy herons currently live with noise from the Indian Head, Dahlgren and Quantico military bases a few miles away, as well as a sportsman's club that hunts on property adjacent to the rookery.

But the 25-member Buckhorn Bow and Gun Club that has leased property near the rookery since 1981, mainly for hunting and cookouts, does not shoot there from February to September, according to founder Blake Yoder.

And though the noise generated by the military bases is "quite a boom," it's "a different kind of boom than you would get from firearms," Posey said. The sharp crack of gunfire, he noted, might have a more detrimental effect on the herons.

Firing range detractors say the location of the range is optional, while the location of the rookery is not. Mitchell countered that the St. Charles Sportsman's Club, which seeks to leave the Waldorf location it leases because of the coming expansion of St. Charles, has been actively searching for a new space for two years, and has discovered that affordable, remote locations are hard to come by. The club, he said, "is not basically a bottomless pit as far as money goes," but is competing with wealthy developers in its search for land.

So the questions of how to satisfy both the sportsman's club and local environmentalists, and how best to protect a unique nesting ground, remain unresolved, with some expert opinions expected to be voiced at the April 11 zoning board hearing.

The great blue heron rookery "is something special on the whole East Coast," and "one of our prize possessions in Charles County," said Posey. "I don't want something to come in and destroy it."

The sportsman's club has no intention of doing that, Mitchell said, noting his organization "wants to preserve wildlife" and shares the "same basic intentions" as the environmentalists. The two groups have the same goal in sight, Mitchell added, and "just have to get there together."

Home

Cont'd from A-1

Chesapeake Bay region — the Nanjemoy rookery is significant because it represents "such a concentration of nesting herons ... It's so important to so many birds," according to Mary Droege, a land steward with the Nature Conservancy.

Pairs of herons come north to mate, fittingly, around Valentine's Day each year. Posey believes they determine the time of their arrival, and arrive so consistently within a few days of the sweethearts' holiday, by observing the lengthening days rather than temperature changes.

Upon arrival, the herons fix their large treetop nests, which measure up to 3 feet in width, with new sticks and twigs. After a noisy mating period during which they fluff their plume feathers and vibrate their wings, the birds settle down to hatch three to five eggs per nest. Young birds begin appearing in April, and start flying 10 to 12 weeks later, Posey said. Many young herons, he added, leave the nest too soon, and die as they attempt to reach a feeding area.

Herons "will nest close together, but they spread out over a large area to feed," Posey said. It is not uncommon to see several heron nests packed within a single tree, but when it comes to feeding, each pair likes to have its own a quarter mile of waterway, he explained.

Eating such non-commercial fish as white perch and young menhaden, which they catch by wading into streams and plucking from the water with their long beaks, herons feed over a 20-mile radius from the Nanjemoy rookery, Posey said. Young birds, who must stay in the nest in order to receive food, are fed by their parents, who regurgitate directly into their mouths, Posey added.

When the herons leave Nanjemoy in July, they spread out over the whole East Coast, Posey said. Those that go north initially head south when the weather turns cold, before returning to Nanjemoy the following February, he added.

The herons are notoriously skittish creatures who are particularly sensitive to people walking beneath their nests, Posey said. Access to the Nature Conservancy rookery is limited to field trips between mid-May and mid-June.

The birds, whose bodies are smaller than an average chicken's, look awkward standing in their nests, but extremely graceful when flying. Their 6-foot wingspans enable them to climb through the air while moving their wings slowly, with little apparent effort.

Great blue herons are actually more gray than blue, while their blue European counterparts, for reasons unknown to Posey, have been labeled great gray herons.

Though the size of the rookery has increased each year, Posey expects it to begin slowing as a "saturation point for the feeding area" is reached. He noted the rookery location is gradually shifting as nitrate from bird droppings kills trees housing heron nests.

—James Hettinger

10 years ago

Blue herons get winter home courtesy of commissioner

by Nina Veshi
Community Editor

Thanks to the generosity of a former county commissioner and a land developer 10 years ago, great blue herons will always have a winter home in Nanjemoy.

According to the Jan. 3, 1979, issue of the *Maryland Independent*, great blue herons were to come soaring back to Nanjemoy Creek in early February.

Little did they know that their winter home was almost irretrievably lost and that it was saved over the past year by an "amazing" local and national mobilization of efforts.

The final link in the chain of events which saved the nesting site occurred with the donation of 50 acres owned by Eleanor Carrico, Charles County commissioner. Carrico had earlier sold an additional 15 acres at a price much less than its market value. That land, along with 184 acres owned by developer Ashburton Investment Corp., was bought with $135,000 raised over the last year.

The fund-raising effort was coordinated by a committee headed by Charles countian Dr. Belva Jensen. The mobilization began with the 1977 discovery by Buddy Weems and Brad Dorf, of the Maryland Wildlife Administration, of a 750-nest great blue heron rookery at the headwaters of Nanjemoy Creek.

Reflections of yesteryear

25 years ago

Ground broken for church

Ground was broken last Sunday afternoon (Dec. 29) for the new Sacred Heart Roman Catholic Church in La Plata.

On the drawing board for the last three years, the new building, which will cost an estimated $369,000, will be located on a two-acre site next to the present Sacred Heart Rectory on St. Mary's Avenue.

The new church, which will contain 10,900 square feet, with another 5,400 square feet in a basement parish hall, will have a capacity of 600, almost double that of the present church.

The new building should be ready for occupancy by the Christmas of 1964, the pastor, the Rev. William J. Michelman, S.J., reports.

Holiday babies born

A future member of the ladies auxiliary of the La Plata Volunteer Fire Department was born at 7:45 p.m. Dec. 23 to Chief and Mrs. John Matthews at Physicians Memorial Hospital.

The little girl, their first child, weighed in a 6 pounds and 11¼ ounces and will be named Mary Agnes.

Christmas babies were born Christmas Day (Dec. 25) to Mr. and Mrs. Charles Makie of Waldorf, a daughter, and Mr. and Mrs. Paul Harris of Indian Head, a son, at the La Plata hospital that serves all of Charles County.

Dances benefit teens

Firemen of the Waldorf Volunteer Fire Department have taken on a project designed to give the youngsters of the Waldorf area a good time and earn some funds for the fire department by sponsoring a Teen Hop every other Friday evening in the Waldorf Fire House.

Co-chairmen for the successful program, which has drawn crowds averaging around 120 teenagers, are Joe Viering and Wayne Hamilton.

20 years ago

Two in inaugural ceremonies

Both Steve Polen and his brother, Paul, will participate in the presidential inauguration ceremonies. Steve, an Army OCS junior candidate at Ft. Belvoir, will be in the Presidential Honor Guard contingent which will lead the parade and also render the 21-gun salute as President Nixon enters the White House.

Paul, a member of Explorers Post 34, an Eagle Scout and a member of the Knights of Dunamuis, will be one of 40 Scouts who will form the Presidential Honor Guard around the president's box during the inauguration. Only Eagle Scouts participate in the ceremony. Following the inauguration, both will act as hosts at the Inaugural Ball.

Marbury honors firefighters

Lt. Tim Cox and Financial Secretary Dick Arbogast of the Marbury Volunteer Fire Department were among those receiving special awards at the annual banquet held at the 301 Restaurant. Tim received his trophy for being the Outstanding Fireman of the Year. Dick received a trophy for 15 years being the fireman who made the most calls — more than 175.

Outstanding teen-ager named

Phyllis Chesley, daughter of Mr. and Mrs. Francis W. Chesley of Marshall's Corner, was recently selected to be an "Outstanding Teen-ager of Amerida" for 1969.

Teen-agers of Amerida" for 1969.

Phyllis is a senior representing Archbishop Neale High. Phyllis is active locally in competition for the state title. From the state contestants, two are chosen as national winners.

First babies in 1979

Earlier this year Kelly Lynn Brooks was the first baby to arrive at Southern Maryland Hospital Center on Surratt Road in 1979. Kelly was born at 9:47 a.m. New Year's Day and weighed 8 pounds, 13 ounces. She was slightly more than 22 inches tall. Her dad is a Washington D.C. fireman and her mother, Gloria, worked for Fargas in Waldorf. They live in St. Charles.

Charles County's first baby of 1979 was a son born to Edna Hawkins of La Plata on Monday (New Year's Day) at 2:13 p.m. at Physicians Memorial Hospital. The mother, who has been a nurse's aide for the past 10 years at PMH, hasn't decided on a name.

10 years ago

Teacher group agrees to 5 percent raise

Charles County teachers will get a 5 percent raise next year if a proposed negotiated agreement is ratified by the Educational Association of Charles County and the board of education.

After some give and take on the part of both parties, the EACC and the board negotiating teams reached an agreement Dec. 20 on salaries, fringe benefits and working conditions for fiscal 1980. The next step is to take a vote among EACC members, and then if approved, present it to the board of education.

A salary increase of 5 percent and some fringe benefits were among the items agreed to during the negotiations. If approved, the new salaries and other provisions in the agreement will be effective for the 1980 fiscal year beginning July 1.

GREAT BLUE HERONS: SURVIVING IN SPITE OF CIVILIZATION

By Amy Worden
Washington Post Staff Writer

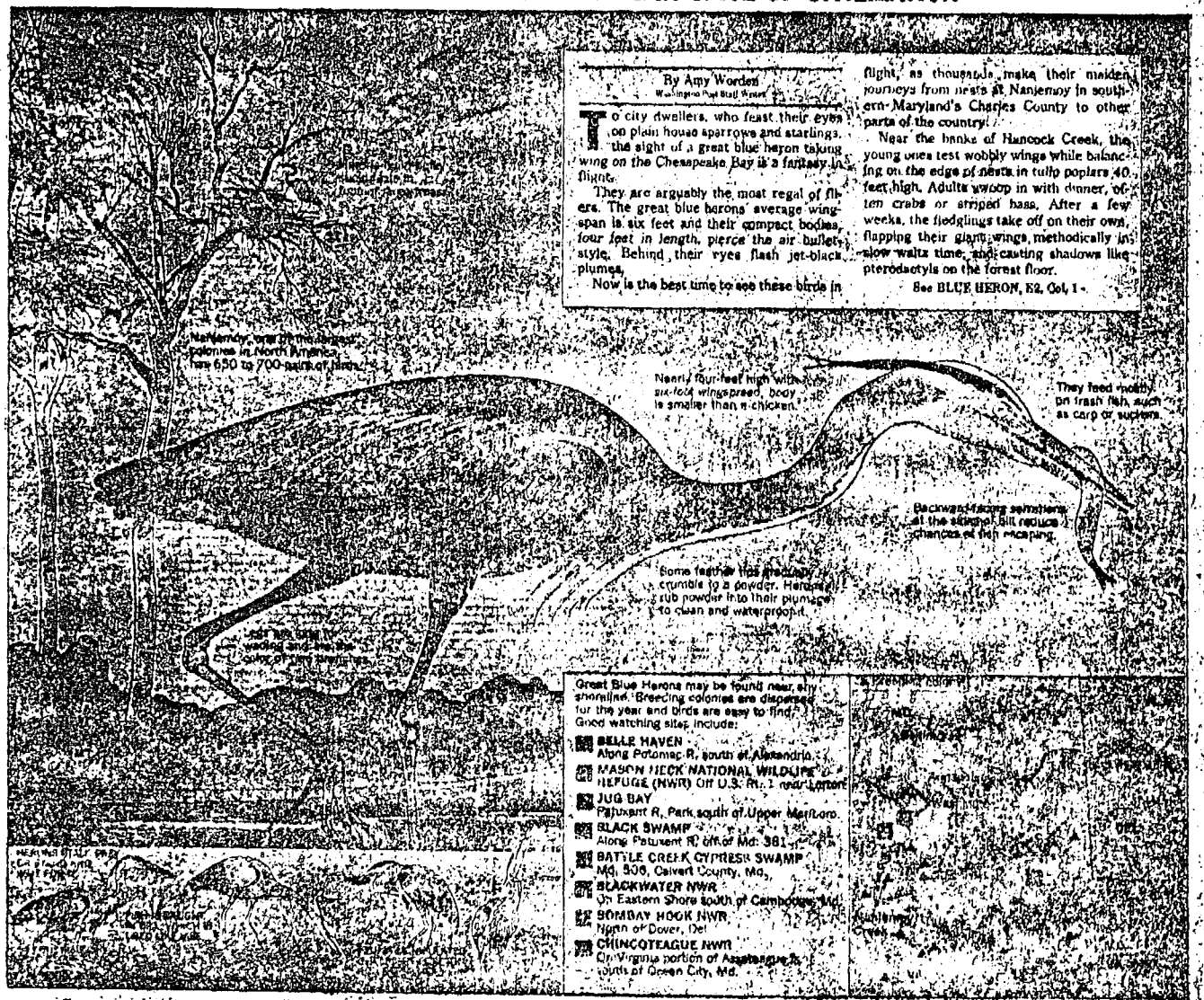
To city dwellers, who feast their eyes on plain house sparrows and starlings, the sight of a great blue heron taking wing on the Chesapeake Bay is a fantasy in flight.

They are arguably the most regal of fliers. The great blue herons' average wingspan is six feet and their compact bodies, four feet in length, pierce the air bullet-style. Behind their eyes flash jet-black plumes.

Now is the best time to see these birds in flight, as thousands make their maiden journeys from nests at Nanjemoy in southern Maryland's Charles County to other parts of the country.

Near the banks of Hancock Creek, the young ones test wobbly wings while balancing on the edge of nests in tulip poplars 40 feet high. Adults swoop in with dinner, often crabs or striped bass. After a few weeks, the fledglings take off on their own, flapping their giant wings methodically in slow waltz time, and casting shadows like pterodactyls on the forest floor.

See BLUE HERON, E2, Col. 1



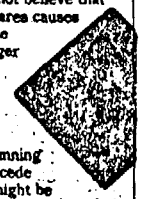
BY JOHNSTONE DUPUIS—THE WASHINGTON POST

DR. GRIDLOCK

Pickup Spot

In the Dr. Gridlock column July 24, a driver complained about the District's new policy to fine people who stop on 14th Street near the Washington Monument to pick up Virginia-bound riders so they can use the express lanes of I-395. This had been a longstanding and popular commuter practice. The penalty for stopping now is $35. In response to the complaint, Chief District Traffic Engineer George Schoene said the city is considering two alternative locations to the 14th Street site: one on 10th Street between Pennsylvania and Constitution avenues NW and a second in the 1400 block of Madison Drive between 14th and 15th streets.

Schoene asked readers for comments and suggestions. Some of those, which also were sent to Dr. Gridlock, follow:



Dear Mr. Schoene:

While I do not believe that the pickup area causes anywhere near the disruption or danger caused by cars blocking the intersection of 14th [Street] and Constitution [Avenue] or by running the lights, I'll concede that traffic flow might be improved by moving the pickup area.

Of the two . . . locations, the most logical and convenient would be the 1400 block of Madison Drive. This would allow drivers to continue to use the 14th Street corridor and to take advantage of the left turn allowed at 15th Street. Traffic is less heavy on Madison Drive and the distance the riders would have to walk to be picked up is similar to the current distance.

The other . . . location is far less convenient because that block is often filled with [Metro and tourist] buses. The only easy

See GRIDLOCK, E2, Col. 3

Regal Blue Heron Kingdom Manifests, Survives on Bay

BLUE HERON, From E1

The kingdom of the heron spans nearly the entire coastal United States, but the Chesapeake Bay region is home to a huge population; at last count, Maryland reported 27 colonies and Virginia, 34, for a total of more than 7,000 heron pairs.

Nanjemoy is considered the largest rookery, or breeding site, on the East Coast north of Florida. Female herons choose mates each February and stay with them until the breeding season ends in July.

Because the herons are colonial birds that dwell in trees "apartment style," one catastrophe could cause extensive damage to the whole colony. "A single event, man-made or natural, in the Nanjemoy rookery would wipe out one-third of the [Maryland] population," said Glenn Therres of the Maryland Department of Natural Resources. "That's why we're starting to pay more attention to these critters."

The 288 acres that make up the Nanjemoy preserve were bought by the Nature Conservancy, a private conservation group, 10 years ago after the area was threatened by logging interests. As the first project of its Maryland chapter, the conservancy drummed up area support through the "Save a Nest Program," which became the "spark that got the conservancy going in the state," said Wayne Klockner, assistant director for the Maryland/Delaware Field Office.

Years ago, heron plumes were high-priced crowns for ladies' hats. After heron hunting was outlawed in the United States in 1918, the depleted population quickly rebounded.

Still, there are modern-day threats to the nesting environment such as logging, development and pollution, as well as nature's own logger, the beaver.

Nowhere near endangered, in fact, downright common, the great blue heron can be spotted on virtually any shoreline of the bay area waterways.

Erika Wilson, a biologist and Audubon Society naturalist, cites the size and productivity of the bay as reasons behind this population boom.

"The Chesapeake Bay is one of the largest estuaries in North America. And the general improvement in air and water quality has helped the food supply," she said.

Since heron hunting was outlawed, the biggest problem confronting the creatures is the loss of nesting habitat, Therres says. "The nature of their breeding habits is that they concentrate in small areas, versus rob-

Maryland is doing more than paying polite attention to the birds.

This summer, the Chesapeake Bay Critical Areas Law takes effect. The statute will provide protection for the herons and Maryland's endangered species by regulating timbering, industry expansion, and development in the bay region.

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In July, the rookery is nearly abandoned. Empty nests and skeletons of ill-fated baby birds that toppled from their nests mark the breeding site.

There are a few latecomers though, pairs of birds who arrived after the great influx of mid-February and are still raising their young. And there is Cal Posey.

It was Posey who made sure that the herons would have a place to which to return. He approached the Nature Conservancy with the idea that Nanjemoy was an ecologically valuable site worth preserving. Now he's the site manager for the rookery.

"I keep watch," he said, "and see that the herons aren't disturbed."

Posey, 63, has been watching the Nanjemoy herons since the mid-1940s after a nearby swamp where they were nesting became a pig farm and the birds moved en masse to the site at Nanjemoy. Every year since then, the herons have returned.

When exactly they appear is still a mystery. Although Posey can predict almost to the day when the herons will arrive, he has never actually seen them fly in.

"It's usually around Valentine's Day. One day there's nothing, and then they're everywhere. It's an explosion of birds.

"Since 1980, the population has doubled," he said. "This year there are 1,400 nests."

Posey is a firm believer in the conservancy's philosophy of hands-off preservation. Often this means ignoring hundreds of baby herons that, after falling from the nest, are abandoned by their parents and face certain death. Posey recognizes this as "part of the natural order."

One time, however, a member of a group field trip he was leading prevailed upon him to save a crippled heron. So he fed it and nursed it through the winter.

"This bird used to sit on the porch steps and wait for me to come home," Posey said. Normally herons are spooked by humans cracking twigs 40 feet below.

By spring, the wing had healed and the heron set sail for distant shores. Or so Posey thought.

"Every now and then there's a familiar honk on the road," he said. "I think it's the heron coming by to say hello."

DR. GRIDLOCK

Favorite Pickup Spot for Va.-Bou

GRIDLOCK, From E1

access to the express lane would be through the Ninth Street tunnel and that is farther out of the way for the drivers, as is 10th Street.

Whichever location is chosen, I would hope for fair warning. Having the D.C. police ticket drivers now with no alternative . . . is precipitous and unfair.

DAVID G. PAYNTER
Springfield

Dear Mr. Schoene:

I urge you to help commuters like myself keep the system that serves us and the city so well. At present, I can get home in 35 minutes. Should the car pool be abolished, I would have to take a bus and the Metro at a cost of about $1,000 a year ($4.20 [per] day; $21 [per] week). For a single parent like myself, this represents a considerable savings of time and money.

I would prefer the new location at 10th and Pennsylvania. However, I would also like to go on the record as saying I would go almost anywhere in the 14th Street area to pick up the car pool.

I hope you will be able to help the hundreds of people like myself who rely on this fast, convenient and cheap transportation daily.

DONA DE SANCTIS
Springfield

Dear Mr. Schoene:

I have been a rider and a driver for the past five years and if, in fact, the situation has been thoroughly researched by an intelligent individual or team, it would be immediately clear that the brief stops [to pick up riders] don't begin to compare to the length of time the Metrobuses stop.

Isn't that what is really the problem here? Isn't it that Metro is complaining about all that lost revenue? Why does everyone in Washington refuse to see the benefit to the District, in terms of thousands [fewer] autos coming into the already nightmarish road system? A drive anywhere from the 14th Street bridge to K Street, the Capitol to the River, is nothing but one big obstacle course of blocked lanes and busted asphalt.

But back to the 14th Street/Constitution Avenue pickup spot . . . . The alternates suggested will not work because the drivers will have to go through so many more turns and hassles to get over to them and back [to] the express lanes that they won't have saved themselves any time. Who is this supposed to help?

All it would take is a change in the sign at that particular spot to read Car-Pool Pickup, One Minute [or 30-second] Limit. As long as right turns are allowed onto Constitution Avenue at 14th Street, the present pickup spot doesn't hurt anyone but it helps thousands.

ALICE M. TAYLOR
Springfield

Dear Mr. Schoene:

I understand the "No Standing" provisions on 14th Street NW, for I continually become frustrated when encountering drivers sitting and waiting for a passenger.

[But] I have great difficulty with the "No Stopping" provision. To me, it is a minor inconvenience in trade for fewer automobiles funneling in and out of the city . . . a compromise I am willing to make, just as I make the compromises necessary to be in a car pool.

Since the river and the bridges are in your jurisdiction, it seems that moving fewer cars over the upstream and downstream spans would be a fair trade for allowing "stopping" but not "standing." I believe a distinction may be drawn between "stopping" and "standing," and most jurisdictions apparently agree or the signs would not read as they do.

Moving from the rational to the emotional, it just plain [angers me] that a cab or bus can stop at the curb to pick up a waiting passenger and I cannot. Just how am I supposed to get to 10th Street, which is hardly on the way to anywhere? Madison Drive?

Look, it would be nice if you didn't have to put up with non-District traffic and the rest of the District's services didn't have to provide support to nonresidents. I'm certain it would be just as nice if Virginia didn't have Maryland traffic and vice versa. Unfortunately, that's the way it is.

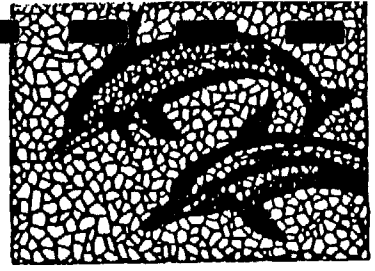
Cut me a break . . . fine me if I stand out, but for crying out loud, allow me to pick up a waiting passenger at the curb.

DAVID M. CROYLE
Manassas

Sir:

I am writing to . . . support the location of 1400 Madison Dr. as the pickup spot for the Springfield Underground. This location is more agreeable to the majority of riders, I suspect, because it is closer to the 14th Street spot we are used to. Also, it is more a central location than the 10th Street location because many of us walk over from the Northwest area around 18th and K.

The Madison Drive spot was used for a few days earlier, but without any enforcement, drivers continued to stop at the 14th and Constitution spot whenever they saw riders they recognized, and vice versa. Then those

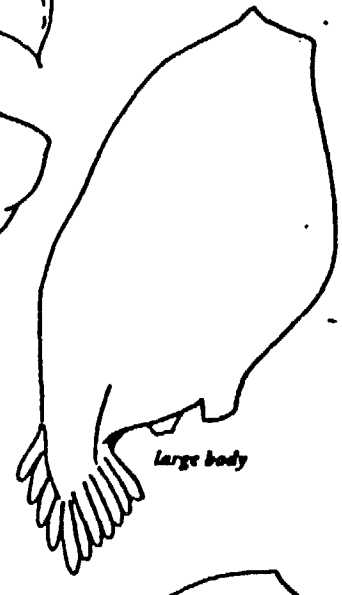


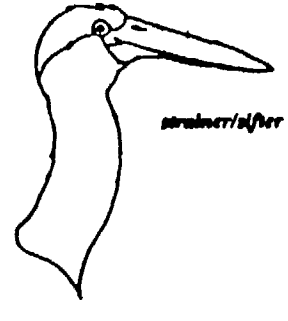
THE FIRST EDEN

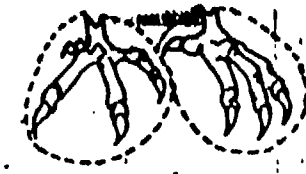
The Mediterranean World and Man

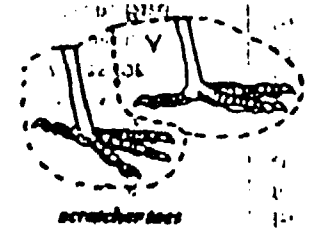
Program 1

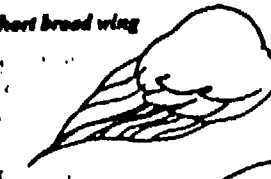
Student Handout 6

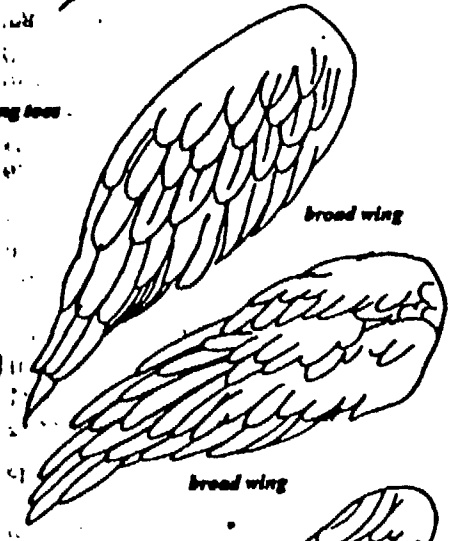


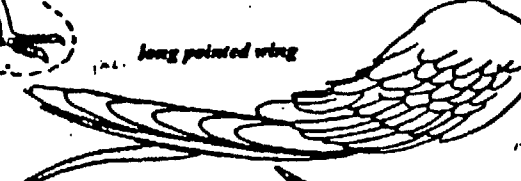


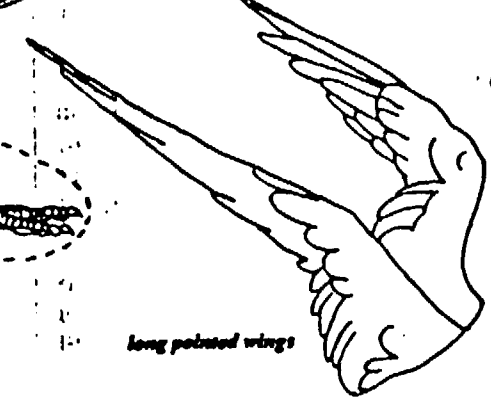


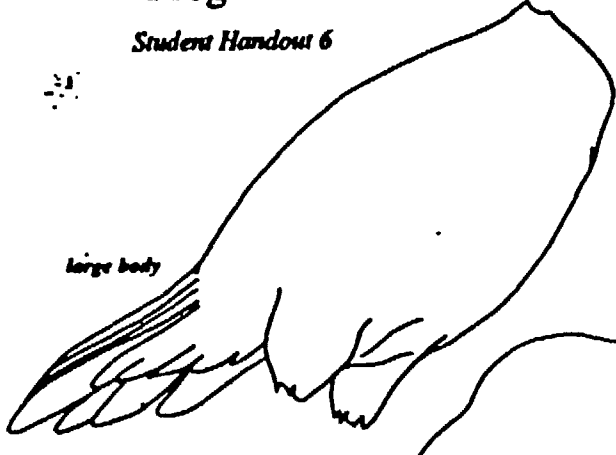


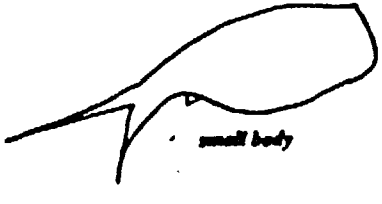












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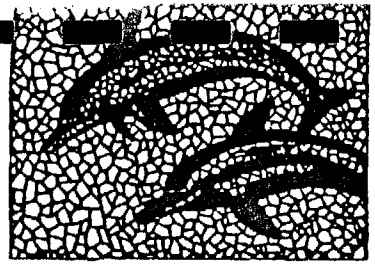

THE FIRST EDEN

The Mediterranean World and Man

Program 1

Student Handout 5

Birds are some of the most beautiful and entrancing creatures to study. The Mediterranean is a rich laboratory where it is easy to study the relationships between birds and weather, soil, water, insects, mammals and humans. Birds are a class of vertebrates called Aves, which are believed to have evolved from small dinosaur-like reptiles.

The characteristic that separates birds from all other animals is feathers. Both our fingernails and birds' feathers are made of keratin. This hard, lightweight material forms two kinds of feathers: the down feathers, which insulate the animal, and the stiff but flexible contour feathers, which are necessary for flight. Many birds, like the bee-eater, grow a magnificent display of colorful feathers.

To fly efficiently a bird should have bones that are strong yet light. Most bird bones are hollow or partially hollow, with braces of thin bone for support and strength. A sturdy, lightweight frame is strong enough to support large flight muscles and yet is light enough for the bird to get off the ground.

Birds' large eyes help give them the best vision in the animal world (in some instances up to ten times better than human eyes). Some can see color and focus on objects near and far; others concentrate low levels of light for night vision. Since their eyes are almost fixed in their sockets, birds must turn or twist their heads to see in different directions. To judge the distance of a fleeing mouse, some birds—owls and hawks, for example—have eyes in the front of their heads, giving them stereoscopic vision.

Birds have special balloon-like structures called air sacs attached to their lungs. These store additional air to help burn food for energy. Birds require lots of energy for flight and, being warm-blooded, for keeping their body temperature constant. Air sacs aid thermoregulation (body temperature control) and, in swimming birds, help the bird float.

But it is a bird's beak, wings and feet that tell us the most about its environment. In their varied shapes and sizes, beaks tell us what a bird eats and how it gets its food. Thick, heavy beaks are adapted to crunching seeds, while thin, narrow beaks are designed to snap up insects or puncture fruit. Eagles' hooked beaks are designed to tear the flesh of small animals, while flamingos' beaks are curved and contain filter plates through which they strain mud for food.

A bird's wings indicate the type of flight to which it is adapted. The bee-eater has short wings to make the quick turns needed to capture bees, while the stork has long, broad wings for soaring long distances. Fast flyers have long or narrow wings.

Even birds' toes are specially shaped and arranged to do different tasks. Eagles have strong, grasping toes for catching and holding small animals. A warbler's toes help it grip a perch. Birds can be classified into climbers, graspers, perchers, runners, scratchers and swimmers by their toes.

BUILD A BIRD

Hypothesis: If a bird is living and flying in a certain environment, then it will be physically adapted to be successful in that environment.

Materials: colored pens or crayons, pencil, paper, scissors, tape or paste.

Procedure:

1. Read the fictional descriptions below. Choose one of them to build. Cut out the beaks, feet, bodies and wings on the worksheet and tape or paste them onto a blank sheet of paper to form what you think the imaginary bird would look like. Or you may choose to trace bird parts from the worksheet onto a blank sheet of paper, fitting the parts together into a composite.

2. Color your bird to be consistent with the environment described. Keep in mind that male birds are generally more brightly colored than female birds.

3. After building your bird, share the results with a partner. Explain why you selected the beak, feet and wings you did. Base your explanation on the feeding and flying needs of your bird.

DESCRIPTIONS OF BIRDS TO BE BUILT:

1. The Leathertongued Apivore:
A compact bird that flies long distances from its breeding ground in Germany to feed on insects on Mediterranean shores. Perching on tree limbs, it waits for African killer bees to fly by.

2. The Great Spotted Moonling:
This aquatic bird strains tiny shrimp from the sand along the edge of the Mediterranean. This long-legged bird spends most of its time flying to and from its other home in South Africa.

3. The Lesser Roderian:
This carnivorous bird lives in the stubby trees on western Mediterranean shores. Feeding on mice, rats and frogs, this large bird soars in the thermals rising from the baking summer hillsides.

4. The Spanish Rockwren:
This small, seed-eating bird, commonly known as the "nofly," runs across flat rocks and over the ground unless forced to fly. Its body is capable of flying only short distances. Its heavy leg muscles make good eating for its enemies.

5. The Norway Rapido:
This small bird can fly at speeds of over 100 mph. Maneuverable enough to catch insects at high speeds, it feeds year-round at the western edge of the Mediterranean Sea. As it perches on the high cliffs, its keen eyes can detect insects in flight.

6. Your original creation:
Use what you learned in this handout to write a bird description from your own imagination. Keep food and flight requirements in mind while writing your description. Examples of imaginary birds might include The Lunchbox Horrifico or The Spitting Wormicide. Or think of your own bird name and Build a Bird!

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Title-Fill the Bill
Adapted from "Birds,Birds,Birds", p.29 + 37

Name _____

Grade/Period _____

Date _____

Purpose- To investigate the advantages/ disadvantages of bird bill shape for gathering a variety of bird food.

Materials-3 eyedroppers 3 fish nets rice stemmed cherries
4 pairs of chopsticks 3 tweezers puffed rice test tube
3 pliers 3 tongs 2 lg. containers, culture dish
2 lg. spoons small log grapes(or fake worms) walnuts
3 strainers popcorn oatmeal styrofoam chunks
1 fill the bill worksheet real bird heads string

Procedure-1.Rotate through the 8 stations and attempt to "feed" at each bird food station and record your success in the chart below.
2.Look at the real bird beaks and hypothesize their possible food and their adaptation to get that food.

Data/Observations-

1. Station# Food Type	"Best Beak"	Why it is the best.
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		

2.List the bird beaks, their possible food and the adaptation to its function.

1.

2.

3.

3.Complete the attached fill the bill worksheet.

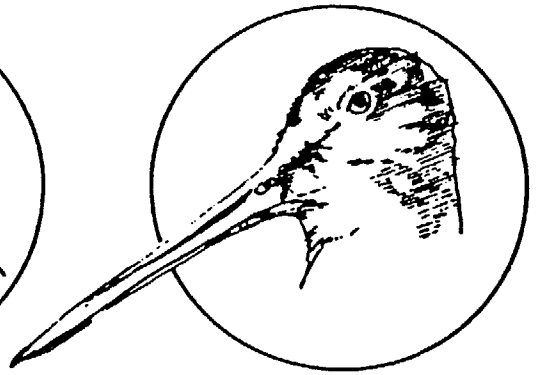
Summary- How are bird's beaks adapted to specific food types?

COPYCAT PAGE

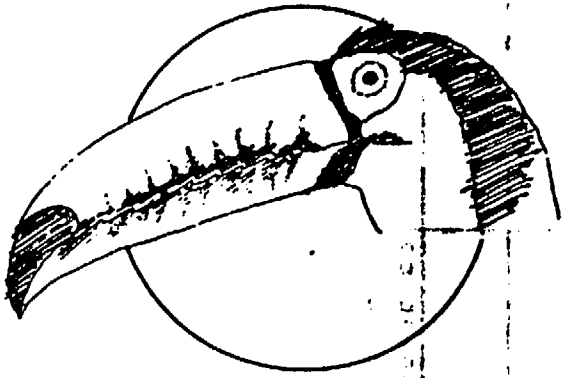
FILL THE BILL

1 NECTAR	2 WORMS IN THE MUD	3 SEEDS	4 FISH AND OTHER WATER ANIMALS
5 TINY WATER PLANTS AND WATER ANIMALS	6 FLYING INSECTS	7 CATERPILLARS AND OTHER INSECTS	8 FRUIT

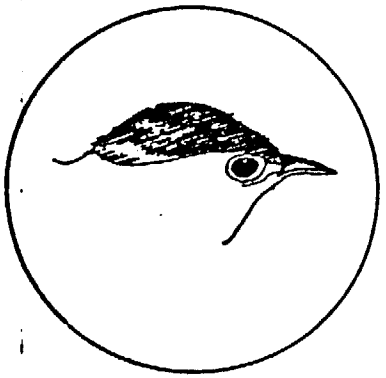
WHIP-POOR-WILL _____



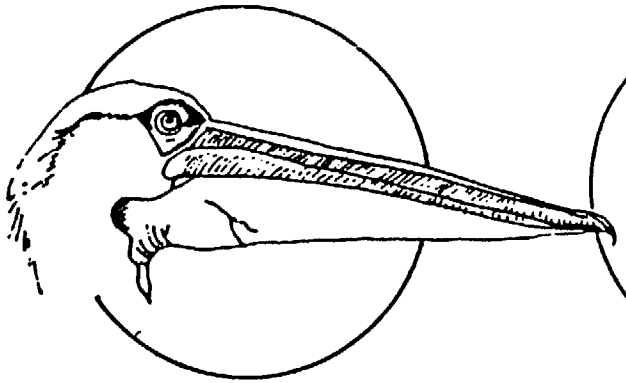
SNIPE _____



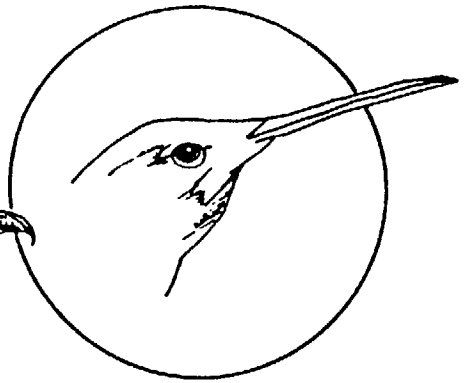
TOUCAN _____



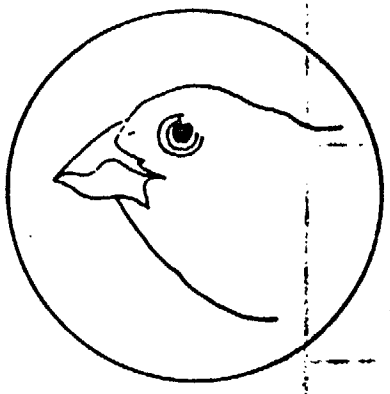
WARBLER _____



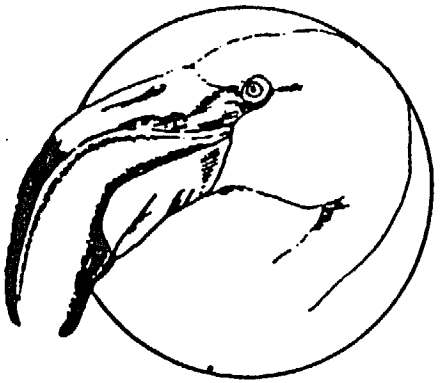
PELICAN _____



HUMMINGBIRD _____



GROSBEAK _____



FLAMINGO _____

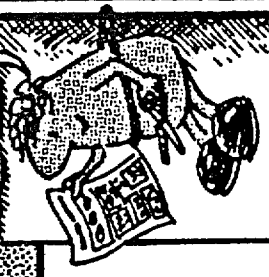
NAME: CLASS:

Animal Survival ( )

ADAPT-A-BIRD

Cut and tape a bird into each habitat.

Cut out body parts that will help each bird survive in its environment.



Explain why you choose certain body parts.

WATER ENVIRONMENT

DENSE FOREST

OPEN SPACES

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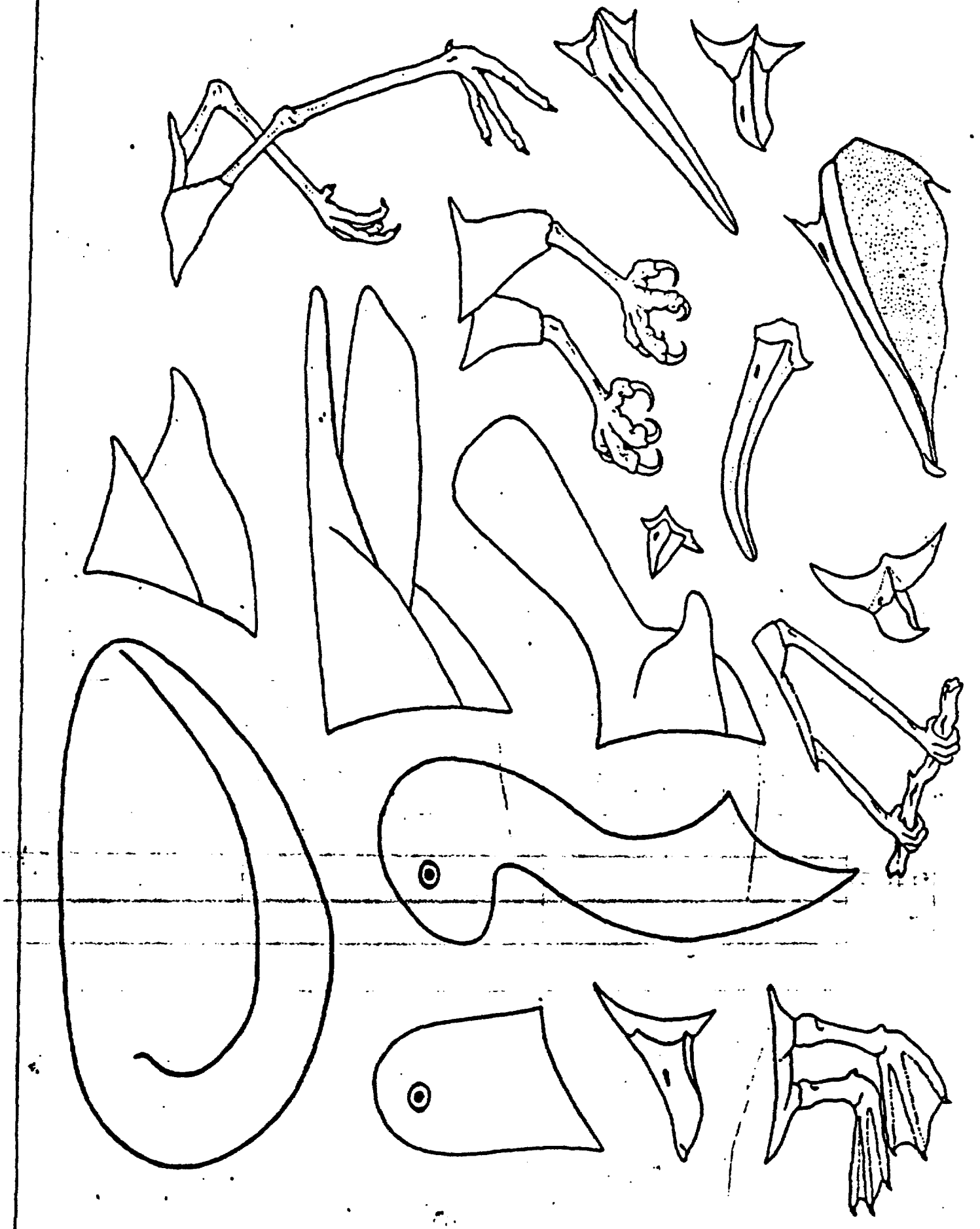
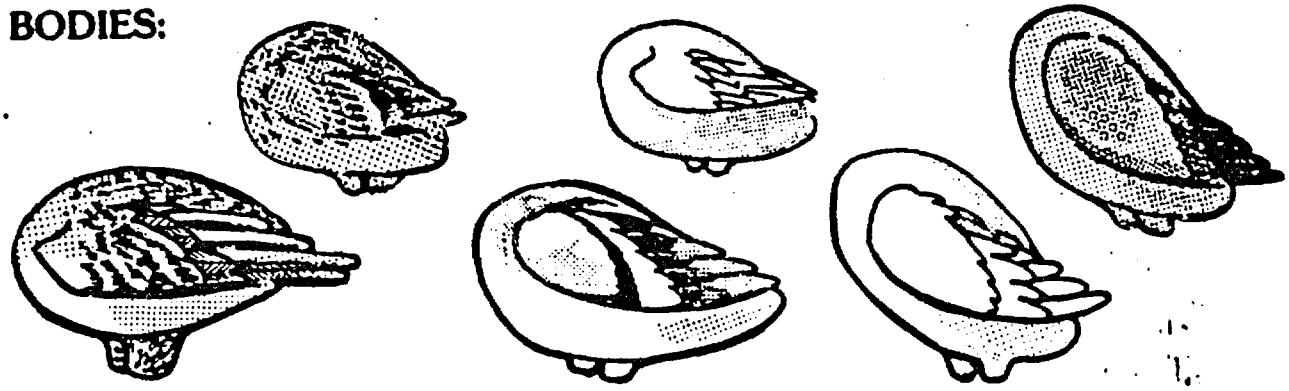
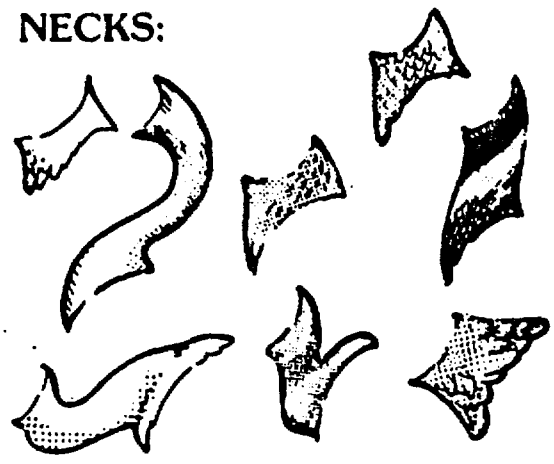


ADAPT-A-BIRD BODY PARTS

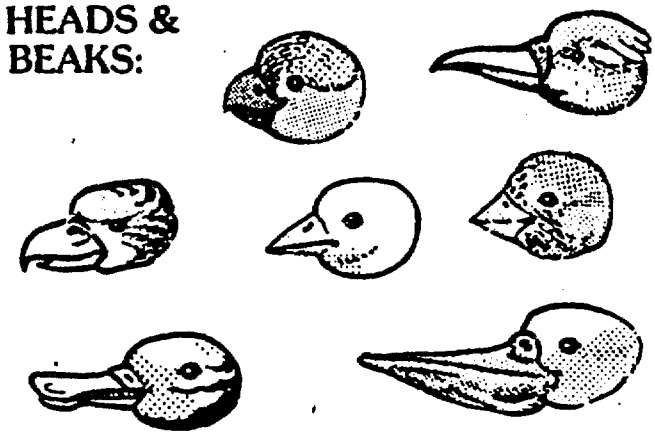
BODIES:



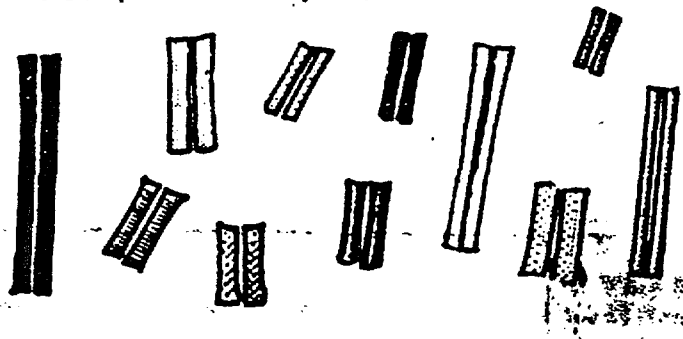
NECKS:

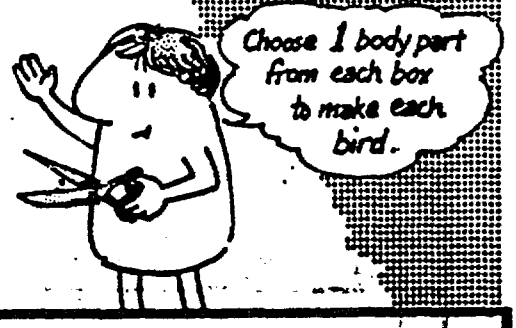


HEADS & BEAKS:

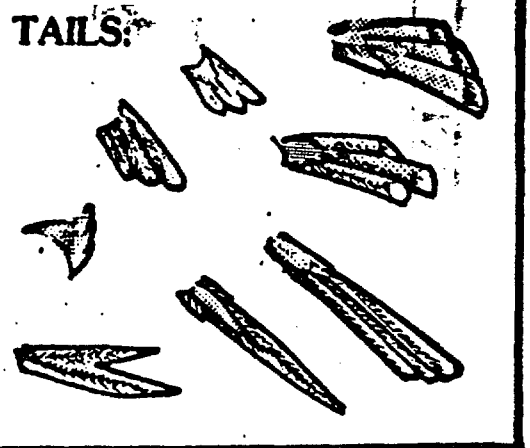


LEGS: (Don't cut apart)





TAILS:



FEET:

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TOPS LEARNING SYSTEMS

Nest Count Methods

Each fall after the leaves have fallen, a nest count of the Nanjemoy Creek Great Blue Heron Rookery is conducted to determine the status of the Colony. This is usually between November 15th and December 15th, with a minimum of three persons in each party.

The rookery is divided into three or four sections that are naturally separated by stream valleys or other natural features. The group begins at a corner of their assigned section and moves across their area, methodically recording each tree in which nest are observed as to species of tree, number of nest, and the condition of each nest. Nest under a tree are also noted in remarks, but not counted for the given tree. Also, the health of the tree is noted if it appears unhealthy or is now dead. (See attached data sheet.)

The nest are given a numerical rating of from one to five as to size and condition. This may vary slightly due to the observer's interpretation. A map is also made to show where each tree is located in relationship to the entire rookery. A number is assigned to each tree for the purpose of identifying the position of each tree.

Suggestions For Field Trip Activities.

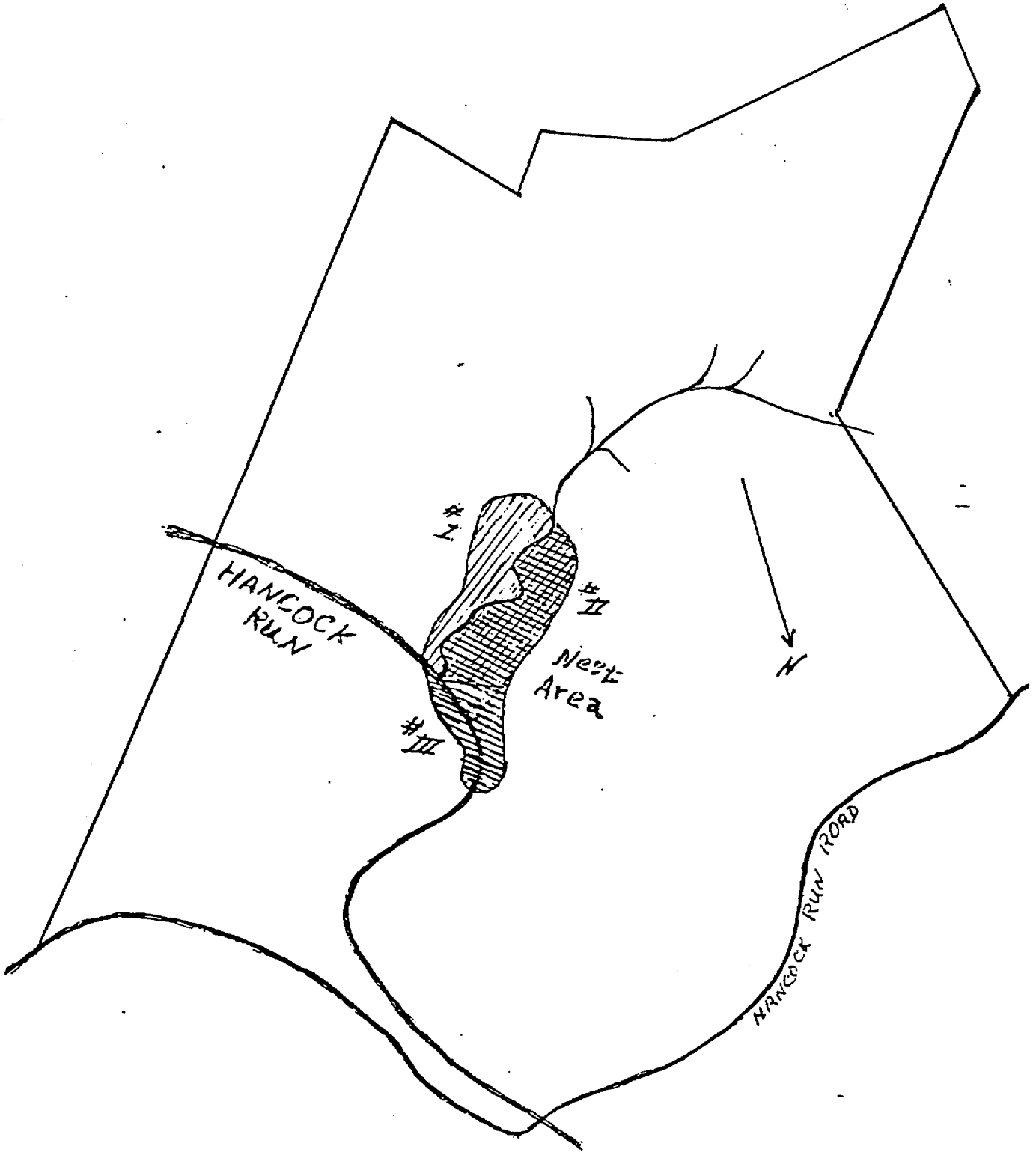
1. Reconstruct a fallen nest- Nests that fallen may be collected in large lawn and leaf bags and reconstructed back at the classroom by students.

2. Identify fish remains- with the help of a "Field Guide to the Atlantic Coast Fishes" a Peterson Field Guide Series, fish remains or whole fish may be identified during spring trips when parents are activily feeding young herons.

3. Heron behavior- can be recorded through observations of individuals at anytime when herons are present.

4. Tape recordings- a PAROBOLIC microphone may be borrowed from the Nanjemoy Creek Environmantal Education Center for voice recording of herons.

NANJEMOY HERON ROOKERY
GRAYTON, MARYLAND



Section No._____

Tree #	Species	Size DBH	Relative Size of Nest #1	#2	#	#4	Total Nests	Remarks

Nanjemoy Creek Heron Rookery

EGG SHELL DATA

Equipment: Micometer

Shell No.	Hatched	Predation	Shell Thickness

Soil Test
Data Sheet

Equipment: Soil Science Outfit Model AM-31

Station #	pH	NO3	PO4	K	Texture	Remarks

SLIDE INDEX FOR GREAT BLUE HERON LESSON PLAN

35. American Robin's Nest with eggs
36. Killdeer Bird at nest - ground nester'
37. Bobwhite - male
38. Quail's nest with eggs
39. Close-up of a Broadwinged Hawk
40. Yellow Billed Cuckoo Bird - front view
41. Great Horned Owl
42. Great Blue Heron's at nest
43. Great Blue Heron
44. Great Blue Heron in foliage
45. Great Blue Heron in tree top
46. Great Blue Heron at nest
47. Great Blue Herons sitting and flying
48. Great Blue Heron sitting in tree
49. Young Great Blue Heron in nest
50. Camouflaged Great Blue Heron - close-up
51. Great Blue Heron at fishing area
52. Work of a Palliated Woodpecker
53. Mountain Laurel - close-up of blooms
54. Swamp Azalea - close-up of blooms
55. Scaly Blazing Star in bloom
56. Rattlesnake Weed - close-up of bloom
57. Downy Rattlesnake Plantain - orchard
58. Pickerelweed
59. White Footed Mouse
60. Burrow of a Groundhog
61. Groundhog or Woodchuck
62. Mink
63. Red Fox
64. Skunk
65. Shed Deer antler
66. Beaver
67. Beaver dam

SLIDE INDEX FOR GREAT BLUE HERON LESSON PLAN

68. Beaver pond
69. Tree felled by a Beaver
70. Beaver lodge
71. Beaver cutting on base of a tree
72. Larva of the Polyphemus Moth
73. American Holly with fruit
74. Winterberry
75. Running Pine (cedar) - common to Rookery
76. Tree Club Moss
77. White Perch - diet of Great Blue Heron
78. White Perch - diet of Great Blue Heron
79. Winter returns