

2017-2018

Mediterranean Monk Seal Conservation Program at Cap Blanc (Mauritania)



Plan Atlántico
FOCA MONJE



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1. Introduction

CBD-Habitat Foundation, as the subvention beneficiary, presents to Parques Reunidos the 2017&2018 report of the Mediterranean Monk Seal Conservation Program at Cabo Blanco peninsula (Morocco-Mauritania).

Project aims by main action fields:

1. **Surveillance and control of the “Costa de las Focas” Marine-terrestrial Reserve.** To reduce infractions inside the reserve, assuring quietness to the Mediterranean monk seal colony that lives in it.
2. **Monitoring and control of the Monk Seal population.** To observe the trend of the species, to evaluate possible threats, to react against danger situations and to obtain biological information.

Specific objectives

1. To detect any direct or indirect threat to the monk seal colony.
2. To improve and keep the surveillance inside the reserve.

Actions

1. Control and surveillance of the marine-terrestrial protected area.
2. Monitoring of the breeding caves.
3. Coast surveys.

2. Summary

Over 360 Mediterranean monk seals inhabit the “Costa de las Focas” reserve. This is around the 45-50% of the total population for the species. In this 2017 and 2018 and thanks to Parques Reunidos funding, the Mediterranean monk seal program was able to keep the needed tranquility at the reserve for the seals to haul out and breed at the inside beaches of the three protected caves.

The reserve was surveilled on a daily basis, making sure no infraction was committed. The surveillance of the marine area of the reserve was daily performed from land.

Focusing on the species, in 2017 and 2018, 142 pups were born. The survival pups rate was of 54.93 for 2017 y 60.56% for 2018.

The total estimated Cabo Blanco population is of around 360 individuals plus pups of the year. The number of animals found dead in 2017 and 2018 was 48.

The progress towards an improvement of the conservation status of the species is clear. Thanks to all the conservation measures on the area, the number of animals of the colony is increasing.

3. Control and surveillance of the marine and terrestrial reserve “Costa de las Focas”

Introduction

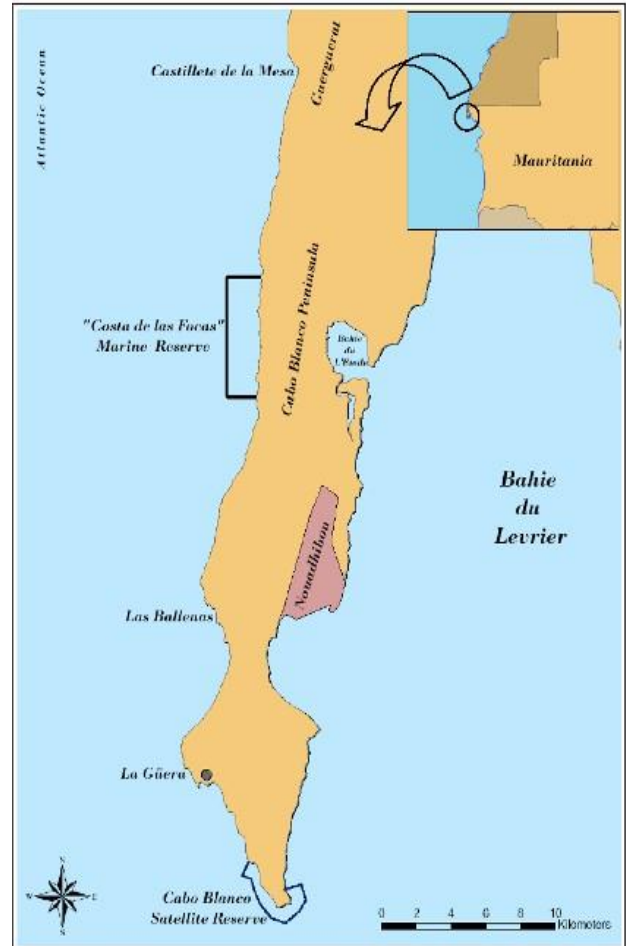
The reserve “Costa de las Focas” created in 2001 to protect the last large colony of Mediterranean monk seals, is located at the Cabo Blanco peninsula, on the West African coast.

The Reserve extends 6.2 km along the coast from the parallel 21°00,631' N to 21°04,00' N. It protects the largest Mediterranean monk seal colony of the world on one of the most productive fishing grounds of the planet, where international fishing fleets and an important number of local artisanal pirogues operate.

It is important to remember as well that the reserve is just 7 km. from the second largest city of Mauritania, Nouadhibou, in clear expansion. Although, the local people do not harm the seals directly, their constant presence at the coast and in the caves is an important source of disturbance for breeding or use of determinate open beaches or accessible caves.

The goals of “Costa de las Focas” Reserve are:

- To keep tranquillity to the colony of the Mediterranean monk seal.
- To prevent the setting of fishing gears in the marine protected area.
- To assure the survival of the largest Mediterranean monk seal colony of the world.



Cabo Blanco Peninsula

Methodology

The conservation agents take information of any infraction or disturbance detected at the inside limits of the reserve. Those infractions could be at land or sea, by day or night. That it is why there are three types of surveillance:

- Daily surveillance: Twice a day, the surveillance of the total coastal area of the reserve is performed to make sure there are no infractions at its inside.
- Night surveillance: Where industrial vessels are detected fishing closer than the legal limit of 12 nautical miles offshore.
- Monthly surveillance: to detect any signs or evidences of illegally activities (fishermen fishing from

the cliff-tops, goose barnacle collectors, etc.) done at night or in between observatories.

The information compiled from this surveillance work is sent to a data base which shows land and marine infractions, as well as any other notable event.



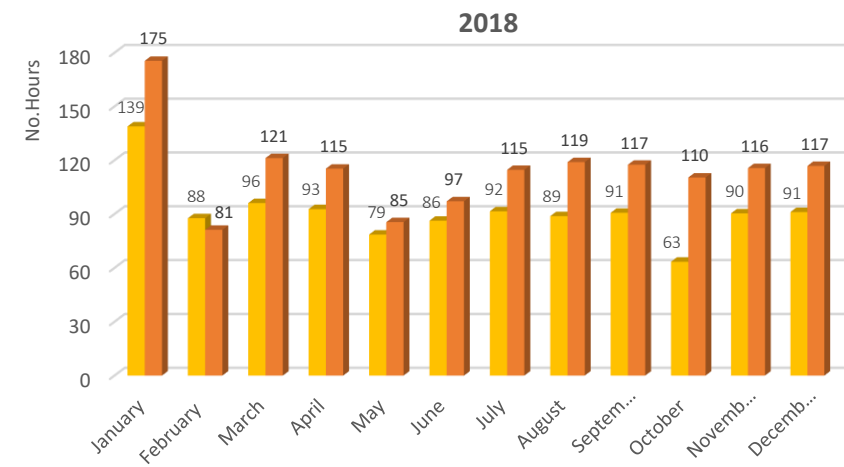
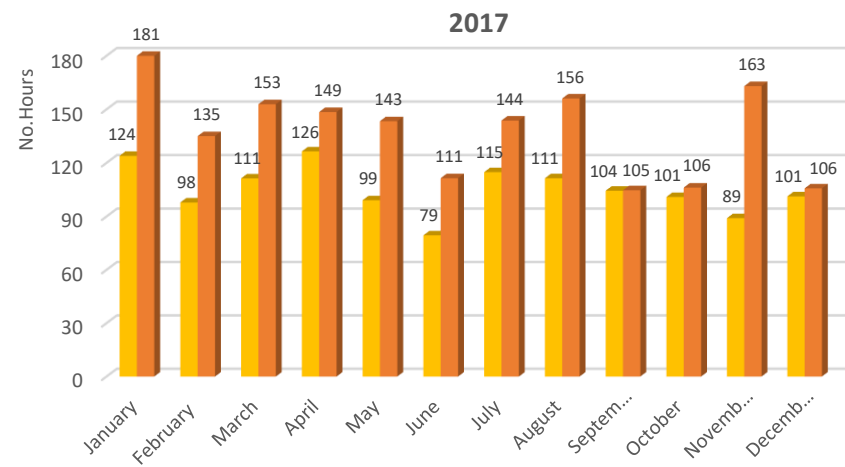
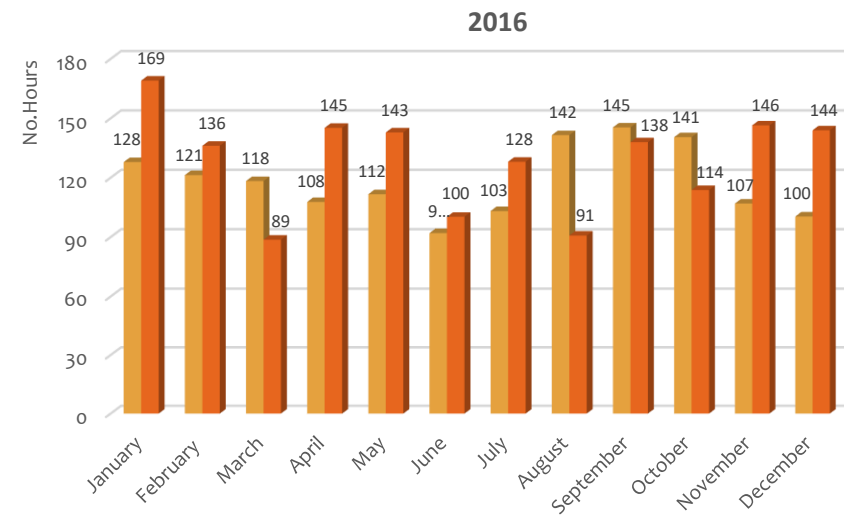
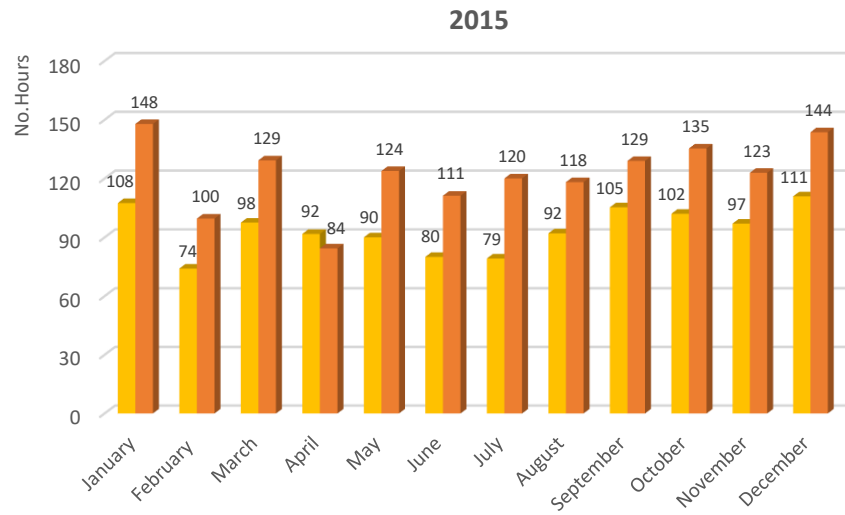
Results

Daily surveillance

The conservation agents survey the entire coastline of the reserve using the 14 different observatories created for that purpose on top of the cliffs. From those observatories, they take the information of any land or marine infraction they detect. The results showed on this report are from the data registered from January 2017 to December 2018. The data for 2015 and 2016 are included as a comparison.

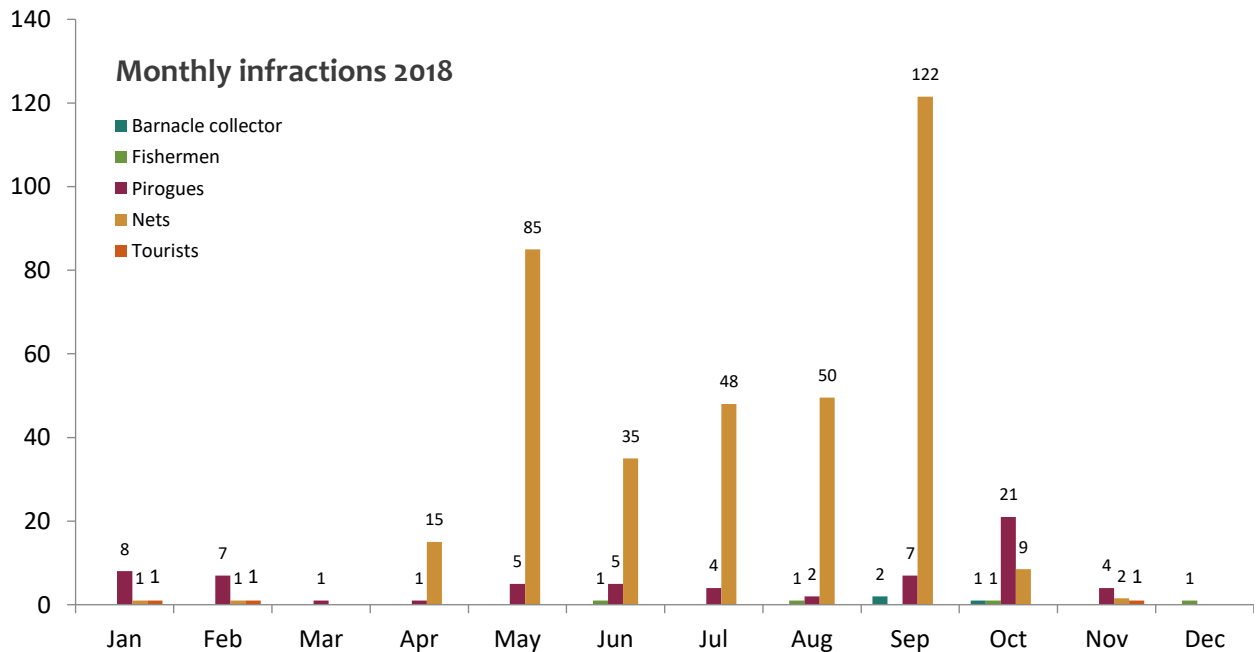
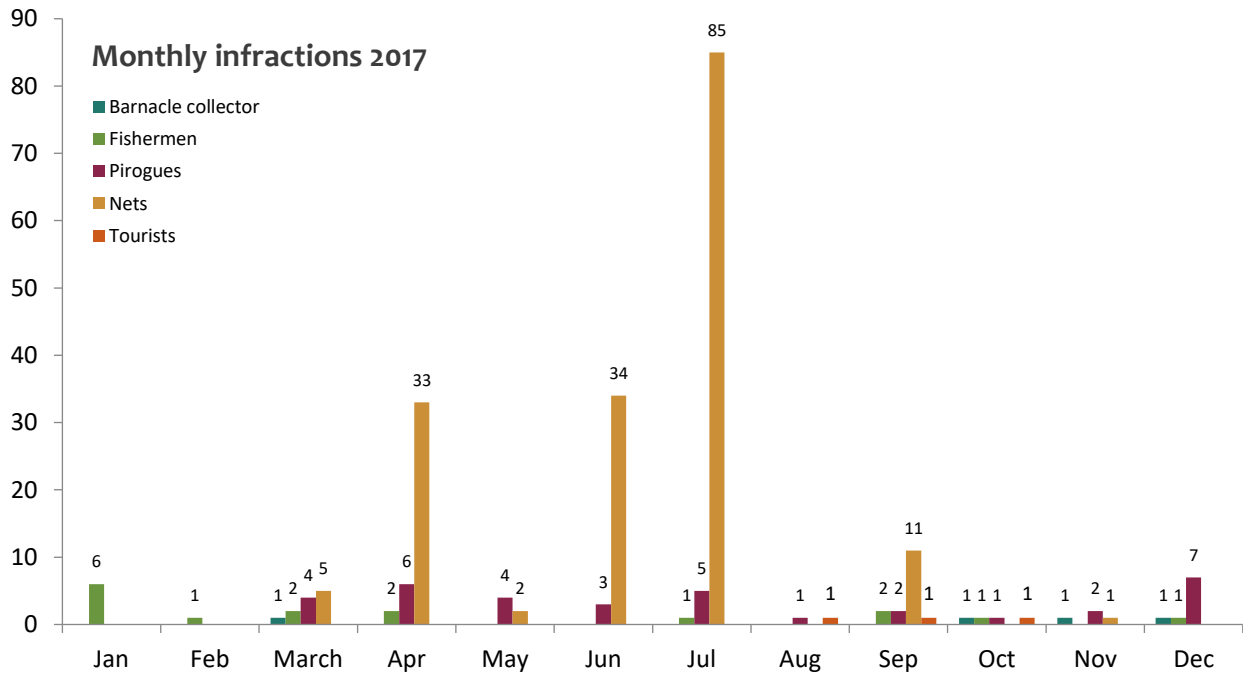
The total number of hours spent in reserve surveillance was **3047 in 2017, and 2570 in 2018**. The decrease in hours in 2018 is due to a lower number of hours in April and May due to Ramadan, and in October due to the capture operation.

Monthly surveillance time in observatories

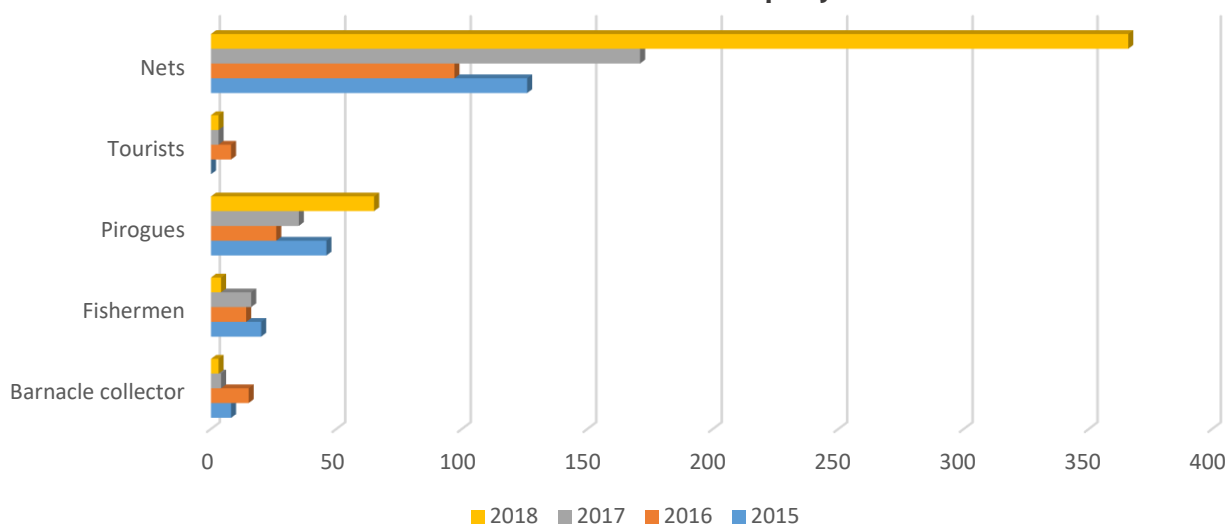


Offences inside the reserve

The surveillance of the marine area of the reserve was daily performed from land. Conservation agents on their daily patrols, or every time they observed from the cliffs a pirogue fishing within the limits of the reserve, would inform the local coordinator who would go to the harbor to denounce the situation to local authorities and to make clear that the area is under surveillance. Land surveillance eliminated the negative impact the lack of marine surveillances implied. The work performed by land, was reinforced by taking pictures of the offences detected in the reserve.

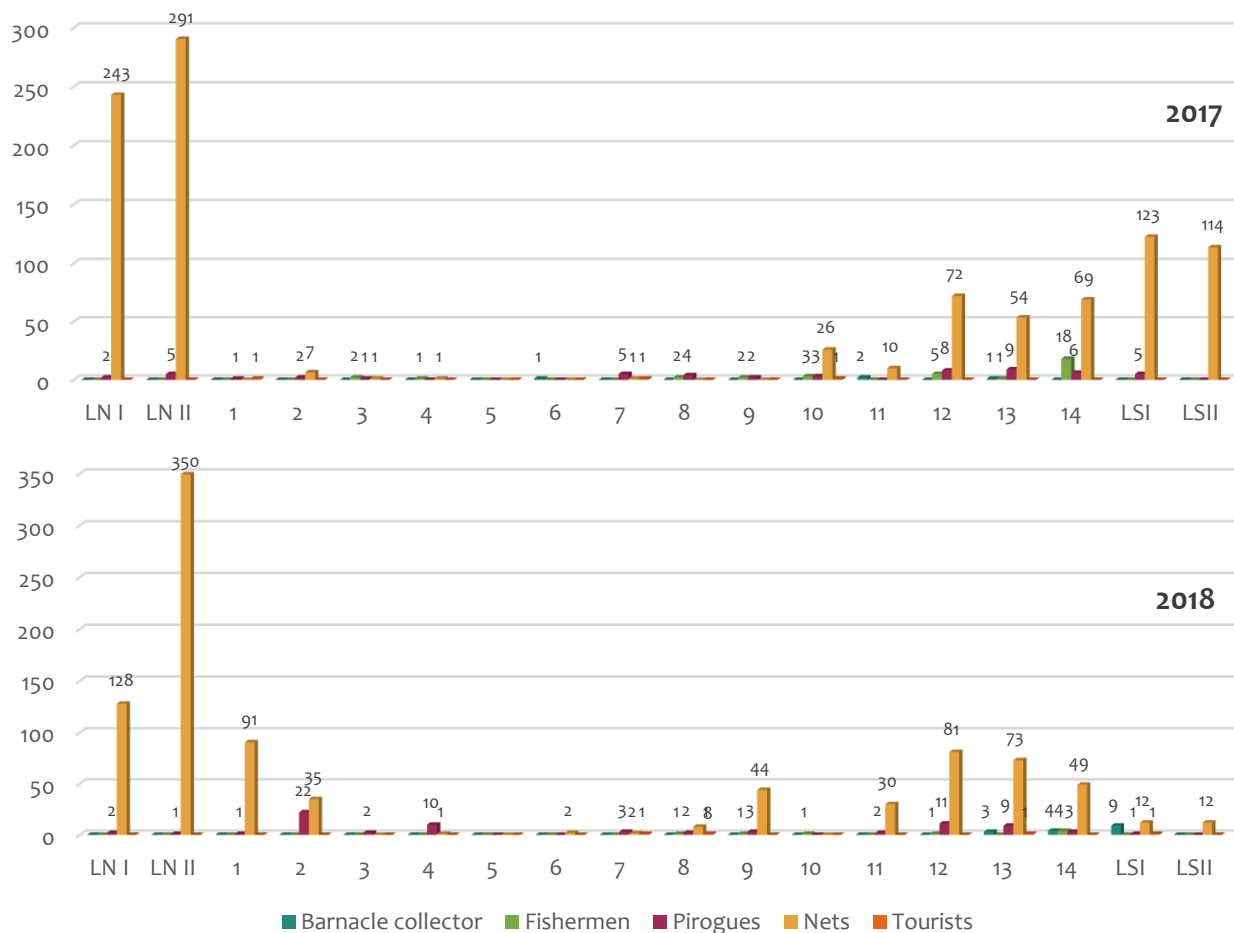


Infractions. Evolution per year



The number of nets and pirogues seem to increase during 2018, due to the count of purse seiner pirogues working during certain periods at the Coast of the seals area (see photographic annex). Therefore, the gillnets for lobsters, and the purse seiners are mixed in the graph, although the danger they mean for the seals is completely different for both. Due to this fact, in 2019, in the PDAs used by the conservation agents, the threat will be separated into lobster gillnets and purse seiners.

Comparative infractions by observatory: (noted than observatories LNI, LNII, LSI y LSII are located outside of the reserve, and are surveyed just for detecting the fishing effort at the reserve limits)

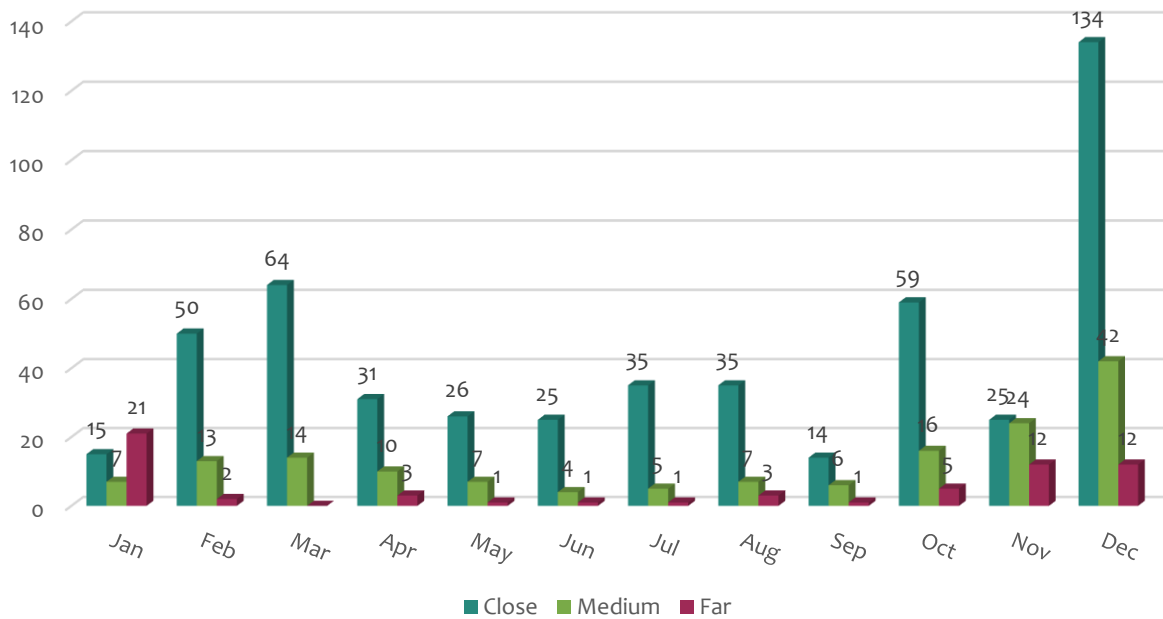


Night surveillance

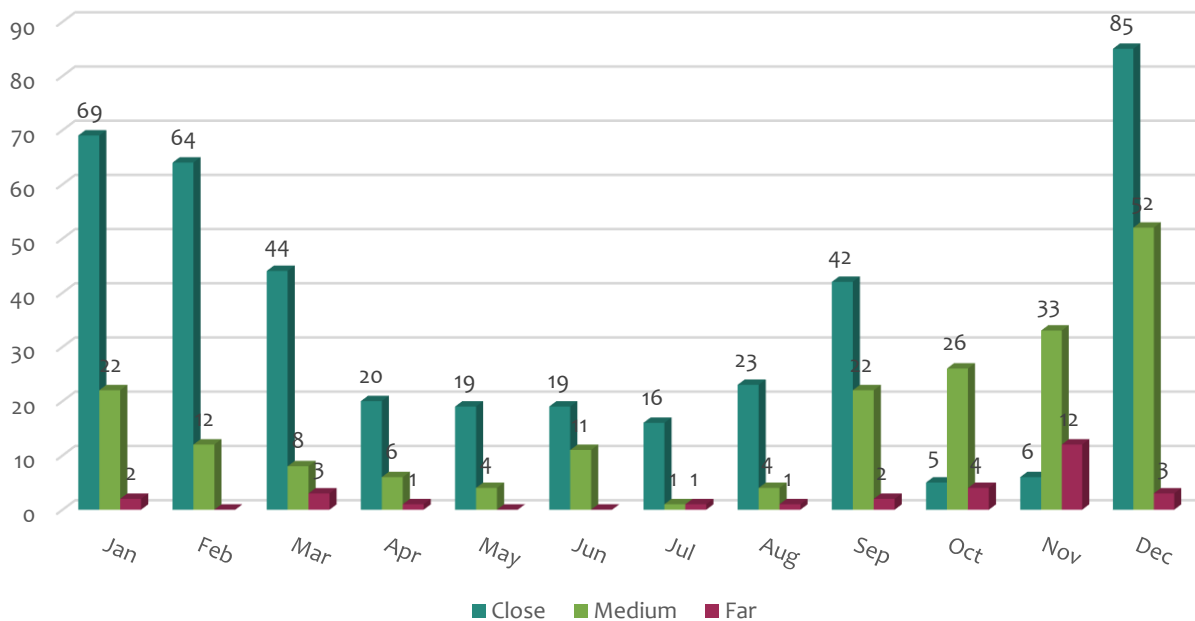
Industrial fishing is still a very serious threat to the Cabo Blanco monk seal population due to the high interaction rate that some industrial fishing gears may have (for example, pelagic trawling).

Many ships have been sighted fishing at a much closer distance than the 12 miles legally allowed. The Moroccan fishing authorities are constantly warned of the fact and asked to intensify the surveillance of the area.

Industrial vessels 2017



Industrial vessels 2018



4. Monitoring of the Monk Seal population

The non-invasive monitoring system of the monk seal colony is performed daily, preventing any type of disturbance on the seals' breeding and resting areas, while permitting:

- Seal counts inside the caves to define their habitat use and their population numbers.
- Define the number of pups born as well as the rates and causes of their mortality.
- Monitoring of adult females and the definition of the population's breeding cycle.
- Individual identification of the members of the colony.
- Detection of any threat or catastrophe that could affect the breeding colony.
- Detection of dead, sick or injured seals.

Methodology

The inside of the breeding caves and vicinities are monitored using three complementary methods:

Direct observation using closed-circuit cameras installed in the main breeding caves: the use of TV cameras is a highly efficient monitoring method which minimizes any potential disturbance caused by the physical presence of a person. This method facilitates the detection of births, monitoring of mother-pup couples, breeding behavior and the identification of individuals of each category, particularly adult males.

Pups are monitored individually without having to tag the individuals thanks to the exclusive unique design of the ventral patch of each pup until its first molt, at around 2 months of age. This ventral patch design enables us to individually identify them and also to sex them. A file is opened for each pup to record details about its growth patterns.

Monitoring of the breeding caves is performed on a daily basis, allowing an assessment of the colony's productivity as well as the neonatal mortality. It also permits the detection of pre-birth behavior, female gestation, adoption phenomenon and stealing of pups between different reproductive females, all of which is of great help to estimate the undetected productivity of the females who may have lost their pups.

Direct observation by researchers who are suspended at the cave entrances using climbing techniques (Guíndola" or suspended chair: This monitoring method is used as little as possible as in some cases it may be somewhat disturbing for the seals. It is therefore only used when the TV cameras cannot be used for monitoring due to rough sea conditions, and in cave 7 when its camera is not working (the camera of this cave is only used at the main breeding season months because the entrance of the cave is very low and waves could destroy the camera in fall and winter.

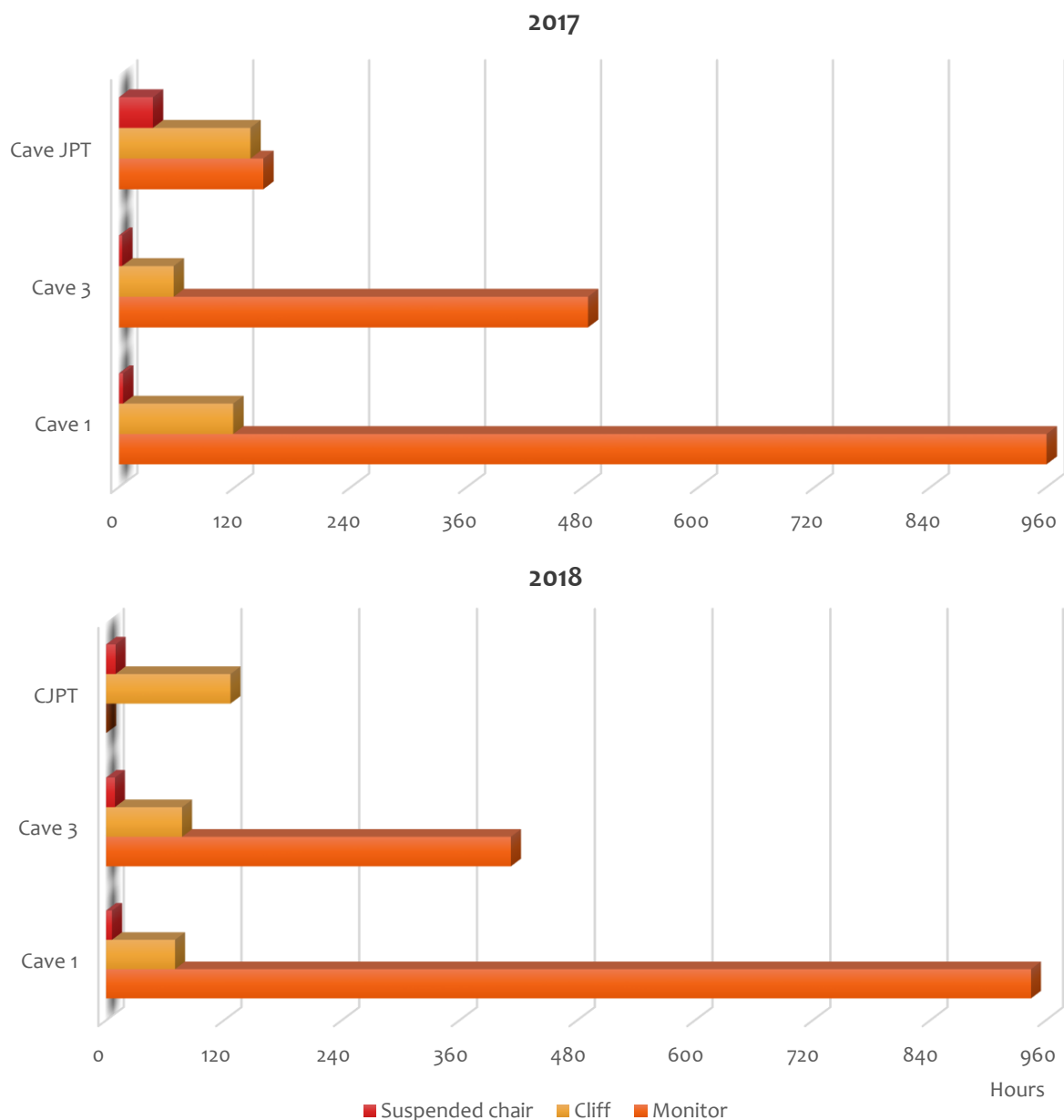
Observation from the cliff: the cliff offers the possibility of making controls and counts of the population. This is the third method used.

Results

Monitoring effort performed at the breeding caves

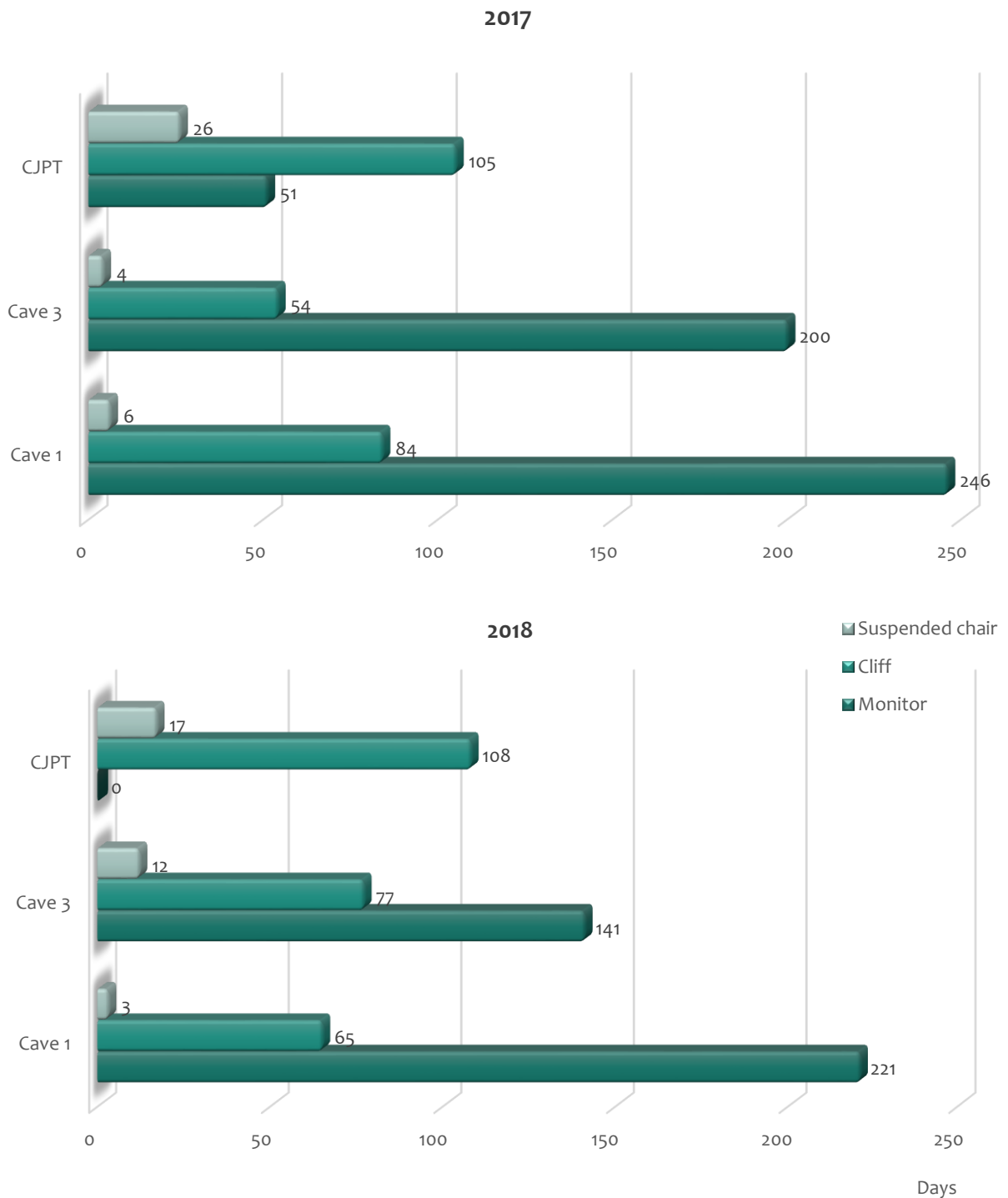
If it is considered the effort of surveillance per hours, cave 1 was the one with more monitoring time. This is due to the fact that most of the pups were born inside that cave. On June 2017, the surveillance system of cave 1 was changed for another of higher quality. Now the information is in 4K, improving not only the monitoring of the animals that haul there but the possibilities of outreach. Also, by the end of June, the camera of Cave JPT was installed (this camera only works the main months of the breeding season because the entrance of this cave is very close to the sea surface and the system can suffer the rest of the year due to bad sea conditions), it worked until the end of September 2017. In that same month, a new 4K camera system was installed as well in cave 3. During 2018 the interior of the caves was controlled by camera in caves 1 and 3.

Monitoring per methods in hours



But if instead of considering the effort by hours we do it by days, we can conclude that all areas were well monitored, but less hours of effort were required in cave 3 due to the reduce number of pups born there.

Monitoring per methods in days



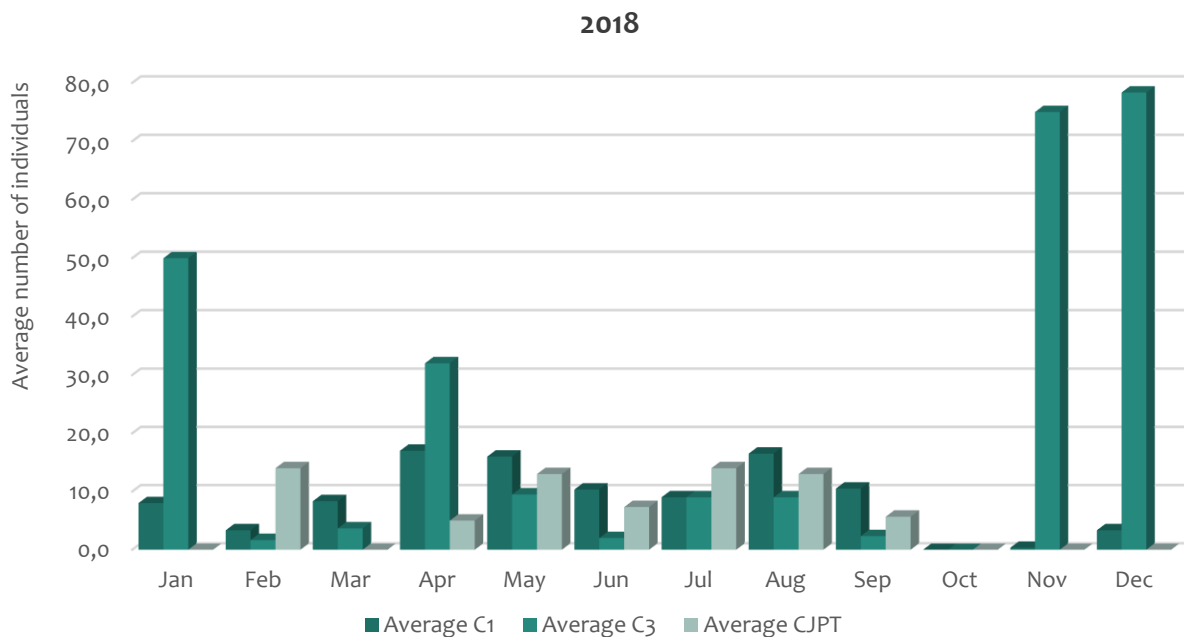
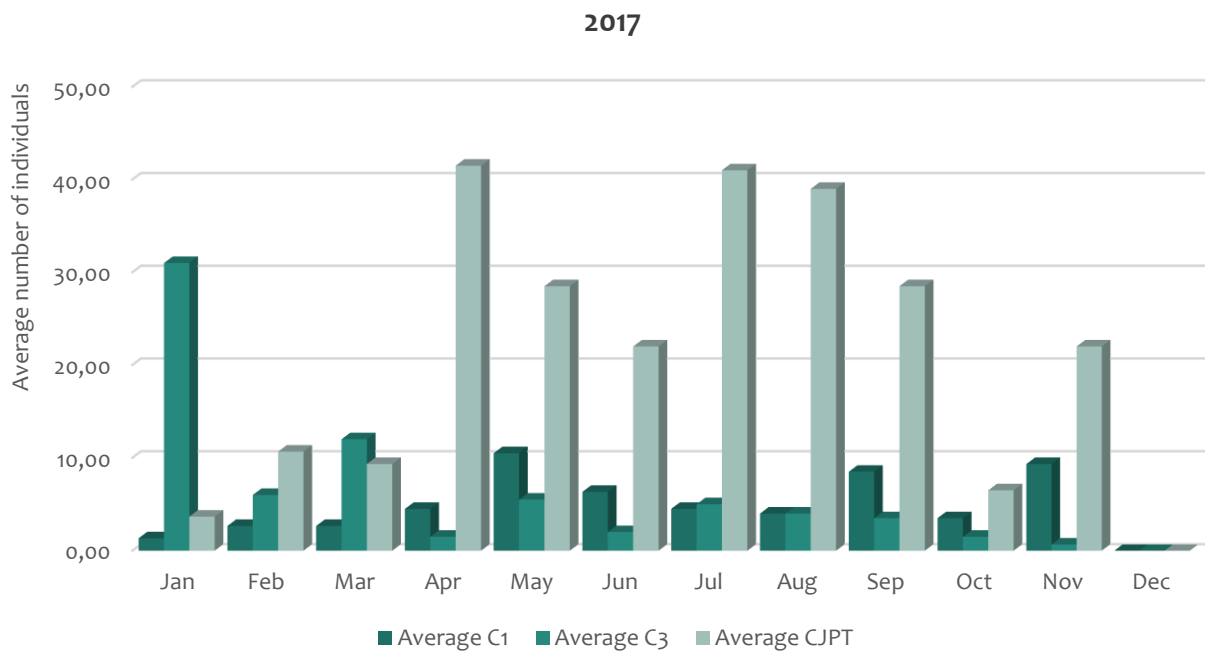
The monthly surveillance is variable throughout the year. This variation is in function of the occupancy of the places by the seals, the performance of other activities not related to monitoring by technicians, and of the sea conditions.

Seal counts in breeding caves at low tide

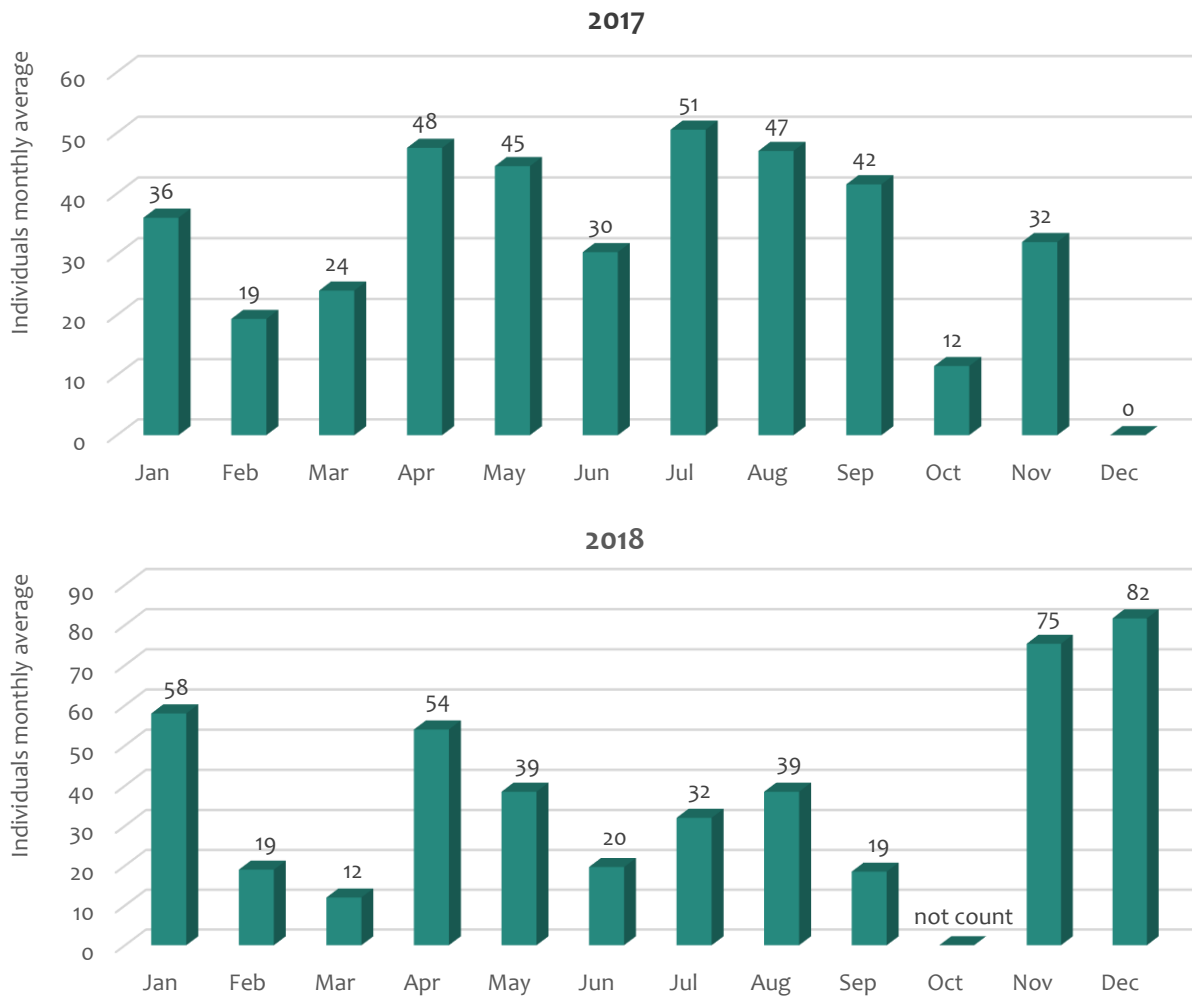
On 2017 a total of 27 counts at low tide were conducted in each breeding cave, resulting in an average of 2 counts per month with a minimum of 2 and a maximum of 3. During 2018, a total of 25 counts at low tide were conducted in each breeding cave, resulting in an average of 2 counts per month

Beaches close to the breeding caves were added to the counts at low tide. At the counts, pups and juveniles are not taken into account. Most animals use cave 3 and cave JPT to haul out. In December 2017 bad weather and sea conditions impeded the performance of this action.

Average of animals detected at low tide inside the breeding caves

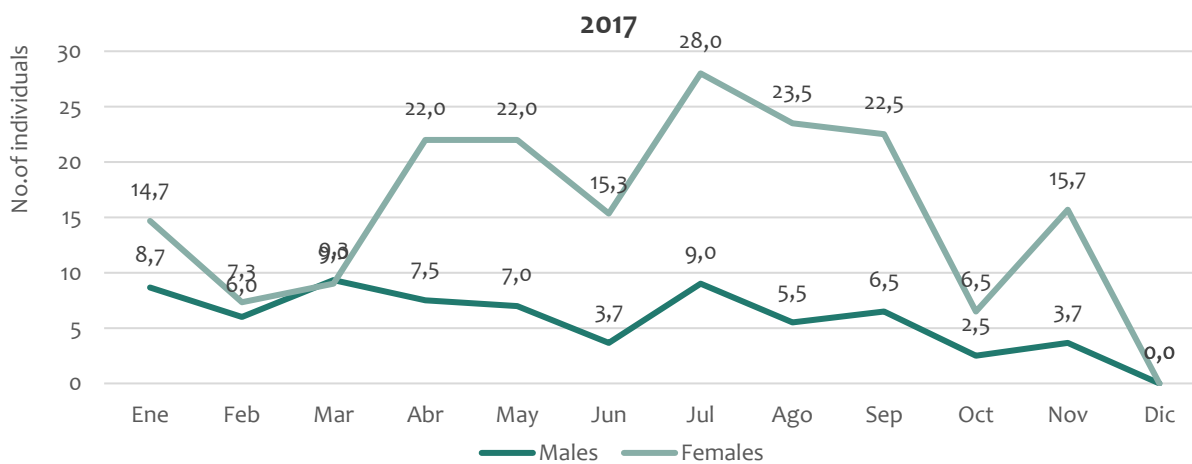


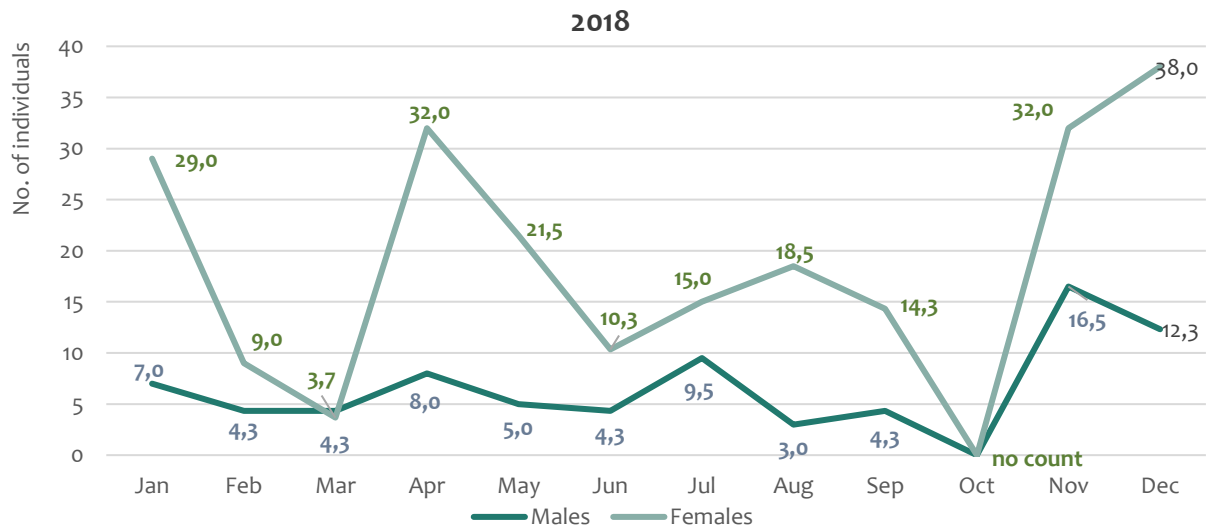
Monthly distribution of individuals (without pups)



The monthly average distribution of the results obtained from the counts at the three caves and the beaches of their surroundings at low tide indicates, in average, a regular use of them all year around. Nevertheless, we have to take into account that the visibility of the inner beach of Jean Paul Taris cave is very partial, so when the animals are occupying this cave, most of them are not visible, which affects the results of the counts.

Monthly distribution of adult males and females inside the breeding caves



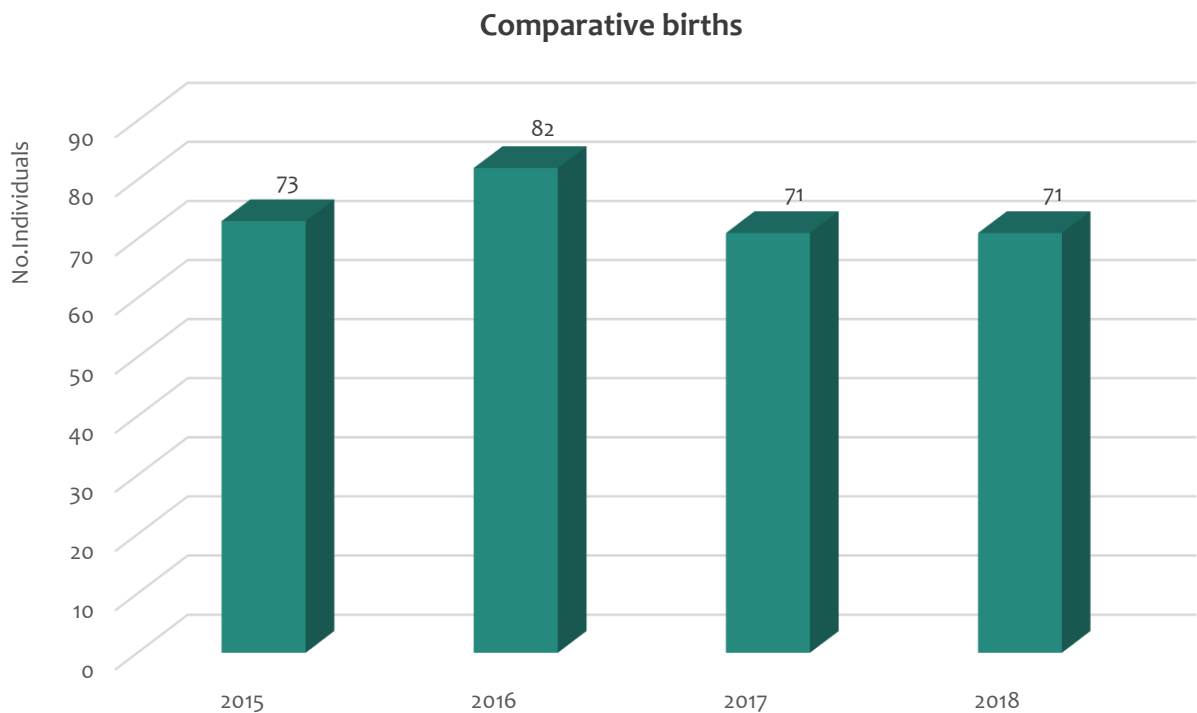


Productivity

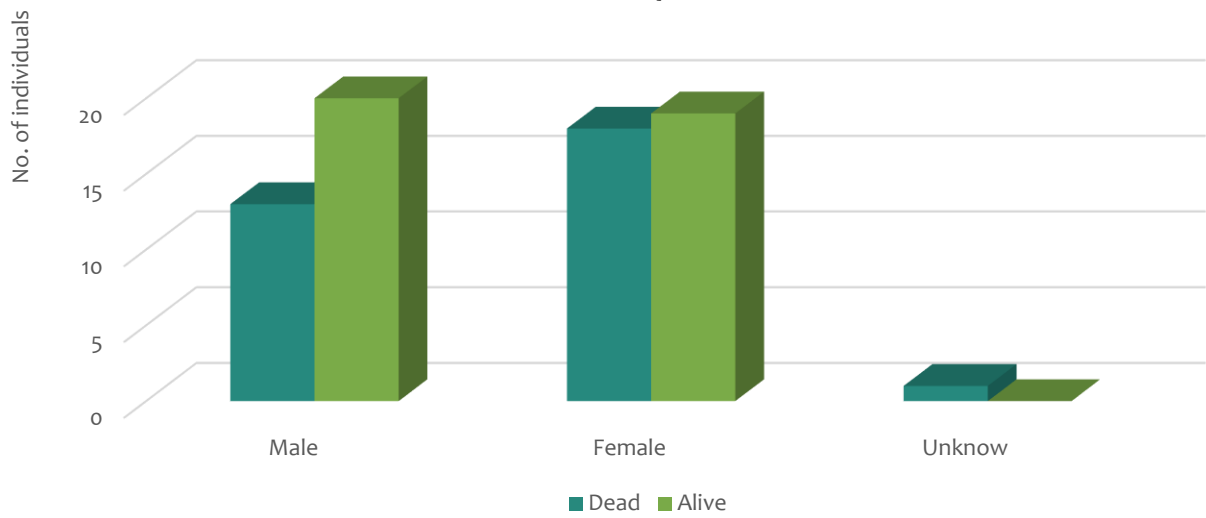
On 2017, the number of births was 71. This year the first pup was born on March. 48 pups were born inside cave 1; 15 in cave 3; 2 in cave JPT and the rest were found dead on the nearby beaches (6). 37 of them are females and 33 males, 1 was of unknown gender. Of those, 40 survived to first moult and 31 died before reaching two months of age (Neonatal mortality rate 44%).

In total 71 pups were born between January and December. Of those pups, 29 were males and 39 were females, the rest (3) were of unknown sex (meaning that we detected their birth but we were not able to determine their gender before disappearing).

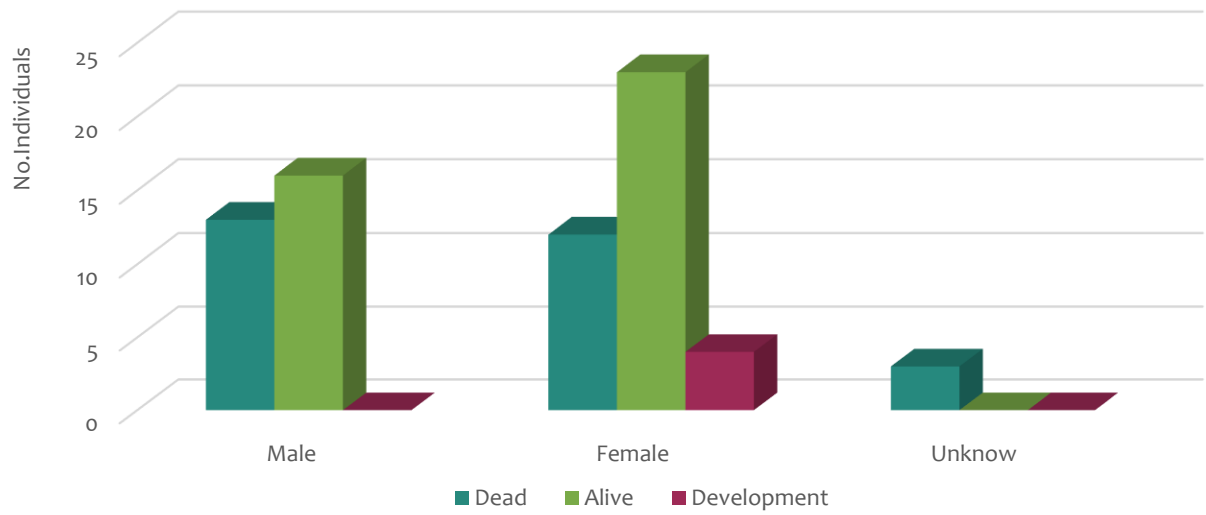
If compare the number of births in the last four years, the trend is stable and no appreciable deviations are observed:



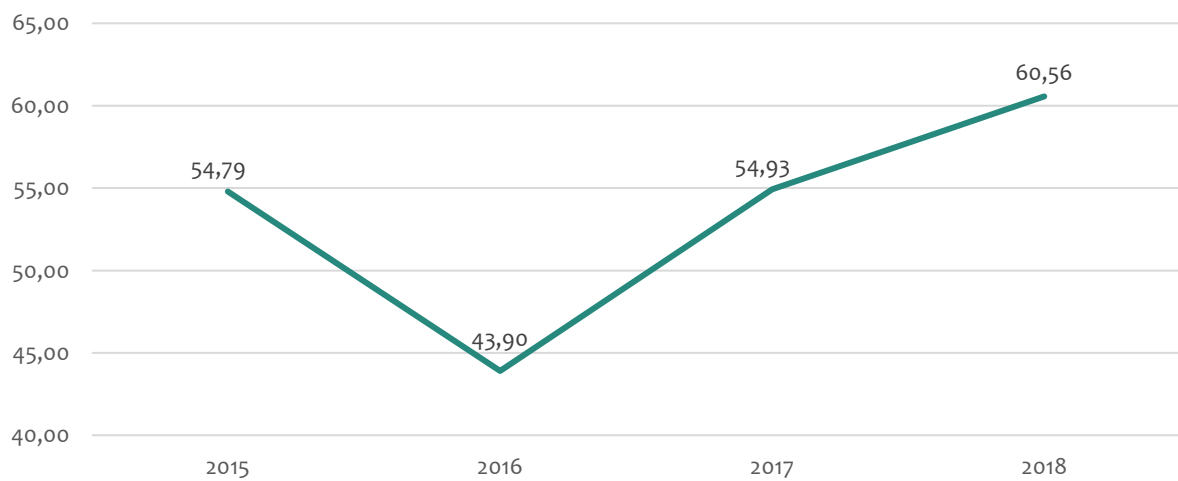
Pups dead and alive per gender
2017



2018



Survival rate (%)



5. Coastline inspections

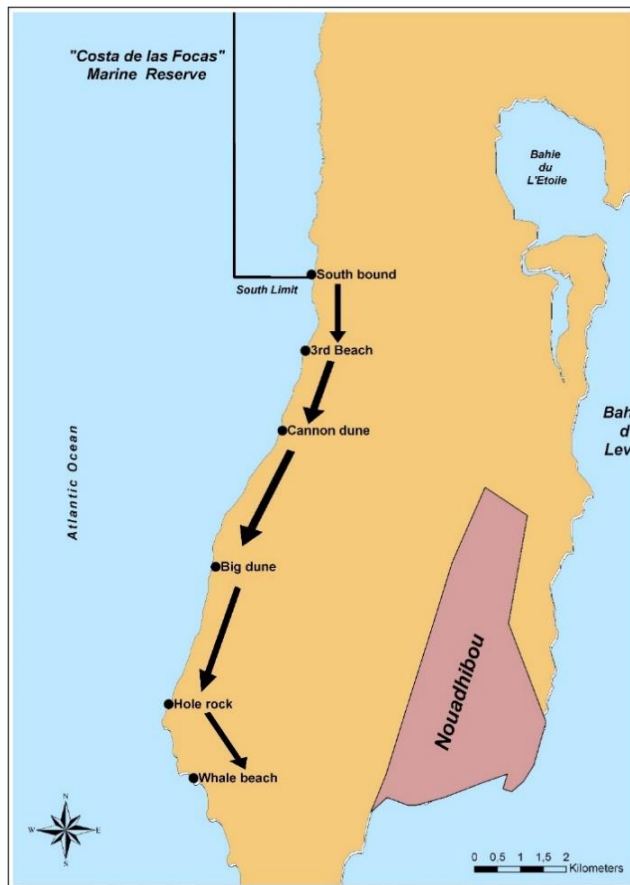
Introduction

Coastline inspections permit the assessment of mortality associated with the colony using counts of corpses stranded on the beaches south of the breeding caves.

The Cabo Blanco Peninsula beaches south of the reserve are frequently surveyed to detect new carcasses. Sometimes, pups that are still alive are also found, these animals are rescued, rehabilitated and returned to their habitat. During the period the project lasted, no pups alive were found at those coast inspections.

The coastline south of the colony has been divided into sections between identifiable points on the shore. Therefore, a total of 13 km of the coast were fragmented into five sections that are inspected by a quad on an average of one per week.

Sections in which the coastline inspection is divided



South land surveillance

The sections are classified as follows (abbreviation in Spanish):

L.S - 3ªPI:

from the Southern Boundary to the Third Beach.

3ªPI - D.C:

from the Third Beach to the Cannon Dune.

D.C - D.B:

from the Cannon Dune to the Big Dune.

D.B - R.A:

from the Big Dune to Hole Rock.

R.A - L.B:

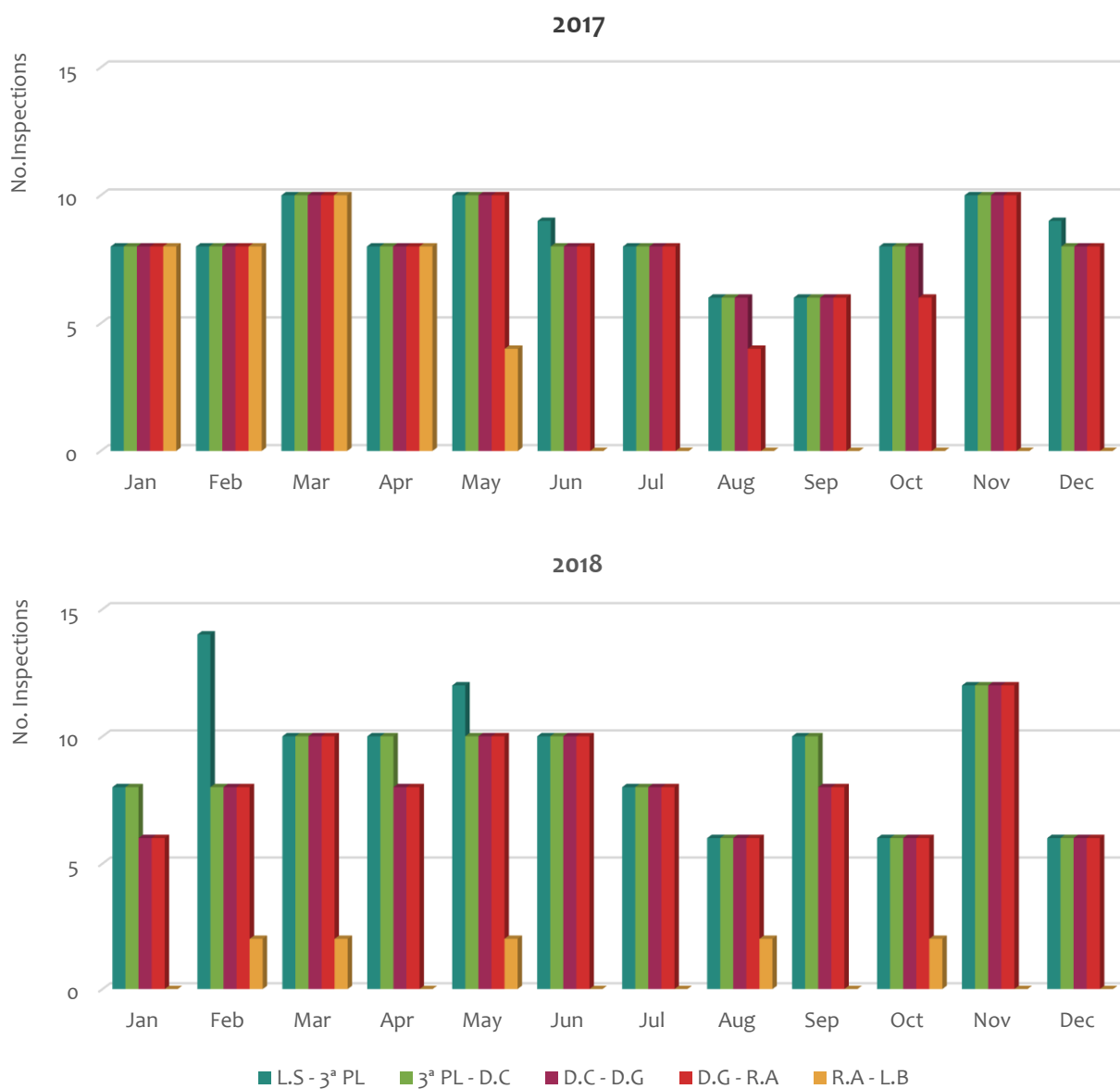
from Hole Rock to Whale Beach.

Results

In the period of the report a total of 850 coastline inspections were conducted south of the “Costa de las Focas” Reserve.

	2017	2018
L.S - 3ª PL	100	112
3ª PL - D.C	98	104
D.C - D.B	98	98
D.B - R.A	94	98
R.A - L.B	38	10
TOTAL	428	422

The inspections have been carried out throughout the year, as shown in the following graph:

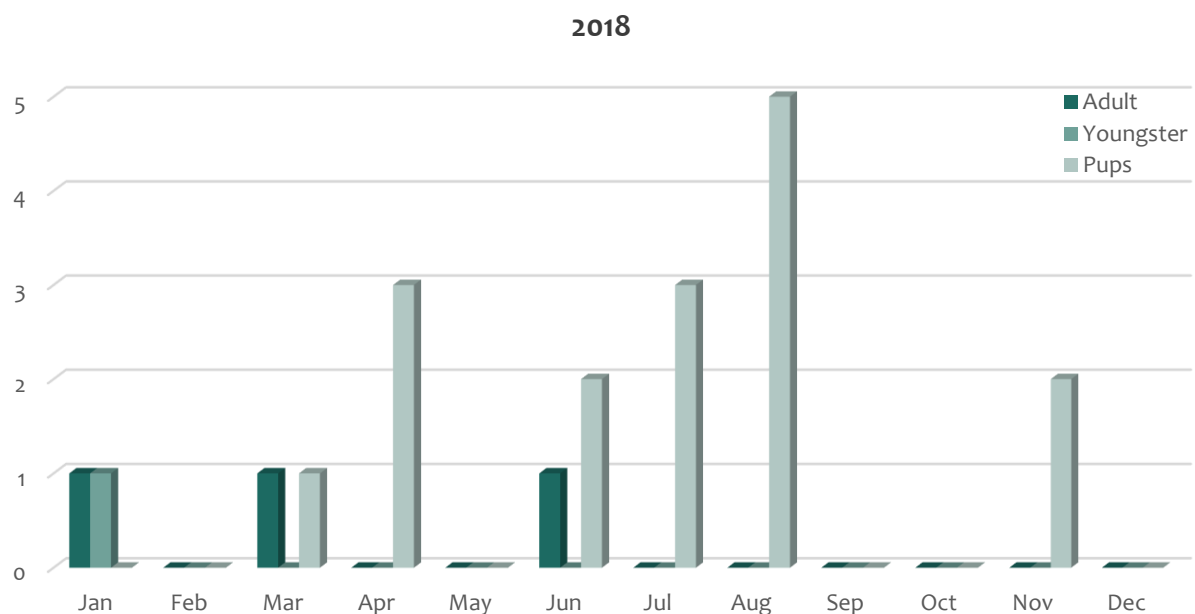
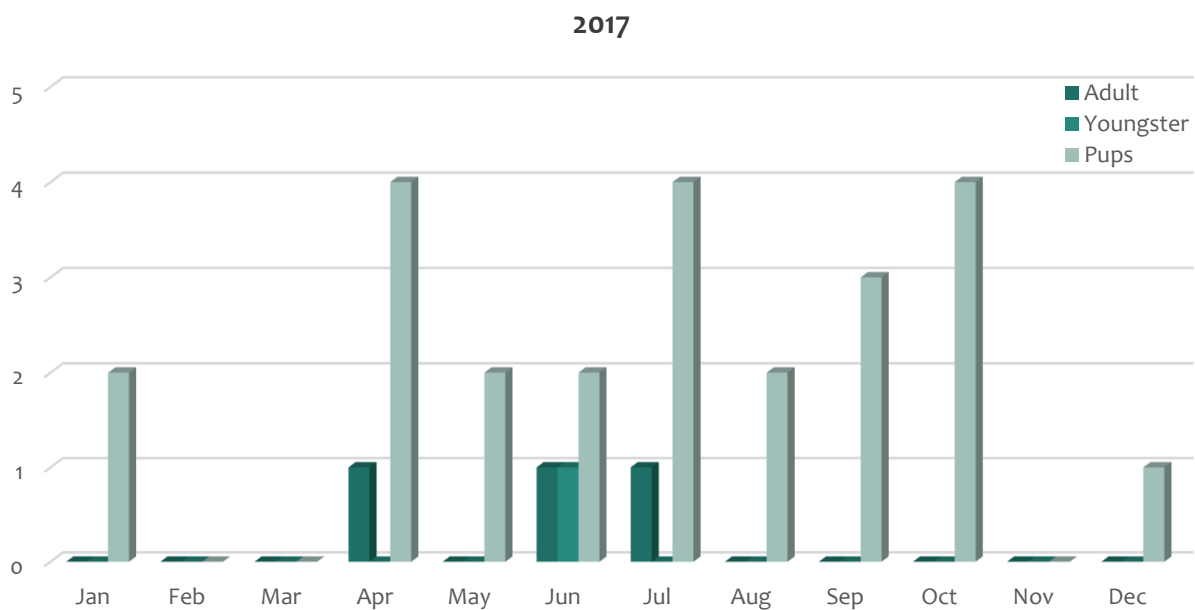


On 2017, 28 animals were found dead of which 3 were adult females. The rest were 1 juvenile, 4 youngsters and 20 pups. During 2018, 20 carcasses were discovered, 6 of them were adults (1 male, 2 females, 1 subadult, 2 youngs). The other ones were pups (14) less than 2 months old.

The following necropsy and study of the external conditions of the bodies found, didn't show in any, any sign that could relate their deaths to fisheries. Those deaths were determined to be due to local environmental or biological factors.

The constant presence of the technicians at beaches south of the reserve, and the number of carcasses found on the inspections performed, indicate the fitness of the colony, because the number of animals found dead on these inspections is the expected for the actual population numbers and births.

Corpses according to age category



Date	Place(GPS)				Age category	Gender	Identity
	Carcasse		Tomb				
	N	W	N	W			
02/01/2017	20.87701°	17.05688°	20.87679°	17.05684°	JC	F	Unk
23/01/2017	Inside	C3	Inside	C3	JC	Unk	Unk
07/04/2017	20.98956°	17.06765°	20.98963°	17.06769°	Cacc	M	P 964
24/04/2017	Inside	C1	Inside	C1	CNG	F	P 963
25/04/2017	Inside	C1	Inside	C1	JC/J	M	P 901
27/04/2017	20.97761°	17.07194°	20.97741°	17.07185°	GG	F	2157
27/04/2017	20.97761°	17.07194°	20.97741°	17.07185°	Feto	F	P 966
24/05/2017	C1	C1	Campamento	Base	Ca	F	P 982
29/05/2017	21.01426°	17.06346°	21.01425°	17.06336°	CNP	F	P 978
02/06/2017	20.97223°	17.07599°	20.97219°	17.07596°	J	F	Unk
07/06/2017	Beach	Luis	Beach	Luis	Ca cc mb	M	P 985
10/06/2017	21.02082°	17.06432°	21.02080°	17.06417°	MG-GG	F	2423
20/06/2017	Unk	Unk	Unk	Unk	Ca cc ma	M	P 987
17/07/2017	21.02221°	17.06376°	21.02250°	17.06347°	GG	F	Unk
18/07/2017	2.101.744	1.706.426	2.101.750	17.06.417	CNP	M	P996
05/07/2017	Unk	Unk	Unk	Unk	Ca cc mb	F	P990
18/07/2017	Unk	Unk	Unk	Unk	CM-JC	M	P968
24/07/2017	Unk	Unk	Unk	Unk	Pup	Unk	P1001
21/08/2017	20.97387°	17.07467°	20.97385°	17.07459°	CN	M	Unk
31/08/2017	Inside	C1	Inside	C1	Ca cc	F	P 1009
11/09/2017	Inside	C1	Inside	C1	Ca	M	P1017
27/09/2017	21.024127°	17.061867°	21.021132°	17.061870°	Ca	M	P1023
27/09/2017	21.024118°	17.061859°	21024118°	17.061857°	CN	M	P 1002
10/10/2017	20.97387°	17.07462°	20.97381°	17.07460°	Ca cc	F	P 1026
08/10/2017	20.99483°	17.06630°	20.99487°	17.06628°	CN	F	P 1027
14/10/2017	Inside	C3	Inside	C3	Pup	Unk	Unk
19/10/2017	Inside	C3	Inside	C3	Pup	Unk	Unk
04/12/2017	20.999112°	17.064249°	20.999119°	17.064252°	JC/J	F	Unk
10/01/2018	20.97942°	17.07098°	20.97942°	17.07098°	Adult	F	Unk
12/03/2018	20.97464°	17.07397°	20.97461°	17.07392°	Adult	F	Unk
28/03/2018	21.04569°	17.06305°	20.98382°	17.06984°	Pup	F	P 1033
02/04/2018	Inside	C1	Inside	C1	Pup	Unk	P 1034
26/04/2018	20.97472°	17.07423°	20.97461°	17.07416°	Pup	M	P 1039
27/04/2018	20.98333°	17.07009°	20.98331°	17.07002°	Pup	M	P 1040
07/06/2018	21.04101°	17.06335°	21.04089°	17.06326°	Pup	M	P 1054
06/06/2018	Unk	Unk	Unk	Unk	Pup	M	P 1056
11/06/2018	21.02220°	17.06372°	21.02236°	17.06352°	Adult	M	Unk
11/07/2018	21°015048	017°06339	21°015156	017°07217	Pup	M	P 1066
10/07/2018	Unk	Unk	Unk	Unk	Pup	M	P 1067
26/07/2018	Unk	Unk	Unk	Unk	Pup	Unk	P 1072
06/08/2018	21.01426°	17.06346°	21.01425°	17.06336°	Pup	M	P 1072
06/08/2018	21.01242°	17.06338°	21.01249°	17.06335°	Pup	M	Unk
06/08/2018	21.01313°	17.06330°	21.01319°	17.06328°	Pup	F	Unk
27/08/2018	21.02726°	17.06353°	21.02728°	17.06349°	Pup	M	P 1081
30/08/2018	Inside	C1	Inside	C1	Pup	F	P 1085
03/09/2018	Unk	Unk	Unk	Unk	Pup	Unk	P1089
09/11/2018	19°32.774´	16°50.247´	19°35.820´	16°50.769´	Youngster	F	P 1060
16/11/2018	20.97447°	17.07404°	20.97441°	17.07399°	Youngster	F	P 1064



Annex I. Resophom network



OBSERVATEUR ET APPEL				LIEU D'OBSERVATION		INFORMATION PHOQUES							MENACE ET INTERVENTION		
Date	Heure	Nom du collaborateur	Numéro de téléphone	Localisation géographique	Lieu d'observation	N de phoques	Taille	Pelage	Présence de tache ventrale	Cicatrices ou marques	Comportement	Photos / vidéos	Type de menace	Type de menace2	Intervention de patrouille
22/02/17	17:46	Moh Abderhamn	46996819	Cábano	Dans l'eau	1	1,5-2	Gris	Non	Non	Nager	Non	Phoque sain	IV	Non
23/02/17	16:24	Sidahmed	27996295	Port Artisanal NDB et Cansado	Dans l'eau	1	>2	Gris	Non	Non	Nager	Non	Phoque sain	IV	Non
24/02/17	22:05	Brahim	41534305	Cabo Blanco	Dans l'eau	30	1,5-2	Noir	Non	Non	Nager	Non	Phoque sain	IV	Non
28/02/17	15:12	Alion	46691620	Port Artisanal NDB et Cansado	Dans l'eau	1	>2	Noir	Non	Non	Nager	Non	Phoque sain	IV	Non
08/03/17	18:23	Haidra	46562338	Cansado	Dans l'eau	1	1-1,5	Marron	Non	Non	Nager	Non	Phoque sain	IV	Non
09/03/17	16:19	El Hadrami	33418057	Barco de Vigo	Dans l'eau	2	1,5-2	Gris	Non	Non	Nager	Non	Phoque sain	IV	Non
12/03/17	8:05	Brahim	46958803	En face de Cabano 1	Dans l'eau	1	1,5-2	Gris	Non	Non	Nager	Non	Phoque sain	IV	Non
12/03/17	13:10	Ali	48420249	Entre CB et la Güera	Dans l'eau	1	1,5-2	Gris	Non	Non	Nager	Non	Phoque sain	IV	Non
14/03/17	18:25	Etourade	26367809	En face du Barco de Vigo	Dans l'eau	1	>2	Noir	Non	Non	Nager	Non	Phoque sain	IV	Non
15/03/17	15:34	Souleimanne	49837217	Port SNIM	Dans l'eau	2	1,5-2	Gris	Non	Non	Nager	Non	Phoque sain	IV	Non
15/03/17	12:20	Abdallahi	26883545	Près du phare Cansado	Dans l'eau	1	>2	Gris	Non	Non	Nager	Non	Phoque sain	IV	Non
15/03/17	9:26	Mohamed	27172464	Cabo Blanco	Dans l'eau	1	1,5-2	Noir	Non	Non	Nager	Non	Phoque sain	IV	Non

Date	Heure	Nom du collaborateur	Numéro de téléphone	Localisation géographique	Lieu d'observation	N de phoques	Taille	Pelage	Présence de tache ventrale	Cicatrices ou marques	Comportement	Photos / vidéos	Type de menace	Type de menace2	Intervention de patrouille
18/03/17	11:36	Sidati	31334188	Cabo Blanco	Dans l'eau	1	1,5-2	Noir	Non	Non	Nager	Non	Phoque sain	IV	Non
19/03/17	13:39	Mohamed	44226633	Cabo Blanco	Dans l'eau	1	1,5-2	Noir	Non	Non	Nager	Non	Phoque sain	IV	Non
19/03/17	9:42	Oumar	46993801	Près de la Güera	Dans l'eau	1	1,5-2	Noir	Non	Non	Nager	Photos et vidéos	Phoque sain	IV	Non
25/03/17	13:45	Samba	47029937	Cabo Blanco	Dans l'eau	1	>2	Gris	Non	Cicatrices	Nager	Non	Phoque sain	IV	Non
07/04/17	15:10	Brahim	46573301	Cansado	Dans l'eau	2	1,5-2	Gris	Non	Non	Nager	Non	Phoque sain	IV	Non
16/04/17	12:15	Mahjoub	36149637	Près du IMROP	Dans l'eau	1	1-1,5	Gris	Non	Non	Nager	Non	Phoque mort	III	Oui
19/04/17	10:20	Brahim	46379155	Usines russes	Dans l'eau	1	>2	Noir	Non	Non	Nager	Non	Phoque sain	IV	Non
13/05/17	13:10	Souleimanne	37219470	Au nord la Güera	Dans l'eau	2	1-1,5	Gris	Non	Non	Nager	Non	Phoque sain	IV	Non
21/05/17	9:25	Brahim	46379155	Près de la Puntia	Dans l'eau	1	>2	Noir	Non	Non	Nager	Non	Phoque sain	IV	Non
12/06/17	11:17	Diop el Hacen	44913782	Entre les deux ports miniers	Dans l'eau	2	>2	Gris	Non	Non	Nager		Phoque sain	IV	Non
23/06/17	14:10	Souleimanne	49837217	Au sud Cabo Blanco	Dans l'eau	1	1,5-2	Noir	Non	Non	Nager	Non	Phoque sain	IV	Non
26/07/17	9:40	Sar	44933470	Cabo Blanco	Dans l'eau	1	>2	Noir	Non	Cicatrices	Nager	Non	Phoque sain	IV	Non
23/09/17	15:30	El Mamy	36744852	Entre les deux ports miniers	Dans l'eau	1	1-1,5	Gris	Non	Non	Nager	Non	Phoque sain	IV	Non

Date	Heure	Nom du collaborateur	Numéro de téléphone	Localisation géographique	Lieu d'observation	N de phoques	Taille	Pelage	Présence de tache ventrale	Cicatrices ou marques	Comportement	Photos / vidéos	Type de menace	Type de menace2	Intervention de patrouille
02/10/17	13:20	Souleimanne	49837217	Cansado	Dans l'eau	1	1,5-2	Noir	Non	Cicatrices	Nager	Non	Phoque sain	IV	Non
23/12/17	16:10	Brahim	26000039	Entre NDB et Cansado	Dans l'eau	1	>2	Noir	Oui	Non	Manger	Non	Phoque sain	IV	Non
10/03/18	12:35	Alali	36426700	Cabo Blanco	Dans l'eau	1	>2	Gris	Non	Non	Nager	Non	Phoque sain	IV	Non
05/04/18	13:30	Samouri	33906483	Barco de Vigo	Dans l'eau	1	>2	Noir	Oui	Cicatrices	Dormir	Photos et vidéos	Phoque sain	IV	Oui
28/04/18	12:20	Samouri	33906483	La Güera	En terre	1	>2	Noir	Oui	Cicatrices	Dormir	Non	Phoque sain	IV	Oui
25/06/18	14:50	Fatimeto	46539700		En terre									IV	Oui
08/07/18	15:10	Brahim	44918367	Au nord Cabo Blanco	Dans l'eau	1	1-1,5	Gris	Non	Cicatrices	Nager	Non	Phoque sain	IV	Non
21/07/18	10:40	Saido	36719940	Au nord de la Güera	Dans l'eau	2	1-1,5	Noir	Non	Non	Nager	Non	Phoque sain	IV	Non
11/09/18	12:20	Hakem ndb		Port artisanal NDB	Dans l'eau	1	>2	Noir	Non	Non	Nager	Photos et vidéos	Phoque sain-nuisances humaine dans l'eau	IIA	Oui
07/11/18	15:10	Mohahmed	36221617	Cap Tafarit	Dans l'eau	1	1-1,5	Gris	Non	Marques	Nager	Non	Phoque sain	IV	Non
08/11/18	13:00	Direction du PNBA		Mamghar	En terre	1	1-1,5	Gris	Non	Marques	Mort	Photos et vidéos	Phoque mort	III	Oui



Annex II. P911



P911 was born the 18 of July of 2016. The 29 of September 2016, when he was 73 days old, and had already molted, we tagged him with a bracelet in one of his back-flipper ankles. During the monitoring period, something happened with the tag that prevented that we received any data through the base stations deployed inside the caves. So, we lost contact with the animal. Nevertheless, the carcass of the animal was detected and identified the 27 of December 2016, inside cave number 1. It was not wearing the bracelet anymore, so he had lost it.

In June 2018, this is one year and a half later, a woman called to the Resophom telephone to say she had a bracelet. We recovered the bracelet and the woman told us the history in which a man had found the bracelet on a beach one year ago and took it home. She saw it at his boutique this month and told him that he knew the owners of the bracelet, so he called us and gave us the bracelet.

We downloaded the data from the Satellite tag and from the Time Depth Recorder, and could know that the last location of the animal in the colony area was in October 21st 2016. From that day, the TDR shows how the seal (or the bracelet) is always on land for several days.



The 24th the TDR shows how the seal goes to the water at around 9:30 in the morning and without making any dive, almost like floating in the water, drifts to the south, obtaining one location the 25 at 18:00 around the southern limit of the reserve.


With the same behavior, the seal continued drifting to the south until at 00:00 the tag takes a location near the canyon dune area.




The TDR shows how the seal (or bracelet) is on land from 00:46 of the 26th to 5:00 of the same day. At this time, it comes back to the water, but just in front of the beach, or the bracelet is in a location in which it is always wet. Until at 6:00 of 27th it comes back to land.

One hour later, the bracelet is taken by the man and moved it to Nouadhibou, where it was stored for more than a year and a half until we recovered.

We ignore which is the day and moment that the seal lost the bracelet.

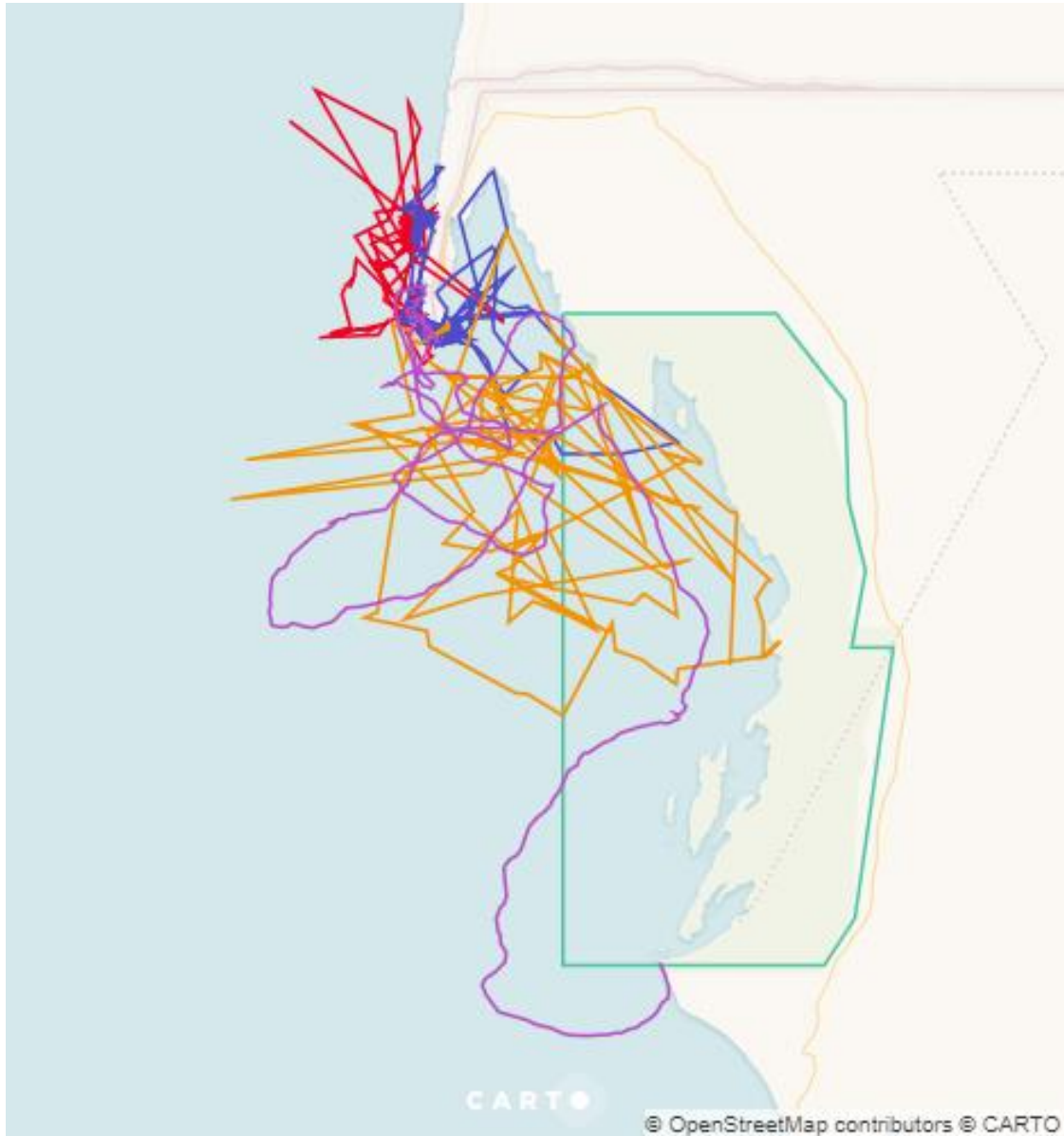


Annex III. Suivi satellite des 4
individus phoques moines
relâchés dans la Réserve
Satellite du Cap Blanc



Suivi satellite de 23 jusqu'au 13 novembre 2018 des 4 individus phoques moines relâchés dans la Réserve Satellite du Cap Blanc en Octobre 2018

1. Mouvements complait des 4 individus relâchés



Localisations GPS et ARGOS

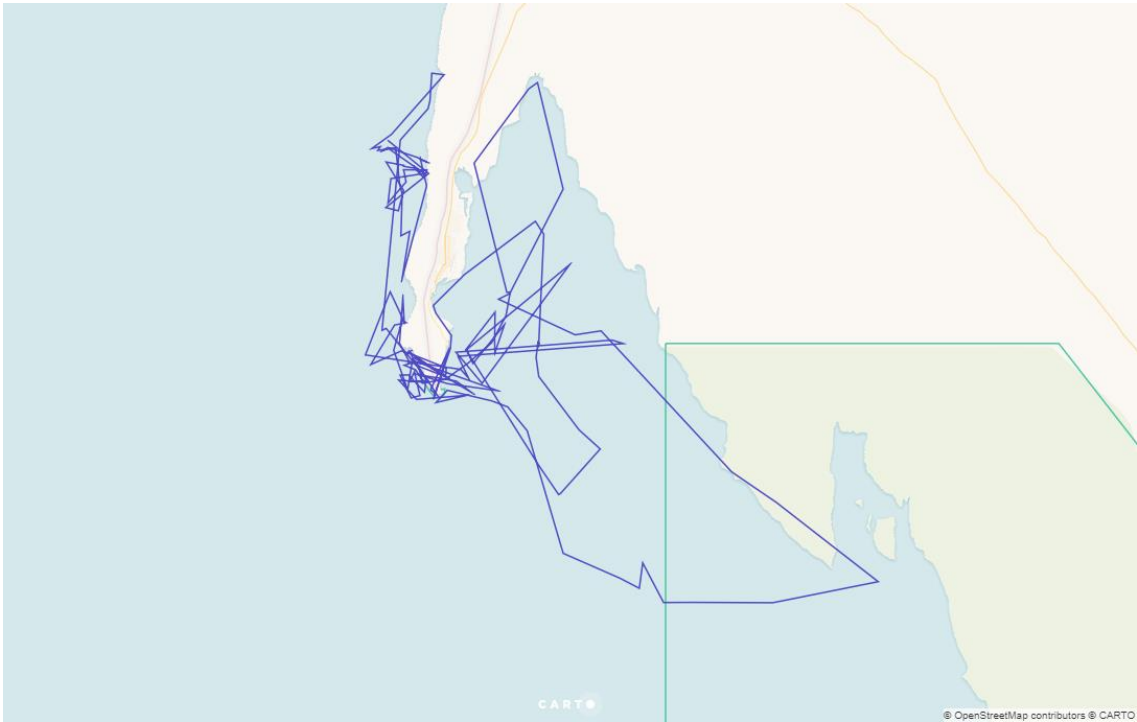
P1052 Bleu.

P1049 Rouge.

P1045 Jaune.

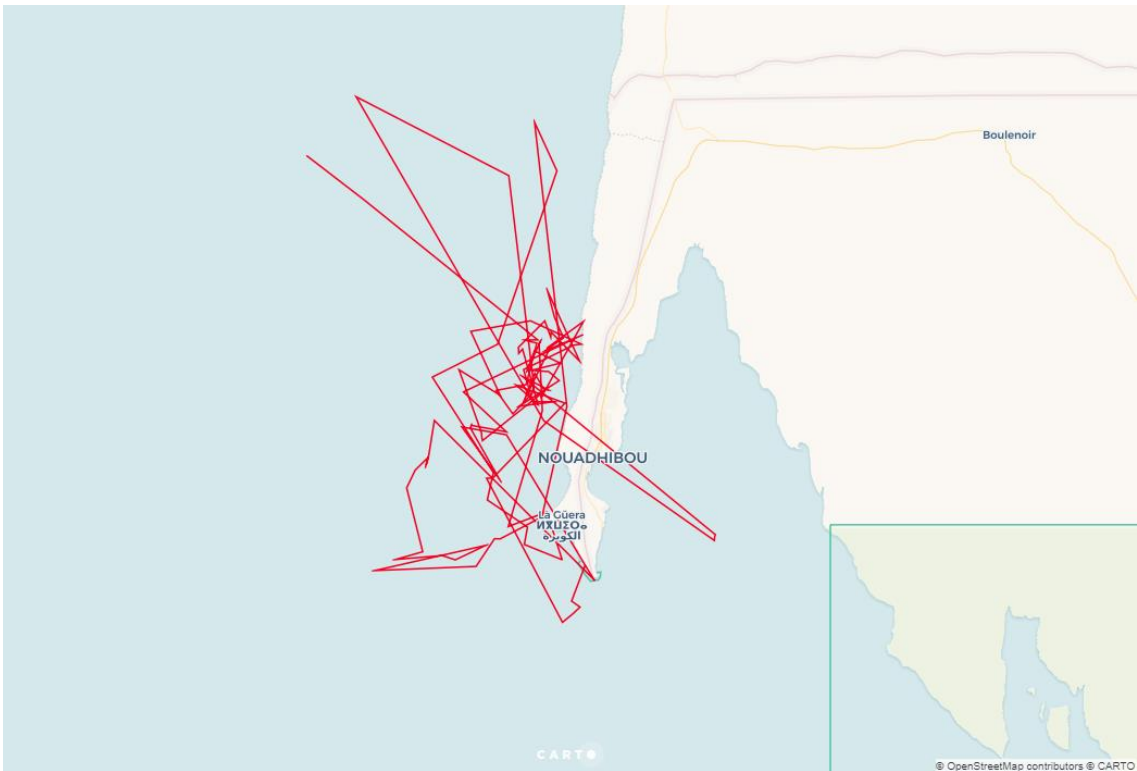
P1060 Rose.

2. P1052.Male. Relâché le 23 octobre au RSCB



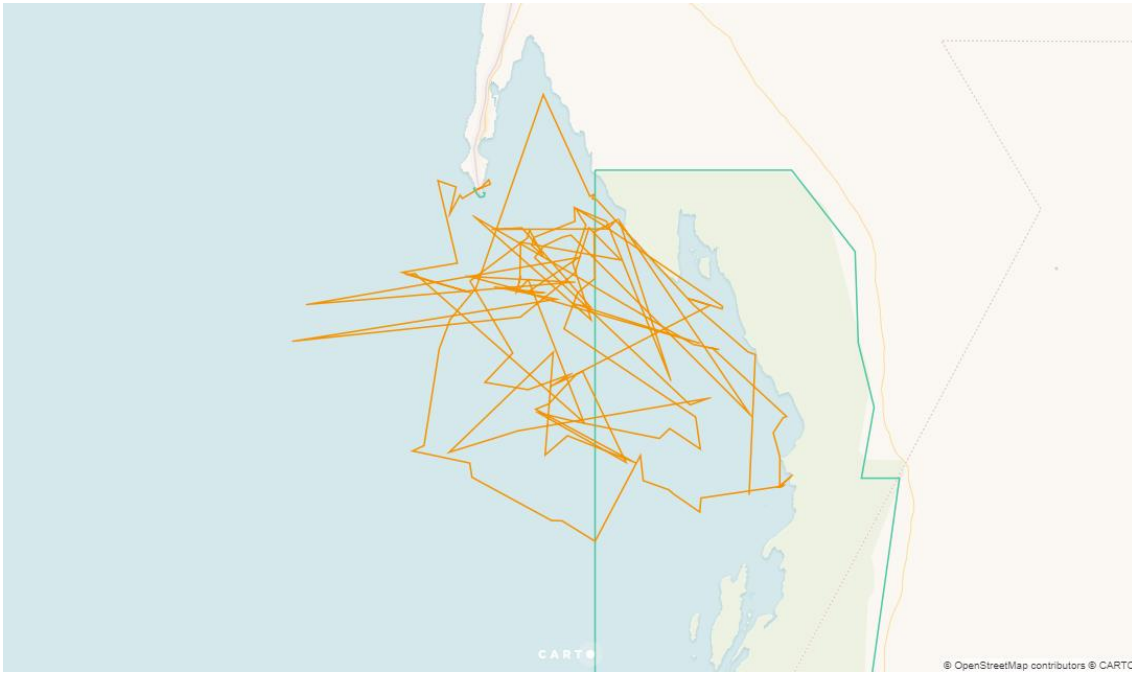
Localisations GPS et ARGOS

3. P1049. 5 mois d'âge. Male. Relâché le 24 octobre au RSCB



Localisations GPS et ARGOS

4. P1045. Femelle. Relâché le 23 octobre au RSCB



Localisations GPS et ARGOS

5. P1060. Femelle. Relâché le 24 Octobre au RSCB



Localisations après la récupération de l'appareil GPS

P1060 a été relâché à la Réserve Satellite du Cap Blanc le 24 novembre 2018 à 08:00.

Le 8 novembre à 12:00 un pêcheur de la population de Mamghar a communiqué aux autorités du PNBA la présence d'un phoque mort dans la mer avec un appareil collé sur le dos. Les autorités ont indiqué au pêcheur de prendre le phoque et la mener au Mamghar.

Une équipe du Programme de Conservation du Phoque Moine après être informé par la Direction du PNBA arrive le même jour à Mamghar en provenance de Nouadhibou pour identifier l'animal et réaliser la nécropsie, et prendre des échantillons biologiques et récupérer le GPS.

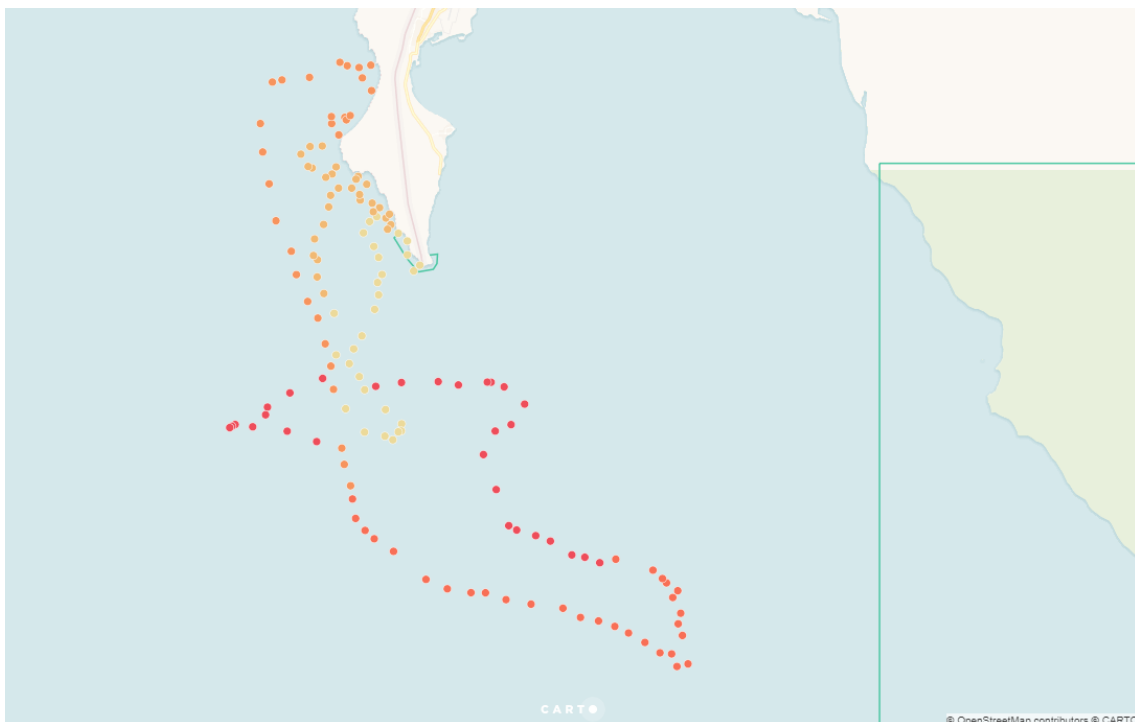
L'animal est identifié comme P1060.

Suivant et le résumé de ses déplacements, et les aspects plus détaillés avec le jour de sa mort, aussi comme les résultats préliminaires de la nécropsie.

Déplacements de P1060 par périodes de 5 jours

(Les couleurs plus claires représente les premiers jours du période est ils sont plus obscurs vers le final du période).

24 - 28 octobre 2018



Le 5 jours après le relâche P1060 est environ la RSCB, mais vers la final du période elle commence à se déplacer vers le sud de la presqu'île de Cap Blanc.

29 octobre - 2 novembre 2018



P1060 continue à se déplacer vers le sud-ouest jusqu'à la limite du PNBA, où elle rentre dans une très brève période par la limite nord-ouest avant de se déplacer vers le sud-ouest.

3 – 7 novembre 2018



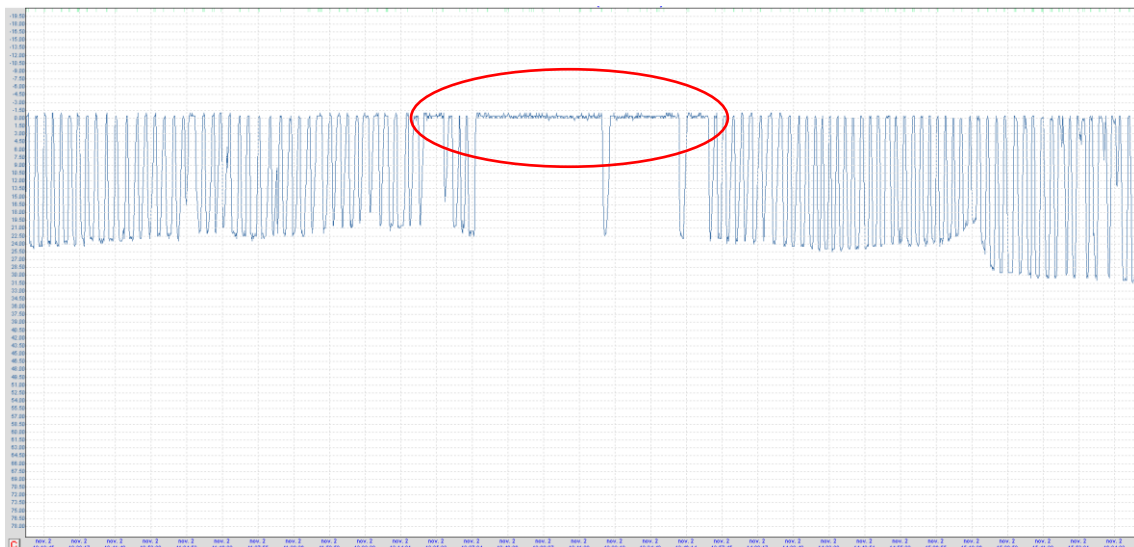
P1060 rentre encore une fois au PNBA par la limite Nord-ouest et navigue par l'intérieur du PNBA vers le sud jusqu'à l'île d'Arel ou il reste quelques minutes sur les bancs de sable proches. Après elle sort du PNBA par la limite est et continue à naviguer vers le sud. Le 7 novembre elle commence à se rapprocher à la cote vers Mamghar, ou elle est trouvée morte dans la mer le 8 novembre à 150 mètres de la plage.

Points clés :

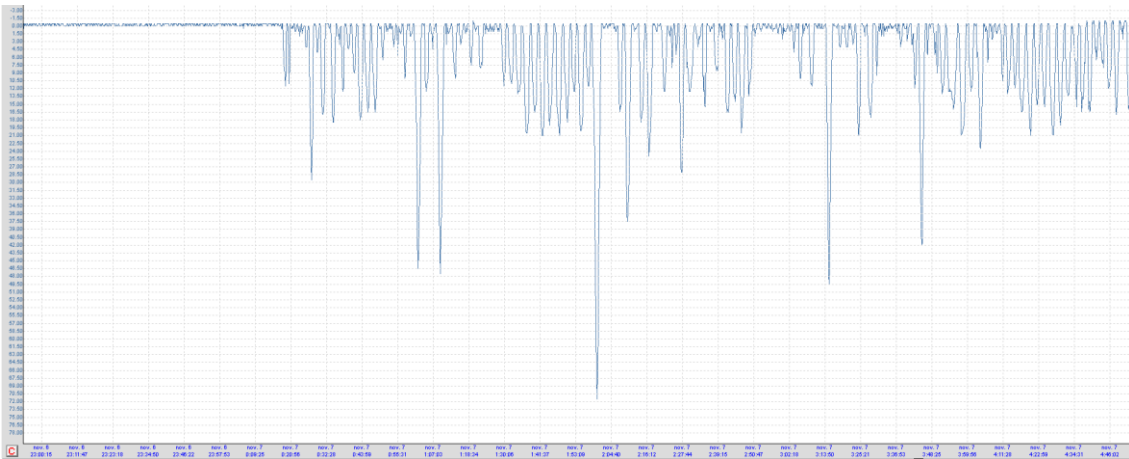
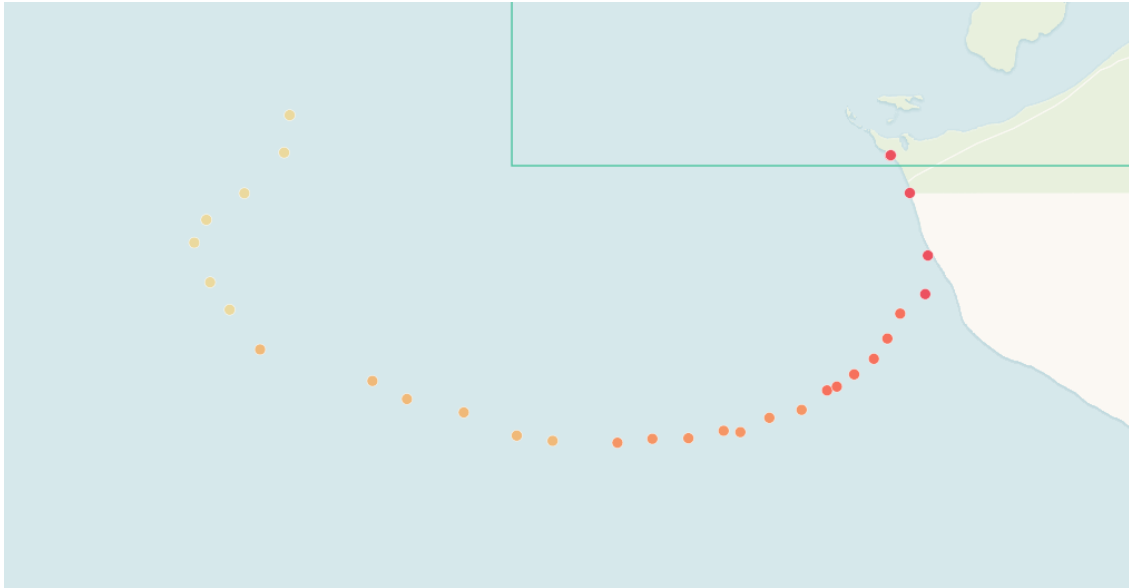
Dans les 15 jours après le relâche, P1060 ne reste pas en terre, sauf quelques minutes près de l'île d'Arel.



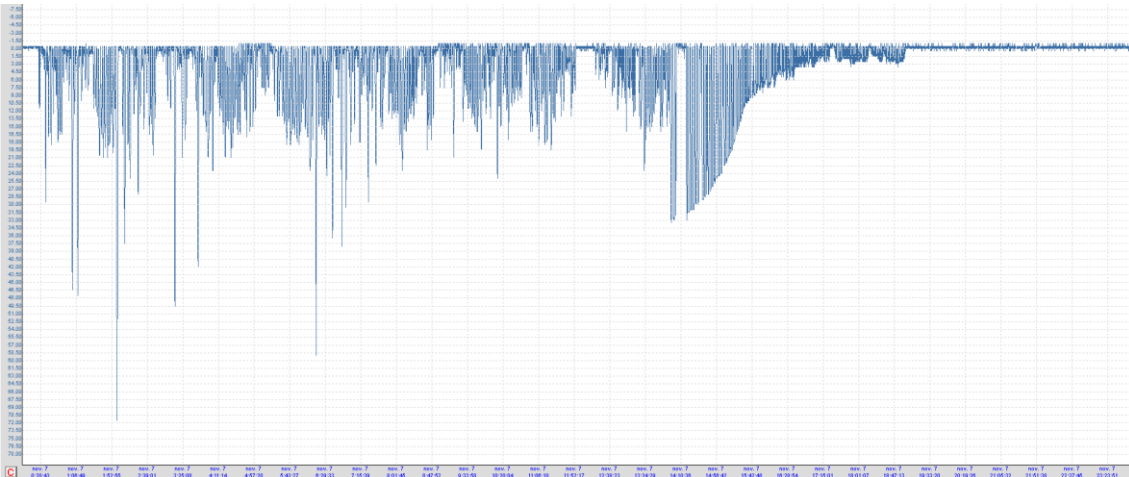
Dans les 15 jours après le relâche, P1060 reste dans la surface de l'eau dans quelques périodes.



Le 7 septembre, jour de la mort de P1060, à 00 :17, elle était à 39kilomètres de la cote. Elle commence à se déplacer vers la Côte de Mamghar avec des réalisations de immersions de jusqu'au 70 mètres de profondeur.



Pendant toute la journée elle se rapproche de la côte en réalisation des immersions.



A 18 :00 elle arrive à la côte au 7 kilomètres au sud de la ville de Mamghar. A 19 :03 elle arrête de faire plus de immersions et elle reste dans la surface de l'eau avec le GPS submergé.

A 7 :37 du 8 novembre, le GPS est capable de prendre une localisation dans la plage à 2,66 kilomètres au sud de Mamghar.

A 12 :25, le phoque a été trouvé et transporté par un pêcheur de Mamghar sur une pirogue au village de Mamghar

Résumé de rapport de nécropsie de P1060

Aspect externe : aucun traumatisme ou blessure externe n'est observé.

Condition physique relativement bonne malgré la perte de 8 kg depuis la relâche.

Fracture des deux incisives inférieures centrales avec exposition du canal pulpaire.

Système digestif :

Présence de contenu dans l'estomac (deux soles et des épines non digérées abondantes, ainsi qu'une quantité modérée de liquide brun clair et des restes de sable). Muqueuse gastrique normale, sans la présence d'ulcères.

Appareil respiratoire :

Orifices nasaux avec présence abondante de liquide moussant sanguinolent.

Œdème trachéal : présence de liquide mousseux sanguinolent dans la trachée.

Présence de liquide séro-sanglant dans la cavité thoracique.

Poumons : sombres, encombrés et œdémateux.

Côtes sans altérations.

Système nerveux : Non examiné.

Les échantillons de formaline doivent être envoyés à un pathologiste spécialisé pour traitement et études histopathologique complète afin de déterminer la cause de la mort.





Annex IV. Photographic Appendix



INAUGURATION EXHIBITION MONK SEAL IN FAUNIA BY HER MAJESTY THE QUEEN SOFÍA



Annex IV. Photographic Appendix



COAST OF THE SEALS RESERVE SURVEILLANCE



INFRACTIONS



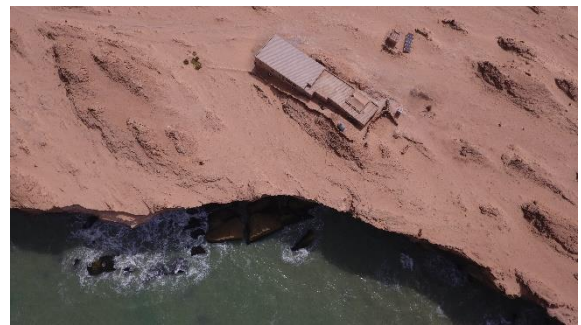


CLEANING DEBRIS FROM THE RESERVE



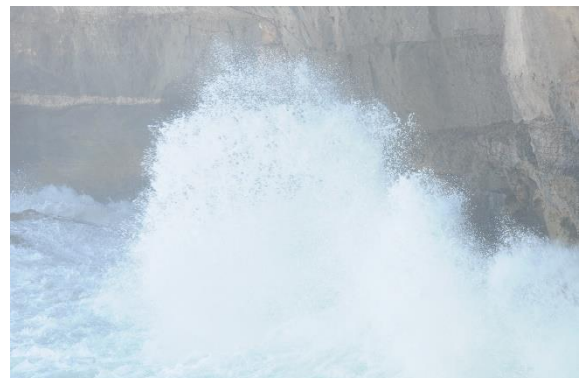
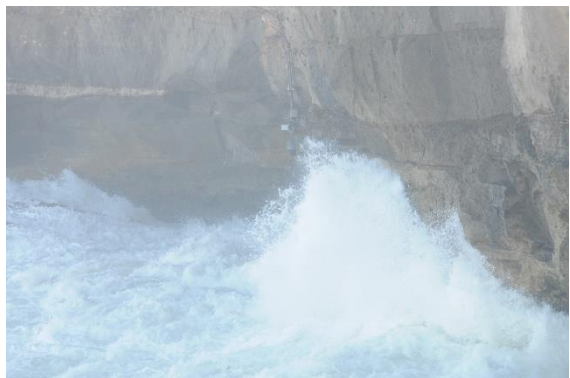


AERIAL PHOTOS MADE WITH DRONE





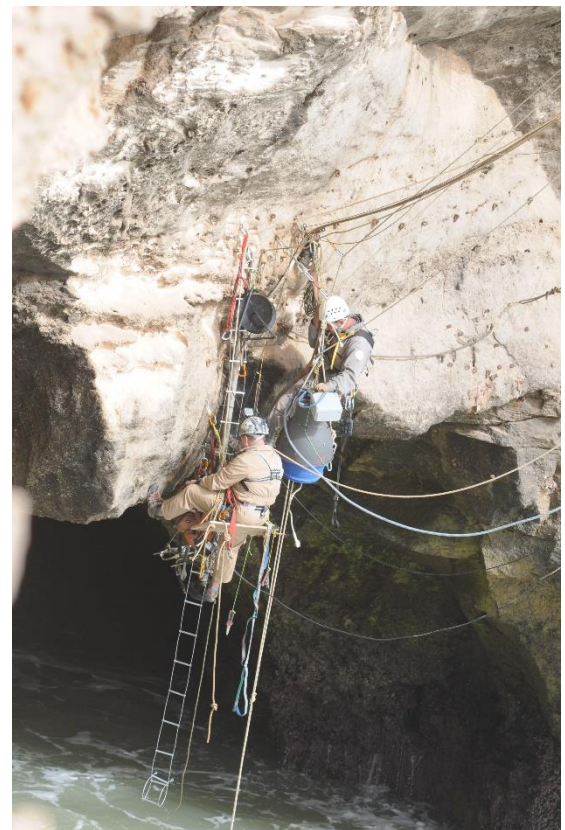
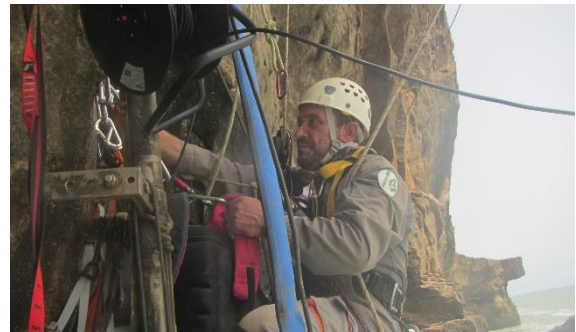
ROUGH SEA DURING WINTER MONTHS





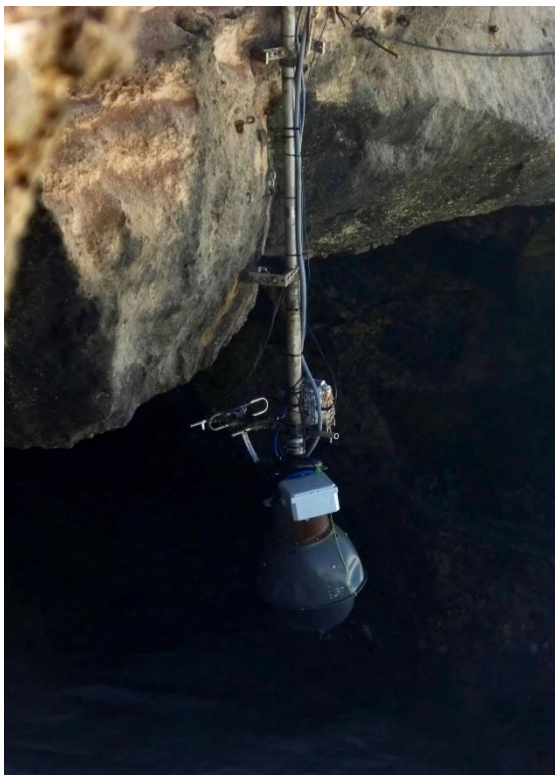
RENOVATION OF SURVEILLANCE CAMERAS

Cameras installation





Cameras disappeared and damaged after storms



New ultra resistant protection system



**TURKISH INDUSTRIAL PURSE SEINERS FISHING ILLEGALLY AT
THE ATLANTIC COAST OF THE CABO BLANCO PENINSULA**





**SENEGALESE ARTISAN PIROGUES FISHING ILLEGALLY WITH PURSE SEINERS
AT THE ATLANTIC COAST OF THE CABO BLANCO PENINSULA**



**VISIT OF THE EXECUTIVE DIRECTION OF BACOMAB TO MADRID AND
TO POTENTIAL CONTRIBUTORS TO THE FUND**



MEETING OF BACOMAB DONNORS GROUP AND ADMINISTRATION COUNCIL AT NOUADHIBOU AND VISIT TO THE MONK SEAL CONSERVATION PROGRAM





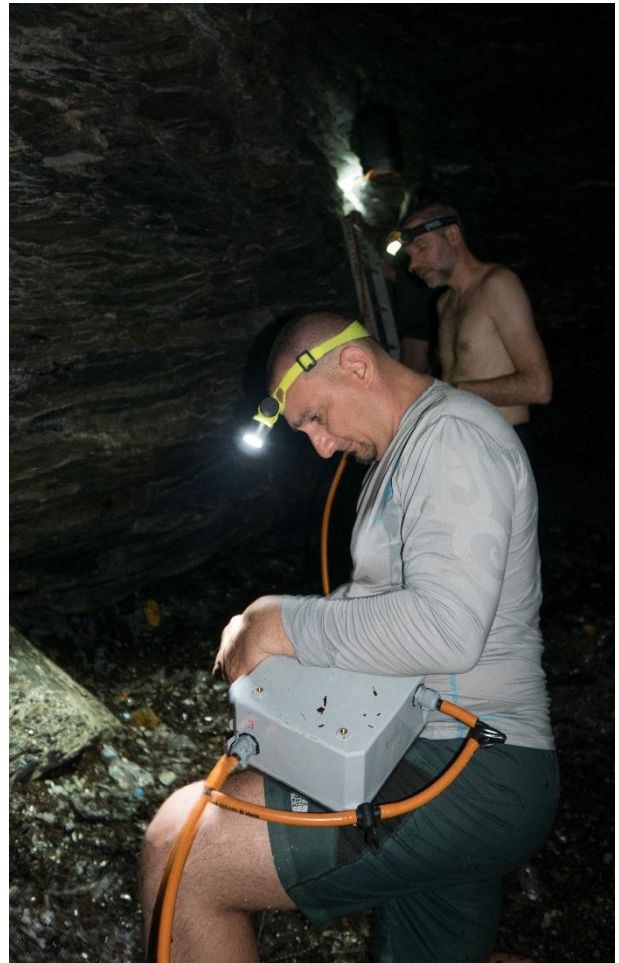
VISIT OF REPORTERS FROM TELEVISIÓN ESPAÑOLA





SUPPORT OF MONK SEAL CONSERVATION PROGRAM TECHNICIANS TO MOM, TO DEPLOY THE PHOTOTRAP SYSTEM DEVELOPED AT MAURITANIA AND MADEIRA IN GREECE MONK SEAL BREEDING CAVES. COLLABORATION UNDER A LIFE PROJECT.



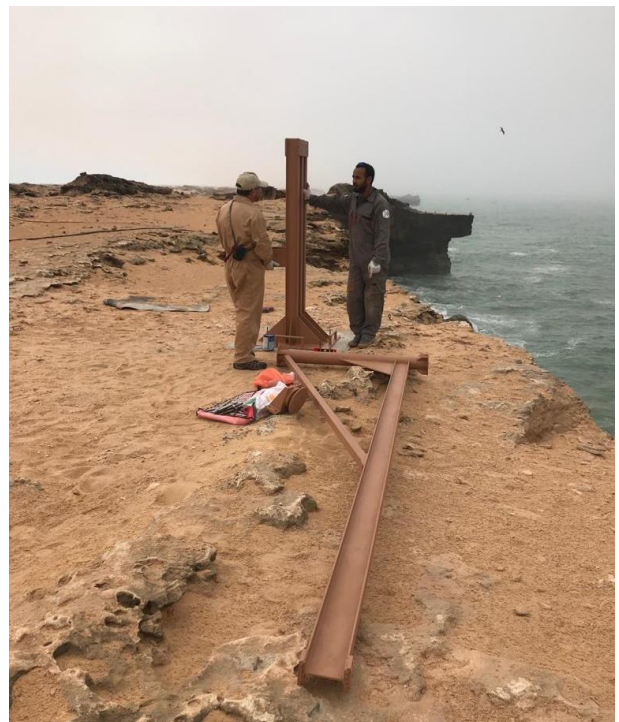


MONK SEAL EXPERIMENTAL CAPTURE AND TRANSLOCATION OPERATION IN 2018 Construction of infrastructures: CAGES



Construction of infrastructures: CRANE







Construction of infrastructures: ACCLIMATIZATION ENCLOSURE



Annex IV. Photographic Appendix



Construction of infrastructures: CAPTURE SYSTEM



CAPTURE OPERATION





LIFTING TO THE TOP OF THE CLIFFS



SEDATING AND HANDLING THE ANIMALS TO TAG THEM



TRANSPOR TO THE RELEASE SITE





ACCLIMATIZATION





CEREMONY WITH REGIONAL AUTHORITIES



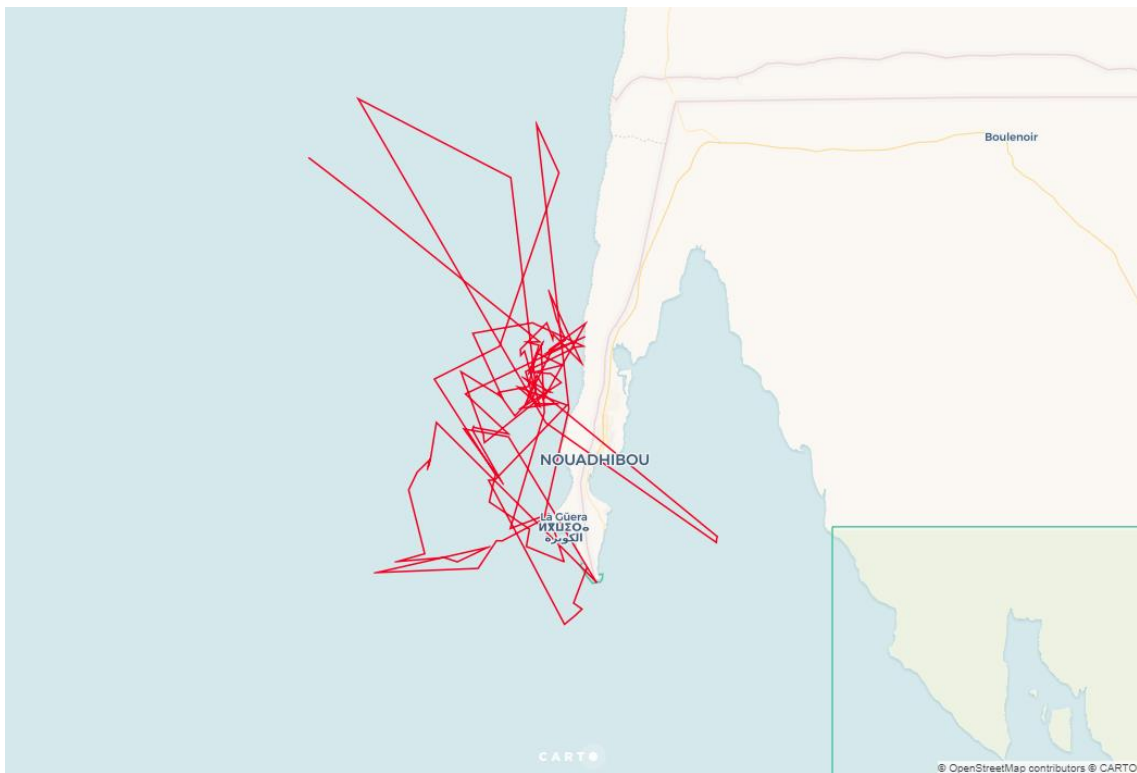
RELEASE BACK TO THE WILD



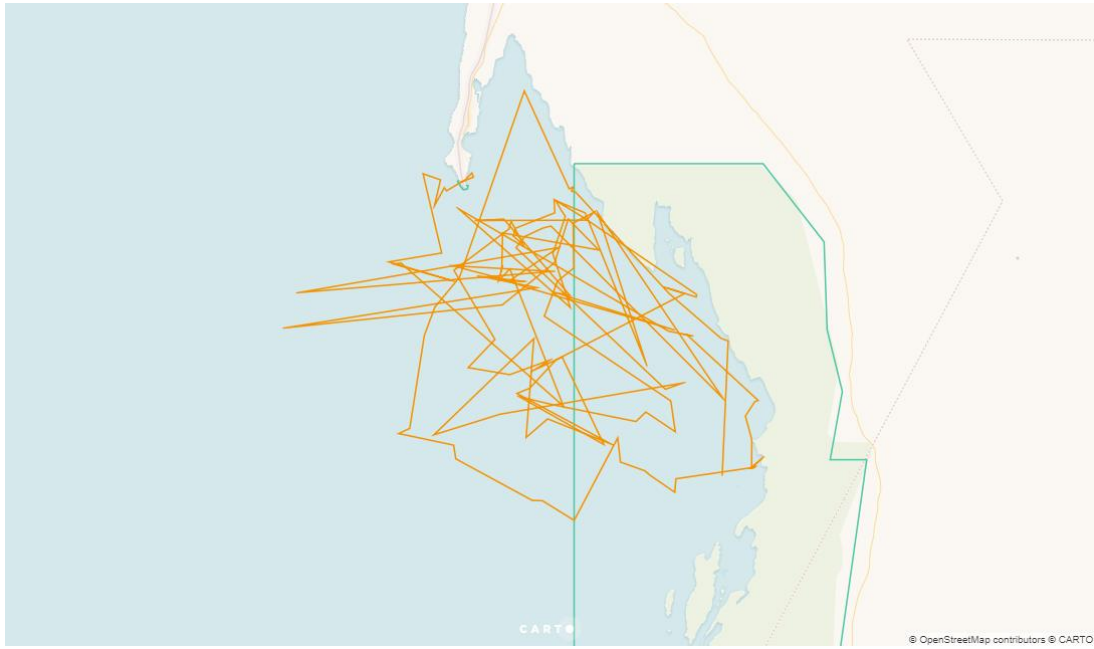
SATELLITE TRACKING OF RELEASED INDIVIDUALS



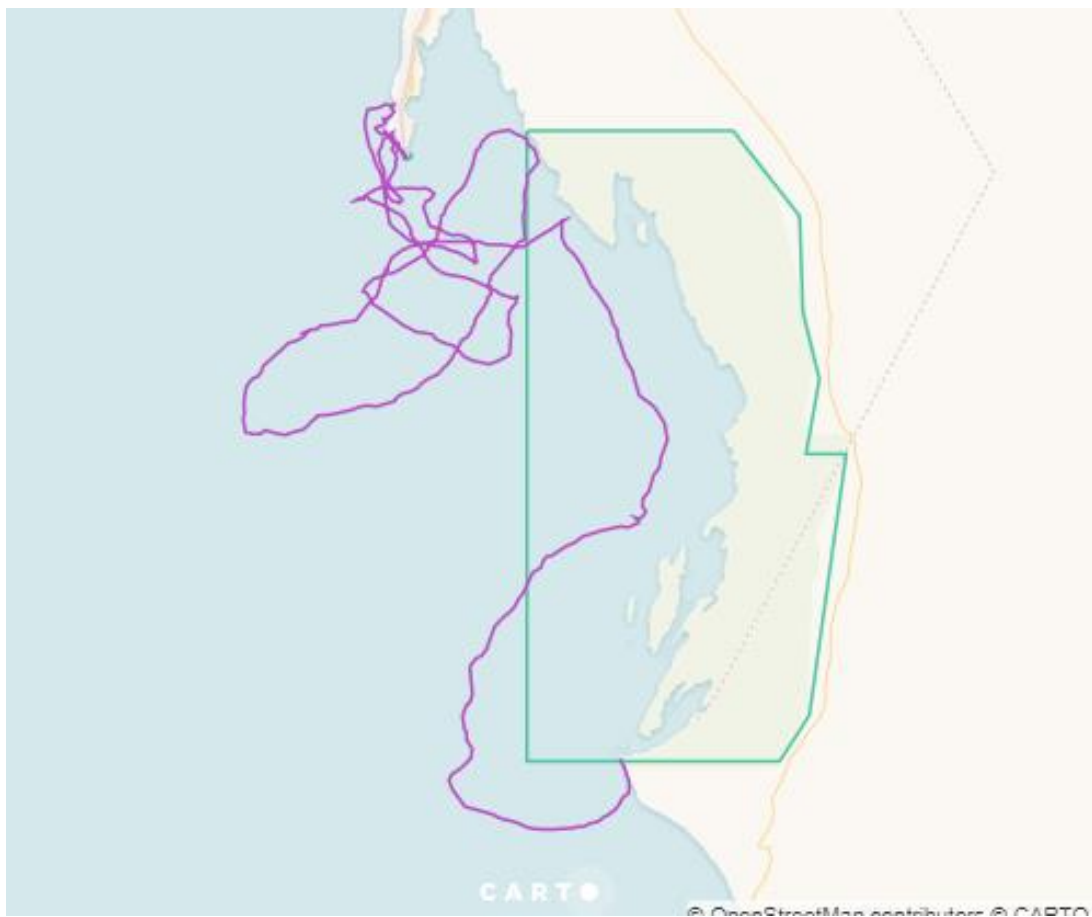
MITECO. P1052. Male. Released October 23rd at RSCB



POLIPASTO. P1049. 5 months of age. Male. Released October 24 at RSCB



MAUI. P1045. Female. Released October 23rd at the RSCB.



LUNAR. P1060. Female. Released October 24th at RSCB