DEPARTMENT OF ENVIRONMENT
GOVERNMENT OF INDIA

Wildlife Institute of India

"the survival of man is dependent on the survival of animal and plant life"

Prime Minister Indira Gandhi

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NATURE WALK

No. — 1

RAJAJI NATIONAL PARK

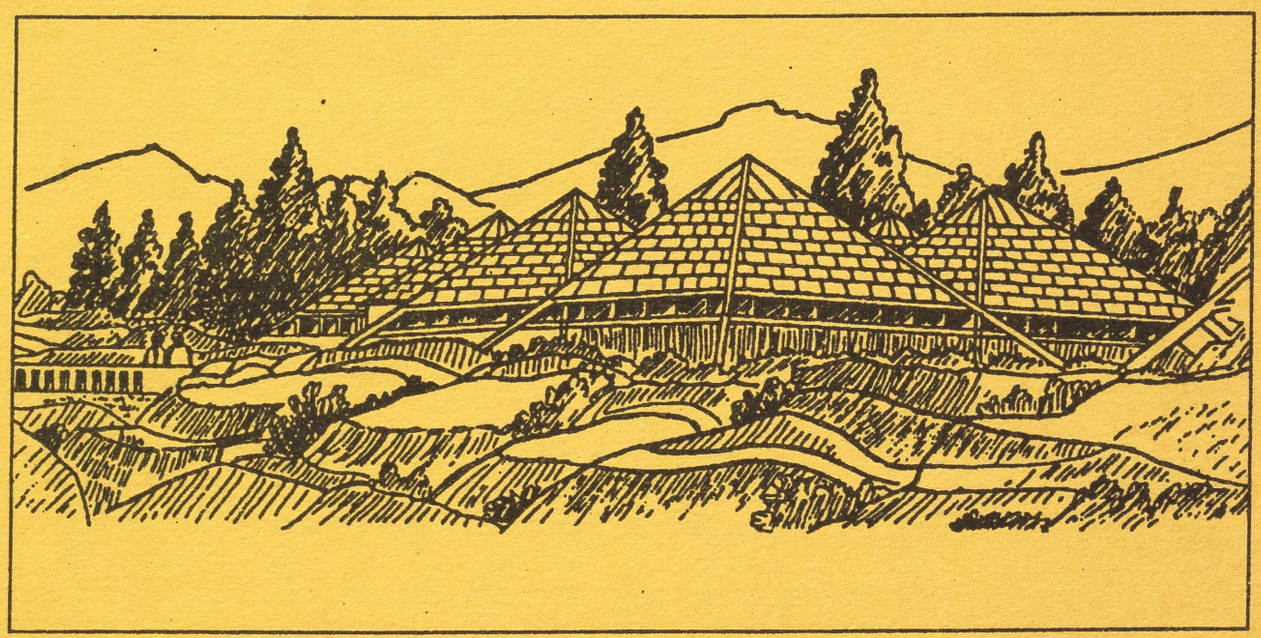
DISTT. SAHARANPUR (U.P.)

WILD LIFE INSTITUTE OF INDIA

DEHRA DUN (U.P.)

WILDLIFE INSTITUTE OF INDIA

A PROFILE



New Campus at Chandrabani
Dehra Dun

WILDLIFE INSTITUTE OF INDIA -- A PROFILE

THE INSTITUTE

Ever since official attempts at preservation of living natural resources began in India, the need had been felt for institutions that could undertake training, education, and research in the rapidly emerging science of conservation. In particular, the vast field of wildlife conservation, research, and protected area management remained largely unattended for over three decades after independence. It was in response to this need that the Wildlife Institute of India (WII) was set up in 1982, under the Ministry of Environment & Forests of the Government of India. The aim of the WII is to strengthen such an effort through generation and facilitating generation of scientific information and creating a trained manpowser base of both biologists and managers.

BACKGROUND

Wildlife conservation has travelled a long way from its past of addressing attention merely to some spectacular wild animals and birds in their choice habitats. It has, in recent times, proved to be the only effective means of preserving natural ecosystems which nurture biodiversity and evolutionary processes in nature.

For any one nation in the world India has perhaps the largest array of environmental situations by dint of her tropical location, varied physical features and climatic types. We thus have the widest variety of biomes, an attribute further enhanced by the meeting of three major biogeographic realms namely Indo- Malayan (the richest in the world), Paleo-Arctic (Eurasian) and the Afro-tropical, in our domains. India owes its unique biodiversity to this unmatched interspersion of biogeographic and environmental values.

The development of a biogeographically representative network of national parks, sanctuaries and biosphere reserves and their appropriate management is the only way we can secure our biodiversity which represents a futuristic resource and on which economic growth and scientific progress will come to depend increasingly in the coming decades.

Given our high human and livestock populations and intimate interspersion of habitation throughout the wilderness of people still substantially dependent upon biomass resources, wildlife conservation measures face resistance from local communities. Conservation planning and management must therefore take into account this special situation in a perceptive and responsive manner. Unfortunately this important human dimension of wildlife management has failed to receive due attention hitherto, leading to the present scenario of aggravated interface conflicts.

It is for this reason that it is not possible to set up very large protected area units. Again, it is for this reason that effective conservation and management of the protected area system is substantially dependent on how forests neighbouring individual units are managed. It is through the neighbouring forests that the demands of the people can be met and it is these that can provide spaces for dispersion of wildlife and corridors for gene flow in order to make the network functional. Past experience has shown that while good results have been obtained in several conservation areas through an approach relying on enforcement and management in isolation, it has now become increasingly difficult to enlarge the effort in terms of area or intensity of measures because of resistence from local people. This emphasizes the need of an integrated approach to managing landuse and resource utilisation in large landscapes comprising protected areas, other forests and non-forest wilderness and the people living there.

A close look into the relatively recent chronicle of the ravage of our wilderness can enable us to identify the aberrations and incongruities in the landuse, the resource utilisation practices and the development strategies which have mainly been responsible for this debacle. Proper scientific and socio-economic investigation of the resource dependencies and of the resource productivity parameters is a pre-requisite to the planning and implementing of mitigatory measures, the goal being ecologically sustainable and economically advantageous development of the inhabitated surrounds of protected areas. This underscores the need of visualising protected areas in the context of their regional setting with both ecological and human aspects adequately cared for through a zonation approach and zonally appropriate development-management strategies.

The Wildlife Institute of India is alive to the aforementioned realities of the field and to the need for a holistic and integrated approach to wildlife conservation planning and management so that it compatibly becomes a part of the overall regional landuse. This concern is reflected in the various training courses conducted by the Institute as well as in its education and research programmes. The development of skills among wildlife professionals, which will enable them to meet the emerging challenges in the field, is the principal mandate of the Institute and its various activities are geared toward this end.

THE OBJECTIVES

The major objectives of the Institute are:

* Training managers and biologists for protected area management and wildlife research;
* Training education and extension specialists for protected areas to gain public support for wildlife conservation;
* Providing orientation courses for those involved in land-use management;
* Conducting and coordinating applied wildlife research and evolving relevant techniques suited to Indian conditions;
* Creating a database for building up a wildlife information system employing modern analytical techniques and computer equipment; and
* Providing advisory and consultancy services to Central and State governments, universities, research institutions, and other official and non-official agencies.

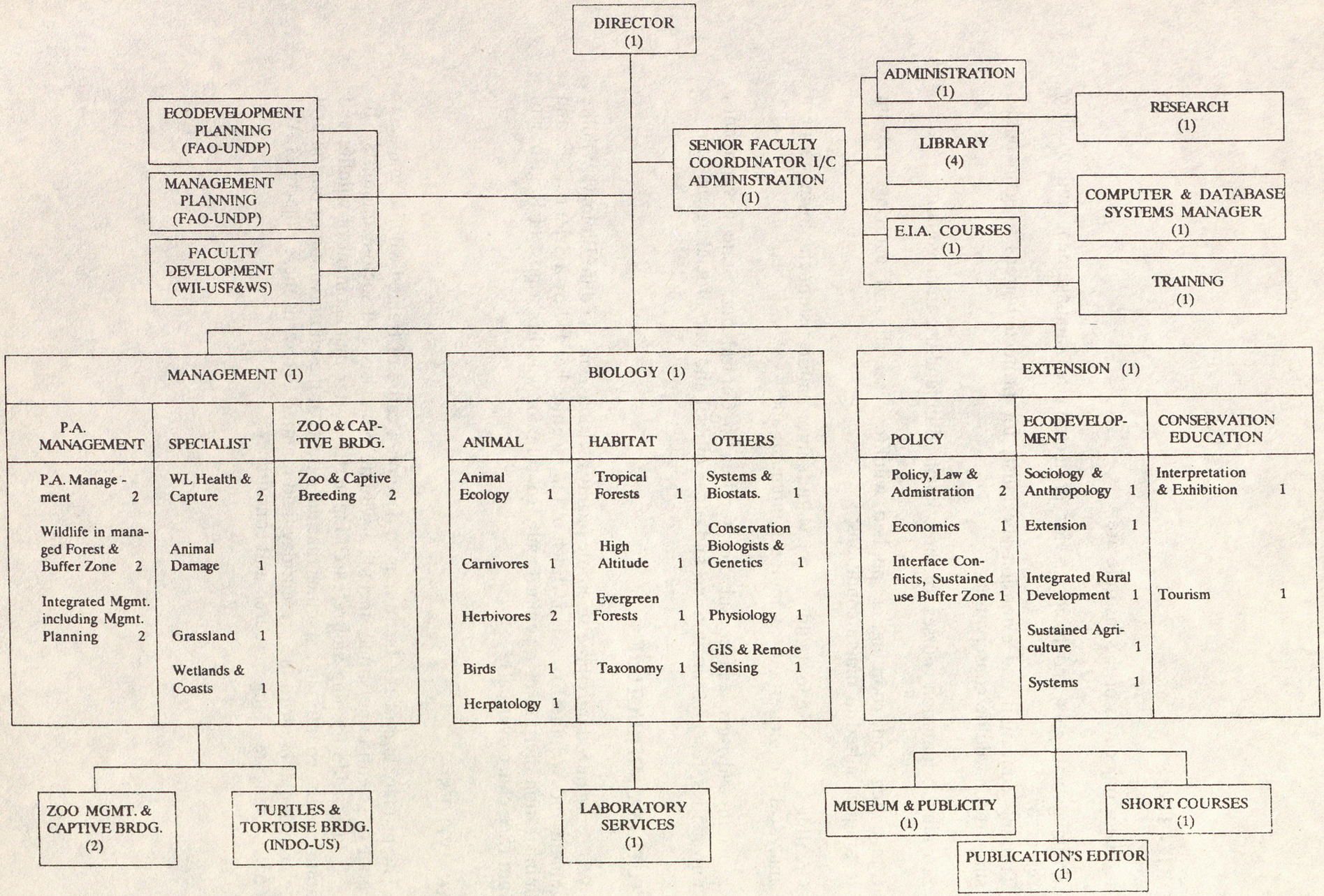
INSTITUTIONAL STRUCTURE

WII is organized into three scientific faculty divisions, viz. Wildlife Biology, Wildlife Management and Wildlife Extension. Each of the faculties headed by a Scientist-SE, and the administration division by a senior faculty coordinator who has a post of Registrar to assist him (**See chart** overleaf).

THE ACTIVITIES

The primary aim of the Institute is to develop a cadre of trained wildlife managers and a pool of scientific personnel including wildlife biologists and socio-economists. Its attempt is to provide training and research inputs for better management of wildlife and wild habitats in the country, in a manner that our efforts at the conservation of our natural heritage are compatible with the present-day field realities. Towards these objectives, WII carries out training, teaching, research and consultancy.

ORGANISATIONAL STRUCTURE WII -- VIII PLAN



Academic

Training Programme

One of the WII's primary responsibilities is to train in- service personnel of the state forest departments and wildlife wings, in the field of wildlife management. For this purpose the Institute conducts a number of short-term and long-term courses.

The Post graduate Diploma Course in Wildlife Management, of 9-months' duration, imparts training in management planning, strategies, and techniques that are most appropriate to today's conservation situations and needs. The trainee officers are put through a programme involving both the theoretical and the practical aspects of management of wildlife and protected areas. **(See Annexure-I).**

The 3-month Certificate Course in Wildlife Management trains personnel at the field executive level, i.e. Range Forest Officer **(See Annexure-II).**

In addition to these two regular training courses, a number of short-term courses and training workshops are conducted to meet specific training needs of the target groups involved. Most of these are of one to two week duration. Among these, a two-week Capsule Course in Wildlife Management is organised at Dehra Dun for park and sanctuary managers. The Capsule Course provides a short-duration, high-turnover option. Open to officers of state forest departments and wildlife wings this course aims at enabling them, in a short-time, to introduce a minimum component of scientific management in the administration of protected areas, and providing for wildlife habitat concerns in the course of forestry operations in forests outside the umbrella of the protected-area network **(See Annexure-III).**

Education Programme

The Institute started its education programme in 1987-88 with the introduction of an M.Sc. course in Wildlife Biology. This programme aims at producing qualified field biologists and ecologists who could pursue a career either in research with the state wildlife wings/forest departments or other research organisations, or in teaching at the various universities which are setting up new courses in wildlife biology, ecology, etc. This course is of two year (four semester) duration. The M.Sc. Course has a strong field bias and devotes nearly half of the total course time to field tours, including six months of field project.

Training help to other Institutions/Countries

The faculty also provides inputs in training in wildlife biology and management to the researchers/students/trainees of universities, research organisations (e.g. BNHS) and forestry institutions (e.g. NFA).

Special training programmes are organised on special request for foreign trainees, e.g. the one for officers of Sri Lankan Wildlife Conservation Department in elephant management and another for two veterinarians from the Institute of Nature Conservation, Zaire in capture and domestication of Asiatic elephant.

Specific subject Workshops and Symposia

Depending on the demand from the field the Institute from time to time, conducts training workshops in specific subjects. Some examples are:

* animal census
* habitat mapping and evaluation
* chemical immobilization and captures
* wildlife health
* power fencing

The symposia subjects cover aspects e.g.

* power fencing for animal damage control
* snow leopard conservation
* elephant damage and population management
* wildlife and people.

Research

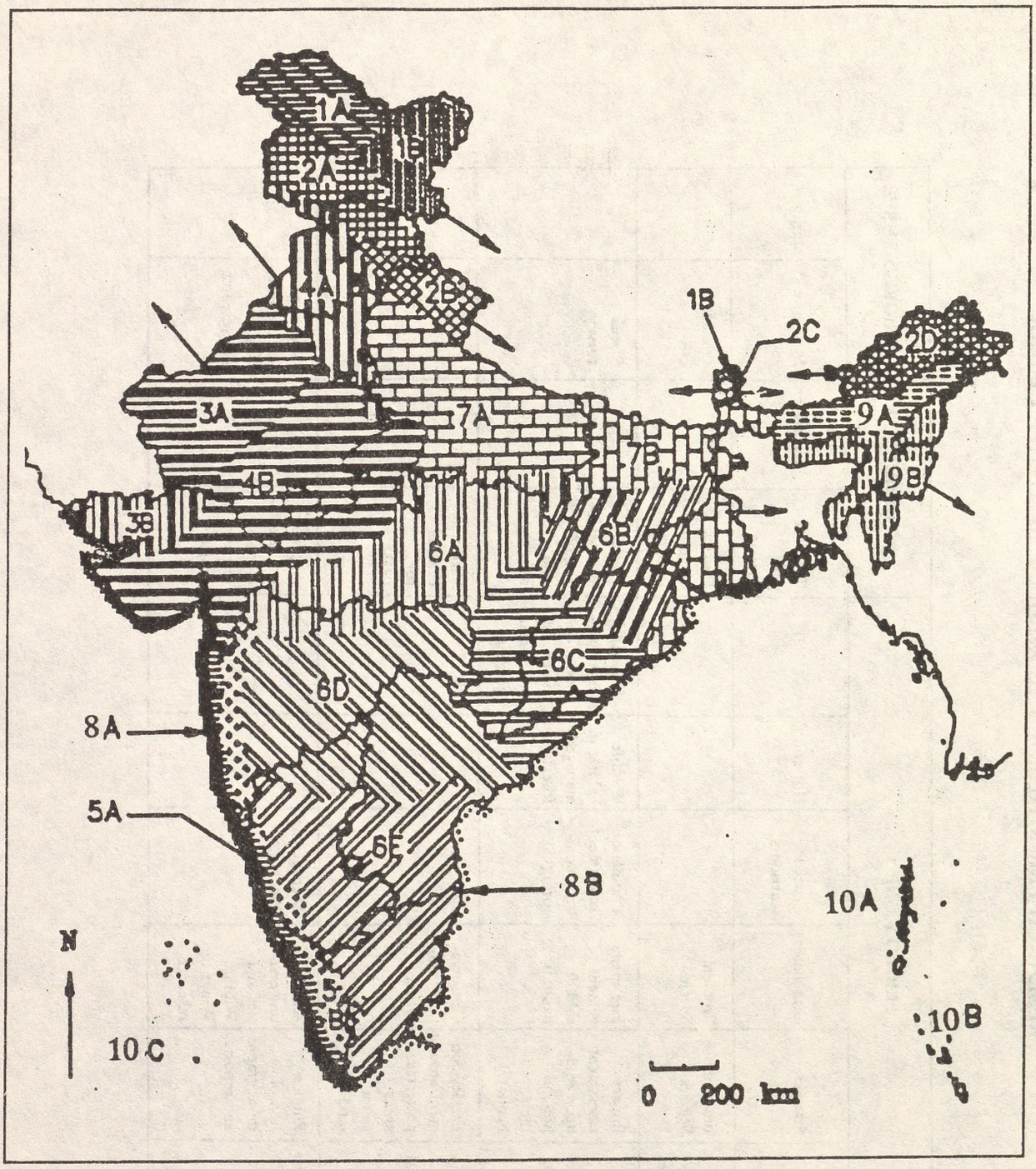
One of the primary objectives of the Institute is to conduct research in selected priority areas pertaining to conservation of India's living natural resources. **A priority chart** for Institute's research can be **seen opposite**. The Institute is also being increasingly looked upon as an important centre contributing to the development of wildlife science in India. WII research projects are seen as an important means of developing the professional capabilities of its faculty, by keeping them abreast of current field situations, management needs and research trends. This ensures that the faculty's own inputs and teaching methodologies are constantly updated and upgraded.

An annual review seminar of the Institute's research studies is conducted every year where the research fellows present their work before students, faculty, the Research Advisory Committee and invited scientists. **Annexure-IV** provides a list of completed, ongoing and new research projects with locations on maps.

RESEARCH PRIORITIES OF THE WILDLIFE INSTITUTE OF INDIA

Field of research	PRIORITY ONE						PRIORITY TWO		PRIORITY THREE	
Ecosystems and regions	High Altitude	Siwaliks, Terai and Duars	Grasslands	Crucial Corridors	Hot arid		Tropical rain forests	Freshwater	Mangrove	Marine
Species and communities	Highly Endangered Species	Indicator Species	Problem Species				Species of economic importance		Orchids etc.	
Techniques and methodologies	Quantitative evaluation and monitoring of wildlife habitats	Impact assessment upon wildlife and their habitat	Fire management of wildlife habitats	Population assessment and monitoring	Wildlife habitat in managed forests	Habitat manipulation including water management	Capture and handling of wild animals		Status surveys	
People's needs and involvement	Interface conflicts and animal damage control	Ecodevelopment around protected areas (pilot models)	Conservation Education				Visitor centres for parks			
Other activities	Documentation and database	Publication of monographs and reports	Assist universities and Wildlife Wings in research	Management Planning			Appraisal and assessment of research projects		Nodal agency in coordinating wildlife research	

THE BIOGEOGRAPHIC CLASSIFICATION OF INDIA -- WII



1	TRANSHIMALAYAN	6	DECCAN PENINSULA
2	HIMALAYAN	7	GANGETIC PLAIN
3	INDIAN DESERT	8	COASTS
4	SEMI - ARID	9	NORTH-EAST INDIA
5	WESTERN GHATS	10	ISLANDS

Consultancy Services

From time to time the Institute is asked by the central and state governments to offer consultancy services on issues/problems of current topical relevance to wildlife conservation.

A major consultancy report completed for the Central Government is on "Planning a Wildlife Protected Area Network in India". The two volume, 608-page report carries a working biogeographic classification recognizing 10 zones and 36 provinces and suggests a network of 148 national parks and 503 sanctuaries covering some 151,000 sq. km (See map).

Another 3-year major consultancy study for the Central Government has been under progress for one year. The study looks at the status of management of zoos in India with a view to developing improved design and management approaches conforming to the new concepts of zoo management.

Other consultancy services involve issues like evolving policy for wildlife tourism, management of biosphere reserves (selection of sites and management strategies), animal damage problems etc.

LIBRARY AND DOCUMENTATION FACILITY

Academic activity is backed by a rapidly developing library and documentation facility. There are over 8,000 titles, mostly acquired in the last five years. Over 130 journals (85 from overseas) are received. A documentation facility is also fast coming up. Development of library and documentation receive high priority and these facilities are at an advanced stage of computerised library information system.

OTHER INFRASTRUCTURE

The Institute has an upcoming laboratory for the use of students and research fellows. The herbarium of the Institute is also growing fast. Teaching and workshops have an appropriate back up facility of AV aids.

Academic Programme - New Initiatives

As mentioned earlier, WII maintains a constant feed-back mechanism to keep abreast of the field problems and tries to respond through its research, training and consultancy programmes.

Management Planning for PAs

It has been experienced that in absence of proper management plans for protected areas the scarce resources that are allotted are not optimally utilised. Preparation of management plans based on proper data is an essential requirement. WII's regular 9-month PG Diploma course provides capability to trained officers to prepare such plans, but, firstly their number is small and secondly often such trained officers are posted on non-wildlife jobs. The WII has accordingly prepared itself to launch a special 4-month course on management planning for PAs in 1992. Upto 20 officers may be trained in this manner who will be selected by the states in consultation with Govt. of India and WII and be earmarked for preparation of such plans for specific PAs. They will then prepare plans under the guidance and supervision of WII. The plans themselves will be implemented with priority in allocation of funds for the Centrally sponsored schemes for development of national parks and sanctuaries and Project Tiger. This programme also envisages data base additions and monitoring through direct links with the field through NICNET/DISNET.

Ecodevelopment Planning Around PAs

It has been established that our ability to consolidate field conservation and enlarge on the effort so as to meet the basic requirements of environmental concerns, particularly biodiversity conservation, depends upon our ability to resolve conflicts at the interface between people and PAs. This can only be achieved by adopting an ecodevelopment approach in managing and strengthening landuse in the surrounds of protected areas. Identification of buffer zones and their compatible management is also an important requirement.

The strategy for ecodevelopment envisages reduction in the dependency of people in and around PAs upon the biomass resources in such PAs. This can only be achieved partly by adopting sustainable alternative but economically more productive land cultures (as against jhooming, marginal land farming etc.) and partly by providing alternative sources of energy, fodder etc. Some examples of supplemental measures would be proper animal husbandry (phased livestock population reduction and breed improvement) practices, pasture development, rotational grazing, promoting fisheries with sustainable fishing regimes with full participation of concerned people and elimination of intermediaries. The essential idea is to evolve area-specific package of measures that looks at landuse covering both CPRs and PPRs with full participation of local people.

WII's programme is to launch a 4-month training course in ecodevelopment planning in 1991. For this also trainee officers will be identified and committed to specific areas in consultation with Govt. of India and WII. The trained officers will go and prepare such

plans with participation of local people (using PRA techniques) and involvement of rural development agencies under district administration/Zila Parishads and NGOs. The implementation of these plans will be supported by the Govt. of India from a special VIII Plan scheme for Ecodevelopment around PAs.

Both these training programmes particularly the former, will have UNDP assistance under a nationally executed project with FAO as the collaborative agency.

Integrated Forest Management

Our strategies of forest management need to be oriented to be able to fulfill the mandate inherent in the new National Forest Policy, 1988, the National Wildlife Action Plan, 1983 and the new found but all important emphasis on biodiversity conservation. This implies well coordinated management approaches on a large landscape basis where the three essential sectors to be integrated are protected areas, other forests with different management objectives and the resource dependence as well as concerns of the people resident in such tracts. WII has initiated a field study project - The Satpura Biodiversity Project - covering a large area in Satpura range in Hoshangabad and Betul districts of Madhya Pradesh and Amravati district of Maharashtra. This large tract has two national parks, three sanctuaries, a large extent of valuable teak and mixed (with bamboo) forests as well as a large interspersed population of people substantially dependent on the forests. The flora and fauna are diverse with rare elements of montane and dry evergreen vegetation and relict sal forest of high biodiversity value on the Pachmarhi and Chikhaldhar plateaus and Bori valley.

This field project, fully involving the state forest departments of Madhya Pradesh and Maharashtra, will lead to meaningful orientation of measures in managed forests as well as appropriate plans for PAs involved, besides outlining strategies for people's participation in over all management and ecodevelopment of rural ecosystems.

CAMPUS DEVELOPMENT AT NEW SITE

The WII is at present operating from a small space that was passed on to it in the FRI main building at the time of merger of the erstwhile Directorate of Wildlife Research and Education in the FRI. A number of private buildings have been hired in a nearby colony called Vasant Vihar. This interim arrangement has been done to carry on with the functions until the constructions at the new campus at Chandrabani, Dehra Dun, are completed.

80 hectares of land has been given by the Government of Uttar Pradesh in three separate blocks for WII-Campus. Block-I and Block-II lie 1.5 kms from Dehra Dun-Saharanpur road and the site itself is 8 km from the city centre (See Map at **Annexure-V**). Block-I has been earmarked as the main institutional area, Block II as the wilderness area for training (no development) and Block III for staff accommodation. Block III is about 8

hectares. It lies only half a km from Dehra Dun- Saharanpur road and because of its proximity to the main road, it has been earmarked for staff accommodation.

According to the agreement, these constructions should have been completed by August, 1990, but this was not be. But after considerable coercion including holding back cover money in addition to the contractual security deposit, the contractor has been forced to bring the project nearer the completion stage. The abnormal esclations that have taken place after mid-1990 have added to the problems. Despite all this, it is hoped that the new campus will be occupied some time September/October, 1991. Some functions may be started in the new campus even earlier.

VIII PLAN PROGRAMME OF WILDLIFE INSTITUTE OF INDIA

It is a matter of conservation history that the relative abundance of wildlife habitats and wild animals obtaining until the early 40's in the country exhibited a rapid and pronounced decline since the latter half of 40's and through the decades of 50's and 60's. It was in the late 60's that conservation action was concerted through tightening of legal provisions, setting up of more national parks and sanctuaries and launching of major conservation projects like Project Tiger and Crocodile Project. More financial assistance was provided by the Central Government to the States and the States also came forward with enhanced allocations. In result tangible conservation gains were recorded in the 70's and early 80's. However, with this success the problem of interface conflicts and animal damage also gained in magnitude and over the last few years resistance has been building up gradually. This adversity has been compounded by pressures of development projects and demands of industrial and urban centres. While these latter pressures can and have to be brought down on considerations of environmental security and overall sustainability of 'development' through governmental action, the immediate problem of conservation of biodiversity and wildlife is rooted in the resistance of resource dependent local communities.

The main reason for such resistance is the continued dependence of people inhabiting the wilderness regions upon the resources of the existing and potential sites of protected areas. This dependence continues to be unmitigated. Rationalised landuse and effective alternative rural development strategies could have mitigated this dependence which in turn would have reduced the pressures on forests and wildlife areas. unfortunately, this thrust on ecologically sustainable rural development is still not reflected in the rural development and tribal welfare programmes addressing the wilderness regions.

It is evident that forest conservation in general and wildlife conservation in particular have to adjust themselves to these ground realities in order to have a chance of acceptance and success. However, such adjustments cannot by themselves be enough. Indeed, the very ability to bring about such adjustments can come about only when people's dependence on resources in the wilderness is mitigated through enhanced sustainable productivity of rural ecosystems in these regions. What is required to realised that welfare of the people in these regions can also be brought about only in this way. This calls for policy adjustments in rural

development and reordering of these programmes for wilderness regions. The complexity of demands, pressures and dependence as well as a lack of conviction that viable sustainable alternatives can be found, are the major impediments in initiation of such programmes. There is hence an urgent need to set up working models of compatible alternative development. These can be attempted on a small scale around protected areas in different parts of the country. if the compatibility between wildlife conservation and rural welfare can be demonstrated through such an alternative package even on small pilot models, this will greatly enhance acceptability of conservation. Needless to say that conservation of biodiversity through a representative protected area network very strongly depends on such success of integrated conservation measures and sustainable rural development. The protected area managers and also forest managers need to acquire skills in taking people with them and in formulation and implementation of coordinated and compatible wildlife management and eco-development.

The Wildlife Institute of India has formulated its VIII Five Year Plan programme keeping the above thrust in view. It is for this reason that in the VII Five Year Plan period the Institute invested intensive effort in faculty development and in broadening its training and research base. If the Institute is supported in its logical and much needed development activities as outlined in its VIII Plan proposals, it will be in position to render services of value in so far as they relate to conservation of biodiversity and wildlife. As an example a calendar of training programmes for 1991-92 is shown at **Annexure-VI.**

PUBLICATIONS

WII has a well developed in-house designing and publishing capability. From time to time WII has been bringing out publications addressing topical conservation and management issues as well as ecological/biological topics.

WII has already taken significant strides and is moving steadily towards accomplishing a sound capability in meeting teaching and research needs both at middle and higher levels, so as to meet the unique requirements in the field of wildlife conservation in India and in developing countries in the region.

ANNEXURE - I

STATE-WISE DETAILS OF OFFICERS (ACF/DCF) TRAINED AT WILDLIFE INSTITUTE
(WILDLIFE MANAGEMENT DIPLOMA)

STATE	I (79-80)	II (80-81)	III (81-82)	IV (82-83)	V (83-84)	VI (84-85)	VII (85-86)	VIII (86-87)	IX (87-88)	X (88-89)	XI (89-90)	XII (90-91)	XIII (91-92)	TOTAL
Andaman & Nicobar	1	1	0	1	0	0	0	0	1	0	0	1	1	6
Andhra Pradesh	1	0	2	2	1	2	1	1	2	0	2	2	2	18
Arunachal Pradesh	1	1	1	0	0	1	1	1	0	2	1	0	0	9
Assam	0	2	1	0	2	2	2	1	1	3	2	2	0	18
Bihar	0	0	2	1	1	0	1	2	1	0	0	1	0	9
Goa, Daman & Diu	0	0	0	1	1	1	0	0	0	0	0	0	0	3
Gujarat	1	1	1	1	2	0	1	1	0	0	0	1	1	11
Haryana	0	0	0	0	1	1	0	0	0	1	0	0	0	3
Himachal Pradesh	1	1	1	0	1	0	1	1	1	1	1	2	0	11
J & K	0	2	1	1	0	0	0	0	0	2	0	1	0	7
Karnataka	0	0	1	0	1	1	0	1	0	0	1	0	0	4
Kerala	1	0	1	1	2	0	3	0	2	0	1	2	1	14
Madhya Pradesh	1	2	3	2	4	2	2	0	2	1	1	0	4	24
Maharashtra	1	2	0	1	2	3	1	1	4	3	2	2	4	26
Manipur	1	0	1	1	0	0	0	1	0	0	0	0	0	4
Meghalaya	0	1	0	1	1	0	1	1	0	1	1	0	1	9
Mizoram	0	1	0	0	0	0	1	0	1	0	0	0	1	4
Nagaland	0	0	0	1	0	0	0	0	0	0	0	0	0	1

STATE	I (79-80)	II (80-81)	III (81-82)	IV (82-83)	V (83-84)	VI (84-85)	VII (85-86)	VIII (86-87)	IX (87-88)	X (88-89)	XI (89-90)	XII (90-91)	XIII (91-92)	TOTAL
Orissa	1	0	1	1	1	2	2	0	0	0	0	0	1	9
Punjab	0	0	1	0	2	1	0	0	0	0	0	1	1	6
Rajasthan	0	0	1	1	2	1	2	0	2	2	1	0	0	12
Sikkim	0	1	0	1	0	0	0	1	0	0	1	1	0	5
Tamil Nadu	1	0	1	1	1	1	0	0	2	2	0	1	1	11
Tripura	0	1	0	0	0	1	0	0	1	1	0	1	0	5
Uttar Pradesh	0	1	0	1	1	3	2	2	2	1	2	0	2	17
West Bengal	0	0	0	1	0	1	1	0	2	0	1	0	1	7
Afganishtan*	0	0	0	0	0	2	0	0	0	0	0	0	0	2
Bangala Desh*	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Lao PDR*	0	0	0	0	0	0	0	0	0	0	1	1	0	2
TOTAL	11	17	19	19	27	25	22	14	24	20	18	19	21	-

* Trainees from other countries.

ANNEXURE - II

STATE-WISE DETAILS OF TRAINEES OF CERTIFICATE COURSE IN WILDLIFE MANAGEMENT

STATE	III 1986	IV 1987	V 1988	VI 1989	VII 1990	VIII 1991
Andaman & Nocobar	2	1	1	0	0	0
Andhra Pradesh	4	0	2	2	1	1
Arunachal Pradesh	1	1	0	1	1	0
Assam	0	1	2	1	0	1
Bihar	0	0	0	0	1	0
Goa, Daman & Diu	1	0	0	1	0	0
Gujarat	0	0	0	2	0	1
Haryana	2	2	0	0	0	1
Himachal Pradesh	1	1	1	2	0	0
J & K	3	1	0	0	0	0
Karnataka	1	2	1	2	0	0
Kerala	4	1	0	2	0	0
Madhya Pradesh	1	3	2	4	1	0
Mahrashtra	8	1	1	2	5	4
Manipur	0	0	0	0	0	0
Meghalaya	0	0	1	1	1	1
Mizoram	1	0	0	0	0	0
Nagaland	0	0	0	0	1	0
Orissa	1	1	0	0	0	2
Punjab	0	0	0	1	1	1

STATE	III 1986	IV 1987	V 1988	VI 1989	VII 1990	VIII 1991
Rajasthan	1	1	0	0	0	2
Sikkim	0	0	0	1	1	0
Tamil Nadu	2	0	2	2	0	2
Tripura	0	0	0	0	0	0
Uttar Pradesh	2	1	0	1	0	1
West Bengal	0	0	0	1	1	2
Dadra & Nagar Haveli	0	0	1	0	0	1
Sri Lanka*	2	0	0	0	0	2
Laos*	0	0	0	0	2	0
Zambia*	0	0	0	0	0	1
TOTAL	37	17	14	26	16	23

* Trainees from other countries

ANNEXURE - III

WII - WORKSHOPS, SYMPOSIA, SEMINARS AND SHORT COURSES ORGANISED

1986-87

1.	Census workshop	-	Sariska Tiger Reserve from November 16-20, 1986 for Forest Deptt. research organizations and University teachers for the compilation a manual of techniques.
2.	Power fencing	-	At Sariska from Nov. 20-21,1986 as also Feb. 10-11,1987 at Kaziranga for Forest officers to give them an overview of WL damage problems in the country.
3.	Conservation education & Nature Interpretation	-	At Ahmadabad from 21.1.87 to 27.2.87 (5 weeks) in collaboration with CEE for Wildlife personnel to develop the capabilities of personnel in preventing and coping with the conflicts arising as a result of WL conservation & human needs.
4.	Wildlife Habitat Evaluation using remote sensing Techniques	-	At WII in collaboration with IIRS from October 22-23,1986 for WL biologists, remote sensing analysts for identifying information need in solving area specific problems and how and to what extent could remote sensing techniques be employed.
5.	International Symposium on Snow Leopard	-	At Srinagar, Kashmir from October 13-15,1986 in collaboration with ISLT for research scientists, National Park managers and zoological parks from UK,US, Finland, Sweeden, Canada and India to study the ecology of snow leopard and its associated prey.

1987-88

1.	Census workshop	-	At Sariska Tiger Reserve from Nov. 22-26,1987 for officers of Forest Deptt. research organizations and University teachers to prepare a manual on census techniques suited to Indian Conditions.
2.	Habitat Evaluation workshop	-	At Sariska Tiger Reserve from Nov. 26 to Dec. 1,1987 for BNHS field biologists to demonstrate and discuss the application of WL habitat description, monitoring and evaluation techniques suited to Indian conditions.
3.	Role of Army in WL Conservation programmes	-	At Dehra Dun during April 1986 for Army officers. Again from June 22-26, 1987 at Rajaji National Park to study the importance of ecology and conservations.
4.	International symposium on Tropical Ecology.	-	At BHU on 12.12.87 conducted by ISTE and special session on WL conservation in the tropics was assigned to WII.

1988-89

1.	Capsule Course in WL management.	-	At bandipur National Park,Karnatka From 5-19 Sep. 1988 for officers of the southern states forest Department.
2.	Capsule Course in WL Management.	-	At Kanha National Park from 4-15 January 89 for officer of central and northern states.
3.	Capsule Course in WL Management.	-	At Kaziranga National Park, from 27.2.89 to 10.3.89 for eastern and N.E. forest officers.
4.	Elephant Mgt. Training programme	-	Conducted by WII from 16.1.89 to 31.1.89 for Srilankan forest officers for conservation of elephant in Srilanka's context.

5.	High Altitude Census W/Shop	-	Conducted by WII at Dachigam N.P from 24-29 October 88 for forest officials to study census methods employed at different elevations for different species.
6.	Seminar on Bio-geographic Project	-	Conducted by WII on 19 October 1988 at Banglore for Senior Forest Officers.
7.	Seminar on Bio-geographic Project.	-	Conducted by WII on 27.2.89 to 10.3.89 at Kaziranga.
8.	Annual research Seminars.	-	At D.Dun from 27 to 28 September 1988 to review the WII research projects.

1989-90

Workshops

1.	Research in Project Tiger	-	For one week in January 1989 at Kanha for research officers and P.Tiger areas.
2.	Wildlife & People	-	At D.Dun from 27-28 April 1989 for WII and other institutions.
3.	Elephant Mgt.	-	At D.Dun on 6.5.89 for WL officials from different states to discuss elephant conservation.
4.	WL health & disease monitoring	-	At D.Dun from 26-28 September 1989 for research and veterinary officers from forest and WL Deptt. and Rep. from Vetinary institutions including US-FWS to discuss incorporation of disease investigations and WL health monitoring in all WL Management Programmes.
5.	WII-Annual Research review seminar.	-	At D.Dun from 5-6 October 1989 to review all on going projects.

1990-91

1.	Workshop on High Altitude Ecology.	-	July,90 at Dehra Dun
2.	WII-Annual Research Review Seminar.	-	Aug.,90 at Dehra Dun
3.	Regional Seminar on Integrated Forestry Planning & Management.	-	Sept.90 at Dehra Dun
4.	National Workshop on Integrated Forest Planning & Managemnet.	-	January,91 at Pachmarhi, M.P.
5.	WII-UNESCO Buffer Zone Management	-	February,91 at Dehra Dun. With participants from Mangolia, Afghanistan, Banladesh, Srilanka, Pakistan, Nepal, Bhutan and India.

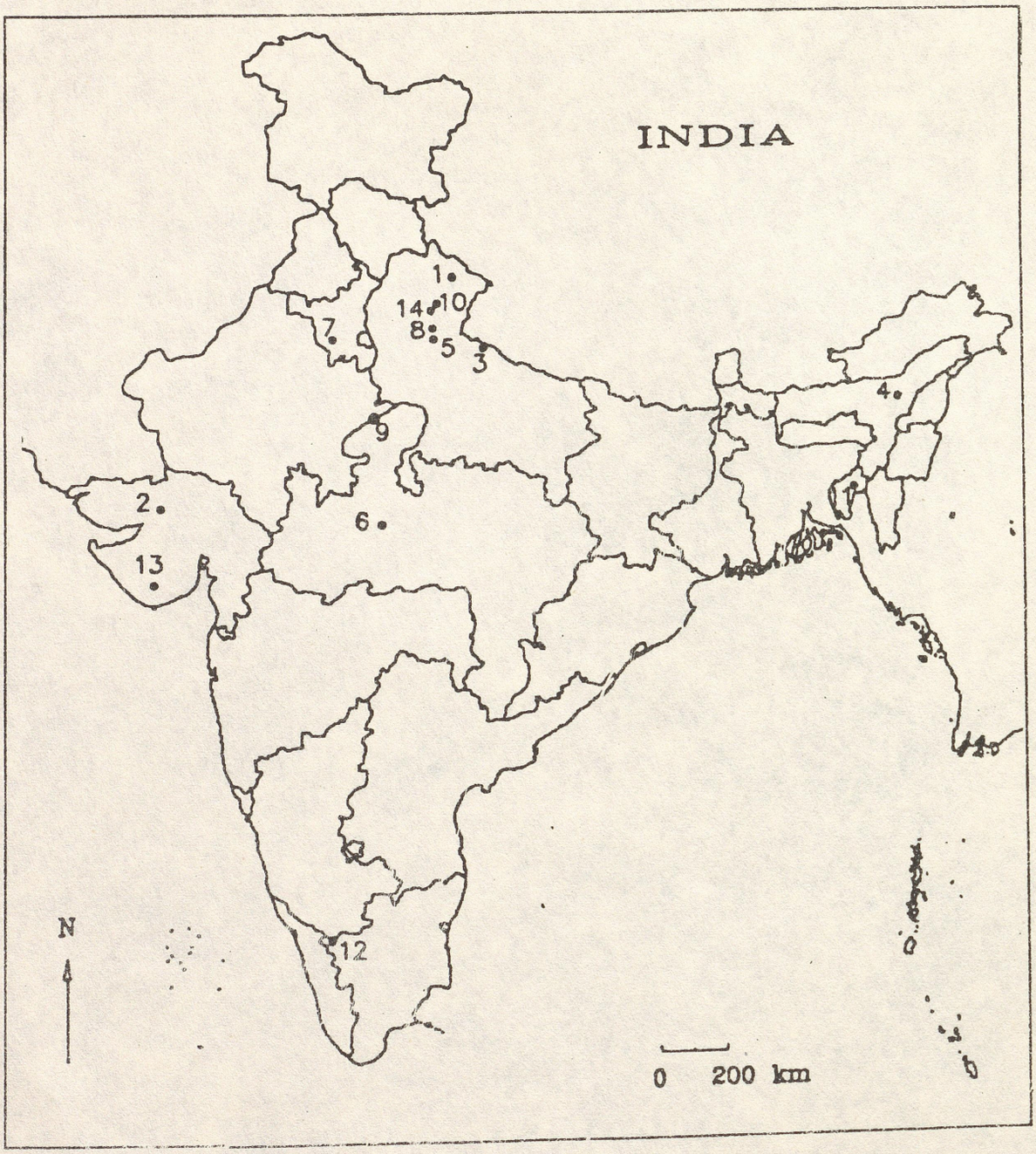
Map Showing Locations of Completed Research Project

1. Hemis High Altitude NP -- Snow leopard sudty
2. Sariska Tiger Reserve -- Study on sympatric herbivores
3. Dudhwa NP -- Monitoring of re-introduced rhino
4. Pobitara WLS -- Monitoring of proposed introdution of Sangai (kept in abeyance)
5. Manjira, Ethipothalia & Siwaram WLS -- Monitoring of re-introduced Crocodiles
6. Gir NP & WLS ---- Ecology of Asiatic lion; Ungulate-habitat ecology

7A & 7B. Garhwal Himalayas & Arunachal Pradesh -- Investigation on biogeographic pattern

8. Rajaji NP -- Study on dependency of local people (Gujjars)
9. Rajaji NP -- Study on habitat types & utilization by large mammals
10. Mundanthurai -- Kalakad TR -- Study on Niligiri Langur
11. Srivilliputhur WLS -- Ecology of Grizzled Giant Squirrel
12. Dehra Dun -- Study on Flying Fox
13. National Chambal Sanctuary -- Turtle ecology
14. North-Western Himalaya -- Snow leopard survey

Map Showing Locations of Ongoing Research Projects
(As on 1 September, 1991)



1. Kedarnath Musk Deer Sanctuary -- Habitat-ungulate ecology
2. Wild Ass Sanctuary -- Ecology of Wild Ass and socio-economic study
3. Dudhwa NP -- Ecology of Swamp Deer
4. Kaziranga NP -- Ecology and genetic of Wild Buffaloes
5. Rajaji-Corbett NPs Corridor Forest -- Habitat evaluation and socio-economic study
6. Narmada Sagar Project -- EIA study
7. Haryana -- Study on crop damage by Nilgai
8. Rajaji NP -- Study on Elephants
9. Notional Chambal Sanctuary -- Stdy on aquatic mammals (Otters and Dolphin)
10. WII, Dehra Dun -- Strengthening of National Wildlife Database
11. Gumti WLS -- Study on Phayre's leaf monkey
12. Mudumalai WLS -- Study on Masinagudi village ecosystem for ecodevelopment planning
13. Gir NP & WLS -- Study on impact of management practices on lion & ungulates habitat
14. WII, Dehra Dun -- Laboratory study on carnivore diet

Map Showing Locations of New Projects To Be Launched Shortly
(As on 1 September, 1991)

1A & 1B. Garhwal Himalayas and Nilgiris -- Study on montane grasslands
2. Sariska TR -- Study on infectious diseases in ungulates
3. Satpura Conservation -- Development of guidelines for integrated forest management
Area (SCA) -- Satpura
NP -- Melghat TR
4. Peninsular India -- Distribution and status of Indian Wolf and its prey species
5. Western Ghats -- A pilot study on Malabar Civet
6. Mehao WLS -- Study on frugivore birds
7. Bandipur NP -- Study on infectious diseases in Canids, Viverids and Mustelids
8. Pin Valley NP -- Ecological and genetical studies on Ibex
9. WII, Dehra Dun -- Strengthening of National Wildlife Database, Phase II

ANNEXURE - IV-D

RESEARCH PROJECTS - WII

A. Completed Research Projects

1. Ecological studies of snow leopard and its associated prey species in the Hemis High Altitude National Park, Ladhakh.

2. The ecology of the sympatric herbivores in Sariska Tiger Reserve.

3. Monitoring of rhinoceros reintroduecd in Dudhwa National Park.

4. Introduction and monitoring of sangai (Cervus eldi eldi) in Pabitora Wildlife Sanctuary, Assam. (kept in abeyance)

5. Mugger crocodile monitoring project in Andhra Pradesh.

6a. Ecological factors pertinent to improved management of the Asiatic lion in India.

6b. A study of the ungulate - habitat ecology in Gir.

7. Investigation of biogeographic patterns of relevance of planning of long term wildlife conservation strategies in India.

8. The dependency of local people on the resources of Rajaji National Park.

9. The investigation of habitat types of Rajaji National Park and their utilization by large mammals.

10. Food habits and ranging behaviour of Nilgiri langur in Mundunthurai, Tamil Nadu.

11. Ecology of the endangered grizzled giant squirrel in Srivilliputhur Range, Tamil Nadu.

12. Ecology of the Indian flying fox in the Dehra Dun area.

13. Turtle ecology project.

14. A survey of snow leopard and associated species in the Himalaya of North - Western India.

B. Ongoing Research Projects

1. An investigation of habitat ecology of the Kedarnath Wildlife Sanctuary.

2. Ecology of the Indian wild ass in the Rann of Kutch.

3. Management of the northern swamp deer (Cervus duvauceli duvauceli) in the Dudhwa Tiger Reserve.

4. The Asiatic wild buffalo (Bubalus bubalis) in the Assam state: Population genetics and ecological studies for its management.

5. Study of inter- relationships between village ecosystems and elephant corridor - habitat in the forests linking Rajaji and Corbett National Parks with a view to devising compatible management strategies.

6. Environmental impact assessment of narmada sagar Project - study of impact on vegetation with attendent aspects of wildlife habitat and use by local people, including recommendations for compensatory measures.

7. Ecological studies to evaluate crop damage by nilgai and blackbuck in Haryana and formulate mitigation strategies.

8. Movement and habitat utilization of elephants in north - western Uttar Pradesh.

9. Ecological relationships of aquatic mammals in the National Chambal Sanctuary.

10. Strengthening of National Wildlife Database.

11. Biology, ecology and conservation of Phayre's leaf monkey in Tripura.

12. Study of the rural ecosystem of Masinagudi village in the Mudumalai Wildlife Sanctuary with a view to evolving a model ecodevelopment plan to ensure compatibility between the village community and the sanctuary.

13. A study on impacts of management practices on ungulate and lion habitats in Gir forests.

14. Creation of a laboratory facility at the Wildlife Institute of India to standardise methods to determine carnivore diet.

C. New Projects

1. An ecological study of the montane grasslands in the Valley of Flowers (Garhwal Himalaya) and Eravikulam (Western Ghats) National Parks with a view to develop baseline information on grasslands for conservation planning

2. Sero-epidemiological and clinico-pathological studies on some infectious and parasitic diseases in wild ungulates and their relationship with livestock.

3. Scope for developing area specific guidelines for the integreted forest management in view of the forestry objectives and need of local people in Satpura Conservation Area.

4. Distribution and conservation status of Indian Wolf and its prey species.

5. A pilot study on conservation of Malabar Civet, Viverra civettina)

6. A study on frugivore birds in Arunachal Pradesh.

7. Study on infectious diseases in Canids, Vivverids and Mustelids.

8. Ecology and Genetics of Capra ibex sibirica in India.

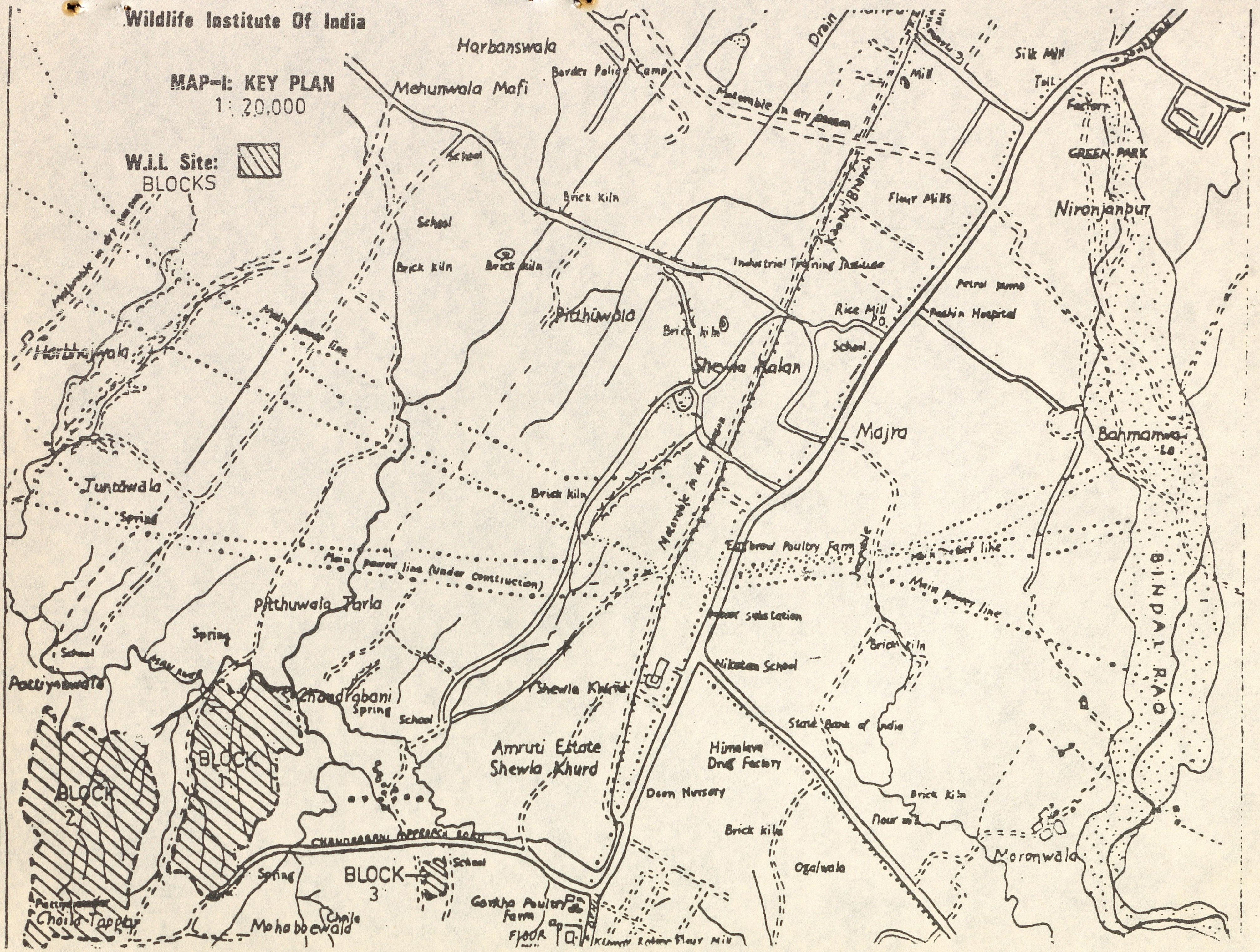
9. Strengthening of National Wildlife Database: Phase II, and establishment of conservation evaluation centre at WII.

D. Project with External Collaboration

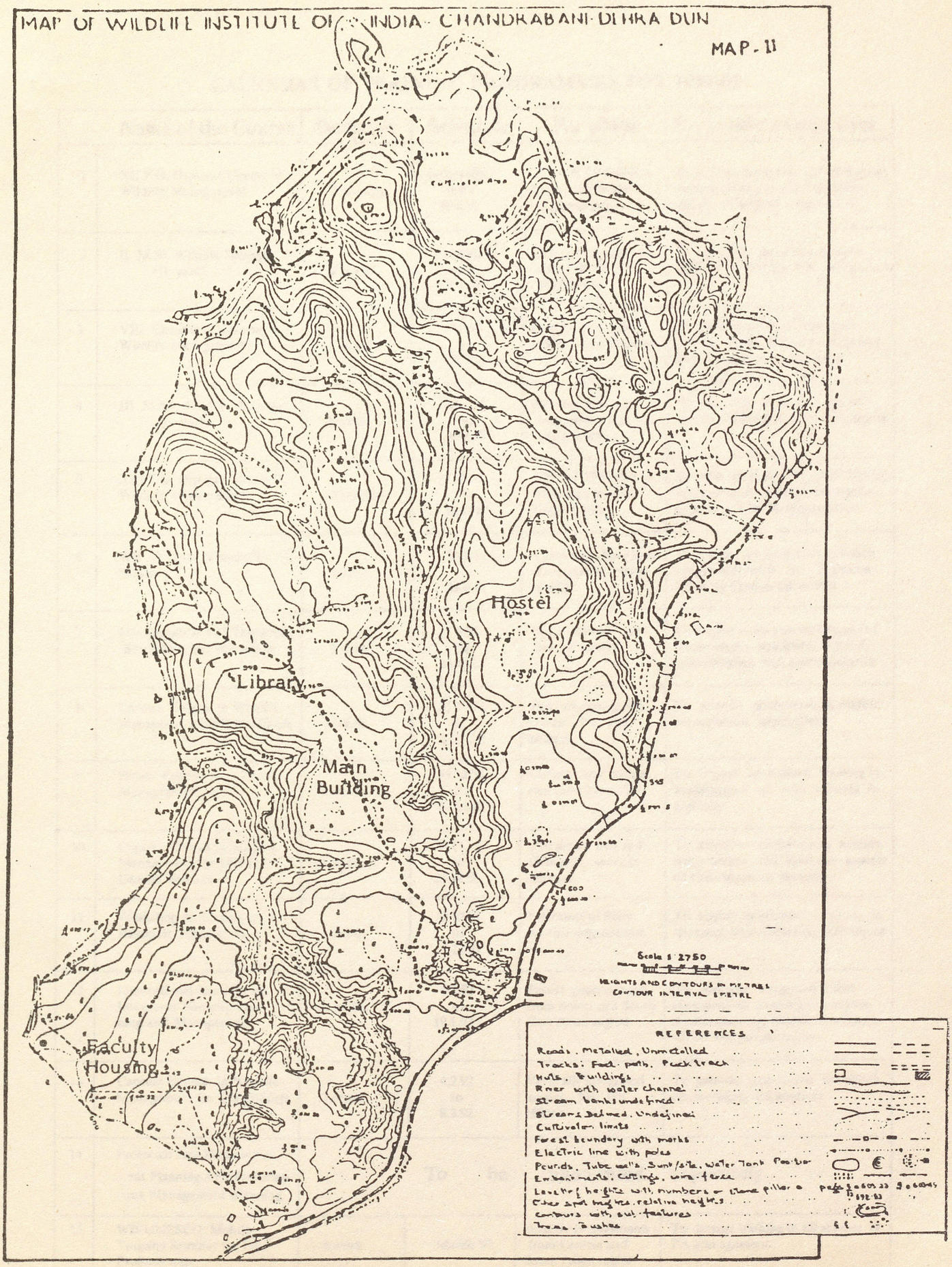
1. Wildlife Institute of India/US Fish & Wildlife Turtle and Tortoise Conservation Project for India

This project was initiated with the arrival of the foreign Advisor Dr.Edward O.Moll on May 14th 1991. Objectives of the project are to identify turtle and tortoise species which require conservation attention and initiate appropriate conservation action for each. As presently envisioned the project will comprise 3 stages - 1) An initial period of countrywide field status surveys to identify threatened turtle populations and to determine the factors which causing their decline. 2) A Workshop to present the problems to the states involved and provide appropriate solutions. 3) Preparation of state specific action plans followed by consultation, and assisting implementation of the plan.

2. The status, ecological and conservation of the Indian Giant Squirrel (Ratufa indica)



Campus site
Land to be acquired


MAP OF WILDLIFE INSTITUTE OF INDIA - CHANDRABANI - DEHRA DUN
MAP - II
Hostel
Library
Main Building
Faculty Housing
Scale 1:2750
HEIGHTS AND CONTOURS IN METRES
CONTOUR INTERVAL 5 METRE
REFERENCES
Roads . Metalled , Unmetalled
Tracks : Foot path . Pack track
Huts . Buildings
River with water channel
Stream banks undefined
Streams Defined . Undefined
Cultivation limits
Forest boundary with marks
Electric line with poles
Pounds . Tube wells . Sunk site . Water Tank Pavilion
Embankments . Cuttings . wire fence
Level of heights with numbers or stone pillar
Other spot heights . relative heights
Contours with sub features
Trees . Bushes

CALENDAR OF TRAINING PROGRAMMES FOR 1991-92

	Name of the Course	Duration	Schedule	For whom	Programme Objectives
1	XII P.G. Diploma Course in Wildlife Management	9 months	continuing upto 30.4.91	IFS and SFS officers from state wildlife organisations	To train personnel in the ecological, management and administrative aspects of wildlife conservation.
2	II M.Sc. Wildlife Biology (II year)	2 years	continuing upto 30.6.91	Selected graduates with first class in life sciences	To meet the need for trained wildlife biologists and researchers
3	VIII Certificate Course in Wildlife management	3 months	1.5.91 to 31.7.91	Rangers from state wildlife organisations	To train field executive staff in proper implementation of policy and management directives
4	III M.Sc. Wildlife Biology (I year)	2 years	15.7.91 to 30.6.93	Selected graduates with first class in life sciences	To meet the need for trained wildlife biologists and researchers
5	XIII P.G. Diploma course in Wildlife Management	9 months	1.8.91 to 30.4.92	IFS and SFS officers from state wildlife organisations	To train personnel in the eological, management and administrative aspects of wildlife conservation
6	WII Annual Research Seminar	3 days	26.8.91 to 28.8.91	Research fellows and Research associates of WII	To review the Institute's research programme with the Research Advisory Committee of WII
7	Interpretation and Conservation Education Workshop	9 days	16.9.91 to 24.9.91	State wildlife and zoo personnel	To impart skills and techniques of conservation education, wildlife interpretation and communication
8	Capsule Course in Wildlife Management for IFS Officers	1 week	21.10.91 to 25.10.91	Vertically integrated course for IFS officers	To provide orientation in wildlife conservation imperatives.
9	Short Course on Zoo Management	6 weeks	11.11.91 to 21.12.91	Curator and technician level Zoo staff	To impart specialised training in management of wild animals in captivity
10	Capsule Course in Wildlife Management for IAS and Central Services	1 week	25.11.91 to 29.11.91	For senior IAS and Group 'A' services officers	To provide orientation in wildlife conservation and land-use aspects of environmental security
11	Workshop on Chemical Restraint Techniques	2 weeks	2.12.91 to 7.12.91	Personnel of State wildlife organisation	To impart specialised training in chemical immobilisation techniques
12	International Seminar on Integrated Forestry Planning and Management	2 weeks	6.1.92 to 19.1.92	Forest professionals from South and South East Asian region	To promote integrated forest management catering to environmental security, biodiversity conservation and people needs.
13	Capsule Course in Wildlife Management for IFS Officers	1 week	4.2.92 to 8.2.92	Vertically integrated course for IFS officers	To provide orientation in wildlife conservation imperatives.
14	Protected area Ecodevelopment Planning And Protected Area Management Planning	To be announced separately			
15	WII-UNESCO Mobile Training Seminar for PA Professionals	4 week	March '92	Wildlife professionals from Central and South Asian region	To imaprt training in all aspects of PA management.