Department of Fisheries Resource Management
College of Fisheries
Acharya Narendra Deva University of Agriculture and Technology, Kumarganj, Ayodhya – 224 229, U.P.

1. ABOUT THE DEPARTMENT

The Department of Fisheries Resource Management (FRM) has been functioning since the establishment of the College during the academic year 2006–07 and is one of its pioneering and fundamental academic units. The department is actively engaged in undergraduate, postgraduate and doctoral teaching, research and extension activities related to fisheries science and resource management.

The M.F.Sc. programme in Fisheries Resource Management was initiated in 2019–20 with two students and has now been expanded to eight seats. Admission is open to B.F.Sc. graduates through the UPCATET entrance examination and the programme follows the Broad Subject Matter Area (BSMA) syllabus. So far, 21 students have successfully completed their M.F.Sc. degrees.

The Ph.D. programme was initiated in 2023–24 with two research scholars, focusing on advanced research in fish diversity, biology, population dynamics and sustainable fisheries management. Admission is open to candidates holding an M.F.Sc. degree in the concerned discipline through UPCATET, following the BSMA syllabus. To date, one scholar has completed the Ph.D. degree in 2026, while six scholars are currently pursuing doctoral research. Additionally, an international Ph.D. scholar from Sierra Leone, West Africa, was admitted under the Indian Council for Cultural Relations (ICCR) Scholarship Scheme in 2026–27.

2. VISION

To develop the department as a centre of excellence in Fisheries Resource Management through quality education, multidisciplinary and innovative research, and effective transfer of scientific knowledge and technologies to fish farmers, with special emphasis on Eastern Uttar Pradesh, thereby contributing to sustainable fisheries development and the socio-economic upliftment of fishing communities.

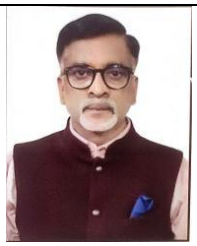
3. MISSION

- To provide quality education and develop skilled fisheries professionals.
- To undertake innovative research for the conservation and sustainable management of fisheries resources.
- To generate scientific information on fish diversity, biology and population dynamics.
- To promote technology transfer and strengthen linkages with stakeholders and fishing communities.

4. OBJECTIVES

- To impart quality education in Fisheries Resource Management through B.F.Sc., M.F.Sc. and Ph.D. programmes.
- To assess biodiversity and study the biology of commercially important finfish and shellfish species in Uttar Pradesh.
- To undertake multidisciplinary research on fish diversity, fish biology, stock assessment, endocrinology, and the conservation and management of threatened and commercially important fish species.
- To organize training, extension and awareness programmes to promote the sustainable management and conservation of fisheries resources.

5. FACULTY

Name	Designation	E-mail	Mobile No.
 Dr. C. P. Singh	Professor & Head	cpsfish@rediffmail.com	7309566578
 Dr. Radhakrishnan Kizhakke Veettil	Associate Professor	krishnaradh76@gmail.com	8730854369
 Mr. Sunil Kant Verma	Assistant Professor	sunilfisheriesdeptt@gmail.com	9410515192

 Dr. Jyoti Saroj	Assistant Professor	jyotisaroj31@gmail.com	9409612237

6. ACADEMIC PROGRAMMES

The department offers teaching and research opportunities at undergraduate, postgraduate and doctoral levels.

Programme	Details
B.F.Sc.	Undergraduate teaching
M.F.Sc.	Initiated in 2019–20
Ph.D.	Initiated in 2023–24

6.1 Undergraduate Programme (B.F.Sc.)

The department offers various courses covering fish taxonomy, anatomy, biology, physiology, inland fisheries, marine fisheries, population dynamics and stock assessment.

B.F.Sc. courses offered by Department as per the fifth Dean's committee

Sl. No.	Course No.	Course Title	Credit load
1	FRM-111	Taxonomy of Finfish	3(1+2)
2	FRM-112	Taxonomy of Shellfish	2(1+1)
3	FRM-121	Anatomy and Biology of Finfish	3(2+1)
4	FRM-122	Inland Fisheries	3(2+1)
5	FRM-123	Marine Biology	3(2+1)
6	FRM-211	Physiology of Finfish and Shellfish	3(2+1)
7	FRM-311	Anatomy and Biology of Shellfish	2(1+1)
8	FRM-312	Marine Fisheries	3(2+1)
9	FRM-313	Fish Population Dynamics and stock Assessment	3(2+1)
10	FRM-314	Aquatic Mammals, Reptiles and Amphibians	1(1+0)
		Total	26(16+10)

B.F.Sc. courses offered by Department as per the sixth Dean's committee

Sl. No.	Course No.	Course Title	Credit load
1	FRC-111	Taxonomy of Commercially Important Fish and Shellfish	4 (2+2)
2	FAC-121	Fish and Shellfish Breeding and Hatchery Management	4 (3+1)
3	FRC-121	Anatomy and Biology of Finfish and Shellfish	4 (3+1)
4	FRC-122	Physiology of Finfish and Shellfish	3 (2+1)

5	FRC-211	Inland Fisheries	2 (1+1)
6	FRC-221	Marine Fisheries	2 (1+1)
7	FRC-311	Fish Population Dynamics and Stock Assessment	2 (1+1)
		Total	21(13+08)

Elective (major/minor) courses

FRE-411	Sustainable Fisheries Management and Conservation	3 (2+1)

6.2 Postgraduate Programme (M.F.Sc.)

M.F.Sc. courses offered by Department

Major Courses

Sl. No.	Course No.	Course Title	Credit load
1	FRM 501	Sustainable Fisheries Management	2+1
2	FRM 502	Fish Biodiversity and Conservation Biology	2+1
3	FRM 503	Climate Change and Fisheries Resource	2+1
4	FRM 504	Fish Stock Assessment	2+1
5	FRM 505	Trophodynamics in Aquatic Systems	2+1
6	FRM 506	Reproductive Biology of Finfish and Shellfish	2+1
7	FRM 507	Developmental Biology of Finfish and Shellfish	1+1
8	FRM 508	Modern Techniques in Fisheries Biology	2+1
9	FRM 511	Marine Fisheries Resources Management	2+1
10	FRM 513	Fish Histology and Histochemistry	1+1

Minor Courses

Sl. No.	Course No.	Course Title	Credit load
1	FRM 509	Bio Systematics of Aquatic Fauna	1+2
2	FRM 510	Inland Fisheries Resources Management	2+1
3	FRM 512	Advanced Fish Anatomy and Physiology	2+1
4	FRM 514	Field techniques in Fisheries Resource Management	0+2

6.3 Doctoral Programme (Ph.D.)

Ph.D. courses offered by Department

Major Courses- 12 Credits

Sl. No.	Course No.	Course Title	Credit load
1	FRM 601	Fisheries Resource Conservation and Restoration	2+1
2	FRM 602	Assessment of Aquatic Biodiversity and Ecosystem	2+1
3	FRM 603	Functional Physiology of Fishes	2+1
4	FRM 604	GIS Use in Fisheries Resources	2+1

Minor Courses – 6 Credits

Sl. No.	Course No.	Course Title	Credit load
1.	FRM 605	Fisheries Legislation, Governance and Treaties	1+1
2.	FRM 606	Software Applications in Fish Stock Assessment	1+1
3.	FRM 607	Coral Reef Management	1+1

Doctoral Seminars – 2 Credits

Sl. No.	Course No.	Course Title	Credit load
1	FRM 691	Doctoral Seminar-I	0+1
2	FRM 692	Doctoral Seminar-I	0+1

Doctoral Research – 75 Credits

Sl. No.	Course No.	Course Title	Credit load
1	FRM 699	Doctoral Research (II Semester)	0+15
2	FRM 699	Doctoral Research (III Semester)	0+15
3	FRM 699	Doctoral Research (IV Semester)	0+15
4	FRM 699	Doctoral Research (V Semester)	0+15
5	FRM 699	Doctoral Research (VI Semester)	0+15

6.4 Students strength

M.F.Sc. Students Enrolled		M.F.Sc. Degree Awarded
Academic Year	**Number of Student**	**Number of Student**
2019-20	02	-
2020-21	01	01
2021-22	02	02
2022-23	04	02
2023-24	06	06
2024-25	07	06
2025-26	05	06
2026-27	03	-

Ph.D. Students Enrolled		Degree Awarded
Academic Year	**Number of Student**	**Number of Student**
2023-24	02	-
2024-25	03	-
2025-26	03	-
2026-27	03	01

7. RESEARCH THRUST AREAS

The major research thrust areas of the department include:

- Fish diversity and biodiversity assessment.
- Fish biology, age, growth and population dynamics.
- Fish stock assessment and resource management.
- Conservation of threatened and commercially important fish species.
- GIS-based mapping and sustainable management of inland fisheries resources.

8. RESEARCH ACTIVITIES

8.1 Postgraduate Research

The department encourages postgraduate research in fish biology, reproductive development, biodiversity, aquatic ecology, population dynamics, habitat assessment and sustainable fisheries management. So far, research scholars have undertaken studies on commercially important fishes, catfish diversity and biology, riverine and wetland ecosystems, and the application of geospatial tools for fisheries resource assessment.

8.2 Ongoing Research Projects

The department undertakes research and developmental activities through university, state and national-level funding agencies.

Ongoing Research Projects

Sl. No.	Title of the Project	Duration	Funding Agency and Amount (in Lakh)	Status
1.	Strengthening and modernization of Instructional Fish Farm college of Fisheries ANDUAT Kumarganj Ayodhya	2021-27	RKVY	On- going
2.	Developing Index of Biotic integrity (IBI) for assessing ecological health of Saryu and Gomti Rivers of eastern Uttar Pradesh suffering from anthropogenic stresses (Project ID-4242)	2024-26	Council of Science & Technology, U.P.	On- going
3.	Species validation, Breeding, Seed production and Growth performance of the catfish *Clarias magur* for Diversification of Aquaculture in Eastern Uttar Pradesh	2025-28	UPCAR	On- going
4.	Pradhan Mantri Matsya Kisan	2025-27	Department of	On- going

	Samridhi Sha Yojana (PMMKSSY) Verification & Monitoring Consultant (V&MC): Fisheries Sector Prosperity Project (World Bank Project ID: P174798)		Fisheries, Ministry of Fisheries, Animal Husbandry and dairying Government of India, Krishi Bhawan, New Delhi	

9. PUBLICATIONS

The faculty members and research scholars of the department are actively involved in publishing research articles, review papers and technical contributions in national and international journals.

9.1 Research and Review Publications

1. Kumar, D., Prasad, L., **Verma, S.K**., Khan, S. and Rao, A.P. (2018) 'Sheet Ritu Main Matsya Pachhetra Ka Prabandhan', Purvanchal Kheti, 12 (December), pp. 61–64.
2. **Verma, S.K.,** Kumar, D. and Panmayee, S. (2019) 'Jaliya Gunvatta Ka Sangrahit Matsya Paalan me Prabhav', Rashtriya Krishi, 14(2), pp. 71–73.
3. Prasad, L., Kumar, R., Singh, S., Kumar, D., Maurya, A., Pal, J., **Verma, S.K.** and Kumar, S. (2020) 'Adoption of carps-based polyculture system and status of fish productivity in Eastern Uttar Pradesh, India', Journal of Entomology and Zoology Studies, 8(3), pp. 157–161.
4. **Verma, S.K., Singh, C.P.** and Kumar, D. (2021) 'Re-circulatory aquaculture system', Rashtriya Krishi, 16(2), pp. 25–27.
5. **Singh, C.P., Verma, S.K.** and Prasad, L. (2021) 'Bioflock Takniki Dwara Matsya Palan', Rashtriya Krishi, 16(2), pp. 25–27.
6. Rao, A.P., Prasad, L., Kumar, D. and **Verma, S.K.** (2021) 'Carp Matsya Beej Utpadan Takniki', Purvanchal Kheti, 3, pp. 23–26.
7. **Verma, S.K.** and Kanaujia, S. (2022) 'Paddy cum fish farming in India: An innovative approach to utilize waterlogged resources in a sustainable way', International Journal of Agriculture Sciences, 18(2).
8. **Verma, S.K.** and Singh, H. (2022) 'The status of aquaculture in India', Times of Agriculture, 26, p. 126.

9. **Verma, S.K., Singh, C.P.,** Pramanik, P.S., Kanaujia, S., Singh, H. and Singh, K. (2022) 'Meeta Pani Antarsthaliya Sansadhano Per Adharit Matasyaki Shetra Mai Navachar', Rashtriya Krishi, 17(1), pp. 25–27.
10. **Jyoti, S.** and Koya, K.M. (2023) 'Growth, mortality and recruitment of common dolphinfish *Coryphaena hippurus* (Linnaeus, 1758) along Saurashtra coast of Gujarat, India', Journal of Experimental Zoology, India, 26(2).
11. Kashyap, S., Sahoo, D., Singh, Y.S., Patel, A.B., **Radhakrishnan, K.V.,** Pal, P., Barman, A.S., Mandal, S.C., Saha, R.K. and Priyadarshi, H. (2023) 'Brief restriction endonuclease digestion of genomic DNA improves PCR amplifiability and reproducibility of SSR loci: Augmenting exploration of hidden genetic variability in an endemic carp of South-East Asia', Gene Reports, 32, article 101796.
12. Kumar, M., Gupta, G., Saxena, M., Singh, S., Kumar, P., Prasad, L., **Verma, S.K.** and **Singh, C.P.** (2023) 'Tracer techniques in fish larval nutrition studies', Matsya Jagat, 1(1), pp. 24–28.
13. Gautam, A., **Saroj, J., Singh, C.P.,** Patel, P.K., Singh, V., Kumar, R. and Lavkush (2024) 'Length-weight relationship of male and female *Sperata seenghala* from River Gomti and River Saryu in Eastern Uttar Pradesh, India', Uttar Pradesh Journal of Zoology, 45(15), pp. 254–260. doi: 10.56557/upjoz/2024/v45i154241.
14. Kumar, A., **Singh, C.P., Singh, A., Radhakrishnan, K.V., Saroj, J.** and Kumar, D. (2024) 'Assessment of fish diversity and hydrobiological parameters of holy River Saryu at Ayodhya, Uttar Pradesh', AMA, Agricultural Mechanization in Asia, Africa and Latin America, 55(7).
15. Kumar, R., **Verma, S.K., Singh, C.P., Saroj, J.,** Patel, P.K., Kant, R., Saroj, S., Gautam, A., Verma, S. and Kumar, S. (2025) 'Effect of Ashwagandha on somatic and gonadal development in *Cirrhinus mrigala* under sodic soil condition', AMA, Agricultural Mechanization in Asia, Africa and Latin America, 56(6).
16. Bihari, K., **Singh, C.P., Radhakrishnan, K.V., Saroj, J.,** Kumar, D., Kumar, J., Kumar, S. and Mishra, G. (2025) 'Fish biodiversity and its environmental correlates in River Sai, a lesser-known tributary of Ganga River, Central India', Ecology, Environment & Conservation, 31(4). doi: 10.53550/EEC.2025.v31i04.070.

17. Lavkush, R., **Radhakrishnan, K.V., Singh, C.P., Verma, S.K. and Saroj, J.** (2025) 'Heavy metal accumulation in Indian freshwater fish: Sources, impacts, and mitigation strategies', Uttar Pradesh Journal of Zoology.
18. Singh, A., Maurya, L., **Singh, C.P., Verma, S.K. and Saroj, J.** (2025) 'Fish diversity and its relationship with environmental variables in Moga, a tropical perennial wetland in Eastern Uttar Pradesh, Central India', Uttar Pradesh Journal of Zoology.
19. Kumar, J., **Verma, S.K., Singh, A., Saroj, J., Radhakrishnan, K.V.** and Lavkush (2026) 'Assessment of effect of didecyldimethyl ammonium chloride (DDAC) on physiological, haematological and immunological parameters in Indian major carp *Labeo rohita*', Genetics and Molecular Research.
20. Kumar, S., **Saroj, J., Radhakrishnan, K.V., Singh, C.P., Singh,** A., Lavkush, Yadav, H.P. and Bihari, K. (2026) 'Distinct stock structure of the endangered (goonch) *Bagarius bagarius* in the Ganga River Basin as evidenced by morphometric and meristic studies', Biochemical and Cellular Archives.
21. **Verma, S.K., Singh, C.P., Radhakrishnan, K.V.,** Yadav, A.K., Singh, S., Maurya, P.K., Kumar, S., Dey, S., Singh, A., **Saroj, J.,** Patel, P. and Kumar, R. (2026) 'First report on the successful cultivation of *Euryale ferox* (Makhana) under sodic soil condition of Eastern Uttar Pradesh: A comparative study on direct sowing and transplantation method', Plant Science Today.

9.2 Manual/Technical Publication

1. **Verma, S.K.,** Dey, S., Radhakrishnan, K.V., Kumar, D., Singh, S., Maurya, P., Saroj, J., Kumar, A., Singh, A. and Kumar, S. (2026) *एकीकृत एवं विविधापूर्ण जलीय जीव पालन तकनीक एवं प्रबंधन.* ANDUAT/COF/2026/F-03.

10. MAJOR ACHIEVEMENTS

10.1 Postgraduate Achievements

- A total of 21 students have successfully completed their M.F.Sc. degrees in Fisheries Resource Management.
- One postgraduate student has qualified the ICAR-ASRB National Eligibility Test (NET).
- A student received the Best PG Thesis Award in 2023.
- Two students received Vice-Chancellor's Gold Medals for securing first position in the M.F.Sc. programme.

10.2 Doctoral Achievements

- The first Ph.D. degree in Fisheries Resource Management was awarded in 2026.
- Six research scholars are currently pursuing doctoral research in the department.
- An international Ph.D. scholar from Sierra Leone, West Africa, was admitted under the ICCR Scholarship Scheme in 2026–27.
- Two research scholars have qualified the ICAR-ASRB National Eligibility Test (NET).

Patent

Title of Patent	Application no./ Design no.	Inventor's name	Type of patent	Status	Date &Year of Publication/ Grant
Aquatic Pollution Detection Smart Device	472617- 001 06.09.2025	Prateek Kumar Tiwari, Sujeet Kumar Rai, **Shubham Kannaujiya, Lavkush,** Shivam Pandey, Amit Singh Kshatri, Krishan Kumar Yadav	Design	Granted	06.09.2025

11. INFRASTRUCTURE AND RESEARCH FACILITIES

The department is equipped with academic, laboratory and field-based facilities to support teaching, practical training and research activities.

11.1 PG Classroom

- There are two PG class rooms for teaching the M.F.Sc and Ph.D. students.

11.2 Laboratories

- There are two laboratories facilitating both teaching and research programmes.

11.3 Central Instrumentation Facility

- The department has access to two Central Instrumentation Facility units to support research and analytical activities.

11.4 Referral Fisheries Museum

The department maintains a Referral Fisheries Museum comprising approximately 210 specimens of diverse aquatic organisms, including finfishes, shellfishes, corals, sponges and seaweeds. The museum serves as an important educational resource for undergraduate and postgraduate students. It also helps visitors understand aquatic biodiversity, the ecological importance of aquatic organisms and the need for conservation and sustainable management of aquatic resources.

11.5 Instructional Fish Farm

The department has access to an Instructional Fish Farm covering approximately 3.00 hectares, comprising 12 experimental earthen ponds. The facility supports practical teaching, field demonstrations and experimental research in fisheries and aquaculture.

11.6 Major Equipment and Facilities

Sl.No.	Name of the Equipment	Quantity	Utility / Purpose
1.	Microscope with Image Processing System	1	Used to observe samples
2.	Olympus Microscope	1	Used to observe samples
3.	Water testing kit	1	Used to observe water samples
4.	pH meter	1	Used to observe water pH
5.	Weighing Balance	1	Used to observe samples
6.	Vernier caliper	1	Used to observe length and diameter

12. EXTENSION AND OUTREACH ACTIVITIES

- Training programmes for fish farmers on scientific fisheries and aquaculture practices.
- Awareness programmes on fish biodiversity conservation and sustainable fisheries management.
- Farmer–scientist interactions for addressing field-level fisheries issues.
- Participation in university-level and institutional extension activities.
- Promotion of sustainable utilization and conservation of inland fisheries resources.
- Seed ranching in Gomti and Saryu rivers.

13. FUTURE RESEARCH PRIORITIES

The department aims to strengthen its research and extension activities through the following priority areas:

- Documentation and assessment of fish biodiversity in Eastern Uttar Pradesh.
- Assessment of fish stocks and population dynamics in the Ganga and Saryu river systems.
- Development of scientific approaches for sustainable inland fisheries management.
- Investigation of climate change and anthropogenic impacts on fish populations and aquatic ecosystems.
- Development of conservation strategies for threatened and indigenous fish species.
- Application of GIS and modern analytical tools for fisheries resource assessment and management.

DEPARTMENTAL PHOTO GALLERY



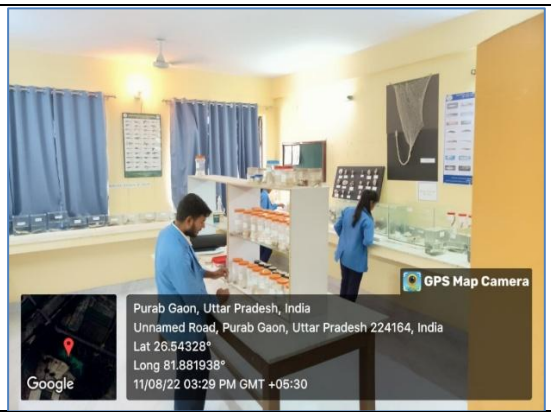
PG Class Room



PG Research Lab



PG Lab



Referral Fish Museum





Instructional Fish Farm





Theory class on Impact of Climate change on fish resources





Practical class on fish taxonomy





Field surveys and river sampling activities.




Students conducting Research work






Farmer training programmes and extension activities.

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