

II

North with the Wind

The Canvasback hen tipped her head, cocking her eye as the long freight took the bridge at Havre de Grace. Then she turned to preen the coverts of her left wing. This completed, she dipped her bill in the brackish water but did not drink, wing-preened again for a moment, then turned to swim directly toward a silver-backed drake dozing four or five feet to her left, reaching forward with her bill to give him a sharp jab on the flank. He spurted ahead a few feet in alarm.

The long, loose raft of Canvasback was spread just downstream from the bridge where the Susquehanna emptied into the top of Chesapeake Bay. There were several other rafts – or ricks as Marylanders call these wintering aggregations – north of the bridge, to Port Deposit and beyond. It had been a mild winter and the river was open. The song of a Cardinal drifted from the Perryville shore and from beyond came a yelping of rabbit hounds. The Canvasback were dressing their feathers after their morning feed. Their company was made up mostly of single birds without sexual attachments; here three hens, there two drakes, then a hen, five drakes and so on. A few were joined as pairs, drake and hen close together, hen always ahead of her mate.

The hen approached another drake, this time coming up to his side. She turned her head to utter a soft *kuk-kuk*. This was her sexual incitement. She was saying, in effect, *take me, I am ready for marriage*. The drake turned his vermilion eye on her and swam off; some other female would be his choice. She preened her wing once more, dipped her bill, then approached a gray-umber female. She repeated this incitement, then lifted her head high. The other hen immediately joined in this neck-stretch, the two, chest to chest, holding the posture for several seconds. Suddenly the first turned from her female partner as a drake passed by, touched his side, then again raised her head, uttering a soft *kuk-kuk*. The drake joined her and they swam off, side by side, heads high, uplifting their bills as if in contest. She turned to give a passing drake a sharp poke of her bill, coming quickly back to her companion's side to incite one more. Thus they postured again and again for ten minutes or so before they stopped to preen.

Each day, as February passed into March, the rick held a few more pairs. There was little

intense courtship, no great strife, little sexual display. Each hen initiated the approach which brought about the couplings. Once hen and drake had started swimming together, they continued to feed, preen and loaf side by side.

In the Susquehanna woodlands no twigs were yet ready to break forth in leaf. No chipmunk, stiff and cold in its hibernating den, yet twitched in anticipation of the fast approaching spring. Fourteen hundred miles to the northwest, the Manitoba lakes and marshland were still in the grip of winter; ice more than three feet thick covered the sago beds, snow drifts were twenty to thirty feet high along the northern edge of the Delta marsh.

On the 14th of March, after several days of clear, cold weather, a south-east wind ruffled the waters of the Chesapeake. At five-thirty, after the sun had sunk behind the uplands, six pairs of Canvasback took off into the wind, made a wide circle over Havre de Grace, and flew up the river, climbing all the while. They crossed Harrisburg at about six-thirty, traveling at 2,000 feet. Their flight formation was a bent line, pairs together, each female always slightly ahead of her mate – the spring flight was underway.

The airspeed was 50 miles an hour; with a twenty-mile tail wind, they cruised at 70 miles an hour. They cut overland at the bend just past Harrisburg. At the forks, beyond Sunbury, they held to the north on the west branch of the Susquehanna. It was getting dark when they reached the big bend at Williamsport, where the river turns abruptly west. Here the pairs momentarily broke formation; they balled up tightly, rising and dropping, turned west twice for short distances before they reformed their line and struck NNE across the Pennsylvania woods and farmland. On leaving the river, they climbed another thousand feet.

Three hours after departure, they could see two long, narrow reaches of water ahead, dark against the snowy landscape of upstate New York. They corrected slightly to the northeast and began to lose altitude. Over Ithaca the city lights shone on their breasts as they dropped down at the Inlet. Above Lake Cayuga, they made a wide swing, turning into the wind that carried them north before alighting 300 yards from shore. They drank, preened briefly, then slept, each drake and hen side by side.



CANVASBACK COURTING PARTY

Several hundred Canvasback, mostly drakes, had wintered at the south end of Cayuga. Next morning the Havre de Grace pairs swam over and joined them. In Maryland, there were two drakes for every hen. Here the males outnumbered hens three or four to one. Moreover, many of the drakes on the Susquehanna Flats were juveniles – less than a year old. These Cayuga birds were mostly adults. There were few pairs.

Under the warming sun of forenoon, clusters of drakes gathered to display before a single female. First one, then another male threw his head over his back until the crown nearly touched his rump. Then his head was snapped abruptly forward and the courting note was given... *ick... ick...cooo*, the first two syllables high pitched, the last soft, dovelike. This note was also given frequently without the headthrow. When the drake uttered his note in this way, his neck was kinked and his chin was swollen.

In each of these parties, one drake always managed to hold close to the hen's side, or just behind, chest to rump, his head high. The hen lifted her head even higher but her display was interrupted again and again as she darted her bill at one, then another male which had come too close. Hers was the major defensive activity. All the favoured drake's strength and attention were required to hold his place at her side. Sometimes, however, when pressed too closely, he charged after one of his tormentors, the hen dashed toward another drake; there was a mad scramble as they rejoined. When they met after such momentary separations, both stretched necks again. Sometimes the other drakes came close with their own necks high, then returned to headthrows and kinked-neck calls.

When pressed too hard, the hen dived. All the drakes followed suit. Widely scattered when they surfaced, the males converged on the hen to find her drake still tight at her side. Pressed still more, the hen took to the air; all the drakes followed, hers the closest. The chase swung around in a wide circle, ending back near the point of departure. As action around the hen become more intense, the size of the party grew until it sometimes held nine or ten drakes. As time passed and the favoured male held firm under the test, the party gradually broke up. The extra drakes, one by one, dropped out, either to join another courting group or to become anonymous within the raft of others. In such a manner the pair bond was tested. Rarely was a male replaced by a drake more able than he to stand off the crowd. When this did happen, a new and stronger pairing was instantly established.

On the seventeenth of March, after the sun had dropped behind West Hill, Canvasback began taking off in little parties. Some rose in small bands of pairs; others, mostly drakes, were in flocks of twenty-five or thirty. There were a few darts of four or five drakes following one female. The urge that moved these birds was not a vague desire to go north, but a yearning to reach a special marsh by way of traditional routes and stopping places along the way. Thus, as they gained height, their course turned west, just north of the setting sun. Despite a slight crosswind they reached Lake Erie well before dark, crossed to the Ontario shore until they saw

Long Point far out from the mainland. The open water, sheltered by the point, was strewn far and wide with rafts of diving ducks, Lesser Scaup, Greater Scaup, Redhead and many Canvasback.

Here on big water the travelers waiting out another cold wave and north wind until the weather once more was favourable. Then they took a sundown departure, each small flock leaving on its own schedule until, by dark, most of the Canvasback and many of the bluebills and Redheads were gone. The Havre de Grace pairs stopped on Green Bay. Others settled on Winnebago and Poygan. These Wisconsin waters also held travelers from other migrational stopping places, such as Lake St. Clair, and Winous Point on Lake Erie. Others gathered on farmland sheetwater, never visited in fall; some settled for a few days on park lakes within great cities. The whole widespread population was top-heavy with males, averaging 65 drakes for every 35 hens. Thus, for every 100,000 Canvasback moving north, no more than 35,000 nesting pairs could form.

Every female aimed her flight for home, the marsh where she was hatched and reared and to which she would return each spring as long as she lived. The six Maryland hens were homing to the Delta Marsh, as were more than five hundred other females in this spring flight. Several thousand were going on to the pothole country around Minnedosa, Manitoba; many others headed for sloughs and potholes in Saskatchewan; some were going far into the northwest perhaps to Old Crow Flats in the Yukon. Only a few were destined for the Dakota and Minnesota marshes, once a stronghold for breeding Canvasback. The next stopping place for most of these travelers was Lake Christina on the Minnesota prairie near Ashby, a shallow lake rich with sago pondweed.



The first Canvasback had reached Christina April 4. The Maryland twelve and others from the east pulled in on April 6. By that time the number on the lake was around 3,000. Here,



near Ashby, travelers from Maryland and New York met with Canvasback from wintering places of the Mississippi Flyway, birds that had made their most recent stopover at the Keokuk Pool on the big river.

On the sixth, about 10 per cent of the Christina gatherings were paired, the couples scattered in small companies close to shore. Further out on the lake were single drakes and hens, usually in arrangements of several males attending a single female. After the mid-morning sun warmed the countryside, their courtship became intense, with a constant shifting of males from one hen to another. The proportion of pairs increased rapidly on Christina as new birds arrived. By April 12, the gathering on Christina reached its peak; there were now 30,000 Canvasback of which more than half were paired.

Among the pairs, there was little display or strife; but, there was a definite spacing so that couples were separated by several feet or yards from neighbouring pairs. Occasionally one hen or another stretched her neck out before her on the water, lying almost submerged. Her drake quickly mounted her. After copulation, he gave the kink-necked call, then pointed his bill vertically downward for a moment. Each then bathed and preened separately before coming side by side again. The mating of one pair caused no stress or excitement among the others.

In Manitoba, there was north wind and cold on April 12 which continued on through the morning of the 13th. Skies were clear, but snow, dried by frost, drifted across the fields and roads, creating a blizzard. The cold front passed late on the 13th and the wind calmed by nightfall. Next morning was bright and sunny, with southeast winds of twenty miles an hour. Temperatures climbed to the mid-forties by noon. With the change in weather came an avalanche of migrants: one flock after another of Rusty Blackbirds crossed the Delta Marsh from the south, then followed the shoreline to the west around the foot of the lake. Crows came in fours and sixes, eights and tens, one loose band moving just ahead of the next all morning.

Rough-legged and Red-tailed Hawks rode the wind. The first Song Sparrows rustled about in marsh-edge thickets. In the evening glow, there was a massive arrival of ducks: The first Baldpate, Green-winged Teal, Redhead, Canvasback, Lesser Scaup and Red-breasted Merganser came, together with a rush of Mallards and Pintails. Ring-necked Duck, Bufflehead, Common Goldeneye and Common Merganser were also newcomers. The ducks came in from the southeast, then coursed east and west, up and down the marsh, seeking water just now opening along the edges. In the fading light, six pairs of Canvasback, traveling overland from the southeast, struck Portage Creek which they followed north to Simpson Bay. At the creek mouth they turned west to Wendigo Bay where they made a wide circle before alighting in a span of open water along the north shore. Each drank, preened, turned its bill over its shoulder and went to sleep.

Next morning the Havre de Grace Canvasback were feeding well before sunup, diving over a bed of sago pondweed just out from the marsh edge. The mellow voices of Greater Yellowlegs called out from the ice where they were gleaning autumn leftovers recently exposed by thaw. Their companies had come in on the flight of last evening. Crows called out from the wooded ridge. A Flicker *wickupped* from a marsh-edge poplar, one of the many arrivals making a stop after crossing the marsh from the southeast. Far to the south a massive skein of Blue Geese and Snow Geese moving majestically across the prairie farmland, the lines of birds rippling like waves. Tree swallows drifted westward along the bulrush border. They had last been seen roosting in the same location on a cool September evening, bending the rushes almost to the water. Oldtimers believed that these swallows descended the rush stems into the water to hibernate in the bottom ooze, emerging with the spring thaw.

The twelve Canvasback spread out as they fed, each pair in its own direction. They nourished themselves for more than an hour in the shallow water before they began their morning preen. All along the way they had fed and loafed together, but now twenty yards or so

separated the closest pairs. After their preening, one drake nudged his mate in the rump. She looked up startled and swam briskly ahead. Again he poked her with his bill. On the third shove, she took wing, growling loudly. He followed immediately behind. At the sound of their skittering, another pair took off, over the reeds to the west. By late afternoon only two pairs of the Maryland company were in sight of each other; by sundown, one pair alone occupied the shoreline between Muskrat Cove and the big bend.

Sunset brought another flight of new ducks – Canvasback and the other divers, many more dabbling ducks, including bands of Gadwall and at least one pair of Shovelers. They arrived in small, scattered parties along with a steady and massive return of Mallard and Pintail. Throughout the brilliant afterglow there was a frantic coming and going, coursing east and west, back and forth until dusk. Some settled in the moat of black water between bulrush and ice but most turned south to rest on the shallower, warmer water of flooded grain fields rich with the leftovers of last year's harvest.

Incoming groups, no matter what species, were made up of pairs, every hen leading her drake, each pair making up a unit of its flock, with here and there the odd drake tagging along.

The Canvasback pair near the cove remained at east as April advanced, sometimes lifting to fly around the marsh, but spending most of their time within three hundred yards east or west of their home base. Not far offshore, the ice still held firm. More Canvasback continued to arrive, many newcomers unpaired, each single hen the object of attention for a party of suitors.

So it was with all other species. Later arrivals included many unmated males. Flocks of pairs that were to remain on the Delta Marsh disbanded soon after arrival. Migrant flocks held together. Unmated birds courted almost incessantly except in severe weather. Drakes frequently pressed hens into the air; there was hardly a moment throughout the day when there were no several twisting, dashing flights of one species or another over the horizon, or swinging closeby at breakneck speed.

The choice of a suitable mate is vital for all ducks. Those individuals that make the best choices are likely to leave more offspring carrying their genes than birds selecting deficient mates. Early in the pairing season, both males and females have plenty of choice. Trial liaisons are possible and there is time for second thoughts and divorces. Later on, when most birds are paired, unmated males must compete energetically for mates through social courtship and pursuit flights. No doubt experienced adults fare better at all stages than yearlings in this competition for desirable mates.

Although the taking of a new mate each year is typical of North American ducks, there is the possibility that mates of the previous year may chance upon each other during migration

or on the wintering grounds, electing to renew their sexual bond for another season. With adults returning year after year to their regular migratory stopping places and to the same wintering areas, some rejoining is likely to occur. Probably it is the adult birds, some already acquainted, which form pairs early in the season.

Many and varied are the courtship displays of the different species of ducks, with each kind, however, showing its kinship to a closely related species by similarities in display and behaviour. Thus the Redhead, a pochard akin to the Canvasback, has a repertoire of displays similar to those of the Canvasback. The Redhead's *neckstretch*, the *kink-necked* posture and the *headthrow* are quite like those of its relative except that the drake's call is a soft *meow*; and in the *headthrow*, the head is tossed farther back, rump and tail sinking deeper, the top of the bill nearly touching water. So, too, are the close relationships of Mallard, Pintail, Gadwall and Green-winged Teal revealed in their rituals of courtship.

It was easy for early naturalists to conclude that the displaying male was showing off to his prospective mate. Indeed, recent studies suggest that in some displays, such as *headthrow* of Canvasback and Redhead, the drake may be saying, in effect, *Hey, look at me*. Apparently males that succeed in holding the female's attention by these displays are more likely to be favoured. She makes her selection known to all present by *inciting* movements and calls whereby all males but one are discouraged.

Some displays probably have intimidatory influence by which a male shows his sexual dominance while at the same time thwarts combat with other males in a courting party. The hen finally accepts the male that holds closest to her side through all the later stages of a courtship affair. He becomes immune to her attacks, while she continues to strike out at other members of the party. The unsuccessful suitors then depart, leaving the pair together as a mated couple.

Every spring, especially late in the season, there are Canvasback and Lesser Scaup courting parties in which the hen seems never to favour one of her suitors. With unmated hens at a premium, some of these late courtship parties build up to ten or fifteen or more males, all chasing a single female. It is possible that such hens which continue to reject courting males are young birds that have not reached the sexual condition which is necessary for pairing. In late spring, a few may never settle down to select a mate, remaining unproductive their first year.

While Canvasbacks, Redheads and other pochards, like all the dabbling ducks, normally pair and lay eggs in their first year, the Bufflehead, Common Goldeneye and the Mergansers do not breed until they are two years old. In these species, yearling males do not compete for mates. Although they may display, they do not develop breeding plumages.

After a pair is formed, drake and hen frequently reaffirm their sexual bond through mutual displays, such as the *neck-stretch* in Redhead and Canvasback. In Shoveler and Blue-winged



SUITORS IN PURSUIT

Teal, there is mutual *headpumping* when members of a pair greet each other after a separation or after the drake has returned from a successful encounter with an intruding male. Here, in these species, it is clear that certain displays serve different functions according to the situations. Thus *headpumping* is a friendly greeting between members of a pair, but is also an aggressive signal when one male meets another. In geese and swans, which mate for life, mutual display, the *triumph ceremony*, is given frequently throughout the year. It not only serves to strengthen the marriage bond, but perhaps functions as an appeasement by which strife between the mates is held at low ebb.

Pairs of Mallard begin to copulate soon after they are mated. Fall and winter copulations, sometimes six or seven months before eggs are to be fertilized, no doubt serve to maintain and strengthen the pair union. Once the breeding grounds are reached, couplings continue frequently – as often as two or three times a day – through the prenesting, nestbuilding and egg-laying periods. Then the sexual relationship comes to a halt when incubation gets underway.

Migrant pairs often travel in groups of couples, feeding and loafing slightly apart from unmated individuals. When they take flight in migration, the paired make-up of the flock is clearly evident as each drake closely follows his hen. On the water there is a definite spacing of pairs, the slight separation established by threat when one pair comes too close to another. Thus migrant couples carry out their activities together, each pair remaining discrete without breaking up the flock unity. The arrival of local breeders in bands that disperse soon after reaching the home marsh suggests that acquainted pairs may fly together to their destination.

A light breeze on the evening of April 26 cleared the sky of clouds half an hour before dark. Gradually the wind picked up until by midnight it roared through the lakeshore trees. With dawn, whitecaps were breaking upon the edge of ice which was now far out past the middle of the bay. By mid-afternoon the bay was clear of ice except where it piled up along the south shore. Lake Manitoba was still frozen tight.

On the 27th, a small flock of Whistling Swans circled the bay before alighting on shallows at its east end. All day long other small parties of swans arrived to join, their numbers building to nearly 1,500 by nightfall. They had moved to the marsh from flooded fields of the Portage Plains, south of Jackson Church, ready to change their diet from wheat and barley to sago pondweed.

The swans were a noisy lot, yodeling night and day as each pair reinforced its union in triumph ceremony, neck to neck, wings shaking, their group song carrying four or five miles across marsh and countryside. Some were old pairs attended by last year's offspring who still wore grey on head and neck. Others were two and three-year olds, not yet ready to reproduce their kind, but paired and caught up in the sexual excitement of spring. Their chorus was un-

ending, although individual couples and families ceased their calling long enough to gorge on the sago. Each bird reached down to root out the tubers with its long neck, sometimes tipping up, Mallard fashion, digging holes as big as wash tubs. It was believed by some marshmen that swans ate up all the duck food; and yet despite the annual spring visits of swans this bed of sago had thrived for as far back as anyone could remember.

As they fed, white roots and tubers of pondweed came to the surface all around. The Muskrat Cove pair of Canvasback swam over for a free meal and found all the nourishment they required. They were joined by migrant Canvasback and other ducks, especially Redhead and Baldpate. Soon every swan was accompanied by three or four ducks enjoying an easy lunch. The ducks fed up close to a swan while it was digging, sometimes turning warily away when it raised its head. But there was no danger; the great white birds tolerated the intruders without threat.



Between meals the cove pair loafed offshore from the bulrush. Morning and evening the hen wandered into the rushes, her drake sometimes following, sometimes waiting near the edge. As she swam, she stopped again and again to pick up a floating stem of bulrush, throwing it back over her shoulder. By April 30, such activity was directed toward one definite spot where a small mat of bulrush was taking shape.

There was a quick change of weather after the cold front passed through on April 26. Next morning a steady passage of Redwinged Blackbirds moved west along the ridge, mostly females ten days behind the big flight of males. Yellow-headed Blackbirds arrived en masse brightening grassy edges like dandelions. Broad-winged Hawks rode the south wind and there was a steady movement of Crows, now mostly yearlings, their wings, showing a brownish cast in the sunlight. All of these migrants flew across the marsh from the southeast, then followed the lakeshore trees westward. Snow drifts still reached halfway to the tops of poplar

and ash.

Just before seven, in the gathering south wind, seven Canvasback took off from far out on the bay, six drakes led by a hen. They were climbing as they crossed the cove, aiming for the northwest out over the frozen lake toward their next stopping place somewhere beyond the horizon. They were followed by a band of four pairs of Canvasback, then a dart of Redheads. Then came a rush of migrants: Lesser Scaup, Mallard, Pintail, Baldpate and Green-winged Teal, all traveling in small parties. Each species held its own company except now and again for Pintails flying together with Mallards.

The tempo of departure increased after sunset. Now the flight held many flocks crossing at higher elevations, birds that had left the flooded farmland several miles south. The passage continued strong until only a faint glow remained in the northwest. After dark, the sound of wings told of little flurries of travelers crossing through the night, these late birds no doubt having started at sundown from somewhere in Minnesota or North Dakota. They continued on, passing Delta Marsh along their way.

Such an evening departure is typical for ducks. A few leave late in the day before the sun has set, but most wait to move in the afterglow of the long northern twilight. A flock that starts at sundown, may be 100 miles or more along its way before complete darkness. Some continue through the night to reach destinations after sunrise; others stop before nightfall.

Each hen of every species is on her way home, each leading her drake. From the start of spring migration her objective is the marsh where she was hatched and raised. Somehow,

each hen's reproductive cycle is linked to this destination and the time of her arrival there. Thus, Canvasback of the Delta Marsh and the Yukon may have wintered together on the same Maryland waters, but the Yukon hen will not begin nesting until the Delta hen is nearly ready to hatch her young. Some Delta Pintails have young before others of their kind have started to nest north of the Arctic Circle.

Every female returns to her home with a drake she met on the wintering ground or on the spring flyway. This mate might be from some other part of the nesting range. This joining of individuals from different parts of the country results in a thorough and constant mixing of the gene pool. Specific unity is thus strong in ducks, a Mallard from British Columbia being indistinguishable from a Manitoba greenhead, both quite like Mallards found in any other part of North America. Moreover, Mallards and Pintails in Europe and Asia are similar to North American individuals suggesting intercontinental mixing in these species.

The Whistling Swans remained on as if in no hurry to leave, the pumping of American Bitterns now adding a base note to their chorus. Blue-winged Teal arrived on the first of May, pairs settling along the edges, migrants pushing on with the south wind. By the fifth day of May, all of the migrant Canvasback, Redhead, Mallard and Pintail had moved on – indeed, all the migrant ducks had passed through except Ruddy Duck and White-winged Scoter which had yet to arrive. Buds of box elder were tassled out, bluegrass was green at the edge of the melting drifts and the south wind of May 3rd pushing the ice out of sight on Lake Manitoba.

