

A view from above

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In 1888, Robert Browning rendered into English verse the story of The Pied Piper of Hamelin, about a strange man who offered to rid the German town of Hamelin of a plague of rats in the 14th Century. Having done so, he asked for his fee, which the mayor refused to pay. So the Piper played again and all the children of the town followed him into the hillside, never to be seen again. Browning's Piper was tall and thin and wore a "queer long coat from heel to head . . . half of yellow and half of red". Peter Scott wasn't, and didn't. But he shared the Piper's more important characteristics. He was a leader, with a great capacity for gaining the confidence of animals and young people; the children of Hamelin followed the Piper because

*" . . he led us, he said, to a joyous land,
Joining the town and just at hand,
Where waters gushed and fruit-trees grew,
And flowers put forth a fairer hue,
And everything was strange and new";*

not bad as an adumbration of the Barn Elms development that is Peter's last and largest project.

"Most people can do nothing at all well" (Hardy 1940). Peter Scott did unusually well at almost all the many activities he tried. He was a 'man of action', who was also an acute and accurate observer, both as a painter and as a biologist. Konrad Lorenz, who knew a lot about looking, said (pers. comm.) that Peter was the most accurate observer he knew. This is a scarce and valuable talent. In activities as diverse as behavioural ecology and wetland management, it really does help to know what you have seen and to be able to describe it accurately. This is the dying art of the naturalist (Ness 1996), who gets his feet wet often and his face rubbed in the mud of his mistakes. There are no adequate substitutes for being there and smelling it.

In 1972, Peter Scott (1973) gave the Witherby Memorial Lecture at the British Trust for Ornithology annual conference,

his chosen subject 'Species Extinctions in Birds'. While doing so he illustrated two of his strengths. He had already done much as an organizer to create the Survival Service Commission of the International Union for Conservation of Nature and Natural Resources (IUCN), which produces the Red Data Books that are the chief source of public information on endangered species. And, to remind us of his repeated and successful efforts as a fund raiser, Peter remarked that, when lecturing to a dinner in New York not long before, he had been accompanied by Martha, the stuffed simulacrum of the last survivor of the multitudinous Passenger Pigeons *Ectopistes migratorius* that had darkened midwestern skies in the mid-19th century. She had sat alone in Cincinnati Zoo from 1900 to 1913. I see her, more happily, in 1972, admiring the skilled charm with which Peter relieved those

diners of \$70,000. (It has been left to his successors to get into the big money, thanks to the National Lottery).

In the published version of the Witherby Lecture one sentence is printed in capitals: "KEEP UP THE PRESSURE". The context was the long-dead proposal to build a third London airport at Foulness, abandoned for reasons quite apart from the damage it would have done to one of England's finest coastal marshes. But the message remains important; and the pressure may need to be kept up for a very long time. Richard Nixon put the need for perseverance well, with characteristic elegance: "About the time you are writing a line you have written so often that you want to throw up, that is the time that the American people will hear it" (Eade 1996).

At an IUCN meeting in Edinburgh in 1956, I recall Fairfield Osborn exclaiming, with truly American sincerity: "He really cares!", and they did, too. The emphasis that Peter Scott and his enthusiastic contemporaries put on biodiversity and caring for endangered species has been remarkably successful in reminding people, especially western city-dwellers, that we share the earth with many other creatures.

In the international realm, the greatest achievement of that last generation of amateurs was the Ramsar Convention of 1971. The Convention has been criticized for its lack of 'teeth'. I see that as its greatest strength. Had it been harsher, it would have secured far fewer signatories. Now, once on board, countries are under sustained international pressure to save not only their designated sites but all their wetlands from further harm. A "gentlemen's agreement" may not be worth much in a world in which gentlemen themselves are a threatened form of life; but it is a great deal better than no agreement at all, or a convention that few countries are willing to ratify.

Preventing the extinction of species does not go far to ensure a successful balance between human and other interests in the use of wetlands, especially in Europe, where few, if any, pristine wetlands remain and where the majority of wildfowl now depend on man-

controlled wetlands and croplands. Balancing conflicting interests is a never-ending process, in which local interests usually predominate.

For many years, North American bumper stickers have proclaimed: "Think globally, act locally". Acting locally is especially congenial to those who want to get out there and do something. It has produced the many achievements of the English county naturalists' trusts in hanging on to bits of the past. The creation of National Nature Reserves by the Nature Conservancy has been another local success, though their management by the Conservancy's multiplicity of enfeebled successors seems less than coherent.

The slogan implies, first, that people will think globally; and second, that acting on a large scale is less important than working in your own backyard. Both implications are wrong. As Goethe remarked (in German) "Thinking is hard, and acting according to thought irksome" or, as Swift put it, "the bulk of mankind is as well qualified for flying as for thinking" (both quoted in Housman 1903).

Few people have thought, or are likely to think, seriously on a global scale about wetland conservation, or the wetland needs of long-distance migrants. There is one happy counter-example to Swift's remark, the creation of the Western Hemisphere Shorebird Reserve Network (WHSRN). The germ idea of a chain of reserves came to Guy Morrison as he was flying round the coasts of South America counting waders. It was quickly fleshed out by Guy, Brian Harrington and Pete Myers, and brought into being within five years, a remarkable achievement.

The possibilities of WHSRN have been greatly enhanced by a lot of new information about the passage of waders through the interior of North America in spring. Where most of them will stop en route varies considerably from year to year, because they depend chiefly on saline lakes, which are greatly affected by the prairie drought cycle. Using the new knowledge of the physiology of migration to estimate where the waders need to refuel, and how much fuel they need, it

should now be possible to treat the interior refuges in the American and Canadian prairies as a linked system, in which water levels at the most suitable sites in any year could be manipulated to improve the conditions for migrant waders.

Yet there are formidable institutional barriers to a unified approach. Refuge managers care fiercely for their own patch, and scarcely at all about their neighbours'; and the responsible federal, state and provincial agencies do little to encourage cross-border collaboration in practical wetland management. Am I right in thinking that the same is true in Europe?

The general approach to managing wetland reserves for migratory birds reminds me of the ditty that Tom Lehrer wrote in 1953 about one of the scientists looted by the Americans from the Germans at the end of the Second World War:

*"Let the rockets go up,
Who cares where they come down?
That's not my department"
Said Wernher von Braun.'* (Lehrer 1980.)

My next example accounts for the seemingly arrogant title of this talk: *A View from Above*. During the 1980s a problem emerged in the Canadian Arctic that no one saw coming and which requires concerted actions by many people, most of them far from the Arctic.

Geese are now perhaps more numerous than they have ever been; one of the greatest biological success stories of the last 50 years. When the Severn Wildfowl Trust was formed in 1946, nearly all the goose populations of Eurasia and North America seemed to be in deep trouble. Further restrictions on shooting, and the creation of nature reserves, checked most of the declines. But it was modern agriculture that, quite incidentally, turned scarcity into abundance, by providing geese with more and better food, especially in late winter.

Arctic wetlands are much scarcer than the temperate croplands that have been feeding geese so well. In Arctic Canada, geese are now doing serious damage to many of the larger coastal marshes and

wet meadows that are their most important brood-rearing and moulting places. The massive damage to sedges, grasses and other food plants (Jefferies & Abraham 1994), especially by Snow Geese *Anser caerulescens*, will almost certainly have long-lasting effects, not just on the geese, but on the functioning of the entire tundra ecosystems - the "trophic cascade" that Jefferies *et al.* (1995) have described.

The immediate effects on the geese themselves are striking. The mean mass of Greater Snow Goose goslings on Bylot Island (standardized at 35 days old) decreased from about 1750 g in 1991 to 1500 g in 1994, a reduction of 14% (Gauthier *et al.* 1994). Because the geese have depleted the supplies of high-quality food plants (Gauthier *et al.* 1995), the goslings, and their parents, are now beginning their southward migration in relatively poor condition. Radio-tracking has shown that many of them are moving south in short hops (2-300 km), rather than in flights of 1000 km or more (J.-F. Giroux, pers. comm.) and losses during the migration seem to be increasing.

These changes might seem no more than a necessary check on the continuing increases in the numbers of geese. Their peculiar hazard lies in the spill-over effects on tundra vegetation, and on other tundra animals; and it is serious chiefly because the possible recovery times for high-latitude vegetation are more likely to be measured in centuries than in decades (Edlund 1990). Because the net solar radiation in the Arctic summer is so small, plant growth is very limited, even in the most favourable years; and, in the eastern Canadian Arctic, though not in the west, summers are still becoming cooler.

What has this to do with you? First, it would be sensible to look more carefully than has yet been done for evidence of similar damage in Greenland, Spitsbergen and the Eurasian Arctic. There is far more tundra in northern Russia than in Canada; but a lot of it has already been damaged by industrial pollution (Kryuchkov 1993, Balaganskaya & Lysnes 1995). It is not an unlimited resource. Twenty years ago, Gardarsson (1976) suggested that the vegetation of Thjorsarver, the largest

colony of Pink-footed Geese *Anser brachyrhynchus* in Iceland, was being overgrazed. The situation in central Iceland, where many new colonies have been established in the last 30 years, with great initial success (Skarphedinsson & Thorisson in press), needs to be kept under continual review. As early as 1973 Fridriksson (1973) maintained that the natural grasslands of the interior were overstocked with sheep; and the improved grasslands can easily be damaged by turning out domestic stock too early (Archer & Arnalds 1982). Icelandic agriculture is exceptionally vulnerable to climatic variations (Bergthorsson 1988).

The recent overgrazing in Arctic Canada has shown the need for international mechanisms to discover what may need to be done to restrain or, if necessary, reverse the increases in most stocks of geese; and to decide how to do it. The North American Waterfowl Management Plan (NAWMP; USFWS & CWS 1986) set limits within which the sizes of different goose populations should be kept, calling for more of the scarcest geese and fewer of the most abundant ones. Until this year there had been no broad discussion of how greatly increased numbers of adult geese might be removed from some of the largest populations, several of which are now well above the upper limits chosen in 1986.

Last summer (1995), C.D. Ankney found another striking case of over-grazing on Akimiski Island, in southern James Bay, where moult-migrant Giant Canada Geese *Branta canadensis maxima* have invaded the space occupied by a smaller stock (*B. c. interior*). Ankney found most of the latter to be in such poor condition (many with almost-webless primaries) that they were unlikely to be able to leave the island in autumn. Ankney (1996), very much an 'action man', has caused the NAWMP and US Flyway committees to start considering radical changes in hunting regulations, such as bringing back spring shooting, banned in 1916. At a meeting in Memphis in February, there was even some support for the use of helicopter gunships to hunt down geese, as has been

done with wolves in Alaska (R.F. Rockwell, pers. comm.) This is the Vietnamese solution all over again, destroying a village in order to save it. On a happier note, and contrary to current trends, those committees agreed to provide more money for research.

In Europe, the growing numbers of geese have been welcomed, except where they have led to conflicts with agriculture. Though several conferences in the last decade have discussed how those conflicts might be dealt with (e.g. Owen & Pienkowski 1991, Van Roomen & Madsen 1993), I believe that there have not yet been any international agreements on the most desirable sizes for the larger stocks of geese, or on how they might be attained. Yet, until these questions are addressed, 'goose management' in Eurasia will remain the chance resultants of a series of local decisions.

Changing the scope and intent of the EC Directive might well take ten years of lobbying and bureaucratic in-fighting, but it could be done; and without waiting for amendments to the Directive, it would surely be possible to reshape the existing systems of damage compensation payments to farmers.

Several small populations, such as those of the Greenland White-fronted Goose *Anser albifrons flavirostris*, and the Greenland and Spitsbergen stocks of Barnacle Geese *Branta leucopsis*, seem likely to continue to need protective help, despite persistent complaints from the small numbers of farmers whose grass they eat. An international meeting in Wexford in 1992, which reviewed and adopted a Greenland White-fronted Goose Management Plan, appeared to herald a new era in Europe, in which identified biological needs would be acknowledged and acted on at the political level. But there has been little progress in putting the plan into effect, and the sense of togetherness generated at Wexford is gently evaporating. International agreements will only be effective when support from other countries can really be of help at home. That is not the case with respect to: (1) securing the future of traditionally-used bogland areas in Ireland

and western Scotland; (2) effective enforcement of existing regulations on shooting in Iceland; or (3) achieving closer integration between environmental and agricultural policies and practices in Ireland and in Britain – where the gulf between the two seems no less than it was 30 years ago. Those all remain primarily local issues, more likely to lose rural votes than to win them, best left on the shelf.

Despite that somewhat discouraging experience, and in the context of Arctic over-grazing, I would like to see Norway convene a meeting of specialists from Denmark, The Netherlands, Scotland and England, to try to agree on population goals for the three small and competing populations of geese that breed in Svalbard. We need to know more about the nature of inter-specific competition and the combined impact of the geese on their summer food plants. And we need to gain experience in dealing with more than one species at a time, particularly in how to make unified management decisions when the three populations are spread in winter over several jurisdictions.

Though wetlands and wildlife are important to us, they rank very low among affairs of state, especially at present. A few years ago, environmental issues had achieved a remarkably prominent place among public concerns in Canada and in some other OECD countries. Now, they have been pushed almost out of sight by an understandable preoccupation with unemployment, due, not to recession, but to the wholesale ‘downsizing’ that has swept through industry, commerce, academia and government in nearly all the OECD countries.

Young scientists are “taught carefully and methodically to be a quarryman or a bricklayer . . . but not to enlarge their perspective, develop critical powers or enhance skill in communication” (Glass 1985). Today, recently-qualified scientists must give most of their attention to finding their next contract. It is extremely hard for people without jobs to take large and long views. Nor is it much easier for the officials (their own positions in jeopardy) who dole out three-month contracts for reports most of which are

intended to go on the shelf, rather than to uncover anything new that might need action.

Yet ‘downsizing’ may prove beneficial to nature conservation, if it helps to dismantle the bureaucratic structures that have developed over the last 40 years, in NGOs such as Greenpeace (Thornton 1995) almost as much as in government. Economic growth encouraged the proliferation of ‘professional managers’. That has led to a plethora of plans and policy documents, which tend to muddy the waters of action rather than increase their rate of flow. There are now too many people who think that a good management plan, or a meeting which ends in general agreement, are satisfying achievements.

One of the most serious problems facing the bureaucrats who still have jobs is over-work. “Burning out” makes you miserable and professionally ineffective. Somehow, many of you must summon the courage to stop trying to ‘do more with less’. It must be more useful to do a few things well than many badly. Even more importantly, if your thinking is to be ‘creative’, you must give yourselves time and room to play. Forty years ago, we were much less hampered by the increased short-term pressures that have resulted from having many more players in the game and vastly more information sloshing about. These ‘managerial’ problems provide one reason why I suggest that some of the leadership in wetland and wildfowl conservation that will be needed in the near future may once again be more likely to come from ‘amateurs’ than from ‘professionals’.

In, or near, my generation, two of the real leaders have been Jeffery Harrison (a General Practitioner) and Clive Minton (an industrial manager). Jeffery played a crucial role in bringing wildfowlers and wildfowl biologists together in the 1970s; and he pioneered collaboration with industry in developing the Sevenoaks gravel pits as a wetland for birds and people to enjoy. Pamela Harrison has continued that work, with notable success.

Clive created the Wash Wader Ringing Group 35 years ago. After driving them

hard over many years, he set off for Australia, where he continues to drive other enthusiasts, from all around the world, to further feats of endurance, at up to 45°C. Peter Scott and Jeffery Harrison were – and Clive, happily, still is – endowed with extraordinary drive and determination, and with a great capacity for enjoyment, which is just as important in carrying people along with you.

We have lost two more leaders very recently – George Dunnet last autumn and Sir William Wilkinson this spring. George achieved outstanding results academically, especially as the driving force of the Culterty Field Station of the University of Aberdeen. He also performed to great effect as an advisor in the murky waters of environmental management. William, after a successful business career (in the course of which he found an unrecognized form of *Anser albifrons* in Turkey), took on the difficult task of chairing the Nature Conservancy Council at a time when it was increasingly under attack from a government far more sympathetic to the greed of business than to the needs of nature conservation. It is sad to recall that in his last months George had felt obliged to resign from the board of Scottish Natural Heritage, because of its failure to pay serious attention to its scientific responsibilities; and that William was unable to prevent the dissolution of the Nature Conservancy and its replacement by three autonomous national agencies, with substantially different objectives and agendas, linked only by the powerless JNCC.

Leadership is not a masculine prerogative. Those of you who remember Phyllis Barclay-Smith will remember too that she did more than any other single person to bring about international legislation to reduce oil pollution at sea.

Most of the leaders I have mentioned have been ‘actors’, rather than ‘thinkers’, though George Dunnet was both. Ecological thinking on a large scale urgently requires leaders too. The challenge in ecology is much like that in economics, where most Nobel Prizes have been won by ingenuity in the creation of abstract systems, rather than by brave

approaches to dealing with the messiness of the real world. There is much talk of the need for multi-disciplinary approaches to the study of ecosystems. But the assembly and management of mixed teams of specialists is an extremely demanding business. In the International Biological Programme of the 1970s, the greatest advances were made by the teams with the best leaders. George Van Dyne was the one I knew best: the price he paid for his great efforts was an early death.

It is easy to feel that the future will be even more difficult than the recent past. But that is foolish. In 1946, Britain was a nearly derelict country, impoverished and exhausted by the severe economic depression of the 1930s and by six years of war; and most of the rest of Europe was much worse off. Yet, within ten years, massive recovery and expansion were well under way; and the Severn Wildfowl Trust, which in its early days had great difficulty in paying small bills, had prospered enough to enlarge its ambitions and its scientific staff, and to install at its head a scientist of credit and renown, Geoffrey Matthews, who made bird navigation a ‘hot topic’.

The problem in 1996 is a very different one, a general loss of confidence due to reduced opportunities and expectations. You can no longer assume that any occupation, however worthwhile, will offer you, however well-trained and highly-motivated, a rewarding career. ‘Work’ is replacing ‘jobs’, and no one knows what the career patterns of the 21st century will be like.

Yet this is not the time to lose our collective nerve and play safe by concentrating on what we can do this year at the bottom of our garden. It is, more than ever, a time for looking forward in ambitious ways, for trying to ensure that, in the middle of the 21st century, the wetlands of the world will be in better shape than they are now. Save what remains of the Somerset Levels by all means; try also to help save the Siberian tundra too.

There will never be another Peter Scott. Yet the message of hope and encouragement that I bring from 40 years

of admiring collaboration and friendship with him is that even those of us who can't do anything really well don't need his exceptional talents, nor much money, nor a seemingly-secure future, to accomplish quite a lot in wildfowl and wetland research and in wetland conservation. What is essential is that you know what is important to you. The eminent historian Lord Acton (1895) said, a century ago,

"Mastery is attained by resolved limitation". Don't try to save the world, just bits of it. And Lord Hanson, who has achieved greater worldly success than most, said more recently "Anything can be achieved if you want to do it. But you must want to do it." (newspaper report). From a less worldly but more creative source, remember: 'KEEP UP THE PRESSURE'.

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