



Ian Athol Edward Atkinson MSc (NZ) PhD (Hawaii) 1932–2019

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Published online: 1 December 2021



Ian Atkinson on a family holiday on Big Island, Hawaii, 17 July 2007. (Photo: Cynthia Petersen).

Ian Atkinson was one of the most versatile ecologists ever to work on our shores, an original thinker and true all-rounder whose broad scope covered plants, animals, and soils. A generalist of the old school rather than a narrowly focussed specialist, his career was notable for collaboration with experts in a variety of fields and for lasting contributions to vegetation mapping, soil mapping, volcanic succession, introduced rodent ecology, mammal-plant interactions, island ecology, and restoration ecology. A stalwart of the New Zealand Ecological Society, he held a number of offices, serving as Secretary 1960–1962, Vice-President 1965 and 1983–1985 and President 1985–1987, and he was also a longtime Councillor from 1962 till 1983. He was made a Life Member in 2001.

Ian was born of English parents Leonard Gray Atkinson (1894–1965) and Winifred Atkinson née Goddard (1904–1994) in Hamilton on 6 October 1932. His father, an electrical draughtsman, had arrived here from London in 1924 to work for the Public Works Department, helping design Arapuni Power Station, the first in a long line of hydro-electric plants built by the government on the Waikato River. Leonard went

home and married in 1931, then returned with his wife to settle in a grand villa at the south end of Anglesea St. in what is now central Hamilton. Having inherited property on the death of Leonard's father, the family moved back to England in 1936 to the village of Great Bookham in Surrey. Reflecting nostalgia for New Zealand, the family home in Keswick Rd was named *Arapuni* and Ian's two sisters Cynthia and Jeanette were born there. Close to Croydon, where London's original airport (1920–1959) played an important role in the Second World War, the conflict had a significant impact on him. The terror of 'doodlebugs' (V1 flying bombs) passing over the house never left him.

The family returned to New Zealand in 1946 on the *Rangitiki* in the large post-war emigration to Australia and New Zealand from a Britain exhausted by years of war deprivation. They stayed briefly in Onehunga before shifting to Landscape Rd, Mt Eden, where family friend and near-neighbour plant pathologist Dr F. J. (Frank) Newhook organised casual employment for the young Ian at the DSIR Mt Albert Research Centre. His father worked as a Senior Draughtsman

at the newly formed State Hydro-Electric Department (renamed the New Zealand Electricity Department in 1958) and his mother later became a poultry farmer and a pioneer in the milking goat industry in New Zealand. Ian's brother Keith was born after their return.

From mid-1946 to 1951 Ian attended King's College, Middlemore, where his housemaster, the noted ornithologist R.B. (Dick) Sibson helped ignite his interest in the natural world. Sibson taught classics but was happily diverted by pupils onto his favourite topic – birds. Ian then enrolled at Auckland University College where he graduated MSc with Second Class Honours in 1958. His thesis on vegetation and soils entitled *Cornwallis Reserve: an ecological problem* displayed the holistic approach to ecology that was a hallmark of his work. Participation in the Auckland University Field Club—of which he was onetime president—and its exciting expeditions to the islands of the Hauraki Gulf and beyond is likely to have inspired a lifelong interest in island ecology. A prolific publishing record that spanned more than half a century began while still an undergraduate with an account of the freshwater fishes of Auckland.

Ian was appointed to DSIR Botany Division's new outpost at Taita in the Hutt valley in June 1958 where his mentor, longtime colleague, and lifelong friend A.P. (Tony) Druce—another notably versatile botanist—was already established, having worked for the New Zealand Soil Bureau for the preceding four years. Ian immediately began assisting him on a long series of trips describing the vegetation and soils of the Hutt catchment (Druce 2002). In 1960 Ian was given the daunting task of mapping the vegetation of the vast volcanic landscapes of Tongariro National Park. This necessitated finding quick and efficient ways of mapping vegetation on large areas with limited resources. The procedures he developed (Atkinson 1962) have become standard protocols and have been used successfully in other ecosystems such as coastal dunes. Ian was the first to recognise the threat to the open landscapes of the park posed by lodgepole pine (*Pinus contorta*) with his measurements of its growth rates and precocious maturity. Ian's fieldwork at Tongariro extended over a series of summers. The experience and knowledge acquired by the succession of new graduates he employed as field assistants led to lives of botanical interest and, for some like Colin Ogle, careers as ecologists. Tony Druce was working on vegetation succession in Egmont National Park at the time and the two botanists shared a number of memorable field trips to both parks (Druce 2002). Like others of his time, he was an adept illustrator of vegetation profiles and his annotated *Vegetation Map of Tongariro National Park* (Atkinson 1981) is replete with examples of his work.

In 1966 Ian was sent for doctoral study to the University of Hawaii at Manoa, Honolulu, completing his thesis entitled *Rates of ecosystem development on some Hawaiian lava flows* on vegetation succession on the lava flows of Mauna Loa in 1969. This involved developing a method for ageing prehistoric lava flows by measuring chemical parameters of the lava, enabling him to estimate rates of succession (Atkinson & Swindale 1971). Ian's sojourn in Hawaii was important to his career development because it was there that he realised the parallels between New Zealand and other oceanic archipelagos. He also detoured significantly from his vegetation studies to examine the role of introduced ship rats (*Rattus rattus*), causing some alarm back home at Botany Division.

Upon his return to New Zealand, Ian was based for almost a year in Palmerston North before returning to the Hutt. He

worked closely with New Zealand Wildlife Service scientists David Towns and the late Don Merton and Ecology Division scientist John Campbell examining not only native vegetation but also the impacts of introduced mammals, browsers and predators, on native flora and fauna. He contributed to a wide range of active programmes at this time, such as experimental recovery of North Island kōkākō. David recalls wonderful trips with him to the Mercury Islands off the eastern Coromandel coast. His interest in animal-plant interactions found a natural focus in that perennial mystery of New Zealand ecology: the prominence of divaricating shrubs in many forest understories. An enduring friendship and working relationship with Michael Greenwood of the Applied Biochemistry Division, DSIR, in Palmerston North led Michael to suggest to him that moa browsing could be an evolutionary driver for it (Greenwood & Atkinson 1977). The role of moa browsing in the evolution of divaricating plants triggered a lively debate, one which continues still.

Ian's research on the impacts of vertebrates (both the native extinct moa and the introduced rodents, marsupials and ungulates) as browsers and seed predators/dispersers and of rodents as avian predators raised his profile abroad. He began to publish reviews internationally (e.g. Atkinson 2001) and in 1990 invited Professors Jared Diamond and Daniel Simberloff to a conference on the ecological restoration of New Zealand islands. Ian was one of its three organisers and co-editor of the subsequent volume on the topic published by the Department of Conservation in 1990. His analyses of rat spread (Atkinson 1985) and impact (Moors & Atkinson 1984) on oceanic islands worldwide were highly influential collations of scattered information into coherent frameworks that still underpin rodent eradication efforts today. Through his connections with the Wildlife Service he travelled to many Southern Hemisphere islands affected by introduced rodents, e.g. the Galápagos, Mauritius, and Norfolk Island. Given the degraded nature of so many offshore islands with their long history of human occupation and the often dramatic impacts of introduced mammals on them, it is not surprising that Ian's island passion should lead later to a strong interest in restoration ecology, the subject of his Ecological Society presidential address in 1987. It is hard to imagine today how pioneering Ian's erudite case for active restoration towards declared goals with monitoring was then. In retrospect, his address was perhaps the single most significant sharp turn in the meandering road by which New Zealanders increasingly chose not to simply accept landscapes that resulted from preceding land uses and histories.

When government science was re-organised and the Crown Research Institutes set up in 1992 with the almost inevitable prospect of relocation, Ian—along with colleagues John Campbell, Mike Fitzgerald, John Flux, Doug Hicks and Mike Meads—chose to remain in the Hutt and set up an independent consultancy called Ecological Research Associates of New Zealand. For several years Ian and John Campbell continued their research into the effects of kiore (*Rattus exulans*) on forest succession. The group's island research stopped in 2005 when it failed to gain a critical research grant and dispersed when the host research campus at Wallaceville closed. It was around this time that Ian's memory loss began and by 2007 it was impossible for him to continue working. His last scientific papers were published in 2006.

Ian's advice was sought and valued by many organisations. He was a member of the Fauna Protection Advisory Council from 1980–1990, the Wellington National Parks

and Reserves Board 1981–1990, the Kakapo Scientific and Technical Advisory Group 1990–2007, the Chatham Islands Conservation Board 1990–1999, and chaired the scientific advisory committee of World Wildlife Fund-NZ from 1993 till 1995. Ian also served on the interdepartmental Protected Area Scientific Advisory Committee, modelled on the earlier Scientific Co-ordinating Committee of the New Zealand Forest Service, that was established to follow up on recommendations of Protected Natural Area Programme survey reports. He was a lifelong member of the Ornithological Society of New Zealand.

Ian's significant contributions to New Zealand science and conservation were recognised with the NZ 1990 Commemoration Medal, the Royal Society of New Zealand's Charles Fleming Award for Environmental Achievement in 1992, a Biodiversity Accolade bestowed by the Minister of Conservation, Hon. Sandra Lee, in 2000, and the Allan Mere of the New Zealand Botanical Society in 2004. Ian was the second recipient of the Charles Fleming Award (awarded every three years), the first being his good friend Don Merton and the most recent his good friend and long-term colleague, David Towns. The Ian Atkinson Laboratory for Biodiversity and Restoration Ecology Research at Victoria University of Wellington was formally opened by Ian in March 2007. A kākāpō chick was named Ian by Mick Clout in 2011 to recognise Ian's contribution to kākāpō conservation and currently lives on Whenua Hou/Codfish Island.

Ian joined the Wellington Botanical Society, the country's oldest, in 1960, attending the Society's 21st birthday party in 1960 and its 50th Jubilee celebrations in 1989. Although not a regular attender of evening meetings or field trips, he did participate in the New Year camps from 1986 to 1994 and attended an Easter trip (1988) and an Anniversary Weekend trip (1991). He was a popular speaker at meetings and his talks were always informative and engaging.

Ian married Pamela Jean Lough in 1964 and she accompanied him to Hawaii. Their only child, Toni, was born in Palmertson North in January 1970. Following the family's return to Wellington in September 1970, they bought a smallholding in Pāuatahanui. Ian and Pam separated in 1986 and Ian moved to Pinehaven. In late 1997, he formed a supportive partnership with Lidia Dabrowska and for the next two decades they enjoyed a great deal of travel abroad. Ian had a great interest in classical music and was an accomplished amateur pianist.

Ian died in Dunedin on 23 August 2019 and is survived by his daughter Toni and his sisters Cynthia and Jeanette. He will be fondly remembered as a thoughtful, shy and genial, modest and self-effacing man, a great New Zealand ecologist.

Acknowledgements

Contributions from Ian's daughter Toni Atkinson and sister Cynthia Petersen are gratefully acknowledged, along with those of Dr Jessica Beever, John Campbell, Professor Michael Clout, Dr Michael Fitzgerald, John Innes, Dr Matthew McGlone, Dr David Towns and Colin Ogle.

Bibliography

Scientific papers, book chapters and published reports

Atkinson IAE 1952. Identification of Auckland freshwater fishes. *Tane* 5: 37–39.

- Atkinson IAE 1956. An account of *Meryta sinclairii* (pukanui) on Marotiri Island. *Tane* 7: 16–22.
- Atkinson IAE 1957. The Cornwallis pines. *Auckland Botanical Society Journal* 14: 4–6.
- Atkinson IAE 1959. Forest vegetation of the Inner Islands of the Hauraki Gulf. *Proceedings of the New Zealand Ecological Society* 7: 29–33.
- Atkinson IAE 1959. Soils and the growth of *Pinus radiata* at Cornwallis, Auckland. *New Zealand Journal of Science* 2: 443–72.
- Atkinson IAE 1960. A preliminary account of the vegetation of Motuhoropapa Island, Hauraki Gulf. *Tane* 8: 6–11.
- Atkinson IAE 1961. Terraced soils in the alpine zone of Tongariro National Park. *New Zealand Soil Science News* 3: 107–112.
- Atkinson IAE 1961. Conservation of New Zealand soils and vegetation for scientific and educational purposes. *Science Review* 19: 65–73.
- Atkinson IAE 1962. The flora and vegetation of Old Man Rock, Mercury Islands Group. *Transactions of the Royal Society of New Zealand, Botany* 1: 285–287.
- Atkinson IAE 1962. Semi-quantitative measurements of canopy composition as a basis for mapping vegetation. *Proceedings of the New Zealand Ecological Society* 9: 1–8.
- Atkinson IAE 1963. Notes and additions to the list of plants of Little Barrier Island. *New Zealand Journal of Botany* 1: 401–404.
- Atkinson IAE 1963. Some methods for studying the effects of goats on forest. *New Zealand Journal of Botany* 1: 405–409.
- Atkinson IAE 1964. Feeding stations and food of the North Island saddleback in August. *Notornis* 11: 93–97.
- Atkinson IAE 1964. The flora, vegetation, and soils of Middle and Green Islands, Mercury Islands group. *New Zealand Journal of Botany* 2: 385–402.
- Atkinson IAE 1964. Animal modification of native vegetation: Relations between feral goats and vegetation in New Zealand. *Proceedings of the New Zealand Ecological Society* 11: 39–44.
- Atkinson IAE 1966. Feeding stations and food of the North Island saddleback in May. *Notornis* 13: 7–11.
- Atkinson IAE 1966. Identification of feeding stations of forest birds in New Zealand. *Notornis* 13: 12–17.
- Atkinson IAE 1968. An ecological reconnaissance of Coppermine Island, Hen and Chickens group. *New Zealand Journal of Botany* 6: 285–294.
- Atkinson IAE 1970. Successional trends in the coastal and lowland forest of Mauna Loa and Kilauea volcanoes, Hawaii. *Pacific Science* 24: 387–400.
- Atkinson IAE 1972. Vegetation and flora of Sail Rock, Hen and Chickens Islands. *New Zealand Journal of Botany* 10: 545–558.
- Atkinson IAE 1973. Soils of Taita Experimental Station. *New Zealand Soil Bureau Bulletin* 32.
- Atkinson IAE 1973. Protection and use of the islands in the Hauraki Gulf Maritime Park. *Proceedings of the New Zealand Ecological Society* 20: 103–114.
- Atkinson IAE 1973. Spread of the ship rat (*Rattus r. rattus* L.) in New Zealand. *Journal of the Royal Society of New Zealand* 3: 457–472.
- Atkinson IAE 1975. Tongariro National Park. In: Knox R ed. *New Zealand's Nature Heritage* 6: 2371–2377.
- Atkinson IAE 1975. A method for permanent transects in vegetation. *Tuatara* 21: 81–91.
- Atkinson IAE 1976. Tongariro National Park. Notes on an

- ecological survey. Seminar on Science in National Parks. Wellington, National Parks Authority.
- Atkinson IAE 1977. A reassessment of factors, particularly *Rattus rattus* L., that influenced the decline of endemic forest birds in the Hawaiian Islands. *Pacific Science* 31: 109–133.
- Atkinson IAE 1978. Evidence for effects of rodents on the vertebrate wildlife of New Zealand islands. In: Dingwall PR, Atkinson IAE, Hay C eds. The ecology and control of rodents in New Zealand nature reserves. Department of Lands and Survey Information Series 4. Pp. 7–31.
- Atkinson IAE 1981. Vegetation map of Tongariro National Park, North Island, New Zealand: 1:50000. Wellington, Department of Scientific and Industrial Research.
- Atkinson IAE 1983. Beech forests of Tongariro National Park. In: Silvester WB, Watt W eds. The future of Tongariro National Park beech forests. Wellington, Department of Lands and Survey. Pp. 19–24.
- Atkinson IAE 1984. Distribution and potential range of old man's beard, *Clematis vitalba*, in New Zealand. In: The *Clematis vitalba* threat: Distribution and control of the introduced weed old man's beard (*Clematis vitalba*). Department of Lands and Survey Information Series no. 11. Wellington, New Zealand Department of Lands and Survey. Pp. 6–25.
- Atkinson IAE 1985. Derivation of vegetation mapping units for an ecological survey of Tongariro National North Island, New Zealand. *New Zealand Journal of Botany* 23: 361–378.
- Atkinson IAE 1985. The spread of commensal species of *Rattus* to oceanic islands and their effects on island avifaunas. In: Moors PJ ed. Conservation of island birds. ICBP Technical Publication No. 3. Pp. 35–81.
- Atkinson IAE 1986. Rodents on New Zealand's northern offshore islands: distribution, effects and precautions against further spread. In: Wright AE, Beever RE eds. The offshore islands of northern New Zealand. Wellington, New Zealand Department of Lands and Survey Information Series 16. Pp. 13–40.
- Atkinson IAE 1988. Presidential address: Opportunities for ecological restoration. *New Zealand Journal of Ecology* 11: 1–12.
- Atkinson IAE 1989. The value of New Zealand islands as biological reservoirs. Proceedings of a Conference on Australian and New Zealand Islands: Nature Conservation Values and Management, Barrow Island, Western Australia, Department of Conservation and Land Management.
- Atkinson IAE 1989. Introduced animals and extinctions. In: Western DC, Pearl MC eds. Conservation for the twenty-first century. New York, Oxford University Press. Pp. 54–75.
- Atkinson IAE 1990. Mapping and classifying vegetation in the Galapagos Islands, some considerations. *Monographs in systematic botany of Missouri Botanical Garden* 32: 101–115.
- Atkinson IAE 1990. Ecological restoration on islands: prerequisites for success. In: Towns DR, Daugherty CH, Atkinson IAE eds. Ecological restoration of New Zealand islands. Conservation Sciences Publication No. 2. Wellington, Department of Conservation. Pp. 73–90.
- Atkinson IAE 1991. A re-appraisal of the conservation value of Mana Island. DSIR Land Resources Technical Record 64.
- Atkinson IAE 1991. The Lucy Cranwell lecture 1989: Looking at plants with the eyes of a moa. *Auckland Botanical Society Journal* 46: 1–8.
- Atkinson IAE 1992. Major habitats on New Zealand Islands. Lower Hutt, DSIR Land Resources.
- Atkinson IAE 1992. A method for measuring branch divergence and interlacing in woody plants. DSIR Land Resources Technical Record 86. Lower Hutt, DSIR Land Resources. 19 p.
- Atkinson IAE 1992. Effects of possums on the vegetation of Kapiti Island and changes following possum eradication. Department of Scientific and Industrial Research Land Resources Contract Report 92/52. Department of Scientific and Industrial Research, Lower Hutt.
- Atkinson IAE 1992. Ecological restoration of Mana Island: threatened plants. Conservation Advisory Science Notes No. 5. Wellington, Department of Conservation.
- Atkinson IAE 1994. Ecological measures for conserving terrestrial biodiversity: a New Zealand perspective. In: Forey PL, Humphries CJ, Vane-Wright RI eds. Systematics and conservation evaluation. The Systematics Association special volume 50. Pp. 63–79.
- Atkinson IAE 1994. Guidelines to the development and monitoring of ecological restoration programmes. Department of Conservation Technical Series no. 7. Wellington, Department of Conservation.
- Atkinson IAE 1996. Biodiversity: What is it, and why is it important? In: McFadgen B, Simpson P eds. Biodiversity: Papers from a seminar series on biodiversity, hosted by Science and Research Division, Department of Conservation, Wellington, 14 June–26 July 1994. Pp. 7–17.
- Atkinson IAE 1996. Introductions of wildlife as a cause of species extinctions. *Wildlife Biology* 2: 135–141.
- Atkinson IAE 1997. Conserving plants as evolutionary entities: successes and unanswered questions from New Zealand and elsewhere. *Aliso* 16: 103–112.
- Atkinson IAE 1997. Science issues in ecological restoration: a summary. In: Smale MC, Meurk CD eds. Proceedings of a Workshop on scientific issues in ecological restoration held at Manaaki Whenua-Landcare Research, Ilam, Christchurch on 22–23 February 1995. Lincoln, Manaaki Whenua Press. Pp. 70–74.
- Atkinson IAE 1997. Problem weeds on New Zealand islands. *Science for Conservation* 45. Wellington, Department of Conservation.
- Atkinson IAE 1999. Managing New Zealand's biodiversity: Identifying the priorities and widening the options. In: Blaschke PM, Green K eds. Biodiversity now! Joint societies conference, Wellington, 29 June–3 July 1997: selected papers. Wellington, Department of Conservation. Pp. 1–12.
- Atkinson IAE 2001. Introduced mammals and models for restoration. *Biological Conservation* 99: 81–96.
- Atkinson IAE 2002. Recovery of wildlife and restoration of habitats in New Zealand. *Pacific Conservation Biology* 8: 27–35.
- Atkinson IAE 2003. A restoration plan for Mangere Island, Chatham Islands Group. Wellington, Department of Conservation.
- Atkinson IAE 2004. Successional processes induced by fires on the northern offshore islands of New Zealand. *New Zealand Journal of Ecology* 28: 181–193.
- Atkinson IAE 2006. Introduced mammals in a new environment. In: Allen RB, Lee WG eds. Biological Invasions in New Zealand. Ecological Studies (Analysis and Synthesis), vol. 186. Berlin, Heidelberg, Springer.
- Atkinson IAE, Atkinson TJ 2000. Land vertebrates as invasive

- species on islands served by the South Pacific Regional Environment Programme. In: Sherley G ed. Invasive species in the Pacific: a technical review and draft regional strategy. Apia, Samoa. South Pacific Regional Environment Programme. Pp 19–84.
- Atkinson IAE, Bell BD 1973. Offshore and outlying islands. In: Williams GR ed. The natural history of New Zealand. Wellington, A.H. and A.W. Reed. Pp 372–392.
- Atkinson IAE, Cameron EK 1993. Human influence on the terrestrial biota and biotic communities of New Zealand. *Trends in Ecology and Evolution* 8: 447–451.
- Atkinson IAE, Campbell DJ 1966. Habitat factors affecting saddlebacks on Hen Island. *Proceedings of the New Zealand Ecological Society* 13: 35–40.
- Atkinson IAE, Greenwood RM 1972. Effects of the 1969–70 drought on two remnants of indigenous lowland forest in the Manawatu district. *Proceedings of the New Zealand Ecological Society* 19: 34–42.
- Atkinson IAE, Greenwood RM 1980. Letter to the Editor. Divaricating plants and moa browsing: a reply. *New Zealand Journal of Ecology* 3: 165–167.
- Atkinson IAE, Greenwood RM 1989. Relationships between moas and plants. *New Zealand Journal of Ecology* 12 (Suppl.): 67–95.
- Atkinson IAE, Merton DV 2006. Habitat and diet of kakapo (*Strigops habroptilus*) in the Esperance Valley, Fiordland, New Zealand. *Notornis* 53: 37–54.
- Atkinson IAE, Millener PR 1991. An ornithological glimpse into New Zealand's pre-human past. *Acta XX Congressus Internationalis Ornithologici* 20: 129–192.
- Atkinson IAE, Moller H 1990. Kiore, Polynesian rat. In: *The Handbook of New Zealand Mammals*. King CM ed. Auckland, Oxford University Press. Pp. 175–191.
- Atkinson IAE, Percy CA 1956. An account of the vegetation of Mayor Island. *Tane* 7: 29–34.
- Atkinson IAE, Swindale LD 1971. Age determinations of recent Hawaiian lavas using measurements of weathering changes. *Nature* 233: 406–407.
- Atkinson IAE, Swindale LD 1974. Age determinations of some prehistoric lava flows in Hawaii. *Hawaii Agricultural Experimental Station Technical Bulletin* 90.
- Atkinson IAE, Taylor RH 1991. Distribution of alien mammals on New Zealand islands. Lower Hutt and Nelson, DSIR Land Resources.
- Atkinson IAE, Towns DR 2001. Advances in New Zealand mammalogy 1990–2000: Pacific rat. *Journal of the Royal Society of New Zealand* 31: 99–109.
- Atkinson IAE, Towns DR 2005 Kiore. In: King CM ed. *The handbook of New Zealand mammals*. 2nd edn. Melbourne, Oxford University Press. Pp 159–174.
- Campbell DJ, Atkinson IAE 1999. Effects of kiore (*Rattus exulans* Peale) on recruitment of indigenous coastal trees on northern offshore islands of New Zealand. *Journal of the Royal Society of New Zealand* 29: 265–290.
- Campbell DJ, Atkinson IAE 2002. Depression of tree recruitment by the Pacific rat (*Rattus exulans* Peale) on New Zealand's northern offshore islands. *Biological Conservation* 107: 19–35.
- Druce AP, Atkinson IAE 1958. The ecology of the Hutt Valley: Forest variation in the Hutt catchment. *Proceedings of the New Zealand Ecological Society* 6: 41–45.
- Greenwood RM, Atkinson IAE 1977. Evolution of divaricating plants in New Zealand in relation to moa browsing. *Proceedings of the New Zealand Ecological Society* 24: 21–33.
- Hamilton WM, Atkinson IAE 1961. Vegetation. In: Hamilton WM ed. *Little Barrier Island (Hauturu)*. 2nd edition. Bulletin 137. New Zealand Department of Scientific and Industrial Research. Pp. 87–121.
- Merton DV, Atkinson IAE 1968. Notes on the birds of Coppermine Island, Hen and Chickens Group. *Notornis* 15: 100–108.
- Moors PJ, Atkinson IAE 1984. Predation on seabirds by introduced animals, and factors affecting its severity. In: Moors PJ ed. *Conservation of island birds: case studies for the management of threatened island birds*. Cambridge, UK: International Council for Bird Preservation. Pp. 667–690.
- Towns DR, Atkinson IAE 2004. Restoration plan for Korapuki Island (Mercury Islands), New Zealand. Wellington, Department of Conservation. 52 p.
- Atkinson IAE, Bieleski R, Newhook FJ 1962. *Metrosideros parkinsonii* Buchan. on Little Barrier Island. *Transactions of the Royal Society of New Zealand (Botany)* 1: 279–284.
- Atkinson IAE, Jenkins PF, Druce AP 1968. Definitions and discussion of some concepts and terms relating to terrestrial ecosystems. *Tuatara* 16: 98–110.
- Atkinson IAE, Campbell DJ, Fitzgerald BM, Flux JEC, Meads MJ 1997. Possums and possum control; effects on lowland forest ecosystems. A literature review with specific reference to the use of 1080. *Science for Conservation* 1.
- Byers JE, Reichard S, Randall JM, Parker IM, Smith CS, Lonsdale WM, Atkinson IAE, Seastedt TR, Williamson M, Chornesky E, Hayes D 2002. Directing research to reduce the impacts of non-indigenous species. *Conservation Biology* 16: 630–640.
- Cooper A, Atkinson IAE, Lee WG, Worthy TH 1993. Evolution of the moa and their effect on the New Zealand flora. *Trends in Ecology and Evolution* 8: 433–437.
- Daugherty CH, Gibbs GW, Towns DR, Atkinson IAE 1990. The significance of the biological resources of New Zealand islands for ecological restoration. In: Towns DR, Daugherty CH, Atkinson IAE eds. *Ecological Restoration of the New Zealand islands*. Conservation Science Publication No. 2. Pp. 9–21.
- Hicks DL, Campbell DJ, Atkinson IAE 2001. Options for managing the Kaimaumau wetland, Northland, New Zealand. *Science for Conservation* 155.
- Kondo R, Childs CW, Atkinson IAE, Pritchard T 1994. *Opal phytoliths of New Zealand*. Lincoln, Manaaki Whenua Press.
- Merton DV, Morris RB, Atkinson IAE 1984. Lek behaviour in a parrot: the kakapo *Strigops habroptilus* of New Zealand. *International Journal of Avian Science* 126: 277–283.
- Merton DV, Atkinson IAE, Strahm W, Jones E, Empson RA, Mungroo Y, Dulloo E, Lewis R 1989. A management plan for the restoration of Round Island, Mauritius. Jersey Wildlife Preservation Trust.
- Moors PJ, Atkinson IAE, Sherley GH 1989. Prohibited immigrants: the rat threat to island conservation. Wellington, World Wide Fund for Nature.
- Moors PJ, Atkinson IAE, Sherley GH 1992. Reducing the rat threat to island birds. *Bird Conservation International* 2: 93–114.
- Tate KR, Giltrap DJ, Claydon JJ, Newsome PF, Atkinson IAE, Taylor MD, Lee R 1997. Organic carbon stocks in New Zealand's terrestrial ecosystems. *Journal of the Royal Society of New Zealand* 27: 315–335.

- Timmins SM, Clarkson BD, Shaw WB, Atkinson IAE 1984. Mapping native vegetation using Landsat data. *New Zealand Science Journal* 27: 389–397.
- Timmins SM, Atkinson IAE, Ogle CC 1987. Conservation opportunities on a highly modified island – Mana Island, Wellington, New Zealand. *New Zealand Journal of Ecology* 10: 57–65.
- Timmins SM, Ogle CC, Atkinson IAE 1987. Vegetation and vascular flora of Mana Island. *Wellington Botanical Society Bulletin* 43: 41–74.
- Towns DR, Daugherty CH, Atkinson IAE 1990. The potential for ecological restoration in the Mercury Islands. In: Towns DR, Daugherty CH, Atkinson IAE eds. *Ecological restoration of New Zealand islands*. Conservation Science Publication No. 2. Wellington, Department of Conservation. Pp. 91–108
- Towns DR, Daugherty CH, Atkinson IAE eds. 1990. *Ecological restoration of New Zealand islands*. Wellington, Department of Conservation.
- Towns DR, Simberloff D, Atkinson IAE 1997. Restoration of New Zealand islands: redressing the effects of introduced species. *Pacific Conservation Biology* 3: 99–124.
- Towns DR, Atkinson IAE, Daugherty CH 2006. Have the harmful effects of introduced rats on islands been exaggerated? *Biological Invasions* 8: 863–891.

DSIR internal reports

- Atkinson IAE 1962. Report on the vegetation of the smaller Mercury Islands and Ohena Island. Unpublished DSIR Botany Division report.
- Atkinson IAE 1971. Checklist of indigenous vascular plants recorded from Tongariro National Park. Second approximation. Unpublished DSIR Botany Division report. 32 pp.
- Atkinson IAE 1971. Report on the flora and vegetation of the Western Chicken Islands and Marotiri stacks. Unpublished DSIR Botany Division report.
- Atkinson IAE 1972. Bush remnants at Tawa. Unpublished DSIR Botany Division report. 10 pp.
- Atkinson IAE 1972. Report on Mahurangi Island, Mercury Bay. Unpublished DSIR Botany Division report.
- Atkinson IAE 1975. Report on visit to Raoul Island, July 24–25, 1975. Unpublished DSIR Botany Division report 89.
- Atkinson IAE 1982. Kapiti possum study: vegetation surveillance 1978–1982. Unpublished DSIR Botany Division report.
- Atkinson IAE 1985. Botanical reasons for eradicating possums from Kapiti Island. Botany Division DSIR Internal Report 518.
- Atkinson IAE, Flack JAD, Bell BD, Brown W 1973. Tree planting needed on the Mangere Islands (Chatham group) to ensure survival of the black robin and Forbes' parakeet. Unpublished DSIR Botany Division report.

Book reviews and obituaries

- Atkinson IAE 1965. Book review: The synecology of the West Taupo indigenous forest by P. J. McKelvey. *New Zealand Forest Service Bulletin* 14. 127 pp. *Proceedings of the New Zealand Ecological Society* 12: 73.
- Atkinson IAE 2010. Obituary: Anthony Peter Druce B.E. (NZ). *New Zealand Journal of Botany* 37: 573–577.

Others

- Atkinson IAE 1969. Rates of ecosystem development on some Hawaiian lava flows. Unpublished PhD thesis. University of Hawaii at Manoa, Honolulu, Hawaii, United States of America.
- Atkinson IAE 1979. What's so special about Kapiti Island? *Forest & Bird* 13: 12–15.
- Atkinson IAE, Taylor RH 1992. Distribution of alien mammals on New Zealand islands. 2nd edn. DSIR Land Resources Contract Report No. 92/59. Unpublished report to the Department of Conservation, Wellington.
- Atkinson IAE, Campbell DJ, Fitzgerald BM 2002. Ecological comparisons of Bream Head and Hen Island Reserves. ERANZ Report Prepared for Department of Conservation Whangarei.
- Campbell DJ, Atkinson IAE 1996. Measuring vegetation response to rat eradication on Kapiti Island. Interim report for Science and Research, Department of Conservation, Wellington.
- Campbell DJ, Atkinson IAE, Northcote L 1996. Ecological survey of the Wellington south coast. ERANZ Contract Report 6/96 for Wellington City Council Culture and Recreation, Wellington.
- Cowan PE, Atkinson IAE, Bell BD 1985. Kapiti Island – The last possum? *Forest and Bird* 16: 12–13.
- Leamy ML, Atkinson IAE 1965. Soil Map of Upper Clutha Valley District, South Island. DSIR Soil Bureau.
- Sykes WR, Atkinson IAE 1988. Rare and endangered plants of Norfolk Island. Unpublished report to the Australian National Parks and Wildlife Service, Norfolk Island.
- Timmins SM, Atkinson IAE, Ogle CC 1988. Planting trials for the revegetation of Mana Island. Department of Conservation Science and Research Internal Report No. 3.
- Wardle P, Atkinson IAE, Given DR, Molloy BJP, Brown CM, Manning D 1986. Botany Division visit to the Chatham Islands, February–March 1985. Unpublished report to the Liquid Fuels Trust Board. DSIR, Botany Division, Christchurch, New Zealand.

References

- Druce AP 2002. A.P. (Tony) Druce's trip book – Botanical field trips throughout NZ from 1934 to 1994. Unpublished.
- Lee WG, Johnson P 2019. Obituary: Ian Atkinson. *Botanical Society of Otago Newsletter* 88: 6–7.
- West C 2020. Obituary: Ian Athol Edward Atkinson 6 October 1932–23 August 2019. *Wellington Botanical Society Bulletin* 58: 23–30.

Received: 15 October 2021

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