



ОЧЕРКИ УЧЕНОГО

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THE STORY AND PHILOSOPHY OF LENIE 'T HART

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Резюме. В целях привлечения внимания общества к вопросам экологического развития Российской Федерации, сохранения биологического разнообразия и обеспечения экологической безопасности 2017 год в России объявлен Годом экологии. Также подписан Указ о проведении в 2017 году на территории Республики Дагестан Года Каспия и других водных ресурсов.

В статье представлена философия и жизненный путь женщины и ученого которая всю жизнь работает и делает все для сохранения морских млекопитающих, и в том числе Каспийского тюленя, – Лени Харт (Godlieb Leentje).

Abstract. To attract attention of society to issues of environmental development, conservation of biological diversity and ensure environmental security of the Russian Federation, in 2017, Russia declared the Year of Ecology. Also, signed the Decree about carrying out in 2017 in the territory of the Republic of Dagestan Year of the Caspian Sea and other water bodies.

The article presents the philosophy and way of life of the woman and scientist who has spent whole life working and doing everything for the conservation of marine mammals, including the Caspian Seal - Lenie 't Hart (Godlieb Leentje).

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We asked Lenie't Hart to write down her experiences. This is her story:

45 years ago, I accidentally came into contact with seals. Since my earliest childhood, I was interested in wild animals; I spent hours on the bank of a ditch to watch the critters that live there, and I always wanted to help animals in distress. As a little girl, I fought with bigger boys when I discovered that they mistreated frogs. Sometimes my big brothers had to rescue me in such situations... So when I was asked to take over the help for seals in need by René Wentzel, an animal lover and volunteer animal rescuer in a neighbor village who did this work before, I became very enthusiastic and I said "yes". Not knowing what would become out of all this...

The only condition I set was that I wanted to start in my own backyard in the little village Pieterburen. At that time, my son was about 4 years old, and I thought that I could better keep an eye on him when I had the seals

close to my house. Moreover, I was told that I only had to expect seals in the summer. All winter I had not to worry about seals. Until the telephone rang on December 21, 1971. A few workers who worked on the dike of the newly created "Lauwersmeer" (a part of the Wadden Sea not far from Pieterburen) found a sick seal. So, I went there in my Citroën CV. When I arrived, those big and strong men pointed at their van: "There he is". I opened the door of the van and stood eye to eye with the first seal which I was going to help personally. I had no idea what to do, but because the big and strong men were watching me, I lifted up the seal and carried the animal to my car. He did not bite me, which is a wonder: anxious animals always try to defend themselves. But apparently, he trusted me.

When I came home, I realized that I had nothing ready for seal care. So, I took a wash-tub, dug a hole in the ground of my garden and



started to nurse the seal (see picture 01). With the help of the local vet and René Wentzel I started to learn how to treat a seal, how to make fish porridge, how to administer medication and food. This humble start was the very beginning of what later has become the Dutch SRRC (Seal Rehabilitation and Research Center), an interna-

tionally famous seal hospital with an international scientific and veterinary advisory committee, more than 30 employees, hundreds of international interns per year, a long list of scientific publications, 9 PhD studies that lead to a dissertation and every year several hundreds of thousand interested visitors from all over the world.



Fig. 1. The first rescued seal

I believe that it was good to start in this way. Not with huge funds, not with a lot of experts, just finding out the best way of carrying out the job. But in that very beginning, soon after the successful release of my first seal, I started to realize that in order to be able to give a good treatment I needed to know what problems were the cause that seals came into trouble. So apart from starting the foundation SRRC, I also involved internationally reputable scientists. Starting with the first seal, I recorded every seal in a database, which includes in the meantime data of more than 16.000 seals, common seals (*Phoca vitulina*), grey seals (*Halichoerus grypus*) and many other marine mammal species, of which in total more than 7.500 were taken in the seal center, treated and released thereafter. This database has already provided valuable information for many scientific publications.

What happened was that the first seal became famous in the Netherlands. He became a symbol, because he was an animal that was suffering from human activities in his natural habitat. That was the moment I found out that with asking attention for the needs of an individual animal one can support a whole population.

From the early start, scientific research and (even more important) the involvement of the local people gave a very interesting but also shocking image of the seals situation. I was able to make a list of the most important threats for seals living in the Dutch coastal area (the Wadden Sea and the southern part of the Netherlands) (see picture 02).

Unfortunately, but true I discovered that this situation applies to all marine life in the world. So, the following list is more or less an example of what happens to marine mammals in every country.

1. *Pollution*

Pollution, collected in tiny creatures grubbing in the seabed, stores in fat and organs. When they are eaten by bigger animals, the amount of poison builds up. The seal is at the end of such a food chain. In a cooperation with several universities we carried out an extensive research on pollution (PCB's, heavy metal and other chemicals) and its effects on the seals immune system. Two young scientists did their PhD on this subject. Their publications are still leading in the world on this subject. As soon as we had scientifically proven that pollution has



great influence on the immune system we were able to ask the government to take action.



Fig. 2. The most important threats for seals living in the Dutch coastal area

2. Infectious diseases

In 1988 there was a mass mortality among the common seals in North-West Europe. All along the coast dead seals were found; more than 2/3 of the whole population in that area. At first pollution was blamed (e.g. by Greenpeace) but with the cooperation of the department of virology of the Dutch RIVM (National Institute for Health and Environment) we were able to establish that a virus was the main cause of the problems: it was called the PDV (Phocine Distemper Virus) and it was related (but not similar) to the already known Canine Distemper Virus. Unfortunately the same virus stroke again in 2002 in the same part of North-West Europe. In both cases the start of the epidemic was located on Anholt, a small island east of Denmark in the "Kattegat". Further research indicated that Harp seals (*Phoca groenlandica*), coming from the arctic due to lack of fish in their habitat (see #5), were carrying the virus without being ill, and infected the common seals, which had no antibodies.

3. Disturbance

Specifically during the short period of lactation mothers and pups are extremely vulnerable for disturbance. In tidal areas the pup can only suckle at low tide, and it has to grow in very short time (usually within weeks) from a birth weight of approximately 10 Kg to a weight of at least 35 Kg. Every low tide period is an essential feeding time. Every disturbance causes

the animals to flee into the water and it takes time, sometimes even hours, for them to dare return. If this happens too often, the pup will not grow sufficiently and has much less chance to survive on its own after weaning.

4. Fishing nets and other garbage in sea

Drowning in fishing nets is an important cause of death. Seals follow the fish and can be trapped in a fish trap. We asked the government to do something about it and the result was legislation about adaptation of fish traps, by placing a front which could not be passed by the seals. Also, sometimes seals are entangled in drifting fish nets, often lost by fishermen. If there is fish in the net, the seal tries to catch it and will be trapped. Fortunately, many fishermen and other people working at sea are willing to rescue these poor animals. Without help they will surely die.

Many fishermen get those "ghost nets" in their nets, when fishing. Until recently they threw it overboard, because they had to pay for it as their waste, when they brought it ashore. Therefore, my organization asked them to collect those drifting nets in "big bags", which we collected in the harbor. In this project, we gathered so far more than 100 tons of garbage nets. During long time, it was exposed as a towering monument in the backyard of my seal center.

5. Overfishing

If too much fish is caught in a specific area, the reproduction system is disturbed and



the ecologic balance is gone. This is a problem for fishermen which are dependent on their fishing, but also for all animals in the food web of that area. Moreover, it can cause huge ecological problems: the translocation south of the Harp seals mentioned in #2 and causing the virus outbreak among common seals in North-West Europe, was because of overfishing of their habitat in the north. They simply went south searching for food.

6. (Illegal) hunting

From 1591 until 1962 hunting for seals was not only allowed in the Netherlands, but even rewarded with a bounty. During centuries seals were blamed if the fishing was unsatisfactory. In order to support the (poor) fishermen, the government paid them for every seal that was brought in. Seals were used for their fur, fat and sometimes meat. Even after the hunt was forbidden, because the seal was almost extinct in the Wadden Sea, illegal hunting continued several years, because of the fur.

7. Climate change

Due to the rise in sea level, sand banks (necessary in the habitat of common and grey seals) tend to disappear in wetland areas. Moreover, the presence of shrimp (basic food of weaned pups of the common seal) changes as a result of higher water temperature. Scientific research in my center based upon 30 years of registration of stranded and rehabilitated seals indicates an "Evidence for an progressively earlier pupping season of the common seal in the Wadden sea". (A scientific publication in the "Journal of the Marine Biological Association of the United Kingdom"). Pups are born more than a month earlier than before.

8. Nature conservation

There is a growing belief that it might be better to leave animals in distress to their fate in nature conservation areas. However, also in those areas pollution and disturbance (tourism!) are factors of great impact to wildlife. Unfortunately, the victims in those areas often have no second chance...

9. Issuing of rules

National legislation is more and more often overruled by international legislation. In some cases that means that protected species in some areas are not protected at all, even if a species is on the Red List of endangered species.

10. Off shore activities

The construction of windfarms in sea and drilling activities attract large amounts of fish and as a result also many seals. The use of

dynamic positioning systems, where propellers and thrusters suddenly start, is very dangerous for seals in those areas. Also, the fast supply vessels cause lots of problems for seals.

11. Fish farming

To feed the farm fish, all the small fish in many areas is captured. Those small fishes are not suitable for human consumption, but they form an essential part of the basic food of seals. This kind of collecting all fish causes lack of food for many animals living in or around the sea. Moreover, seals are attracted by the huge amount of fish in fish farms, swimming almost within reach. But when they damage the fencing of the fish farms, they may be shot.

12. Oil spills

Needless to say, that oil in the habitat of seals creates major problems. Not even (unlike birds) because of the oil on their fur, but when they ingest oil, this causes brain problems among others. And of course, oil in their habitat is also disastrous for the fish stocks. That was the reason I founded the international organization Sea Alarm, a foundation that consists of members from the oil industry, the ITOF (International Tanker Owners Pollution Federation) and animal welfare organizations. Together nowadays they form a global network that comes into action as soon as an oil spill occurs.

In my opinion it is not enough to only mention the threats for seals and their causes, but we also have to search for solutions. That is why I involved international scientists and local and national authorities in the Netherlands, to take measures to decrease the number and the influence of the threats of the seals in the Dutch coastal area.

Therefore, I developed a schedule of starting points (see picture 03).

Thanks to this approach, I was able to establish a professionally setup seal rehabilitation center in the Netherlands. This resulted in a growth in the number of seals along the Dutch coast from less than 300 (in 1971) to more than 6000 (in 2015). Moreover the seal has become very popular in the Netherlands: many children call the seal their most beloved animal. With the help of all our volunteers in the field we were able to collect more than 2.500 dead seals during the virus outbreak of 2002. This resulted in the largest necropsy session ever in the world: on all seals autopsy was performed, in cooperation with scientific teams from Spain, UK, Japan and the Netherlands. And in the last 30 years 9 employees of my center did PhD research on



several aspects of seal problems. Their theses are widely used in the scientific world. In the meantime I also got involved in many international projects. Of course already from the very beginning I had cooperation with seal

rehab centers in our neighboring countries: Belgium and Germany. But soon also requests for help came from other countries.

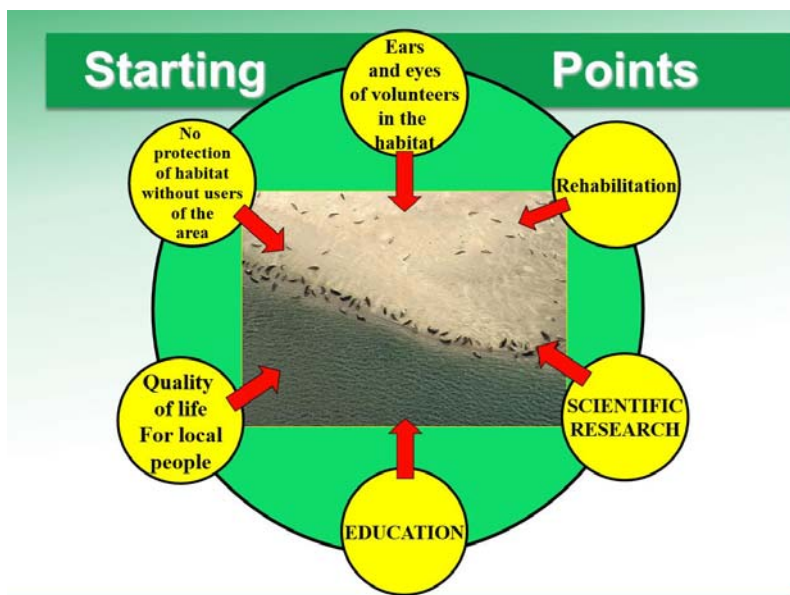


Fig. 3. The necessary steps which must be taken to preserve the seals

Greece - In 1989 the Greek marine mammal organization MOm asked for our help. They had problems with fishermen, who regularly killed the highly endangered monk seal (*Monachus monachus*) that lived in the Mediterranean area. It took a few years to prove that no seals but overfishing was the cause of the problems of the fishermen. When most fishermen were convinced thereof, with our support a small rehab center could be set up on the island Allonissos in the northern Sporades. Together with his Highness Prince Sadruddin Aga Khan I released the first monk seal from this rehab center. Nowadays it is still functioning: every year a small number of monk seals is brought in and cared for by local volunteers. Most fishermen consider the seal now as a symbol of a healthy ecosystem and bring fish to the rehab station to feed the seal.

Mauritania - In 1991 a poor fisherman found a monk seal pup along the shore of Mauritania. With the small animal in his arms he walked for hours through the desert to the office of the CNROP (Centre National de Recherche Océanographique et de Pêche), the national fishery institution. There they soon found the address of my center, and within 24 hours a few of my employees were on site. They built a temporary rehab facility in a former aquarium of the

fishery institute and instructed local volunteers how to treat the animal. But in such a poor country it is not enough to assist in helping animals. So I involved a local NGO to investigate what were the most urgent needs of the local population. Three key points emerged from this survey: health care for children, safety measures for fishermen and employment for the fishermen's wives. In all three cases I was able to do something: with the help of the Dutch pelagic fishery companies we built a hospital for poor people and their children, we arranged safety jackets for the fishermen and together with the Mauritanian NGO "Mauritanie 2000" we created jobs for more than 2500 women in processing and selling fish products: cooking fish oil, smoking fish, drying fish etc.

Turkey - When in 1995 there was an oil problem near the caves in Bodrun, a habitat of monk seals, the Turkish organization Sad-Afag contacted me for help. With the support of our Dutch Royal Highness Prince Bernhard I was able to provide them the budget for a cleaning action. Soon thereafter a monk seal pup was found near the city Phocaea (which means "seal"). Together with the mayor and local community we built a small rehab center. Regularly the Turkish children's TV made a report about the seal. The Turkish children were asked



to come up with a name for the pup. It was called "Badem" (almond) because of its shape. Before Badem came in the publicity, no one in Turkey had any idea that there lived seals in their coastal areas. And because the children's TV-program explained that pollution would be dangerous for the animal, all children taught their parents not to throw away waste. This is an example how just one seal can contribute to improvement of the environment.

Lake Baikal - When there was a mass mortality among the Baikal seals, our scientists were asked for assistance. Immediately I went to Baikalsky together with the scientists. Based upon samples we took with us to the department of virology of the Erasmus University in Rotterdam, we were able to conclude that the CDV (Canine Distemper Virus) was the cause of this problem.

Caspian Sea - When there was a mass mortality among the Caspian seals, our scientists went to the northern part of the Caspian Sea, to collect samples. Also in this case zoonosis (transmission of viruses from terrestrial animals e.g. foxes, dogs etc. to marine mammals) was established as the main cause of the mortality among the seals.

St. Peterburg - Together with the Leningrad Zoo in St. Petersburg we set up a facility and carried out the rehabilitation of several seal species. Among them grey seals, ringed seals (*Phoca hispida*) and even the very rare Ladoga seal (*Phoca hispida ladogensis*). This led to:

Lake Ladoga - For the first time in history a rehabilitated Ladoga seal was released into the wild again. Of course this event generated lots of press attention, which led to much publicity, not only all over Russia, but worldwide.

Vladivostok - Not long ago I visited a small seal rehab center in Vladivostok. At earlier occasions I had already contact with the owners of the facility. They had come over from Vladivostok to my center in the Netherlands to learn how to treat seals. Now they asked me for an extra training of their volunteers, and there I had my first eye to eye contact with a Largha seal (*Phoca largha*). This made it a win-win situation.

Baku - In 2006 I was invited at a meeting in Baku, where representatives of the five countries bordering the Caspian Sea were gathered. In the follow up of this meeting I invited those biologists and decision makers to the Netherlands. In my center in the Netherlands I

demonstrated them my methods: the combination of seal care, education and scientific research. This laid the basis of the pilot project in Iran.

Iran - After several international meetings in Russia, Azerbaijan, among others with the UNEP, the UNDP and the CEP, I got involved in the setup of the Caspian seal project in the northern part of Iran. One of the main problems was the big number of accidentally trapped seals, which were entangled in fishing nets. Also in this case we followed the earlier mentioned schedule of starting points. Together with some Dutch scientists I went to Tehran, where we discussed the situation with an enthusiastic group of students (vets and biologists) from the Tehran University, who offered themselves to get involved. They were invited to come to my center in the Netherlands, to learn everything which was necessary for the study and treatment of seals.

In Iran these young enthusiastic students started their project with a questionnaire among the fishermen about their experiences with seals and their thoughts about the setup of a project to protect them. In this way we learned a lot about sightings, accidentally entangled (and killed) seals, estimated numbers and – most important – the attitude of the fishermen towards seals.

This gave a starting point to the Caspian Wildlife Rescue project. Initially setup by Mostafa Shahi Ferdous, a brilliant vet, who worked a long time in my center in the Netherlands. But when he unfortunately died in a car accident, his friend and colleague Amir Sayad Shirazi decided to take over the lead, initially as a tribute to Mostafa.

Thanks to the tireless efforts of Amir, the project in Iran has developed very successfully, and is still expanding. Also thanks to the involvement of Mrs. Masoumeh *Ebtekar*, current Vice President of *Iran* and head of the DOE (Department of Environment). At this time there is a close cooperation with the DOE, there is a small but efficient rehab station on the peninsula Ashuradeh, there are regularly meetings with the local fishermen, who embraced the project. Previously entangled (and thus floundering) seals were killed by the fishermen, to avoid damage to their nets. Nowadays they call in the help of the Wildlife Rescue Team. These volunteers come on the spot as soon as possible, and because they know how to handle and calm down



a seal, only a small incision in the net is required. And the fisherman receives a compensation for the damage on his net: everyone is happy.

Amir has organized a group of volunteers, who gives information to schoolchildren and local people, and help solving problems of the local population. The fishermen are happy because they are involved in the project and feel recognized. The project has become a broader basis: all wildlife in the Caspian Sea and along the coast is involved. So not only the Caspian seal, but also the sturgeon, otters, leopards, etc. are now included. In the meantime several individuals of all those species have been released into the wild. Thanks to the enthusiasm of the team and the interest of the media, nowadays everyone in Iran is aware of the fact that there are seals in the Caspian Sea, that they are endangered and need protection.

Finally, the Why and How of my work and philosophy....

Why

Increasingly the theory is used that wild animals live in a world separate from our own and that we are supposed to leave them there. We are happy to watch them from a distance and we only physically interact with them when they are hunted, wounded, studied or in serious trouble. And the latter is usually caused by us; that makes us responsible. And therefore I decided to help individual animals in need.

Of course the main aim can never be to rescue or even increase a population (exceptions excluded). But what is wrong in helping an animal in need, just because it is for its own welfare? Not only many people - especially children - cannot see an animal suffer, but in fact it is an act of civilization to help a suffering creature.

How

During 45 years I developed (always in collaboration with experts in the relevant field) the most suitable techniques for fieldwork; transportation; intake; quarantine; nursing; feeding; hygiene; veterinary care; medication; protocols; release; etc. etc. This made it possible to create several successful seal rehabilitation centers in the Netherland. And with our knowledge and experience we assisted in setting up such centers all over the world.

Conclusion

To ask attention for an individual animal that needs help, makes this animal a symbol. And with that attitude you certainly can be extremely important for a whole region, or even a whole population (both humans and animals). In the preceding pages I told about examples of this approach in many countries. The project in Iran can serve as a symbol for the purpose of our work. Now the fishermen are proud when they succeeded in saving a seal from their nets. The government rewards them with a certificate. And no seal is killed anymore.



Fig. 4. Lenie't Hart (Godlieb Leentje), seal expert

Lenie't Hart