MSTrIPES Polygon Search Application User Manual

MSTrIPES Polygon Search Application is devised to collect ecological data and associated parameters where standard protocol of monitoring tigers, co-predators and prey is not feasible to execute. Please install the application from the ".apk" file provided to you.

Overview:

1. Prerequisites (these can be seen in "About Phone" in settings of the phone)

- Phone operating system should be Android 7.1 or above. This application is not available for IPhone.
- 3 GB RAM (Preferably 4 GB RAM)
- 32 GB ROM/ Internal Storage
- Standalone/ In-built GPS chip, Gyroscope, Accelerometer, Magnetometer

2. Installation

• Locate the ".apk file" in the internal storage of your phone and install the application.

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3. App permissions

• After installation when you open the application, you need to provide necessary permissions i.e. camera, location, contacts and storage for smooth functioning of the application. Please allow all the necessary permission by selecting allow/while using the app.











• **Optional permission:** You can provide optional permission to modify the system settings. This is required only to reduce the phone battery consumption while operating the application. It reduces the screen brightness when the Map Page Screen (described later) is locked during ongoing survey/ search path. This option will appear once you tap on New Trail/ New Boat Transect/ New Channel Survey for the first time.

*If you wish to provide the permission, then select "Yes" and follow the steps.



4. User Registration

- Once you have provided all the necessary permissions, you have to "Register" yourself in the application. The primary user (Official/Staff/Researcher) who will be using the device should register her/him.
- This is a multilingual application and can be operated in different languages. Registration procedure is followed by the selection of language.
- Fill the details i.e. name of the state, user's name, user's designation and phone number.
- Select the name of the state and designation from the dropdown list. In case your designation is not listed in the menu, please select "Others".
- Once you have filled in all the information, select "Register" and select "OK" if the information provided by you is correct.

Select Language	User Registration	User Registration
English	State	State
हिन्दी	Name	Name
বাংলা	Deb Ranjan Designation	Deb Ranjan Designation
অসমীয়া	Research Officer Unique ID	Research Officer *
ଓଡ଼ିଆ	896d9b217a06ab9c	89 Please ensure the information entered is
ಕನ್ನಡ	9434****5	Ph correct! (No modification is allowed after submission). 94 CANCEL OK
ತೆಲುಗು 🔘	REGISTER	REGISTER
தமிழ்		
aewogo O	Unique ID is your phone's physical User cannot change/ modify the same.	1D.
मराठी		
ગુજરાતી 🔘		

After registration, you will be prompted to the Home page of the application.

Home Page

From home page, you can select different module of ecological sampling method depending upon the area you are intending to sample. You can also change to the language of your choice from the home page.

- Forest: To carry out ecological sampling in any forested ecosystem, please select "Forest".
- Himalayan: To carry out ecological sampling in Trans-Himalayan region of the country please select "Himalayan".
- **Riparian:** To carry out ecological sampling mangrove/riparian ecosystem, please select "Riparian".
- Desert: To carry out ecological sampling in desert ecosystem, please select "Desert".



5. Menu bar options

Please tap on the menu drawer button on the extreme top left to explore additional useful options.



• Status: If you are using the app for first time or you are facing problem regarding GPS fix in the app, please click on STATUS to check GPS fix. It shows coordinates of the point, number of satellites used in GPS fix, accuracy and altitude of that point.

#SATS indicates the number of satellites used in GPS fix.

Remember at least five (5) satellites are required to get GPS fix.

If you are not able to get GPS fix, please check location settings in your phone and set it to high accuracy.

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Home Status		
Sky		NA.
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• Sky: Select this option to check the positions of the satellites in the sky and how many satellites are available for fix.





• **SOS Details:** Please add the details of emergency contacts prior to the sampling/ survey. In case of emergency if you tap on SOS it will send an alert text with the coordinates of your location over GSM connection.

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Poly	gon Search	
A	Home	
9	Status	
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e.	SOS Details	_AYAN
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19 <u>9</u> 8	About Us	
0	Help	

• **Backup:** Once you have completed your survey, please take a backup of your data. This will create a backup folder named "PolygonSearch" in the internal storage. You will need this folder to import the data into desktop software.

14:37 Poly	gon Search	* 🞎 🖼 🕍 🖌 39% 🖨	≡ Home		File Manager	ି :
A	Home				Storage 🚿 Internal storage 🚿	
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Add Te	am Member	~			PolygonSearch	
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0	Help			_	Ringtones 2 items 2019.11.06	
			Backup Fi	nished	Categories Storage	FileDash

- Permissions: Click on the permissions to ensure that all necessary permissions are provided.
- Offline Map: Select this option to upload offline map of your area. Offline map can be prepared using the desktop software and kept in the internal storage of the phone. Please remember to select .mbtiles file only. Other file formats are not supported.

Once you click on Offline Map following page will appear. Please tap on the arrow to browse the file. Please click on the menu drawer button on the extreme top left to explore internal storage.



*Internal storage of the phone is typically named after the device name unless changed.

*Please ensure that phone's internal storage is not hidden (This can be crosschecked by clicking on the option button on extreme top right corner. Please refer to the image at extreme left).

Please browse the internal storage through menu drawer only. The file cannot be selected through file explorer.

Select phone's internal storage and browser for the .mbtiles file. Select the file and wait until the process is completed. Time taken to complete this process depends on the available space and RAM on the phones and hence it varies from phone to phone. After completion, press the back button to return to home page.



This process has to be done once and offline map can be selected directly from the map selection page. Please update the map if you are going to sample at different area.

• Add team member: To add team members accompanying the survey, please select "Add team member". These names will appear in the list.

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Poly	gon Search	
•	Home	
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	Add Team Member	<u>.</u>
t	Us	(IT
	About Us	_
	Help	

• About us: This will provide information about app version, build date, database date, and app build.



• **Help:** If you encounter any issue while operating the app, please submit your help request to the developer team through this option.



To begin with data collection user should select any of the present mode (user can select any of the modes depending upon the sampling area and purpose of the sampling) and it will open the following window.



In this window user should select **New Trail** to collect the data for a new search trail as per the protocol of data collection. In case of **abnormal shut down/ unintended closure of the application**, user should select the **Old Trail** to continue the search trail.

DLYGON SEARCH	
- And	N
NEW TRAIL	OLD TRAIL
	Ð
EDIT/DELETE RECORD	BACK

Start New Trail

To begin with new search trail, user should select new trail and it will open a new window where user should fill the **LOCATION DETAILS** of the search trail and take a mandatory photograph of the team (taking the team photograph requires GPS fix) and click on next to proceed further.

	-			
	select state			
Lans	Andhra Pradesh	Colout State	LOCATION DETAILS	
NEW TRAIL	Arunachal Pradesh	Arunachal Pradesh		LOCATION DETAILS
	Assam	Select Division	Select State	
	Bihar	select division	Arunachal Pradesh	LOCATION DETAILS
	Chhattisgarh	Namdapha_TR	Namdapha_TR	Arunachal Pradesh
Í	Goa	Pakke_TR	Select Range	Select Division
EDIT/DELETE RECORD	Gujarat		select range	Select Range
	Haryana		Miao	Miao
	Himachal Pradesh		Namdapha	1
			Gandhigram	Team Photograph
				Confirmation Please ensure the information entered is correc (No modification is allowed after submission).

Once these information are filled, it will open a new window where the user should select the names of team members who are accompanying for the search trail.



Once all the team members have been selected, user should select **YES** and proceed further. It will open a new window and user should select the map option based on the internet connectivity availability of the device/ phone. User should choose **OFFLINE MAP** in case of no network connectivity in the area where he/ she is intended to collect the data.

Once user select the map option it will open the map page of the application.

The **green button** at the left top most corner indicates the status of the **GPS signal**. User should wait until the button **turns green** and should start walking the trail/ taking data **after it turns green**.



Data forms are slightly different in both the forms



While most of the data forms and data collection procedures are same in both the modes, user can collect data in point transect method using **UNGULATE FORM** from vantage point in Himalayan mode where visibility is higher as compared to eastern Himalayas.

Data collection through data forms:

a) Carnivore/ Herbivore signs:

User should click on the **Carnivore/ Herbivore signs** to enter data upon encountering any signs and save the form.



2 Vale Female 2 Voung 1 Unknown Remarks Enter Any Remarks Here SAVE DETAILS	Direct_Sig	hting		*
Male Female 2 Young 1 Urknown Remarks Enter Any Remarks Here Take photo SAVE DETAILS	2			
Young <u>1</u> Urknown Remarks Enter Any Remarks Here Inter Any Remarks Here Save photo	Male		Female	2
Remarks Enter Any Remarks Here Tike photo SAVE DETAILS	Young	1	Unknown	
Enter Any Remarks Here Take photo SAVE DETAILS	Remarks			
			0	
			Take photo SAVE DETAILS	
			Take photo	
			Take photo	
	-		Take photo	

Caution: Total number of animals and individual number should match in case of direct sighting.

In case of indirect sign encountered user should fill the form in the following manner. Taking an image of the sign is optional and user dependent.



b) Habitat Plot Form

User should take vegetation data after every 500 meter intervals of the search trail as per the polygon search protocol. Vegetation data or habitat plot consists of details of shrubby weed, human disturbance and ground cover along with number of trees, % shrub cover, canopy cover, habitat type and terrain type.

	HABITAT PLOT	
¥	A land	
Number of trees	HUMAN DISTURBANCE	GROUND COVER
Percent(%) cover o 0	f shrubs	
Canopy Cover Select Canopy		v
Forest Type Select Habitat		
Terrain Type Select Terrain		•
Remarks		
Photograph		

Caution: User should fill all the details before saving the form.

SHRUBY WEED	HUMAN DISTURBANCE	GROUND COVER
Number of trees		
56		
Percent(%) cover of	f shrubs	
50		
Canopy Cover		
0.6		*
Forest Type		
Himalayan_Broad_L	.eaved	÷
Terrain Type		
Undulating		*
Remarks		
Photograph		
	0	

User can search for **species name** using the **smart search** feature and fill the percentage cover of the species before saving the form.

12:13:43 🔜	🍳 💎 🗖 🖍 70% 🔾	
S	hruby Weed	
Species 1	Percentage Cc 12:14:10	♥ ♥ ▲ # 70% ○
mik		Shruby Weed
mikania cordata	Species 1	Percentage Cover
mikenia_mikania cordata Weed Name	mikania cordata	25
pecies 3	Species 2 Percentage Co	Percentage Cover
Weed Name	lant lantana camara	
SAVE	lantana_lantana camara Weed Name	
	SAVE	CANCEL

User should fill the Human disturbance form **as observed** at the plot.

HUMAN DISTURBANCE DETAILS	HUMAN DISTURBANCE DETAILS
umber of trees cut	Number of trees cut
	0
Number of trees Lopped	Number of trees Lopped
	0
umber of human/livestock trails	Number of human/livestock trails
	0
Number of people seen	Number of people seen
	0
Number of livestock seen	Number of livestock seen
	0
Percent(%) grass/bamboo cutting	Percent(%) grass/bamboo cutting
	10
SAVE CANCEL	SAVE

User should fill the ground cover details as observed at the plot.

GRO	UND COVER
After removing dry leaf litter, the c proportion	ground cover had following percent
Dry Grass (%)	
Green Grass (%)	
Herbs (%)	
Weed (%)	
Bare Ground (%)	
O AVE	CANCEL

Caution: Addition of all the value/ total coverage value **should not be more than 100%** as per the protocol.

After filling all the details user should save the plot and proceed for Dung plot at the same location.



c) Dung Plot

User should lay a dung plot as per the protocol, count all the dung/ pellet encountered in the plot and record it in the following manner. User should also provide the information whether Goat/ Sheep graze the sampled area and save the form.

Select Animal Species	Pellet Count		
Sambar	▼50		
Select Animal Species			NAT
Select Animal Species	Select Animal Species	DUNG F	201
Select Animal Species	Barking Deer	Select Animal Species	Pellet Count
Select Animal Species	Blue Sheep Bharal	Sambar	• 50
	Buffalo	Select Animal Species	Pellet Count
Select Animal Species	Cattle	Goral	- 20
Select Animal Species		Select Animal Species	Pellet Count
Select Animal Species	Chital or Spotted Deer	Select Animal Species	*
Select Animal Species	Donkey		
Select Animal Species	Elephant	Select Animal Species	Pellet Count
Select Animal Species	Goat	Select Animal Species	•
	Goral	Select Animal Species	Pellet Count
Select Animal Species		Select Animal Species	*
1 O	riare	Select Animal Species	Pellet Count
I Z	Himalayan Marmot	Select Animal Species	*
	Himalayan Tahr		
	Hog Deer	Select Animal Species	Pellet Count
	Horse	Salart Animal Shariar	-

		DUNG F	PLOT
		JEIUW	- 20
		Select Animal Species	Pellet Count
		Select Animal Species	÷
Select Animal Species	Pellet Count	Select Animal Species	Pellet Count
Select Animal Species	•	Select Animal Species	•
Select Animal Species	Pellet Count	Select Animal Species	Pellet Count
Select Animal Species	•	Select Animal Species	×
		Select Animal Species	Pellet Count
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Select Animal Species Select Animal Species	Pellet Count	Confirmation Please ensure the informati (No modification is allowed	ion entered is correct! after submission).
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Select Animal Species Select Animal Species 1) Do Goat / Sheep Graze the Sample Yes No	Pellet Count	Confirmation Please ensure the informati (No modification is allowed Select Animal Species	ion entered is correct! after submission). NO YES Pellet Count
Select Animal Species Select Animal Species 1) Do Goat / Sheep Graze the Sample Yes: No SAVE	Pellet Count d Area? CANCEL	Confirmation Please ensure the informati (No modification is allowed Select Animal Species Select Animal Species Select Animal Species	ion entered is correct! after submission). NO YES Pellet Count
Select Animal Species Select Animal Species 1) Do Goat / Sheep Graze the Sample Yes No SAVE	Pellet Count d Area? CANCEL	Confirmation Please ensure the informati (No modification is allowed Select Animal Species Select Animal Species Select Animal Species	ion entered is correct! after submission). NO YES Pellet Count
Select Animal Species Select Animal Species 1) Do Goat / Sheep Graze the Sample Yes No SAVE	Pellet Count	Confirmation Please ensure the informati (No modification is allowed Select Animal Species Select Animal Species Select Animal Species 1) Do Gost / Sheep Graze the Samp Q Yes Q No	ion entered is correct! after submission). NO YES Pellet Count

d) Ungulate Point:

This data form can only be availed if the user is collecting data using **HIMALAYAN** mode. In this data form user can record the observation of direct sighting of species from a vantage point/ location.

Caution: Number of young individuals should not be more than the total number of individuals observed.

Carnivore/Herbivore Signs Habitat Plot Form Dung Plot Form Ungulate Form	Species Type Herbivore Species Himalayan Tahr Habitat Alpine_Meadows Terrain Hilly Total Animal Young Seen	UNGULATE POINT Alpine_Meadows Terrain Hilly Total Animal 4 Young Seen 2 Animal bearing 123 Animal Distance SET
	Animal bearing	200 Reticle 1

I. Riparian module:

To carry out ecological sampling in mangrove/ riparian ecosystem, select Riparian module.

1. Riparian module home page options:



As per the existing protocol prepared by Wildlife Institute of India and National Tiger Conservation Authority for ecological sampling in mangrove areas, user can collect data on prey abundance (Boat Transect) and tiger/ carnivore occupancy (Channel/khal Survey) by using this module.

2. Boat Transect: To collect data to quantify prey abundance please select "New Boat Transect". In case of abnormal shutdown of phone or unintended closure of the application during an ongoing boat transect, select "Continue Old Boat Transect" to continue with the existing transect.

*Please do not select "Continue Old Boat Transect" in case you are going to start a new transect on a different channel.

• Location Details: Once you select Boat Transect, following page will appear and you have to fill location details i.e. administrative unit details, channel/ boat transect serial number (1,2,3...n) of that administrative unit, side of the channel, lunar date and time of the past lowest tide. You have to take a mandatory Team Photograph before proceeding to next page. This image would be geo-tagged hence needs GPS fix.

Administrative details and Channel number can be selected from the dropdown list.

NEW BOAT TRANSECT	CONTINUE OLD BOAT TRANSECT	Select a State West Bengal Select a Division Sunderban_TR Select a Range Sajnekhali	*	If details provided are
New Channel Survey	CONTINUE OLD CHANNEL SURVEY	Select Channel 3 Select side of the channel Curar Date 6	•	and select YES to confirmation message. *Ensure that location setting in your device
EDIT/DELETE RECORD	ВАСК	Time of the past lowest tide 2 Team Photograph		is on before clicking the mandatory team photograph.
		NEXT		

• **Team Member Details:** After filling in location details, please add the members who are in the team. Team members can be selected from dropdown list (names that are added earlier).

Remember to add team members from menu bar options prior to your sampling.

			Team Members Details
Add Team Member		Team Members Details	Member Name
Member Name		Member Name	Select Member Name
Deb Ranjan	-	Select Member Name	Designation
Designation		Narendra	
Research Officer		_ Goura	Phone Number
Phone Number		Phone Number	-
94*****75			Confirmation Do You Confirm that Fill All Team Member De Once Go Next Modification Not Allowed.
SAVE DETAILS		SAVE DETAILS START TRAIL	NO

Select START TRAIL once all the members are added.

• **Map selection options:** Once you select "Start Trail", it will prompt you to next page where you have to select between Online and Offline map. You can select online map if you have internet connectivity or you can select offline map if you are certain that you will be using the application without internet connectivity. In that scenario you need to have an offline map stored in the internal/ local storage of your phone.



*If you do not have an offline map of your area stored in your phone and also do not have internet connection, you should select online map option. In that scenario the application will still record and save your observation but no base map will be available in the map page.

After map selection, the following page (map page) will appear where you have to record your observations.



• Map Page options of boat transect:



* Please, wait for the GPS fix status button to be green to start the survey.

* Please pause the application if you are standing at a place for longer time and resume when you are about to resume the transect/ survey.

* If you have kml files stored in your phone, you can use the kml for your reference by clicking on the "Load .kml" option. Once you click on the option, it will allow you to browse the file. Browse the file same way you have browsed for offline map (through menu drawer option of the phone and locate your file).

*Click on SOS button to send alert message to selected contacts. This needs GSM connection.

• **Data collection:** Once you encounter any animal or group of animal (direct sighting), click on the boat transect form and record your observation.



* Select species type and species respectively from the dropdown list according to your observation.

* Remember that "Young Seen" should not be greater than "Total Animal".

* Select mangrove parameters from the dropdown list.

Once you have filled all the details, click on "Save Details" to save the observation.

* Please, save the form after you complete the boat transect and Exit from the map page.

3. Channel Survey: To collect data on occupancy of tiger/ carnivores and other species and habitat parameters, select "New Channel Survey" from the Home page of Riparian module. In case of abrupt shutdown of phone or unintended closure of the application during an ongoing channel survey, please select "Continue Old Channel Survey" to continue with the existing transect.

* Please, do not select "Continue Old Channel Survey" if you are going to start a new channel survey on a different channel.

NEW BOAT TRANSECT	CONTINUE OLD BOAT TRANSECT
NEW CHANNEL SURVEY	CONTINUE OLD CHANNEL SURVEY
EDIT/DELETE RECORD	Васк

Once you have selected "New Channel Survey" it will prompt you to fill location details, team member details and to select map option. These steps are same as "New Boat Transect".

After selection of the map option, map page of channel survey will appear.

* Wait for the GPS status signal to be green to start the channel survey.

• Map page options of Channel Survey:



• **Recording observation:** Once you encounter any sign (direct/ indirect), select data forms to record the observation.



* Select "Channel Survey Form" to record your observation/s.

0			
Take photo		Sign Type	
Sign Type		Pugmark_Track	•
Select Sign Type	-	Species Type	
Species Type		Carnivore	e.
Species Type		Species	
		Tiger	٣
Species		Age of Tracks and Signs	
	*	Very Fresh	e i
Mangrove Type		Mangrove Type	
Select Mangrove Type	•	Medium	٣
Bank Type		Bank Type	
Select Bank Type	•	Medium	٣
Remarks		Remarks	
Enter Any Remarks Here		Enter Any Remarks Here	
SAVE DETAILS		SAVE DETAILS	

* Select sign type, species type, species and age of tracks and signs from the dropdown list. Also fill the mangrove parameter from the dropdown list. Photographs and remarks are optional.

Please click on the "Save Details" after filling all the details.

• **Habitat Parameter:** To quantify the habitat parameter and level of human disturbance, please record observations in the habitat plot (10m radius half-circular plot) as per the existing protocol by selecting "Habitat Form'.



After selecting "Habitat Form", following page will appear where you have to record observations of tree, shrub/ sedge species and human disturbance along with other parameters.



* Select tree species icon to record tree species available in the plot. Please type vernacular/ scientific names of the trees to search and find particular species and record the number of the species available in the plot. Save the form once you have recorded all the tree species available in the plot.

	T	ee Species		Tree Species
	Species 1	Species number	Species 1	Species number
	gm 🗧		Keora	12
Yr 57 🐨	gmelina arborea	Species number	Species 2	Species number
	Tree Species		Hental	10
TREE SPECIES HUMAN DISTURBANCE SHRUB/WEDGE SPECIES	Species 3	Species number	Species 3	Species number
Plot ends at bank	Tree Species		Tree Species	
Ves O No	Species 4	Species number	Species 4	Species number
	Tree Species		Tree Species	
Density of tree line	Species 5	Species number	Species 5	Species number
Select Tree Line Density	Tree Species		Tree Species	
-	Species 6	Species number	Species 6	Species number
Perpendicular distance of vegetation from observer	Tree Species		Tree Species	
	Species 7	Species number	Species 7	Species number
Mangrove Type	Tree Species		Tree Species	
Select Mangrove Type	Species 8	Species number	Species 8	Species number
Density of Venetation	Tree Species		Tree Species	
Select Vegetation	Species 9	Species number	Species 9	Species number
Select vegetation bensity	GM am ak	hm fm VM 🗸	Tree Species	
Percentage of barren ground in plot	1 0 0 1		Species 10	Species number
	1 2 3 4 3	567890	Tree Species	
	awer	tyuion	SAVE	CANCEL
_	9 11 0 1	() d O p	MAN AND A	
	as df	ghjkl		
Take photo	T Z X C	v p n m 🛯		
SAVE DETAILS	?123 🔍 🌐			

* Please remember that smart search function is available in English only. If you are using any regional language keyboard, please change it to English keyboard while using the application.

* Once you have saved "Tree Species", please select "Human Disturbance" form to record human disturbance parameters in the plot and save the form after recording your observations.

* Please remember to record number of tourist boat, fishing boat, fishing net and pole even if these are falling outside of the 10-meter half-circular plot.

	Н	UMAN DISTUR	BANCE DETAI	LS
	Number of Wood/P	alm Cutting		
39 39 WW	4	lalm Lanning		
	Number of Wood/P	aim Lopping		
TREE SPECIES HUMAN DISTURBANCE SHRUB/WEDGE SPECIES	5	1000		
Plot and at bank	Number of Tourist I	Boat		
	1	2 N		
Ves No	Number of Fishing	Boat		
Density of tree line	1			
Select Tree Line Density	Number of fishing r	net		
	1			
	Number of fishing p	pole		
Perpendicular distance of vegetation from observer	3			
Mangrove Type	SA	VE	CA	NGEL
Select Mangrove Type 👻				
Density of Vegetation				
Select Vegetation Density 👻				
Percentage of barren ground in plot	4	0	0	
	1	2	3	-
	4	5	6	_
		5	5	
	7	8	9	×
Take photo	/	0	,	
SAVE DETAILS	,	0		

* After recording human disturbance parameters, please select "Shrub/ Sedge Species" and fill the percent coverage of shrub/ sedge species in the plot and save the form.

		Species 1
		Dhani_ghash
5-(Species 2
		Keora
ECIES MUMAN DISTURBANCE SHRUB/WEDGE SH	PECIES	Species 3
s at bank		Wedge Species
		Species 4
		Wedge Species
ee line		Species 5
ree Line Density	w	Wedge Species
		Species 6
ular distance of vegetation from observer		Wedge Species
		Species 7
		Wedge Species
Manarovo Typo		Species 8
i mangrove Type		Wedge Species
or vegetation		Species 9
ct Vegetation Density	*	Wedge Species
age of barren ground in plot		Species 10
		Wedge Species
		SAVE

*After recording these observations, please fill in the information on mangrove parameters and save the form.

* Ensure whether the mangrove forest ends at bank or not.

TREE SPECIES HUMAN DISTURBANCE SHRUB/WEDGE SPECIES Plot ends at bank <td< th=""><th>TREE SPECIES HUMAN DISTURBANCE SHRUB/WEDGE SPECIES Plot ends at bank Ves O No</th></td<>	TREE SPECIES HUMAN DISTURBANCE SHRUB/WEDGE SPECIES Plot ends at bank Ves O No
Density of tree line	Density of tree line
High 👻	Select Tree Line Density
	or
Perpendicular distance of vegetation from observer	Perpendicular distance of vegetation from observer
	150
Mangrove Type	Mangrove Type
Small 👻	Small
Density of Vegetation	Density of Vegetation
Low	Low
Percentage of barren ground in plot	Percentage of barren ground in plot 60
Take photo	Take photo
SAVE DETAILS	SAVE DETAILS

* Once you have completed the survey, please save it from the map page option and Exit from the map page.



4. Edit/ Delete Record: To edit any record to delete any track, please click on "EDIT/ DELETE RECORD".

* You can edit only the observation made. Date, time and location of the observation cannot be edited.

* Caution: Data of the track once deleted cannot be retrieved.



- * Select the track you want to edit/ delete.
- * Please take a backup from the menu bar options once you have completed the survey.