

**In Pursuit of Singular Salmon:
Paradoxes of Sustainability and the Quality Commodity**

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Each spring, the escalators at the Boston Convention Center descend from the airy heights of its glass-and-steel concourse level onto a floor teeming with seafood. At the annual Boston Seafood Show, vast stretches of brightly colored booths promote products sourced from across the world. For three days, international sushi suppliers, frozen fish vendors, supermarket executives, and marketing managers work the seemingly endless aisles for business deals, networking contacts, and free-sample snacks. Global geographies of production are mirrored in microcosm on the conference floor, as glossy banners announce blocks of regional interests, from Canada's Maritimes to West African nations to swaths of Asia. Jazz music and Mardi Gras beads greet the passerby along the row of booths promoting Louisiana seafood. At the pavilions of the largest industry conglomerates, marketing materials boast product offerings that run the gamut of edible marine species and lay claim to networks of supply and sale that span the planet.

Amid the dizzying diversity of this year's trade-show paean to global seafood commerce, the clarion call rising out from the cacophony of marketing messages was undoubtedly *sustainability*.¹ It seemed as if every other display showcased corporate commitments to environmental stewardship, and painted a picture of a seafood circuit that looped, as one Korean company brochure put it, "From the water To the people For the green life." The prominence of this sustainability rhetoric was itself a topic of conversation among those presenting at the many conference panels simultaneously taking place in concourse-level meeting rooms, where a number of sessions focused on fisheries sustainability issues, including the annual "summit" sponsored by the trade publication *SeaFood Business*. One summit presenter marveled at how,

¹ In *Fresh: A Perishable History* (2009), Susanne Freidberg begins a chapter on fish with a tour through the same International Boston Seafood Show, where she finds ubiquitous claims to freshness. Indeed, proclamations of quality also abound there. As this paper elaborates, the celebration of sustainability is increasingly layered atop a range of other popular seafood industry signifiers.

six or seven years prior, no one had even heard of the term “sustainability,” whereas it was now “one of the main themes” at seventy percent of the booths at the show, he estimated. “It’s incredible to see the changes in our industry, and what’s gone on in the last four to five years,” he reflected aloud to the crowded room of fellow industry participants.²

It is perhaps little coincidence that the rise of sustainability in seafood industry discourse comes at a time when its material conditions of existence have never been more threatened. Few assessments of the state of the world’s oceans and fisheries—whether issued by academic analysts, government agencies, nongovernmental organizations, or popular media outlets—fail to note a current or looming “crisis.” Not only have many of the world’s wild seafood populations been gravely diminished by overfishing, but recent decades have also witnessed the rapid growth of industrial aquaculture, or seafood farming, which itself has been associated with unsustainable practices, including those resulting in environmental degradation, coastal dispossession, and chemical-laden seafood products. Despite ongoing concern about risks of overfishing, some wild producers, particularly those in fisheries hard-hit by price competition from cheaper farmed alternatives, have seized upon the concept of sustainability to distinguish their more costly catches from the oft problematic products of aquaculture. “It’s sustainable,” Virginia Seafood trade-show freebees declared, “So, go wild!”

Yet the great promise that this sustainability-centric marketing strategy would seem to hold for wild fish producers is often confounded in practice: Visions of the green life mobilized to sell specialty seafood are tightly interlinked with other aesthetic and technical norms that inform the creation of niche-market goods—production specifications that tend to pose challenges given the conditions and configurations of many wild fisheries. In the pages ahead, I consider this paradox as it is experienced in a wild salmon fishery in Bristol Bay, Alaska, where commercial fishers strive to transform sustainable catches into “quality” salmon suitable for high-

² Numerous news items speak to the extent of such changes. For example, even the discount giant Walmart has recently pledged to transition within five years to purchasing only wild fish certified as sustainable (Day, 2008).

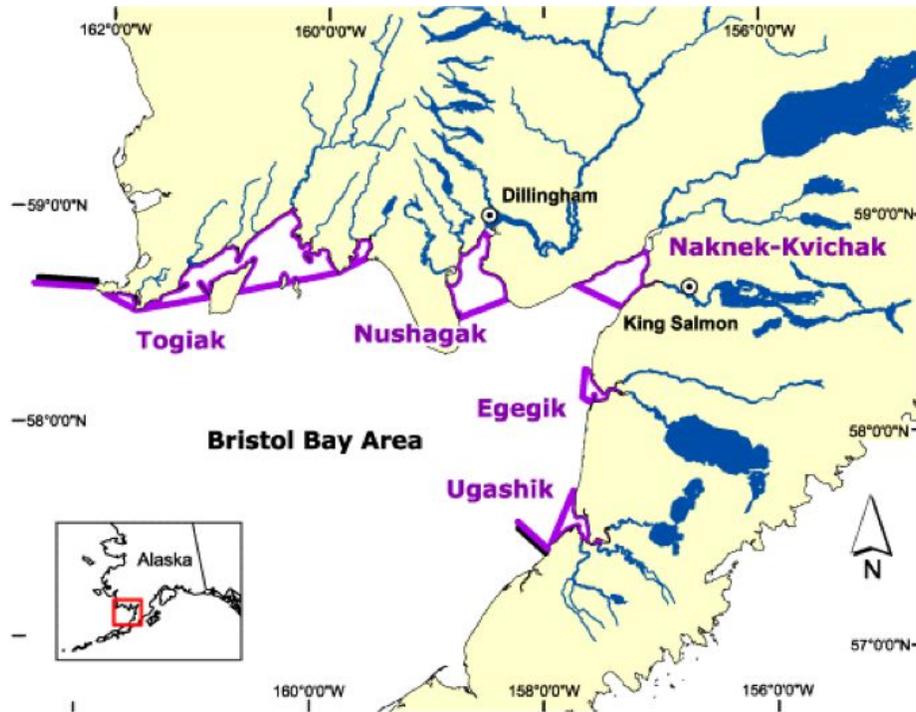
end retail outlets. In so doing, the paper examines how concepts developed to promote sustainable resource management relate to those generated through the growth of niche markets for natural resource products. What new forms of calculation and control are forged as material substance is refashioned into a novel commodity?

By investigating the predicaments of sustaining the Alaskan salmon fishery by making and marketing nature as a commodity, the paper traces a shift in the categories through which a reproducible resource is measured and made meaningful. I begin by tracking salmon sustainability in Bristol Bay and Alaska more generally, showing how regulatory regimes have been directed toward the end of enduring volumes. I then explore efforts to transform wild salmon into a singular niche-market good, drawing particular attention to the emergent commodity aesthetics organized under the rubric of quality. In so doing, I detail how the promotion of wild salmon as quality requires transformations to production that rub uncomfortably against the ecology and existing industry ethos of the Bristol Bay fishery. The paper argues that just as quality initiatives reconstitute wildness in an image informed to a significant degree by manufacture, the pursuit of sustainability is intimately linked to the production of singularity.

The State of Sustainable Salmon

Situating Bristol Bay

Bristol Bay is a region tucked into the corner of southwest Alaska, on the edge of the Bering Sea. It lies approximately 150 miles southwest of Anchorage and just west of the Alaska Peninsula, which extends out to the Aleutian Islands (see Map 1). The rural region is largely roadless and is not connected to the rest of the Alaska road system, so most transport to, from, and even within the area takes place by air and sea. I have conducted ongoing ethnographic and historical research in the region and on its fishing industry since 2002, with a primary two-year period of fieldwork from 2002 to 2004.



Map 1. Bristol Bay Area Commercial Salmon Fisheries, by District
 (Map source: ADF&G, 2008)

Legendary in fishing circles, Bristol Bay is home to the biggest sockeye salmon populations in the world. The Bay itself is formed from the outflow of several large rivers, including one that empties from Alaska’s largest lake, Lake Iliamna. These watersheds are the basis for both its voluminous wild salmon runs and its individual commercial fishing districts, which are identified on Map 1.³

All five species of salmon found in Alaska return to Bristol Bay waters, but the sockeye, or red, salmon comprises the majority of its catch. Since sockeye is the commercially important species for which the Alaskan industry is best known, the Bay is often considered Alaska’s “flagship” salmon fishery (e.g., Troll in Link et al., 2003b, 24). Bristol Bay’s salmon have

³ Pacific salmon are born in fresh water—rivers, lakes, ponds, streams—but later migrate to salt water environments, where they spend most of their lives. After some years of maturation in the ocean, the surviving salmon head back from high seas across the North Pacific to the actual fresh waters of their birth to spawn and die. The returning fish comprise annual salmon runs, which occur throughout much of Alaska over different time periods from about May to September.

sustained diverse groups of aboriginal inhabitants for millennia, and have been heavily exploited by commercial salmon packers since the industry's beginnings in the region in the late nineteenth century. Commercial fishing is still the only industry of significance in the predominantly Alaska Native region today, with the exception of local government (Duffield et al., 2007, 5, 10).

Instating Sustainability

In contrast to much of the North Pacific, wild salmon populations are actually quite strong across most of Alaska, and none are considered threatened or endangered.⁴ Alaskan salmon fisheries have for some time been certified as sustainable by the Marine Stewardship Council (MSC), the self-proclaimed “world’s leading certification and ecolabelling program for sustainable seafood” (MSC, 2009a). Indeed, the Alaskan officials charged with managing the resource regularly assert that “the state has the healthiest stocks of wild salmon...in the world” (State of Alaska, 1990).⁵

Yet abundance has not been an uninterrupted condition of these stocks. Alaska’s immense runs may have fueled the steady advance north and west of late-nineteenth-century Pacific Coast salmon canning interests, but the same populations experienced marked declines during many decades of the twentieth century. By the mid-1950s, the Alaskan salmon fisheries were at an all-time low. Instead of serving as a counterpoint to dwindling wild salmon populations in the Pacific Northwest, in the way that the Alaskan case is often marshaled to do today, it was generally framed as an even more powerful story of the overexploitation and rapacious destruction of a once-plentiful natural resource. Residents of what was then the U.S.

⁴ Independent monitoring bodies document shrinking ranges for numerous Pacific salmonid stocks, and contain lengthy listings of endangered populations throughout Russia, Japan, Canada, and the California and Oregon coasts of the U.S. (e.g., State of the Salmon, 2007b, a). A report synthesizing existing research on North American salmon gauges the condition of Alaskan stocks to be “strong,” versus a more “mixed” prognosis for British Columbia, and “weak” conditions in the U.S. Pacific Northwest (Knapp et al., 2007, iv-v).

⁵ Because most salmon fishing occurs within near-shore waters, as fish converge to ascend rivers or enter lakes to spawn, salmon is a resource subject to state jurisdiction in the U.S., where state waters extend up to three miles offshore.

Territory of Alaska blamed the resource collapse on the fisheries' mismanagement by the federal government and domination by absentee cartels. It was in fact this narrative, popularized by Territorial Governor Ernest Gruening in his aspirational bestseller *The State of Alaska* (1954), that rallied Alaskans in the campaign for statehood, granted in 1959. As a result of these pitched political battles over natural resource control, the Alaska State Constitution explicitly mandates that Alaska's fisheries, along with its other "replenishable resources," be "utilized, developed, and maintained on the sustained yield principle" (The State of Alaska, 2008).

Sustaining Yields

Although the Alaska Constitution is unique in setting sustained yield as a formal directive, regulations promoting the return of salmon in great numbers and with weighty poundage—yields at once biological and economic—have a somewhat longer history. Conservation measures calling for the restriction of salmon harvest in Bristol Bay were proposed as early as the turn of the twentieth century. A crash in Bristol Bay sockeye in the summer of 1919, the first major run failure in the fishery's recorded history (King, 2003, 6), ultimately provoked the passage of the White Act of 1924, which set various limits on fishing for purposes of shoring up Bay returns.⁶ Then as now, these policies treated fish as populations, enmassments made up of individual salmon units that could be enumerated accordingly as a means of regulating human fishing on the group.

Today, resource biologists working under the Alaska Department of Fish and Game (ADF&G), the agency charged with managing salmon across Alaska, attempt to count the constituent members of given salmon populations in order to formulate goals for "escapement,"

⁶ In this respect—in operating under some form of biological management and government regulation, however weak, in the early part of the twentieth century—Pacific salmon fisheries were highly atypical of fisheries more generally. Until the 1950s, economist James E. Wilen asserts, "there was no real consensus that fisheries needed to be actively managed," especially since many stocks seemed healthy (2000, 307). But the post-war expansion of shipbuilding and high seas trawling changed this, contributing to a global fishing boom, broad evidence of declining stocks, and the intellectual development of modern fisheries management models.

the number of fish intended to escape harvest or predation to reach spawning grounds. Under the operative theory, allowing for a certain amount of escapement ensures that enough fish spawn so as to reproduce or even expand the existing run. Escapement calculations then provide ADF&G with a basis for setting harvest openings, the time periods in which commercial fishing is legally permitted. By and large, Alaskan salmon fisheries have been managed historically by ADF&G for the goal of “maximum sustained yield,” or MSY, “the greatest average annual yield from a salmon stock” (ADF&G and Alaska Board of Fisheries, 2001, 8).⁷ Enduring volumes of commercial and other catches, then, are the intended ends of the management program; and for this reason, high catches themselves can come to be treated in practice as evidence of stock sustainability, albeit in dubious fashion.⁸

If, as state boosters insist, the key to the apparent sustainability of Alaska salmon is its intensive scientific management—which entails both the existence of a biologically based regulatory regime governing commercial fishing and its vigilant enforcement—the key to management science is population measurement. ADF&G biologists generate the numbers that underpin escapement calculations by collecting and coordinating information gleaned from visual surveys, aerial assessments, and sonar readings. They also rely on the harvest data compiled by processing companies, figured in poundage, in order to set fishing effort in any particular district. As in the scientifically managed natural resource industries in which discourses of sustainability first developed (see Hölzl, this issue, Rajan, 2006, Scott, 1998), contemporary fisheries sustainability policies depend heavily on measuring modes and metrics. “You Can’t Manage What You Can’t Measure,” the title of a front-page article from the Sustainable Fisheries

⁷ This concept of MSY is also frequently called “maximum sustainable yield” (NOAA, 2006, 28).

⁸ There are those who question whether frequent high harvests should be so straightforwardly treated as a “a proxy for healthy salmon populations” (e.g., Konigsberg in Knapp et al., 2007, 13). A report commissioned by the environmental organization Trout Unlimited argues that “the apparent success of Alaska’s salmon management has been due, in large part, to fortuitous circumstances,” and suggests that “[h]igh returns can mask diminishing genetic diversity of stocks” (Konigsberg in Knapp et al., 2007, 13). Certainly high harvests in earlier decades often belied deep and growing resource depletion (see Cooley, 1963 for an extended discussion of this recurring phenomenon in the Alaska salmon industry).

Partnership organization newsletter points out (Jones, 2009, 1). The wild salmon that range across the North Pacific and flood Bristol Bay waters each summer are sustainable to the extent that they can be tallied en masse.

Into the Wild

Wild Market Shifts

The “go wild” marketing messages in evidence at the Boston Seafood Show, along with the economic difficulties they often seek to mitigate, are nowhere more apparent than in the promotion of Alaska salmon from Bristol Bay and beyond. Despite the fishery’s comparative sustainability, the industry has experienced a deep economic decline since the early 1990s. Although salmon farming has been illegal in Alaska since the late 1980s, the practice expanded exponentially overseas during this same period. From 1980 to 2001 alone, worldwide farmed salmon output increased tenfold, and the total global supply of salmon quadrupled (Bjorndal et al., 2003, 2). Largely as a result of this burgeoning supply, salmon prices fell precipitously (Knapp et al., 2007, x). The glut of cheap salmon reverberated in downward-spiraling salmon earnings for wild salmon fishers, processing companies, and rural communities alike. Although the industry outlook has improved somewhat since its lows in the early 2000s, Alaska salmon prices and fishery earnings remain depressed in comparison to historic levels.

The industry slump brought especially difficult struggles and enduring hardships to Bristol Bay fishers and area residents, since the region was arguably the hardest hit statewide. Yet it also sparked enthusiasm about possibilities for industry transformation. While many of the proposals for economic recovery developed and debated for Alaskan salmon fisheries in the early- to mid- 2000s called for restructuring designs familiar to fisheries and a range of other industries—including those involving worker downsizing, fleet consolidation, and forms of resource privatization—the ones that were most readily pursued by producers and policymakers alike embraced appeals to “reinvent” the industry to meet new production paradigms.

Wild Dreams of Reinvention

At a workshop held one slushy spring a few years back at a Bristol Bay bingo hall, far from the floor of the Boston Seafood Show, commercial fishers from across the region carefully scrutinized some of the very salmon products that would later make the rounds at industry trade shows. “What an eye-catcher!” one fisher named Leroy Miller⁹ gushed about a particular package of smoked salmon. Indeed, the colorful wrapper that Leroy admired was peppered with bold graphics and layered with a variety of seals bestowed by nonprofit organizations, including an MSC logo certifying the salmon’s sustainable harvest. Script at the top of the package announced its contents to be “A Natural Source of Omega-3!” and “Wild Caught from the Pure Clear Waters of Alaska.” On the back, there was even a map of Alaska detailing Bristol Bay, where the salmon was sourced, along with text describing the area and its people, as well as the positive qualities of the fish inside. “I just love how they put Egegik on the map!” workshop participant Erma Swensen remarked, noting that her hometown, a 100-person village on the east side of Bristol Bay, was individually named and located on the wrapper.

The excitement that Leroy and Erma expressed was echoed by many at the workshop, which was designed to help Bristol Bay commercial fishers produce and position salmon more closely aligned with perceived consumer demand. Unlike some other Alaskan regions—for example, the Copper River region of south-central Alaska, which had managed to forge inroads into more lucrative specialty markets for fresh and frozen fillets, like “white tablecloth” Seattle restaurants—Bristol Bay was still almost exclusively churning out mass-market salmon for low prices. Its biggest outputs included frozen H&G (meaning headed and gutted) fish sent primarily to Japan, and canned sockeye, which often wound up in British supermarkets. In fact, workshop attendees were dismayed to learn that the percentage of Bristol Bay salmon directed to canned production had actually *increased* with the industry downturn: Given that very little farmed

⁹ I follow the anthropological convention of referring to research participants by use of pseudonyms.

salmon is canned, the canned market, albeit shrinking, was less volatile than fresh or frozen markets. Despite having what watershed residents often praised as “beautiful” fish, then, Bristol Bay seemed stuck in antiquated product forms and unable to differentiate itself as a gourmet good garnering premium prices.

Getting Bristol Bay salmon “on the map” of a certain set of faraway consumers, then, was at some level the objective of the workshop itself. Sponsored by the local Bristol Bay campus of the University of Alaska and a community extension office of the Alaska Sea Grant program, the three-day event was intended to provide key “nuts and bolts” information about seafood processing to area fishers who were hoping to sell their catch directly to retailers and end consumers. There was a great deal of local interest at the time in this entrepreneurial prospect of “doing it yourself” instead of or in addition to selling to the major Bristol Bay fish buyers. For this reason—and because meeting organizers had secured grant funds to cover travel and per diem expenses for a number of fishers from around the region—the workshop turnout was significant. Nearly fifty people had registered to participate in the meeting, which featured presentations by experts flown in from across the state, including seafood technologists, economic development consultants, transportation business professionals, and marketing analysts.

Presenters like Bob Bell, the proprietor of a small but successful meat and fish processing business, regaled the group with stories from major food trade shows in Boston and Anaheim, California, which hosts the annual Natural Products Expo West. One local fisherman who had trained at Bob’s Anchorage-area facility described his visit to a D.C. show in which he’d seen throngs lined up at a booth promoting wild Alaskan salmon fillets produced for high-end domestic markets. Fishers like Leroy and Erma seemed energized by the prospect of transforming their catch into attention-grabbing products like these and the samples furnished by workshop presenters, which positioned wild salmon as a sustainable, healthful, and socially conscious product in contradistinction to farmed fish.

In his remarks to the group, Bob drew upon his experience serving the booming organic and health food sectors to confirm workshop participants' hopes that, "the market is there—it's unbelievable how they are talking about wild salmon these days." "But," he was quick to add, "it has to be quality." Indeed, quality quickly became the mantra of the workshop. "Quality, quality, quality," Bob repeated in another attempt to sum up the direction in which the salmon market was heading. In workshop conversations and Q and A sessions, participants joined presenters in expressing the conviction that, as one passionately averred, "quality is what's going to get us a price."

The Quest for Quality

Those at the workshop were far from alone in their enthusiastic embrace of quality as a potential solution to salmon industry woes. In fact, academic efforts by economists and rural development specialists to address the downturn often hinge on quality and its promotion. "Can Quality Revitalize the Alaskan Salmon Industry?" asks one such report (Babcock and Weninger, 2004).

But what idea of quality inspires these efforts? Notions of quality have long been central to food production, and perhaps the industrial manufacture of seafood in particular given its considerable perishability and susceptibility to spoilage. The century-old salmon cannery facility that anchors the Bristol Bay hub community of Dillingham to this day, for instance, profited in earlier eras by churning out shipments of "Double Q" brand canned salmon, whose name stood for Quality and Quantity. However, the newfound preoccupation with quality in the Alaska salmon industry reflects a novel set of concerns as well, and dovetails with what scholars have dubbed a "quality turn" across agro-food industries more broadly (Goodman, 2003, Murdoch et al., 2000). As a number of commentators have noted (e.g., Whatmore et al., 2003, 389), the turn to quality—visible, for instance, in the proliferations of the kinds of products Leroy and Erma admired—offers a prime example of what Michel Callon and his coauthors (2002) have theorized

as the new “economy of qualities,” one in which market goods are distinguished, or “qualified,” by an ever growing array of fine-grained selling points. Salmon, for example, may be qualified as wild, sustainable, natural, pure, Alaskan, full of Omega-3 fatty acids, and made by fishing families and Native communities. The following sections explore the knotty relationships that inhere between these broader processes of qualification and the production of quality within the salmon industry.

The Contours of Quality

What corporeal characteristics and conceptual categories define quality salmon, and how are these established as markers of value? Whence do these features come? Wild salmon are often considered the pinnacle of quality, yet at the same time Bristol Bay producers are not infrequently reminded of their industry’s “quality problems.” Is salmon quality born or made? Does it reflect contributions of nature or culture, attributions based on facts or opinions?

Salmon industry participants, like other agro-food industry actors, have wrestled with these very questions, if without fully resolving them. As has been shown in other academic work, the notion of quality that underlies the recent turn is often as ambiguous as it is ubiquitous. Scholars have documented an array of different and sometimes even contradictory ideas deployed under the rubric, leading some to conclude that “the concept of ‘quality’ is one which is contested, constructed and represented differently by diverse actors operating within a variety of regulatory and market arenas” (Ilbery and Kneafsey, 2000, 217). In Becky Mansfield’s analysis of the surimi, or imitation crab, industry, she notes that “quality itself is conceptualized as either real and objective, or discursive and subjective,” either “a physical reality based on measurable characteristics,” or “purely a social construction of what people like” (2003, 10). With respect to salmon, some industry analysts seek to reconcile these apparent contradictions by at times attributing seemingly subjective preferences to objectively measurable factors, such as the oil content of particular fish (see Link et al., 2003a, 59 for a discussion of this issue). Others point

to the need to distinguish “intrinsic” from “extrinsic” quality, or the condition of fish before and after capture (e.g., Doyle, 1992, 7)—even if most socially significant salmon features, from flesh texture to flavor, are quite obviously co-productions of natural and cultural elements, however delineated.

At the same time that salmon quality encompasses a range of positive associations signaling goodness, naturalness, and distinctiveness, it also has a much narrower meaning in typical industry parlance. Within salmon circles, the term is most often used to refer to very concrete fish features, notably the absence of blemishes in the flesh like bruising or gaping, along with the harvesting and processing practices that help create this appearance, including fish chilling, bleeding, and gentle handling. When industry analysts and participants speak about pursuing quality, then, they refer foremost to the introduction or elaboration of these production practices, along with the special marketing efforts they would seem to facilitate. In essence, striving for salmon quality sets as its goal the transformation of fish with perceived defects (Image 1) into corporeal realizations of a picture of fleshly perfection (Image 2).

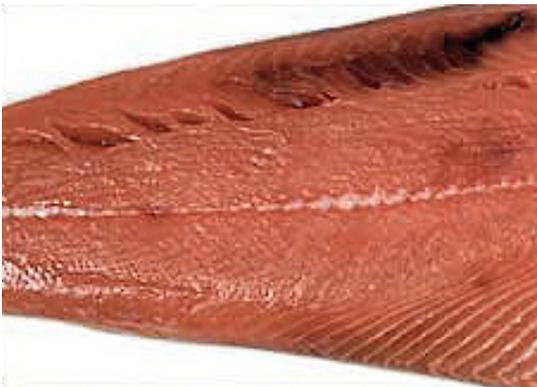


Image 1. Salmon with Bruising and Gaping.
(Image source: Alaska Sea Grant, 2008, 30)



Image 2. Quality Salmon.
(Image source: Wild Salmon Direct, 2009)

Whereas quality may have been shorthand for botulism-free in the days when Double Q canned salmon first hit the market, it references a distinctly different set of specifications today.

As Liz Brown and Gilbert Sylvia argue, the sort of seafood quality that now aims to “improve profits and create new market opportunities” entails “more than safe and wholesome food” (1994, 9). Although salmon quality is not defined by visual markers alone—mushy flesh or high bacterial counts, for example, are certain quality killers—its discursive and material construction nevertheless tends to emphasize traits perceptible to the eye. In the tight, transparent packages behind which vacuum-sealed fillets often gleam on upscale retail shelves, salmon surfaces constitute a key site for product differentiation.

Quality thus operates as both a shifting signifier for diverse aspirations as well as a more specific set of new social and technical norms. The differences encompassed by these varying senses of quality lead to a paradox of sorts: Quality in its narrower, more technical sense is simultaneously both a requirement of quality in its broader vein as well as a source of contradiction. Throughout the workshop, presenters like Bob insisted that “quality has to come first,” that only quality fish could be effectively niche-marketed as wild, sustainable, distinctive, or pure in the ways that seemed so promising to industry participants. However, the parameters associated with quality demand a great deal of regimentation and monitoring of fish flesh and human labor alike, procedures that are often at odds with the images of unfettered wildness and artisanal food preparation that broader visions of quality tend to embrace.

The Creation of Quality

What practices and forms of knowledge become critical for producing quality, and to what consequence? Despite the significant role of nonhuman factors in generating quality fish—from the nutritional condition of fish at the time of capture, to the work of enzymes on salmon flesh—initiatives that set out to promote quality typically focus on configuring and controlling human labor in particular. During processing company training sessions and rural outreach efforts like the workshop, fishers are continually reminded of their own role in the creation of quality. While some quality guidelines call for more dramatic structural changes to boats and

fishing operations, such as the installation of vessel RSW (refrigerated sea water) systems costing tens of thousands of dollars, most of them more saliently emphasize the incorporation of attentive carefulness into everyday moments of fishing work. In Bob Bell's words, quality entails first and foremost "taking good care of fish."

The instructions found in educational manuals developed for fishers on quality harvesting techniques provide innumerable concrete examples of Bob's directive. One online training program relays extensive recommendations for bodily comportment, including the ever-popular "fish should not be thrown, but rather lifted by the head to avoid breaking blood vessels, which causes bruising," and "be careful when you walk to avoid stepping on fish." Fishers are reminded to always chill their fish immediately upon capture, "keep brailer loads to less than 800 pounds"—that is, not to stuff too many salmon into the bags used to transfer catches from fishing vessels to processors—and "deliver fish as soon as possible." Detailed instructions on proper boat cleaning are also given, which fishers are advised to perform after every delivery.

Across these different guidelines, the quality harvesting practices that fishers are either instructed to perform or, not uncommonly, seek to cultivate themselves are often marked by a heightened awareness of each fish as a singular item destined for consumption. In fact, fishers are often exhorted to perform their work by imagining themselves in the embodied position of end consumers, to engage with their catch not as an input for mass production, but as a particular object that will ultimately wind up at the center of another person's dinner plate. Quality techniques thus require fishers to pay attention to salmon as individual bodies amidst the great volumes, which calls for them to then monitor and readjust their own bodily manners in turn. One Bristol Bay fisherman who sells his catch directly to high-end consumers tells them that he "babies" his salmon—and indeed lays down a special foam pad beneath his net to soften the fish's fall to the aluminum deck.

As this special treatment suggests, quality handling practices are closely tied to a heightened sense of the delicacy of the salmon substance itself. In the online training program,

fishers are told that gentle and infrequent handling of their catch is critical, because “with each handling the fish become more fragile.” This fragility is depicted as a delicate fineness that makes salmon desirable: “This more delicate musculature accounts in part for its appeal,” the training informs. As figured by quality discourse, salmon is strikingly reminiscent of Pierre Bourdieu’s (1984) characterization of upper-class food, which conveys a distance from necessity, a preference for quality over quantity, and aesthetic stylization. Yet this stylization of taste or refinement of manners (Elias, 1994) does not merely affect the bodily dispositions of those who consume salmon. A look at quality creation reveals that it becomes a model projected back onto producers to transform their embodied action and sensibilities as well.

The Control of Quality

The creation of quality salmon, as the above details lay bare, is a project that depends on the intensive physical monitoring of both human and non-human beings. Just as fishery management for maximum sustained yields has been furnished through salmon’s measurement, the transformation of Bristol Bay fish into a commodity for sale has long depended on accountancies of quality control. However, like the operative notion of quality itself, which does not repudiate older meanings but instead encompasses them in going “beyond” (Brown and Sylvia, 1994, 9), current methods for reliably generating quality draw upon longstanding procedures of quality assurance at the same time they promote new modes of oversight.

On boats and in processing facilities across Bristol Bay, the increasing industry emphasis on putting out products that meet rigorous inspection has only intensified some of the mechanisms of supervisory monitoring that have traditionally characterized quality control. The duties of plant “QCs” often require them to peer over the shoulders of other workers—monitoring, recording, intervening, and reprimanding—in the same way that their own activities are closely watched by cannery supervisors. Here, the practice of quality control relies on forms of surveillance that are direct, interpersonal, hierarchical, and punitive. Rather than exert

discipline through an anonymous, panoptic gaze, quality assurance is exercised through the anxiety-inducing hover of someone very close at hand. Even on the fishing grounds, spaces much less conducive to legibility and control, the penalties that are starting to be dolled out by processors for quality infractions suggest that efforts to further quality among harvesters involve the elaboration and intensification of certain micro-level strategies of monitoring, measuring, and enforcement. As research has shown in other contexts, comparable quality initiatives—certified organic tomato and herb production in Mexico, for instance—have in fact resulted in a “hyperfocus on surveillance” (Getz and Shreck, 2006, 490).

Yet such techniques of quality control in the Alaska salmon industry are increasingly accompanied by an additional set of disciplining devices, as evidenced by the proliferation of quality training campaigns, guidelines calling for shifts in everyday thinking and practice, and the growing incorporation of these elements into producers’ embodied work. These mechanisms of quality promotion cultivate forms of internalized self-regulation alongside any strictures that may be imposed by state or corporate bodies. In the same way that fishers discipline themselves to stop “fishing for poundage” so that they can lay down padding on the deck or make an extra trip to deliver fresher fish, the meticulous practices that constitute quality are often self-imposed, even if not necessarily freely chosen. Within processing plants as well, the further development of quality assurance designs based on the business strategy of total quality management, or TQM, has had similar effects to those observed by Elizabeth Dunn in her study of a Polish fruit juice and baby food manufacturer.¹⁰ As Dunn shows, the mediation of managerial oversight through

¹⁰ These designs can be found in HACCP, the Hazard Analysis and Critical Control Points system, which began to regulate seafood in 1995. In order to legally process fish in the U.S., it is necessary to develop a HACCP plan that meets approval by the Food and Drug Administration. HACCP is considered a form of TQM (Brown and Sylvia, 1994, 20), a business management strategy that rose to prominence in the 1980s. As Dunn argues, “The primary difference that TQM brought to manufacturing was an emphasis on the idea that products are not just *products*—manufactured things that must be inspected after production to ensure their quality. Rather, products are the result of an ongoing *process* that can be broken down into repeatable, measurable steps, contained within statistical parameters, analyzed further in order to explain and correct defects, and tinkered with to produce improvement” (2004, 99). Indeed, HACCP has been interpreted as an innovative form of quality control because it replaces spot-checks of manufacturing conditions and random sampling of final products with preventative measures and monitoring along the

paper logs and documentation that occurs in TQM approaches pushes workers to discipline themselves to regularly and correctly perform tasks, even when managers are not physically present—and comes to resemble the impersonal yet omnipresent surveillance of Foucault’s panopticon (2004, 100-101).

Across the varied control mechanisms applied to salmon industry operations at present, quality production designs are calibrated to reconfigure ever-narrower slices of productive activity. This focus, in turn, facilitates the highly self-conscious manipulation of specific features of individual fish. In spirit and in specifications alike, little could be further from the Bristol Bay fishing of the past.

Quality and Quantity

The Pursuit of Poundage

Despite the attractions of quality, its production presents particular challenges in Bristol Bay, where the focus has long been on quantity. Not only is Bristol Bay unquestionably a “volume” fishery in the language of the business, but it is at the same time a textbook case of what biologists call a “pulse” fishery, since the majority of its tens of millions of salmon surge into area waters during a frenzied two-week stretch each summer. Numbers themselves can hardly convey the drama of the staggering biological phenomenon, or the unimaginable exhaustion and exhilaration of peak-season fishing. Even veteran fishers express awe at the power of the peak, and recollect times years earlier when they were overcome with wonder at the unbridled natural spectacle. As a result of these conditions, fishing in Bristol Bay is associated with frantic, round-the-clock exertion.

Strong peak season returns beckon with the promise of big earnings, but they also present a host of significant difficulties for fishing practice and industry operations in Bristol Bay.

processing production chain at junctures identified as “critical control points” (FDA, 2001). Under the system, much of the responsibility for maintaining product quality is vested in the processor’s continual monitoring of its own adherence to the specifications outlined in the HACCP plan.

Fishing can be challenging given such volumes, as boats and skiffs become less maneuverable with heavy loads and more susceptible to being “swamped,” flooded and maybe even sunk by rising waves or upending tides. At some point during peak season, and often at several, area fish processors find themselves “plugged,” at or exceeding processing capacity. Plant managers work furiously to ship fish to other facilities across Alaska, and processing workers toil at all hours to transform the perishable matter into more shelf-stable forms before massive amounts spoil.

Yet such hurdles only seem to give more weight to the pursuit of “poundage.” Throughout the Bay’s history, successful commercial fishers, or “highliners,” made money and gained status by harvesting vast quantities of fish. During industry boom days especially, large volumes of fish meant large volumes of money: When brimming fish-transport brailer bags were delivered to buyers, bundles of bills came back in return. Such a fluid transfiguration of fish into money gave rise to boat names like “Cash Flow” and “Net Income,” where a surge of salmon input was explicitly equated with a flood of financial returns. It also has prompted a great deal of imagery and talk through which fish are represented as monetary units. For instance, one young crewman I got to know confessed that he had always wanted to apply his custom auto painting skills to the side of his father’s boat, where he envisioned an artistic image of dollar bills caught in a gillnet. Another teenage fisher once told me that he motivated himself to keep picking fish out of the net by thinking of each salmon as a bill—though he noted that the bill’s dollar amount had declined a good deal in recent years.

The homology of fish and cash and the emphasis on volume this underscores has only furthered aspects of the competitive bravado long associated with Bay fishing. Individual boats are in close proximity—tied up to one another, in fact—when fishers deliver their catch to processing vessels (Image 3). While waiting for their turn to deliver, fishers’ eyes often dart to the boats of those in line before them as they suss out others’ catches, closely monitoring the brailer bags full of fish as they are hoisted up by hydraulic cranes and made visible for all to see. Most brailers are constructed to hold about 1,000 pounds of fish. I was always amazed at how

quickly fishers seemed to be able to assess the approximate weight of each brailer bag they saw, calculate the total poundage, and recall their estimates of others' particularly impressive catches days and even weeks later.



Image 3. Watching a Brailer Bag Being Delivered.

For most of the fishery's history, highliners' status was materialized by their weighty deliveries, which were posted on a constantly updated list on cannery walls. The fisher with the largest total catch volume was celebrated as "top boat" in the fleet or even in the Bay, an honor that is still aggressively pursued by a select few and spread by word of mouth. On the private, scrambled radio channels that groups of fishers use to share information, there is always much conversation—infused with a palpable undercurrent of competition—about how many "bags" everyone is getting, referring to 1,000-pound units. Multiple fishers in the same radio group expressed to me that they often felt "bad" or "depressed" about their own fishing performance when they heard how many bags others had gotten on a given drift. One said that he would actually turn off his radio from time to time so as not to feel worse.

Volumes and Values

As these details suggest, the resource management goal of maximum sustained yield that dominated the industry since at least statehood harmonizes quite well with an ethos celebratory of overflowing volumes, which continues to subsist among commercial fishery participants to this day. Further, this snapshot of life on the fishing grounds reveals the extent to which the Bristol Bay industry remains organized both structurally and culturally around quantity output despite the excitement about quality as a source of industry salvation. Although the seafood processing companies that buy fishers' catches offer financial incentives for chilled fish, like an additional 5-cent-per-pound bonus, they still pay for fish by the pound, an arrangement that serves to perpetuate the longtime emphasis on quantity. Moreover, large catch volumes are often doubly rewarded by processors, who offer added financial incentives to the top-producing boats in their fleet, like a percentage "production bonus" and the waiver of significant boat storage and launching fees.

Yet in an era increasingly ruled by quality, the Bay's astounding volumes have begun to seem as much a curse as a blessing. Longtime ideals like bursting brailer bags are fast becoming associated with the industry's undoing, given that weighty deliveries are more likely to leave fish bruised. At the workshop and others like it, fishers were informed that Bristol Bay salmon has actually become known among seafood buyers for its relatively poor quality, according to industry analysts.¹¹ By many accounts, Bristol Bay salmon is often set apart from both wild and farmed competitors not primarily by marks of distinction like its high fat content or deep ruby color, but because it is much more likely to exhibit bruised, gaping, or mushy flesh by the time it reaches wholesalers, retailers, and consumers. Such features indicate rougher handling and a lack

¹¹ This point was emphasized by the authors of an extensive 2003 study of the Bristol Bay salmon industry and its prospects for improvement: "Far and away the most common input we received from harvesters and processors was that the quality of the catch had to improve from its current state and the industry must better market the final product" (Link et al., 2003b, 59)

of prompt or sustained bleeding and chilling. As such, they also mark some of the more intractable challenges of Bay fishing, logistical conundrums posed not only by its enormous volumes and compressed season, but also by the high energy costs and minimal infrastructure of the remote location, which constitute hurdles for chilling and brisk transport schedules.

In order to combat the Bay's reputation, even the major seafood processors have started to incorporate a suite of quality-oriented stipulations and inducements into standard industry practice. Most processing companies have instituted an 800-pound brailer bag weight limit, for example, and have begun to dock prices for salmon delivered in overweight bags. However, these layered penalties and incentives do not always lend themselves to coherence or fairness. More than a few fishers have expressed the suspicion that processors are coming to use quality provisions simply as an excuse to justify reduced prices for catches. Many bemoan the mixed messages they associate with current processor policies—as when companies awarded production bonuses, for example, at the same time they attribute low prices to poor-quality deliveries.

In everyday industry practice, the often competing pressures for quality and quantity are met with distinct production styles, which rely on and valorize different fishing techniques and results. Although fishers shift between them—sometimes even from one moment to the next, as when they select a few fish from a large drift to ice and bleed for sale or processing as quality—their reflection on the difficulty they have at times in doing so is evidence of the divergent sensibilities that accompany the different strategies and technologies. I have heard those fishing for quality, for instance, talk about how it “kills” them to pull up their nets to make a delivery while others are still “loading up,” to willingly give up catching more fish in order to attend to those already caught. Fishers' adoption of quality practices is thus subverted by their own attachment to quantity production styles, concrete processor policies, and the material conditions of fishing in Bristol Bay alike. Yet the neglect of quality in industry operations is often cast as a moral failure as much as an economic one.

Moral Matters

It is not as if the fishers with whom I worked dismissed many of the quality ideals promoted by training programs and certain processors. But the circumstances of work in Bristol Bay often presented hurdles to their implementation. Given such conundrums, fishers expressed varying and at times conflicted responses to quality directives, as well as to their own personal feelings about how salmon should be caught and handled in light of current market configurations. In the height of the season, when fish surge into nets and onto boats at breakneck speed, bulging through web, twisting around lines, and spilling over onto every square inch of deck, “gentle” handling is near impossible. At moments like these, when mangled salmon are chucked violently across fish holds into burgeoning brailers, any concern over product quality is usually greeted with some sort of scoffing mutter about how “it’s just going into a can, anyway.” I was even instructed at one point to throw every bit of mangled matter—like the ripped-off pieces of fish faces and gills—into the brailers rather than overboard as a way to boost poundage.

Yet it is exactly such strategies of volume production that contemporary industry consultants cast as “bad attitudes.” As salmon quality authority John P. Doyle asserts:

Bad attitudes that persist among some members of the fishing sector are a major cause of poor product quality. Such attitudes stem from short seasons, fierce competition for fish, and limited vessel capacity for fish and machinery. These conditions produce a general feeling that the first and foremost job is to maximize the harvest and that care of the product is secondary. This feeling leads to rough handling; poor or no chilling; and in some cases, dirty, unsanitary handling conditions. These practices must change if the Alaska salmon industry is to regain control of the market (1992, 2).

This quotation implicitly juxtaposes the badness and coarseness of recalcitrant fishers with the goodness and delicacy of the ideal quality product; the “rough” and “dirty” practices it condemns are cast as the failures of fishers themselves. As Lawrence Busch and Keiko Tanaka argue with respect to food grading and standards in particular, the “rites of passage” that establish a product’s “goodness” are simultaneously tests of both nature and people: “For example, if Farmer John’s harvest fails to make the minimum grade, it is discarded as a ‘poor crop’ and

Farmer John is judged as a ‘poor farmer’” (1996, 8). Indeed, there is often an easy movement between evaluations of poor quality fish and accusations of poor quality fishers—a fact not lost on one self-described “lifetime fisherman” at the workshop who grumbled that he was “tired of being told we have a bad product.”

Given quality production parameters, the rites of passage by which Bristol Bay fish would be transformed are premised on new ways of accounting for both salmon and their harvesters alike. The measured care with which individual fish are handled for particular retail segments sets certain producers apart too—as a progress-embracing class of “quality-conscious fishermen,” a phrase now employed in Alaska salmon industry settings (e.g., Alaska Quality Seafood, 2007). Whether the rites of passage succeed or fail, in Callon’s words, “the distinction of products and social distinction are part of the same movement” (2002, 212).

Calculation and the Commodity

The longtime focus on the amassment of fish as entwined biological and commercial goals has not disappeared with recent market shifts. However, in an unexpected twist, the emergence of salmon sustainability—its enduring volumes—as a marketing tool has also been accompanied by greater attention paid to individual fish as singularities. This encompasses both the degree to which particular fish bodies are assessed for indices of quality, as well as the way in which salmon commodities are qualified, made distinctive through the multiplicity of certifications, seals, and forms of brandings layered atop quality product packaging. In the section to follow, I consider such phenomena in order to unpack the fraught relationship between singularization and commodification.

The Commodity Trap I

The qualifications plastered onto the salmon wrappers studied by Leroy and Erma are expressly generated to differentiate certain salmon from its mass-market others. For example,

workshop presenters emphasized that fishers needed to distinguish their product so that it would not have to compete in the marketplace as mere unqualified “salmon,” which could be generated much more cheaply by aquaculture concerns. As one presenter framed the challenge, putting himself in fishers’ shoes in order to articulate it: “I know that I have to differentiate my product so I am out of this commodity trap.”

In discussions of Alaska salmon sales, being “just a commodity” signals cheap prices, low profit margins, and, in light of aquaculture’s ongoing expansion, limited growth potential. In fact, an explicit goal of official state salmon promotions is “try[ing] to take a lot out of the commodity stream and elevate it to a higher price,” as a representative of the Alaska Seafood Marketing Institute (ASMI) informed those at the workshop. Such visions for rescuing at least some Alaskan salmon and their fishers from the downward-spiraling margins of mass goods adopt the definition of the “commodity” used by mainstream neoclassical economists. “A comparatively homogeneous product that can typically be bought in bulk,” according to the dictionary of *The Economist* magazine, the “commodity,” “usually refers to a raw material – oil, cotton, cocoa, silver – but can also describe a manufactured product used to make other things, for example, microchips used in personal computers” (Economist.com, 2006b). From this perspective, “the process of becoming a commodity” can be exemplified as follows:

Micro-chips, for example, started out as a specialised technical innovation, costing a lot and earning their makers a high PROFIT on each chip. Now chips are largely homogeneous: the same chip can be used for many things, and any manufacturer willing to invest in some fairly standardised equipment can make them. As a result, COMPETITION is fierce and PRICES and profit margins are low (Economist.com, 2006a).

Seeking relief from fierce competition and low profit margins alike, Bristol Bay fishers voiced little objection to workshop presenters’ exhortations to escape the “commodity trap” and rise above the “commodity stream.”¹² Yet their efforts to singularize salmon through quality

¹² Being a commodity is not always a commercial curse, of course. Ironically, at the same time that fishers were struggling to make their salmon more than “just a commodity,” mining development in Bristol Bay was being pursued with great vigor precisely because of the heightened market prices for primary products.

production involve processes that can only be described as commodification in social-theoretical terms. Fishers' attempts transform their catch into products suitable for niche markets involve adhering to more rigorous handling standards, promoting consistency in fishing practices and products across the fleet, and developing regional and personal salmon brands with some degree of proprietary control. Such acts speak to broader dynamics whereby matter and labor are made into fungible objects through processes of standardization, homogenization, simplification, property-making, and even what has been termed resourcification (Luke, 2003), the transformation of nature and beyond into a standing reserve for commodity raw materials. In almost all cases, efforts to remake salmon as quality constitute attempts to expand the dimensions of fish and its production conditions that can be made into objects of economic value and incorporated into the saleable good itself.

Although processes of singularization, of making unique and personal, are often presumed to run counter to commoditization (e.g., Kopytoff, 1986), the qualification of salmon pushes us to reconsider the assumption that making things singular is somehow opposed to making things fungible. In nearly every way, the salmon Bristol Bay fishers are striving to produce complicates easy analytical divisions between the singularized and the commoditized. Specialty salmon products are successfully positioned to the extent that they play with, step over, and even subvert the boundaries of these and related categories; the quality commodity is made precisely so as to obscure its origins in industrial production and its destination in mass consumption. In this respect, quality salmon are akin to the other branded commodities that Robert J. Foster has considered in his work, such as “not cola, but Coca Cola®” (2008, 9). As Foster notes, these branded goods lend force to Marx's famous observation of the unexpected queerness of the commodity, which at first seems so straightforward: “Their vendors mark them

While the “stunning boom in just about every commodity market” (Romero, 2006) reported in recent years may have simmered down a bit, Bristol Bay remains the site of an intense battle over mineral development: If built, the proposed Pebble project, targeted for a site in the Bay's headwaters, would be the largest open-pit copper, gold, and molybdenum mine in North America.

as singular and incomparable (‘Accept no substitutes!’) in order to enhance their desirability and exchangeability, that is, their substitution for money and, by this very same token, all other commodities” (2008, 9-10).

The Commodity Trap II

In seeking to escape the commodity trap of mass-market salmon prices, Bristol Bay producers nevertheless fall into a commodity trap of another sort, given the degree to which market differentiation depends on the simultaneous reproduction of other underlying modes of sameness. Even as quality production is enjoined as to distinguish wild salmon from farmed salmon, it reconfigures wild fish in ways fundamentally informed by the success of aquaculture. Significantly, the specifications normally associated with quality—a highly regular appearance, for example, and an unblemished presentation—were largely set as market norms by the aquaculture industry as it vastly expanded the availability, affordability, and consumption of salmon products.

In sharp contrast to the production conditions that characterize most wild fisheries, especially those in Bristol Bay, salmon in aquaculture operations are reared together in net pens, from which they can be selected for processing once they have reached a standard and roughly comparable size. They are sometimes even transferred live, via suctioned tubes, directly onto processing lines in nearby facilities without ever having to thrash in a net (Knapp, 2005). A host of quality features are thus more easily achieved in farmed salmon operations, where quality-making techniques are folded into the basic production process itself.

In a paradoxical fashion, then, quality initiatives actually work to make wild salmon more visually similar to farmed fish (not to mention to one another) at the same time their ultimate purpose is to establish essential differences among various salmon products and substantiate the singularity of wild Alaskan fish. Quality salmon are highly standardized products that have the appearance of distinctive uniqueness—which is exactly what makes quality such a selling point.

They are created through an inordinate amount of attentive labor, yet this action is mobilized so as to make its own transformative work invisible: Rigorous handling techniques are most successful when fish seem to have leapt straight from the sea onto the dinner plate. Quality wild salmon, then, is positioned as nature that springs forth unmediated but is in fact a product painstakingly remade in an image of nature forged in large part by industrial aquaculture.

Such paradoxes are more than merely incidental to the processes of qualification Callon theorizes. Although he eschews analytical categories like “capitalism” and related “macro-structures” (Callon in Barry and Slater, 2002, 11 and 12), Callon nevertheless locates the self-reproducing tensions between homogeneity and singularity, iterability and uniqueness, and identity and difference at the heart of commodity making. In bolstering this argument, he draws upon American economist Edward Chamberlin’s description of the “double movement” of market competition, which he paraphrases as follows:

On the one hand, it leads to a singularization of the good (so that it is distinguished from other goods and satisfies a demand that other goods cannot meet). On the other hand, it makes the good comparable to existing goods, so that new markets are constructed through the extension and renewal of existing ones. Different and singular, singular and comparable, such is the paradoxical nature of the economic goods constituting the dynamics of markets (Callon et al., 2002, 201).

This passage serves as a reminder that although the quality modality is aesthetically and technically quite distinct from the production regimes it is being promoted to replace, it emerges not in contradistinction to but in conformance with commodity logics.

Emergent Accountancies

The longtime salmon industry strategy of volume production aligned quite neatly with Alaskan fisheries regulatory policies rooted in maximum sustained yield. Yet Bristol Bay fishers are currently pushed and pulled to think of their catch not as an undifferentiated mass of “Cash Flow” or “Net Income,” but as particular fish that must each be treated carefully and individually, in a way that already anticipates their place as the object of another’s dinner, and desirous regard.

What relationship exists between the concepts that underlie quality and those through which fishery sustainability is imagined and assessed? As a measure of biomass continuing across time, sustainability would seem to lie squarely within a volume-oriented frame. However, like and as claims to sustainability have become increasingly powerful qualifiers of seafood products, some features of quality commodity production have come to be reflected in the ways resources are conceptualized and their sustainability is achieved. In this section, I consider how the modes of singularization so evident in new production paradigms reverberate in resource management.

Quality at Large

In a fairly straightforward fashion, the promotion of quality has come to take on growing significance in Alaskan salmon fishery regulatory arenas. During the industry low point in the early 2000s, producers and policymakers vigorously analyzed existing fisheries policy in an effort to determine how quality goals might be promoted through regulatory change. Quality became a major topic of conversation at the meetings of the Alaska Board of Fisheries, the Governor-appointed body that hears public input and sets salmon regulation for individual fishing regions statewide. Fishers or members of the public seeking to introduce new or alter existing “regs,” as regulations are known, are required to submit a proposal to this end, which must filled out according to a standard form. In 2000, Board of Fish members amended the official proposal form in order to account for and facilitate the conversations about quality taking place in regard to the state’s commercial salmon fisheries (Marcotte, 2009). Since that time, any proposal for regulatory change must explicitly address its bearing on quality. “Will the Quality of the Resource Harvested or Products Produced Be Improved?” is now among the handful questions asked of all submitted proposals. As I observed over the course of my fieldwork, the answers to this question have become all the more consequential as quality promotion increasingly motivates and directs regulatory action.

Further, through the quotidian workings of Alaskan resource governance, attention to quality is also spreading beyond its origins in salmon industry contexts. The question about quality added to the proposal form is not merely directed toward submissions dealing with commercial salmon catches, but subsistence and sport salmon uses as well, along with harvests of other fish species. Moreover, because the same proposal form had historically been employed in Alaskan game regulation too, the quality question is now asked of *any* proposal for fish *or* game regulatory change statewide (Marcotte, 2009). In a fascinating twist, Alaskan officials report that recreational moose hunters and trout anglers alike now draw upon quality rhetoric and make cases for prospective resource quality improvements in order to justify the measures they advance (Marcotte, 2009). As this indicates, quality is moving beyond the boundaries that initially informed its meaning, and gaining purchase as a concept with broader salience and applicability.

Toward Maximum Sustainable Quality

While salmon management in Alaska remains geared toward ends of maximum sustained yield, this model's exclusive regulatory authority has been tempered in recent years. The industry downturn provided renewed interest in and support for market-oriented fisheries management regimes that were first envisioned decades ago but never implemented (see, for example, Crutchfield and Pontecorvo, 1969). These entail the restructuring of fishing practice away from goals defined in biological terms—like harvest guidelines organized by the concept of maximum sustained yield—to those established by economic ones instead. In response to recent industry struggles, economic analysts and other consultants argue that fishery harvests should be set in order to achieve maximum resource rents, not maximum salmon. They advocate for determining catch volumes according to a concept of “maximum economic yield,” or MEY, which typically involves the harvest of *fewer* fish than catches set by the criterion of biological sustainability alone. At forums like the workshop, proponents note that this management regime would fit together nicely with quality production designs.

Despite increased consideration of this point in regulatory arenas, ADF&G resource biologists are not at present managing Alaskan salmon fisheries for maximum economic rents. However, harvesters and processors' pursuit of quality has nevertheless led to some subtle shifts in salmon management, both out on the fishing grounds and in statewide policy. Around the same time that Board of Fish members were rewriting the proposal form to incorporate attention to quality, they spearheaded the drafting of the Sustainable Salmon Fisheries Policy for the State of Alaska, a document that articulated "a comprehensive policy for the regulation and management of sustainable salmon fisheries" (ADF&G and Alaska Board of Fisheries, 2001). Along with outlining a blanket directive for formulating escapement goals to allow for "the greatest potential for maximum sustained yield," the sustainable salmon policy also allows for the possibility of managing for another goal: "optimum sustained yield," or "an average annual yield from a salmon stock considered to be optimal in achieving a specific management objective other than maximum yield, such as achievement of a consistent level of sustained yield..." (ADF&G and Alaska Board of Fisheries, 2001). This opens the prospect for setting harvests at a lower but more consistent level, which in certain cases would prove more conducive to rent capture. De facto, regional ADF&G officials are already allowing for some movement in this direction. In Bristol Bay, for instance, fishery managers have agreed to processors' requests to open the season earlier and close it later so that the harvest might be spread out over a longer period, with greater fishing time at points when returns are more moderately paced.

Not only are imperatives of quality production becoming integrated into fisheries management, but the rhetoric of careful attentiveness that characterizes quality is also echoed in sustainability discourses. Just as workshop presenter Bob Bell cast quality harvesting techniques as "taking good care of fish," Alaskan fisheries authorities similarly portray sustainability as an act of caretaking. In announcing the recent re-certification of Alaskan commercial salmon fisheries as sustainable by the MSC, an ADF&G official explained that, "The MSC label helps Alaska's salmon harvesters and processors tell people around the world that Alaska takes good

care of our marine and freshwater environments, while providing millions of wild fish to health conscious consumers” (ADF&G, 2007). This discursive resonance speaks to a broader shift explored by Dean Bavington (this issue, forthcoming), who argues that fish have gone from being figured as animals to be hunted to populations to be managed—and, with the expansion of aquaculture, property to be husbanded through attentive stewardship.

Tracing Measurement and Monitoring

At the same time that Alaskan salmon continue to be managed for their sustained amassment, the mechanisms through which sustainability is generated evidence shifting forms of measurement and monitoring not unlike those that attend the production of quality. As this view onto the biological management and commercial harvest of Bristol Bay salmon shows, ensuring maximum yields has long been an endeavor that relies on making visible forms of matter that might otherwise escape apprehension. From the sonar towers that record returning salmon to the ethos of overflowing display that surrounds volume production, fish are brought into sight as a means of both counting yields and contributing to their expansion. However, just as quality production fosters an intensification of modes of visual inspection, emergent practices of sustainability and its documentation rely on comparable techniques of micro-monitoring.

In conversations about sustainability at this year’s Boston Seafood Show conference panels, for instance, session presenters and attendees spoke in urgent tones about issues of “traceability.” The heading atop one glossy MSC handout available at the show made the matter quite simple: “Sustainability = Traceability.” As the handout clarified, the MSC label on a seafood package does not merely indicate that products from a particular fishery are sustainably harvested; it also attests to the fact that the seafood inside the package is indeed from that particular fishery. Thus, the MSC logo signals two distinct forms of certification: the evaluation of a fishery for sustainability by independent scientific auditors; and the auditing of every business in the supply chain for effective storage and recordkeeping systems that guarantee

product veracity. This latter certification is known as the “MSC Chain of Custody standard for seafood traceability.” MSC materials further explain the rationale for the focus on product traceability in addition to fisheries sustainability:

Traceability is a hot topic in the seafood industry. Mislabelling is a recognised problem and the complex, international supply chain for most seafood products makes it difficult to find high quality information about the fish source. Labels on seafood products should provide verifiable information about the species, the source fishery and sustainability information. (MSC, 2009b)

The processes through which traceability is assured extend in space and time the scrutiny of quality production techniques and the detailed recordkeeping of TQM-inspired quality management approaches. “Once a fishery has been certified, before its seafood can carry the MSC ecolabel, all companies in the supply chain - from boat to plate - must have MSC Chain of Custody certification,” the program’s materials relay, assuring that, “This way every link is checked to make sure the MSC label is only displayed on seafood from a MSC certified sustainable fishery” (MSC, 2009b). Along with verifying every commercial link, traceability also demands an accounting for each and every fish. “For example,” the organization clarifies, “companies have to show that they keep certified fish separate from non-certified fish, and that they can trace every delivery of certified fish to a Chain of Custody certified supplier” (MSC, 2009b). Compliant companies are in turn given a unique code referencing their Chain of Custody certification, which is then displayed on certified seafood products along with the MSC ecolabel (MSC, 2009b). The singularity of quality salmon are thus complemented and reinforced by any additional sustainability certifications.

Rigorous MSC audits and the layers of certification they afford are pursued voluntarily by fisheries organizations and seafood companies, just as many Bristol Bay fishers feel they cannot but pursue quality even if not necessarily required to do so by regulation. In fact, participation in such certification programs themselves is often described in the industry as “voluntary/mandatory,” an Orwellian-sounding term meaning that requirements are mandatory

once the program is voluntarily joined.¹³ The quest for qualification likely entails a submission to repeated audits of this nature, since various certification programs abound. In their parallel emphases on voluntaristic disciplining, individuation of inputs, and intensive tracking mechanisms, quality and sustainability are increasingly operationalized in unexpectedly similar and mutually reinforcing ways.

Conclusion

Across the sweep of global production sites represented on the floor of the Boston Seafood Show, Alaskan salmon fisheries are indeed set apart from the mass—it is not everywhere that small owner-operators fish commercially on reasonably healthy wild stocks. Yet the fisheries' economic difficulties since the early 1990s have drawn attention to the fact that such indices of sustainability may not be enough in and of themselves to sustain the coastal communities that depend on continuing industry income. Given these circumstances, salmon producers' hopes about the promise of qualification as a means of spurring economic turnaround seem more than merely understandable. In fact, the modest improvements in fish prices and industry earnings that have been experienced even in Bristol Bay over the past few years may well be due to the ramping up of quality production and marketing efforts—even if definitively establishing this causal link is a more challenging task (Knapp, 2006). Yet producers' pursuit of singular salmon remains punctuated by a further set of paradoxes, as this paper has sought to make plain: Fishers strive to generate wild volumes through the careful manufacture of individuated commodities and the mass production of highly systematized uniqueness.

¹³ A U.S. government report entitled "Agricultural Postharvest Technology and Marketing Economics Research" explains that food labeling can be an example of a "voluntary/mandatory program—i.e., participation in the program is voluntary, but if a firm elects to participate, it must follow a mandatory labeling format and provide the necessary research data to support its label" (U.S. Congress Office of Technology Assessment, 1983, 67).

Acknowledgments

I am grateful to K. Sivaramakrishnan, Jim Scott, and Kay Mansfield of the Agrarian Studies Program at Yale for the opportunity to develop this paper and related work, all of which has benefited tremendously from the generous attention of my fellow fellows: Keely Maxwell, Alessandro Monsutti, Laura Sayre, and Nandini Sundar. An earlier version of this manuscript was presented at a 2008 workshop sponsored by the German Historical Institute, entitled "Nature's Accountability: Aggregation and Governmentality in the History of Sustainability." I thank the other participants for their keen insights and suggestions, especially workshop organizers Sabine Höhler and Rafael Ziegler. This paper draws upon research supported by grants from the Wenner-Gren Foundation, the National Science Foundation's Office of Polar Programs, and the University of Michigan's National Poverty Center, Institute for Labor and Industrial Relations, Rackham Graduate School, and Department of Anthropology. I remain indebted to the many people who contributed to the dissertation from which this paper emerges, especially those at the University of Michigan and in Bristol Bay, Alaska. Any errors or oversights, of course, are entirely my own.

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