

The Ecologists

THE HIGH MOUNTAIN ECOLOGY RESEARCH STATION

The chief place ecologists would meet, train their students, and explore the environment was The High Mountain Ecology Research Station, established at Finse in 1965. Finse is a railroad station halfway between Oslo and Bergen, located at the very heart of outdoor recreational activities. As will be apparent, the Finse environment would set the standard as a “reference” from which to evaluate other environments. Here, turn-of-the-century dwellings of navy railroad maintainers were turned into high-end vacation homes, side by side with a well-known sports hotel, a large hospice owned by the Norwegian Trekking Association, and numerous new private cabins. At Finse thousands of vacationers would enjoy one of the most beautiful mountain regions of Norway. The formative years of ecological research in Norway took place in these types of environments and during the summer period, and the way ecologists came to understand the environment would reflect their experience of nature as a place of recreation. It was Arne Semb-Johansson (1919–2001) and Eivind Østbye (1935–2014) who created the Research Station with initial funds from University of Oslo. Following the trend of the area, they turned an outdated power station into a cabin for research and graduate study.¹

¹ Eivind Østbye, “Høyfjellsøkologisk forskningsstasjons historie,” in Lauritz Sømme og Eivind Østbye (eds.), *Finse: Et senter for høyfjellsforskning* (Finse: Høyfjellsøkologisk forskningsstasjon, 1997), pp. 3–9; *Bibliography of the Finse Area 1781–1996* (Finse: The High Mountain Ecology Research Station, 1997). Finn R. Jørstad, *Historien om Finse* (Bergen: Nord 4, 1998).



FIGURE 1 The High Mountain Ecology Research Station, Finse, emblem, 1972. Courtesy of the University of Oslo Archive

The summer excursions to the scenic mountains of Finse were highly popular, as they gave students and scholars alike a sense of doing something useful and pleasant during their summer recess. Field research in this mountainous peripheral space, under supervision of Semb-Johansson and Østbye, brought significant momentum to the field of ecology, as it was easier to teach and study the relatively uncomplicated biotic relations of the mountains than those of the more complicated lowland environments.² Though it is hard to determine the personal motivation of ecologists, it is safe to say that most students entering the field had a passion for outdoor recreation. Typically, membership in the Trekking Association, the nation's largest owner of cottages with over 60,000 members, was, to most of them, a matter of course. Over 800 days of research were carried out by students and scholars at the Research Station between 1965 and 1970. Most of them were involved in the Norwegian division of the International Biological Program, and a few of them lived at Finse on a yearly basis to study the ecology of harsh winter conditions (captured on film in the Hoth battle scenes of *Empire Strikes Back* [1979], which were shot there). In 1970 the Norwegian Parliament allocated enough funds to build a new 700 m² (7,535 ft²) building to be owned by both the Universities of Oslo and Bergen (Figure 1). When finished in 1972 it was, perhaps, the largest and most expensive ecological research station in Europe. It could house large courses, which were usually given in August.

² Eivind Østbye, "Aktuell forskning i enkle økosystemer, med særlig henblikk på høyfjellsforskning i Norge," *Forskningssnytt*, 4 (1967), 70–3.

The historian of science Robert E. Kohler has, in his study of fieldwork in the USA, noted that “[t]he most widespread form of underwriting [of field work] was the summer vacation, which all academics and most government and museum employees enjoyed. Vacations afforded not money but time.”³ This was also very much the case for the Finse ecologists, whose long summer recess enabled them to do their fieldwork, as the natural environments in question were easily accessible during this period. This scientific vacationing was not necessarily relaxing, though anecdotal evidence suggests that, for some, it was that too. Hardworking or not, fieldwork was the highlight of the year as it enabled ecologists to spend time in places they appreciated and associated with outdoor life.

RACHEL CARSON’S SILENT SPRING

The picturesque research station at Finse was idyllic in comparison to the ecological destruction described in a growing body of environmental literature. Indeed, the prospect of ecological depletion was at the heart of the ecologists’ concerns and daily debate. These worries first surfaced with the publication of Rachel Carson’s famous warning against pesticides in *Silent Spring*, published for the first time in Norwegian in 1962.⁴ It was an important moment in the nation’s environmental debate as, from then on, these concerns were framed as *ecological*, while they previously had only been seen as mostly aesthetic. Ecological concerns in Norway were thus imported from abroad. This meant an empowerment of the small but radically growing community of ecologists.

The publication of Carson’s book marks a shift, not only toward ecology, but also toward a belief that scientists had something extra to offer in answering the question of how to best protect the environment. *Silent Spring* raised eyebrows and introduced Norwegians not only to ecology, but also to a more integrated approach to environmental issues. Scientists had, of course, been involved in environmental management, such as agriculture, forestry, and fishery management, yet they had hardly been active in nature conservation. What was new with Carson was the

³ Robert E. Kohler, *All Creatures: Naturalists, Collectors, and Biodiversity, 1850–1950* (Princeton: Princeton University Press, 2006), p. 92.

⁴ Ragnhild Sundby, “Globalforgiftning,” *Naturen*, 89 (1965), 3–11. Rachel Carson, *Silent Spring* (Greenwich: Fawcett Crest, 1962); *Den tause våren*, Torolf Elster (trs.) (Oslo: Tiden, 1962).

turn toward scientific experts, specifically ecologists, as the source for information on how to go about protecting the natural world.

The initial Norwegian reaction to Carson's book came in reviews of the original English edition in Norwegian newspapers. The fact that a foreign book was considered deserving of space was unusual. What brought the editors' attention was her ecological analysis of "the elixir of death," namely DDT.⁵ Her book would subsequently surface in Norwegian debates as a rhetorical device and a measurement for environmental success. It was used politically to compare clean Norway to the environmentally problematic United States and Japan.⁶ It was used by scientists to promote the new entomological approach in agriculture.⁷ It was used by activists to show that, while birds were no longer threatened in the United States (due to legislation against DDT), Norwegian birds (such as the auk) were more threatened than ever due to PCB pollution.⁸ Finally, it was used in the ongoing national sport of bantering with the Swedes. When Swedes were busy preparing for the United Nations Conference on the Human Environment in Stockholm in 1972, a Norwegian journalist noted that it was ironic that a city harboring the Royal Swedish Academy of Sciences, who gave Paul Müller, the inventor of DDT, the Nobel Prize in 1948, would now look to Rachel Carson as a source of inspiration.⁹ Most commonly, *Silent Spring* was looked to as evidence of the importance of research and science in the ongoing effort to address environmental issues.¹⁰

Though Carson's warning against pesticides in *Silent Spring* raised eyebrows and inspired Norwegians to adopt an ecological perspective, it should be noted that she was not the only foreign environmentalist in the press. A translation of Marston Bates's classic *Man in Nature* (released in 1961 and revised in 1964) received attention, as Bates addressed issues related to pollution, ecology, and human population growth.¹¹ Essays about the technological standardization of human life and nature by the philosopher Georg Henrik von Wright and the sociologist Herbert

⁵ Asbjørn Barlaup, "Rachel Carson," VG, Oct. 6 1962, RA. Sara Mjåland, "Dødseleksirer," VG, Nov. 7 1962, RA. Anonymous, "Dødens eliksir," VG, Oct. 18, 1963, RA.

⁶ Hj. Munthe-Kaas Lund, "Fugler i fare!" VG, Sept. 14, 1964, RA.

⁷ Asbjørn Barlaup, "Entomologene lurer naturen," VG, Apr. 30, 1966, RA.

⁸ Sjur Sandberg, "Fra taus til klangfugl," VG, May 29, 1974, RA.

⁹ Per-Aslak Ertresvåg, "Miljøvernkonferansen i Stockholm," VG, Feb. 9 1972, RA.

¹⁰ Anonymous, "Langsom, snikende – farlig," VG, Mar. 23, 1971, RA.

¹¹ Marston Bates, *Menneskets plass i naturen*, Brynjulf Valum (trs.) (Oslo: Cappelen, 1966).

Marcuse were also significant, as they were both translated into Norwegian after the two men visited Oslo.¹² These texts, along with the writings of Jacques-Yves Cousteau, were all received with open arms by both ecologists and philosophers.¹³ These scholars would have a growing concern with respect to globalization of pollution, the damaging aspect of industrialization, human population growth, and the need to base environmentalism on an ecological footing.¹⁴

Thus, concerns about an ecological crisis in Norway were largely imported from abroad. Around the same time, conservative parties managed, in 1963 and again between 1965 and 1971, to form a coalition that overthrew the Labor Party government that had been in power since 1945. This shift generated much scrutiny across the political spectrum, and, in this process, environmental degradation emerged as a key issue the Labor Party had failed to address.

THE FIRST LECTURES IN ECOLOGY BY BIOLOGISTS

Though the ecologists were concerned about environmental issues, they were, at least initially, not particularly radical. Indeed, the first lectures in ecology by biologists were by well-respected citizens. It was Semb-Johansson who gave the first lectures at the University of Oslo in 1962, and subsequently Eilif Dahl (1916–93) at the Norwegian Agricultural College in 1963. These courses were devoted to energy circulations in nature as was described by the American ecologist Eugene P. Odum (1913–2002).¹⁵ This methodology dominated Norwegian ecological research, which came to focus on the energy balance between species.

Ecology was, at the time, a new discipline among biologists in Norway, even though it had most likely been known as a methodological approach for a while in intramural debates. For example, the botanist and co-founder of the Natural History Museum in Oslo, Nordal Willie,

¹² Herbert Marcuse, *Det en-dimensjonale menneske: Studier i det avanserte industrielle samfunns ideologi*, Thomas Krogh (trs.) (Oslo: Pax, 1968); *One Dimensional Man: Studies in the Ideology of Advanced Industrial Society* (London: Routledge, 1964). Georg Henrik von Wright, "Essays om naturen, mennesket og den vitenskapelig-tekniske revolusjon," *Naturen*, 91 (1967), 155–80.

¹³ Jaques-Yves Cousteau, "Er klokken blitt tolv?" *Naturen*, 94 (1970), 411–20.

¹⁴ Sigmund Huse, "Naturvern på økologisk grunnlag," *Norsk natur*, 1 (1965), 4–7. Harald M. Thamdrup, *Naturens busholdning* (Oslo: Aschehoug, 1966).

¹⁵ Eilif Dahl [with Oddvar Skre], *Forelesninger i økologi* (Ås: Norges Landbrukshøgskole, 1967). Eugene P. Odum, *Fundamentals of Ecology*, 2nd ed. (Philadelphia: Saunders Co., 1959).

corresponded with the British ecologist Arthur Tansley on related topics as early as 1903.¹⁶ And there is also a discussion of ecological matters in an esoteric book about the need for social and mental reforms from 1929.¹⁷ Yet it has not been possible to trace much interest or any publications based on ecological methodology among biologists in Norway before *Silent Spring* and Semb-Johansson and Dahl's lectures.

Semb-Johansson gave his first lectures in ecology at the age of forty-three, and as a relatively new professor of zoology. He got his appointment in 1959, the same year he finished his PhD in insect physiology and neuroendocrinology, which was well received, as he became a member of the Norwegian Academy of Science and Letters the following year.¹⁸ Although he submitted his thesis at the Laboratory of Zoology and the University of Oslo, it was actually written under supervision of Berta Scharrer at the University of Colorado where Semb-Johansson enjoyed a stipend from 1954 to 1956. It was during this period that he read the Odum brothers' *Fundamentals of Ecology* in its first edition of 1953.¹⁹ After having presented his thesis, he decided to use his professional position to build the field of biology at the university, and he realized that the broad interdisciplinary methodology of ecology was better suited for the job than his highly specialized field of neuroendocrinology. In Oslo Semb-Johansson would, in his first decade as a professor, graduate about ten master students in ecology, of which Østbye was perhaps most influential as a teaching fellow for Semb-Johansson's ecology courses and as a subsequent researcher and activist.²⁰ Semb-Johansson had considerable clout in political circles and among members of the larger public, as an active advocate for better funding of science, particularly biology, which culminated with him serving as the President of the Academy for a decade from 1975 to 1985. What gained him initial respect from the larger public was his involvement in the resistance during the Second World War. He was a courier of the Central Command of the Norwegian resistance movement, Milorg, and for his work there, he received high

¹⁶ Arthur George Tansley to Nordal Wille, May 4 and June 12, 1903, OA Br. s. 97, NB.

¹⁷ Dybwad Bertram Brochmann, *Mentalitet og livsskjæbne* (Bergen: Det frie samfunns forlag, 1929), pp. 81–106.

¹⁸ Arne Semb-Johansson, *Relation of Nutrition to Endocrine-Reproductive Functions in the Milkweed Bug *Oncopeltus fasciatus* (Dallas) (Heteroptera: Lygaeidae)*, PhD thesis (Oslo: University of Oslo, 1958).

¹⁹ Eugene P. Odum, *Fundamentals of Ecology* (Philadelphia: Saunders Co., 1953).

²⁰ Eivind Østbye, *En undersøkelse over nivale carabiders økologi, særlig innen slekten *Nebria Latr.**, MA thesis (Oslo: University of Oslo, 1963).

honors, including the Norwegian Defense Medal and the British King's Medal for Courage.

Dahl was also a war hero. He was active in the ultra covert military intelligence organization XU, which was under a veil of total secrecy until 1988. The abbreviation XU stood for unknown (X) undercover (U) agents, and most of them were recruited from within a closed circle of young science students at the University of Oslo, who knew and trusted each other from their student years in the late 1930s.²¹ Many of the group would continue to work at the university after the war, including the philosopher Arne Næss and the geologist Ivan Th. Rosenqvist, whose contributions to the environmental debate will be discussed later in this book. It is likely that former XU members in Oslo knew about each other, or at least had informed opinions about other possible members of the organization that were entirely unknown to the public. The bonding experience of war makes it also likely that its members kept a protective eye on each other throughout their lives. In any case, in 1943, Dahl had to flee to Sweden where he worked at the Embassy, before moving to London where he would serve as an officer in the Norwegian Army for the rest of the war.

His interest in botany came at a young age when, at the age of only twenty-one, he was able to participate in an expedition to Spitsbergen in 1937 to study lichen. This became a life-long interest for Dahl, first in his master thesis of 1942 about lichens of Southwest Greenland, and later in various publications where four species were named after him. Was lichen a remnant of a warmer period that had survived the last Ice Age by being on mountaintops? Dahl believed so, and saw it as a possible origin for the subsequent evolution of some of the Norwegian flora. This and other topics he would discuss as a research fellow at the University of Oslo from 1951, which allowed him to visit the universities of Cambridge, Yale, and Michigan. All of this led to a PhD in botany, in 1957, on the subject of vegetation in the Norwegian mountain region of Rondane. It was well received if one is to judge by the fact that the Norwegian Academy of Science and Letters elected him as a member that same year. In 1959 he became a senior lecturer in botany at the Norwegian Agricultural College, and a full professorship followed in 1965.

After the war Dahl became a member of the Labor Party and was active in politics. He was, for several periods, an elected member of the township of Ås, outside Oslo, where the college is located (1964–67,

²¹ Jorunn Sem Fure, *Universitetet i kamp*. In *Universitetet i Oslos historie*, vol. 4 (Oslo: Unipub, 2011), pp. 169–73.

1968–71, 1990–93), as well as a member of *landsstyre* (The Labor Party's National Board) from 1964 to 1971. As will be argued, his wartime achievements and these positions gave him a significant say on the Labor Party's environmental politics. As a member of *Rådet for utviklingshjelp* (The Council for Development) (1963–82) and as Chair of the Board for the Norwegian Institute of International Affairs (1978–86), Dahl also took great interest in the nation's foreign policy. In his lectures as well as political appearances, he would tell party members, engineers, or students about the importance of ecology, healthy living, and the value of non-instrumental reasoning.²²

Both Semb-Johansson and Dahl were well established, but still relatively young, scientists when *Silent Spring* was first published in Norwegian, and they would use the book for all its worth to build the science of ecology by actively recruiting students to the field through their lecture series, as well as through new undergraduate and graduate programs. Moreover, they were socially and politically well respected, which was important when they began mobilizing for a Norwegian branch of the International Biological Program (IBP).

INTERNATIONAL BIOLOGICAL PROGRAM

The International Biological Program was initiated in 1960 by members of the International Union of Biological Sciences and the International Council of Scientific Unions. Its main concerns were problems related to food production and management of natural resources in light of a rapidly increasing human population and widespread malnutrition in the world. It was a Big Science project and of key importance to the promotion of systems ecology driven by the image of the world as a manageable self-governing machine.²³ At the helm sat the British ecologist Edgar Worthington, who had spent most of his early career defending the British Empire in the name of better environmental management and protection.²⁴

²² Eilif Dahl, *Økologi for ingeniører og arkitekter* (Oslo: Universitetsforlaget, 1969). Eilif Dahl, "Globale ressursproblemer," *Samtiden*, 82 (1973), 257–67.

²³ Chunglin Kwa, "Representations of nature mediating between ecology and science policy: The case of the International Biological Programme," *Social Studies of Science*, 17 (1987), 413–42. Edgar B. Worthington (ed.), *The Evolution of IBP* (Cambridge: Cambridge University Press, 1975).

²⁴ Edgar B. Worthington, *The Ecological Century: A Personal Appraisal* (Oxford: Oxford University Press, 1983). Peder Anker, *Imperial Ecology: Environmental Order in the British Empire, 1895–1945* (Cambridge: Harvard University Press, 2001).

The worldly managerial benefit of ecological research was, at least initially, at the heart of the Norwegian branch of the International Biological Program. One of its early promoters was Rolf Vik (1917–99), who had just finished his PhD in zoology at the University of Oslo. He argued that ecologists could provide answers to environmental problems described by Carson and von Wright if they were provided with enough funding. “The key word is in fact money!” he told the politicians.²⁵ There were reasons to worry about food supply, because of the increasing population, both at home and abroad. The ecologists pledged to deliver “methods that enable us to predict the consequences of today’s actions and tomorrow’s world” with respect to the utilization of the land.²⁶ It was “a matter of continuing human existence” to research the ecology of the mountains as future “production and recreation areas” for Norwegians.²⁷ The world may face starvation, so production of food in the mountains was of key importance to the process of making the country self-sufficient. One should therefore train more ecologists, the Parliament was told, with the ability to deal with problems of productivity, food production, and rational management of the nation’s natural resources. The study of the mountain regions was especially important, since more than half the country is situated above the tree line. With authorities such as Semb-Johansson and Dahl pushing the cause, and with the prosperity of the nation at stake, the Parliament voted in favor of a generous budget to train ecologists in scientific tools for landscape management.

Receiving funding directly through the Parliament was unusual and it caused tensions between ecologists and biologists, as applications were supposed to go through the Norwegian Research Council. Knut Fægri (1909–2001), a botanist at the University of Bergen, for example, complained that ecology had become “a nice word that rumbles well in pretty reports to the Parliament and other authorities. But do they have a clue

²⁵ Rolf Vik, “Hvor står biologene i teknikkens århundre?” *Naturen*, 91 (1967), 259–69, quote p. 269.

²⁶ Rolf Vik, *International Biological Programme: Final Report Scandinavian Countries* (Oslo: Scandinavian National Committees of the International Biological Programme, 1975), 7; *International Biological Programme, IBP i Norge: Årsrapport* (Oslo: IBP, 1968–1974). Frans-Emil Wielgolaski, “Fenologi, produksjonsøkologi og andre kjente eller ukjente økologiske begreper,” *Naturen*, 92 (1968), 179–84.

²⁷ Rolf Vik and Frans-Emil Wielgolaski, “Det Internasjonale Biologiske Program i 1969,” *Forskingsnytt*, 15 (1970), 14–20, quotes pp. 14, 16.

about what they are doing?”²⁸ What worried Fægri was funding at the expense of taxonomy, and whether or not the ecologists could deliver what they promised. His concerns were not without merit, as taxonomy from now on would take a backstage role.

The International Biological Program would provide a significant boost to ecological research. It was initially promoted by Semb-Johansson and Dahl, though its Chairman became Vik, who in the process also got a professorship in 1965 at the University of Oslo. He became a devoted ecologist and organizer of the Program, which was active between 1964 and 1974, though only fully in effect between 1967 and 1972. Nationally, altogether 221 students and scholars were connected to this Program. They were typically involved for two to four years, and they worked, for the most part, on ecological topics.

Housing all the new scientists was an issue, and the Parliament allocated enough funds to build a new Department of Biology at the University of Oslo. When it was finished in 1971, it was one of the largest buildings ever built by the Norwegian state covering 25,000 m² (269,000 ft²). This was part of a larger state commitment to science, as the average scientific research budget in Norway increased nominally 119 percent between 1963 and 1969. The biologists' share was a 186 percent increase, plus new buildings, all of which is evidence of the substantial political support for the biological sciences.²⁹

When it came to the scientific research done by the International Biological Program scholars, the initial focus on managerial tools and food production became less important. The importance of environmental conservation became instead the imperative, especially among the largest group of scholars working on the ecology on the mountains. The official title of their research project was “Production of Terrestrial Communities” and “Use and Management of Biological Resources,” but most of them were critical of the utilitarian perspective these titles suggested. Vik stressed that ecologists were “working *with* nature and not *against* it.”³⁰ Similarly, Dahl saw a difference between “*product science* and

²⁸ Knut Fægri, “Den klassiske biologis stilling i moderne naturvitenskap,” *Naturen*, 90 (1966), 528–546, quote p. 540. Nils Roll-Hansen, *Det Internasjonale Biologiske Program (IBP) i Norge* (Oslo: Institute for Studies in Research and Higher Education, 1982).

²⁹ Torstein Engelskjøn, *Biologisk forskning i Norge: En analyse med spesiell vekt på grunnforskningens ressurser, organisasjon og innhold* (Oslo: Institute for Studies in Research and Higher Education, 1972), 7–8, 39–40.

³⁰ Rolf Vik, “Naturvern er menneskevern,” *Naturen*, 90 (1966), 195–205, quote p. 195. Vik's emphasis.

environmental science.” Science that produces “products to live on” should be contrasted with research on “a good environment to live in” as in places suitable for “recreation,” he argued.³¹ To him the difference between “to research on” and “to live in” the environment signified technocratic versus ecological ways of thinking. In their research, ecologists would thus emphasize non-economic values. Typically, an intramural research report about reindeer would stress “the aesthetic importance of these animals to walkers in the area.”³² Such comments should be understood in the context of the culture of mountaineering and outdoor-life from which most ecologists emerged. As the professor of botany and Minister of Agriculture, and soon to be the world’s first Minister of the Environment, Olav Gjærevoll (1916–94) argued:

“The increasing urbanization and heavy traffic creates a major need for areas in which humans can find rest, recreation, peace and nature experience. This will demand a significant adjustment in our entire way of thinking about area planning. Thriving-areas must be chosen after a quality evaluation of nature. In our legislation we must draw the conclusion that these thriving-areas must be protected. Any Norwegian must admit that our most important thriving-areas are the beaches and the mountains.”³³

A STEADY-STATE NATION

The ecologists involved with the International Biological Program became powerful lobbyists in favor of large-scale national parks in the nation’s periphery or “thriving-areas.” They would frequently argue that being in proximity of untouched nature was necessary for health. Dahl, for example, saw urban social problems as a result of the lack of contact with nature in the mountains. Humans have an emotional “need to thrive,” he argued, which can only be satisfied through “meetings with nature.”³⁴ Many of his colleagues agreed. Life without outdoor life could lead to

³¹ Eilif Dahl quoted in Anonymous (eds.), *Working Meeting on Analysis of Ecosystems: Tundra Zone* (Ustaoset: IBP Norway, 1968), 7. Dahl’s emphasis. Similarly in Arne Semb-Johansson, “Samspillet i naturen.” In Ragnar Frislid and Aren Semb-Johansson (eds.), *Norges Dyr* (Oslo: Cappelen, 1971), vol. 5, pp. 44–58.

³² Eilif Dahl quoted in Anonymous (eds.), *Working Meeting*, 32.

³³ Olav Gjærevoll, “Forord,” in Nalle Valtiala, *Mennesket – et skadedyr?* Brynjulf Valum (trs.) (Oslo: Cappelen, 1970), pp. 7–8.

³⁴ Eilif Dahl, *Økopolitikk og økologi* (Oslo: The Royal Norwegian Society for Development, 1971), 9. Gunnar Lid, “Om dyrelivet i den foreslåtte nasjonalparken på Hardangervidda,” *Norsk natur*, 1 (1966), 66–71.

dangerous urban “ghetto” cultures, since humans “demand recreation, and increasingly, recreation in contact with nature.”³⁵ Pure nature in the periphery could secure healthy life for the contaminated urban centers.

The idea that facts tainted by value judgments were of lesser scientific value was also accepted by Oslo ecologists, who put in a lot of effort trying to describe plants, animals, and their relationships to each other and to the environment in neutral terms. Nevertheless, ecological research questions, researchers, and research results were far from neutral as they all explicitly pointed toward nature conservation and recreational values of outdoor life.³⁶

Recreation was a way in which humans could be energized through outdoor life in the steady-state of nature’s energy circulation. This was especially important to urban dwellers who lived without direct contact to nature. To protect this possibility, recreation took the center stage as an ecologically sound alternative to large scale plans for hydropower developments of water systems that would run from the high mountains deep down to the fjords. For example, when such plans were proposed for a large mountain plateau, Hardangervidda, near Finse, in 1968, they were met with head-on resistance from ecologists who used these rivers to determine the steady-state of the plateau.³⁷ As ecology was defined as the study of relations, one thus had to protect the entire area as an untouched reference environment: “Hardangervidda is one unit, and should thus be preserved as one unit,” they argued.³⁸ In May 1969, local planners called them in as scientific experts, and established a procedure that guaranteed ecologists would have a say in future developments. To Vik, this represented “a new chapter in the history” of environmental debate.³⁹ Ecology as applied science, with ecologists as scholar-activists and counter-experts to engineers, also caught the attention of young

³⁵ Thor Larsen, “Økologi og sunn fornuft,” *Norsk natur* 7 (1971), 40–1.

³⁶ Eivind Østbye (et al.), “Hardangervidda, Norway,” *Ecological Bulletins*, 20 (1975), 225–64.

³⁷ Anonymous, “‘Aksjon Hardangervidda’ i gang,” *Norsk natur*, 6 (1970), 122–4. Jan Økland, “Naturviten og naturbruk: Om dyreliv og miljøforhold I norske vassdrag,” *Naturen*, 91 (1967), 387–97.

³⁸ Olav R. Skage, *Hardangervidda: Naturvern – Kraftutbygging* (Oslo: Universitetsforlaget, 1971), 91. Based on unpublished reports by Arne Semb-Johansson, A. Løvlie, K. Elgmo, Ivar Mysterud, and Eivind Østbye. Ivar Mysterud and Eivind Østbye, “Vitenskapelige interesser og vassdragsreguleringer på Hardangervidda,” *Forskningsnytt*, 1 (1972), 35–45; “The Future of Hardangervidda,” *Research in Norway*, 1 (1973), 57–68.

³⁹ Rolf Vik, “Forord,” in Rolf Vik (ed.) *Vassdrag og samfunn* (Oslo: Universitetsforlaget, 1971), 11; “Vårt miljø og biologenes ansvar,” *Samtiden*, 78 (1969), 67–79.

environmentalist philosophers who saw them as allies in the philosophers' fight against the "technocratic politics" they associated with positivist philosophy.⁴⁰ In the end, most of the hydropower plans for Hardangervidda were either scaled down or abandoned, and the plateau was instead designated for ecological research and vacationing. The success gave the ecologists, as one of them pointed out, "aim and meaning in life" in a secularized world.⁴¹

One of the ecologists questioning hydropower developments was the zoologist Ivar Mysterud (b. 1938). He was also in the midst of the environmental debate and was instrumental in incorporating an ecological perspective into it. He wrote several introductory articles that were widely read among environmentalists, philosophers, and students of ecology alike. Most important, perhaps, were his lectures and seminars in which he and series of his colleagues explained, in non-technical terms, the nature of ecology and pollution to a broad audience. Though not best sellers, his publications became standard references and would frame debates about pollution in terms of steady-state and ecological energy circulation, for at least a decade.⁴²

Despite all the efforts, Mysterud felt in 1969 that there was not enough time to understand the ecosystems, before the industrial society – like a "cancer abscess" – would destroy them.⁴³ 1970 was the European Year for Conservation of Nature which, according to Mysterud, developed into a "*national championship* in oral environmentalism." Frustrated by lack of action, he decided with his friend, Magnar Norderhaug (1939–2006), to turn the talking "towards deeper social issues," such as

⁴⁰ Hans Skjervheim, "Naturvern og politikk," in Rolf Vik (ed.), *Vassdrag og samfunn* (Oslo: Universitetsforlaget, 1971), pp. 180–8, quote p. 181. Øyvind Østerud, "Naturverdier og samfunn – en ideologisk skisse," in Rolf Vik (ed.), *Vassdrag og samfunn* (Oslo: Universitetsforlaget, 1971), pp. 189–210. Gunnar Skirbekk, "Distrikshøgskolar, mot-ekspertise og populisme," in Rolf Vik (eds.), *Vassdrag og samfunn* (Oslo: Universitetsforlaget, 1971), pp. 213–34. Per S. Enger, "Hva nå med norsk biologi?" in Nils Roll-Hansen og Hans Skoie (eds.), *Forskningspolitiske spørsmål i norsk biologi* (Oslo: Institute for Studies in Research and Higher Education, 1974), pp. 86–96.

⁴¹ Rasmus Lyngnes, "Kan biologisk kunnskap gjeve dei unge mål og mening med livet?" *Naturen*, 96 (1972), 392–8. Ministry of the Environment, *Bruken av Hardangervidda* (Oslo: Universitetsforlaget, 1974).

⁴² Ivar Mysterud (ed.), *Forurensning og biologisk miljøvern* (Oslo: Universitetsforlaget, 1971). Ivar Mysterud, *Noen økologiske grunnbegreper* (Oslo: Universitetet i Oslo, 1973). Ivar Mysterud, "Endringer i miljø og fauna," in Ragnar Fris Lid and Arne Semb-Johansson (eds.), *Norske dyr*, vol. 5. (Oslo: Cappelen, 1971), pp. 412–28.

⁴³ Ivar Mysterud, "En kommentar til økologisk forskning," *Forskningsnytt*, 14 (1969), 18–25, quote p. 24.

the questioning of economic growth.⁴⁴ Politics should be put on a secure ecological footing, they argued, and suggested the term “eco-politics” to distance phony environmentalism from the real thing. The term was quickly adopted, not only by fellow ecologists, but also by a series of scholars, activists, and students questioning technocracy and industrialism. Much of this criticism had, since the mid-1960s, been informed by Ottar Brox and Hartvig Sætra’s populist agrarian socialism (discussed in the previous chapter), which, thanks to Mysterud and Norderhaug, continued under the new label “eco-politics” from 1970 and onwards.⁴⁵ Unlike the socialists, however, Mysterud and Norderhaug sought an “eco-politics” founded on science, as our common future depended on the development of a “steady-state” social economy that would mirror the steady-state balance of the economy of nature at Hardangervidda.⁴⁶ They saw no technical solutions to the eco-crisis, as this depended on uncontrollable economic growth. Instead they searched for an alternative technology in tune with ecological principles of zero-growth and steady-state.⁴⁷

One of many students inspired by their steady-state reasoning was the young graduate Nils Christian Stenseth (b. 1949), who later became a key figure in international ecological research. His first article, published when he was twenty-three years old, was about eco-politics. “Based on their knowledge,” he argued, “all biologists should work for a *steady-state society* in replacement of the *growth society*,” and one should limit the human population growth to zero.⁴⁸ To Stenseth, ecological modeling

⁴⁴ Ivar Mysterud and Magnar Norderhaug, “Økopolitikk – naturvernets nye dimensjon,” *Norsk natur*, 7 (1970), 24–7, quote p. 25. Their emphasis.

⁴⁵ Birgit Wiggen, *Debatten omkring populisme/økopolitikk i Norge 1966–1976*, MA thesis (Oslo: The Norwegian Library School, 1976). Brox, *Hva skjer i Nord-Norge*. Sætra, *Den økopolitiske sosialismen*.

⁴⁶ Ivar Mysterud and Magnar Norderhaug, “Koblingen mellom økologi og politikk,” *Norsk natur*, 8 (1972), 6–11. Kenneth E. Boulding, “The economics of the coming spaceship Earth,” in Henry Jarrett (ed.), *Environmental Quality in a Growing Economy* (Baltimore: John Hopkins University Press, 1966), pp. 3–14; *Beyond Economics* (Ann Arbor: University of Michigan Press, 1968). Herman E. Daly, “Toward a stationary-state economy,” in J. Harte and R. Socolow (eds.), *The Patient Earth* (New York: Holt, Rinehart, and Winston, 1971), pp. 226–44; (ed.), *Toward a Steady-State Economy* (San Francisco: Freeman, 1973).

⁴⁷ Ivar Mysterud and Magnar Norderhaug, “Teknisk-økonomiske løsninger på den økologiske krise?” *Norsk natur*, 8 (1972), 12–16; “Et samfunn i likevekt,” Lecture at the Student Union, The Norwegian School of Technology, Trondheim, Apr. 15, 1972, 13 pages, PA; “Mirakeløkonomi og vekstsyke i Japan,” *Norsk natur*, 8 (1972), 4–6.

⁴⁸ Nils Chr. Stenseth, “En oppfordring til biologene om å utforme en økopolitikk,” *Naturen*, 96 (1972), 118–26, quote p. 118. Stenseth’s emphasis.

represented the way forward, as simulation models could determine the exact nature of when and how to achieve a steady-state. He was well aware of the practical and theoretical problems in construing such a representation of the world, and therefore devoted his PhD to the topic. He was not alone, as computer modeling was “about to become an independent ecological branch of research” in this period.⁴⁹

The ecologists at Finse could hike and visit the philosopher Arne Næss, who had a keen interest in their research and lived long periods of the year at his mountain cabin at the top of the Hallingskarvet peak. Others would take courses in the practical know-how and philosophy of outdoor life taught by Nils Faarlund at The Norwegian Mountaineering School in nearby Hemsedal. The next chapter will discuss the importance of these philosophers in more detail.

⁴⁹ Mysterud, “En kommentar til økologisk forskning,” 25. Nils Chr. Stenseth, “Matematisk modellbygging i økologisk forskning,” *Forskningsnytt*, 19 (1974), 28–34; *Theoretical Studies on Fluctuating Populations: An Evolutionary Approach*, PhD thesis (Oslo: Zoological Institute, 1977).