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The migration and the habitat of Steller sea lion in Ishikari Bay , Japan sea

Abstract: We have been observing Steller sea lion for 20 years in Ishikari Bay, Japan sea. By observing Individual – Identified (branded) Steller sea lion, we were convinced that we deserved several hypotheses. The hypothesis is that Steller sea lion has a high location capability, and not only in rookery but also in haul-out, it has a habit of migrating same place .

Introduction: This study by observing for many years the particular individual sea lion which were branded in Russia, and aims to solve its behavior. It includes the characteristics of the haul-out site, the specific individuals, the specific observation method, and the method of collecting observation data. However, in this paper, political debate is avoided.

The particular individual is “Gr338” (“Gr” means Tuleny Island). Its biology could get from Doctor Vladimir Burkanov. We have special thanks to him . “Gr338” was born on Tuleny in 2011 and was branded with a hot iron along with other 200 pups on July 5, 2011. It was recorded as female, body

weight 26.2 kg, Standard length 101 cm, and girth 71 cm.

“Gr338” were observed at Todo-iwa Rock Shukutsu, Hokkaido, Japan, in 2016.Feb.13, 2016.Feb.28, 2017.Feb.4, 2018.Jan.9 (death).

The data on her death was able to be obtained from Mr. Hisao Fujita who is a coauthor. For Mr. H. Fujita , “Weight 210 kg, body length 2 m 33 cm, female, pregnant, the fetus died.”

Methods:

<The characteristics of the haul-out>

The four haul-out sites that we observed in Ishikari Bay Hokkaido Japan are “Todo-iwa Rock Shukutsu”, “Makka Cape horomui”, “Benten-Jima Rock Soya Cape”, and ” OfuyuCapeHamamasu”.

“Gr338” was observed in “Todo-iwa Rock Shukutsu”. The haul-out site is located near by Otaru, which is the big city, fishing industry is flourishing in there . It means very dangerous for Steller sea lion.

<The specific observation method>

We have three methods of their observation, each method has advantages and disadvantages.

1. Landing
2. Surface
3. Underwater

1. Landing: SSL is Landing, and Observer is Landing or on the boat. The advantage is too easy for observation, and the disadvantage is that observer is difficult to approach. If we close SSL, they are into the sea. Because, they are unprotected and cowardly when they land.
2. Surface: SSL is swimming on sea surface. Observer is on the boat or snorkeling. The advantage is easy to approach, the disadvantage is hard to see the branding mark. Because branding mark is under the sea frequently.
3. Underwater: SSL is underwater, observer is SCUBA-diving. The advantage is easy to approach, the disadvantage is hard condition for diver because of very cold water to dive, and SSL moves very fast. So It requires high skill of diving and photograph.

<The method of collecting observation data>

We are collecting the following URL.

<http://www7b.biglobe.ne.jp/~sealionsclubtokyo/index.html>

This website opened four years ago. There are many hobby photographers in Japan. However, they have no place to post their work. By posting the name of the photographer on internet with SSL data as valuable information, we can collect many SSL observation data.

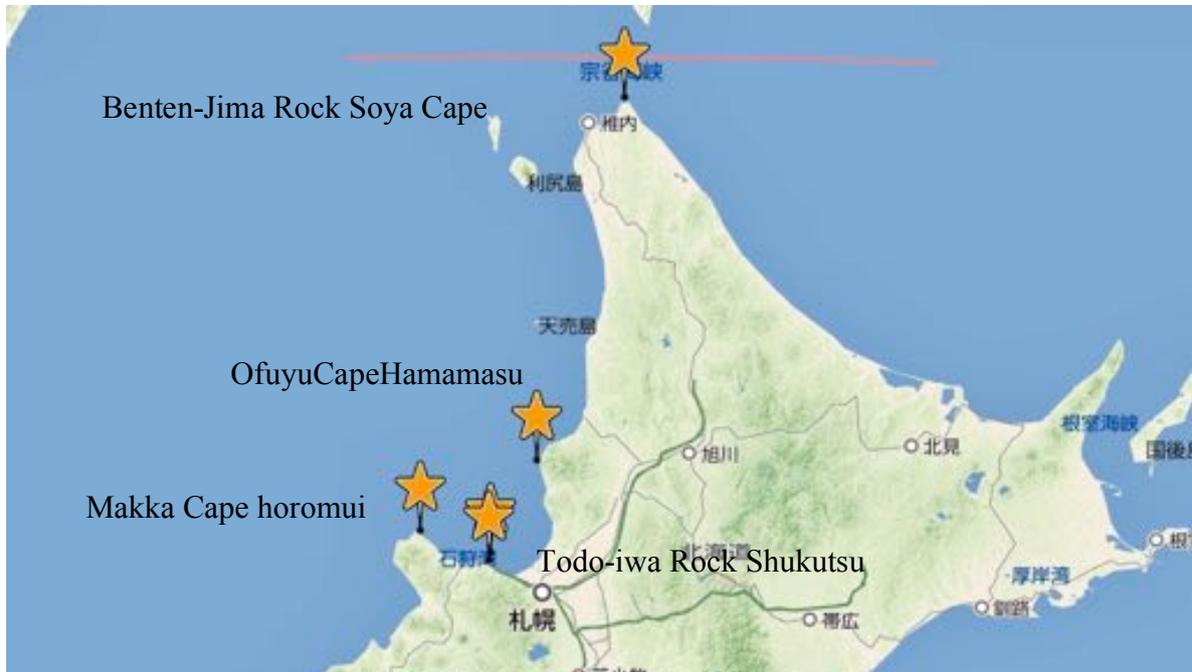
<About “Gr338”>

We focused one individual “Gr338” in the above URL. I mentioned already biology and observation data. It means that she was observed in two places, Tuleny Island and Todo-iwa Rock Shukutsu. For Doctor Vladimir Burkanov, “after branding, she was seen at Tuleny in 2016 25 times from June 5 to July 26, and 25 times in 2017 from June 7 to August 7”.

From this fact we have derived the following hypothesis.

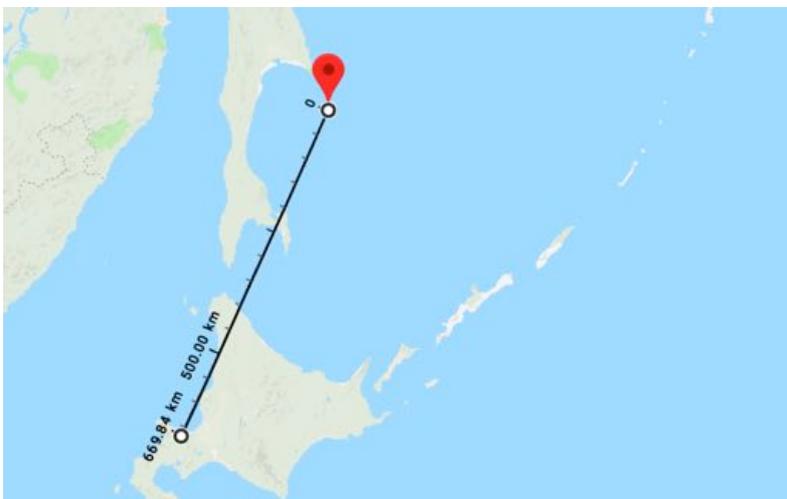
“Steller sea lion has a high location capability, and not only in rookery but also in haul-out, it has a habit of migrating same place.”

<Figure1> the four haul-out sites we observed in Ishikari Bay



Results: <Figure1> The four haul-out sites in Ishikari Bay . Todo-iwaRock Shukutsu is near by Otaru city, it is only 6 km distance from central of the city. This city has 117,350 populations. It is big and famous in Hokkaido . Todo-iwa is most dangerous for Steller sea lion.

<Figuer2> The Distance from Tuleny Island to Todo-iwaRock Shukutsu is about 670km. It is worth to assume that SSL can have high location capability that it is possible to repeat such long distance travel every year.



<Figuer2>Distance from her rookerly

<Pict1> M.Nishino, 2018.May.01, Benten-Jima Rock Soya Cape, photographer H.Fujita , T.Kizawa



<Pict1> The observation method of Landing: The photographers must use telescope lens. Because it is difficult to approach SSL when they land.

<Pict2> The method of surface: This method is easy to approach, but branding mark is under the sea frequently.

<Pict2> H.Ohtani 2018.May.01, Benten-Jima Rock Soya Cape, snorkeler M.Nishino (Author)



<Pict3> M.Nishino, Makka Cape horomui, Diver M.Saito



<Pict3> The method of SCUBA-diving:
The diver must use cameras in underwater housing. Due to low water temperature, it is a hard condition for divers. Because the movement of SSL as a subject is fast, advanced photographic technics is required. However, while shooting underwater, SSL, which is curious, comes quite close to the diver.

<Figure3> The collection data of the internet web site:

<http://www7b.biglobe.ne.jp/~sealionsclubtokyo/index.html>

sealionsclub tokyo

http://www7b.biglobe.ne.jp/~sealionsclubtokyo/index.html

The Steller Sea Lion Research Data

We,SeaLionsClub,research the branded Steller Sealion in Hokkaido and Tokyo ,Japan .

Last Up Date 2/19 2018

- [UNDER ANALYSIS](#)
- [2017-2018](#)
- [2016-2017 \(May 2017 Benten-Jima Rock\)](#)
- [2016-2017](#)
- [2015-2016](#)
- [2014-2015](#)
- [2013-2014](#)
- [2010-2011](#)
- [2005-2006](#)
- [OTHERS](#)

• REFERENCE

if you click here , you make a new tab open.

- [Spotted Seals \(Phoca largha\)](#)

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<Summary of The Website information>

Season	2005-2006	2010-2011	2013-2014	2014-2015	2015-2016	2016-2017	2016-2017*	2017-2018
	Iony91	Raykoke914	Tuleny19	Lovushki119	Tuleny338	Tuleny429	Tuleny777	BratChirpoev156
					Tuleny49	Tuleny770	BratChirpoev972	BratChirpoev965
					Lovushki844	Tuleny45	Iony299	Tuleny279
					Tuleny675	BratChirpoev94	Iony426	Iony974
					Iony877	BratChirpoev293	Iony504	Tuleny338(death)
					Iony548	Antsiferov224	Iony697	
					BratChirpoev164	Tuleny270	Iony913	
					BratChirpoev105	Tuleny338	Lovushki772	
						Iony50	Tuleny99	
						Tuleny99	Tuleny305	
						Tuleny161	Tuleny423	
						Tuleny376	Tuleny442	
							Tuleny546	
							Tuleny558	
							Tuleny564	
							Tuleny565	
							Tuleny660	
							Tuleny670	
							Antsiferov951	

*Benten-Jima Rock ,Soya Cape,Hokkaido,Japan

<Pict4> “Gr338” Doctor Vladimir Burkanov, July 5, 2011: It was recorded as female, body weight 26.2 kg, Standard length 101 cm, and girth 71 cm.

<Pict4> Doctor Vladimir Burkanov 2011.July .5, Tuleny Island



<Pict5 –Pict 7> “Gr338” reference website
<http://www7b.biglobe.ne.jp/~sealionsclubtokyo/index.html>

<Pict5> M.Saito, 2016.Feb.13, Todo-iwa Rock Shukutsu



<Pict6> T.Ueda, 2017.Feb.04, Todo-iwa Rock Shukutsu



“ Gr338” was curious and liked swimming with divers. And the diver was able to take more pictures than any other branded individuals.

<Pict7> H.Fujita, 2018.Jan.9, Shukutsu port and Notsuka Processing plant



The data on her death was able to be obtained from Mr. Hisao Fujita who is a coauthor. For Mr. H. Fujita , “Weight 210 kg, body length 2 m 33 cm, female, pregnant, the fetus died.”

“Gr338” died in 2018.Jan.9 by a local hunter with a rifle. No further investigation on “Gr338” was impossible. This is a big obstacle.

<Details of “Gr338”>

Biology (Dr.V. Burkanov)

Birth date on PUP “2011.July.5 (branding date)”

Place of birth “Tuleny Island”

“Female”

Body weight “26.2 kg”

Standard length “101 cm”

Girth “71 cm”

Observation record in Tuleny Island

(Dr.V. Burkanov)

25 times in 2016 from June 5 to July 26

25 times in 2017 from June 7 to August 7

Did not breed until her death

Observation record in Todo-iwaRock
Shukutsu

2016.Feb.13

2016.Feb.28

2017.Feb.4

2018.Jan.9 (death)

The data on her death was able to be obtained from Mr. Hisao Fujita who is a coauthor.

Weight “210 kg”

Body length “2 m 33 cm”

“Female”

“Pregnant”

“Her fetus died”

Her age “6 years 5 months” (additional information)

“Gr338” was curious and liked swimming with divers. And the diver was able to take more pictures than any other branded individuals. The age of “Gr338” when we observed is 4 years 6 months, 5 years 6 months, 6 years 5 months (death). It is a young female before breeding. Although it is not possible to confirm the reasons why an individual coming close to the diver comes, whether it is from age, whether it is due to sex or personality, it seems that these multiple conditions overlap.

Discussion: We suggest we have derived the hypothesis, Steller sea lion has high location capability, and not only in rookery, but also in haul-out, it has a habit of migrating same place. However if one of the reasons for the migration is to ensure the diversity of the genes, rookery and haul-out, where each individual also moves, must also ensure diversity. Therefore, the question remains that whether this phenomenon is unique to this individual. Thus, we have to get the information more.

We tried three different approach centered on the SCUBA-diving, but the probability of encountering unfortunately branded sea lions can not be said to be high. However, the precious creature living in this great and wonderful natural world that we have been observing is very popular for divers, and we are sure that it is a big indicator in considering the global

environmental conservation.

We can not get the information of “Gr338” any more because of her dead. There is no doubt that her death was not only merely the death of the individual, but a great loss for the natural world.

Conclusions: By keeping observing Steller sea lion, we were able to know their ecology. we believe this is useful for preserving Steller sea lion. However, we came to know the importance of further investigation and accumulation of ecological data.

Branded sea lions are very sorry that died with guns, it was a major obstacle to know their ecology.

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