

# Negotiating Salmon. Ontologies and Resource Management in Southwest Alaska

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**ABSTRACT:** *Current environmental crises disclose power hierarchies, such as within the negotiation of how to distribute natural resources. This paper focuses on the importance of acknowledging human-animal relationships and lived realities within the co-management and conservation of resources. The research draws on conflicting ontologies that can be found around salmon conservation in Southwest Alaska, especially around returning king salmon in the Kuskokwim River, which has seen a decline in numbers over the last decade. It illustrates the importance of considering the ontological constitutions of animals as beings, which renders the understanding of how human-animal relations can be maintained throughout crises. Rather than perpetuating the assumption that salmon are ›natural‹ objects, but understood and known differently by indigenous communities, the ontological approach enables us to recognize that salmon are not one entity but constituted beings in enacted worlds.*

**KEYWORDS:** *Resource Materialities, Political Ontology, Resource Management, Conservation, Salmon*

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## Introduction

Current environmental crises disclose power hierarchies, such as within the negotiation of how to distribute resources. Environmental issues also offer possibilities to identify differences in lived realities and the comprehension of beings and relationships within the world as such. As an environmental anthropologist, I am particularly interested in how people share their environment and social lives with other animals and how these relationships are maintained, changed, or negotiated within these environmental catastrophes. This paper focuses on the importance of acknowledging these relationships within the management of natural resources.

(Indigenous) Scholars and ethnographers have reflected on the role of animals and other non-humans in indigenous communities. They stress not only the dependent relations between humans and animals but also the importance of recognizing lived realities in the current (environmental and colonial) crises (e.g., Kohn 2007; Watts 2013; Todd 2014; 2016a; Belcourt 2015; de la Cadena/Blaser 2018). Practices and stories perpetuate concepts of animal agency and personhood and manifest the roles of animals in shared environments.

In recent years, academic discourse has often shifted the analysis of animals and other non-human beings under the concept of ontology. The anthropologist Sylvie Poirier (2013, 59) states that:

»unlike a symbolic approach, an ontological approach not only asks how a world is conceived (and how true and logical any conceptual system is), but also how it is lived and experienced, how different knowledge, valid within a conceptual system, gives way to different true experiences and other worlds.«

I understand the ontological approach as an opportunity for anthropologists to engage with the fields of conservation and natural resource management in our ethnographic research without replicating ideas about the ›natural‹ world. Instead, it offers us ways to reflect on different lived realities and environments and moves us away from concepts of a universal natural world (cf. Eitel/Meurer this issue).

My own research draws on conflicting ontologies that can be found around salmon conservation in Southwest Alaska. During my fieldwork, I concentrated especially on returning king salmon in the Kuskokwim River, which has seen a decline in numbers over the last decade, and which initiated a new set of conservation approaches. My field site, the Alaskan village of Bethel, is home to indigenous Yupiit<sup>1</sup>, who include animals as social actors within their lived experiences, especially in and through hunting and fishing practices. I advocate for the recognition of their individual life experiences and a granted status of expertise for subsistence fishing practices within conservation narratives. Furthermore, this article stresses the importance of considering the ontological constitutions of animals within different lived realities. This, I argue, defines how human-animal relations can be maintained throughout current and ongoing environmental and other crises. Instead of perpetuating the assumption that salmon are part of one objective universal nature, that is represented differently by indigenous communities, scientists, and other groups, the ontological approach enables us to recognize the variety of human-animal-relations, of ontological constitutions and realities.

Bethel is a home for many non-indigenous people, too, and the examples illustrated in this paper demonstrate that various ontologies co-exist for most of the time along the Kuskokwim River. However, these ontologies become incommensurable during certain moments of co-management, settings which promote the inclusion of indigenous and other voices in decisions about conservation strategies and attempts (cf. Blaser 2009; 2016; Meurer this issue). These moments of crisis, in which negotiations fail and new regulations negatively affect certain groups, reveal the multiple ways in which people include salmon in their lived realities.

The article is based on ethnographic fieldwork which was conducted between 2015 and 2017 (c.f. Schiefer 2019). I spent over 14 months in Bethel and participated in fishing practices, management meetings, and was able to follow the way in which the State of Alaska turns salmon into a countable and manageable resource. Bethel is the largest village of the Yukon-Kuskokwim Delta area in Southwest Alaska and has an estimated population of around 6,000 people. Most dwellers in the delta area identify as indigenous Yup'ik, however Bethel is also home to several white families who settled in the village during the last century. Bethel carries on attracting people of different ethnicities from other states of the US who often take relatively well-paid jobs within the school or health care system, or work for other State or Federal governmental institutions such as the Alaska Department of Fish

and Game. During my fieldwork I worked with many indigenous fishers, but also with several, predominantly white, fisheries managers.

Both indigenous fishing practices and governmental salmon management establish ways of knowing salmon, relationships of care, and perceptions of environmental changes, yet they seem to be conflicting in some areas. Following Mario Blaser (2009; 2016), I argue that conflicts in resource management and especially in co-management, settings in which local communities are prompted to engage in management decisions usually concerning natural resources, not only occur due to diverse perspectives on the world but also because some actors are unaware of different lived realities.

This article offers an empirical argumentation to demonstrate how ontologies are negotiated within co-management settings and to illustrate existing power hierarchies. It starts with the description of some of my experiences during the meetings of the Kuskokwim River Salmon Management Working Group (KRSMWG). It elaborates different constitutions of salmon that were enacted during the working group meetings that concerned the issue of returning jack salmon into the local fishery areas. From there, the paper moves on to explain how these constitutions are part of enacted worlds and draws attention to the negative effects of power hierarchies within conservation approaches. After managers articulated declining king salmon numbers in the Kuskokwim River, knowledge produced within the discipline of fisheries management was yet again ranked above local indigenous knowledge (Brown 2006; Butler 2006; McGoodwin 2006). While natural sciences are now searching for answers to react to changes in the environment and to protect and sustain salmon runs, the indigenous community in Bethel always included salmon and other beings in their legal orders and relationships. This article acknowledges that the comprehensive work of indigenous scholars (c.f. Napoleon 2007; Todd 2014; 2016a; 2016b) and indigenous communities ever since offered us insights to engage with environmental issues but are still discriminated against in current political and academic settings.

### Negotiating Returning Salmon

The importance of salmon and salmon fishing for Yup'ik communities in Southwest Alaska is immense; they rely on them for food and to maintain social, cultural, and spiritual relationships. With decreasing king salmon numbers after 2010, new circumstances were created through and around this environmental crisis, such as the regulation of subsistence fishing practices through State and Federal managers. These regulations, such as limiting opportunities for and the number of harvests, and the use of certain tools, disrupted fishing activities and the distribution of fish throughout kinship groups, forming a moment of crisis in the village of Bethel and other affected communities. While restrictions and regulations concerning commercial salmon fishing took place for several decades, it was the first time that the fishing routines of (indigenous) subsistence fishers on the Kuskokwim River became regulated. The State of Alaska defines subsistence use as the harvest of wild resources for non-commercial, customary, and traditional reasons, and can include purposes such as food, shelter, clothing, or tools. Different to most other countries, subsistence use in Alaska is linked to rural residency and not to a status of indigeneity.<sup>2</sup> Most people in Bethel can therefore harvest subsistence resources, such as birds, moose, and fish.<sup>3</sup>

Today, local conversations about salmon fishing often involve critique and complaints about current Alaskan State management strategies. While governmental institutions used to promote co-management, the last years of restrictions created tension that became too

strong to be negotiated with a satisfactory solution. These current negotiations about conservation strategies are informed by various knowledge about maintaining relations between humans and salmon. Before analyzing these relationships, I give an example of a co-management approach and some ontological conflicts that could not be overcome. In addition, it illustrates how ontologies of salmon can hinder communication and can lead to the disregard of Yup'ik relations to fish by governmental institutions. The example takes place at the Kuskokwim River Salmon Management Working Group (KRSMWG), a co-management group based in Bethel with the purpose of including different local actors in the processes of local salmon conservation. It uses the example of so-called jack salmon, whose behavior is a constant point of discussion in the co-management group and reflects the different notions of return and migration along the Kuskokwim River.

The Alaska Board of Fisheries formed the KRSMWG in 1988 to respond »to requests from stakeholders in the Kuskokwim Area who sought a more active role in the management of salmon fishery resources« (Alaska Department of Fish and Game 2017b). I attended the weekly meetings of the group during the salmon run times in 2015, 2016, and 2017. It was during these meetings that distinct ideas and misunderstandings, but also common ground, became evident to me and my research. Attending these meetings offered me an idea of how the migration of salmon was vitally embedded in the different conceptions of this animal. The annual return of salmon became a core part of the human-salmon relationship experienced in the Southwest of Alaska. The members of KRSMWG represent State and Federal managers and biologists, Yup'ik Elders, and subsistence and sport fishers from the Kuskokwim River. The main part of the meeting was the sharing of observations on the status of salmon migration. Wildlife managers usually presented monitored fish numbers and elaborated upon planned management strategies. Local subsistence fishers participated by reporting current catch numbers and offering comments or proposed changes to the presented management strategies.

Already during its initial implementation in 1988 the KRSMWG became of interest to anthropologists, as it provided a forum for exchange of diverse knowledge of fish resources and the attempt to establish a co-management system in the area. Daniel Albrecht (1990) conducted fieldwork in the first two years after the initiation of the group and concluded that the methods for acquiring knowledge used by the parties are a key factor for (successful) decision-making. Ideally, all parties would complement and inform each other and co-create knowledge about salmon. Biologists and managers rely on scientific data, while fishers acquire their knowledge in the practice of a subsistence lifestyle (ibid., 91). The exchange of both knowledge and values would then enable a set of effective strategies that serve all interests. Just like in many other appraisals of co-management initiatives, the first years of KRSMWG were optimistic and promising ones.

However, Albrecht worked with the group during a time in which salmon numbers were seen as more abundant and subsistence fishers were not restricted in their fishing rights. Unfortunately, co-management is not the panacea that can dissolve long developed inequalities and colonial structures in having access to land and resources, and the environmental crisis of less returning salmon disclosed power hierarchies within the group. The KRSMWG is an example of how fisheries management try to integrate local perspectives into the approaches of Euro-American settler resource management to make them more accepted in the community. Yet, often referring only to one specific species, these attempts run the risk of failing to understand how people relate to animals and the land in general. The attempt to establish a co-management approach in Bethel did not only reveal differences in the constitution of salmon in local lived realities, but also highlighted fundamental

problems perpetuated through colonial power relations. Structural inequalities manifest themselves for example in the way job positions for biologists and wildlife managers are filled. Most managers are not indigenous nor raised in the area and are not always familiar with subsistence hunting or fishing practices. It should be emphasized that Euro-American settler science, locally perpetuated through biologists and other managers, and the knowledge of local fishers do not necessarily exclude each other. However, my research was mainly interested in the ontological limits of what is negotiable, and which indicate how the understanding of salmon are differently enacted. The following example of jack kings is, therefore, used to illustrate how various lived realities cannot be negotiated, but instead manifest power and knowledge hierarchies within settler colonial conservation approaches.

King salmon that are smaller than 20 inches, and considerably smaller than their companions, are usually classified as jack king salmon. Biologists state that these jacks are typically one or two years earlier in the migration cycle than the other king salmon that return to their natal streams. Sometimes they can even mature in fresh water or spend only a few months in the ocean before returning to the freshwater rivers. As salmon put on most of their weight during their time in the ocean, jacks lack the nutritional basis and time to gain the size that other salmon can reach. Scientists so far have not found a satisfactory explanation for this behavior (NOAA Fisheries 2016). Due to the size, fishers on the Kuskokwim River can identify a jack king salmon quite easily. These salmon are not targeted and are even avoided during fishing trips. This avoidance behavior can partly be explained as the smaller body would mean less eatable meat for the same amount of work. Often net mesh sizes are too large to catch these smaller salmon and if caught with a fishing-rod they can be released alive. Interestingly, there is a common local perception that assigns jack kings a special behavior and role they must fulfil. Indigenous fishers state that these smaller fish will not, like other salmon, migrate upriver once in their lifetime, but return to the ocean (and then grow into full-sized salmon) after scouting the Kuskokwim River. Back in the ocean, they would inform other fish if the migration back to their spawning grounds is desirable and safe.

I do not argue that the stories around jack fish can be somehow ›translated‹ into ecological knowledge that biologists could use for their management strategies. Instead, this knowledge shows how different people perceive and relate to animals and their actions. Jack salmon are an example of animals that evaluate their surrounding and human behavior, a basis for the Yup'ik ascription of agency and personhood to animals. Similarities can be found in other Northern indigenous communities, such as Colin Scott's description of Cree hunters and their appraisal of geese communication in a hunting situation. After a missed shot on a goose, the animal flew back in the direction it came from: »no more geese flew our way from the lake that day. Geese, apparently, could communicate to other geese about phenomena that the latter have not experienced directly« (Scott 1996, 80). Scouting animals in the context of Cree hunters and Yup'ik fishers indicate that the relationship between animals and humans is a reciprocal one. Based on information scouted by jacks salmon can decide if it is safe to return into the Kuskokwim River, hence responding to human actions. Fish are ascribed to be able to evaluate a situation and base action upon it, a common awareness of animals through which people can cultivate relationships with them. As Scott states, »knowledge traditions reflect the morality of the social practices and paradigms in which knowledge is framed« (ibid., 85).

At the KRSMWG, jack salmon were often part of debates. Biologists and some fishers strongly opposed the idea of jacks being scouts. While it was often simply judged as misinformation, I understand the debate as a misunderstanding of relations towards salmon and the lived realities from which these ideas arise. The knowledge of biologists and subsist-

ence fishers about jack salmon is empirical, both groups identify them through their smaller bodies. In addition, the Yup'ik sense of jacks as scouts reflects the reciprocal connections between human and animal behavior. This information about jack salmon cannot be incorporated easily into existing scientific categories, even though they refer to the same fish (cf. Nadasdy (2003, 123ff.), who describes the problems that arise with the compartmentalization and distillation of traditional knowledge to integrate it into management processes).

However, while there was always a disagreement about the role of jack salmon, problems with the categorization of jacks did not arise until managers put regulations on the king salmon fisheries. Until then, biologists could dismiss the Yup'ik understanding of salmon as local folklore, but now jack salmon started to affect their data collections on current fishing activities and the overall observation of salmon migration. As part of my research, I helped conduct in-season and post-season salmon subsistence harvest surveys for the local Native Council. During these surveys in 2016, I noticed that some subsistence fishers treated jack salmon as a separate species. Asked how many king salmon they caught, they normally left out the king jacks and only mentioned them after an explicit query. Jacks were considered as something that was dissimilar to the other five salmon species found in the Kuskokwim River. A fish biologist who worked for the Native Council in Bethel complained about this issue. For salmon managers especially, the idea that jacks would return to the ocean after scouting the river creates problems within their data sets. Within the surveys, it generates an incorrect estimation of how many king salmon were caught on the way up towards their spawning grounds, as people do not report them in the same category as other kings. The concept of an adult salmon swimming back to the ocean does not fit in with the assigned direction that the fish is supposed to travel to migrate towards their natal stream. Prospective calculations of king salmon reaching their spawning grounds are flawed by both the idea that fish would return to the ocean and by people reporting them using incorrect classifications (as a different salmon species), or, worse, not at all.

In addition, different perceptions of jack kings complicate fishing restrictions that work through the regulations of net mesh sizes. During a co-management meeting in April 2016, fishing with smaller mesh sizes was discussed as an option to provide people with the opportunity to fish without targeting the larger king salmon (larger fish usually do not get stuck within a mesh too small for their bodies, but rather bounce off and then swim around the fishing net). A Yup'ik Elder commented: »people in the villages think if they fish with 4-inch nets, they catch those smaller fish, jacks, which should be returning to the ocean«. In response, a female Yup'ik member replied that »this is a delicate topic. The belief in jacks is traditional knowledge, passed down for generations. Especially non-natives should not argue with Elders about jacks« (Fieldnotes, 20.04.2016). Rather than being able to reach an agreement on the use of appropriate fishing tools to protect king salmon while still enabling fishing for other species, indigenous fishers understood the use of a smaller net size as being harmful to the salmon run.

As this example has shown, jacks, which are representative of a wider comprehension of salmon as beings, create conflicts within the KRSMWG, even though all parties try to establish a system of co-management. Yupiit assign this fish an interactive form of behavior which conflicts with knowledge of fisheries managers that salmon migrate in only one direction. Technically, this did not matter until it collided with regulations and restrictions during a moment of crisis, and it explains why jack salmon have been recently negotiated in co-management approaches.

## Recognizing Human-Salmon Relationships

In the initial stages of this research, I interpreted the migration of Pacific salmon as a basic fact, something that salmon simply do. Often the migration is illustrated by beautiful stories about the long journeys these fish undertake to return to their birth grounds. Central to these stories is the life cycle of the anadromous salmon, which migrate between the Pacific Ocean and Alaska's rivers. In these stories, the idea that salmon migrate back home after several years in the ocean became an all-embracing one. My own fieldwork was coordinated around the events of fish migration (When do we catch the first king salmon? When can we expect the first silver salmon?). Activities were synchronized around the migration time of animals, mine as well as those of local fishers, fisheries biologists, and salmon managers.

Salmon passing through the Kuskokwim River and by the village of Bethel was a simple circumstance until I re-focused my attention on the process of migration and the way people spoke about it, both in the KRSMWG and elsewhere. With examples like the jack salmon, I started to concentrate on perceptions of salmon migration and connected ideas of where salmon return to. These ideas, I argue, are influenced by the relationships people and salmon create with each other and, as such, the ontological constitution of a salmon. In addition, they offer us an insight into the current colonial power structures in which salmon fishing in Alaska is embedded, and the impact ontological understandings and power hierarchies have in current environmental crises. Fisheries managers predominantly perpetuate a narrative of salmon migration that mainly concentrates on abundance, the quantity of salmon that return to the Kuskokwim River after having spent their adult years in the Pacific Ocean. However, other perceptions of salmon in the Kuskokwim River are strongly connected to the practice of annual fishing and the Yup'ik sense of animal agency. I argue that the way people care for salmon requires special attention in current conservation efforts. The articulation of human-animal relations by both indigenous fishers and fishery management staff refer to ideas of returning salmon to the Kuskokwim River; however, these concepts can contradict each other.

### Fishing for Return

Salmon fishing and the subsequent processing of the fish creates a discourse and a set of values about correct fishing within Yup'ik communities, which is constantly negotiated and renewed. Local oral history and daily practices amplify the importance of respecting salmon to become or stay successful in catching fish. They include the idea of not taking more than needed, processing the fish without any waste, and sharing the catch with others. Like in other hunter-prey relations in North America, anthropologist Ann Fienup-Riordan describes these practices as relations of reciprocity between Yup'ik and salmon in which the fish gives itself to the fisher in return for respectful treatment (Fienup-Riordan 1990, 72; 2015).

The main aim is to bring fish into the net and fishing for salmon ensures fishing success for the following years; the net, and the act of catching, establishes and continues the relationship between fish and human. These actions create and perpetuate relationships between human and salmon in a special way. Humans and non-humans are obligated to behave in a certain manner, not only for the ongoing fishing season, but as a general way of living. This is due to the sense of agency and the relationships Yup'ik assign to humans and animals, who are only distinguished through actions. Fish, as other animals, are sentient beings with awareness, and can respond to others within these relationships. These rela-

tionships are not only expressed in fishing practices, but also manifested in other areas, for example in oral history and material culture, such as mask making (Mossolova et al. 2019).

Assigned personhood includes the idea that animals can control their actions and fate. Fish choose a fisher's net, based on their former behavior, and fishers are supposed to (only) take what fish present themselves (Fienup-Riordan 1999, 15). If a fish is treated well after being caught, then it will come back to the same net or same fisher the next year, a reciprocal relationship that generates continued abundance. This conscious decision implies that animals can decide not to return if the fisher did not previously perform in an appropriate way, for example if they did not share their catch with a vulnerable community member or if fish went to waste. A decrease of the salmon run can, thus, strongly relate to the former behavior of an individual fisher or of the community.

The awareness of animals as persons is still present in Yup'ik communities. It frequently refers to ideas of *Yuuyaraq*, the Yup'ik way of life as a human being, a concept that highlights the importance of relations and interactions with others, human and non-human. *Yuuyaraq* mainly featured in storytelling and is part of Yup'ik oral history, but today several Yup'ik scholars base their writing on the concept. Examples are Harold Napoleon's *Yuuyaraq: The Way of the Human Being* (1996) and Oscar Kawagley's *A Yupiaq Worldview: A Pathway to Ecology and Spirit* (2006). Both authors see *Yuuyaraq* as an active part of living a Yup'ik life and to process the collective trauma that the communities experience(d) through colonialism. These Yup'ik scholars stress the importance of maintaining and strengthening current relationships between Yupiit, animals, and the environment to address former and ongoing struggles and to decolonize their land. *Yuuyaraq* is now understood as a way of healing in a time where high rates of alcoholism, drug abuse, and suicide are affecting many families in the communities.

The role of hunting and fishing to maintain human-animal relations is therefore very different to current management strategies, in which conservation efforts are normally based on the restriction of harvest numbers. Whereas managers calculate salmon run numbers to evaluate the abundance or decline of salmon, Yup'ik subsistence fishers express their concern about returning salmon mainly in direct references to fishing and fishing success, often from a historical perspective based on their own experiences. Comparisons with former fishing success during king salmon season were common. Fishers told me that in the past one had to be cautious and bring in the fishing net quickly, as the weight of the numerous and large king salmon would otherwise risk capsizing the boat. The decrease in fishing success is not only connected to the idea of a decreasing number of salmon in the Kuskokwim River, but people further observe and describe a reduction in the weight and size of king salmon. Families had to readjust their catch numbers upwards to even out smaller fish.

For Yupiit, fishing for salmon does not hinder salmon from swimming upstream to their spawning grounds, but the net offers an alternative destination for the fish to choose. Yupiit fishers understand the act of catching salmon less as a disturbance of their migration behavior, but rather as a way to sustain and perpetuate relationships with the salmon in the future.

### Salmon Homes and Resource Materialities

Fisheries management along the Kuskokwim River typically share a clear narrative of where salmon belong: their spawning grounds. To ensure that a set number of salmon reach these places, fishing regulations are enforced, and salmon are counted in several stages of their journey upstream. Spawning grounds are the places salmon were born, and the process of returning to the birthplace for reproduction is also known as *homing*. It is not only



through this term that salmon migration and their life story can be easily related to human concepts of home, including a clear geographical location. Biology and salmon management created a strong narrative around salmon migration that determined their spawning grounds as a fixed location they must reach, usually connected to notions of reproduction. In this story the animal puts all its energy towards migrating to its birthplace to reproduce. On the long journey home, obstacles such as fishing nets or predators must be overcome. Scientists in Alaska have several mechanisms to count the fish in the river and describe migration behavior. During my fieldwork, I worked with fisheries managers to understand how these methods and narratives around salmon migration shape each other. Through fish weirs, tags, aerial surveys, and household interviews, managers cannot only define the direction in which salmon swim but are, furthermore, able to estimate how many of them will arrive at their spawning grounds.

The concept of salmon homes for fisheries managers symbolizes not only the birthplace of salmon, but also establishes a trajectory destination for the animal's migration (cf. Swanson et al. 2018, 18; Schiefer 2019). During this migration, humans might engage with the animal, potentially stopping it from reaching its natal stream. This could include fishing activities, but also human-made constructions like dams and weirs. Salmon homes are a construction of fisheries science and determine how salmon are recognized as a natural resource. The salmon home is connected to the reproductive control of salmon in the Kuskokwim River, and agricultural metaphors often dominate conservation strategies (cf. Lien 2012, Smith 2012). In addition, salmon homes are not only connected to resource management but also to ownership. Gro Ween and Heather Swanson (2018) trace the historical awareness of salmon migration and its connection to an idea of home within the founding and strengthening of nation states. The authors examine how the biological concept of homing establishes a relation of ownership, in which salmon become a resource that can be assigned to a nation. Because salmon move between bodies of water and can spend most of their life in international waters, they need an assigned home, a fixed location within a nation state to be owned by a state (ibid., 196f.). However, before nations could claim ownership over salmon, scientists had to develop methods through which they were able to get to know salmon migration behavior. This knowledge led to a gradual understanding of rivers and spawning grounds as a home. It was not until the twentieth century that fisheries scientists developed experiments that were able to define the process of homing. Even today the effects of smell or magnetic fields are not fully understood and still subjects of research, and new results could alter the idea of salmon homes (ibid., 199ff.).

Hence, fisheries science made new knowledge available that turned salmon into an additional natural resource for states. Today, the State of Alaska claims a monopolizing role in determining illegal and legal forms of human-salmon interactions and elaborates on questions of access and ownership that arise in current conservation strategies and between the Alaskan State and indigenous communities. With reference to Richardson and Weszkalnys (2014), Ween and Swanson (2018, 206) state that »the scientific practices [...] have had major implications for conceptions of salmon belonging and ownership and for the development of a new ontology of salmon resource«. I therefore understand the migration of salmon towards home as outcome and not as starting point of fisheries management and see this understanding of salmon homes as part of an ontology that shapes current Euro-American resource management in regards to salmon.

Richardson and Weszkalnys (2014, 5f.) write that in addition to studying the possible engagement with natural resources, for example conservation or extraction, resources should

not only be studied as a commodity but furthermore as something that comes into being. They furthermore state that:

»the methodological framework we propose here starts from the assumption that we are dealing with relational phenomena of what we call ›resource materialities‹. This involves the combined examination of the matters, knowledges, infrastructures, and experiences that come together in the appreciation, extraction, processing, and consumption of natural resources.« (ibid., 8)

Understanding how natural resources become what they are is a crucial part in recognizing ontological differences in conservation efforts. The scientific framing of salmon, including the idea of a salmon home, turns them into a resource that needs protection during its migration and is now dominant within conservation negotiations. Ween and Swanson (2018, 209) stress that »as home-based ways of doing salmon have become politically dominant, they have pushed aside other modes of relating to these fish«. The Yup'ik perception of salmon, a being that engages in reciprocal relationships with humans and confirms the ongoing relationship by being caught, is not compatible with the dominant one that focuses on home and reproduction. Rather than a concept of home, the return of salmon to Yup'ik communities is a confirmation of ongoing human-salmon relations, and fishers trust in the salmon to provide them with food each year.

### Ontologies and Conservation

These fundamentally distinct ontologies, the understanding of salmon and their agencies, exclude each other and cannot be negotiated in co-management settings, as the example of jack salmon showed above. Mario Blaser (2009) framed these ontological conflicts over resources under the concept of *political ontology* (cf. Jensen this issue). He defines them as »the notion that there exist multiple ontologies-worlds and the idea that these ontologies-worlds are not pre-given entities but rather the product of historically situated practices, including their mutual inter-actions« (ibid., 11). Blaser studied political ontologies in settings that attempt to integrate so-called *Traditional Ecological Knowledge* into resource management approaches. He argues that the arising conflicts in these settings »happen not because there are distinct perspectives on the world but rather because the interlocutors are unaware that different worlds are being enacted (and assumed) by each of them« (ibid., 11). In one of his examples, indigenous Yshiro and managers working for the Paraguayan government try to establish a ›sustainable‹ hunting program but fail due to the dissimilar constitution of the worlds and the (reciprocal) human-animal relations within the enacted environments. Blaser's concept of political ontology acknowledges the ontological presumptions made by several parties within the management of resources. This concept is helpful as it applies current discourses of ontologies and can be used as a tool to understand how current (colonial) power hierarchies are still maintained and perpetuated. Environmental crises and conflicts over resources create frictions (Tsing 2004) that can move our analysis of ontologies onto a level in which we can support the aims of decolonization and work towards a dismantling of the capitalist system responsible for ongoing environmental destruction. While the salmon stock in the Kuskokwim River is only a small part of the picture, it illustrates the importance of recognizing ontologies and power distributions within resource management. Although the communities along the Kuskokwim River established a co-management group to discuss salmon conservation, examples like jack salmon illustrate the clear hierarchies within

that approach. It is therefore important to point out that biologists do not have a ›neutral‹ or ›objective‹ position on salmon, as their approach to manage salmon is rooted in scientific, political, and historical processes.

The different constitutions of Kuskokwim River salmon became apparent within newly emerging conservation approaches. The dominant position of fisheries managers and their ontologies in Bethel, however, became apparent too. Their conservation strategies based on concepts of reproduction and home suppress local indigenous relationships to animals and the land. Power hierarchies within conservation correlate with other colonial forms of domination. Exploring the conservation of bison in the US, Paul Berne Burow (2017) illustrates how:

»the model of conservation derived from settler colonialism is predicated on the threat of extermination made possible by the disruption of relationships among beings. In other words, it is the translation of land (rich with dynamic and interlocking relationships) into habitat (situated for the survival of a single or hierarchical set of species). In this sense, conservation is not just about sustaining a place, and its ways and species, or even a species itself, but about conserving the endurance of the settler colonial project, a way of life that individuates by separation, eliminates through replacement, and sustains through domination.«

The consideration of different ontologies that constitute salmon offers, therefore, not only an explanation for failed debates within co-management settings, but furthermore an analysis of the current political relations between the State of Alaska and the indigenous communities.

## Conclusion

This article reviewed the different ontological constitutions of salmon, enacted within my fieldwork setting in Bethel, Alaska, and the Kuskokwim River. Ideas of salmon migration are crucial to understand how ontologies are negotiated within current conservation practices. With a decline in king salmon numbers since 2010, fishing restrictions became stricter and sparked an even greater reluctance to cooperate with Federal and State wildlife managers. The case of jack salmon exemplifies how negotiations about access to resources are determined by existing power hierarchies when conflicting ontologies cannot be integrated or categorized within current management strategies. Next to ontological differences, I understand the discussion about jack salmon within co-management settings like the Kuskokwim River Salmon Management Working Group as a form of resistance within the processes of decolonization, a constant reminder that the perception of animals does not comply with the »compartmentalization and distillation« (Nadasdy 2003, 123ff.) of indigenous ontologies.

Above all, these current conflicts should be contextualized in the ongoing efforts of the self-determination and decolonization processes that the indigenous communities face. The devastating impacts Western colonialism has within the area of Southwest Alaska cannot be stressed enough. The work of Yup'ik fishers, criticizing management regulations in public, contributing within co-management attempts, or performing acts of resistance (such as ›illegal‹ fishing), needs therefore also to be understood as an act of decolonization. Likewise, the maintenance and cultivation of ontologically established human-salmon rela-

tions through subsistence fishing is an important part of self-determination and indigenous identity.<sup>4</sup> Current debates about the environmental crises would do well to shift the focus towards different narratives, which can offer new understandings of our shared environments and how we live in them. Relations create realities, and we should be open to question what exists and how it is enacted in stories and practices. ›Sustainability‹ in an environmental context is highly dependent on the relationships that are involved, and which either should be sustained or should be overcome.

## Endnotes

- 1 Yup'ik (singular) and Yupit (plural) are based on the Yup'ik word *yuk*, person, and the post-base *-pik*, real or genuine, and can be translated as *real person* or *real people*.
- 2 In other countries, generic indigenous rights often include rights to land, subsistence activities, and the use of subsistence resources, and are held by all indigenous people. An example is Canada where subsistence rights are understood as being inherent and not dependent on recognition through settler colonial legislation.
- 3 The Alaskan Department of Fish and Game (ADF&G) estimates that one-third of all households along the Kuskokwim River fish for subsistence reasons, and that many more people are involved in the processing of the catch (ADF&G 2017a). For people familiar with the area this number seems surprisingly low. However, it can be explained by two main factors. Firstly, the Kuskokwim hub village Bethel has a large number of households that are not involved in fishing practices at all, such as white non-locals who moved from other US states. In addition, ADF&G defines fishing households as those that catch fish. Even if extended family members help with processing salmon and consume it as a staple food, they are defined as ›non-fishing‹ households if they were not involved in the harvest of salmon.
- 4 A deeper, well-grounded analysis for the role of fish within colonialism and processes of indigenous resistance practices can be found in the work of indigenous scholar Zoe Todd (2014; 2016a).

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