

# Disaster Capitalism and the Quick, Quick, Slow Unravelling of Animal Life

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**Abstract:** Sea otters have barely survived centuries of colonial and capitalist development. To understand why, I examine how they have been oriented in capitalist social relations in Alaska, and with what effects. I follow sea otters through three overlapping political economic episodes, each of which shapes the next: colonial expansion and the fur trade; petro-capitalism and the negligent neoliberal state, culminating in the 1989 *Exxon Valdez* oil spill; and finally, spill cleanup and “green” capitalism, when sea otters are produced as data points and spectacle. In each episode, I describe (1) sea otters’ orientation in relation to capitalism and the state, and (2) the nature and temporality of violence and ecological loss that attends their orientation. In conversation with theorisations of extinction as a “slow unravelling”, I suggest animal life can unravel less slowly than haltingly—quick, quick, slow—and that the unravelling and animals’ orientation in capitalism are co-constituted.

**Keywords:** disaster capitalism, extinction, violence, *Exxon Valdez* oil spill, sea otters

## Introduction

Sometime in late 1988 or early 1989, a female sea otter was born in Prince William Sound, Alaska. Nothing specific is known about the first months of her life. Likely she spent them as typical newborn pups do, resting on her mother’s chest being nursed and groomed. After several weeks of diving practice, she graduated to feeding herself. At sunrise, sunset, and in the night she searched for snails, clams and mussels. She slept when the sun neared its peak, floating with the ten to hundred other females in her social group, what scientists call a raft. When bobbing at the ocean surface to rest or eat, she wrapped herself in kelp to keep from floating away.

More is known about this sea otter after 24 March 1989. That night the *Exxon Valdez* veered off course and groaned across Bligh Reef, slicing open the ship’s belly and issuing forth, by final count, 11 million gallons of oil. Thousands of sea otters died, but this female pup was one of 450 of her species who were removed alive from the oily water (Gorbics and Comerei 1999). Of these, more than half died during rehabilitation, 197 were released back into the ocean, and 37 sea otters were not released because they had severe health problems or because they were orphaned pups, presumed ill equipped for a life in the open ocean (Gorbics and Comerei 1999). One of these was the young female. She spent

months living in a plastic tub at the hurriedly assembled Seward Otter Rehabilitation Centre. On 11 September 1989 she was delivered by air to the Point Defiance Zoo and Aquarium (PDZA) in Tacoma, WA, with 12 other young otters. She became known as “Homer”, named for the Alaskan town on the Kenai Peninsula near where she was found. The other 36 unreleasable otters were shipped to aquariums and zoos across the United States, Japan and Canada. During the first year in captivity, 13 died (Phillips 1999; Gruber and Hogan 1990). Homer, though, lived another quarter century until she was the last known sea otter to have survived the spill. Her days were spent floating in a small pool, usually alone. In June 2013, veterinarians administered an exam that showed Homer suffered from “severe wasting and other serious medical issues” (Sherman 2013). On 24 June, she was euthanised.

Homer is a subject of petro-capitalist disaster: an overnight catastrophe destroyed her home, thousands of her kin, and their social reproductive capacities, and landed her in a small pool hundreds of kilometres away. But a longer historical analysis is needed to understand the making of this disaster and Homer’s subsequent long “slow death” in captivity, her years of ordinary, day-to-day “physical attenuation under global/national regimes of capitalist structural subordination” (Berlant 2007:754). The *Exxon Valdez* spill cleanup did not just occur amid the “material debris” of the spill itself, but also within the ruined landscapes and “wider structures of vulnerability ... that imperial formations sustain” (Stoler 2008:194). In this paper I track a specifically colonial and capitalist formation in Alaska, focusing on three overlapping, crisis-ridden political economic episodes within this formation. The story begins with the near extinction of sea otters under the fur trade, within the early, expansionary colonial capitalism of the 18<sup>th</sup> and 19<sup>th</sup> centuries. I then turn to the episode of petro-capitalism that took hold in Alaska in the mid-20<sup>th</sup> century, jump-started by Nixon and the oil crisis of 1973, expanded under Reagan’s neoliberal eye, and culminating in the *Exxon Valdez* spill of 1989 that killed hundreds of thousands of animals. The story concludes in the third episode: post-disaster cleanup during an era of “green” capitalism amid underlying ecological uncertainty and anxiety, when sea otter subjects are produced as knowable (data) and enclosed (in captivity, like Homer) subjects, who experience their own losses. The central question I aim to address in reconstructing this story is: how are sea otters oriented differently within these capitalist episodes, and with what implications for the kind of violence or loss sea otters experience?

The word orientation is purposeful, and draws from recent work in collaboration with Jessica Dempsey, where we build from Sara Ahmed’s (2007) concept of orientation, as well as feminist and postcolonial political economy, to construct a typology for the multiple ways non-human natures are oriented within capitalist social relations (Collard and Dempsey 2017). We follow Ahmed in conceiving of orientations not as locations (fixed points in space) but as relational positions. Orientations are grooved patterns, not accidental or fleeting orderings; as Ahmed (2007:15) writes, orientations are “repeated over time” such that “bodies acquire the very shape” of their orientation. Orientations are in this way consequential, toward “some ways of living over others” (Ahmed 2007:44). Like Ahmed, we are

inclined to think about orientations because they direct attention to bodies—bodies that are always oriented or positioned in relation to something else, whether it is other bodies and objects, common sense ideas, social processes or institutions, or, as is our focus, capitalist production. We suggest five such enduring positions of non-humans in relation to capitalist production: officially valued (as a commodity); the reserve army of potential commodities or unrecognised workers; the hidden underground of “useful” but unpaid or unpriced work and inputs; the outcast surplus, seen as superfluous to capitalist production; and threat. Our typology reflects the influence of feminist political economists and political ecologists (Federici 2004; Mies 1998; Moore 2015) who demonstrate that non-commodified entities and processes are also crucial to the functioning of capitalism. There are, we argue, multiple ways that nature is oriented under capitalism, not just as commodities. Animals are used by and subjected to the violences of capitalist production even when they are not directly commodified.

In this paper, I use this typology to build a more refined and empirically grounded analysis of capitalism’s effects for animal life. If we recognise that commodities are only one among many forms of nature that are useful for capitalism, it becomes evident that rounds of capitalist crises reconfigure natures and capitalist social relations in ways that create new accumulations and new orientations of nature, even if this does not mean new natures are commodified. To borrow Jason Moore’s (2015) language, capitalist disaster reconfigures not only the value form (the direct production of value through commodity production) but also the value relation (the broader conditions of possibility for value production, such as unpaid social reproductive work). An orientations approach allows me to perceive a deeper and more wider-reaching form of disaster capitalism here, where crises lead to new forms of accumulation (as is acknowledged in disaster capitalism literature, most emblematically; Klein 2007) but also to new orientations that facilitate accumulation—even if these orientations are not directly commodified. Natures may even be decommodified, but still facilitate new accumulation possibilities.

To understand the relationship between animals’ orientations under capitalism and the kind of violence and loss they experience, I turn to work located loosely under extinction studies—an emerging interdisciplinary area of study in which a growing number of scholars are reformulating how extinction and biodiversity loss are understood (see Rose et al. 2017). Thom Van Dooren (2014) offers an especially key insight for this paper. He argues that extinction tends to be discussed as if it is a “sharp, singular event” for a single species: the death of a species’ last individual. Instead, Van Dooren (2014:12) says, we ought to understand extinction as a “slow unraveling of intimately entangled ways of life”. This requires considering species as never discrete or isolated but always “interwoven in rich patterns of co-becoming” (Van Dooren 2014:12). We also need to think about the “edge of extinction” as a “dull one ... that begins long before the death of the last individual and continues to ripple forward long afterward” (Van Dooren 2014:12). Proceeding from these starting points, in this paper I trace precisely the “slow unravelling” of sea otters’ entangled lives. Yet I find that the unravelling is less slow than halting and faltering—quick, quick, slow. Sea otters’ near extinction occurs both through slow attrition and through overnight, rapid

disaster. Here I follow Rob Nixon's (2011) formulation of "slow violence", a more mundane and intimate violence that occurs out of sight and is, like Lauren Berlant's (2007:760) concept of slow death, "a defining fact of life for a given population that lives it as a fact in ordinary time". Slow violence can be distinguished from—but can overlap with—violence that is rapid and dramatic, as in the case of an oil spill or other large-scale disaster.

Empirically, this paper takes shape as an environmental history of the sea otter itself, especially its relation to capitalism and the state. The story is primarily assembled through archival records—principally the archive titled "Exxon Valdez oil spill correspondence, 1989–2000" held at the US National Archives in Seattle<sup>1</sup>—as well as newspaper searches and other secondary sources. Research was also conducted through participant observation at an Oiled Wildlife First Responders Training Workshop in Vancouver in 2016. Through this research I reconstruct the following three episodes within a broader capitalist and colonial formation in Alaska. In so doing, I track the dynamic evolution of how capitalist social relations are organised, which I understand as always also about organising socio-ecological relations. The aim of the paper is, then, to counter technocratic stories about biodiversity loss and extinction, instead situating these crises in systems of devaluation and valuation upon which capitalism and the state rely.

## **Episode I—"Soft Gold": Colonial State Expansion and the Fur Trade (1740s–1910), When Sea Otters are Oriented as Officially Valued Dead Commodities**

Sea otters have lived in the cold Pacific Ocean off Alaska for hundreds of thousands if not millions of years. During this time, they have helped maintain rich underwater ecosystems known as kelp forests: dense growths of different seaweed species called kelps. These seaweeds thrive in part because sea otters keep sea anemone populations in check through predation—kelps are a favoured food for sea anemones. (As mentioned earlier, the otters rely on the kelps, too—they wrap themselves in the surface strands to keep from floating out to sea as they sleep.) The resulting "kelp highway" of the Pacific Rim long facilitated Indigenous people's movement (Salomon et al. 2015). But the value of sea otters for Aleut (Indigenous people of the Aleutian Islands), Alutiiq and other Indigenous people far exceeds this role. Sea otters, whose fur provides warm clothing and bedding, have been "highly valued, hunted, controlled, and traded by Indigenous people for at least some 12,000 years" (Salomon et al. 2015:303). Indigenous systems, including selective harvesting, seasonal restrictions on use, and proprietorship that was contingent on maintaining productivity for future generations, have promoted sea otter abundance for thousands of years (Salomon et al. 2015:303).

The violent introduction of capitalism and colonialism into this region in the late 1700s initiated a sustained attack on these socio-ecological systems—an attack that has arguably not let up since. In 1741, Vitus Bering's ship ran aground in Alaska while on a Russian mapping expedition. The captain died, but his remaining crew survived by eating sea cows (which would within 28 years be hunted to extinction), seals and sea otters. The otters proved especially easy to

kill. They live in close, gender-specific social groups—rafts—of up to a hundred individuals. They also need to stay relatively close to shorelines, because they can only dive to a depth of about 100 m for food from the ocean floor. And the sea otters were reportedly unafraid of humans. The furs of the easily killed otters caught the attention of Georg Steller, the expedition's naturalist, who wrote: "These animals are very beautiful, and because of their beauty are very valuable, as one may well believe of a skin the hairs of which, an inch or an inch and a half in length, are very soft, very thickly set, jet black and glossy" (quoted in Allen 2010:47). Seven hundred sea otter pelts arrived in Russia in 1742 with the Bering expedition's surviving crew members, who managed to build a new ship. The pelts earned unrivalled high prices, especially in China. Within a few years, the sea otter became known as "soft gold" (Allen 2010:48).

Bering's voyage eventually spurred hundreds of European and American trading vessels into the region, and the sea otter trade effectively prompted the introduction of a capitalist economic system and opened the door to colonial settlement and laws. As political historian Jon Carlson (2002:435) puts it, "as a catalyst of history, the sea otter led to the mapping and settlement of the shores along a 6000 mile 'river of fur'", and eventually resulted in the marginalisation of Indigenous people who lived in the region. From the beginning, the pursuit of otters was tangled with expansion of colonial rule: through sea otter hunting, colonial settlements were established, and territories were mapped and claimed. Indigenous hunters' skills were in high demand in the trade, but they were poorly compensated, and some were essentially enslaved (Gibson 1992).

By the turn of the century, demand and prices for otter pelts soared (in 1810, a sea otter pelt was worth over \$20, more than triple a beaver pelt and 10 times the price of the larger fur seal pelt). Trade rates soared too, as crews encountered what Lieutenant Puget described as an "abundance" of otters on the coast (Gibson 1992:271). In the late 1780s, before trade really ramped up, a trading vessel could easily obtain up to 2500 skins in one season (Gibson 1992). But these levels of killing razed sea otter population numbers. The Russians, who owned Alaska at the time, implemented a range of conservation measures in the 1820s, and hunting continued at a reduced rate until the USA purchased Alaska from Russia in 1867. The Americans abandoned the conservation measures and exploitation intensified again, particularly around the Aleutian Islands and Kodiak Island. American traders' profits from Alaskan sea otter skins quickly exceeded the \$7.2 million purchase price for Alaska.

The escalated hunting rates again led to rapid population losses for sea otters. By the end of the century, hunters were only able to catch a few hundred otters a year in Alaska. Warnings about imminent otter extinction that had been issued for years were prescient. By 1910, the year the Pacific maritime fur trade is widely recognised as ending (Kenyon 1969; Larson and Bodkin 2015), a single pelt sold for about \$1700, and the annual catch was just 34 (Ravalli 2009). Once numbering several hundred thousand and ranging in an arc all the way from Japan to Alaska and down to Mexico, sea otters were reduced to less than 1% of their pre-colonisation numbers: a few hundred individuals in isolated groups (Larson and Bodkin 2015). The otters arguably escaped extinction for one reason: they

numbered so few that they were too expensive to track down and kill (Bhargava 2005). While the fur trade era began against a background of ecological abundance, over about a century this abundance—particularly of sea otters—was eliminated to the point of near extinction. By the time the moratorium was implemented, almost one million sea otters had been slaughtered over the 170 years of active trade (Allen 2010:59).

During this period, various states and companies pursued the sea otter for profit and as part of a broader project of colonial expansion. The settler colonial state was fixated on expanded territorial control, on the incorporation of new regions and people (Carlson 2002), and new natures: the region of Alaska, Indigenous people, and non-human inhabitants such as the sea otter. Sea otters were oriented to the state and capital as potential and actual commodities. These were not lively commodities whose biological life is a necessary part of their commodity status (Collard and Dempsey 2013)—the opposite. Living otters were commodities-in-waiting, a reserve army of potentially lucrative, tradable goods. Official commodity status was reserved for dead otters—or rather, a part of them. Vast networks of states, traders, captains of ships—all were resolutely focused on fur, on the “prime” adult pelts that were as large as five and a half feet by three feet and glossy black, especially dark in winter (Gibson 1992).

Violence was required to shift a sea otter from its live orientation as a commodity-in-waiting, or part of the reserve army, to an officially valued commodity. This violence was direct, fast acting, purposeful and sanctioned. Whether inflicted by gunshot or spear, this direct, lethal violence was necessary for the formation of the commodity: the skin and fur that surrounded the sea otters’ muscles, organs and bones had to be severed from those other bodily parts in order to circulate as a commodity. The disaster that ensued as sea otter populations were entirely extinguished in the mid-19<sup>th</sup> century, and again at the onset of the 20<sup>th</sup>, amounted to a great “unraveling of intimately entangled ways of life”, to borrow Van Dooren’s (2014:12) words—a disintegration of social and ecological relations—for Indigenous people, kelp forests, otters. Sea otters’ orientation within capitalist social relations as commodities-in-waiting (when alive) and officially valued (when dead) spurred on and enabled this disaster.

But the disaster of sea otters’ near extinction—their faltering unravelling—also facilitated their re-orientation within these relations, including state relations. In 1911, Canada, Japan, the US and Russia established the International Fur Seal Treaty, an agreement focused on regulating fur seal hunting but which also contained a section prohibiting sea otter hunting. In accordance with the Fur Seal Treaty, regulatory prohibitions against sea otter hunting were instituted at the state and national level in Alaska and the US. Sea otters were no longer commodities-in-waiting. Through international agreement, they became “the underground”—recognised as useful but not priced (Collard and Dempsey 2017; Mies 1998). As a result of this re-orientation, a slow process of recovery began. But sea otters’ re-orientation to the hidden underground was no guarantee against further loss. Another disaster-plagued industry was brewing. As sea otters receded from the market in Alaska, oil surfaced.

## Episode II—“Black Gold”: Petro-Capitalism, the Neoliberal State, and the *Exxon Valdez* Oil Spill (1968–present), When Sea Otters are Re-oriented as Outcast Surplus

At the turn of the 20<sup>th</sup> century, reports of and claims to oil in Alaska began to circulate. Oil exploration began in earnest after World War II, and intensified and spread over the next decades, until in 1968 an estimated 9.6 billion barrel oilfield was uncovered in Prudhoe Bay—to this day the largest known oilfield in North America. The two companies that made the find—one of which was Humble, now Exxon—immediately escalated efforts already underway to plan a pipeline across Alaska. Within just over a year, the Trans Alaska Pipeline System (TAPS)—backed by the biggest oil players in the game: Humble/Exxon, Mobil, Phillips, British Petroleum—applied to the Interior Department for a permit to build an 800-mile long pipeline from Prudhoe Bay to Valdez, and secured contractors for the pipe.

The TAPS companies jumped the gun. There were two major obstacles standing in the way of the pipeline. First, Indigenous people in Alaska had long contested state claims to land and resources. By the time oil was struck in Prudhoe Bay, nearly the entire state was subject to an Indigenous land claim. Five Native villages north of Fairbanks filed a legal injunction against the project. Planning ground to a halt. Pipeline companies lobbied the federal government to resolve the issue, and in 1971, President Richard Nixon signed the Alaska Native Claims Settlement Act (ANCSA). Under this act, Indigenous groups gave up their land claims in exchange for \$962.5 million and 148.5 million acres of federal land. For pipeline developers, there was one key part of ANCSA: a clause that ensured the path of the pipeline would not be blocked by any Indigenous land title. As Tlingit scholar Maria Williams (2011:192) says, “one of the major outcomes of the 1971 land settlement, and the main purpose of ANCSA, was to lease out large tracts of the North Slope area to oil companies for drilling”. The path of the pipeline now seemed clear.

But a second obstacle was mounting, and it returns us to sea otters. Despite some population recovery, by the 1970s, sea otters formed a still diminished population of only around 10,000 (Ravalli 2009). Potential impacts of TAPS on sea otters and other animals—especially caribou—worried environmental groups and the public, who now had a formal mechanism for lodging their concerns: the National Environmental Protection Act (NEPA), enacted by the federal government in 1970, which required all major federal projects significantly affecting the environment to undergo an environmental assessment and issue an environmental impact statement (EIS). A draft EIS for TAPS was released in 1971. Subsequent public hearings (also required by NEPA) overwhelmingly opposed the pipeline. One of the major concerns was prophetic: that the EIS underestimated the potential risk and damage of an oil spill in Prince William Sound (Ashenmiller 2006; Gramling and Freudenburg 1992). The final EIS was released in 1972. Acknowledgements of likely mortality for sea otters and other animals are strewn throughout the statement. As the report lays out: “The direct effects of low-level pollution from the Port Valdez ballast treatment effluent and from intentional oil discharge

from tank cleaning operations at sea ... would very likely kill sea otters" (Bureau of Land Management 1972:245); "any sea otter coming even in passing contact with a spill of more than a few barrels would die" (Bureau of Land Management 1972:546). On the basis of concerns about these and other impacts, the project became mired in legal challenges. But this would all soon be moot. A crisis was brewing that would reconfigure the playing field.

Globally during this period, oil-producing nations were organising to secure greater control over the rate of production and price of oil. The establishment of the Organization of Petroleum Exporting Nations (OPEC) in 1960, followed by the oil embargo against the US in 1973, contributed to a loss of multinational companies' control of the global oil market. This, plus rapidly rising US demand for oil, coupled with a shortage of world oil supply, drove oil prices up rapidly. The ensuing energy crisis was indispensable for securing widespread congressional and popular support for the Trans Alaska Pipeline (Coates 1991). Nixon, who had always supported the project, jumped at the opportunity. His government drafted the Trans-Alaska Pipeline Authorization Act, which passed by a large majority on 12 November 1973. The act swept aside all regulatory and legal barriers for the pipeline, including NEPA, and committed federal government funds for the project (Gramling and Freudenberg 1992). Within two months, construction began, and took over three years. The thick black oil that would within just over a decade be coating Prince William Sound reached the Valdez terminal for the first time on 31 July 1977.

Over the next decades, TAPS took its predicted place as a lynchpin of the US economy. Pipeline production steadily increased from 1.2 million barrels a day in 1978 to 2 million barrels a day at peak production in 1988, on average amounting to about one fifth of American petroleum production (Gramling and Freudenberg 1992). Still today, hundreds of tankers a year load at the Valdez terminal and leave full of oil. Federal and especially state revenues—largely through taxation on oil extraction, transportation and shipping—have been enormous, comprising an average of over 85% of Alaska's state revenue since 1977 (Alaska Oil and Gas Association 2017).

Shortly after the pipeline was up and running, the US embraced neoliberal reforms, reducing the scope of government oversight over extractive infrastructures like TAPS. When Ronald Reagan assumed office in 1981, federal environmental enforcement was scaled back. The Coast Guard laid off nearly half its personnel in Valdez in 1988 (Lauter and Houston 1989). Further reductions occurred in the Coast Guard's emergency response teams, designed to handle major oil spills. In Alaska, the oil industry became responsible for enforcing its own safety and cleanup standards, while the state watchdog was reduced to virtual non-existence (Alaska Oil Spill Commission 1990). Monitoring equipment was allowed to fall out of date or even out of use.

Amid this tattered regulatory context, the *Exxon Valdez* departed Valdez terminal at 9:12pm on 23 March 1989, headed for Long Beach, CA. Although the ship should have been operating at minimum speed in the tanker lane, it was outside that lane at sea speed (Alaska Oil Spill Commission 1990). By the time a lookout spotted Bligh Reef ahead off the starboard bow, it was too late to avoid it, and



the vessel came to perch on the reef's pinnacle, puncturing eight of 11 cargo tanks. Eleven million gallons of oil were released into Prince William Sound. As the Environmental Impact Statement for the Trans Alaska Pipeline predicted, the oil spill caused mass death, killing, at lowest estimates, 2800 sea otters, 300 harbour seals, 250 bald eagles, 22 orcas, 250,000 seabirds, and billions of salmon and herring eggs.

Although blame was heaped on the *Exxon Valdez's* drunk captain, who left the ship's wheel to a junior, a deeper analysis of the cause of the spill revealed structural causes. In 1990, the independent panel constituting the Alaska Oil Spill Commission released a report detailing the results of a six-month investigation into why the *Exxon Valdez* oil spill happened. The panel found that "a collapse of Government regulation of the oil tanker industry created conditions that led to the Alaska oil spill" (Egan 1990), and that "concern for profits in the 1980s obliterated concern for safe operations that existed in 1977" (Alaska Oil Spill Commission 1990:5). The chairman of the commission remarked on being shocked at "how completely the entire regulatory system collapsed in the 1980s" (quoted in Egan 1990).

The second episode, "black gold", took place amid a changed ecological context and political economy. Sea otters had been under some protection for decades, and they had experienced some population recovery as a result. The political economic mode at this time shifted in earnest to oil—marked by the discovery of Prudhoe Bay in 1968. This was an era of industrial—and increasingly neoliberal—capitalism. Otters were no longer a target of capitalist production, but their orientation was still crucial. They needed to eventually be rendered "out-cast surplus"—superfluous, sacrificial, disposable—in order for oil infrastructure to go ahead. This is precisely what the crisis moment of the 1970s facilitated, providing enough of an opening to re-orient otters to a position of disposability. The risks of death for sea otters were known, but the development went ahead anyway. The violence of this episode of capitalist development, the violence of the spill, was not the same as the sanctioned and necessary violence of the fur trade. The loss of otters was not the same drawn out, faltering loss—not a slow unraveling. Instead, it was an overnight catastrophe, a dramatic fast-acting loss, an accidental violence, but a violence that depended, like the violence of the fur trade, on the disregard for sea otter life.

Concurrent with the period of regulatory collapse just charted—beginning a little earlier than the spill—Alaskan sea otter populations began to mysteriously die off. Across a huge portion of their northern range, in the late 20<sup>th</sup> century, as many as 90,000 sea otters died (Estes et al. 1998). Scientists do not know the cause of the mass die off—some speculate it was due to killer whale predation, as the whales' larger sources of prey—other great whales—were experiencing massive population declines themselves, leading killer whales to turn to smaller prey like sea otters (see Bodkin 2015). This uncertainty continues today, as climate change and ocean acidification adds to the mix of threats for sea otters (Ballechy and Bodkin 2015), who have been listed as "threatened" under the US Marine Mammal Protection Act since 2005 (see VanBlaricom 2015). In many ways, the *Exxon Valdez* oil spill marks the onset of this period of uncertainty and persistent,

low-level crisis and anxiety surrounding otters and environmental change in general (see Robbins and Moore 2013). After the spill, cleanup measures and new infrastructures of captivity and data collection were put in place that, combined with a decline in oil production and a rise in tourism economies, mark a new episode that does not displace as much as co-exist—sometimes uneasily—with petro-capitalism. In this episode, sea otters are re-oriented again.

### **Episode III—Life in Ruins: Disaster Aftermath and Ecological Uncertainty (1989–Present), When Sea Otters are Oriented as the Underground (Data and Spectacle)**

Efforts to retrieve oiled animals and clean them began within less than 24 hours of the spill. Exxon contracted SeaWorld to take charge of the otter rehabilitation, and the first sea otter facility was opened in Valdez, followed by two others in Seward and Jakalof Bay. Over 20 officially designated otter rescue boats operated over the course of the cleanup, and 450 sea otters were captured overall. More than half later died.

When live otters were captured, they were placed in capture boxes, and affixed with a flipper tag. This involved cutting a tagging hole in the flipper with, as per the following instructions:

a narrow-bladed pocket knife, single hole paper punch, or leather punch. The cutting implement should be as clean as possible (preferably swabbed with alcohol) before cutting the hole. If the flipper feels warm to the touch, ice should be applied prior to cutting, to reduce bleeding. (Bayha and Hill 1990:56)

The tag was then inserted through the hole. The most common tag used at the time was a cattle ear tag manufactured in Texas. Each otter was tagged with a unique number, and the tag number was recorded on a data sheet with other information like weight, condition and where the otter was captured. (There are entire boxes of these record sheets in the EVOS archives, as well as piles of dirty evidence tags that were affixed to carcasses.)

This capture and tagging process has become the norm within wildlife rescue and rehabilitation. The experience is intensely stressful for animals. As an attendee at an Oiled Wildlife First Responders Training Workshop in 2016, I learned that rehabilitators today suggest that animals who undergo the capture process suffer from “capture myopathy”, which includes muscular breakdown and kidney failure triggered by stress. Some otters did die during the rescue process after the Exxon spill. If they survived capture, the otters were put in sky kennels—small crates that look like dog kennels—and then on to rescue centres, by air or boat. Otters are tricky to transport—powerful, aggressive and quick, especially their jaws, capable as they are of crunching through clam or muscle shells. They also need to be kept warm during transportation to the rehabilitation facilities, as they often suffer from hypothermia due to the oiling. So upon arrival at a rehabilitation centre, the otters were “stabilised” (warmed and tube fed, given antibiotics, Valium and other sedatives) and then washed with dishwashing detergent. Throughout the

process, animals were (and still are) weighed, medically tested, and behaviourally assessed. This information is the basis for deciding between three fates for captured, oiled animals: euthanasia; release with a tag and possibly also a transmitter; or a life in captivity.

At least 18 rescued otters were euthanised.<sup>2</sup> It may seem counterintuitive to put animals to death in a rescue effort that is ostensibly dedicated to saving animals' lives. But rehabilitation is expensive: estimated as high as \$80,000 per rehabilitated sea otter after the Exxon spill (Monahan and Maki 1991). Rehabilitators thus followed—and continue to follow—a “triage” approach (Oiled Wildlife First Responders Training Workshop, Vancouver, March 2016). Animals that seem less likely to live or to be able to survive outside their cage are euthanised.

The second option for rescued animals is release, which is reserved for animals deemed able to survive. A total of 197 sea otters were released after the *Exxon Valdez* spill cleanup. Veterinarians developed a numerical rating system based on otters' medical records; physical examination and visual observation; and blood samples that were used to assess the functioning of the internal organs (Haebler et al. 1990). This system was designed to “facilitate decision making” (Haebler et al. 1990:391) about release ability and whether the animal could survive surgical implantation of radio transmitters. No animals were released after the Exxon spill without first being tagged with at minimum a basic ID tag. Sea otters were equipped with at least one of four different kinds of marking devices. The first, cattle tags, were affixed to all the otters on capture, as described earlier. The three other devices included flipper tag radio transmitters, implantable radio transmitters, and transponder chips. Seven otters were instrumented with flipper tag radio transmitters, cemented to the hind flipper webbing. Implantable radio transmitters are similar but larger, and through stomach surgery are placed inside the body cavity (intraperitoneally), where they are “free floating”. At the time, the transmitter was a little bigger than a box of altoids and weighed 120 grams. Forty-five otters were implanted with these transmitters. Finally, most of the otters who were implanted with radio transmitters were also tagged with small transponder chips, inserted subcutaneously in the anus. At the end of two years, only 15 of the 45 instrumented otters were still alive.

The implantable radio transmitters were controversial. Members of the public and some rehabilitation staff and scientists were concerned about the invasiveness of implantation surgery. Three otters did die right after surgery, “unable to withstand the research procedures”, as a later government report stated (Palmisano 1990:4). One further pregnant sea otter, known as SE003, drowned while being captured for the study (McCormick 1991). Reports later confirmed that several pregnant sea otters with “well-developed fetuses” were captured and implanted with transmitters (Palmisano 1990), despite the prohibition against implantation of pregnant otters. Finally, more recent studies have found that in general radio equipment and tags can affect species survival and reproductive rates (see Jewell 2013).<sup>3</sup> But scientists insisted that the spill afforded a unique opportunity to access “a priceless reservoir of information that must be carefully monitored for as long as possible” (Fulton 1989), especially through radio tracking, which by the late 1980s had become a fairly established practice. Some scientists even

advocated catching un-oiled sea otters to radio tag them and release them.<sup>4</sup> Walter Stieglitz, the Alaska Regional Director of FWS, agreed that the proposal had scientific merit, but denied the permit based on his worry that the programme would result in “a public relation problem of the highest order”.<sup>5</sup>

The final available future for some rehabilitant animals was a life in captivity, reserved for those animals deemed unreleasable but also marketable enough for zoos and aquariums to take them on as permanent residents.<sup>6</sup> The latter requirement disqualified most birds (other than bald eagles) and so was a path taken almost exclusively by sea otters. A total of 37 otters—13 pups and 24 adults—were distributed to the Point Defiance Zoo and Aquarium in Tacoma, Washington (where Homer was sent), the Shedd Aquarium in Chicago, the Vancouver Aquarium, Sea World San Diego, the Monterey Aquarium (only temporarily, then sent to Vancouver), and Marine Land Umino-Nakamichi, in Fukuoka, Japan. Of these, Sea World, Marine Land and the Shedd Aquarium had existing requests submitted to the Alaska State government to “collect” sea otter pups from Prince William Sound for public display. Sea otters were not legally collectible from the wild, so the requests had not been granted. The Exxon spill served as an opportunity for the businesses to obtain their sought-after display animals. The rationale for scientists and rehabilitators was that, in the case of young otters, “their young age, inability to forage for themselves, and absence of mothers to teach them diving, foraging, and other basic survival skills precluded their release”; or in the case of older otters, they were unreleasable because they were perceived to be too severely injured to survive in the wild, or because they had been healthy adults sent to aquaria as a temporary measure, but had spent too long in captivity—five months—to be returned to the ocean (Gruber and Hogan 1990:429). While the justification for the otters’ permanent captivity was the promise of life, almost half the otters died in their first year in captivity.<sup>7</sup>

Another mechanism of animal captivity that was put in place following the spill is Alaska SeaLife Centre, a public aquarium and marine mammal research facility and rehab centre that was largely paid for with a portion of Exxon’s civil settlement fines for the spill. The Centre opened in May 1998 in Seward, AK. A private, non-profit corporation employing 105 full-time employees and a staff of volunteers and interns, the centre aims to combine public education with scientific knowledge generation. Its aquarium houses many animals, but no sea otters. When the centre collects or receives injured, “orphaned”, or ill sea otters as part of its marine mammal rescue and rehab program, those otters are either released (with tracking technology) or delivered to science labs and North American zoos and aquariums. The centre monitors the status of released animals and wild populations using the traditional ID bands or radio tags but also more “cutting edge” technologies such as remote video monitoring, satellite and VHF telemetry, remote sensing, and “life history transmitters” (LHX), which “collect data during the course of the animal’s entire life” (SeaLife Centre nd). These transmitters are implanted in the skin of the abdomen, can record data for upwards of 12 years, and report the animal’s “mortality event” (SeaLife Centre nd).

SeaLife Centre is consistent with a broader shift Kate Coddington (2015) observes in the political economy of Seward. Once a shipping, logging, and

fishing town, Seward is increasingly focused on and marketed as offering a range of nature tourism businesses and activities—including SeaLife centre. In Alaska more broadly, although oil production remains a key economy—which is partly why I suggest episodes two and three both persist to the present—nature tourism picks up, especially along the coast damaged by the Exxon spill. Tourists now bring over two billion dollars of direct spending a year and one in eight Alaskans work in the tourism industry (McDowell Group 2016). As Coddington argues, while the Exxon spill destroyed the coastline in Prince William Sound, the cleanup activities threw the sound—and sea otters, “whose imploring gaze through the black wreckage of human error ... made the creature the literal poster child of marine conservation worldwide” (DiNovelli-Lang 2017:118)—onto the international stage and accelerated a transformation that was already underway, where Seward residents were increasingly turning to nature tourism as part of a shift toward entrepreneurialism and a changing conception of nature as potentially commodifiable as spectacle, not extractable resource. Scientific and conservation activities and enterprises have also grown in the region, often in ways that are entangled with tourism, as is the case for Alaska SeaLife Centre, which combines a public aquarium with marine research facilities.

The political economic mode of this last episode can thus be thought of as “green” capitalism given that it represents an intertwining of economic activity and a form of environmental care or appreciation, stemming in part from anxiety over environmental losses, specifically of sea otters. Compounding this specific anxiety, around this time, there is growing public and scientific discussion of uncertain, changing environments—what is now widely referred to as the Anthropocene—including climate change, ocean acidification, and population losses of other species like great whales—all changes with potential but largely unknown effects for sea otter life.

In this episode, otters are oriented as the underground: recognised as useful, but unpriced. Specifically, they are produced as two kinds of subjects, consolidated through spill cleanup and its lasting infrastructures—the aquarium and rehab facility, the surveillance technologies. The first subject is the knowable animal—tagged, tracked, valued as a data point. Cleaning up the Exxon spill served as a mechanism for expanding the wildlife surveillance work that was beginning to take hold in Prince William Sound. The knowable animal emerges as a discursively redemptive subject, one that ostensibly promises a future of better spill response, better management. The hope for scientists is that knowing more—knowing otters’ mobilities, their behavioural patterns, their location—will serve to better protect otters as a species in a time of rapidly changing environments and ecological losses. This biopolitical promise of life for the species overrides any concern about the bodily violence done to insert tags, and the negative effects of tagging technologies on many species life expectancies once released. In a study of turtle management practices, like turtle tagging, Krithika Srinivasan (2014) similarly shows that even though biopower is directed at fostering life, violence and harm do not disappear; rather, they are rationalised as necessary for the flourishing of the population. Harm and care entangle under “the sacrificial logic of population: individuals can be harmed in the name of universal well-being”

(Srinivasan 2014:506–507). As Srinivasan points out, wildlife tagging can harm individual turtles and reduces their life expectancy, exemplifying how, following Foucault, the pursuit of knowledge can license the sacrifice its subjects.

And what of the broader effects of wildlife surveillance? Historically, the knowable animal has largely facilitated escalated control and manipulation. Tagging data have primarily been used to determine the highest harvest levels that could occur without “depleting” the population (Bergman 2005; Schreiber 2013)—so to set hunting quotas that maintain a (usually diminished; see Bergman 2005) population. The spatial data may also be used to enforce boundaries and behaviours. As Benson (2012:178) argues in relation to radio tagging and tracking large carnivores in US national parks in the 1960s and 1970s, these new technological regimes rendered “individual animals locatable and identifiable, [and] enabled park administrators to assert a fine-grained disciplinary power in the name of the preservation of wildness” (Benson 2012:178).

The second subject is the enclosed animal, who lives out its days in an aquarium pool, subject to the biopolitical assumption that a captive life is preferable to a death outside the cage. Today, as many zoos and marine spaces have rules banning the “harvest” of wild specimens, “rescue” animals become a key means of bringing new animals into captivity circuits. The enclosed animal is, like the knowable animal, viewed as redemptive: a subject of lament, loss, but ultimately saved or even promising of future life, through public education and captive breeding. Again, while the enclosed animal has, like the knowable animal, been around for some time, enclosure has taken on new prominence and valence for conservationists who argue that zoos and aquariums hold the promise of a continued gene pool for near-extinct animals. As Matthew Chrulew (2014:145) writes about the zoo, “the capture, investment and management of life itself ... is fundamentally tied to the question of the nonhuman and our civilisation’s ever more targeted and intensified war against animals”. In this sense the zoo is a sort of Anthropocene ark fantasy or conceit—held up as a way out of the Anthropocene, out of mass extinctions, spiralling species losses and environmental destruction, a way to save animals, and a way to reconnect to our natural, wild roots, and stay in touch with animals in an increasingly urbanised world where animals appear to have disappeared.

These two subjects experience a much different mode of violence than sea otters during the fur trade and in the spill. The violence of knowability and enclosure is a slow violence, what Nixon (2011:2) describes as “a violence that occurs gradually and out of sight, a violence of delayed destruction ... an attritional violence that is not typically viewed as violence at all”. It is also a violence of care, a violence exercised for the perceived benefit of its subjects, what Jonathan Mayes (2010) calls an “order-sustaining violence ... a form of violence that allows for and creates order”. The order in this case is ideally an ecological order, a life-preserving order, but perhaps more accurately an anthropocentric order—one pursued through captivity and scientific intervention that involve direct and indirect inflictions of violence over sea otter bodies. Sea otters’ diminished populations justify the order-sustaining violence.

## Conclusion

Following sea otters through the three political economic episodes examined here—soft gold, black gold, and life in ruins—demonstrates that structural conditions matter deeply for sea otters and biodiversity loss more broadly. As political economic modes change, so too do sea otters' orientations within them, and this has consequences for how sea otters live (or not). Despite changes between episodes, two constants remain: regardless of orientation, sea otters are subject to devaluation and loss—whether of life or of autonomy; and throughout, capitalism's lurching cycles of disaster engender a faltering unravelling of non-human life and entangled modes of existence. Disasters re-orient sea otters—in some cases, they are repositioned as non-commodities, no longer part of the value form as direct commodities. But this does not mean they are not part of the value relation, which forms the conditions of possibility for formal value production—for example, non-commodifiable (i.e. non-exchangeable) aquarium residents that attract paying visitors.

Each new orientation for sea otters is accompanied by a different kind and temporality of violence and loss. While the first two episodes are characterised by direct, bloody violence and death, the third episode is marked by a violence of care, a slow violence of attrition where sea otters live more and more under the human thumb, which I argue is representative of the dominant management regime in the Anthropocene (Table 1).

**Table 1:** Summary of the three episodes and their characteristics

	"Soft gold"	"Black gold"	Life in ruins
Time period	1740s–1910	1968–present (with oil production peaking in 1988)	1989–present
Ecological context (especially sea otter populations)	Initial abundance leading to near elimination	Fluctuation (some recovery then rapid diminishment due to spill)	Multiple crises, changing/uncertain environments
Political-economic mode	Early capitalism, colonialism	Industrial and neoliberal capitalism	"Green" capitalism
Economic activity	"Harvest"	Extraction	Rehabilitation, entertainment, tourism, conservation, science
Dominant sea otter subject(s) and orientations	Objects (not subjects) and officially valued as dead commodities (or reserve army of commodities-in-waiting)	At times, recognised as threatened (underground), but can be re-oriented to surplus (superfluous/disposable)	Knowable and enclosed subjects, underground (recognised as useful but not priced)
Nature of violence/loss	Direct, purposeful, sanctioned, necessary for accumulation	Dramatic, indirect violence, rapid loss, accidental	Slow violence, the violence of care, loss of autonomy

The environmental history of sea otters in Alaska that is chronicled here also demonstrates the varied temporalities of ecological losses—the quick, quick, slow unravelling—that disaster capitalism engenders. Neither a “quick” nor a “slow” characterisation of the temporality of ecological loss is on its own sufficient for understanding capitalism’s socioecological regime; disaster capitalism breeds multiple temporalities of loss and violence. Non-human animals are subject to overnight catastrophes as well as drawn out attrition and wearing out of bodies and lives that occurs at the pace of ordinary life (Berlant 2007). While it is not possible within the space constraints of this paper to compare the perniciousness of the effects across the different episodes, it is worth noting that in the final episode, life in ruins, sea otters may not be directly commodified, and actions towards them may stem from care and concern, but in this episode capitalism and the state adopt an especially acquisitive posture<sup>8</sup> towards sea otter life.

Past rounds of disaster inform this acquisitive posture. The *Exxon Valdez* oil spill and its response occurred among a long history of losses, amid “remainders [that] impinge on the allocation of space, resources and on the contours of material life” (Stoler 2008:195). The sea otter valued as data and spectacle is a product of longer “patterned imperial effects that produce subjects with more limited possibilities and who are hampered ... by what is left” (Stoler 2008:200). The burden of surveillance and unfreedom fall onto the remainder subjects, like Homer, whose biological lives are less at risk than their autonomy. Just as Michael Watts (2004:55) identifies two animal figures who are emblematic of modernity’s relationship to animals—the alienated, lethargic elephant ... in the zoo and the genetically modified sheep—the knowable animal and the enclosed animal might be the paradigmatic subjects of our time of ecological crises, now often called the Anthropocene. Both subjects are born of the ostensible promise of human control and knowledge delivering us out of ecological diminishment, anxiety and uncertainty.

## Acknowledgements

Early on this research was presented in the geography department at Syracuse University and benefited from the comments of audience members, especially Matt Huber—thank you. Thanks also to several others who lent their brains: Jessica Dempsey and Juliane Collard read more than one draft of this paper and gave insightful comments, as usual; Kevin Gould read an earlier draft and his comments shaped not just the final version but also my broader thinking; Jonathan Luedee, Etienne Benson, and the National Archives and Record Administration Pacific Region staff (especially Patty McNamee) passed on helpful tips for finding sea otters in the archives; Fiona Jeffries, Geoff Mann and Ted Rutland engaged in generative conversations about the research; the anonymous reviewers offered thorough, generous and astute comments; and finally, Stephanie Eccles imparted her expert RA skills, digging in the literature for sea otters.

## Endnotes

<sup>1</sup> National Archives and Records Administration (NARA) Record Group (RG) 22 (Records of the U.S. Fish and Wildlife Service), U.S. Fish and Wildlife Service, Boxes 18–140, especially Boxes 18–21 on sea otters.



<sup>2</sup> NARA RG 22 Box 18 4.5.

<sup>3</sup> For example, a study published in *Nature* (Saraux et al. 2011) found radio tagging the flippers of penguins significantly impedes their survival rates, their breeding success and their ability to raise chicks.

<sup>4</sup> Scientist Anthony DeGange proposed to use “up to 650 animals [that] may be captured, drugged, tagged, blood sampled, and injected with subcutaneous transponder chips. Up to 275 of these may be surgically implanted with a radio transmitter”. The Alaska Fish and Wildlife Research Centre approved his permit to do so, but a lawsuit was launched in opposition and the project did not go ahead.

<sup>5</sup> Statement made on page 4 of letter dated 14 April 1989 to John Twiss, Jr., Executive Director, Marine Mammal Commission (NARA RG 22 Box 18 4.0).

<sup>6</sup> Some of the zoos and aquariums “were not interested in acquiring blind or otherwise disabled animals” (Gruber and Hogan 1990:431).

<sup>7</sup> Options besides captivity did exist for these otters. As Gruber and Hogan (1990:431) outline, the otters could have been euthanised or released anyway, with surrogate mothers used to accompany released pups.

<sup>8</sup> I thank an anonymous reviewer for suggesting this characterisation of capital’s posture toward animal life.

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