EKOLOGIA POLSKA (Ekol. pol.)	25	4	563–566	1977

INSTITUTE OF ECOLOGY, POLISH ACADEMY OF SCIENCES – 25 YEARS OF ACTIVITIES (1952–1977)

1. BRIEF HISTORY, EVOLUTION OF APPROACHES AND RESEARCH PROBLEMS

The more important events in the 25-years' history of Institute are as follows:

– In 1952 the Institute of Ecology (at first – the Department) was established within the Polish Academy of Sciences with a seat in Warsaw.

– Since 1953 the journal "Ekologia Polska" (Polish Journal of Ecology) is being published (till 1970 under the Committee for Ecology, Polish Academy of Sciences).

– In 1957 there were already 50 people of the scientific staff.

– In 1960 the Hydrobiological Station at Mikołajki (between 1951 and 1960 a station of the Nencki Institute of Experimental Biology) was included.

– In 1965 the Agroecological Station at Turew (formerly under the Department of Dendrology and Pomology, Polish Academy of Sciences, at Kórnik) was included.

– In 1970 the graduate doctoral studies (for about 10 students every year) were established.

– In 1971 the Department of Ecology obtained the legal status of an institute. The head office of the Institute was moved from Warsaw to a new building at Dziekanów Leśny.

– In 1972 there were over 100 people of the scientific staff. The Institute obtained rights to give doctor degree.

– In 1974 the Department of Ecologieal Bioenergetics (formerly under the Nencki Institute of Experimental Biology) was included.

– In 1975 the quarterly "Polskie Archiwum Hydrobiologii" (Polish Archives of Hydrobiology) (formerly under the Nencki Institute of Experimental Biology) became a publication of the Institute. Since then another journal "Polish Ecological Studies" is being issued.

– In 1977 the Arctowski Antarctic Station was established on the King George Island.

The Institute (Department) of Ecology was established under the direction of Prof. Dr. Kazimierz Tarwid (1952–1956). Prof. Dr. Kazimierz Petrusewicz was appointed next (1956–1973) and he contributed greatly to the development of the Institute and its significance in the scientific world. Since 1973 Prof. Dr. Romuald Z. Klekowski is in charge of the Institute.

The first years of scientific activity of the Institute were mainly population and biocenotic studies (1952–1962). From then the close cooperation with several scientific institutions (including the University of Warsaw, Inland Fisheries Institute, Jagiellonian University) began. In 1963 the research on biological productivity (carried out at first in the field of hydrobiology) began. Since 1964 the Institute of Ecology has participated in the activities of the International Biological Programme and became a leading centre as regards studies on productivity in the country. This research at first only on productivity of populations and communities evolved into the research on ecosystem productivity. The IBP researches in the whole country (the project "Productivity of ecosystems" – about 50 institutes) and also some

international studies (e.g. studies on small mammals and granivorous birds) were coordinated.

The significance of the Institute of Ecology in the IBP may be best illustrated by its participation in organizing a number of important international symposia on: productivity of terrestrial ecosystems (Jabłonna 1966), productivity of freshwaters (Kazimierz Dolny 1970), social insects (Warsaw 1970), wetlands (Mikołajki 1972), productivity of grasslands (Dziekanów Leśny 1973), productivity of small mammal populations (Dziekanów Leśny 1973), granivorous birds (Dziekanów Leśny 1973). Also scientists from the Institute participated in preparing several manuals and synthetic studies of the IBP.

During the International Biological Programme (which ended formally in 1974) the Institute carried out the researches within the key project (No. 09.1.7) "The increase of production of biomass through investigations of the productivity of ecosystems" (1971–1975), and coordinated the researches of about 50 Polish scientific institutes. This was a natural continuation of IBP with special attention to the protection and rational management of the environment.

As a result of cooperation of Academies of Sciences of socialist countries, the Institute of Ecology (together with the Department of Animal Ecology, Jagiellonian University) organized under the auspices of Council for Mutual Economic Aid a Summer School "Productivity of ecosystems and ecological bioenergetics" (Dziekanów Leśny – Cracow – Mikołajki 1975). Institute organized also the symposia on pesticides and bioindication of soil (Dziekanów Leśny 1975).

In 1976 works within the key subproject (No. 10.2.10) "Ecological basis for environmental management" began. The researches included in this subproject will be continued till 1980. The Institute coordinates the researches of about 90 Polish scientific institutes. The problem deals mainly with landscape ecology (physiocenoses) in order to create ecological basis for rational management, protection and utilization of natural environment. The international cooperation of socialist countries, the Programme "Man and the Biosphere" (MAB), and direct cooperation with various foreign research centres are partly included in the key subproject.

In the period 1952–1976 the Institute of Ecology published about 2200 works, of which 70% are original papers, monographs and scientific articles. The majority of them was published in "Ekologia Polska", and also in "Polskie Archiwum Hydrobiologii" and in "Polish Ecological Studies". Some of the papers were presented at international congresses, conferences and symposia.

2. ORGANIZATION STRUCTURE AND RESEARCH PROBLEMS

DIRECTOR – Prof. Dr. Romuald Z. Klekowski, scientific vice-director – Docent Dr. Zofia Fischer-Malanowska, vice-director for general affairs – Dr. Stefan Mirosław Janion, administrative vice-director – Janusz Brzozowski, M. Sc.

SCIENTIFIC COUNCIL: chairman – Prof. Dr. Włodzimierz Michajłow; 30 members.

ADDRESS of the head office of the Institute (also of the majority of departments): Dziekanów Leśny (near Warsaw), 05–150 Łomianki.

I. DEPARTMENT OF BIOCENOLOGY. Head: Docent Dr. Tadeusz Traczyk, 19 scientists. Studies in the Department concern mainly the structure and functioning of ecosystems as components of the landscape (physiocenosis) with special attention to matter cycling and energy flow. Also the role of particular trophic levels in matter cycling and the stability of ecosystems are analysed according to their differentiation and spatial structure of the landscape. As regards energy flow and matter cycling great attention is paid to the interrelations among ecosystems and the interdependences of biocenotic and hydrological systems. Forest

and agricultural physiocenoses of the Masurian Lakeland are the model objects as they are well united with the drainage basins of particular lakes.

II. DEPARTMENT OF AGROCENOLOGY. Head: Dr. Cecylia Bajan, 18 scientists. The Department analyses changes in plant and animal communities in agrocenoses under intense agricultural treatment and in polluted areas. Studies are carried out on ecological basis for the control of plant pests. Studies on insect-killing fungi, fungi and viruses causing plant diseases, soil nematodes and nematodes-parasites of insects, soil mites, parasitic insects and their hosts are conducted.

III. DEPARTMENT OF HYDROBIOLOGY. Head: Docent Dr. Anna Hillbricht-Ilkowska, 9 scientists. Studies on broadly understood ecological transformations of water bodies as a result of man-made effects and the ecological effects of various control treatments. Intense studies are carried out on eutrophication of waters as a result of intensification of agriculture, animal farming (including fishes), sewage discharge, studies on heated waters and introduction of fishes (also phytophagous fish) etc. These are multidisciplinary studies concerning the structure of different communities of organisms and the functioning of water ecosystem with special consideration to the cycling of matter and relations between the water body and the drainage basin. Intense studies are conducted in chosen water bodies, especially as regards the significance of a water body in the cycling of matter in the landscape, and also extensive studies of monitoring type on the quality of waters as well as various experiments in situ are performed on the effect of factors imitating management activities (inflow of organic and inorganic matter, catches, introduction of fish). The basic object are lakes, mainly located in Masurian Lakeland.

IV. DEPARTMENT OF POPULATIONS. Head: Dr. Stefan Mirosław Janion, 19 scientists. The main aid of research is finding theoretical principles for the functioning of population in the physiocenosis. The studies include regulation mechanisms of population subject to activities of man and an analysis of changes in structure and organization of the population. The studies are conducted in different environmental conditions, either more or less changed by management. The main object are small rodents, and also game animals, birds and Colorado beetles (*Leptinotarsa decemlineata*).

V. DEPARTMENT OF ECOLOGICAL BIOENERGETICS. Head: Prof. Dr. Romuald Z. Klekowski, 22 scientists. Studies on the role of animals in the energy flow and matter cycling in landscapes (physiocenoses) which are under different pressures of human management are carried out. The investigated areas are in the Masurian Lakeland, Upper Silesia and in surroundings of Warsaw. On the basis of ecological field and laboratory methods bioindicatory studies are developed in order to estimate the man-made factors modifying and damaging the environment. Also laboratory experiments are carried out to solve special methodical problems as regards bioenergetics.

VI. DEPARTMENT OF AGROBIOLOGY (60–809 Poznań, Świerczewskiego 19). Head: Prof. Dr. Lech Ryszkowski, 18 scientists. Multidisciplinary studies on biological grounds for the functioning of environment with intense agricultural treatment are carried out in order to recognize and predict the changes occurring within cultivated fields and in the agricultural landscape. Broad ecological background of these investigations allows to observe the effects of agricultural treatments, and thus to determine the best methods for the management of field ecosystems both from the point of production and protection of environment. Studies are conducted in an agricultural landscape (fields, meadows, shelter belts, melioration ditches, water bodies) in order to obtain total estimations of energy flow in agroecosystems, of the role of animals in matter cycling, of the significance of shelter belts etc.

The Department has a library and a Museum of Natural History.

FIELD STATION AT TUREW (64–003 Turew). Head: Dr. Jerzy Karg. For field research carried out by the Department in the agricultural landscape of Wielkopolska.

VII. DEPARTMENT OF POLAR RESEARCH. Head: Docent Dr. Stanisław Rakusa-Suszczewski, 5 scientists. Basic studies of the abiotic environment and of communities of organisms are carried out in the polar regions of Arctic and Antarctic in order to create scientific grounds for the utilization and protection of live resources of the Southern Ocean and Arctic Ocean. These are multidisciplinary studies including hydrological, hydrophysical, hydrochemical and hydrobiological characteristics of marine environments with special consideration to matter cycling and the structure of communities of organisms that would be exploited industrially.

VIII. ARCTOWSKI ANTARCTIC STATION ON THE KING GEORGE ISLAND. Head: Docent Dr. Stanisław Rakusa-Suszczewski. The Station was established in February 1977 in order to facilitate scientific research in the Antarctic.

IX. BIOGEOCHEMICAL LABORATORY. Head: Dr. Włodzimierz Ławacz, 3 scientists. The main object of studies are regularities of the cycling of selected chemical elements (macro- and microelements) within terrestrial and aquatic ecosystems and an exchange between the ecosystems. The effect of management on the rate and directions of the cycling of chemical elements is considered. Parallel to scientific activity the Laboratory makes the chemical analyses for other departments of the Institute.

X. WETLAND RESEARCH LABORATORY (11–730 Mikołajki). Head: Docent Dr. Andrzej Szczepański, 8 scientists. Studies on the ecology of wetlands are performed with special attention to productivity of macrophytes and their role in water bodies. Analysed are the significance of macrophytes in forming border-zones between aquatic and terrestrial ecosystems, the significance of macrophytes in the balance of chemical elements and the contribution of macrophytes in the water balance of lakes. The intra- and interspecific relations in macrophytes (interference and allelopathy) are also under study. Some more important species (*Phragmites communis*, *Stratiotes aloides*, *Myriophyllum spicatum*) are theroughly investigated including different aspects of their autecology.

XI. LABORATORY OF STATISTICS AND MODELLING. Head: vacancy, 2 scientists. Mathematical models of ecological phenomena and processes are constructed. Consultations for the scientific staff of the Institute are provided.

XII. SECTION OF PLANNING AND COORDINATION OF SCIENTIFIC RESEARCH. Head: Dr. Alina Ścibor-Marchocka. Formal procedure and finances as regards plans, contracts and reports concerning the research carried out and coordinated by the Institute.

XIII. SECTION OF PUBLICATIONS AND THE LIBRARY. Head: Docent Dr. Eligiusz Pieczyński. Essential and formal coordination of the work of three ecological journals issued by the Institute, namely: the quarterly "Ekologia Polska" (papers), the quarterly "Polskie Archiwum Hydrobiologii" (papers) and the non-periodical publication "Polish Ecological Studies" (syntheses and monographs), and also of the quarterly "Wiadomości Ekologiczne" published by the Committee for Ecology, Polish Academy of Sciences (scientific articles, reviews, chronicle).

LIBRARY, Head: Regina Reda, M. Sc. There are 1,742 periodicals (altogether 26,600 volumes) and 33,900 books. The inter-library exchange has on its list 655 libraries from 67 countries all over the world.

XIV. FIELD STATION AT MIKOŁAJKI (11–730 Mikołajki). Head: Grzegorz Kwiatkowski. Till 1973 the Hydrobiological Station. Now a field station for terrestrial and aquatic research of the Institute conducted on the Masurian Lakeland.

E. Pieczyński