

Pattern of Abundance, Habitat, Threats and Conservation priority of Narmada Mahseer (*Tor tor*): Foresters and their role in Conservation: The State Fish of Madhya Pradesh



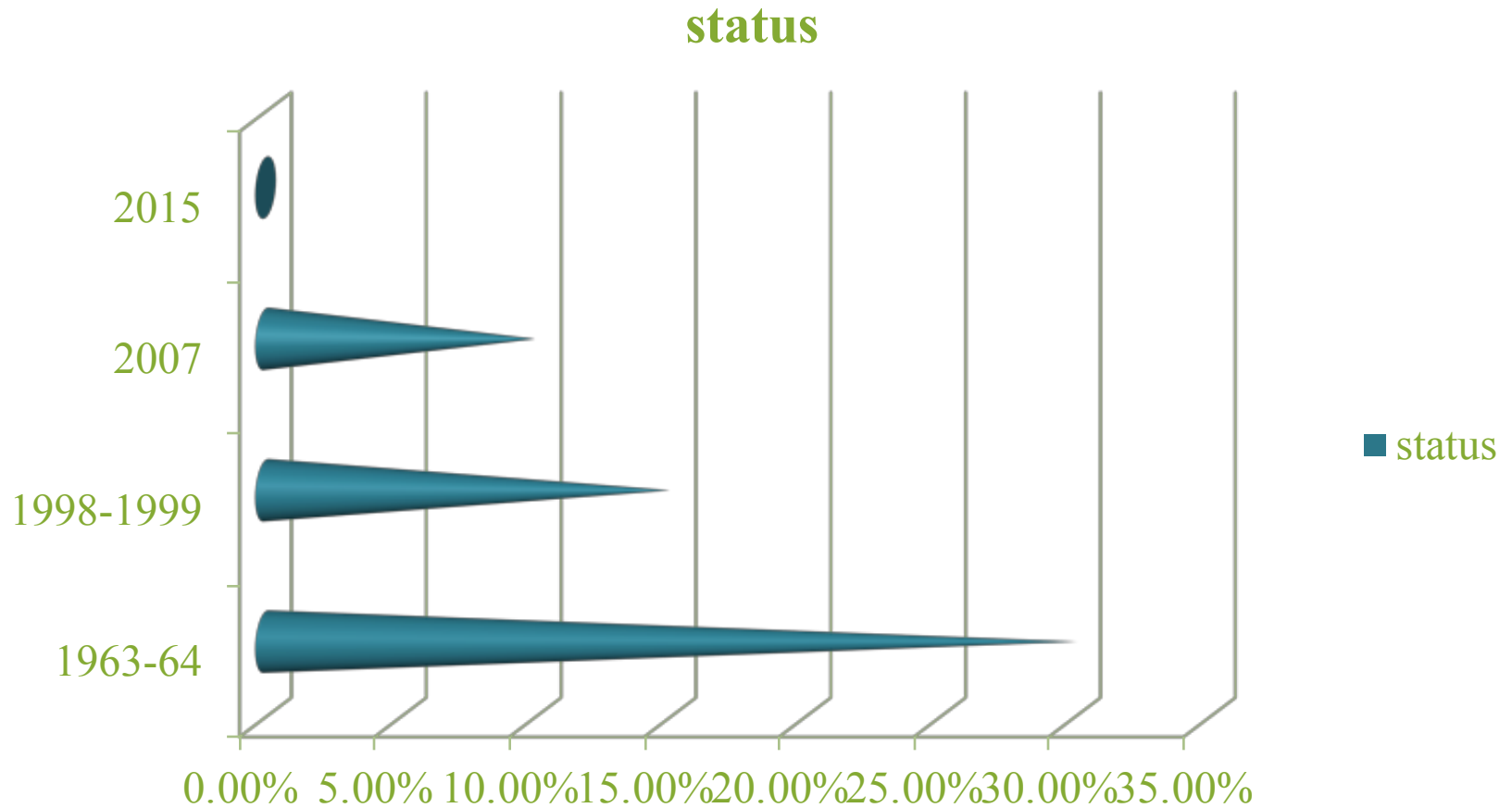
Presented By

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shriparnarroysaxena@gmail.com

Status of Narmada Mahseer

76% decline in Mahseer (1963 – 2015) : Span of 52 years



Threats

- Indiscriminate fishing.
- Destruction of spawning and nursery grounds.
- Migration hindrances.
- Habitat modification.
- Killing of brood fishes.
- Pollution of water.
- Unfavorable ecological conditions of spawning and nursery ground.



Certain Threat to Mahseer in M.P.

Pollution in Tributaries of Narmada
“Kanar River”



Indiscriminate fishing.



Habitat Modification



Conference on Aquatic Biodiversity of Narmada, Khandwa, September 2015

Why Involve Foresters In Fish?

- ➔ **They are the sole custodians of Mahseer habitat in forested zones where fisheries experts hardly have any access.**
- ➔ **They have traditionally been in Regulatory role, protecting streams and water bodies in forested zones in general.**
- ➔ **Conservation of aquatic biodiversity has basically remained confined to a few large aquatic reptiles and mammals.**
- ➔ **Recent findings indicate that breeding grounds in forested zones still hold strong potential.**

From 3 F to 3 Cs

Foresters' Role in Mahseer Conservation

Conservation of Habitat

Mapping of Habitat, Area Prioritization, Arresting Habitat Degradation.

Conservation of Species (*in situ* & *ex situ*)

Community Involvement –BMCs, Conservation Breeding.

Conservation of Livelihoods

Connecting Livelihoods with Conservation.

M.I.R.A.C.L.E. Strategy

M → Mapping of habitat

I → Involving people

R → Research and data collection

A → Advocacy for policy & legal framework

C → Conservation measures

L → Livelihoods connections

E → Extension and Training

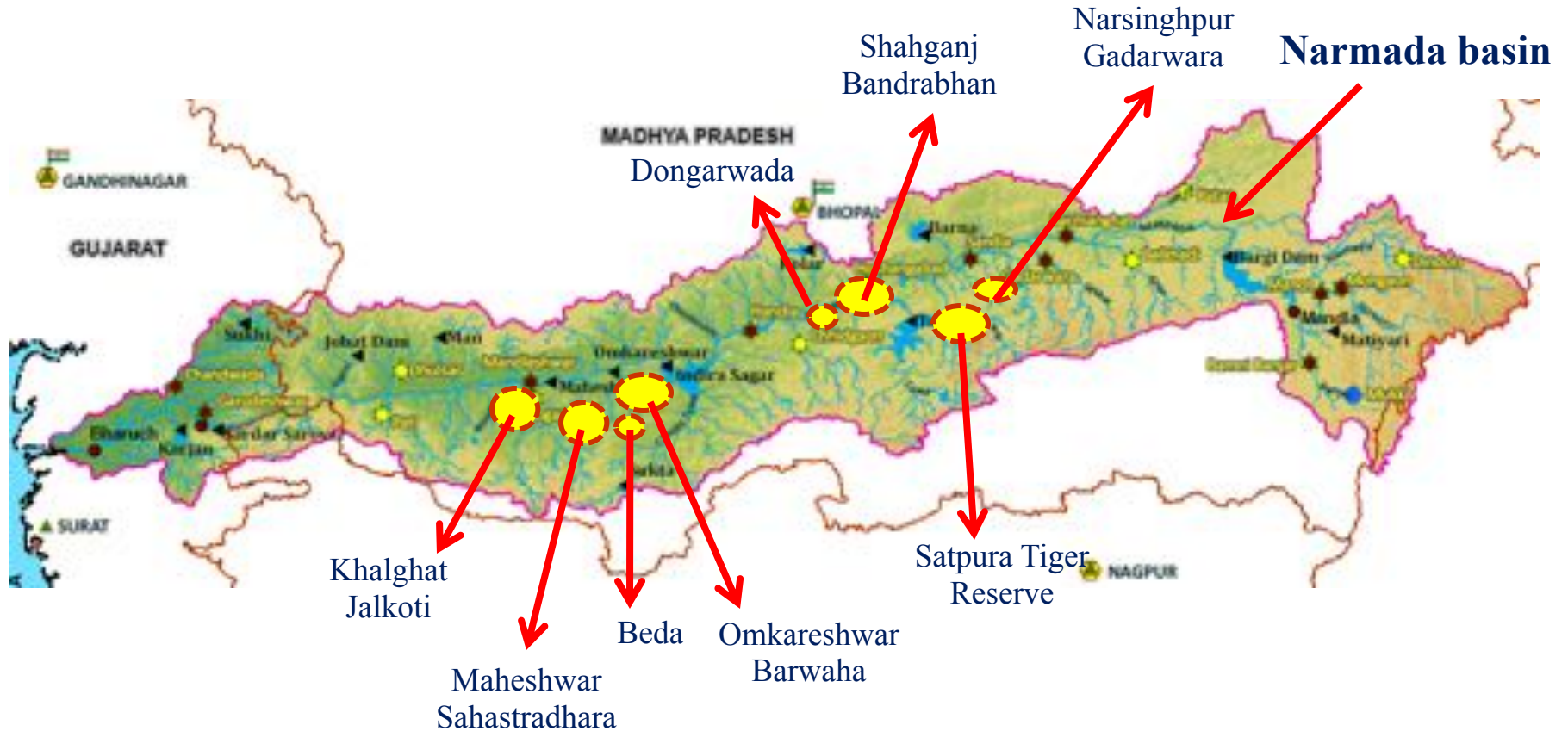




Distribution of Mahseer in river sub basins of M.P



Current availability of
Mahseer in Narmada basin



Current availability of Mahseer in Narmada basin

Lotic Segment of Narmada near Maheshwar still supports Mahseer Population.





Total Kilometers

(A) OMKARESHWAR TEMPLE

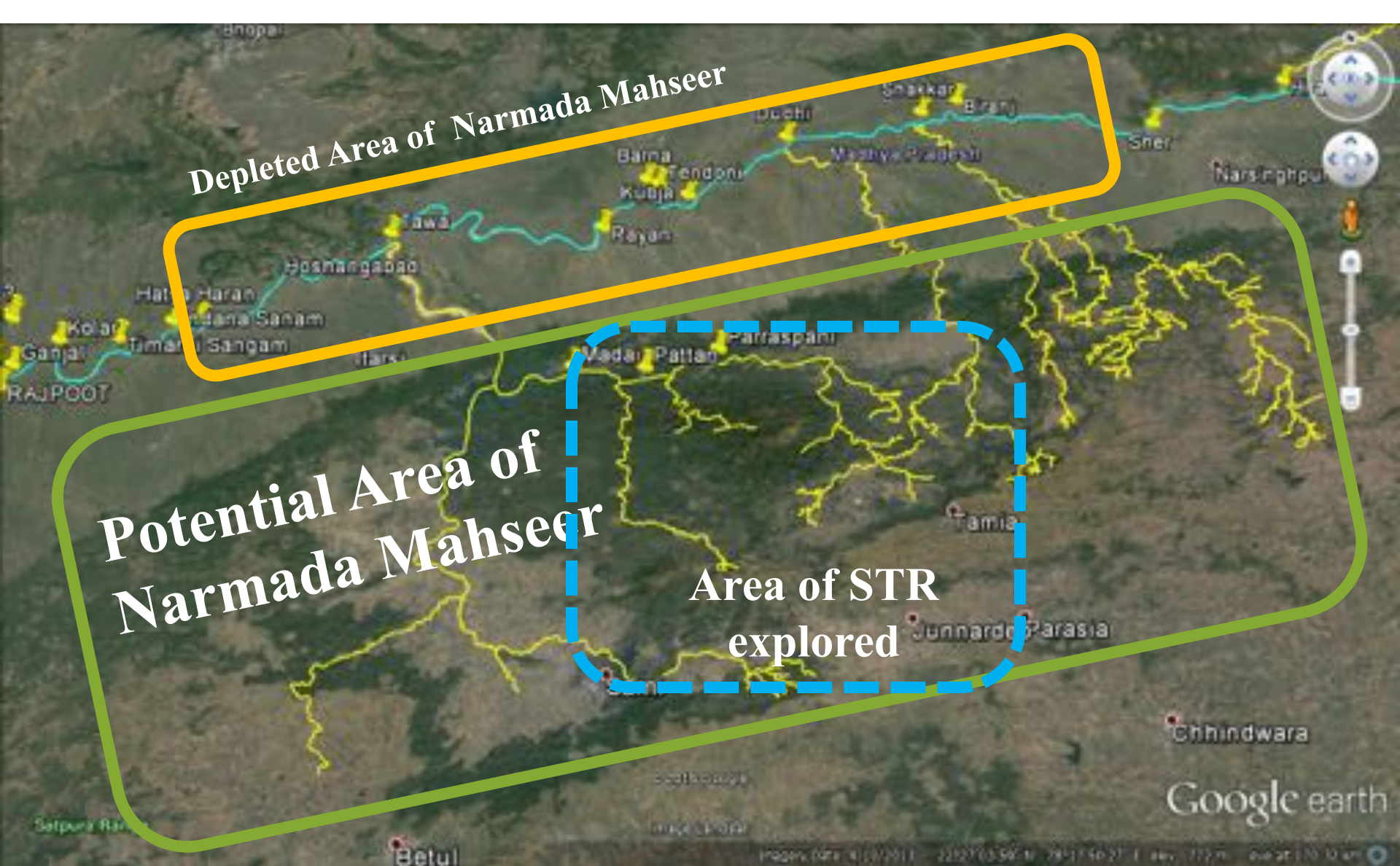


(K) CHIDIYA BHADAK WATERFALL

25.67 K.M.



Study Area of Dewas Forest Division



Depleted Area of Narmada Mahseer

Potential Area of
Narmada Mahseer

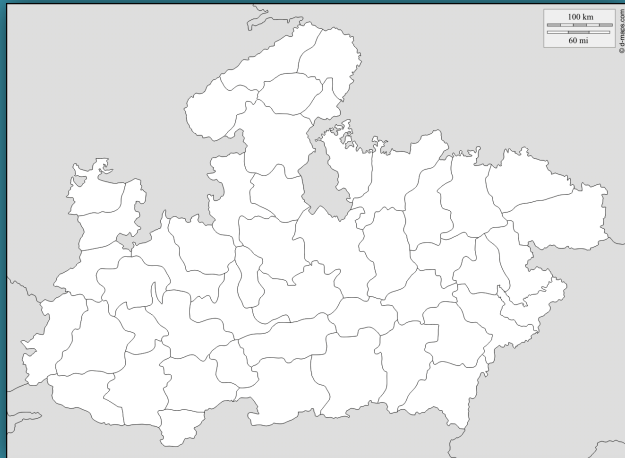
Area of STR
explored

Satpura Tiger Reserve :

(Protected area) House for Mahseer

Mahseer Atlas for M.P. underway.....

Mahseer Atlas for Forested Zones of M.P.



Fisheries Dept & NCI collaborating in the process..

L12N6L192 DE01 & NCI COL18POL811UD IU RUE 010622"

I

Involving People & Out Reach Activities

Creation of Badas Mitra Mandal. A component of BMC



**P.R.A
ACTIVITY**

Experimental Netting



Involving peoples



Information source : PRA & Fishermen passbooks



म.प्र. मत्स्य महासंघ (सह.) मर्या.
सहकारी मत्स्य मंडल, भोपाल-462 001
(म.प्र. सरकार की संस्थाएँ) अधिनियम 1982 के अन्तर्गत गठित)

सुदिरा सागर

मत्स्योद्योग अनुसंधान एवं
सहकारी डायरी

1. सदस्य क्र. : 19

2. मधुभा का नाम : देवाराम

3. पिता/पति : श्री रामलाल

4. संपत्ति का नाम : कुकु डाल

5. वैधता अवधि : 15 जून 2016 तक

प्रबंधक / मध्यस्थ (सह.)

शुल्क : 20/-



क्र.	दिनांक	अवधि (4 दिनों के अंतर)		पेट, फुल, फलामु के अंतर के अंतर (1 दिनों के अंतर)	
		प्रा	मध्या	प्रा	मध्या
1	22/8/15	18.00			
2	23/8/15	14.00			
3	24/8/15	20.00			
4	25/8/15	9.00			
5	26/8/15	18.00			
6	27/8/15	18.00			
7	1/9/2015	45			
8	2/9/2015	27			
9	3/9/2015	89			
10	6/9/2015	23			

संभवित मिला (24 दि. से बढ़े) एवं अवधि, मध्या, फलामु (अवधि अवधि-अवधि)	मध्यम भार अवधि मिला (24 दि. के अवधि)	मिला (मिले)	अवधि
		18.00	मिला
		14.00	मिला
		20.00	मिला
		9.00	मिला
		18.00	मिला
		18.00	मिला
		45.00	मिला
		27.00	मिला
		89.00	मिला
		23.00	मिला

Meeting with Local People & Fisherman Community at “Indra Sagar”



Outreach Initiatives



National Conference on Mahseer at Indore University

Sept, 2016



विशेष आवरण / Special Cover



वनांचलों की नदियों में महाशीर का संरक्षण-संवर्धन
Conservation of Mahseer in Forested Rivers

वनांचलों की नदियों में
महाशीर का संरक्षण-संवर्धन
Conservation of Mahseer
in Forested Rivers



इन्दौर जी.पी.ओ.
Indore G.P.O. - 452 001
09.09.2016



जयराज जी.
सरकारके वन विभाग
Forest Department, Madhya Pradesh



भारतीय डाक विभाग / Department of Posts India
पोस्ट मास्टर जनरल, इन्दौर क्षेत्र डाक विभाग 452 001 को जारी
Issued by : Postmaster General Indore Region - 452 001
www.indiapost.gov.in

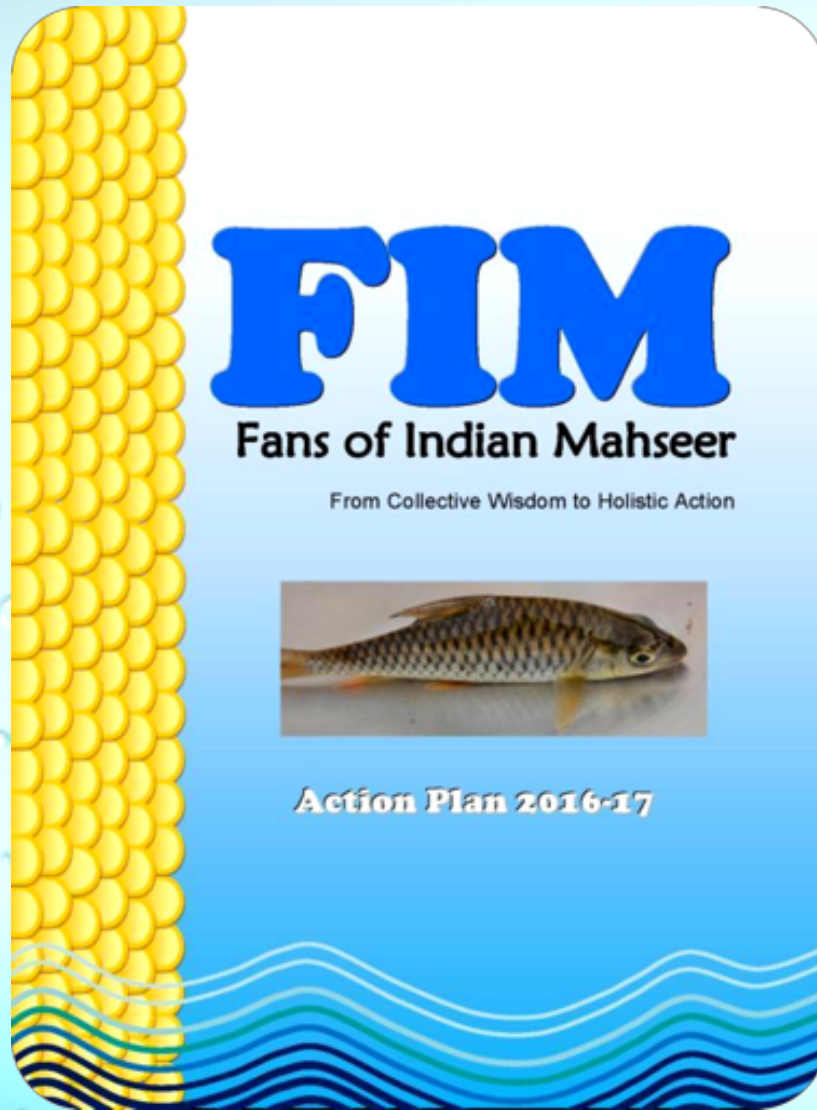
Release of Special Postal Cover on Mahseer

Outreach Initiative : Sabka Saath...



Release of Book By Speaker of M.P. Legislative Assembly, Minister of Women & Child Development, Forest Minister M.P., ACS Forest M.P., PCCF Forest At World Water Day 2017

Institutional Framework



From collective wisdom to Holistic Action

- Pan-Indian coalition of professionals and practitioners.
- Amorphous structure with no office or legal body till date.
- Process of making legal body.
- Its heterogeneous composition like a multicolour rainbow.
- Action Plan, 7 Working Groups and Working Papers ready.

Institutional Framework

FANS OF INDIAN MAHSEER, 1st Meeting at Indore



Moving towards Collaboration

Brainstorming with Mahseer Trust at Indore 13 Jan 2017



**Narmada Conservation Initiative, Indore
has agreed to offer its platform for FIMAP 2017**



**Mahseer conservation on National TV: Astitva
Loksabha TV**



Chief Minister Shri Shivraj Singh Chouhan discussing Mahseer



Madhya Pradesh's state fish struggling for survival
Bagish.jha@timesgroup.com

Indore: Popularly known as tiger of water, Mahseer, state fish of Madhya Pradesh, is now on verge of extinction. Mahseer, which constituted more than 50% of catch in Narmada till a decade ago, has now reduced to less than 4%. Construction of

fisheries, Udaipur, Dr Ismail Ali Durga said Mahseer is cold water fish and loves fresh and clean water. "Construction of dams has stopped flow of water and it created huge lakes in form of backwater. The process



THE TIMES OF INDIA
Shubham Kishore
@timesgroup.com

Endangered Mahseer gets artificial home

Indore: In first of a kind experiment, the forest department has constructed an artificial flowing water repository in flowing water repository in Barwah to conserve Narmada Mahaseer (The tiger of water) fish of Madhya Pradesh.

The population of the endangered species known as "tiger of water" has registered a sharp decline in the recent years. While 96 percent of population was reported in 1960, less than 3 percent of fish were reported in 2015.

Shri Ganesh Saxena, principal technical investigator, Mahaseer conservation project, said that such a water

body has been constructed on forest land and bottom of the repository has been constructed with pebbles from the Narmada River. Pipes connected with meters have been set up to ensure continuous flow of water in the artificial structure. Flowing water is necessary for the survival of the fish as it helps in providing oxygen to the water. At present 500 fish have been put into the water body. Most of them are juveniles in early stages of growth.

Biodiversity conservation sectioned as amount for Rs. 9 lakh for the project. While building the water body was a tough task, bringing in fish was tougher. Further, firmations, additional

Continued on 7



Visitors from Mahseer trust giving interview to media people

Coverage of Print & Press Media

Visitors from Fisheries Department



M.P. Biodiversity Board Calendar

Success in artificial breeding of Narmada Mahasheer
मध्य प्रदेश सरकार

DECEMBER
दिसम्बर
2018

NOVEMBER 2018

SUN	MON	TUE	WED	THU	FRI	SAT
						1
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

JANUARY 2019

SUN	MON	TUE	WED	THU	FRI	SAT
						1
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

संक्षेप

नर्मदा माहाशेर (शार्क) एक अत्यंत दुर्लभ व मूल्यवान् मत्स्य प्रजाति हो। यो मत्स्य भारतको नर्मदा नदीमा मात्रै पाइन्छ। यसको संरक्षणका लागि मध्य प्रदेश सरकारले नर्मदा माहाशेर संरक्षण कार्यक्रम सुरु गरेको छ। यस कार्यक्रम अन्तर्गत नर्मदा माहाशेरको कृत्रिम प्रजनन कार्य भइरहेको छ। यसबाट नर्मदा माहाशेरको संख्या बढ्ने र यसको वितरण गर्न सकिनेछ।

Success in artificial breeding of Narmada Mahasheer

Narmada Mahasheer (Shark) is an endemic fish to river Narmada. Mahasheer is the State fish of Madhya Pradesh. The presence of Mahasheer indicates the purity of water hence to protect and conserve the highly endangered Narmada Mahasheer MPBBS started the Mahasheer Conservation Programme two years back. With the sustainable efforts of Madhya Pradesh Fisheries & Conservation efforts of the Department, the project achieved a breakthrough by getting success in artificial breeding of Shark. This milestone has paved way for Narmada Mahasheer conservation.

SUN	MON	TUE	WED	THU	FRI	SAT
30	31					1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

शुक्रवार - १२/१२/२०१८, १२/१२/२०१८ (शुक्रवार)

धर्म शास्त्र - १२/१२/२०१८

मध्य प्रदेश संरक्षण बोर्ड
MADHYA PRADESH STATE BIODIVERSITY BOARD

Two Projects were sanctioned by State Biodiversity Board:

1. Conservation of M.P state fish, Mahseer in wildlife rich forested watersheds of Barwaha forest division 2016-2018
2. Proposal for Breeding of the Madhya Pradesh State fish, Mahseer(Tor tor) in Barwaha Forested Watersheds of Barwaha Forest Division.

Project Submitted:

1. Species recovery project for “Tiger of Freshwater” the state fish of Madhya Pradesh Narmada Mahseer (Tor tor) in forested watersheds of M.P. (MOEF CC , GOI).
2. Project for Developing Mahseer Atlas in forest streams of M.P. (Wildlife Board M.P Forest Department).

A

ADVOCACY

(For Policy & Legal Framework)

**M.P. Forest
Department**

**M.P. Fisheries
Department**

**M.P. State
Biodiversity Board**

**M.P. Ecotourism Board &
Non Govt. Organizations**

**State Level Steering Committee @ CWLW for overall supervision
Monitoring and Support**

Chief Secretary of Govt. of M.P. for a State Level Project

CEO of M.P. Ecotourism Board – Linking Mahseer Sport in Eco-tourism

Two Project Sanctioned by State Biodiversity Board

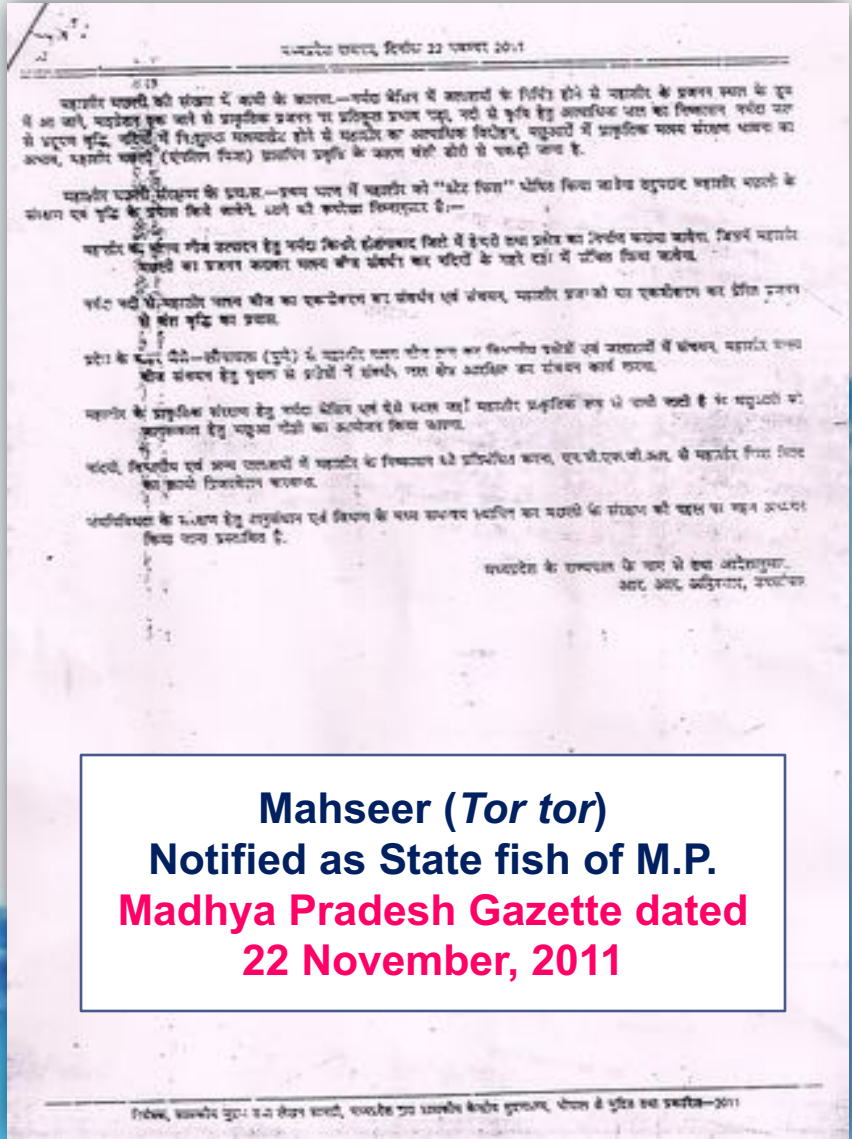
**Financial Assistance given by Wild Life wing M.P. Forest Dept. for River
Patrolling.**

FISH WATCHING @ Repository Barwaha

**Visit of Senior Officials of Gov. MP : A.C.S Forest,
M.D. & AMD M.P. tourism. CCF Khandwa & Forest Staff**



Mahseer -State Fish



निर्देश, आन्ध्र प्रदेश: ४.२ लेखन शायरी, पद्यरहित एवं आन्ध्र प्रदेश केन्द्रीय पुस्तकालय, बीरसा हे मुक्ति एवं प्रगति-२०११।



Conservation Measures

In-situ Conservation Site on Choral River – “Chidiyabhadak”



Mahseer (*Tor tor*) Conservation Project, Barwaha

Establishment of Habitat – based Brood Bank Pond
as Repository 40m x 20m x 3m in size.

Physico-chemical Water Parameters.

Biological Parameters.

Ganado Somatic Index.

Gastro Somatic Index.

Morph metric & Meristic Characters.

Genetic Study.



Mahseer Repository **Limnological field Lab**

Ex-Situ Status Barwaha Repository

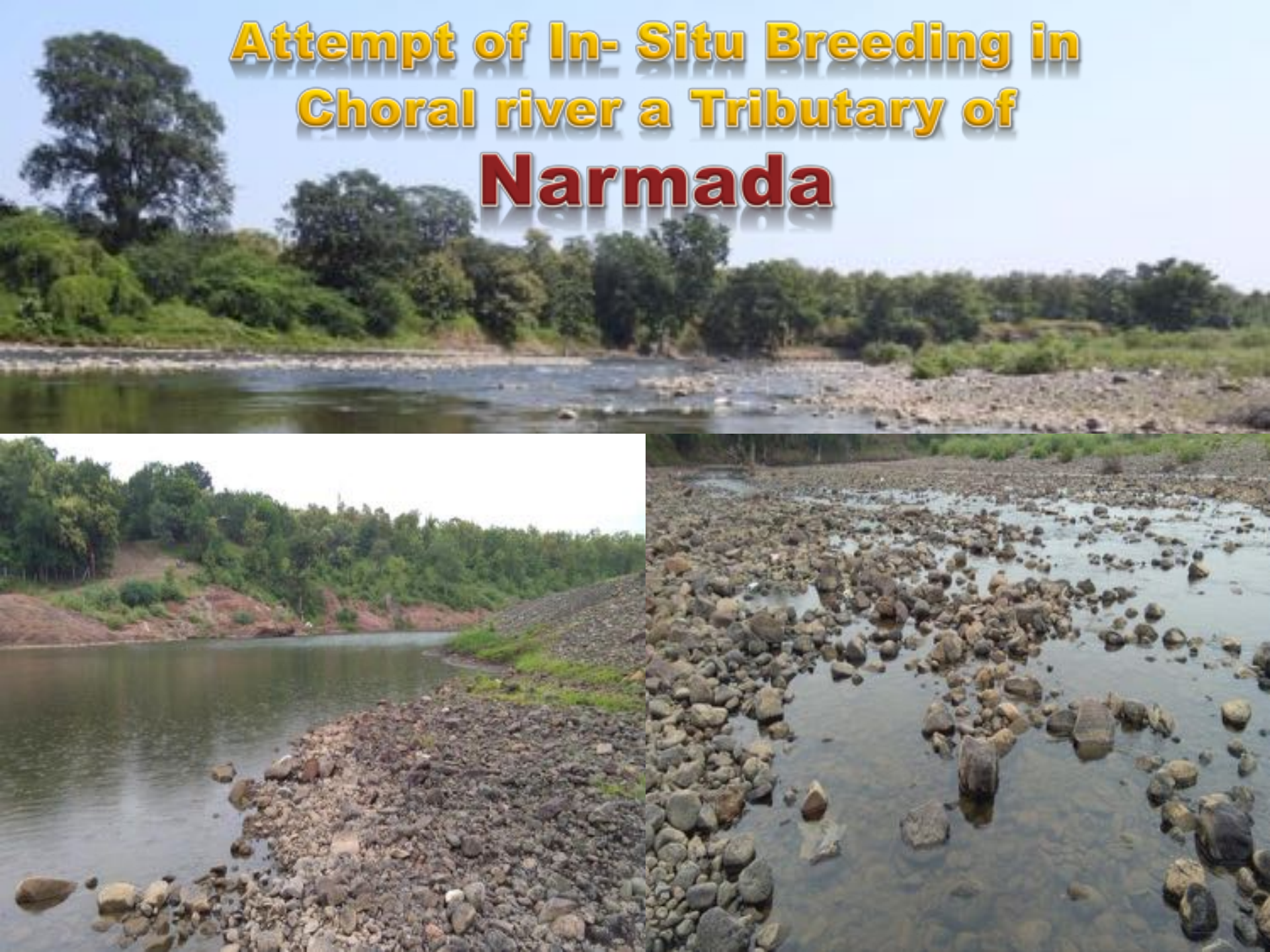
Total Stocking : 2000 pcs.



First Successful Conservation Captive Breeding on 26 October, 2017 at **Barwaha Repository**



Attempt of In- Situ Breeding in Choral river a Tributary of **Narmada**



In-situ breeding (2018)

Two pair of mature male & female were introduced in this enclosure in the month of August 2018

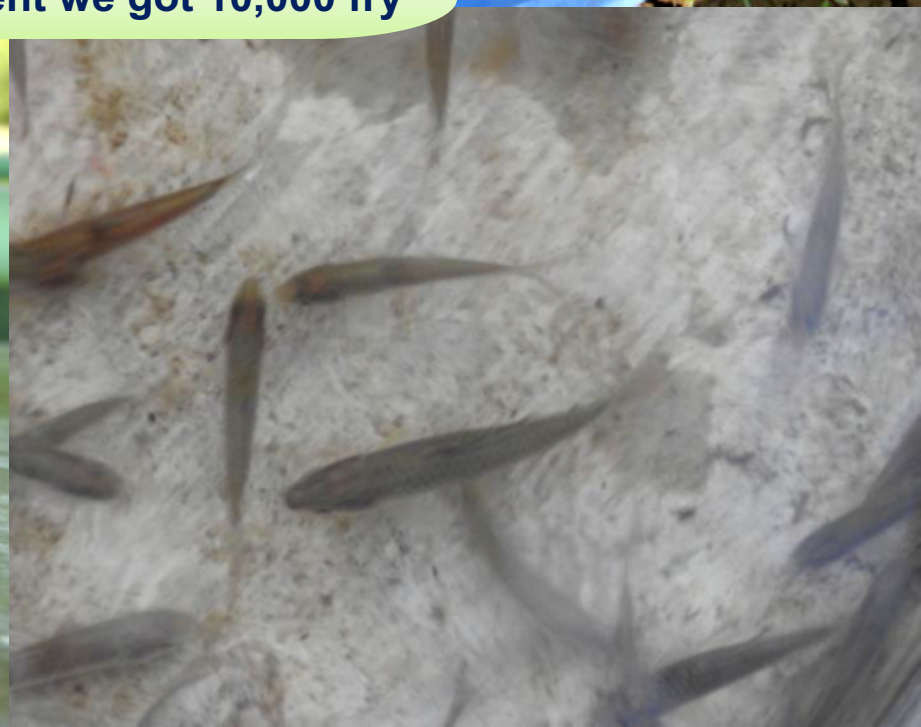


Enclosure made by local material





From this experiment we got 10,000 fry



L

Livelihood connections of Fisherman with Mahseer Conservation



Improving Livelihoods through Large Scale Commercial Breeding of Native Species and Ranching in Environment

Poachers converted to river guards. Patrolling 52 km. stretch of river during breeding season to guard illegal poaching.



Gufa.....



Promoting Mahseer Angling and Eco-tourism as a Tool for Strengthening Livelihood.

Angling & Ecotourism



E

Extension and Training

Customized Training Sessions for the Forest Staff
Road Map for involving Foresters in Mahseer Conservation
- Sensitization - Capacity Building - Field work



1200+ Foresters in Khandwa, Khargone, Ujjain, Dewas, Barwani, Barwaha and Indore sensitized

Orientation, Motivation and Capacity Building of Local Communities

Training Need Analysis with Field Foresters



Participatory Identification of Knowledge and Skills needed for Foresters

**30+ Such meetings with
more than 400+ field foresters**



Training Need Analysis with Field Foresters

वनकर्मियों के लिये प्रशिक्षण: वन अंचलों में राज्य मछली महाशीर और उसके रहवास का संरक्षण

उद्देश्य	मैदानी वनकर्मियों में राज्य मछली महाशीर और वन अंचलों में उसके रहवास का संरक्षण करने की क्षमता विकसित करना।
प्रशिक्षणार्थी	नई भर्ती के वनरक्षक तथा पदोन्नति के पूर्व होने वाले प्रशिक्षण हेतु नामांकित लोग
प्रशिक्षण अवधि	2 दिवस (1 दिन ज्ञान, 1 दिन कौशल)
प्रशिक्षण सामग्री	लघु फिल्म, फोटोग्राफ, पुस्तिका, अध्ययन नोट्स
प्रशिक्षण स्थल	मध्यप्रदेश के वन विद्यालय एवं वनमण्डलों के इको सेंटर
प्रशिक्षक	चयनित अतिथि विशेषज्ञ

इस प्रशिक्षण के पूरा होने के बाद वनकर्मियों को हासिल होनेवाली सीख

ज्ञान

- जलीय जैव विविधता, जल और जंगल के पारस्परिक संबंध के बारे में सामान्य ज्ञान
- राज्य मछली महाशीर के बारे में सामान्य जानकारीयों
- राज्य मछली महाशीर की खास पहचान के बारे में जानकारी
- वनक्षेत्रों में राज्य मछली महाशीर के रहवास व प्रजनन स्थलों के बारे में सामान्य जानकारीयों
- राज्य मछली महाशीर की भोजन व प्रजनन संबंधी जरूरतों के बारे में सामान्य जानकारीयों
- राज्य मछली महाशीर को खतरों के बारे में सामान्य जानकारीयों
- राज्य मछली महाशीर के बारे में शासन की नीतियों व कानूनों के बारे में जानकारीयों
- महाशीर के संरक्षण हेतु वनकर्मी द्वारा की जा सकनेवाली कार्यवाही के बारे में जानकारीयों

कौशल

- राज्य मछली महाशीर को विविध आयु वर्ग में पहचान लेने का कौशल
- वनक्षेत्रों में राज्य मछली महाशीर के रहवास व प्रजनन स्थलों को पहचानने का कौशल
- राज्य मछली महाशीर के संरक्षण हेतु वनकर्मी द्वारा की जानेवाली कार्यवाही का कौशल

Course

- ➔ Habitat Protection
- ➔ Species Conservation
- ➔ Study Notes
- ➔ Online Films
- ➔ Photo Album
- ➔ Field Study Tour
- ➔ Booklet on Mahseer
- ➔ Whatsapp Group

Chief Wildlife Warden of M.P. sent a formal request to HRD wing of MPFD for training in Forest Schools

(समस्यासमूह) का नाम
 आसपास का - 435
 दिनांक - 15/11/2016

The forest department has also started giving training to officials and workers to create awareness related to Mahseer conservation, as a bid to save Mahseer, forest department is also in a process of preparing a Mahseer atlas to make a record of the places the endangered species is found. An artificial repository has also been created by the forest department in Barwah for the species.

निर्मल नर्मदा की पहचान

महाशीर



— डॉ. श्रीपर्णा सक्सेना

Regular Attempts to
Establish **Mahseer** as an
icon of Clean Narmada



Strengths of Foresters

→ All Senior Officers with Science Background.

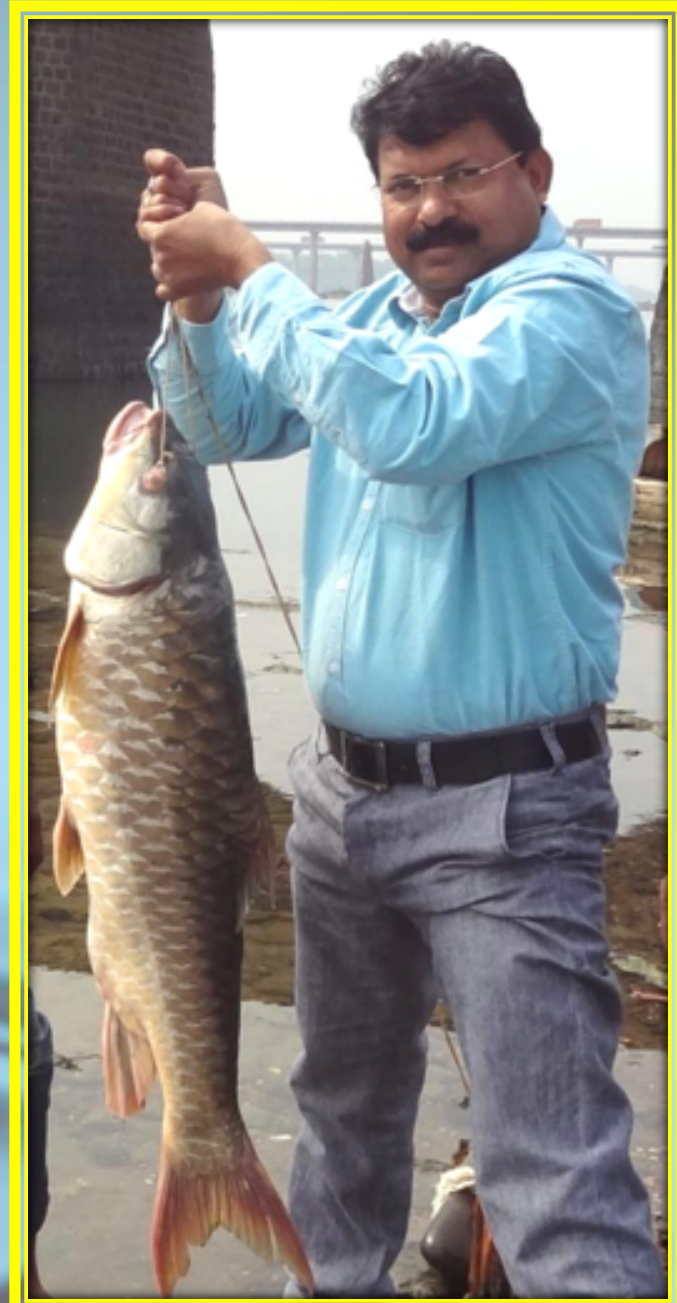
→ Strong Orientation for Conservation ?

→ A Disciplined, Uniformed, Hierarchy Driven Force ???

→ Access to Remote Areas Water Bodies.

→ Managers of Ecotourism Projects.

→ Working with Communities (Panchayat, JFMCs, BMCs, SHGs)



What Needs to be done?

Facilitate Adoption of M.I.R.C.L.E. as official strategy.

State level projects on Mahseer conservation needed.

Addition of Mahseer in course curricula of staff.

Creation of some official Institutional hub for state.

Aggressive outreach programme for next 5 years.

Linking Mahseer with river conservation.

Inter institutional/departmental collaboration.

River Conservation Gaining Momentum

“त्वदीय पाद पंकजम् नमामि देवि नर्मदे”

नर्मदा सेवा यात्रा-2016

यात्रा प्रारम्भ - 11 दिसम्बर 2016

(अमरकंटक में नर्मदा के दक्षिण तट से)

यात्रा पूर्णता - 11 मई 2017

(अमरकंटक में नर्मदा के उत्तर तट पर)

144 दिवसीय

भावपूर्ण नर्मदा परिक्रमा में

आप सादर आमंत्रित हैं.

शिवराज सिंह चौहान
मुख्यमंत्री, मध्य प्रदेश



आयोजक - मध्यप्रदेश जन अभियान परिषद्, मध्यप्रदेश शासन, योजना, आर्थिक एवं सांख्यिकी विभाग, | अधिक जानकारी के लिए सम्पर्क करें : 0755-4911102, 4911103

Attempts to promote & link mahseer conservation needed

Patrons and Collaborators



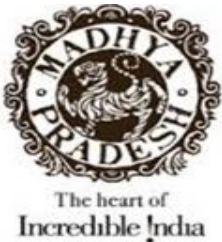
MADHYA PRADESH GOVERNMENT



M.P. STATE BIODIVERSITY BOARD



NARMADA CONSERVATION INITIATIVE



M.P. STATE TOURISM DEVELOPMENT CORPORATION



M.P. ECO-TOURISM DEVELOPMENT BOARD

Conclusion

Rivers in Forested Zone: The last hope for Mahseer Conservation.

The process adopted in M.P. can be a role model for the rest of India.

The momentum gained in MP in last Three years needs to be maintained.



28 11 2015

Foresters
+
Institution

=

Conservation

*Thank
You*

