

THE BUTE BEAVERS

Foreward and Additional Comment by J. A. Gibson

Account of the Beavers by Joseph Stuart Black

It may come as a considerable surprise to some people to discover that Beavers were introduced to the Island of Bute during the last quarter of the 19th century, and bred successfully for many years. The Beaver *Castor fiber* formerly occurred naturally in Great Britain (as it still does in some parts of Western Europe), but became extinct probably around the 12th century, and this introduction to the Island of Bute in 1874, one of the many remarkably enterprising and pioneer projects carried out by the third Marquess of Bute, appears to have been one of the earliest-ever attempts to reintroduce an extinct native British species to this country.

The area chosen for the introduction was a small wood in the neighbourhood of Kilchattan Bay (National Grid reference NS 093575), and recently interest has been aroused in the original Beaver enclosure by the Clyde Area Branch of the Scottish Wildlife Trust and the Buteshire Natural History Society. Investigations by a joint group of these two bodies have shown that nearly all the walls of the original enclosure can still be traced, and that some parts are in surprisingly good condition. After joint discussions the Marquess of Bute has most generously agreed to carry out a programme of limited restoration. This will include completely restoring a short section of the wall and the iron railing to its original state, clearing away the bracken around the existing walls so that the entire extent of the original enclosure can be seen, and some landscaping of the trees on the ground. A considerable degree of general clearing and tidying up will be carried out by the two societies, after which it is hoped that a nature trail booklet describing the site will be issued.

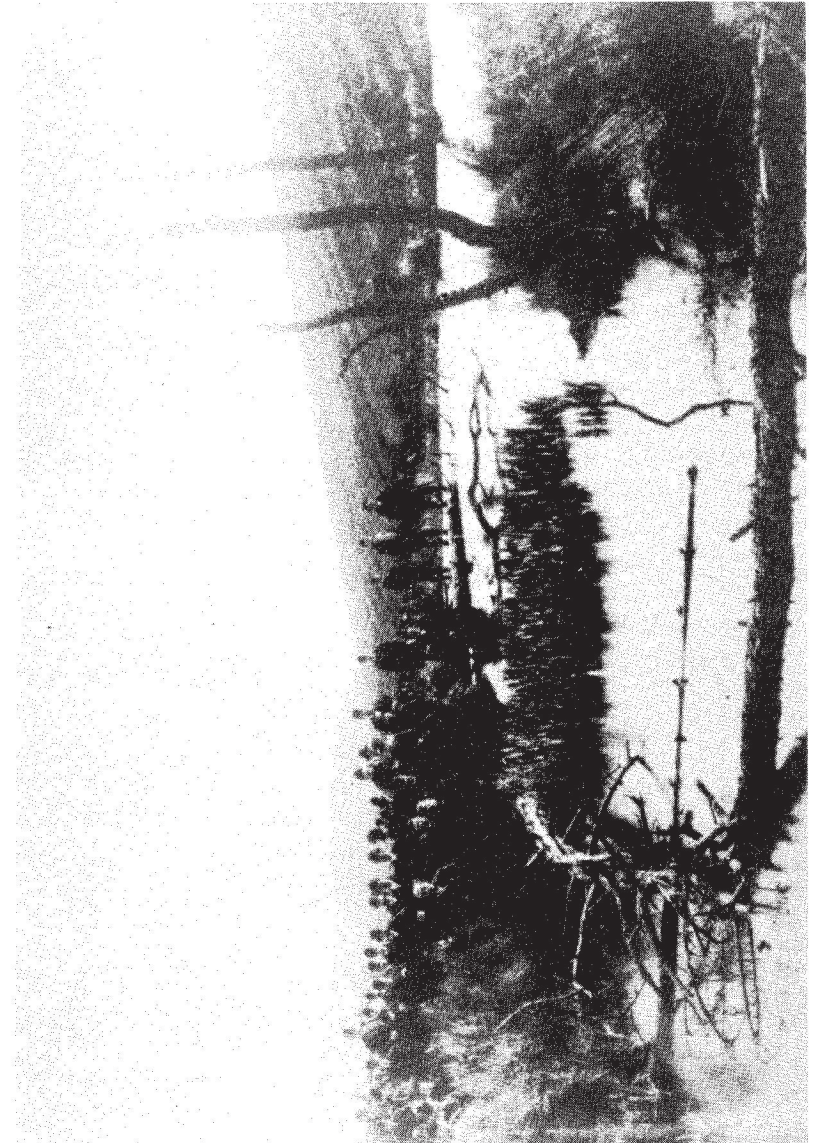
The best description of the Marquess's Beaver experiment is that given by Joseph Stuart Black (1880), gamekeeper on the Bute Estates, who published a detailed account in the *Journal of Forestry and Estates Management*. The Council of the Buteshire Society considers that the interest

of this article is such that it should be reprinted in the current volume of the *Transactions*, and what follows is an exact reprint.

"In 1874, the Marquis of Bute having obtained four beavers, caused a space of from three to four acres in extent to be enclosed in the wood between Meikle Kilchattan and Drumreach, and placed them there. These not succeeding, his lordship, on 6th January, 1875, obtained seven others. Of these, four succeeded so well that in 1878 I was certain of sixteen being alive, which makes an average increase of four each season. There is a further increase this season, but to what extent I cannot say.

Arriving as they did in midwinter, these little animals, I can assure you, had a pretty hard time of it. However, after a few days' rest, having viewed the situation, they set vigorously to work to make themselves comfortable, and began to construct a dam by forming a dyke or embankment across a small moorland stream running through the enclosure; at the same time they commenced to build a house to live in.

The materials of which the dyke is constructed are wood, grass, mud, and a few stones which are used for the purpose of keeping the grass and smaller pieces of wood in their place until more is built on the top of them. They have continued raising this embankment to a certain extent every year, until it has now attained the following dimensions, viz:—length, seventy feet; height in the deepest part, fully eight feet; breadth of base at deepest part, from fifteen to twenty feet, sloped inside, not straight across, but finely arched against the stream, so that it may the more easily resist the great pressure of water which it has to bear;—perfectly level, so that when a *spate* of water comes down it may run evenly over the top from side to side. So substantially have they built it that no material damage has occurred to it from all the floods that have passed over it. They use a number of the larger pieces of wood as props, by fixing the thick end into the ground and the small end on the top, then build on the top of these, so as to fix them firmly. It would require to be seen to appreciate the great skill displayed in its



GLASGOW: NATURALISTS VISIT THE DAM, APRIL, 1880

construction; as I think it would tax the energies of a Bateman or a Gale to make a better with the same materials. If any damage does occur, they immediately find it out and repair it. I have seen them swim along the edge of the embankment, carefully examining it to ascertain the part most needful of repairs, then go to work with a will to rectify it. The dam is now seventy-eight yards long of still water.

Besides the dam already mentioned, upon which they bestow great care in its construction, owing to their house being built in it, they have other seven, some larger, some smaller; one of them having an embankment 105 feet long, and an average depth of three feet. These serve as places of refuge if the beavers are disturbed when out roaming about in quest of food or felling the trees, also as a waterway for conveying their food by, when storing it past for winter.

In the construction of their dwelling the same kind of materials are used. As to how they build it: you must understand that for a considerable distance along one side of the stream or burn the ground rises in a steep bank, but about twenty yards above where they began to build the embankment for the dam there was a small level spot which they selected. Then at the bottom of the water they burrowed in three or four feet, rose up eight or ten inches, scooped out a space large enough to hold themselves, broke a hole in the surface about six inches in diameter, then began to cover it over with sticks, grass, and a few stones, always keeping it open in the centre by placing a few sticks perpendicularly, so as to act as a ventilator, and as the water rose in the dam and the family increased they continued to build and enlarge the house, cutting their way up and forming their chamber or chambers inside, until it had now attained the following dimensions at the surface of the water (which is here about four feet deep), viz.—height about five feet, length and breadth about nine feet, having a door at both sides placed at the bottom of the water so as to prevent their natural enemies from following them, chief among which is the wolverine, although happily for both them and us there are none of these here to disturb them.

It is out of the water they take the materials with which they build their house. Were the sides of the house

perpendicular they could not land; to obviate that difficulty they built a slip from two to three feet broad at its base except where the doors are, so that they can land easily, and, if they wish to enlarge the house they have got the foundation ready. To secure themselves against the winter storms, they commence about the middle of September and give their house a coat of mud all over. It is with the mouth and forefeet, which are formed more like hands than feet, that they convey the materials of which their embankment and house are made. They do not use their tail, as was at one time said, for plastering on the mud, but their forefeet, with which they very carefully stow it in among the sticks. As to what they use for a bed to lie on, it is wood shavings, which they prepare in the following manner: after using the bark for food, then they place the stick on end, holding it with both feet a bit apart, then with their teeth pare it down into fine shavings. They are very cleanly in their habits, as they often clean out their house, not casting away the refuse, but using it either on the top of the house or the embankment of the dam to patch up a hole.

Their food in winter consists wholly of the bark of trees; had they a choice I have no hesitation in saying they would prefer the willow and poplar. These not growing in the enclosure they had just to adapt themselves to circumstances, and take a share of what trees they could get, consisting of oak, plane tree, elm, thorn, hazel, Scotch fir and larch. Of the hardwood, they seem to prefer elm to plane tree, then oak, of which they eat sparingly. Of the firs, the Scotch has the preference; as for the larch they did not touch it till early in 1878, since which time they have taken to it very well. As for the alder and spruce fir, they eat almost nothing of them. Along with all these, we have always given them a supply of willow. In summer they eat freely of the common bracken, likewise grass, and young shoots of every description growing in the place. In autumn they grub up and feed upon roots, chief of which is the tormentil (*Potentilla tormentilla*), better known to Scotch people as "tormentil root," and the young tender shoots of the common spurts before they appear above ground, at the same time cutting down a tree now and again and feeding on the bark.

As to the tree-felling it is all done at night; the number

which they have cut down amounts now to 187 trees from 5 feet in circumference downwards. These are all forest trees, besides a great many smaller bushes. Before cutting down a tree, they mark it all round at the height at which they wish to cut it. They begin to cut at the opposite side to which they intend the tree should fall, invariably making it fall with the top to the water. Where they grow near enough, they make them fall across the stream or dam, causing many to suppose that they are so placed to form a bridge, whereby they may cross from one side of the water to another. They do not require a bridge, they can swim, and rather than cross over a prostrate tree they dive under it. My impression is they are so placed to break the current of the water when the stream is flooded; also if convenient they take advantage of building a dam where some of the trees lie across the water. Those lying across in their principal dam are utilised in storing up their winter food, these stores being built on the upper side of the trees, so that they cannot be swept away with the winter floods.

When cutting the trees they use their teeth, on the same principle that a forester does an axe, always keeping plenty of open space, so that they can cut past the centre of the tree on one side before beginning on the other. It is in the latter end of autumn they commence to cut down trees for winter food. Having cut them down they speedily strip off the branches, cutting them into lengths to suit their strength for dragging them away to the dam, where they store them in different places near their house, so that they may have sufficient food, although the dam may be frozen over, or the ground covered with snow. What is left of the trunks of the trees that they cannot drag away, they feed on at leisure, eating the bark.

Besides the work above ground which I have tried to describe, they have done a great amount of underground work, such as cutting channels in their dams and making burrows. These burrows they make by cutting a road from the middle of the dam for several yards into the dry ground, where they scoop out a dome-shaped burrow from eight to ten inches above the level of the road, then cut a hole through the surface and cover it over with sticks and grass so as to act as a ventilator. Here they live and feed in security and

contentment. Some of the roads to these burrows are from fifteen to twenty yards long, and so level that the water follows them in the whole length.

As to the time they bring forth their young, from my own knowledge I cannot say. I have seen it stated to be January, and also the beginning of May. I can say nothing against that, judging from the size of the young when I first saw them in the second week of June, the oldest litter being about the size of a full-grown rabbit, and the youngest not half that size.

From careful observation, I have good reasons for believing they have only one at birth. One thing I am certain of, they have two litters in the season. Beavers are a class of animals that are very timid, their sight, scent, and hearing very keen, so much so that it is with great caution they can be approached near enough to see what they are doing. They are under cover all day from seven o'clock in the morning till seven in the evening. When one comes out, it floats on the surface of the water, carefully surveying the whole scene around, sniffing the air, and if no danger is apprehended it dives and disappears. In two or three minutes, a number of the colony begin to appear and disperse themselves, some to swim and sport about in the dam, while others go in quest of food. If one of them espies danger it strikes one sharp, loud stroke on the water with its tail, when all of them that are out come tumbling into the dam and disappear.

I have seen them wrestle in playfulness and fight in anger, and also when the mother was feeding and the young one sporting about in the dam, I have seen it go and begin to tease her, when, if she did not wish to be troubled with it she would strike and shake it, and pitch it from her in the dam. They will allow of no laziness in any member of the colony; if any such there be, they are beaten and driven out to live as best they may. These so driven out generally roam about, making a burrow here and there, where they live for a few months and die."

Unfortunately the subsequent history after 1880 is virtually unknown. The accompanying photograph shows a group of members of the Zoological Society of Glasgow and the Andersonian Naturalists' Society at the Beaver dams, taken during a joint outing to the dams on 7th April 1890

(Robertson, 1908). Very shortly after this the Beaver colony appears to have died out. A Beaver found dead and exhibited to the Zoological Society of Glasgow in 1890 was supposed to be the last (Watt, 1905), and the reasons for the extinction of the colony are not known. Various rumours remain in the recollections of elderly Bute naturalists—Beavers being shot or poisoned, walls of enclosure breached and animals allowed to escape, simple failure of suitable food supply, etc.—but so far no contemporary written account has been found.

The Rev. J. M. McWilliam went to Bute as Minister of St. Brendan's, Craigmore, in December 1915, and in 1918, on a period of home leave as a chaplain to the Forces during the Great War, he examined the Beaver dams, when substantial remains could still be seen—"a tribute to the soundness of their building construction". Although no remains of the dams are now visible, the likely sites are fairly clear, and work by the archaeologists of the Buteshire Society should soon establish their former position.

Seven years after the appearance of Joseph Stuart Black's original article it seems to have been republished in pamphlet form (1887), possibly with some updated information. Unfortunately all attempts to trace a copy of this pamphlet in any of the major public or private libraries in this country have so far failed. Since it may well fill a blank in the final stages of the history of the Beaver colony, if anyone can find a copy the Council of the Buteshire Society will be very grateful to hear of its location.

References:

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- Watt, H. B. (1905). The land mammals of the Clyde faunal area. *Trans. Proc. Nat. Hist. Soc. Glasg.*, 7 (NS): 170-189.