



FROM DIRECTOR'S DESK



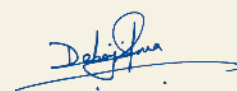
Our country is blessed with wide range of coldwater fishery resources having immense potential in generating income in rural areas and providing food security to the economically underprivileged population of Indian upland regions. However, issues like climate change, dwindling biodiversity and over-exploitation of aquatic resources are challenges before the coldwater fishery sector. The Directorate is pursuing various research and extension projects aiming to address these challenges through innovative aquaculture production technologies, water budgeting, thrust on climate resilient strategies, fish based eco-tourism, creation of infrastructure, adoption of farmer centric approaches and services etc. Besides, efforts to develop human resource through trainings, on-farm demonstrations, education, consultancies, partnership through outreach activities, aquaculture expansion through technological interventions and knowledge transfer are the prioritised responsibility of this Directorate to uplift the socio-economic status of fish farmers of the hill states.

Recently, captive breeding protocols of indigenous fish species such as *Neolissochilus hexagonolepis* *Garra annandalei*, *Garra gotyla* and *Schistura obliquofascia* has been developed in aquarium conditions. Breeding and seed production protocols of 12 indigenous coldwater food fishes have been well documented and disseminated through TSP and NEH programmes. ICAR-DCFR has taken steps forward in developing synthetic peptide based biomolecules that includes GnRH analogues, antimicrobial peptides and also peptide based transfection reagent for delivery

of nucleic acids inside fish cells. The regulatory genes of myogenesis have been decoded for devising strategies to augment growth in *Schizothorax richardsonii*. The captive maturity and spawning of golden mahseer (*Tor putitora*) has been achieved through photo-thermal manipulations which is going to be a silver lining in the strangled conservations efforts of decades. A new species of copepods *Arctodiaptomus shaikhomensis* has been discovered from Central Himalaya. These results are published in high impact peer reviewed international journals endorsing quality research outputs. “Mera Gaon Mera Gaurav (MGMG)” programme of this Directorate covered 17 villages in Meghalaya, Sikkim, Arunachal Pradesh and Uttarakhand benefiting 600 farmers. ICAR-DCFR not only established a mahseer hatchery and eco-tourism centre at Longkong village, Mokokcheng, Nagaland but also blazed a trail for rainbow trout farming in a highly difficult area of Munsiyari, Uttarakhand.

The visit of Smt. Krishna Raj, Hon'ble Minister of State for Agriculture & Farmers Welfare, Govt. of India has been encouraging towards achieving the goal of this Directorate.

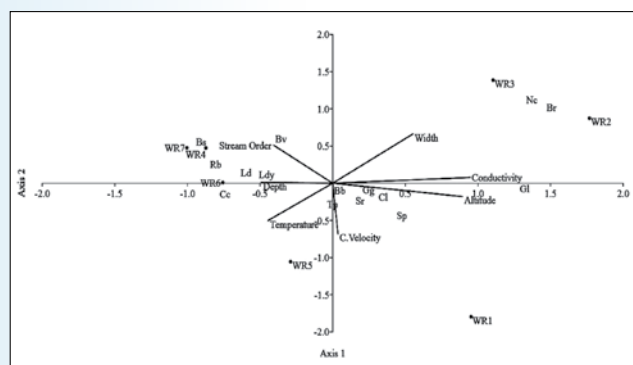
Lastly, I place on record my appreciations to ICAR-DCFR family for their dedicated efforts and co-operation which have made this Directorate a premier research institute in the country and abroad.


Debajit Sarma
(Director)

RESEARCH HIGHLIGHTS

Resource assessment of riverine system

Response of fish assemblage structure to abiotic factors along longitudinal stream gradients of River Western Ramganga, Kumaun Himalaya was studied. The scatter plot generated through Canonical Correspondence Analysis (CCA) showed that the sites in the up stream are related to altitude, higher conductivity and current velocity, whereas downstream zone was associated with stream order, temperature and greater depth. It was found that all abiotic factors measured influenced the species distribution, but four environmental variables, viz. temperature, conductivity, stream order and altitude significantly affected the distribution of the cyprinid fish species. Abiotic factors play a significant role in the organization of species assemblage at different zones in this river and thus are likely to be affected by any alteration in the habitat characteristics, such as river mining or pollution.



Canonical Correspondence Analysis (CCA) triplot depicting the relationship between all cyprinid species, study sites and environmental factors.

Species code: Bb-*Barilius bendelisis*; Br-*Barilius barna*; Bv-*Barilius vagra*; Bs-*Barilius shacra*; Cl-*Crossocheilus latius latius*; Cc-*Chagunius chagunio*; Gg-*Garra gotyla gotyla*; Gl-*Garra lamta*; Ld-*Labeo dero*; Lb-*Labeo dyocheilus*; Nc-*Naziritor chelynoides*; Rb-*Raiamas bola*; Sr-*Schizothorax richardsonii*; Sp-*Schizothorax plagiostomus*; Tp-*Tor putitora*

Resource assessment of lake system

Seasonal changes in physico-chemical parameters of water and plankton diversity were studied in four Kumaon lakes. The seasonal pattern of conductivity and TDS were more or less same in 3 lakes (Bhimtal, Saattal and Naukuchiatal) whereas Nainital showed the maximum values. Nainital showed the maximum values of total hardness (100 ppm in summer) and (83 ppm in prewinter) among all the lakes. The value of chloride in Nainital lake was maximum in winter and minimum in summer. Naukuchiatal had the highest value of pH in winter among all the season and also among all the lakes. The analysis of plankton revealed

significant dominance of Diatoms (Bacillariophyceae) such as *Navicula*>*Diatoma*> *Amphora* >*Denticula*>*Fragilaria*>*Pinnularia*>*Frustulia*>*Cosmarium*>*Cymbella* and Chlorophyceae such as *Volvox*> *Chlorella* >*Closterium*>*Cloadophora*>*Ulothrix* in these lakes.



Volvox aureus



Fragilaria crotonensis



Chaetophora spp.



Coelastrum spp.

Re-circulatory aquaculture experimental unit

A re-circulatory aquaculture (RAS) experimental unit was designed to conduct nutritional trials in rainbow trout, consisting 18 aquariums (100 L capacity each), solid remover (300 L) and gravel bed bio-filter(1000L). This RAS experimental unit enabled us to reduce daily water requirement of approx. 25,000 L (in flow-through system) to just 300 L per day and was validated for stocking density upto of 3 kg/0.1 m³ (30 kg/m³) of rainbow trout during the course of experimentation. With few modifications (with rearing tanks) the above indigenous RAS design has the potential for commercial production of rainbow trout in places where plenty water availability is a problem.





Indigenously designed RAS

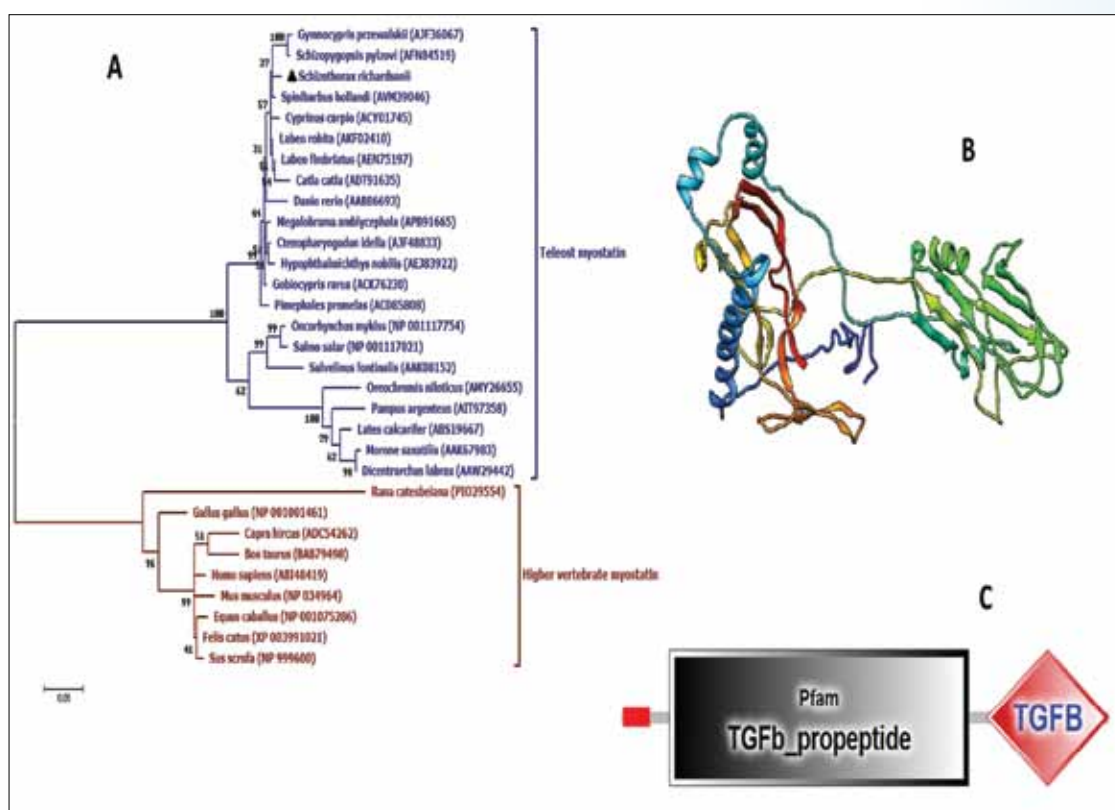
Myogenic regulation and protein turnover of muscle growth in snow trout *Schizothorax richardsonii*

Four myogenic regulatory transcripts namely *myod*, *myf5*, *myogenin* and *myf6* and a negative growth regulator *myostatin1* (*mstn1*) were completely characterised to understand the muscle growth mechanism in slow growing cyprinid *Schizothorax richardsonii*. The full length nucleotide sequence of *Srmyod*, *Srmyf5*, *Srmyog*, *Srmyf6* and *Srmst1* was 1639, 1329, 1437, 1296 and 2109 bp long, with an ORF of 825, 723, 762, 720 and 1128 bp, encoding a putative protein of 275, 240, 253, 239 and 375 amino acids, respectively. Phylogenetic analysis of *S. richardsonii* MRFs reflects their close evolutionary link to other

cold water cyprinids which are endemic to northern part of the Himalaya. Structure prediction and domain analysis suggests the presence of conserved basic helix loop helix domains in four MRFs protein (*Srmyod*, *Srmyf5*, *Srmyog*, *Srmyf6*) which is essential for DNA binding and these proteins were mainly localised to nucleus. While *Srmstn1* was mainly localised in cytoplasm and contained a transforming growth factor beta propeptide and a functional TGFβ peptide domain and predicted three dimensional structure suggests that they contained 5 helix and 15 beta sheets. These sequence information will be useful to study their expression pattern during the growth phase of the fish which is essential to understand the growth physiology of *S. richardsonii*.

Triploidy induction in rainbow Trout

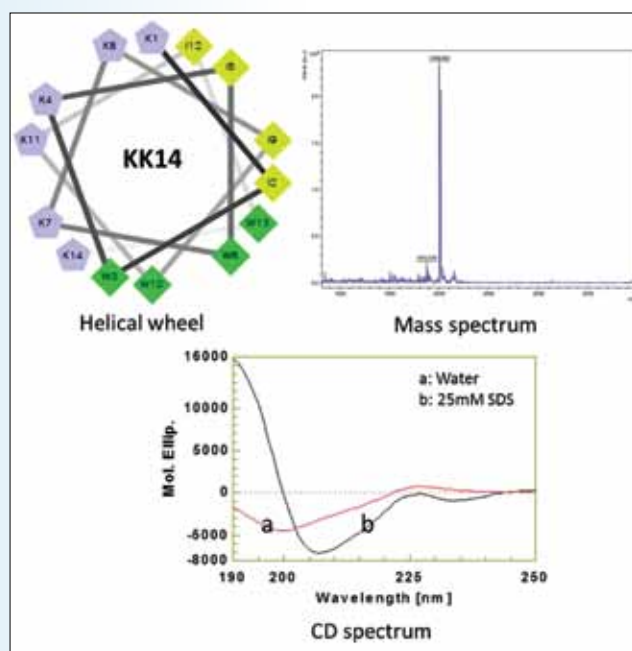
An effort was made under the DBT sponsored project for induction of triploidy in developing eggs of rainbow trout through heat shock treatment (28°C) at village Skhras, District Anantnag, Kashmir, State trout farm, Uttarey and State trout farm, Rabum, Sikkim. Breeding trials were performed during the month of January-February, 2018 at all three places. 40 % success was observed in treated eggs with conformation by karyotyping. In treated group, three sets of chromosomes (86-90) were observed in chromosome plates. 84% survival was observed in triploid rainbow trout. Triploid stocks are being reared at both the places for the further observations.



Phylogenetic analysis of *Schizothorax richardsonii* MRFs (*MyoG*, *Myf6*, *Myf5* and *MyoD*) with other teleost and higher vertebrate MRFs (A). Predicted protein structure of *MyoG* (B), *Myf6* (C), *Myf5* (D) and *MyoD* (E). Domain analysis of *Myog* (F), *Myf6* (G), *Myf5* (H) and *MyoD* (I)

Research on synthetic biology

Synthetic peptide based transfection reagent is being developed using cell penetrating peptide identified/ designed from fish viral proteins and synthesized in the Molecular Biochemistry laboratory. This reagent may serve as an alternate nucleic acid delivery vector for fish cells. Besides, synthetic neuropeptide hormones viz., Kisspeptin1 and GnRH analogs are being carried out. Recently, Kisspeptin1 of golden mahseer was synthesized and its conformational analysis in different membrane mimicking environment was done. This information will be useful for designing bioactive synthetic peptide analogs of kisspeptin1 to improve the reproductive performances of important fish species for expansion of aquaculture. In similar line of work, synthesis of lipidated GnRH analogs is underway to develop more potent, stable GnRH analogs. In addition to these, synthetic antimicrobial peptides (AMPs) are being developed. One of the AMPs developed, KK14 was found to have helical structure in secondary structure prediction as well as circular dichroism (CD) spectroscopy in bacterial membrane mimicking environment. The peptide was also found to inhibit the growth of fish bacteria, *Aeromonas hydrophilla* at a low concentration indicating its high bacterial killing potential.



Design and synthesis of KK14

A new species of copepod

A new species of copepods (Arthropods), *Arctodiaptomus shaikhomensis* n. sp. was collected and identified from a lake (Lake Maheshwarkund) of Central Himalaya. The specimen was reposit to Central Entomological Laboratory (C. E. L.),

Zoological Survey of India (ZSI), New Alipore, Kolkata, India. The taxonomic detail of the species is given below.

Order: Calanoida

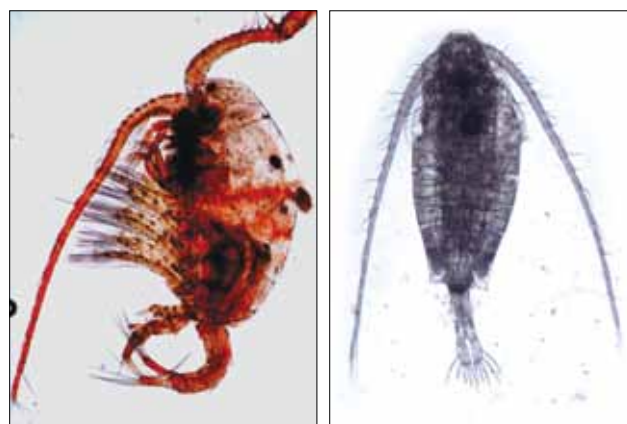
Family: Diaptomidae Baird, 1850

Subfamily: Diaptominae Kiefer, 1932

Genus: *Arctodiaptomus* Kiefer, 1932

Species name: *Arctodiaptomus shaikhomensis* n. sp.

The male of the new species differs from other congeners by presence of strong comb shape spine at the antepenultimate segment of right antennules that reaches well beyond distal margin of succeeding segments. Basis of the fifth right leg has butterfly like hyaline membrane attached to the inner lateral side. In female, the endopodite has no septum, apex rounded without hairs. The identified diaptomid tend to be restricted in the Himalayan region; suggests apparently isolated from the purported main area of origin.



Arctodiaptomus shaikhomensis

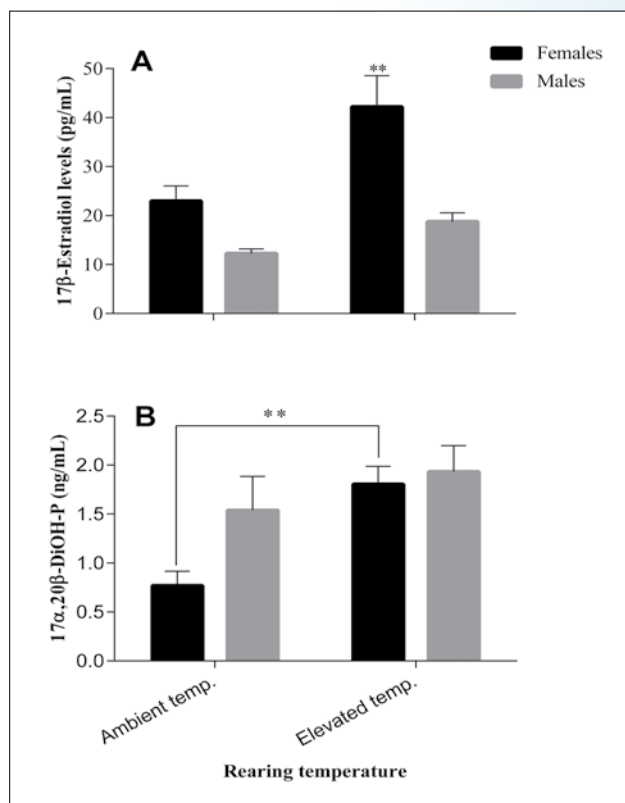
Captive maturity and spawning of endangered golden mahseer achieved

Overall results of series of experiments for decoding the reproductive dysfunction in captivity suggested that exposure of golden mahseer to 12L:12D could be considered as the physiologically optimum photoperiod for inducing maturity in cultured conditions as evidenced by the elevated levels of 17β -estradiol and 17α , 20β -diOH-P. Temperature was found to be an important and relatively stronger determinant of ovarian maturation in females under captive conditions as compared to photoperiod. Elevated temperature within the physiological limits clearly induced gonadal development and maturation in female golden mahseer as substantially indicated through the analyzed biochemical and phenotypic parameters. However, final oocyte maturation was still unsolved and to address this, we further explored the simulation of spawning substratum (FRP tank installed with gravel bed biofilter system) along with

optimum photoperiod and elevated temperature. After four months of rearing the brooders, to our joy, golden mahseer brooders not only got the captive maturity but also spawned several times in the rearing tank itself. Finally, the present four-year study has successfully addressed a longstanding issue of captive maturation and spawning in golden mahseer which otherwise has been a major bottleneck for large scale rehabilitation efforts to conserve this esteemed species in India and Indian sub-continent.



Ovary at ambient temperature Ovary at elevated temperature



Ongoing externally funded projects

ICAR-National Fellow	Development of method for detecting the presence of any virus signal in clinical sample of fish	Amit Pande
DBT-6	Molecular and genetic characterization of selected important ornamental Fishes of North East India	Siva C.
DBT-7	Triploid rainbow trout (<i>Oncorhynchus mykiss</i>) production for aquaculture enhancement and ecological risk management	N.N. Pandey B.S. Kamalam
NSPAAD	National surveillance programme for aquatic animal disease- Surveillance of coldwater fish diseases in Himachal Pradesh and Jammu & Kashmir	S. Chandra S.K. Mallik, R.S. Tandel, R.A.H. Bhat
AINP- Fish Health	All India Network Project on Fish Health- Aquaculture medicine and therapeutics	S.K. Mallik N. Shahi, R.S. Tandel
NMSHE	National Mission for Sustaining the Himalayan Ecosystems (NMSHE- Taskforce 6 for Himalayan Agriculture) (A) Ecosystem Monitoring and Sustainable Development of Coldwater Fisheries in Lower and mid Himalayan Regions of India under	N.N. Pandey S. Ali, R.S. Patiyl Rajesh, M.P. Kumar
	(B) Ecosystem Monitoring and Sustainable Development of Coldwater Fisheries in cold desserts Himalayan Regions of India under	P. Kumar N.N. Pandey, B.S. Kamlam, A.K. Giri
NICRA	Development of climate resilient rainbow trout and innovative trout farming strategies to mitigate climatic stressors.	Dr. D. Sarma R.S. Patiyl, D. Baruah, B.S. Kamalam Rajesh, M.P. Sharma, R.S. Tandel, S.K. Mallik, M.S. Akhtar, N. Shahi, Ciji, A., A.K. Giri, Siva, C., R.S. Haldar

HIGHLIGHTS OF BREEDING TECHNOLOGIES

Multiple natural spawning of Chocolate Mahseer (*Neolissochilus hexagonolepis*) in aquarium condition

Protocol for natural breeding of chocolate mahseer (*Neolissochilus hexagonolepis*) in controlled conditions has been standardized. Male and female both attain sexual maturity in confined aquarium condition. Oozing male was reported throughout the year. Mature males developed tubercles on operculum region that were well distinguished. Multiple times natural spawning was recorded in aquarium condition. Same brood stocks naturally spawned eight times within a calendar year. Chocolate Mahseer is a batch spawner. With good brood stock management practices in controlled condition, mass scale seed production of this fish is possible round the year which in turn will help in conservation of the fish in natural habitat as well as increased fish production from culture system.



Chocolate mahseer broodstock



Chocolate mahseer fry

Breeding of *Garra annandalei*

Garra annandalei is a species of ray-finned fish found in the rocky, clear and fast flowing mountain streams of northern Bengal, Bihar and Assam in India and nearby countries like Nepal, Myanmar and Bhutan. It was bred successfully in aquarium condition at ICAR-DCFR, Bhimtal.



Garra annandalei broodstock



Developing embryos of *G. annandalei*

Natural spawning of Banded loach (*Schistura obliquofascia*) in aquarium condition

Brood stocks of *Schistura obliquofascia* were collected from Shipra river near Bhowali. After acclimatization and conditioning of fish in aquarium, this species naturally spawned in two months. Natural spawning of loach species in aquarium condition had not yet been achieved earlier. ICAR-DCFR has achieved a breakthrough to breed loach in controlled aquarium condition without using any synthetic hormone and developed a reliable technology for the natural spawning and larval rearing of the loaches. Fish lay the eggs in gravel pits. Free swimming hatchlings were noticed in brood stock tank. Hatchlings accept wet food as their first feeding. Survival rate is about 80% in three months of rearing period.



Broodstock of *Schistura obliquofascia*

Free swimming stage of *S. obliquofascia*Two months old fry of *S. obliquofascia*

CONSULTANCY

Aquatic ecology studies under CEIA of hydroelectric projects in Sutlej basin, Himachal Pradesh

Under the Cumulative Environmental Impact Analysis of River Sutlej and its tributaries in Himachal Pradesh as an Institutional Consultancy, field survey was conducted at different locations to collect primary data on aquatic flora and fauna, aquatic ecology and primary productivity in the study area. Plankton samples indicated the presence of three groups of phytoplankton viz. Chlorophyceae, Cyanophyceae and Bacillariophyceae (diatoms) and dominated by phytoplankton taxa *Cymbella*, *Amphora*, *Nitzschia*, *Gomphonema*, *Fragilaria*, *Melosera*, *Navicula*, *Oscillatoria* etc. Macro invertebrates mainly comprised of different groups such as Ephemeroptera, Tricoptera, Plecoptera, Coleoptera, Diptera, Odonata, and Hemiptera. The remaining included oligochaetes, molluscan shells, nematodes and planarians in negligible densities. The Ephemeroptera were found most abundant which indicates good water quality as well as favourable for biotic communities. The predominant fish species in Sutlej basin comprised of *Schizothorax* spp. alongwith *Glyptothorax* spp., *Garra gotyla gotyla* in certain locations. Fish populations are highly fragmented and are confined in the different stretch of the river. The construction of a dam on a river can block or delay upstream fish migration and thus contribute to the decline and even the extinction

of species that depend on longitudinal movements along the stream continuum during certain phases of their life cycle.

Technical consultancy to Kanan Devan Hills Plantations Company (P) Ltd., Munnar, Kerala

The Directorate has signed a memorandum of understanding with Kanan Devan Hills Plantations Company (P) Ltd., Munnar, Kerala to provide scientific and technical guidance to improve and up-scale the operation of the rainbow trout hatchery at their Rajamalai Estate. This was preceded by the visit of a team of ICAR-DCFR scientists comprising Dr. A.K. Singh, Dr. Debajit Sarma and Dr. Biju Sam Kamalam on 24th November 2017, and later by Dr. Biju Sam Kamalam on 12th January 2018 at the behest of KDHP Management led by Mr. Mathew Abraham (Managing Director) and Mr. Utpal Lahiri (Senior Manager), Mr. Jacob Chacko and Mr. Arun Sajeev. After the MoU, the assigned nodal officer Dr. Kamalam along with the Directorate's team of scientists have been providing consultancy and facilitating feed procurement and management in the hatchery, with visible improvement in the growth and health of the larval and brood fishes reared in the facility. In short time, ICAR-DCFR customized rainbow trout feed will also be made available.

Preparation and supporting implementation of fish management plan for Vishnugad–Pipalkoti Hydro Electric Project (VPHEP)

The consultancy was assigned to ICAR-DCFR, Bhimtal with a signed MOU including ToR. Primary survey of the entire river stretch between Karnprayag and Vishnuprayag was done for 15 sampling stations including all tributaries as well as dam site and muck disposal site were selected for the study of water quality parameters, plankton, periphyton, benthos and Ichthyofauna. Water samples were collected on monthly interval for the study of physical and chemical parameters at different sampling location. Observations on density and species composition of phytoplankton, zooplankton, periphyton and benthos were also recorded and analysed. Observations on species composition and catch per unit effort (CPUE) were also carried out at all 15 sampling stations and analysed location wise. Regular survey of local fishermen as well as local fish markets was done to generate information on various aspects of fishing in the study area. Organised skill oriented training on conservation, culture and hatchery operation of snow trout to the officials of Tehri Hydro Development Corporation, Pipalkoti, Uttarakhand during February 6-8, 2018.

MEERA GAON MERA GAURAV (MGMG)

In pursuance to 'Mera Gaon Mera Gaurav' programme, ICAR-DCFR has divided 20 scientists in 7 teams for adoption of 17 villages in Meghalaya, Sikkim, Arunachal Pradesh and Uttarakhand. Altogether, 180 farmers were benefited from field visits, 46 farmers from Interface meeting and *Goshthies*, 124 farmers from trainings, 12 farmers from mobile based advisories, 253 farmers from literature support provided, 212 farmers from awareness created and 217 farmers were benefited from linkages developed with other agencies under MGMG.



Diagnostic visits to fish farms at Changpa and Donglok villages (Chug) in West Kameng district of Arunachal Pradesh



Fish seed distributed to farmers at Samaltta village

IMPORTANT EVENTS

Sangoshthi on 'Promotion of Mahseer Ecotourism in Kumaon Region'

ICAR-DCFR participated in one-day Sangoshthi on 'Promotion of Mahseer Eco-tourism in Kumaun Region' on 7th January 2018 at ICAR-DCFR, Bhimtal for promotion and development of ecotourism in the region considering the local issues of the people and their participation. The programme was organized by District Administration Nainital and Department of Tourism, Govt. of Uttarakhand, where 150 people of the state participated. Shri Ram Singh Keda, Member of Legislative Assembly, Bhimtal and Shri Ramesh

Bhatt, Media Advisor, Hon'ble Chief Minister, Uttarakhand graced the occasion and highlighted the importance of people participation in the restoration of Kumaon lakes for the promotion and development of mahseer based eco-tourism and livelihood security.



Inauguration of Sangoshthi

Republic Day Celebration

The Republic Day on 26th January 2018 of our nation was celebrated with flag hoisting ceremony attended by all the scientist and staff of the Directorate. The Director unfurled the national flag and saluted the patriots who gave us the freedom and the opportunity



Celebration of Republic Day at Bhimtal



Celebration of Republic Day at Experimental Fish Farm, Champawat

to celebrate the days and addressed the gathering to work in harmony. Likewise, the Republic Day was celebrated at Experimental Fish Farm, Champawat with great fervour. The National Flag was unfurled by Mr. Raja Aadil Hussain Bhat, Scientist on 26th January 2018. All the staff (Permanent and contractual) were sensitized on the importance of celebrating the Republic day.

Kisan Mela

ICAR-DCFR organized one-day Kisan Mela cum Scientists-Officers-Farmers Interactive Meet at Experimental Fish Farm, Champawat on 24th February 2018. 250 delegates including 200 fish farmers, Govt. officers in the region, academicians, public representatives, fisheries officers, representatives from SSB and ITBP participated in the programme. Dr. Ahmed Iqbal (IAS), District Magistrate, Champawat and Mr. Prakash Tiwary, Chairman, Nagar Panchayat, Champawat graced the occasion as the Chief Guest and Guest of Honour respectively. A snow-trout hatchery was inaugurated by the dignitaries on the occasion. Fish pond soil health card was distributed to the farmers along with fish seed. A leaflet on rainbow trout starter feed was also released in Hindi for their easy understanding. In the interactive meet, issues raised by the farmers for increasing their farming income were addressed. Active participation was seen among the enthusiastic farmers in receiving

knowledge and skill for improved hill aquaculture management practices during the programme.

Farmers-Officers-Scientists Interactive Meet

ICAR-DCFR in association with Gaumco Multipurpose Cooperative Society and Department of Fisheries, Govt. of Arunachal Pradesh jointly organized Farmers-Officers-Scientists Interactive Meet at Hari village, Ziro valley of Lower Subansiri district of Arunachal Pradesh on 22nd March 2018 on 'Fish farming and seed production in cold regions of Arunachal Pradesh'. Altogether, 250 participants including farmers, officers, scientists and guests attended the programme. The programme was chaired by the Hon'ble Parliamentary Secretary Food and Civil Supplies Er. Tage Taki as the Chief Guest. Other dignitaries to grace the occasion were Mr. Kemo Lollen, Deputy Commissioner, Lower Subansiri district, Govt. of Arunachal Pradesh (Guest of Honour); Shri HageKobin, Zilla Parishad Chairperson, Lower Subansiri district Govt. of Arunachal Pradesh (Guest of Honour) and Er. Gyati Atto, Chairman of Gaumco Multipurpose Cooperative Society. A Portable FRP Fish Hatchery was installed under the guidance of this Directorate and was inaugurated on the occasion by the Chief Guest at the premises of Mrs. Gyati Rinyo of the village.



ICAR-DCFR Director welcoming the participants



Participants of the interactive meet



Distribution of fish pond soil health cards to the farmers



Dr. D. Sarma, Director (Acting) explaining the operation of hatchery to the guest and dignitaries

Awareness Workshop on Intellectual Property Right (IPR)

An Awareness workshop On Intellectual Property Right (IPR) was organized at Experimental Fish Farm, Champawat on 28th March 2018. Altogether 80 participants including 60 students from Govt. P.G. Degree College, Champawat, Officials of various line departments attended the programme. Former Government Advocate Mr. Amar Nath Verma chaired the occasion and addressed the gathering on the national and international laws and right governing the intellectual property followed by information on registration process of copy right, trademark and filing of patents. Guest of Honor, Dr. Tanuja Bisht, Principal Govt. P.G. College, Champawat briefed on IPR-Challenges and the way forward.



Awareness workshop on Intellectual Property Right

World Fish Migration Day

Dr. D. Sarma participated and spoke on the occasion of World Fish Migration Day 21st April 2018 at Assam Bhoreli Angling and Conservation Association, Nameri, Assam.



Establishment of Chocolate Mahseer Hatchery and Ecotourism Centre at Mokokcheng, Nagaland.

ICAR-DCFR, Bhimtal established a mahseer hatchery along with brood stock ponds at Longkong village, Mokokcheng, Nagaland with an objective to conserve the state fish Chocolate mahseer. The facility was inaugurated by the Hon'ble Minister for PWD,



Establishment of chocolate mahseer hatchery along with brood stock ponds at Longkong village, Mokokcheng, Nagaland

Shri Tongpang Ozukum, Government of Nagaland along with other high officials on 25th April, 2018.

Institute Research Committee Meeting

The Institute IRC meeting was held on 11th and 14th May 2018 at ICAR-DCFR, Bhimtal under the Chairmanship of Dr. Debajit Sarma, Director (Acting). Scientists of the institute presented the progress of the ongoing research programmes alongwith concept notes on new project proposals. Discussion was also made on NEH, TSP and farm activities at Experimental Fish Farm, Champawat.

Empowering Women Tribal Fish farmers of Ziro valley, Arunachal Pradesh

ICAR-DCFR organized a skill development programme on "Start up fish farming, seed production and hatchery management for 5 nos. of hill farmers



Skills in fish seed raising

of Ziro valley, Arunachal Pradesh” during 20-24 May 2018 at Pabhoi Fish Farm, Pabhoi, Biswanath district, Assam with an objective to develop hands-on skills on fish hatchery operation, fish seed production, broodstock management and nursery raising for the farmers of Ziro valley and in turn making the valley self sufficiency in quality fish seed production for enhancing fish productivity. The farmers of Ziro valley conveyed their satisfaction on the completion of the programme.

Demonstration on Rainbow Trout Farming at Munsiyari, Uttarakhand

ICAR-Directorate of Coldwater Fisheries Research, Bhimtal demonstrated culture of rainbow trout in the remote tribal village Sarmoli in Munsiyari, Distt. Pithoragarh, Uttarakhand on May 30, 2018 with a view to establish rainbow trout farming for the first time in the region for the underprivileged tribal farmers.



Demonstration of rainbow trout in raceways

World Environment Day

World Environment Day was celebrated at ICAR-DCFR, Bhimtal on 5th June 2018 by planting trees inside the institute campus. On the occasion, Padma Shri Dr. Shekhar Pathak, an Indian historian, writer and academician delivered the key note address on Haalat-i-Himalaya. Other dignitaries who graced the occasion were Dr. B.S. Bisht, Dr. H.C.S. Bisht and Mr.



Plantation at ICAR-DCFR

P.N. Shivpuri. All the members of the ICAR-DCFR participated in the programme with full enthusiasm. Students from nearby schools also exhibited their ideas on “Beat Plastic Pollution” with their hand made models.

Parliamentary Committee Meeting

Committee of Parliamentary on Official Language visited Nainital to inspect the Directorate during 12-14 June 2018. Dr. Prasanna Kumar Patsani, Hon'ble Member of Parliament (Lok Sabha) presided the meeting.



Release of a technical bulletin in Hindi language

Video Interaction of Hon'ble Prime Minister with the Farmers

A live broadcast of the interaction by Hon'ble Prime Minister with the farmers through video conferencing on 20th June 2018 was witnessed by the scientists, staff members, research fellows and registered farmers of the institute.



Video conferencing with Hon'ble Prime Minister

International Yoga Day

ICAR-DCFR observed the International Yoga Day on 21st June 2017 at Bhimtal and Champawat. At Bhimtal, the yoga session were guided by yoga guru Dr. Hem Chandra Kapil who explained the importance and benefits of different asanas and pranayamas. The different asanas followed by the enthusiast participants of the institute were included the vajrasana, sasankasana, setubandhasana, alanasana, uttanpadasana, bhujangasana, salabhasana, pavanamuktasana, shavasana and two pranayamasudgeeth and bhrumari.



Participation of ICAR-DCFR staffs on International Yoga Day

Regional Review Meeting

Regional review meeting on fisheries for the hilly zone was held at ICAR-DCFR on 28th June 2018. The meeting was participated by Directors of State Fisheries Department of Himachal Pradesh, Jammu & Kashmir and Uttarakhand, Officials from College of Fisheries, Pantnagar, representative from NFDB, Hyderabad and all the scientists of ICAR-DCFR. Dr. D. Sarma, Director (Acting), ICAR-DCFR welcomed all the participants. During the meeting, various issues like upscaling of rainbow trout production, farming strategies for doubling farmer's income, developing quality grow out feed, climate change and application of RAS in aquaculture were discussed.



Members of Regional review meeting visiting the laboratory units of ICAR-DCFR

DISTINGUISHED VISITORS

Shri I.P. Singh, Member ICAR Governing body visited ICAR-DCFR along with Dr. Gopal Lal, Director, NRC on Seed Spices, Rajasthan on 9th January 2018.



Smt. Rekha Arya, Hon'ble Minister of Women Welfare & Child Development, Animal Husbandry, Sheep & Goat Husbandry, Fodder & Meadows Development and Fisheries, Govt. of Uttarakhand visited ICAR-DCFR Experimental Fish Farm & Field Centre, Champawat on 3rd May, 2018.

Smt. Krishna Raj, Hon'ble Minister of State for Agriculture & Farmers Welfare visited ICAR-DCFR, Bhimtal on 13th May 2018.



Visit of Smt. Rekha Arya, Hon'ble Minister of Women Welfare & Child Development, A.H, Sheep & Goat Husbandry, Fodder & Meadows Development and Fisheries, Govt. of Uttarakhand



Visit of Smt. Krishna Raj, Hon'ble Minister of State for Agriculture & Farmers Welfare

PERSONALIA

Dr. Debajit Sarma, Principal Scientist, took charge as Director (Acting) of this Directorate on 1st January 2018.

Dr. Prem Kumar, Principal Scientist joined ICAR Headquarter, New Delhi after being relieved from this Directorate on 15th June 2018.

Mr. B.C. Pandey, AF&AO joined ICAR-VPKAS, Almora as F&AO after being relieved from ICAR-DCFR on 25th May 2018.

Technical Bulletins and Books



Coldwater Fisheries Society of India

C/o Directorate of Coldwater Fisheries Research, Bhimtal-263136, Nainital, Uttarakhand, India

Coldwater Fisheries Society of India was launched in the year 2012 under the president ship of Late Dr. P.C. Mahanta, Former Director, ICAR-DCFR, Bhimtal. The society was formed with an objective to implement and expand the research and developmental activities for the benefit of various stakeholders of coldwater fisheries sector of India. The society was registered under Societies Registration Act XXI of 1860 (Reg. No. 128/2012-2013) and the first executive committee was formed with its headquarter at ICAR-DCFR, Bhimtal. At present, the society has registered 100 life members comprising of scientist, academicians, entrepreneurs, students and farmers all over the country.

For registering as a member of CFSI, Demand Draft (DD) may be made in the name of "Coldwater

Fisheries Society of India" payable at Bhimtal branch of any Nationalized Bank. Online payment may be made to Coldwater Fisheries Society of India, bearing SBI A/No.: 32742765436 (IFSC Code: SBIN0007348).

CFSI Membership Fees

Life member : Rs. 3000.00

Life member for student : Rs. 1500.00

Annual member : Rs. 1000.00

Application forms completed in all respect must be sent to: Dr. Debajit Sarma, Secretary, Coldwater Fisheries Society of India, c/o- ICAR- Directorate of Coldwater Fisheries Research, Bhimtal-263136, Nainital, Uttarakhand, India.

चॉकलेट महाशीर (नियोलिस्सोचीलस हैक्सागोनोलीपीज) का एक्वेरियम में प्राकृतिक रूप से बहुज-प्रजनन

नियंत्रित परिस्थितियों में चॉकलेट महाशीर के प्राकृतिक प्रजनन के मापदण्डों को मानकीकृत किया गया। नर एवं मादा दोनों ही मछलियाँ एक्वेरियम में सिमित परिपक्वता प्राप्त करती हैं। यह पता चला है कि मादा मछली पूरे साल भर शुक्र रस स्रावित करती है। परिपक्व मादा के ऊपरी भाग में थूथन विकसित हो जाते हैं। एक्वेरियम में यह मछली प्राकृतिक रूप से गुणात्मक प्रजनन करती है। एक वर्ष में इसके प्रजनन भण्डार प्राकृतिक रूप से 8 बार अण्डें देते हैं। चॉकलेट महाशीर समूह में अण्डें देने वाली होती है। नियंत्रित परिस्थितियों में प्रजनन भण्डार के बेहतर प्रबन्धन से वर्ष भर पर्याप्त मात्रा में बीज उत्पादन सम्भव है जिससे इस प्रजाति का प्राकृतिक वास-स्थलों में संरक्षण करने के साथ-साथ मत्स्य उत्पादन में वृद्धि भी की जा सकती है।

गारा अन्नानदलाई का प्रजनन

गारा अन्नानदलाई भारत के उत्तरी बंगाल, बिहार एवं

असम तथा नेपाल, म्यांमार, भूटान जैसे आस-पास के देशों में पथरीली एवं तेज बहने वाली पर्वतीय नदियों में पायी जाने वाली "Ray-Finned Fish" है। इसका भीमताल स्थित निदेशालय के एक्वेरियम में सफलतापूर्वक प्रजनन किया गया है।

सचिस्टुरा ओब्लीक्यूओफासिया का एक्वेरियम में प्राकृतिक प्रजनन

भवाली के समीप शिप्रा नदी से सचिस्टुरा ओब्लीक्यूओफासिया के प्रजनन भण्डार को एकत्रित किया गया। एक्वेरियम में उनका अनुकूलन एवं अवशीतन हो जाने के पश्चात इनसे दो माह में प्राकृतिक रूप से अण्डें प्राप्त किए गए। इस स्थानीय प्रजाति का अभी तक एक्वेरियम में प्राकृतिक रूप से अण्डे प्राप्त नहीं किए गए हैं। निदेशालय ने बिना किसी सिंथेटिक हार्मोन के उपयोग करे एक्वेरियम में इस प्रजाति का सफल प्रजनन किया तथा इसके लार्वा पालन हेतु एवं प्राकृतिक रूप से अण्डे प्राप्त करने के लिए विश्वसनीय तकनीकी का विकास किया। यह मछली कंकड़-पत्थर के गड्ढों में अण्डे देती है। नवोद्भिद अपनी पहली खुराक गीले आहार के रूप

में स्वीकार करते हैं। तीन माह के पालन-पोषण में इनकी उत्तरजिवित्ता की दर 80% के लगभग रहती है।

परामर्श

सतलज बेसिन, हिमाचल प्रदेश में जल विद्युत परियोजनाओं के सी.ई.आई.ए. के अन्तर्गत जलीय पारिस्थितिकी का अध्ययन

हिमाचल प्रदेश से सतलज बेसिन में जल विद्युत परियोजनाओं के CEIA के अन्तर्गत जलीय पारिस्थितिकी का अध्ययन किया गया। संस्थागत परामर्श सेवा के रूप में सतलज नदी और उसकी सहायक नदियों के पर्यावरणी-प्रभाव के विश्लेषण के तहत जलीय वनस्पतियों तथा जीव-जन्तुओं के अध्ययन पर भी कार्य किया गया। जलीय जीव-जन्तुओं पर आधारभूत आंकड़े एकत्र करने के लिए विभिन्न स्थलों का फील्ड सर्वेक्षण किया गया और जलीय पारिस्थितिकी एवं प्राथमिक उत्पादकता पर आधारभूत आंकड़े एकत्रित किए। विभिन्न सैम्पलिंग स्थलों से फाइटोप्लैक्टन, जूलैक्टन व मैक्रोबेंथोज की उपस्थिति पर प्रारम्भिक जानकारी एकत्रित की गयी। सतलज बेसिन की सम्पूर्ण प्राथमिकता उत्पादकता स्वाभाविक रूप से खराब है। प्लैक्टन नमूनों के विश्लेषण से संकेत मिलता है कि फाइटोप्लैक्टन प्लैक्टन बायोमास से एक बड़े अनुपात में योगदान देता है जबकि जूलैक्टन (जन्तुप्लवक) सतलज बेसिन की कुल प्लैक्टन आबादी में महत्वपूर्ण योगदान नहीं देता है। अध्ययन में फाइटोप्लैक्टन के तीन समूहों की उपस्थिति जैसे-नदी के विभिन्न हिस्सों से क्लोरोफिसिए, साइनोफीसी तथा बेसिलिओफाइसी (डायटोमस) का पता चला। फाइटोप्लैक्टन बेसिलिओफाइसी का बहुतायता एवं प्राप्ति के सन्दर्भ में बेसिलिओफाइसी का योगदान मुख्य सतलज नदी तथा इसकी अन्य सहायक नदियों में अत्यधिक है। हरे शेवाल एवं नीले शैवालों की संख्या तुलन्तामक रूप से लगभग सभी क्षेत्रों में कम थी। प्रमुख फाइटोप्लैक्टन टैक्सा में साइम्बेला, एम्फोरा, निटास्चिया, गोम्फोनेमा, फ्रैगिलियारिया, मेलोसेरा, नेविचुला, ओसीलेटोरिया इत्यादि का रिकार्ड अंकित किया गया। नदियों की प्राकृतिक परिवर्तनशीलता फाइटोप्लैक्टन के विशिष्ट मौसमी वर्णन करने को मुश्किल बनाती है। हालांकि मानसून अवधि के दौरान इसका घनत्व अपेक्षाकृत कम था। माइक्रोइनवर्टिब्रेट (सूक्ष्म कशेरुक) में मुख्य रूप से विभिन्न समूह के जैसे कि एफेमेरोप्टेरा, ट्राइकप्टेरा, एलोकोप्टेरा, कोलोप्टेरा, डिप्टेरा, ओडोनाटा और हेमिप्टेरा आदि सम्मिलित थे। शेष बचे हुए में ओलोगोचेटिज, मौल्यूरकैन शैल्स, नेमाटोड तथा प्लानेरिअन सम्मिलित थे जिनका घनत्व बहुत नगण्य था। एफेमेरोप्टेरा की मात्रा सबसे प्रचुर थी जो जल की अच्छी गुणवत्ता के साथ-साथ जैविक समूहों के साथ बेहतर अनुकूलन को दर्शाते हैं सतलज बेसिन की प्रमुख प्रजातियों में शाइजोथोरेक्स प्रजाति शामिल है। हालांकि कुछ स्थलों पर ग्लैप्टोथोरेक्स, गारा गोटेचला प्रजाति की उपस्थिति भी दर्ज की गयी है। इसकी कुछ सहायक नदियों के उथले क्षेत्रों में बेरिलियस प्रजाति एवं शाइजोथोरेक्स के तरुणों की

उपस्थिति भी रिकार्ड की गयी है। नदी पर बाधों का निर्माण मछली के विस्थापन को तथा मत्स्य उत्पादकता को अवरुद्ध कर सकता है।

कनान देंवान हिल्स प्लांटेशन कम्पनी (पी) लि., मुन्नार, केरल को तकनीकी परामर्श

निदेशालय द्वारा कनान, देंवान हिल्स प्लांटेशन कम्पनी (पी.) लिमिटेड, मुन्नार, केरल के साथ उसकी राजामलाय क्षेत्र में रेन्बो ट्राउट हैचरी की गतिविधियों को बढ़ाने तथा उसमें सुधार लाने हेतु वैज्ञानिक एवं तकनीकी सहायता प्रदान करने सम्बन्धि एक मसौदे पर हस्ताक्षर किए। इस हेतु दिनांक 24 नवम्बर 2017 को निदेशालय के वैज्ञानिकों के दल जिसमें डॉ. ए.के.सिंह, डॉ. डी.सर्मा, डॉ. बी.एस.कमलम ने वहां का भ्रमण किया। इसी दिशा में दिनांक 12 जनवरी 2018 को डॉ. बी.एस.कमलम ने निदेशालय द्वारा तैयार प्रतिपूरक आहार को लेकर मौजूदा आहार का मूल्यांकन करने के लिए पुनः इस क्षेत्र का भ्रमण किया। इसके पश्चात हैचरी को मजबूत करने के सम्भावित तरीके जैसे प्रजनक मछलियों में सुधार, आहार-प्रबन्धन तथा कौशल विकास आदि के सम्बन्ध में विस्तृत विचार-विमर्श किया गया।

मेरा गांव मेरा गौरव

मेरा गांव मेरा गौरव भा.कृ.अनु.परि. की पहल है जहां यह संकल्पित किया गया था कि विश्व विद्यालय के वैज्ञानिक कृषि उत्पादकता और उत्पादन में वृद्धि के लिए किसानों को परामर्श प्रदान करने के लिए अपने संस्थानों के आस-पास गांवों की पहचान करेंगे। इसी के तहत निदेशालय ने मेघालय, सिक्किम, अरुणाचल प्रदेश एवं उत्तराखण्ड में अब तक 17 ग्रामों को गोद लेने के लिए 7 जिलों में 20 वैज्ञानिकों को रखा है। कुल मिलाकर इस योजना के अन्तर्गत भ्रमण से 180 किसान लाभान्वित हुए, पारस्परिक बैठकों एवं संगोष्ठियों से 46 किसान, प्रशिक्षणों से 124 किसान, सचल परामर्श से 12 किसान, साहित्य वितरण से 253 किसान, जन-जागरूकता पैदा करने से 212 किसान तथा अन्य एंजेंसियों के साथ सह-सम्बन्ध विकास से 217 किसान लाभान्वित हुए।

महत्वपूर्ण घटनाक्रम

कुमाऊँ क्षेत्र में महाशीर ईको-टूरिज्म के प्रचार पर संगोष्ठी

दिनांक 7 जनवरी, 2018 को भीमताल मे कुमायूँ क्षेत्र महाशीर ईको-टूरिज्म के प्रचार प्रसार के लिए एक दिवसीय संगोष्ठी को आयोजन जिला प्रशासन, नैनीताल, व पर्यटन विभाग द्वारा आयोजित किया गया। जिसमें निदेशालय ने लोगों के स्थानीय मुद्दों और उनकी भागीदारी पर विचार करते हुए इस क्षेत्र की पारिस्थितिकी के प्रचार एवं विकास हेतु भाग लिया। कार्यक्रम में अनेक गणमान्य लोगो द्वारा भाग लिया इस अवसर पर संस्थान के निदेशक ने उत्तराखण्ड की गौरव "सुनहरी महाशीर" के पुर्नवासन में निदेशालय की भूमिका के बारे में बताया।

गणतंत्र दिवस समारोह

दिनांक 26 जनवरी, 2018 को गणतंत्र दिवस के अवसर पर निदेशालय के मुख्य परिसर में निदेशालय डॉ. डी.सर्मा ने संस्थान के सभी सदस्यों की उपस्थिति में ध्वजारोहण किया तथा सभी को सम्बोधित किया। संस्थान के चम्पावत स्थित केन्द्र में भी प्रभारी वैज्ञानिक डॉ. एस. चन्द्रा ने इस अवसर पर ध्वजारोहण किया।

किसान मेला

दिनांक 24 फरवरी, 2018 को निदेशालय ने चम्पावत केन्द्र में एक दिवसीय किसान मेला सह वैज्ञानिक अधिकारी कृषक इन्टरक्टिव मीटिंग का आयोजन किया। इस कार्यक्रम में मत्स्य पालकों सहित 250 गणमान्यों ने भाग लिया किसानों को मत्स्य बीज तथा मत्स्य तालाब मिट्टी स्वास्थ्य कार्ड वितरित किए गये। कार्यक्रम के दौरान कृषकों को हिन्दी में जानकारी देने के उद्देश्य से “रेन्बो ट्राउट की आरम्भिक खुराक” से सम्बन्धित एक पत्रिका भी दी गयी। कार्यक्रम के दौरान बेहतर पर्वतीय जलीय कृषि प्रबन्धन की प्रविधियों के साथ तथा कौशल प्राप्त करने में उत्साही कृषकों के मध्यम सक्रिय भागीदारी देखी गयी।

कृषक-अधिकारी-वैज्ञानिक आपसी सह-परिचर्चा बैठक

दिनांक 22 मार्च, 2018 को अरुणाचल प्रदेश के शीतजल क्षेत्रों में मत्स्य पालन एवं बीज उत्पादन पर अरुणाचल प्रदेश के सुवर्णश्री जिले के हरी ग्राम, जिरो घाटी में निदेशालय तथा गोमैंचों मल्टीपरपज को-ओपरेटिव सोसाइटी तथा राज्य मात्स्यिकी विभाग, अरुणाचल प्रदेश के संयुक्त तत्वाधान में कृषक-अधिकारी-वैज्ञानिक आपसी सह-परिचर्चा बैठक हुई। इस बैठक में 250 प्रतिभागियों ने भाग लिया। इस बैठक के मुख्य अतिथि माननीय संसदीय सचिव, खाद्य एवं नागरिक आपूर्ति, इंजिनियर ताजि तकि थे। इस अवसर पर निदेशालय के निर्देशन में माननीय संसदीय सचिव द्वारा छोटे एफआरपी फिश हैचरी का भी उद्घाटन किया गया। कार्यक्रम के अंत में कृषकों को प्रमाण-पत्र भी वितरित किए गए।

बौद्धिक सम्पदा सुरक्षा अधिकार पर जन-जागरण कार्यशाला

दिनांक 28 मार्च, 2018 को चम्पावत स्थित प्रयोगिक मत्स्य प्रक्षेत्र में बौद्धिक सम्पदा सुरक्षा अधिकार पर जन-जागरण कार्यशाला का आयोजन किया गया। इस कार्यशाला में 80 प्रतिभागियों में से 60 राजकीय महाविद्यालय, चम्पावत के छात्रों, अन्य विभागीय अधिकारियों, वैज्ञानिकों, तकनीशियनों तथा प्रयोगिक प्रक्षेत्र के स्टाफ सदस्यों ने भाग लिया। इस कार्यशाला की अध्यक्षता भूतपूर्व सरकारी वकील श्री अमरनाथ वर्मा ने की तथा उन्होंने बौद्धिक सुरक्षा अधिकार से सम्बन्धित राष्ट्रीय-अन्तराष्ट्रीय कानून तथा अधिकारों के बारे में जानकारी दी। साथ ही साथ कॉपीराइट, ट्रेडमार्क के पंजीकरण से सम्बन्धित महत्वपूर्ण जानकारी भी दी।

विश्व मत्स्य विस्थापन दिवस

असम, भौरेली एंगलिंग कन्जरवेशन एसोशिएसन, नामेरी, असम में आयोजित विश्व मत्स्य विस्थापन दिवस 2018 के अवसर पर संस्थान के निदेशक डॉ. डी.सर्मा ने भाग लिया तथा व्याख्यान दिया।

मौकॉकचुंग, नागालैण्ड में चॉकलेट महाशीर हैचरी तथा ईको-टूरिज्म हैचरी की स्थापना

भा.कृ.अनु.परि.-शीतजल मात्स्यिकी अनुसंधान निदेशालय, भीमताल द्वारा राज्य मछली चॉकलेट महाशीर को संरक्षित करने के उद्देश्य से लोंगकौंग ग्राम, मौकॉकचुंग, नागालैण्ड में महाशीर हैचरी की स्थापना कर वहां तालाबों में प्रजनन भण्डार को संचयित किया गया। इसका उद्घाटन नागालैण्ड सरकार के लोक निर्माण विभाग के माननीय मंत्री श्री तांगपांग ओजूकुम ने अपने अन्य उच्चाधिकारियों के साथ दिनांक 25 अप्रैल 2018 को किया।

अनुसंधान समिति की बैठक

दिनांक 11-14 मई, 2018 को डॉ. डी.सर्मा, निदेशक (कार्यवाहक) की अध्यक्षता में संस्थान की अनुसंधान सलाहकार समिति की बैठक आयोजित की गयी। बैठक में वैज्ञानिकों द्वारा वर्तमान में चल रही परियोजनाओं के सम्बन्ध में तथा नवीन परियोजनाओं के बारे में प्रस्तुतिकरण दिया। बैठक में पूर्ण की गयी परियोजनाओं की समालोचनात्मक रूप से मूल्यांकन किया गया तथा निदेशक ने उसमें आंशिक परिवर्तन करने का सुझाव दिया। बैठक में उत्तर-पूर्वी पर्वतीय, जनजातीय उपयोजना तथा चम्पावत के प्रयोगिक मत्स्य प्रक्षेत्र पर भी विस्तृत रूप से चर्चा की गयी।

जीरो घाटी, अरुणाचल प्रदेश की जनजातिय महिला मत्स्य कृषकों का सशक्तिकरण

दिनांक 20-24 मई, 2018 को पाभोई मत्स्य फार्म, पाभोई विश्वनाथ, जिला असम में “स्टार्टअप फिश फार्मिंग, बीज उत्पादन तथा जीरो घाटी, अरुणाचल प्रदेश के 5 कृषकों की पांच हैचरियों के लिए हैचरी प्रबन्धन” पर कौशल विकास कार्यक्रम आयोजित किया गया। इस कार्यक्रम का उद्देश्य मत्स्य हैचरी का क्रियान्वयन, मत्स्य बीज उत्पादन, प्रजनन भण्डारों का प्रबन्धन तथा जीरो घाटी के मत्स्य पालकों के लिए नर्सरी में बीजों के पालन-पोषण तथा गुणवत्तायुक्त मत्स्य बीज उत्पादन के लिए मत्स्य उत्पादकता में वृद्धि करना था।

उत्तराखण्ड के मुन्स्यारी में रेन्बो ट्राउट के खेती का प्रदर्शन

दिनांक 30 मई, 2018 को पहली बार रेन्बो ट्राउट की खेती के द्वारा उत्तराखण्ड के पिथौरागढ़ जिले के मुन्स्यारी में सुदूर जनजाति ग्राम सिरमौली में निदेशालय द्वारा रेन्बो ट्राउट की खेती का प्रदर्शन किया गया ताकि इस क्षेत्र के जनजाति कृषकों की आय में वृद्धि हो सके।

विश्व पर्यावरण दिवस

दिनांक 5 जून, 2018 को निदेशालय परिसर में विश्व पर्यावरण दिवस का आयोजन किया गया। इस अवसर पर परिसर में वृक्षारोपण किया तथा पर्यावरण की महत्ता पर व्याख्यान दिये गये। इस अवसर पर पद्मश्री डॉ. शेखर पाठक, भारतीय इतिहासकार, लेखक ने “हालात ए हिमालय” पर ओजस्वी व्याख्यान दिया। इसके साथ ही स्थानीय स्कूली छात्रों ने प्लास्टिक प्रदूषण पर हस्तनिर्मित प्रतिरूपों की प्रदर्शनी लगाकर अपने मन के भावों को प्रदर्शित किया। डॉ. बी.एस. बिष्ट, डॉ. एच.सी.एस. बिष्ट एवं श्री पी.एन.शिवपुरी भी इस अवसर पर उपस्थित थे।

संसदीय समिति की बैठक

दिनांक 12-14 जून, 2018 को संसदीय राजभाषा समिति द्वारा नैनीताल में निदेशालय का निरीक्षण किया। बैठक की अध्यक्षता डॉ. प्रसन्न कुमार पाटसाणी, माननीय संसद सदस्य (लोकसभा) ने की।

माननीय प्रधानमंत्री का कृषकों के साथ विडियो कान्फ्रेंस

दिनांक 20 जून 2018 को माननीय प्रधानमंत्री ने वैज्ञानिकों, स्टाफ सदस्यों, अनुसंधान अध्येताओं तथा संस्थान के पंजीकृत कृषकों की उपस्थिति में कृषकों के साथ विडियो कान्फ्रेंसिंग के द्वारा सजिव परिचर्चा की।

अन्तराष्ट्रीय योगा दिवस

दिनांक 21 जून, 2018 को भीमताल तथा चम्पावत केन्द्र में अन्तराष्ट्रीय योगा दिवस मनाया गया। योग कार्यक्रम को प्रमुख योगाचार्य श्री हेमचन्द्र कपिल ने निर्देशित किया इस अवसर मुख्यालय परिसर में संस्थान के सभी वैज्ञानिकों/ अधिकारियों, शोधार्थियों, दैनिक वेतन भोगी कर्मचारियों आदि ने बड़े उत्साह के साथ भाग लिया और विभिन्न आसन किये।

क्षेत्रीय समीक्षा बैठक

दिनांक 28 जून, 2018 को पर्वतीय क्षेत्र में मत्स्य पालन हेतु क्षेत्रीय समीक्षा बैठक आयोजित की गई। इस समीक्षा बैठक में हिमाचल प्रदेश, जम्मू कश्मीर एवं उत्तराखण्ड राज्य मात्स्यिकी विभाग के निदेशकों, पंतनगर के मात्स्यिकी विभाग के अधिकारियों, एन.एफ.डी.बी., हैदराबाद के प्रतिनिधियों तथा निदेशालय के सभी वैज्ञानिकों ने भाग लिया। बैठक में विभिन्न मुद्दों जैसे रेन्बो ट्राउट के उत्पादन में वृद्धि, किसानों की आय को दुगना करने हेतु पालन सम्बन्धि योजनाओं, गुणवत्तायुक्त मत्स्य आहार का विकास एवं जलवायु परिवर्तन आदि पर चर्चा की गई।

विशिष्ट आगन्तुक

- डॉ. आई.पी. सिंह, माननीय सदस्य कार्यकारी परिषद भा.कृ.अनु.परि., नई दिल्ली
- डॉ. गोपाल लाल, निदेशक राष्ट्रीय बीज मसाला अनुसंधान केन्द्र, राजस्थान (9 जनवरी)
- श्रीमती रेखा आर्या, माननीय महिला कल्याण एवं बाल विकास, पशु धन, भेड़ एवं बकरी तथा मात्स्यिकी मंत्री उत्तराखण्ड सरकार (3 मई, 2018)
- श्रीमती कृष्णा राज, माननीय केन्द्रीय कृषि एवं किसान कल्याण राज्य मंत्री (13 मई, 2018)

कर्मिक

- दिनांक 1 जनवरी, 2018 को डॉ. डी.सर्मा, प्रधान वैज्ञानिक ने कार्यवाहक निदेशक के रूप में पदभार ग्रहण किया।
- दिनांक 15 जून, 2018 को डॉ. प्रेम कुमार, प्रधान वैज्ञानिक ने इस निदेशालय से कार्यमुक्त होकर भा.कृ.अनु.परि. मुख्यालय, नई दिल्ली में पदभार ग्रहण किया।
- दिनांक 25 मई, 2018 को श्री बी.सी.पाण्डे, सहायक लेखा एवं वित्त अधिकारी ने इस निदेशालय से विवेकानन्द पर्वतीय कृषि अनुसंधान संस्थान अल्मोड़ा में लेखा एवं वित्त अधिकारी के पद पर कार्यभार ग्रहण किया।

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