

H86-195-01 John Burns

Dan O'Neill interviews John Burns, Dept. of Fish and Game biologist, regarding marine mammal management (especially walrus)

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00:00

Dan O'Neill is interviewing John Burns about his career as a marine biologist. John Burns was born in New York City and raised on eastern Long Island. He comes from a family of fishermen and was introduced to commercial fishery at an early age. His father did not want him to become a fisherman and encouraged him to become a scientist instead. It was a way for him to maintain a connection to fishing and at the same time get a more secure future. His family fished at Montauk, [sp? Amagansett], Point Judith: as far south as Virginia and as far north as southern Greenland. He, himself, never made it as far as Greenland.

He went to an agricultural high school on Long Island where he was convinced that he did not want to become a farmer. He went to North Carolina State University and was introduced to academic research. He focused on animal physiology and ecology. As a graduate student, he had the opportunity to go to the University of Alaska, Fairbanks. Here his interest in living resources of the north began.

03:25 In the early '60s, when he was a graduate student at UAF, the staff was very dynamic, meaning they included people like Otto Geist, Ivar Skarland, Bill Pruitt. There were a lot of interesting challenges during those days: Project Chariot was underway. He chose to come to UAF primarily because of the unique research opportunities, but also because of the professors there.

After he graduated from UAF, he got the opportunity to work for Alaska Department of Fish and Game in Nome. Here, his main focus would be marine mammals. At this point he was married and had two children.

05:33

For a marine biologist, the Bering Strait region was absolutely fascinating. Huge migrations of marine mammals pass twice a year. The connection between resources and the people that use them was fascinating and Burns continued to work with it for a long time.

Antarctica might be similarly fascinating, but the one ingredient missing there is the local people who add so many more interesting and challenging dimensions to the work with marine animals.

He is grateful to his father for pushing him in this direction and he has been fortunate to meet many very accomplished scientists who challenged his curiosity and provided good advice and questions.

07:17

O'Neill encourages Burns to talk more about his experience with Geist and Skarland.

They were all very different people in their own ways. Ivar Skarland was more or less a physical anthropologist which Burns was not particularly interested in. However, the kind of information he conveyed about culture helped Burns to understand the people he was working with. An important part of Skarland and Geist's influence was their emphasis on understanding the people who lived in the regions where they worked and their connections to marine animals: how they adapted to and exploited their environments. Skarland and Geist helped him to understand the people as a functional part of the ecosystem: an important intricate component.

Doctor Pruitt was instrumental in a different way, as he was involved in adaptations of animals for exploiting unique environments, particularly in the North. He was an animal ecologist first. He learned from Pruitt all of the aspects of cold dominated systems and how snow and ice interact to produce habitats that different animals exploit. Burns developed an interest in looking at the dynamic of sea ice in the Bering and Chukchi seas and the very different habitats that are produced near the shore in the fast ice zones, in the flaw zones, and in the drifting ice zones. Even though Pruitt was a terrestrial ecologist, a lot of his interest could be transferred to the dynamic habitats that exist in the sea. Looking at the frozen sea is not much different than looking at a landscape. There are a lot of different habitats that support different kinds of wildlife.

11:40

O'Neill leads the conversation back to Project Chariot.

Burns came to UAF in 1960, when Project Chariot was still in full swing. A lot of people were doing fieldwork in Cape Thompson, Ogotoruk Creek, Point Hope and Kivalina at the time. Burns does not feel comfortable commenting on how Bill Pruitt felt and thought about controversies surrounding Project Chariot at the time. Generally, a lot of people were concerned about the use of atomic blasts on the north coast. A lot more information was coming out about the consequences of radioactive fallout at the time and people were concerned.

O'Neill comments on how scientists seemed to have been in somewhat of a bind because they wanted to accumulate scientific data in that [North Alaskan] and any other region, which is why they went and worked for the AEC [Atomic Energy

Commission]. However many of them also felt that the project was of dubious merit. The results of the blasts were not well known and the animals and people in the region would be subjects of experiment if the project was carried out. Burns agrees, commenting on how that is always the case with research projects. There is always going to be people who are interested in science for the sake of science, and others who are concerned about both the science and the people involved.

15:39

O'Neill asks Burns if he thinks UAF compromised itself as they sought big-dollar contracts?

Burns explains that it is impossible to generalize the university community as of one mind. Some people recognized that Project Chariot was an opportunity to focus a critical mass of expertise towards understanding a geographic region in an ecological context. While Project Chariot was never carried out, the scientific research was, and the Ogotoruk Creek was, and perhaps still is, one of the most intensely studied areas. A question remains of how much influence individual scientists had in the final decision not to carry out Project Chariot.

Burns was a student at the time and he was only peripherally aware of events going on.

18:43

O'Neill asks about Burns' job in Nome.

He was sent out there as a marine mammal biologist working primarily with Pacific walrus. The investigator that had preceded him was the preeminent scientist Doctor Fay [F.H. Fay]. He had a reasonable understanding of what the population trends were even back then. They were at very reduced numbers from what habitat would support and there was concern over them. They were very important to coastal economies, primarily for local consumption: domestic use. Burns and his colleagues' research goal was to learn about the natural history of Pacific walrus. Their management goal was to ensure that the walrus population increased to higher levels, as it was severely depressed in the 1950s and 1960s. This was the second time walrus were severely depressed, but it was basically over exploitation.

20:14

There have been three periods of reduction of the walrus. Two in the past and currently the third is underway. The first major reduction was a direct result of Yankee whalers turning from bowhead whale to walrus towards the tail end of the whaling era in the late 1800s. The second period was just prior to, and shortly after, World War II. This time it was because of exploitation from Soviet commercial walrus hunters. The third period is right now, in Burns' opinion. The initiation of the present decline is caused by walrus reaching a very high population number, causing a natural response to overpopulation. The decline, without significant adjustment, will be intensified by current levels of exploitation

if they are continued. This is a definite difference [initiation vs. intensification] because people will conclude that the hunting done in Alaska by Soviet citizens is the cause of the problem, but it is not the root of the problem. It is only a way to increase an initial problem of overpopulation.

22:26

O'Neill asks what precipitated the overpopulation.

When Alaska became a state in 1959, it assumed responsibility for all the resident wildlife species. There was a very clear view, maybe because of lack of information, of what the immediate step should be: to ensure the contribution of walrus to local economies, while allowing walrus populations to increase. The first hunting regulations imposed on rural communities did not reduce their opportunity to take walrus, but effected the composition of walrus they could take. A limit to how many females they could take was imposed because the females are at the reproductive heart of the population. The first significant impact was to change the sex ratio of animals that were harvested. This was based on the understanding of breeding associations at the time: that it does take far more females than males to maintain breeding rates. There was a rapid response to this limit as the population started to build up. There has been a long history of work on walrus. It goes back to 1952-1953 when some intensive studies were initiated. The result was that there was a very artificial natural sex ratio in the population of walrus as it continued to increase. In the 1960s an environmental consciousness was developing and a lot of issues were debated, among them marine mammals. In 1972 the Marine Mammal Protection Act [MMPA] was passed. This had a great impact on Alaska because the state was removed immediately from all management dealing with marine mammals. It became almost impossible to do anything about the rapidly increasing walrus population, as the state had no say in managing it anymore.

26:20

As the dependence on cash income in rural economies in Alaska grew, the dependence on walrus for food as well as for raw materials, vitally important for cash income, also grew. This resulted in greater dependence between walrus and rural residents and an increase in harvesting. This relationship could be accommodated as long as the walrus population continued to increase. However a continued rise in population resulted in the habitat not being able to support the population and it began to decline.

27:10

[The following is transcribed so make sure the technical aspects are clear]

Burns: "There is an interesting thing between declines which [is] man-induced, for instance, over harvesting. Once the harvesting pressure is eliminated [and] the habitat has not been altered, it tends to respond very rapidly. You have a young, productive, population composition; remove the harvesting pressure and it will rebound rapidly. In this instance, of the three declines, this decline is initiated by

exceeding caring capacity and the effects on habitat. And even if hunting were curtailed drastically, the timeframe for recovery would be the timeframe predicated upon recovery of habitat, not just simple reduction of hunting pressure”.

28:01

The walrus are not unlike other species, where they [Department of Fish and Game] had the same goal. For example, in regard to sea otters, the state’s goal was to reestablish them in all areas of Alaska where they formerly occurred. Sea otters were reduced much more than walruses. They transplanted sea otters all over the state. In connection to another atomic blast: Cannikin on Amchitka [Year: 1971] a lot of sea otters were moved from Amchitka to other parts of the state. Those transplants were successful and the sea otter population expanded rapidly. This expansion caused new issues as the increased sea otter population became a problem for shellfish fisheries. Here the point is that things have to be understood in a historical perspective. If anyone had thought, in the late 1960s, that a reestablishment of the sea otter population would make it impossible to manage them in connection to other components of the ecosystem, then there would have been a serious policy issue. But those were different times. Actions were not always right and assumptions of maintaining a form of ecosystem balance were rooted in homocentric views of the world. The 1972 MMPA changed that kind of approach. They [Department of Fish and Game] went from hands-on resource management to hands-off resource management, and still today it is difficult to get hands-on approaches approved. Today, the decision-making process is so diffuse, with many different interest groups involved, that it is hard to get anything through.

O’Neill follows up saying that the MMPA prevented the state of Alaska from continuing with their initial management plan. Burns confirms this. It did not necessarily intend to do so, but that is what it resulted in. The MMPA was a direct response to people’s concerns over the commercial exploitation of great whales, which resulted in decimation of whales. It was an emotional response to seal hunting in the North Atlantic. Seals are different from whales because there is a high emotional investment in seals from the public. The MMPA was very well intended legislation, which was carried to an extreme. It is ideal for protecting disadvantaged resources that are driven to very low levels. But it has been ineffectual in dealing with resources of healthy population levels and that are important for human use. It is problematic to have decisions made as far away as in Washington because the context of subsistence hunters in Alaska is not considered appropriately.

33:15

The first draft of the MMPA did not allow any harvesting of walrus. There were provisions made for Alaska Natives. These were based on stereotypical images of Eskimos, but they did allow for provisions. Eskimos, Inuit and Aleuts residing on the coast of the North Pacific were allowed to hunt walrus for subsistence

purposes or for purposes of creating authentic Native handy craft. Walrus are a huge factor in coastal Native communities because of ivory. The MMPA reduced the opportunity for coastal communities to use other parts of the walrus and forced them to focus on using ivory, the highest valued commodity. This has to be understood in a historical perspective. The evolution of economies from the 1960s to the present 1980s is a period of rapid transition; a greater dependency on cash. For example, snow machines replaced dog teams everywhere within three years; hunting became less important, money became central. As such ivory became much more important, because it could be exchanged for cash and therefore an increase in harvesting occurred.

37:46

When looking at the importance of living resources, the walrus is as important today, as they were in the historic past, for rural, coastal communities in Alaska. The purpose for their importance has changed significantly: the use of the walrus once it has been harvested has changed, but the dependence is just as great as it has always been. There is an interesting relationship in the evolution of economies, the evolution of technology, the evolution of cultures, and the status of the resource.

O'Neill follows up in the earlier discussion of the MMPA asking if it caused the whale population to suffer.

Burns argues that it did not, but the act was ideally suited for protecting disadvantaged species. It eliminated exploitation by Americans and levied hard penalties on non-Americans. For example, importing and exporting of resources was made illegal. Rural communities suffered economically because of this. Subsistence hunting still goes on, but hunting with intention to get money has almost been eliminated and therefore the people suffer economically. As a result of that they suffer socially.

40.45

The northern residents have two ways to go. Either they are going to depend more heavily on subsidies or they will have to invite industrialized operations into their communities to generate jobs. This is already happening in Alaska and Canada.

41.50

O'Neill comments on how the MMPA, despite intentions, was not very mindful of scientific facts. Burns agrees, saying that it was based on emotionally charged issues. Today more than ever, people have very varied opinions on how to approach and handle wildlife resources. And it will continue to be difficult to find ways to do so, where everyone agrees. The biological facts and people's perceptions of those facts are so far apart that there is no agreement.

O'Neill wonders if science needs better public relations. Burns explains that science needs to be better understood by the public to prevent acts like the MMPA, which most of all is like the story of The Boy who Cried Wolf. People

need to understand the environments they are living and working in, but it is difficult to get through to the public. Entertainment programs have replaced television programs on science. Everybody wants to study whales but nobody wants to know about the little phytoplankton that is the beginning of it all. It needs to be high profile and flashy for people to maintain interest.

Burns enjoy working with science teachers and his one message is to give people a good understanding of how ecosystems work, how they provide support to each other. That is hardly ever presented any more.

47:00

O'Neill asks if there are any other species beside the walrus that are suffering right now. Burns says to look at the status of key marine mammals: animals that are of direct importance to residents in Alaska. There is a false hope that it is possible to maintain high levels of these animals. However, one can never expect to maintain high levels of any species. Natural systems are never stable; they are always fluctuating. Certain populations are declining, some are stable, some are increasing.

MMPA does not take natural fluctuations into account and therefore it, and acts like it, have to be reexamined.

At some point people are going to realize that if they are going to produce fish to feed lots of people, then they also have to consider how animals need and use those fish. This is the key to healthy, viable, populations of marine mammals. So far there has only been two models: overexploitation and overprotection.

50:04

As a scientist, Burns does biological research, but he also has to consider how to apply his research to management of resources. While the biological research is successful, the resource management is not yet successful. There needs to be a better understanding of the political issues involved: better scientific communication and education of the policy people involved in resource management.

52:47

O'Neill asks: If politically possible, how could the MMPA be changed to accommodate better resource management.

There are many changes that have to be done and it is difficult to go into specifics. First of all, not all marine animals are in danger, which the act currently indicates. One has to realize that these animals are a significant functioning component of ecosystems, man is part of the ecosystem, and that the driving force in human societies is economy, be it subsistence or wage. One has to realize that resources like salmon and marine mammals are both intricate parts of the ecosystem. They might not have the same emotional value, but they are equally important from a biological perspective.

55:24

O'Neill asks: So what we ought to be doing is selectively harvest species based on where they are and their population level? Burns explains that selective harvesting is an extreme. The point is that the management framework should depend on a thorough understanding of the ecological relationship of the different organisms. Certain species, even at healthy population levels, occur in low numbers and cannot ever be harvested in large numbers. Other species occur at large numbers and are important to local economies which are disrupted when they are disallowed to hunt them.

Those local economies are forced to generate other ways to produce the cash income that is required. Those other ways tend to be far more disruptive from a traditional perspective. For example, full-time work in a mine is not easily combined with living a subsistence lifestyle.

The fur seal issue is here an insightful example. The North Pacific fur seal occur at very high levels. It was the traditional economic base for the Pribilovians [Pribilofs]. However, harvesting was not a driving force in the welfare of the seal population and people outside Alaska did not emotionally accept the harvesting. Therefore the markets for seals dried up and the Pribilovians were forced to find new ways to support themselves. They started promoting fishing ports on St. Paul and St. George [islands], as well as local-based fisheries. That kind of fishing industry is devastating to the seal population and so the Pribilovians ended up potentially destroying the seal population far more than they were while they were harvesting them.

People have a difficult time understanding direct harvesting. While the development of, for example, road systems, suburbs, and shopping malls, all leading to the ultimate elimination of wildlife, is accepted.

The Pribilofs' harvesting of seal has not made impacts on the seal population levels since 1911. The early, unregulated harvest that Jack London wrote about in Sea Wolf decreased the seal population some, but they have come back intensively and have been harvested almost every year.

01:00:35

It is easy to say that it is always uninformed people outside Alaska who these kinds of decisions, but that is not always the case. As a nation there is a reaction to a period of unrestrained expansion and exploitation. The reaction is extreme in the opposite direction and middle ground is difficult to reach.

O'Neill comments on how he is interested in why management is failing and what can be done to improve it. He is also interested in the prospect of educating the general public, which he has tried to do with his documentary [Radio program Recorded History: The Scientists. RLR].

[Last two minutes of recording is empty]