# Honeyguide

#### WILDLIFE HOLIDAYS

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# Poland 15<sup>th</sup> – 23<sup>rd</sup> May 2010

# **Holiday participants**

Jean Connor and Dorothy Iveson Malcolm and Helen Crowder Carole Fenning Ken Leggett Jenny Loring Hilary MacBean Julia Maynard and Gill Page John Minihane John Rumpus and Rosemary MacDonald Colin Taylor

#### Leaders

Artur Wiatr and Andrew Gregory
In Biebrza National Park we stayed at Dwór Dobarz <a href="www.dwordobarz.pl">www.dwordobarz.pl</a>
In Bialowieza we stayed at Gawra Pensjonat <a href="www.gawra.bialowieza.com">www.gawra.bialowieza.com</a>

Report by Helen Crowder and Andrew Gregory.

Bird list by Andrew Gregory and Artur Wiatr.

Plant list by Jenny, Rosemary, Carole, Julia, Jean and Dorothy.

All photos taken during the holiday, those edged green by Jenny,

blue by John R and orange by Helen.

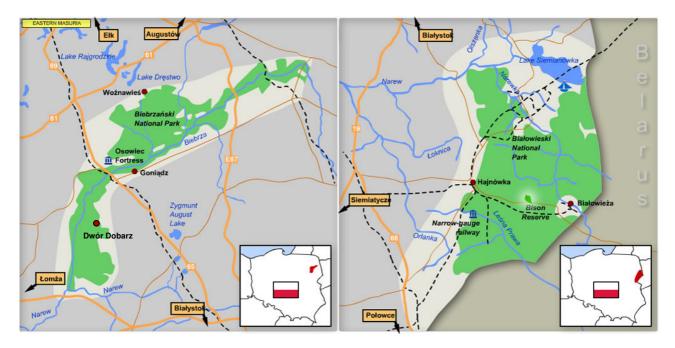
Cover montage by Jenny, group photo below by Artur.



As with all Honeyguide holidays, £35 of the individual cost of this one was put towards a conservation project in the host country, in this case for habitat management in the Biebrza Marshes to give more space for scarce lady's slipper orchids. A total of £620 was donated to Biebrza National Park for this purpose.

As at June 2010, the total amount of conservation contributions made through Honeyguide since 1991 was £66,527.

This was Honeyguide's first trip to Poland, where we visited two distinct habitats in the north-east – Biebrza Marshes (below left) and Białowieża Forest (below right).



The river Biebrza (river of beavers) consists of some 100 miles of meanders and ox-bows within its basin of about 3,000 square miles. Two narrowings of the valley divide it into three parts – the north, middle and south basins. The north basin is surrounded by high banks and is an agricultural region. The valley broadens significantly to form the middle basin, an expanse of flat marsh. The southern basin is filled with extensive wet peatland interspersed with small mineral outcrops called *grady*, and many ox-bow lakes, and here the largest alder swamp forest complexes grow among barely accessible open marshes. The area is one of the coldest in Poland; the winter is long - snow cover can remain for 110 days - and summer, though warm, is rather short. In spite of these harsh climatic conditions discouraging farming, over 60% of the population here are dairy farmers. Our visit concentrated on the middle and south basins.

Białowieża too has its wetlands but is most admired for the majesty of its forest, which once covered much of central Europe. Originally preserved for private hunting by Polish kings and Russian tsars, modern protection is a National Park and UNESCO World Heritage Site. Within the Special Protection Area, which covers about 45% of the National Park, spontaneous natural processes have been taking place for thousands of years undisturbed by humans.

#### Saturday May 15 – Warsaw to Biebrza Marshes

Wizz Air from Luton efficiently delivered us on time to Warsaw's Frédéric Chopin Airport, named after the famous Polish composer, where Jenny joined the group, having travelled from Newcastle via Amsterdam the previous day. Artur, our Polish guide, immediately endeared himself to the female contingent by presenting us each with a long-stemmed rose. Soon after midday the bus was loaded up and driver Wesley was negotiating the many traffic junctions through a rather overcast Warsaw, at 52°N on the same latitude as Norwich. Artur pointed out that many of the historic buildings we were passing had been totally rebuilt after the devastation of WW2, giving rise to the nickname 'Phoenix City'. As we crossed the Vistula river we could see the extent of flooding following recent torrential rain.

On reaching the Tsar's Road, a bumpy and pot-holed remnant of an old Russian route into royal hunting areas, which marks the start of the southern basin of the Biebrza valley, the birding became exciting. A pair of Montagu's harriers displayed near the road, red-backed shrikes were spaced at regular intervals and white storks became numerous. White-winged terns began to dominate the marsh scene as they continued to do throughout our stay, with the late floods ideal for them but not the waders which would have been present in drier springs.

In woodland abutting the long, straight road, sharp-eyed Jenny noticed an elk (right) and we quietly got out of the bus to watch as it systematically stripped leaves from the young trees with its well-adapted long muzzle and then crossed the road in front of us! Artur told us this was a young female and that the elk *Alces alces*, is actually a deer, one of the largest species in the world.

The hotel at Dobarz, our home for the next five days, was welcoming and friendly, with a large, first floor balcony overlooking the garden and beyond that the marshes, on which a small group of common cranes grazed. At supper



there were three types of coleslaw to go with the pork dumplings, all delicious, and the Polish party celebrating a birthday were treated to a chorus of Happy Birthday To You as we entered the mood.

#### Sunday May 16 – Biebrza Marshes

Cuckoos calling, golden orioles fluting and cranes bugling were apparent to the early risers. Before breakfast we began to appreciate just how common and confiding some birds were going to be, with black redstarts already feeding young, spotted flycatchers on the fences, barn swallows and house martins nesting under the wide eaves and fieldfares on the lawn. Across the road a marsh harrier hunted, attended by a raven, and a black woodpecker flew past, calling noisily before landing in a tree and drumming. (Below, characteristic shapes of birds in flight – black woodpecker, left, common cranes, right.)





The white storks next door were well housed in their nest, almost tidily contained in a huge, specially constructed 'basket'. Storks have a very under-developed syrinx (vocal organ) and cannot utter sounds, only the odd hiss, so the bill clattering we heard is an important mode of communication between birds at the nest.

Breakfast at 8.00 was a feast of cheeses, cold meats, tomatoes, breads, yogurt and scrambled eggs, and saw us learning the much-appreciated routine of enjoying eating and then making lunch from the table, with supplementary drinks, fruit and home-made goodies generously provided by Artur's wife Ewa.

With rain in the air we headed for the National Park HQ and museum in Osowiec-Twierdza, in the grounds of the historic Osowiec Fortress near Goniadz. There was an interesting display of stuffed wild animals and birds, none killed deliberately, and a tableau showing the variation in plumage of the male ruff - the dark males form territories on a lek while the paler ones act as satellites and do not defend territories of their own, although reproductive success is thought to be the same for both groups. We bought postcards and the English version of Artur's guidebook to Biebrza.

Outside, lesser whitethroat and tree sparrow were noted as village birds and the sun emerged, warming the rest of the day.

Where the south and middle basins of the Biebrza Marshes meet near the fort of Osowiec, part of a system built for the tsarist troops in the 19<sup>th</sup> century based on the natural defences provided by the marshes, we strolled the path and boardwalk and used the wooden viewing tower to good effect. In the sunshine we had impressive views of at least one singing Savi's warbler, normally heard but not seen, and further on we encountered our first common rosefinch (below right), advertising its presence with its 'pleased to meet you' song which we subsequently heard nearly every day, becoming almost blasé about this showy bird. Several fritillary-like butterflies were identified by Dorothy as map butterflies, all in perfect condition. Common lizards basked on the boardwalk, and inspection of the boardwalk itself revealed that its ends had been gnawed away by beavers. Artur found us an active penduline tit's nest (below left), pouch-shaped and woven from soft, seed hairs, suspended from a willow tree and being buffeted wildly by the wind. We watched as both male and female made visits through the tunnel-shaped entrance.





Back at the bus, a lesser spotted eagle was visible from the road, its pale brown head and wing coverts contrasting with the dark plumage. This is a medium-sized eagle, about 60 cm in length and with a wingspan of 150 cm, with usually a white patch on the upperwings and a clear-marked white V on the rump. On the spotted eagle, a much rarer bird, the wing markings are absent and the white V is not well-defined.

Lunch, with the added luxuries of hot drinks on tap and pastries made by Ewa, was at the river edge where a great white egret (there are no little egrets here) stalked in the reeds. Suddenly the ever-present marsh terns were spooked and a white-tailed eagle, also known as the sea eagle or erne, flew downstream - a much larger eagle than lesser spotted, with its 'barn door' wings having a span of up to 240 cm.

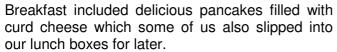
We briefly visited another viewing tower nearby, crossing a railway line, in search of bluethroats but it was rather too windy for them to show. Instead we had very good views of a singing whitethroat and then moved on to an area of silver birch woodland just off the Tsar's road and the *taiga* vegetation of a raised bog. Here, Artur showed us cottongrass, low bushes of aromatic Labrador tea (looking a bit like rosemary but containing a hallucinogen), bog blueberry, bog rosemary and sundew, low-growing among the sphagnum moss surrounding the small, water-filled pits where peat has been dug - traps for the unwary visitor or elk. After half an hour or so we beat a retreat, hounded by mosquitoes.

Our last stop was at former bookseller and now marshman Christophe's house deep in the woods, where he happily showed us round his collection of artefacts which ranged from old agricultural implements to contemporary wooden carvings, and we admired his red ruby cattle and koniks – Polish ponies descended from wild tarpans. (Honeyguide's visitors to the Cévennes will have seen similar Przewalski's horses roaming the Causse Méjean.)

After a very quick checklist, dinner was at 7.00 - a Sunday roast of turkey and roast potatoes with coleslaw – and by bedtime it was raining hard, but it had been a very full and satisfying day and we were probably too tired to notice.

#### Monday May 17 – Biebrza Marshes

Pre-breakfast birding provided another over-flying black woodpecker, rosefinches on the fence and, quite astonishingly, a long-tailed skua seen by Colin and Andrew. There was an obliging icterine warbler (right) in the garden, singing its manic, squeaky toy song high in the silver birches - it is after all a *hippolais* or tree warbler - and thanks to Colin everyone managed good views. Looking a lot like a willow warbler, icterine has a pale eye ring and a bigger bill, but it was giving itself away by its song.





Our first stop today was a short drive along the Tsar's road to Lawki fen, a known breeding area for aquatic warbler, a regular but scarce autumn migrant to certain areas in southern Britain, visiting on passage between breeding grounds in eastern Europe and winter home in west Africa. Its dependence on wet sedge beds with vegetation shorter than 30 cm, a specialised breeding habitat vulnerable to drainage, means it has become a globally threatened and declining species. More yellow-brown and streaked than the similar sedge warbler, both male and female adults have a prominent whitish supercilium and crown stripe, strong and pointed bill and flattened forehead.

From the bogbean and cottongrass at the start of the boardwalk, a grasshopper warbler emerged to sing and show for us. Whinchats, reed buntings and a meadow pipit sat in full view and white-winged terns hovered like sprites (right). Two birds in the distance turned out to be female whinchats (confusion birds, like female reed buntings). Snipe drummed and a small group of black-tailed godwits, another declining species nesting on the fen, flew up and over us, shouting their 'weddy-whit-o weddy-whit-o' song. Further into the fen, marsh and Montagu's harriers quartered and a honey buzzard flew by – but



no aquatic warblers showed themselves, perhaps it was just too windy. We would return.

We drove on to the western side of the south basin, stopping on the way to admire a magnificent garganey drake sitting on a lake to our right, spotted by hawk-eyed Colin. We pulled off the road further on, wetlands either side of us, to find red-necked grebes and a couple of whooper swans among the throng of busy terns. A little grebe made an appearance and our first black tern joined the white-winged terns. An elusive thrush nightingale was singing from a dense bush very close by, its song very slightly less fluty than the nightingale's and lacking a crescendo. It is thought that nightingale and thrush nightingale once belonged to the same species which retreated into two different areas when the ice advanced during one of the Ice Ages - nightingales to Iberia and thrush nightingales to the Balkans. When the glaciers disappeared both populations moved back but in the meantime had evolved differences in song, plumage and display.

We were welcomed at our lunch spot near Buzgan by a bright yellow wagtail (of the blue-headed race *flava*) perching on a post. Sitting on the grassy hillside with the panorama of the huge flooded plain in front of us (complete with the ubiquitous terns) we noted roe deer - difficult to identify until they turned around to reveal white rumps — and some distant elk. A white-tailed eagle drifted over, followed by an elegant black stork. A few displaying ruff were just visible through the heat haze.

Moving on, we stopped at a rather rickety waterside platform and the heavens opened, with thunder and lightning thrown in, but not before we had ticked off five species of tern (white-winged, whiskered, black, common and little), little gull, several wader species and a nice perched hobby.

Returning to the Lawki boardwalk as the weather eased, we were rewarded this time with excellent views of a key local bird in evening sunshine, the aquatic warbler, atop the highest available reed stem. Its song, together with top, front and back plumage aspects, was much admired.

Supper this evening was boned, rolled pork, mashed potatoes and coleslaw, with homemade blackcurrant wine and vodka, aptly named 'elk kick'.

#### Tuesday May 18 - Biebrza Marshes

Early morning weather was dull after the overnight storms which had brought down a rotten tree on the Tsar's road. Local strolling produced the usual suspects plus willow tit, treecreeper, serin and siskin. A polecat appeared briefly for a lucky duo.

The destination today was the central section of Biebrza National Park, the restricted Red Marsh, so called perhaps from bog iron or its bloody history as a battle ground for partisans in WW2. First stop was in a nearby village for stamps. Second stop was at a sylvan setting where, revelling in the sight and sound of a woodlark, our attention was drawn to a large pine tree where a black woodpecker provided splendid entertainment as it ripped the bark before flying off, giving a view to convince everyone that this potential 'bogey' bird had been properly seen.

Third stop was a short halt for lunch at Kuilgi bridge. Two hours later we moved on! Reed and great reed warblers were singing as we arrived, hoopoes flew by, backed by forest green to

emphasise their splendid markings, handsome whinchats perched on reeds, a white-tailed eagle soared above the woods where a lesser spotted eagle perched as, almost inevitably, a black woodpecker flew past. Many other species seen previously accompanied the spectacle.

Suddenly a corncrake (right), sounding very narked, seemed to be under a roadside bush. Gentle persuasion from a recording led to it crossing the road before calling in full view until it decided to return to its original spot. A barred warbler then sang and perched next to a yellow wagtail to complete a truly memorable 'short' stop.



As we arrived at the Red Marsh, having stopped at the office for permits, postcards and maps, it began to rain, gently but persistently. A splendid red fox loped confidently by the picnic area, where there were probably easy pickings. The sand dunes here are a fine example of *grady*, mineral islands 'sunk' in the vast peat plain, rising up to 6 metres above the bog and covered with broadleaved woodland and typical dry-ground vegetation. On the walk through the dunes





chickweed wintergreen (left), Solomon's seal and swathes of May lily (far left) were growing at the woodland edge and steppe parsley and mouse-ear hawkweed on the dunes themselves. On the way to the viewing tower a tree pipit sang and parachuted before those that climbed to the top were rewarded with views, albeit distant, of nine elks.

Zander and chips (and coleslaw) for supper, and later Dorothy found a peach blossom moth on the balcony door.

#### Wednesday May 19 – Biebrza Marshes

Early risers found nothing new but still revelled in seeing Montagu's harrier, red-backed shrike, clacking white storks and common rosefinches feeding.

Heading in the bus for a long path through the marsh at Bialy Grad we stopped for our first great grey shrike, spotted by Colin. The parking spot was alive with warblers including a high perching and singing marsh warbler. It seemed this week that first-summer male birds of various species were singing readily in the open while the more mature birds had already found mates.





The marsh at this spot held the greatest number of white-winged terns we had so far seen, and previous numbers had not been inconsiderable (white-winged tern sitting pretty, above left). There were very many thousands here, and an abundance of sedge warblers and reed buntings. However other targets were in our sights and before long a much-desired white-spotted bluethroat (above right) sat high in some scrub. It sang and showed for long enough to please everyone. And then there was another one, showing equally well and then another. Marek Borkowski and his party, also birding along this path, joined us as Hilary found a shining male citrine wagtail, which both groups enjoyed through telescopes. All the while bitterns boomed and terns bothered hunting harriers. A green pool frog was photographed, and leeches, much used for fishing bait, squirmed in every pool. A swallowtail butterfly flew over a water soldier-filled ditch as we lunched.

We were enjoying watching and listening to a Savi's warbler when a marauding peregrine had the white-winged terns behaving like a winter starling flock as they wove ever-changing patterns in their anxiety to avoid the hunter. A flock of ruffs was noted in the tumult and the falcon was seen to emerge without a catch.

Before an early supper (garlic soup, meatballs, pasta, tomato and onion salad and chocolate mousse) Helen saw a greater spotted eagle from the hotel garden, identified by its tracking device!

We needed the extra time in order to return to today's site to witness, we hoped, a rare sight - a great snipe lek. 'Great' snipe is perhaps a bit of a misnomer as adult birds are only slightly larger than their common cousins, but bulkier, with a shorter bill and a pale wingbar visible in flight. Their breeding habitat is marshes and wet meadows with short vegetation in north-east Europe and north-west Russia. They are migratory, wintering in Africa, and the European population is in steep decline. Males display at dusk in the breeding season, producing a variety of rattles, clicks buzzes and whistles, standing erect with chest puffed and tail fanned and sometimes jumping into the air.

By eight o'clock, just before the light started to fade, we could hear clicking, and several great snipe were seen dropping into vegetation at the back of the marsh, pale wingbars clearly visible, then launching themselves forwards with a jump. Soon there were three just in front of us, having presumably walked through the vegetation to the centre of the lek. We watched as they danced by some cottongrass until it was too dark to see, all the while with the sounds of the marsh and spotted crakes calling as night fell.

Stopping by the woods near the hotel on our return journey we listened to the gentle churring of nightjars, but our waving white hankies didn't bring them out into the open.

#### Thursday May 20 – Biebrza Marshes to Białowieża

Golden oriole showed early morning and an icterine warbler was well photographed before we left Dobarz for the last time, in warm sunshine, for a 10 o'clock appointment at a nearby site not usually accessible to naturalists. Greeted by the site's maternal guardian we were led into the woods by her grandson, stopping to admire a host of marsh orchids in a wet meadow before feasting our eyes on three stands of perfectly flowering yellow lady's slipper orchids *Cypripedium calceolus*, characterised by the slipper-shaped pouch (modified lip) of the flower. (Photo on front cover.) Bees act as pollinators, entering the 'slipper' easily but only able to exit by pushing between the side of the pouch and the staminode and receiving a dusting of pollen in the process.

We admired and photographed the blooms for as long as possible before becoming ourselves a feast for the unremitting buzzing mosquitoes, withdrawing from the wood to the sound of a noisy black woodpecker and happy that our conservation contribution to Biebrza National Park would improve the habitat for this species of endangered orchid.

Our journey north for the second part of the holiday continued, winding through gently undulating countryside where great grey shrikes and ravens were noted. Artur disembarked to chat to a barefooted shepherdess herding a flock of sheep – a wildlife information exchange. There was an opportunity to buy crisps and ice-creams in Tykocin, a small town with a historic synagogue and brutal history, on our detour through to a sand and gravel quarry, where we found wheatears, whinchats, a hunting male Montagu's harrier and one lonely bee-eater. Lunch was by a water meadow and the bridge over the river Narew at the edge of the town. A walk along the river path produced drumming and we caught sight of a Syrian woodpecker along with a pair of golden orioles and a mixture of terns, and a marsh warbler was heard and then glimpsed in a dense bush.

The continuing drive found us passing through Bialystok, the largest city in north-east Poland, and on to the fishponds of Djolidy, where we stopped in the sunshine to stretch our legs and admire the water birds, including red-necked and great-crested grebes and great reed warblers. There was talk of a little bittern and Ken, emerging from behind a bush, found he had flushed one!

Białowieża, only 2km from the border with Belarus, is an agricultural village full of traditional, wooden houses, all with neatly stacked woodpiles, but satellite dishes and newly-erected hotels show that tourism is benefitting the economy. Many visitors now come to experience the ancient woodland, one of the last and, with its counterpart over the border, largest remaining parts of the primary temperate forest, thought to have established 4,000 years ago, which once spread across the European Plain.

We were welcomed to our spacious accommodations with mint vodka and supper at 6.30. Then it was onto the bus again to meet Arik, our knowledgeable local guide, for our first expedition into the forest, target species the tiny pygmy owl, about the size of a starling and a rare but known breeder in this area. Stopping in a clearing with plenty of tall and dead trees, Arik persisted with his pygmy owl calls, but the only replies were from a song thrush and a few roding woodcocks.

#### Friday May 21 – Białowieża Forest

We awoke to morning sunshine, some hearing a corncrake, before a pre-breakfast stroll through the village, over the bridge spanning two ornamental lakes and into Palace Park, laid out in the English style during the 1890s and characterised by trees, shrubs and glades to enhance a hunting mansion built for the tsars, the last private owners of the forest which was then entirely within the Russian empire. The palace was seized by occupying German troops during WW2 and destroyed by the retreating Nazis but other impressive buildings remain - the Chauffeur's House, the Bath House, the Hofmarshal's House and the Swiss House. There is detailed information about the Palace Park and Białowieża Natural Park on:-

http://www.visitbialystok.com/index.php?op=disco\_podlasie&site=bialowieza

A thrush nightingale sang in a dead tree while river and icterine warblers nearby performed lustily, but unseen. A serin showed splendidly and was joined by a calling wryneck, and great reed warblers, as expected, were numerous at the edge of the open water.

After breakfast we headed for the 'Strictly Preserved' area of forest, noting purple broad-leaved marsh orchids, smart whinchats and red-backed shrikes along the approach and a short-toed eagle which hovered for some time. At the massive, oak entrance gates, designed by an architect from Kraków, we met Arik once again. Entry into this part of the forest is strictly controlled and visitors, on foot, bicycle or horse-drawn cart only, must be accompanied by an approved guide. Arik stressed that such is the biodiversity, we must keep to the designated tracks and not step off the path. This area is free of any management and natural processes operate without human intervention.

Immediately through the entrance there was a hawfinch on the path and as it flew off the sheer

height of the tree canopy above us became apparent, with principal species including Scots pine, Norway spruce, hornbeam, small-leaved lime, oak, sycamore, maple, ash, downy and white birch, aspen and black alder. Lichens and mosses were many and beautiful, there were fungi including brackets of *Fomes fomentarius* commonly known as horse's hoof or tinder fungus, which is especially good for firelighting, an ability exploited by ancient nomadic peoples to transport fire, and Laetiporus sulphurous an edible fungus known as chicken of the woods. Toothwort and birdsnest orchids were noted. A first summer red-breasted flycatcher sang vociferously from a low perch and the first of many collared flycatchers appeared. A treecreeper was seen to enter its nest. located behind a flap of bark on a dead tree next to the boardwalk. A pair of middle spotted woodpeckers posed at their nest hole while nuthatch and marsh tit were seen carrying food into their breeding places.



After a late lunch a visit to the Zoo Park proved very worthwhile as we saw lynx, wolf, elk, wild boar with young, plus koniks and bison in pleasant surroundings. A hawfinch lingered in one area and a grey-headed woodpecker showed to some. Honey was a popular purchase as we left. A late evening bison drive unfortunately proved fruitless, but we did see fresh hoofprints in the mud.

#### Saturday May 22 – Białowieża Forest



The pre-breakfast walk surprised and delighted. A beaver (left) was seen and photographed at the bridge by John and Rosemary. Gill, having scouted the park yesterday afternoon, lead us to an active lesser spotted woodpecker nest, which also had starling and wryneck holes just a few feet apart on the same tree. As we watched the woodpeckers, the wryneck pair flew into view and mated! A collared flycatcher entered its nest through one hole and left via another, and yesterday's favourites were still showing, including a gleaming short-toed eagle. A lesser spotted eagle flew over the hotel just as we went in to breakfast.

A short journey then took us to the edge of a village and the territory of a barred warbler, with large, deciduous trees, hedges and thickets, favoured *sylvia* warbler habitat. With a little encouragement the bird sang, displayed and sat for all. A large bird for a warbler, this obliging male clearly showed his bright yellow eye, square-ended tail and barred underparts, looking a bit like a small cuckoo as he flew over us and around the boundaries of his patch. A little further along, by a bridge over the river, we were watching a pair of grey-headed woodpeckers at their

nest in the conifers by the road edge when a message was received from Norbert, our bison tracker of yesterday evening: there were bison in broad daylight in a meadow known to be favoured by them. We were quickly back in the bus and Wes, as keen to see them as we were, put his foot down — typically the local roads were virtually traffic-free — and we soon arrived to find three tail-swishing bison, one clearly a male, grazing their way along the far side of the meadow and eventually disappearing into the forest beyond.

By 1919 the bison population in the forest had been hunted to extinction. Initially re-established in 1929 in a fenced reserve, they were reintroduced into forest areas in 1952 and it is estimated that there are now 260 bison freely roaming on the Polish side. Currently, the border fence that divides Poland and the rest of the EU from Belarus runs straight through the forest, separating two populations of bison that, combined, would have more genetic diversity and be more sustainable.

We thanked Norbert for his prompt message and rewarded both him and his friend with Honeyguide badges!

Doubling back, we were soon marvelling at a preening female three-toed woodpecker with the yellow-crowned male also in the nesting area. We had to tear ourselves away to move on to our lunch stop, the reservoir at Siemianowka. In warm sunshine we sat in the picnic area by a wooden viewing tower, revising many of the birds seen during the week. Dragonflies and damselflies buzzed around the water's edge and across the marshes a lesser spotted eagle perched on a roof.

Finally we returned to the forest, to an area dubbed 'Louisiana' (right) owing to its swampy resemblance, although the standing trees here were dead or dying due to flooding caused by beaver engineering works. A mess of a lodge had been constructed, where the normally nocturnal rodents were probably asleep. We found great, middle and lesser spotted woodpeckers, and black woodpecker too — a woodpecker haven although rather startling to the human eye. A pair of pied flycatchers with an apparent hybrid male in attendance were well studied.



(Post script - In the wake of the floods which affected southern Poland during May, the Interior Minister held that beavers were partly to blame for the devastation because the animals tunnel through dams and embankments designed to protect the cities. Owing to this, and although beavers are a protected species, Polish authorities have increased the hunting quota.)

Our final dinner was a delight, with the hotel kindly moving us to a conference room. Artur supplied the wine and pear juice and we celebrated with John R his birthday, marking his official retirement date, a day in advance. We attempted to define a specific holiday highlight but most agreed there had been so many that it was impossible to choose.

#### Sunday May 23 – return from Białowieża to Warsaw

Final efforts led some to stonking views of a previously elusive river warbler, high in a still leafless bush, and farewell sightings of other species in the Palace Park. Group photos were taken in sunshine in the hotel garden and we at least were impressed by the aerial display of a lesser spotted eagle as he tried to attract the attention of a female.

The journey to Warsaw was pleasant with the river Bugg very swollen and, as it was Pentecost, we saw a large part of the population at some splendid Catholic churches. We were Wizzed into Luton on time.

#### **SYSTEMATIC LISTS**

#### **Birds**

Birds are listed in the new order, as in the second edition of the Collins Bird Guide.

#### **Mute Swan**

Whooper Swan Just one pair by the roadside at a late flood. An increasing species.

**Greylag Goose** Exciting for the locals as it is a recent breeder.

Mallard

Gadwall

Shoveler

Wigeon

Teal Small numbers seen.

Garganey Some flying views were eclipsed by sightings of males on small pools.

**Pochard** A few. A Pochard x Ferruginous Duck excited Marek Borkowski but not us.

Tufted Duck A few.

Quail Heard at Dobarz.

Corncrake

Red-throated Diver A winter plumage bird seen by several.

**Little Grebe** Just one flood had these nesting.

Red-necked Grebe Nesting near the previous species and at Djolidy.

**Great Crested Grebe** 

Bittern Boomed in numbers everywhere suitable but never showed.

**Little Bittern** Only at Djolidy for some.

**Great Egret** Appeared frequently.

**Grey Heron** 

White Stork A clacking good bird in spite of being so common. Groups of non-breeding loafers were interesting.

Black Stork Some good views of this chic bird.

White-tailed Eagle Much admired especially when accompanying lunch .

**Lesser Spotted Eagle** A series of excellent sightings.

**Spotted Eagle** Tagged along for one delighted spotter with other possibles.

**Short-toed Eagle** Hovered and gleamed as they should do.

Marsh Harrier Many sightings in varied plumages.

Montagu's Harrier A delight in many places especially when displaying.

**Common Buzzard** 

**Honey Buzzard** Showed its characteristics on several occasions.

Kestrel Only one.

**Hobby** One especially fine fly-past and perch as we sheltered from rain.

**Peregrine** An uncommon bird but seen twice at Bialy Grad where the panic caused on the first appearance produced an unforgettable spectacle.

Spotted Crake Called incessantly at the Great Snipe lek.

Coot

**Crane** Enlivened many moments with majestic flight and bugling.

**Lapwing** Common.

**Dunlin** Just one small black bellied group.

Green Sandpiper Only at the Bison meadow.

**Redshank** Frequently seen and/or heard.

Black-tailed Godwit A number of vocal pairs seen.

**Woodcock** Several roding in the forest.

Great Snipe Wonderful to see and hear them so comfortably.

**Snipe** Drummed for our delight in many places.

Ruff Too much water for them to linger so just one reeve seen on the ground.

**Long-tailed Skua** They do migrate overland so perhaps this one was going from the Black Sea to the Baltic.

#### **Black-headed Gull**

Little Gull Several from the shelters.

**Little Tern** Three with the previous species.

**Common Tern** in three different locations in small numbers.

**Black Tern** Everyone was pleased to master the identification as it mingled infrequently with the next species.

White-winged Tern Yes you are right! You probably will never see so many in so many places again.

**Whiskered Tern** Difficult to believe that with different water levels this would have been the most numerous tern.

Feral Pigeon.

**Wood Pigeon** One of the many birds that have a low density in Poland because as yet, compared with the UK, they have not adapted to garden living.

**Collared Dove** 

Cuckoo Still a common bird here.

Tawny Owl Heard in the Palace Park.

Nightjar Heard on the way home from the lek.

Swift In Warsaw and some villages.

**Hoopoe** Eventually pleased the eye.

Bee-eater One was a Polish surprise but it never called to us.

**Black Woodpecker** The 'pregnant flyby Jackdaw with the huge white bill' became a familiar, but, always exciting sight.

**Green Woodpecker** Called as we were at the Protected Forest Gate but Polish ears are not as tuned to it as we are.

Grey-headed Woodpecker So pleasing that all saw it well in the end.

Great spotted Woodpecker Seen well but luckily other congeners grabbed the headlines.

**Syrian Woodpecker** A drummer but a poor shower by the Narew in Tykocin.

Middle-spotted Woodpecker Presented a picture of married bliss beside their hole.

**Three-toed Woodpecker** How convenient it was that the female decided to clean up and rest on the most obvious tree!

**Lesser Spotted Woodpecker** To watch the pair at the nest as the following species mated on a branch behind was a spectacle never to be repeated.

Wryneck So enjoyed calling, perching and mating.

Skylark

Woodlark Sang beautifully and showed well.

**Sand Martin** 

**Barn Swallow** 

**House Martin** 

Meadow Pipit Seen in places.

**Tree Pipit** Enlivened the walk in the dunes by singing and parachuting.

White Wagtail

**Yellow Wagtail** (sub-species Flava – blue-headed.) A delight in many places.

**Citrine Wagtail** It was good that we saw it at Bialy Grad as it has disappeared from its famous nesting ground at Siemiankowa.

**Dunnock** Difficult to see in Poland.

Robin Only in a few places.

**Thrush Nightingale** A desperate male showed really well at the bird busy bridge in the Palace Park. Sang everywhere suitable.

**Bluethroat** Possibly the bird of the trip as so many had waited so long to see and hear it.

**Black Redstart** They must seem like family pets rather than wild birds to many Poles.

Wheatear Best views at the bee-eater site.

Whinchat The males look much more handsome in the field than they do in books.

Song Thrush A delight to see and hear so many.

Mistle Thrush Scarce.

Fieldfare Many in suitable habitat.

Blackbird Infrequent.

**Barred Warbler** Was one of a number of warbler species that was in first summer plumage as it sang for us in full view.

Garden Warbler Seen well in places.

Blackcap as above.

Whitethroat Enjoyed in song flight and on the bush.

**Lesser Whitethroat** Sang in many places including the hotel garden in Bialowieza.

Sedge Warbler Very common.

Aquatic Warbler THE bird of the boardwalk.

Grasshopper Warbler Ranked second from the boardwalk.

River Warbler Some worked hard before they enjoyed excellent views.

Savi's Warbler Seen very well on a couple of occasions.

Reed Warbler Only in any numbers from Corncrake bridge.

Marsh Warbler Favoured one leafless tree near the busy bird bridge.

Great Reed Warbler Gave many raucous performances.

Icterine Warbler THE garden bird at Dobarz and a good singer elsewhere.

Willow Warbler Quite common.

**Wood Warbler** Fewer than usual; Polish naturalists said that the ground-nesting Wood Warblers are disturbed on the ground by the voles.

Chiffchaff Common.

Goldcrest One only.

Wren Very few.

Spotted Flycatcher Many seen.

**Red-breasted Flycatcher** The star was the low percher in white in the Protected Forest.

Pied Flycatcher One pair but showed very well.

**Collared Flycatcher** A delight to hear and see including at the nest.

**Great Tit** 

Coal Tit Very scarce.

**Blue Tit** 

Willow Tit Was feeding young in the mixed forest habitat at Dobarz.

Marsh Tit At the nest in several places.

**Penduline Tit** The changeover at the nest was lightening fast.

Nuthatch Another nest bird.

Treecreeper Well seen in places.

Great Grey Shrike Appeared in Biebrza once the skies brightened.

**Red-backed Shrike** Seemed to be anywhere with suitable bushes.

Magpie

Jay Seen well.

Jackdaw

Rook

**Hooded Crow** 

Raven Great noises at Dobarz.

Starling Nested in harmony with LSW and Wryneck. Very common.

**Golden Oriole** Fluted frequently but showed only sometimes.

**House Sparrow** 

Tree Sparrow Noted in places.

Chaffinch

Linnet

Goldfinch

**Greenfinch** This and the above three species were common.

**Siskin** Seen once or twice.

Serin Much enjoyed.

**Hawfinch** Delighted everyone with its confiding appearances.

Common Rosefinch Many sightings and listenings.

Reed Bunting Very common but handsome.

Ortolan Bunting One only.

Yellowhammer Very common and obliging.

#### **Mammals**

Fox Three sightings.

Beaver Seen at the bird busy bridge with lodges and construction efforts noted elsewhere.

Bank Vole A bumper year. Brown Hare Several seen.

Wild Boar Feeding activities are very vigorous.

Elk

Roe Deer Paler than the UK version.

Red Deer

Stoat One seen.
Polecat One at Dobarz.

Bison Three in a meadow were much enjoyed.

# **Amphibians and Reptiles**

Fire-bellied Toad
Common Toad
Common Tree Frog – much reduced by the cold winter.
Common Frog
Moor Frog
Pool Frog
Sand Lizard
Slow-worm (right)
Grass Snake



#### **Butterflies**

Would have been more numerous later and/or with better weather.

Swallowtail Holly Blue
Green-veined White Peacock
Orange Tip Red Admiral
Pale Clouded Yellow Map (right)
Brimstone Speckled Wood
Wood White Small Skipper



#### **Odonata**

These were beginning to appear but were not recorded to any notable extent.

Banded Demoiselle Azure Damselfly Variable Damselfly Four-spotted Chaser Hairy dragonfly (right)



## **Plants**

The nomenclature and systemic order of the plant list generally follows 'The Flora of Vascular Plants in the Bialowieza Forest' by Sokolowski, 1995, and 'List of Vascular Plants of the Biebrza National Park and the Biebrza Valley' by Werpachowski 2003.

B = Bialowieza National Park. Bb = Biebrza National Park. Siem = Siemianowka Reservoir.

B = Blaiowicza National Fal	K. DD - DIODIZA NATIONALI AIK.	Siem – Siemanowka rieservon.	
	Ferns and allies		
Lycopodiaceae			
Interrupted clubmoss	Lycopodium annotinum	Forest in Biebrza, also B	
Fir clubmoss		В	
Equisetaceae			
Common horsetail	Equisetum arvense	B, Bb	
Water horsetail	Equisetum fluviatile	B. Bb and Siem	
Marsh horsetail	Equisetum palustre	B, Bb	
Shady horsetail	Equisetum pratense	B, Bb	
Wood horsetail	Equisetum sylvaticum	В	
Hypolepidaceae	D	1471	
Bracken	Pteridium aquilinum	Widespread	
Woodsiaceae	Anathanaina filin famaina	D Db	
Lady fern	Aythyrium filix-femina	B, Bb	
Oak fern	Gymnocarpium dryopteris	B, Bb	
<b>Dryopteridaceae</b> Male fern	Dryopteris filix-mas	Widespread in forests	
	Gymnospermae	Triadoproda irrioroto	
Pinaceae	, ,		
Larch	Larix decidua	Scattered records	
Norway spruce	Picea abies	Dominant in wetter forest,	
		co-dominant in drier sites.	
Scots pine	Pinus sylvestris	Locally dominant	
Cupressaceae			
Juniper	Juniperus communis	BB, Siem understory	
	Angiospermae		
Dicotyledons			
Salicaceae	5 / /	5	
Black poplar	Populus nigra	B	
Aspen	Populus tremula	Damp forest/streamsides	
Goat willow	Salix caprea	WINDENFOON	
+ various others not identified.			
	ed.	Widespread	
Betulaceae		·	
<b>Betulaceae</b> Alder	Alnus glutinosa	Widespread, very common	
Betulaceae Alder Grey alder	Alnus glutinosa Alnus incana	Widespread, very common B, Bb	
Betulaceae Alder Grey alder Silver birch	Alnus glutinosa Alnus incana Betula pendula	Widespread, very common B, Bb Drier woodland	
Betulaceae Alder Grey alder Silver birch Downy birch	Alnus glutinosa Alnus incana	Widespread, very common B, Bb	
Betulaceae Alder Grey alder Silver birch Downy birch Black alder	Alnus glutinosa Alnus incana Betula pendula	Widespread, very common B, Bb Drier woodland	
Betulaceae Alder Grey alder Silver birch Downy birch Black alder Corylaceae	Alnus glutinosa Alnus incana Betula pendula Betula pubescens	Widespread, very common B, Bb Drier woodland Widespread, esp. Bb	
Betulaceae Alder Grey alder Silver birch Downy birch Black alder Corylaceae Hornbeam	Alnus glutinosa Alnus incana Betula pendula Betula pubescens Carpinus betulus	Widespread, very common B, Bb Drier woodland Widespread, esp. Bb	
Betulaceae Alder Grey alder Silver birch Downy birch Black alder Corylaceae Hornbeam Hazel	Alnus glutinosa Alnus incana Betula pendula Betula pubescens	Widespread, very common B, Bb Drier woodland Widespread, esp. Bb	
Betulaceae Alder Grey alder Silver birch Downy birch Black alder Corylaceae Hornbeam Hazel Fagaceae	Alnus glutinosa Alnus incana Betula pendula Betula pubescens Carpinus betulus Corylus avellana	Widespread, very common B, Bb Drier woodland Widespread, esp. Bb Locally common & B B, Bb	
Betulaceae Alder Grey alder Silver birch Downy birch Black alder Corylaceae Hornbeam Hazel Fagaceae Common oak	Alnus glutinosa Alnus incana Betula pendula Betula pubescens  Carpinus betulus Corylus avellana  Quercus robur	Widespread, very common B, Bb Drier woodland Widespread, esp. Bb  Locally common & B B, Bb  Widespread	
Betulaceae Alder Grey alder Silver birch Downy birch Black alder Corylaceae Hornbeam Hazel Fagaceae Common oak Red oak	Alnus glutinosa Alnus incana Betula pendula Betula pubescens Carpinus betulus Corylus avellana	Widespread, very common B, Bb Drier woodland Widespread, esp. Bb Locally common & B B, Bb	
Betulaceae Alder Grey alder Silver birch Downy birch Black alder Corylaceae Hornbeam Hazel Fagaceae Common oak Red oak Ulmaceae	Alnus glutinosa Alnus incana Betula pendula Betula pubescens  Carpinus betulus Corylus avellana  Quercus robur Quercus rubra	Widespread, very common B, Bb Drier woodland Widespread, esp. Bb  Locally common & B B, Bb  Widespread	
Betulaceae Alder Grey alder Silver birch Downy birch Black alder Corylaceae Hornbeam Hazel Fagaceae Common oak Red oak	Alnus glutinosa Alnus incana Betula pendula Betula pubescens  Carpinus betulus Corylus avellana  Quercus robur	Widespread, very common B, Bb Drier woodland Widespread, esp. Bb  Locally common & B B, Bb  Widespread Around Bialowieza village	
Betulaceae Alder Grey alder Silver birch Downy birch Black alder Corylaceae Hornbeam Hazel Fagaceae Common oak Red oak Ulmaceae Wych elm	Alnus glutinosa Alnus incana Betula pendula Betula pubescens  Carpinus betulus Corylus avellana  Quercus robur Quercus rubra	Widespread, very common B, Bb Drier woodland Widespread, esp. Bb  Locally common & B B, Bb  Widespread Around Bialowieza village	

**Urticaceae** Urtica dioica Stinging nettle Widespread Loranthaceae Mistletoe Viscum album Widespread, most on poplar **Aristolochiaceae** Asarabacca В Asarum eurpoaeum Polygonaceae **Bistort** Polygonum bistorta Widespread Giant knotweed Reynoutria sachlinensis Rumex acetosa Widespread Common sorrel Sheep's sorrel Rumex acetosella Local Curled dock Rumex crispus Bb Rumex hydrolapathum Widespread, in leaf Water dock Broad-leaved dock Rumex obtusifolius Widespread Chenopodiaceae Fat hen Chenopodium album Bb (hotel) Caryophyllaceae Field mouse-ear Cerastium arvense B. Bb Common mouse-ear Cerastium fontanum Widespread Sticky mouse-ear Cerastium glomeratum B, Bb Lychnis flos-cuculi Common in wet meadows Ragged robin Knawel Scleranthus annuus Siem White campion Silene alba B. Bb Greater stitchwort Stellaria holostea Local at B Common chickweed Stellaria media Widespread Wood stitchwort Stellaria nemorum B, common in woods Nymphaceae Yellow water-lily In flower at Bb Nuphar lutea Ranunculaceae Rue-leaved isopyrum Isopyrum thalictroides Many in seed in woods Wood anemone Anemone nemorosa Caltha palustris Marsh marigold Widespread in leaf Forking larkspur Consolida regalis Bb Hepatica Hepatica nobilis Marshes, Day 8 Eastern pasque flower Pulsatilla patens Red Marsh, Bb Meadow buttercup Ranunculus acris Scattered records Common water crowfoot Ranunculus aquatilis Fan-leaved water crowfoot Ranunculus circinatus B. Bb Greater spearwort Ranunculus lingua Rh Multi-flowered buttercup Ranunculus polyanthemos Common in meadows Creeping buttercup Ranunculus repens Widespread Celery-leaved buttercup Ranunculus sceleratus B and Bialystok Thread-leaved

> Ranunculus trichophyllus Thalictrum aquilegifolium Ranunculus auricomus

Chelidonium majus

Alliaria petiolata
Armoracia rusticana
Capsella bursa-pastoris
Cardamine bulbifera
Cardamine pratensis
Sisymbrium officinale
Thlaspi arvense

В

В

B, Bb

(leaves) Bb

Scattered

Scattered

Widespread

Wood fringes, seen from bus to Bb

Widespread/very common

Widespread/common B, in seed and flower

Lady's smock
Hedge mustard
Field pennycress
+ many others not identified.

water crowfoot

Goldilocks

Papaveraceae

Great celandine

**Cruciferae**Garlic mustard

Horse radish

Shepherd's purse

Coralroot bittercress

Greater meadow-rue

Resedaceae

Wild mignonette Reseda lutea

Droseraceae

Common sundew Drosera rotundifolia Bb raised bog

Bb

Crassulaceae

Wall-pepper Sedum acre Widespread
Orpine Sedum telephium Strekowa Gora

Saxifragaceae

Alternate-leaved

golden saxifrage Chrysosplenium alternifolium B

Grossulariaceae

Redcurrant Ribes rubrum Bialowieza

Rosaceae

Lady's mantle Alchemilla spp. Mollis + another Hawthorn Crataegus monogyna B

Meadowsweet Filipendula ulmaria Widespread in leaf Wild strawberry Fragaria vesca Widespread

Water avens
Herb bennet

Geum urbanum

Widespread/common
Widespread/common

Widespread/common

Silverweed Potentilla anserine Widespread

Tormentil Potentilla erecta Widespread/locally abundant Marsh cinquefoil Potentilla palustris Bogs at Bb and Siem

Creeping cinquefoil Potentilla reptans Widespread Wild cherry Prunus avium Scattered Bird cherry Prunus padus B, Bb

Blackthorn Prunus spinosa Scattered
Dog rose Rosa canina Bb

Japanese rose Rosa rugosa Naturalised near Hajnowka Rosa species Rosa spp. Others not identified Locally common in forests

Stone bramble Rubus saxatilis Bb
Rowan Sorbus aucuparia Scattered

Leguminosae

A hairy broom Chamaecytisus ratisbonensis B and roadsides
A hairy broom Chamaecytisus ruthenicus B and roadsides

Garden lupin

Lupinus polyphyllus

Naturalised on roadsides

Medicago lupulina

False acacia

Robinia pseudacacia

Naturalised on roadsides

B

Planted in shelter belts

False acacia Robinia pseudacacia Planted in shelte
Lesser trefoil Trifolium dubium B, Siem
Zigzag clover Trifolium medium Bialystok

Red clover Trifolium pratense Widespread/common White clover Trifolium repens Widespread/common Tufted vetch Vicia cracca Scattered

Common vetch
Oxalidaceae

Wood sorrel Oxalis acetosella Common in leaf

Vicia sativa

Geraniaceae

Common stork's-bill Erodium cicutarium B, Siem

Dusky crane's-bill Geranium phaeum Abundant on roadsides at B Herb robert Geranium robertianum Widespread

Widespread

Bloody crane's-bill Geranium sanguineum Local but widespread Wood crane's-bill Geranium sylvaticum Widespread

Euphorbiaceae

'Tall' spurge Roads to Bb
'Short' spurge Marshes, Day 8

Hungarian spurge Euphorbia esula Locally common Dog's mercury Mercurialis perennis Forest at B

Aceraceae		
Norway maple	Acer platanoides	Widespread/common
Sycamore	Acer pseudoplatanus	Widespread
Hippocastanaceae		
Horse chestnut	Aesculus hipocastanum	В
Balsaminanceae		_
Touch-me-not	Impatiens noli-tangere	В
Celastraceae		
Spindle tree	Euonymus europaeus	B, Bb
Rhamnaceae		
Alder buckthorn	Frangula alnus	B, Bb
Buckthorn	Rhamnus catharticus	Bb
Tiliaceae	T''	NAC 1
Small-leaved lime	Tilia cordata	Widespread
Guttiferae	I beneation as a set a set one	la la ef et D
Common St. John's-wort	Hypericum perforatum	In leaf at B
Violaceae	Viala amanaia	D
Field pansy	Viola arvensis	В
Heath dog violet	Viola canina	В
Common dog violet	Viola riviniana	B B
Heartsease	Viola tricolour	В
Thymelaeaceae Mezereon	Danhna mazaraum	
	Daphne mezereum	
Onograceae Great willowherb	Epilobrium hirsutum	In leaf at B
Evening primrose sp.	Oenothera sp.	Roadsides
Cornaceae	Genothera sp.	Tidausiues
Dogwood (red osier)	Cornus sanguinea	B, Bb
Araliaceae	Comus sangumea	В, ВО
Alallaceae		
lvv	Hedera helix	Scattered
lvy Umbelliferae	Hedera helix	Scattered
Umbelliferae		
<b>Umbelliferae</b> Ground elder	Aegopodium podagraria	Widespread/common
<b>Umbelliferae</b> Ground elder Wild angelica	Aegopodium podagraria Angelica sylvestris	Widespread/common B, Bb
Umbelliferae Ground elder Wild angelica Cow parsley	Aegopodium podagraria Angelica sylvestris Anthriscus sylvestris	Widespread/common B, Bb Widespread/common
Umbelliferae Ground elder Wild angelica Cow parsley Caraway	Aegopodium podagraria Angelica sylvestris Anthriscus sylvestris Carum carvi	Widespread/common B, Bb Widespread/common Bb
Umbelliferae Ground elder Wild angelica Cow parsley Caraway Burnet saxifrage sp.	Aegopodium podagraria Angelica sylvestris Anthriscus sylvestris Carum carvi Pimpinella sp.	Widespread/common B, Bb Widespread/common Bb In leaf
Umbelliferae Ground elder Wild angelica Cow parsley Caraway Burnet saxifrage sp. Sanicle	Aegopodium podagraria Angelica sylvestris Anthriscus sylvestris Carum carvi Pimpinella sp. Sanicula europeae	Widespread/common B, Bb Widespread/common Bb In leaf In flower in forests at B
Umbelliferae Ground elder Wild angelica Cow parsley Caraway Burnet saxifrage sp. Sanicle Steppe parsley	Aegopodium podagraria Angelica sylvestris Anthriscus sylvestris Carum carvi Pimpinella sp.	Widespread/common B, Bb Widespread/common Bb In leaf
Umbelliferae Ground elder Wild angelica Cow parsley Caraway Burnet saxifrage sp. Sanicle Steppe parsley Ericaceae	Aegopodium podagraria Angelica sylvestris Anthriscus sylvestris Carum carvi Pimpinella sp. Sanicula europeae Peucedanum oreoselinum	Widespread/common B, Bb Widespread/common Bb In leaf In flower in forests at B Red Marsh
Umbelliferae Ground elder Wild angelica Cow parsley Caraway Burnet saxifrage sp. Sanicle Steppe parsley Ericaceae Bog rosemary	Aegopodium podagraria Angelica sylvestris Anthriscus sylvestris Carum carvi Pimpinella sp. Sanicula europeae Peucedanum oreoselinum Andromeda polifolia	Widespread/common B, Bb Widespread/common Bb In leaf In flower in forests at B Red Marsh Raised bog at Bb
Umbelliferae Ground elder Wild angelica Cow parsley Caraway Burnet saxifrage sp. Sanicle Steppe parsley Ericaceae	Aegopodium podagraria Angelica sylvestris Anthriscus sylvestris Carum carvi Pimpinella sp. Sanicula europeae Peucedanum oreoselinum Andromeda polifolia Calluna vulgaris	Widespread/common B, Bb Widespread/common Bb In leaf In flower in forests at B Red Marsh Raised bog at Bb Widespread/local
Umbelliferae Ground elder Wild angelica Cow parsley Caraway Burnet saxifrage sp. Sanicle Steppe parsley Ericaceae Bog rosemary Ling	Aegopodium podagraria Angelica sylvestris Anthriscus sylvestris Carum carvi Pimpinella sp. Sanicula europeae Peucedanum oreoselinum Andromeda polifolia Calluna vulgaris Ledum palustre	Widespread/common B, Bb Widespread/common Bb In leaf In flower in forests at B Red Marsh  Raised bog at Bb Widespread/local Raised bog at Bb
Umbelliferae Ground elder Wild angelica Cow parsley Caraway Burnet saxifrage sp. Sanicle Steppe parsley Ericaceae Bog rosemary Ling Labrador tea Bilberry	Aegopodium podagraria Angelica sylvestris Anthriscus sylvestris Carum carvi Pimpinella sp. Sanicula europeae Peucedanum oreoselinum  Andromeda polifolia Calluna vulgaris Ledum palustre Vaccinium myrtillus	Widespread/common B, Bb Widespread/common Bb In leaf In flower in forests at B Red Marsh  Raised bog at Bb Widespread/local Raised bog at Bb B, Bb
Umbelliferae Ground elder Wild angelica Cow parsley Caraway Burnet saxifrage sp. Sanicle Steppe parsley Ericaceae Bog rosemary Ling Labrador tea Bilberry Bog bilberry	Aegopodium podagraria Angelica sylvestris Anthriscus sylvestris Carum carvi Pimpinella sp. Sanicula europeae Peucedanum oreoselinum Andromeda polifolia Calluna vulgaris Ledum palustre	Widespread/common B, Bb Widespread/common Bb In leaf In flower in forests at B Red Marsh  Raised bog at Bb Widespread/local Raised bog at Bb B, Bb Raised bog at Bb
Umbelliferae Ground elder Wild angelica Cow parsley Caraway Burnet saxifrage sp. Sanicle Steppe parsley Ericaceae Bog rosemary Ling Labrador tea Bilberry	Aegopodium podagraria Angelica sylvestris Anthriscus sylvestris Carum carvi Pimpinella sp. Sanicula europeae Peucedanum oreoselinum  Andromeda polifolia Calluna vulgaris Ledum palustre Vaccinium myrtillus Vaccinium uligonosum	Widespread/common B, Bb Widespread/common Bb In leaf In flower in forests at B Red Marsh  Raised bog at Bb Widespread/local Raised bog at Bb B, Bb
Umbelliferae Ground elder Wild angelica Cow parsley Caraway Burnet saxifrage sp. Sanicle Steppe parsley Ericaceae Bog rosemary Ling Labrador tea Bilberry Bog bilberry Cowberry	Aegopodium podagraria Angelica sylvestris Anthriscus sylvestris Carum carvi Pimpinella sp. Sanicula europeae Peucedanum oreoselinum  Andromeda polifolia Calluna vulgaris Ledum palustre Vaccinium myrtillus Vaccinium uligonosum	Widespread/common B, Bb Widespread/common Bb In leaf In flower in forests at B Red Marsh  Raised bog at Bb Widespread/local Raised bog at Bb B, Bb Raised bog at Bb
Umbelliferae Ground elder Wild angelica Cow parsley Caraway Burnet saxifrage sp. Sanicle Steppe parsley Ericaceae Bog rosemary Ling Labrador tea Bilberry Bog bilberry Cowberry Primulaceae	Aegopodium podagraria Angelica sylvestris Anthriscus sylvestris Carum carvi Pimpinella sp. Sanicula europeae Peucedanum oreoselinum  Andromeda polifolia Calluna vulgaris Ledum palustre Vaccinium myrtillus Vaccinium vitis-idaea	Widespread/common B, Bb Widespread/common Bb In leaf In flower in forests at B Red Marsh  Raised bog at Bb Widespread/local Raised bog at Bb B, Bb Raised bog at Bb Widespread/local
Umbelliferae Ground elder Wild angelica Cow parsley Caraway Burnet saxifrage sp. Sanicle Steppe parsley Ericaceae Bog rosemary Ling Labrador tea Bilberry Bog bilberry Cowberry Primulaceae Water-violet	Aegopodium podagraria Angelica sylvestris Anthriscus sylvestris Carum carvi Pimpinella sp. Sanicula europeae Peucedanum oreoselinum  Andromeda polifolia Calluna vulgaris Ledum palustre Vaccinium myrtillus Vaccinium vitis-idaea  Hottonia palustris	Widespread/common B, Bb Widespread/common Bb In leaf In flower in forests at B Red Marsh  Raised bog at Bb Widespread/local Raised bog at Bb B, Bb Raised bog at Bb Widespread/local B, Bb
Umbelliferae Ground elder Wild angelica Cow parsley Caraway Burnet saxifrage sp. Sanicle Steppe parsley Ericaceae Bog rosemary Ling Labrador tea Bilberry Bog bilberry Cowberry Primulaceae Water-violet Cowslip	Aegopodium podagraria Angelica sylvestris Anthriscus sylvestris Carum carvi Pimpinella sp. Sanicula europeae Peucedanum oreoselinum  Andromeda polifolia Calluna vulgaris Ledum palustre Vaccinium myrtillus Vaccinium vitis-idaea  Hottonia palustris Primula veris	Widespread/common B, Bb Widespread/common Bb In leaf In flower in forests at B Red Marsh  Raised bog at Bb Widespread/local Raised bog at Bb B, Bb Raised bog at Bb Widespread/local B, Bb B
Umbelliferae Ground elder Wild angelica Cow parsley Caraway Burnet saxifrage sp. Sanicle Steppe parsley Ericaceae Bog rosemary Ling Labrador tea Bilberry Bog bilberry Cowberry Primulaceae Water-violet Cowslip Creeping jenny	Aegopodium podagraria Angelica sylvestris Anthriscus sylvestris Carum carvi Pimpinella sp. Sanicula europeae Peucedanum oreoselinum  Andromeda polifolia Calluna vulgaris Ledum palustre Vaccinium myrtillus Vaccinium uligonosum Vaccinium vitis-idaea  Hottonia palustris Primula veris Lysimachia nummularia	Widespread/common B, Bb Widespread/common Bb In leaf In flower in forests at B Red Marsh  Raised bog at Bb Widespread/local Raised bog at Bb B, Bb Raised bog at Bb Widespread/local B, Bb Scattered records
Umbelliferae Ground elder Wild angelica Cow parsley Caraway Burnet saxifrage sp. Sanicle Steppe parsley Ericaceae Bog rosemary Ling Labrador tea Bilberry Bog bilberry Cowberry Primulaceae Water-violet Cowslip Creeping jenny Chickweed wintergreen Northern androsace Plumbaginaceae	Aegopodium podagraria Angelica sylvestris Anthriscus sylvestris Carum carvi Pimpinella sp. Sanicula europeae Peucedanum oreoselinum  Andromeda polifolia Calluna vulgaris Ledum palustre Vaccinium myrtillus Vaccinium uligonosum Vaccinium vitis-idaea  Hottonia palustris Primula veris Lysimachia nummularia Trientalis europaea Androsace septentrionalis	Widespread/common B, Bb Widespread/common Bb In leaf In flower in forests at B Red Marsh  Raised bog at Bb Widespread/local Raised bog at Bb B, Bb Raised bog at Bb Widespread/local B, Bb Scattered records Local in forest at B, Bb Bb, fortress walk
Umbelliferae Ground elder Wild angelica Cow parsley Caraway Burnet saxifrage sp. Sanicle Steppe parsley Ericaceae Bog rosemary Ling Labrador tea Bilberry Bog bilberry Cowberry Primulaceae Water-violet Cowslip Creeping jenny Chickweed wintergreen Northern androsace Plumbaginaceae A thrift	Aegopodium podagraria Angelica sylvestris Anthriscus sylvestris Carum carvi Pimpinella sp. Sanicula europeae Peucedanum oreoselinum  Andromeda polifolia Calluna vulgaris Ledum palustre Vaccinium myrtillus Vaccinium uligonosum Vaccinium vitis-idaea  Hottonia palustris Primula veris Lysimachia nummularia Trientalis europaea	Widespread/common B, Bb Widespread/common Bb In leaf In flower in forests at B Red Marsh  Raised bog at Bb Widespread/local Raised bog at Bb B, Bb Raised bog at Bb Widespread/local B, Bb Scattered records Local in forest at B, Bb
Umbelliferae Ground elder Wild angelica Cow parsley Caraway Burnet saxifrage sp. Sanicle Steppe parsley Ericaceae Bog rosemary Ling Labrador tea Bilberry Bog bilberry Cowberry Primulaceae Water-violet Cowslip Creeping jenny Chickweed wintergreen Northern androsace Plumbaginaceae A thrift Oleaceae	Aegopodium podagraria Angelica sylvestris Anthriscus sylvestris Carum carvi Pimpinella sp. Sanicula europeae Peucedanum oreoselinum  Andromeda polifolia Calluna vulgaris Ledum palustre Vaccinium myrtillus Vaccinium uligonosum Vaccinium vitis-idaea  Hottonia palustris Primula veris Lysimachia nummularia Trientalis europaea Androsace septentrionalis  Armeria (maritima) sp.	Widespread/common B, Bb Widespread/common Bb In leaf In flower in forests at B Red Marsh  Raised bog at Bb Widespread/local Raised bog at Bb B, Bb Raised bog at Bb Widespread/local B, Bb Scattered records Local in forest at B, Bb Bb, fortress walk  Locally in flower at B
Umbelliferae Ground elder Wild angelica Cow parsley Caraway Burnet saxifrage sp. Sanicle Steppe parsley Ericaceae Bog rosemary Ling Labrador tea Bilberry Bog bilberry Cowberry Primulaceae Water-violet Cowslip Creeping jenny Chickweed wintergreen Northern androsace Plumbaginaceae A thrift Oleaceae Ash	Aegopodium podagraria Angelica sylvestris Anthriscus sylvestris Carum carvi Pimpinella sp. Sanicula europeae Peucedanum oreoselinum  Andromeda polifolia Calluna vulgaris Ledum palustre Vaccinium myrtillus Vaccinium uligonosum Vaccinium vitis-idaea  Hottonia palustris Primula veris Lysimachia nummularia Trientalis europaea Androsace septentrionalis	Widespread/common B, Bb Widespread/common Bb In leaf In flower in forests at B Red Marsh  Raised bog at Bb Widespread/local Raised bog at Bb B, Bb Raised bog at Bb Widespread/local B, Bb Scattered records Local in forest at B, Bb Bb, fortress walk
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Rubiaceae В Crosswort Cruciata laevipes Scattered Cleavers Galium aparine Sweet woodruff Galium odoratum Abundant in forest at B Marsh bedstraw Galium palustre B, Bb Convolvulaceae Field bindweed Convolvulus arvensis Bb Polemoniaceae Polemonium caeruleum Jacob's ladder B, Bb, very locally common Boraginaceae True alkanet Anchusa officinalis Widespread/locally common Arable weed, B Corn gromwell Buglossoides arvensis Viper's bugloss Echium vulgare Widespread Water forget-me-not Myosotis scorpiodes Common comfrey Symphytum officinale Local at B and Bb Myosotis discolor Red Marsh Callitrichaceae Water-starwort sp. Waterways at B Callitriche sp. Labiatae Blue bugle В Ajuga genevensis Bugle Ajuga reptans В B, Bb Common hemp-nettle Galeopsis tetrahit Ground ivy Glechoma hederacea В Yellow archangel Lamiastrum galeobdolon Along roadsides, Bb White deadnettle Lamium album Bialystok Water mint Mentha aquatica B, Bb Hedge woundwort (leaf) Stachys sylvatica В Solonaceae Bittersweet Solanum dulcamara Scattered records Scrophulariaceae **Toothwort** Lathraea squamaria Bb strict reserve Marsh lousewort Pedicularis palustris B. Bb A lousewort Bb, Bialy Grad Rhianthus minor Yellow rattle Common figwort (leaf) Scrophularia nodosa B, Bb **Brooklime** Veronica beccabunga B, Bb Bird's-eye speedwell Veronica chamaedrys Widespread/abundant

Thyme-leaved speedwell Veronica serpyllifolia **Plantaginaceae** 

Ribwort plantain Plantago lanceolata Greater plantain Plantago major Hoary plantain Plantago media Caprifoliaceae

Common elder Sambucus nigra Guelder-rose Viburnum opulus Valerianaceae Marsh valerian

Common valerian Valeriana officinalis Dipsacaceae Field scabious Compositae

Wormwood A wormwood Field southernwood Mugwort Daisy

Pineapple-weed

Widespread Widespread

Widespread B, Bb Valeriana dioica Bb

Knautia arvensis Scattered records

B, Bb

Artemisia absinthium Scattered records Artemisia austriaca In leaf B. Bb Artemisia campestris Artemisia vulgaris Widespread Bellis perennis Scattered Chamnomila suaveolens Scattered

Creeping thistle

Marsh thistle

Hemp agrimony

Cirsium arvense

Cirsium arvense

Cirsium palustre

Locally common

Widespread in leaf

Marsh cudweed Filagainella uliginosa

Sand everlasting

Mouse-ear hawkweed

Cat's-ear

Nipplewort

Ox-eye daisy

Helichrysum arenatrium

Hieracium pilosella

Locally common

Scattered

Locally common

Scattered

In leaf at B

Scattered

Scattered

Heath groundsel Senecio sylvaticus Scattered Marsh fleawort Senecio congestus Bb

Groundsel Senecil vulgaris
Tansy Tanacetum vulgare Bialystok

Dandelion Taraxacum officinale Widespread, in seed

Goat's-beard Tragopogon pratensis B
Rhubarb Bb

Many fungi and lichens, especially at Bialowieza, not identified.

### **MONOCOTYLEDONS**

Alismataceae
Water plantain

Alisma plantago-aquatica

Leaves noted

Hydrocharitaceae

Frog-bit *Hydrocharis morus-ranea* B, Bb Water soldier *Stratoides aloides* Many in flower locally at Bb

Iridaceae Stratoides aioldes

Siberian iris (purple) Iris sibirica Returning from reservoir, Day 8

Araceae

Sweet flag Acorus calamus Leaves locally common at Bb

Liliaceae

Ramsons Allium ursinum B strict reserve
Lily of the valley Convallaria majalis Locally numerous
May lily Maianthemum bifolium Locally numerous
Herb Paris Paris quadrifolia A few at B and Bb

Solomon's seal
Angular Solomon's seal
Polygonatum multiflorum
Polygonatum odoratum
B
Several not identified

Gramineae (many not identified)

Cock's-foot Dactylis glomerata Widespread/common

Fescues Festuca spp. Widespread

Timothy Phleum pratense Common, also fodder crop Reed Phragmites australis Locally dominant

Locally naturalised

Rye Secale cereal

Lemnaceae
Common duckweed Lemna minor B. Bb

Typhaceae

Great reedmace (bulrush) Typha latifolia Widespread

Cyperaceae (many not identified)

Large yellow sedge Carex flava Bb

Orchidaceae

Early marsh orchid Dactylorhiza incarnata Scattered records at B, Bb Broad-leaved marsh orchid Dactylorhiza maculata Bird's-nest orchid Neottia nidus-avis Scattered records at B, Bb B, outside strict reserve B. Bb

Yellow lady's slipper *Cypripedium calceolus* Bb (sponsored by Honeyguide)