

## Article

# Evergreen Avengers: Nature and *Kaijū* in the Twenty-First Century

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**Abstract:** After a decade of dormancy following the release of Tōhō Studios' *Godzilla: Final Wars* (2004), Godzilla and other *kaijū* burst back onto the scene with Legendary Pictures' *Godzilla* (2014). Several American sequels and a television series set in Legendary's MonsterVerse quickly followed over the next ten years. Meanwhile, Japan's Tōhō used their radioactive creation's global success to reignite their own films with *Shin Godzilla* (2016), an animated trilogy, and *Godzilla Minus One* (2023). Short-format media like *Chibi Godzilla* and *Godziban* also circulated thanks to streaming services. Similarly, Godzilla's longtime competitor Gamera also emerged from hibernation in an animated series produced by Kadokawa Corporation, *Gamera Rebirth* (2023). But how do these new installations relate to or depart from their predecessors' predilection to address environmental concerns? This article continues the ecocritical analysis of *kaijū eiga*, expanding it to the 2010s and 2020s, as a coda to our duograph *Japan's Green Monsters* (2018). This article picks up where we left off, examining the recent releases from an ecocritical standpoint. This analysis reveals that today's films remain steeped in environmental commentary, but both fragmented and updated for the new concerns of the twenty-first century.

**Keywords:** ecocriticism; environment; Gamera; Godzilla; Japan; *kaijū eiga*; media; monster; nature



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## 1. Introduction: *Kaijū Eiga* in the Twenty-First Century

"Who knows, one day dinosaurs could make a comeback", muses protagonist Gojō Azusa (Sano Ryōko) in *Gojira* vs. *Mekagojira* (*Godzilla* vs. *Mechagodzilla II*, 1993) (1:03:19).<sup>1</sup> Gojō, a scientist at the National Institute of Biotechnics, explains her theory that although Godzilla and his offspring Baby Godzilla may be out of place and time in the present day, their saurian kind may one day rule Earth again in the distant future.<sup>2</sup> Her comment highlights recurring issues revolving around the unpredictability of the future and human hubris in the face of tumultuous change, frequent refrains throughout both science fiction and *kaijū eiga* (giant monster movies). Although Gojō's comment pertains to the diegetic storyworld of the film set late in the second millennium, it proves surprisingly prescient to the Godzilla series and the *kaijū eiga* genre in the twenty-first century as well.

In the last ten years, six new live-action Godzilla films premiered (two produced by Japan's Tōhō Studios, four Hollywood ones by Legendary Pictures), Godzilla and other *kaijū* appeared in an animated film trilogy produced by Tōhō and distributed worldwide by Netflix, and Gamera, the flying, fire-breathing monster-turtle created by Daiei Company in 1965, also returned in an animated series, produced by Kadokawa Corporation and also released globally by Netflix. Moreover, a variety of other *kaijū* and monsters debuted or returned in a vast array of films, TV shows and net series, graphic novels, video games, and other multimedia.<sup>3</sup> The 2010s and early 2020s not only witnessed the Golden Age of streaming TV, but they also supported a *kaijū* renaissance, or what Gojō would likely call "a dinosaur comeback" (Cranz 2022).

In this essay, we continue the ecocritical analysis of Godzilla and other *kaijū* from our duograph *Japan's Green Monsters* (2018). We note in the closing lines of our book,

“We do not know how *kaijū eiga* will evolve and engage with future audiences [...] we anticipate the genre will continue addressing ecological concerns” (Rhoads and McCorkle 2018, p. 183). This article picks up where we left off. After a decade of dormancy following the release of *Gojira fainaru wōzu* (*Godzilla: Final Wars*, 2004), Godzilla and other *kaijū* burst back onto the cinema scene with Legendary Pictures’ 2014 *Godzilla*. This ten-year gap represents the longest hiatus in Godzilla’s oeuvre, even longer than the nine-year break between *Mekagojira no gyakushū* (*Terror of Mechagodzilla*, 1975) and *Gojira* (*Godzilla* 1984), when the declining fortunes of the Japanese film industry almost forced Tōhō Studios’ closure (Richie 2001, p. 177). Following the success of the 2014 *Godzilla* reboot, a variety of Japanese and American iterations of Godzilla followed in quick succession. These included the Hollywood feature films *Kong: Skull Island* (2017), *Godzilla: King of the Monsters* (2019), *Godzilla vs. Kong* (2021), and *Godzilla x Kong: The New Empire* (2024), as well as the prequel Apple TV+ series *Monarch: Legacy of Monsters* (2023–) set in Legendary’s MonsterVerse. Meanwhile, Tōhō Studios used their radioactive creation’s global success to reignite their franchise with *Shin Gojira* (*Shin Godzilla*, 2016), *Gojira mainasu wan* (*Godzilla Minus One*, 2023), an animated trilogy, and a variety of short-format media productions.

Given the vast number of *kaijū* media in recent years, we concentrate our discussion on Japanese-produced materials. We examine recent releases from an ecocritical standpoint and consider various movies and series from the first quarter of the twenty-first century, a moment when human society and the natural world underwent (and continue to undergo) tumultuous transformation. While we focus primarily on the king of the monsters, we also consider other recent *kaijū* productions following the mandate established in our book. Thus, we include a discussion of Mothra’s appearance in Tōhō’s animated trilogy, comprising *Gojira kaijū wakusei* (*Godzilla: Planet of the Monsters*, 2017), *Gojira kessen kidō zōshoku toshi* (*Godzilla: City on the Edge of Battle*, 2018), and *Gojira hoshi wo kū-mono* (*Godzilla: The Planet Eater*, 2018). Godzilla, Mothra, and other *kaijū* like Hedorah, the infamous sludge monster, have also appeared in less traditional media productions, such as the Japanese shorts *Gojiban* (alternatively known as *Godziban*, 2019–) and *Chibi Gojira no gyakushū* (*Chibi Godzilla Raids Again*, 2023–). As we note in our book, Mothra provides an interesting foil to Godzilla due to her “deep connection with nature, music, and the feminine” and Hedorah represents an important synthesis of *kaijū* entertainment and ecocriticism (Rhoads and McCorkle 2018, p. 2).

For the last seventy years, Godzilla has also faced competition from other monsters for the hearts and minds of fans and scholars (Barr 2016, pp. 21–22; Rawle 2022, pp. 62–67). Although there were numerous other competitors, like Hollywood’s King Kong, the Japanese *kaijū* that came closest to matching Godzilla’s success and appeal was undoubtedly Daiei Company’s Gamera. Although Gamera’s heyday appeared in the 1960s and early 1970s, followed by several revivals in 1980 and the 1990s, the *kaijū* renaissance of the twenty-first century also featured new Gamera productions. Following the success of the 1990s Gamera trilogy, the hero-turtle returned in *Chiisaki yūsha-tachi Gamera* (*Gamera the Brave*, 2006), and he more recently re-emerged from his gargantuan shell in a six-episode animated series co-produced by Kadokawa Corporation and Netflix, *Gamera Rebirth* (2023). Given the intriguing overlaps and divergences between the Godzilla and Gamera franchises, we include an examination of *Gamera Rebirth* in this essay as a point of comparison vis-à-vis Godzilla’s renewed success and popularity.

Throughout this article, we show how an array of environmental and ecological themes appear in recent examples of *kaijū eiga*. Many of these instances stem from the Fukushima Daiichi nuclear disaster, renewed atomic fears following Russia’s 2022 invasion of Ukraine, the COVID-19 pandemic, overfishing and oceanic pollution (a problem that affects an archipelagic state like Japan disproportionately), and the ongoing, dual omnipresent threats posed by climate change and the concomitant mass extinction of the Anthropocene. Some of these concerns appear directly in the *kaijū eiga* examples we consider, like Fukushima in *Shin Godzilla* and humanity’s general environmental negligence in *Gamera Rebirth*, while others lurk in the background in the form of postmodern ecological anxieties (Coffey et al.

2021, pp. 1–6). However, unlike the more centralized production and distribution means and methods of *kaijū eiga* of the twentieth century, where the messaging (environmental or otherwise) was in the hands of relatively few, this does not remain the case in the twenty-first century. No longer do a few individuals at Tōhō, Daiei, and a handful of other studios control the content of an entire genre. Instead, the fragmentation and fecundity of *kaijū eiga* in recent years has led to a diversification and democratization of messages and themes. The cleavage of giant monster movies into different subgenres, formats, production locales, and platforms has likewise led to a similar fragmentation of environmental messaging in *kaijū eiga*. Despite this diversification, *kaijū* media in the twenty-first century remains steeped in environmental commentary, albeit updated for the concerns of the new millennium.

## 2. Animating Environmentalism with Godzilla and Friends

In the last decade, thanks to the evolution of streaming platforms, the Godzilla franchise has branched into several animated films as well as short format media. While we recognize the many animated predecessors in *kaijū* lore, including the American animated series *Godzilla* (1978–1979) and *Godzilla: The Series* (1998–2000), we are interested in Japan-produced series that demonstrate a variety of styles and tones yet maintain the constant thread of environmental concerns and critiques. The animated Godzilla trilogy *Planet of the Monsters* (2017), *City on the Edge of Battle* (2018), and *The Planet Eater* (2018) represents collaborations between Tōhō and Netflix. As such, the trilogy exists at the crossroads, depicting contemporary environmental concerns relevant not only to Japan but around the world. As a result, the films offer candid ecological criticism and heavy philosophical ponderings. The trilogy centers around the character Sakaki Haruo (Miyano Mamoru) and his desire to destroy Godzilla.<sup>4</sup> As a boy, Haruo was forced to evacuate Earth due to the emergence of Godzilla. The monster and his radioactive breath wreak havoc on humanity. At that moment, a spaceship manned by the militaristic Bilusaludo and religious Exif races appears. They offer to destroy Godzilla in return for settling on Earth. Yet, their plan, which includes the creation of Mechagodzilla, fails, and humanity must join the alien wanderers in the stars. Later, at the behest of an adult Haruo, the ship returns to Earth to face Godzilla and reclaim the unique blue planet.

The first film places key environmental concerns front and center. For example, in its opening sequence, a spaceship full of elderly people heads to a nearby planet. In a reference to Japan of the past and the topic of Japan's rapidly aging society, the older generation has volunteered to leave, given the scarcity of resources available on the main ship. This scarcity of resources is re-emphasized as the ship's leaders debate returning to Earth. When the ship returns to Earth, the humanoids discover that because of traveling at relativistic lightspeed, 20,000 years have passed on the planet. When the fight against Godzilla seems futile, one commander suggests settling on the Moon and extracting resources from the Earth. The lack of food, water, and oxygen drives inhabitants to desperation. It is this feeling that allows Haruo to garner support for his plan to retake the planet.

While in the Shōwa-era (1926–1989) Godzilla films, lack of food and resources might be interpreted as a reflection of the immediate postwar experience and the devastation many faced, here in these twenty-first century films, the scarcity takes on new meaning. As the world today confronts record temperatures, agricultural and fishing industries have taken a huge blow, and soon humans may have to face the kind of desperate portrait *Planet of the Monsters* depicts (McCurry 2022). When Haruo and a platoon of soldiers return to Earth, though, their plan goes awry. While they successfully defeat a Godzilla, the original one, now a towering 300 m (1000 feet) Godzilla emerges like a vengeful divine beast. Indeed, the finale portrays Godzilla as god-like, with a wordless chorus chanting in a minor mode accompanying the monster's appearance. The music recalls Gregorian chants of the ancient Christian Church, just as the giant *kaijū* is now counted as atavistic and eternal among the flora and fauna of Earth, which have all adapted to survive and support the alpha beast. The monsters and their offshoots, despite Haruo's anthropomorphization of them, are in fact apathetic to the humanoids. Like nature, they are ambivalent and disinterested

in humanity's hope and pride. While Mother Earth may, as Haruo claims, remember her human children, it remains important to keep in mind that the *kaijū* are also Earthlings. Moreover, they are nature's avengers for humanity's hubris; beyond that, though, it seems that Godzilla *is* climate change. His radioactive breath has changed the planet's entire atmosphere, flora, and fauna. The seemingly futile fight against the *kaijū* is what drives the plot; just as Haruo's quest to defeat Godzilla is comparable to humanity's real-life fight against climate change, a monster so widespread that it feels overwhelmingly futile. In Haruo's case, at least, there is hope.

This hope for humanity takes two forms, which are made apparent in the second installation in the trilogy, *City on the Edge of Battle*. The film neatly lays out a dichotomy between exotic indigeneity and nature on one side and places high technology and militarism on the other. Earth's surviving native peoples, called the Houtua, seem to be primitive and not quite genetically human. Like the flora and fauna, they too have evolved to survive Godzilla's ecological tyranny and have taken on insect-like (more specifically, moth-like) properties. They also happen to worship a giant egg. Identical twins Maina and Miana (Ueda Reina and Ozawa Ari) decide to aid Haruo and the survivors of the landing party. Although not directly stated until later, *kaijū eiga* connoisseurs will immediately recognize the mystical twins and telltale egg as Mothra's entry into the trilogy, as the Houtua's fallen deity. Maina and Miana cure the team's wounds with mysterious powers and provide shelter; they also guide the platoon to a futuristic city revealed to be the evolved remnants of Mechagodzilla. The robot had been built from nanometal (in lieu of space titanium), an alloy with artificial intelligence that has continued to transform over 20,000 years. The nanometal compound, dubbed "Mechagodzilla City", is deemed poisonous by the Houtua, though the Bilusaludo warriors embrace the opportunity the technology offers in defeating Godzilla. In the end, though, the nanometal consumes the Bilusaludo as they seek to create an intelligent machine as strong as the ancient *kaijū*.

In the film's climax, Haruo must decide whether to submit to the terror of technology in order to defeat Godzilla or to preserve his humanity and the life of the female protagonist and love interest Yūko (Hanazawa Kana). The trope of aligning native peoples with nature continues a thread present in *Mosura* (*Mothra*, 1961), *Mosura tai Gojira* (*Mothra vs. Godzilla*, 1964), and *King Kong* (1933) before them. When juxtaposed against the futuristic dystopia that Mechagodzilla City represents instead of contemporary Japan, the distinction becomes even more clear cut. The Bilusaludo, like humans of the narrative's past, and the Godzilla of the present, all seek to control and dominate nature just as the humans of the previous *Mothra* films did. In this, humans, aliens, and Godzilla are all one and the same, though at least in the case of the *kaijū*, he is not actively controlling the planet. The planet cannot but help bend to the needs of the monster, who is a force of nature unto himself.<sup>5</sup>

The conclusion of the trilogy solidifies the concept of Godzilla as a natural force, and a positive one at that. The zealous Exif race, led by a character named Metphies (Sakurai Takahiro), makes religious converts out of the soldiers surviving on the planet, excepting Haruo and the professor. The reveal: the Exif god is King Ghidorah. Through a ritual sacrifice, the three-headed terror travels to Earth and begins to consume the giant Godzilla. After much philosophical navel gazing and Haruo consummating a sexual "life connection" with one of the *Mothra*-aligned twins, the protagonist is able to confront Metphies and send King Ghidorah back to his dimension, thus simultaneously rescuing Godzilla, the Houtua, and the known universe. Following this climax, the film's denouement features a montage of the former soldiers burying their guns and flowers blossoming over them. The futuristic humans then couple with the Houtua natives, ditch their uniforms in favor of cloth wraps, and learn how to survive on the transformed Earth. Everyone is content. Yet the professor has discovered a way to revive the nanometal from Mechagodzilla and invites Haruo to join him in rebuilding a world of technological comforts. In response, Haruo covertly takes Yūko's corpse (half-consumed by nanometal) and enters a revived mecha flight suit called "Vulture". He straps himself in and guides the mecha suit into the line of the ancient Godzilla's devastating fire breath. As he incinerates the last bits of

humanity's technology, Haruo sighs in peace. The final shot features small flowers that are Haruo's namesake. The implication is that the hero, and humans in general, are finally reconciled with the natural world, which includes both Mothra and Godzilla.

Whereas the animated films are ponderous and somber, the short series *Godziban* and *Chibi Godzilla* embrace a bright tone and comic atmosphere. Yet, both continue to deal with issues of environmentalism. Both *Godziban* and *Chibi Godzilla* are available on Japanese Amazon Prime and YouTube, and on the latter platform have received English subtitles, reflecting the show's extensive reach. In many ways, these short humorous series are more accessible than the filmic counterparts.

Concerning the former, *Godziban* expresses some serious environmental messages under the guise of light-hearted humor. Premiering on the Godzilla YouTube channel in 2019 and later made available on Amazon Prime Japan in 2024, the show features a series of *kaijū*-themed vignettes all performed via puppetry. The style is reminiscent of something between 1960s-fare like the British hit *Thunderbirds*, which was also popular in Japan, and *Sesame Street* (Barder 2023). Yet, *Godziban*'s retro atmosphere also harkens back to Tsuburaya Eiji's ingenious puppetry and miniatures on the early Godzilla films. While most of the series' short episodes center on the Godzilla family, many include interludes called Hedojii or "Grandpa Hedorah". Because Hedorah has been established as a *kaijū* associated with pollution, we cannot help but associate the absurd portrayal of the wise Grandpa Hedorah and his small smog monster disciple in the light of environmental commentary. The "Grandpa Hedorah" portions are routinely accompanied by traditional Japanese instruments such as *shakuhachi* and *biwa*, implying that the monster is both ancient and wise. The cinematography in these scenes references samurai films of the 1960s and 1970s, such as the *Lone Wolf and Cub* series as well the movies of Kurosawa Akira. The overall effect is an absurd juxtaposition of the serious and silly. The format is an astute way of reaching younger viewers and sharing messages environmental or otherwise with them, not unlike the animated sequences that directly targeted child viewers in the original *Gojira tai Hedorah* (*Godzilla vs. Hedorah*, 1971) (Rhoads and McCorkle 2018, pp. 119–20).

Much of the monsters' travels take place through deserted wastelands, though they eventually make their way to mainland Japan in later episodes called "Hedochi tabi" or "Hedorah travels". The juxtaposition in setting works as a kind of reverse imagining of the planet's future, from a postapocalyptic *Mad Max*-like desert to famous natural sites in Japan, including the active volcano Mount Aso, Yakushima—a forest island that inspired Miyazaki Hayao's *Mononoke-hime* (*Princess Mononoke*, 1997), Kumano Kodō (a famous pilgrimage path), and Oshino Hakkai, eight natural springs near Mount Fuji. This juxtaposition also plays out in format. The episodes featuring the major ecological sites of Japan are presented with female voiceover narration that evokes the travelogue programs that permeate Japanese television. The Mount Fuji episode exemplifies the absurdity splendidly. The tallest peak in Japan has traditionally been considered a national symbol and frequently appears as part of the *mise-en-scène* for the original *Hedorah* film (Rhoads and McCorkle 2018, p. 117). In this "Hedochi tabi" episode, the young Hedorah observes clear mountain streams, flowers, and lush green forests, and reacts with the appropriate "ooh" and "aww" vocalizations at the natural beauty. The hilarity is magnified by the fact that the character is a small smog monster puppet surrounded by grasses that tower over the tiny *kaijū*. Absurdly, even pollution monsters appreciate Japan's natural beauty and its national significance. The vignettes, at their core, follow the common belief that Japan's natural world is unique and a key component of Japanese culture. Moreover, in mimicking human reactions to the beautiful sites, the episode implies that smog monsters are people too. Or perhaps the reverse, that people are also smog monsters. In sum, the "Grandpa Hedorah" vignettes of *Godziban*, while borderline bizarre, uphold values evident in *kaijū eiga* of the past, such as humanity's follies, and the connection between nature and nation (See Appendix A, Figure A1).

*Chibi Godzilla Raids Again* also embraces postmodern absurdity, beginning with its title, an ironic, tongue-in-cheek reference to the second Godzilla film, *Gojira no gyakushū*

(*Godzilla Raids Again*, 1955), one of the darker, more violent franchise entries. Most of the short five-minute episodes revolve around the character “Chibi Godzilla”, a cute animated *kaijū*, as well as his cohort on Monster Island, which includes Chibi (tiny) versions of Mechagodzilla, Mothra, Rodan, and King Ghidorah, among others. In episode twelve of the second season, the gang encounters Chibi Hedorah, who is busy cleaning garbage off the beach. While the conversation takes a series of detours per the unorthodox tone of the show, the tale concludes with all the cute *kaijū* coming together to tidy up the shores of Monster Island. The silly episode conveys, with humor, a simple message of communal beach cleaning. The story, while light and brief, gets at the heart of the Japanese practice of cleaning areas for the public good. For example, at Japanese schools, instead of janitors, students mop the hallways, dust the desks, and wipe the chalkboards. Volunteer groups might, like the tiny *kaijū*, clear parks, beaches, and roads of litter. Moreover, it is common practice to tidy up an area one has occupied for an extended period, like a beach bench or even sporting event seating (Keh 2022). By prioritizing the consideration of others who might use an area, Japanese practices in terms of public tidiness reflect the ways individuals can come together to make a difference, even if it is simply a small cosmetic one. This attitude, if carried by all, could, in the end, carry as great an impact as a giant monster.

### 3. Big Green Turtle: Gamera Re(animated)

Like the animated Godzilla trilogy and the Godzilla franchise shorts, the twenty-first century’s revival of the Gamera series has likewise continued to address timely environmental issues while also presenting nostalgic refrains to the Gamera films of prior decades. The original motion picture *Daikaijū Gamera* (1965) notably set the stage by presenting Gamera as a voracious, even gluttonous, consumer of natural resources, mirroring humankind’s own shortsighted profligacy (Rhoads and McCorkle 2018, pp. 87–100). Later installments, like 1971’s *Gamera tai Shinkai Kaijū Jigura* (*Gamera vs. Zigra*), highlighted the fragility of marine life and Japan’s dependence on the health of the ocean (Rhoads and McCorkle 2018, pp. 127–37). After the release of the one-off picture *Gamera the Brave* in 2006, the giant turtle originally created by director Yuasa Noriaki returned to the occasional torpor endemic to the franchise. Like the prolonged periods between Daiei Company’s bankruptcy in 1971 and the release of the first of a series of Gamera reboots in 1980, the mid-to-late-1990s, and 2006, a seventeen-year gap followed until the return of the chelonian colossus in 2023’s *Gamera Rebirth*.

The six-episode series, known as an original net animation (ONA) or web anime in Japan, was produced by Daiei’s eventual successor company Kadokawa Corporation. The series marks the first time Gamera has been rendered in animation rather than as live action. Although Kadokawa and their subsidiary ENGI produced and animated the episodes, the show was released globally by Netflix on 7 September 2023. *Gamera Rebirth* serves as the fourth reimagination of the Gamera series. Although the show makes several references and winks to earlier Gamera films, its storyworld stands independent from earlier iterations of Gamera. Like several earlier Gamera pictures, *Gamera Rebirth* continues the franchise’s concern with environmental issues, although in new and interesting ways unique to the third decade of the twenty-first century. It does this through nostalgic appeals to both older Gamera entries as well as the Japan of yesteryear, overt plotlines that focus on environmental and ecological issues, and more subtle subtextual inferences sprinkled through the show’s story arc.

*Gamera Rebirth* follows the adventures of four children in the summer of 1989. Three Japanese tweens, Boco (Kanemoto Hisako), Joe (Matsuoka Yoshitsugu), and Junichi (Toyosaki Aki), come into conflict with American army brat Brody (Kimura Subaru).<sup>6</sup> A *kaijū* attack on Tokyo leads to a change in circumstances, and the four become friends and thrust into the middle of monster battles, the machinations of a Machiavellian organization known as the Eustace Foundation, teenage hormones, a “temptress” character of the first order, and a variety of other adventures and misadventures.<sup>7</sup> The series offers both episodic “monster of the week” throwbacks to the nemeses of prior Gamera films like Gyaos, Zigra, and Guiron,

but also an overarching plot involving the Eustace Foundation's plans to wipe out human life on Earth to rebuild a cleaner, purer society in their own distorted vision.

There are many differences between Gamera and Godzilla (both the franchises and the monsters themselves), but perhaps one of the most overt is Gamera's relationship with children. Not only did Yuasa Noriaki and Daiei Company famously target children as the prime audience for their pictures, but they also partly focused this appeal with a bevy of child stars throughout the Gamera series. In fact, Gamera proudly bore the moniker "Friend to All Children", and a jubilant, child-chorus theme song. In the first film, *Daikaijū Gamera*, the impish Toshio (Uchida Yoshiro) serves as one of the film's protagonists. In a poignant scene, Toshio memorably releases his beloved pet turtle Chibi at his father's command (Rhoads and McCorkle 2018, pp. 62–63). After Gamera subsequently appears, Toshio believes that Gamera is his own pet turtle Chibi, somehow magnified by many orders of magnitude. In *Gamera vs. Zigra*, the monster-turtle rescues the child protagonists Ken (Sakagami Yasushi) and Helen (Gloria Zoellner) from the clutches of Woman X (Yanami Eiko) and the alien shark Zigra. This child–chelonian connection not only reinforces Gamera's role as a protector of children, but also informs some of the series' environmental concerns.

In one of the opening scenes of the first *Gamera Rebirth* episode, "Over Tokyo", Boco, Joe, and Junichi are introduced as they dream of purchasing an amateur radio set at an electronics store. The trio need it to keep in touch during their summer break, and in the summer of 1989, that is the best they can hope for with their meager savings. The three then ride their bicycles to their treehouse hideout in a scene reminiscent of *E.T. the Extra-Terrestrial* (1982) and Netflix's *Stranger Things* (2016–2025). Here, the tweens are directly connected with nature through both the show's plot, *mise-en-scène*, and animation. In particular, the bright and vivid greens used to depict their woodland wonderland contrast sharply with the greys and taupes of Tokyo. However, like Toshio in *Daikaijū Gamera*, an even more formative scene occurs when the children encounter a turtle struggling for its life, ensnared in some nearby tree roots. Boco leads the way, through mud and murky pond water, to rescue the turtle. Joe notes the turtle's unusual size (it appears to be about a foot long), and Junichi muses that it may represent a new species unknown to science (See Appendix A, Figure A2).

Kadokawa Corporation's decision to set the series in the summer of 1989 is an interesting choice. In the Western world, the late 2010s and early 2020s have witnessed a burst of 1980s nostalgia, in everything from music and fashion to cinema and TV. Davida G. Breier notes the "escapism of nostalgia" in the recent 1980s fascination—and its inherent dishonesty—in the pop culture of the moment (Breier 2022). Japan has not been immune from this trend, with *The Japan Times* observing that Japanese youth are enamored with the "retro allure" of the country's Shōwa era (Saunders 2023). In Japan, 1989 represents even more of an "end of an era" signifier than in the West. Not only did the death of the Shōwa Emperor on 7 January 1989 mark the end of his six-decade reign, but it also marked the consequent transition from the Shōwa era to the following Heisei era as his son ascended the Chrysanthemum Throne. A ceremonial figure most Japanese had lived under their entire lives was suddenly gone.<sup>8</sup> Likewise, another epochal change also occurred, the bursting of the Japanese asset price bubble (Amyx 2004, pp. 1–9). The year 1989 therefore represented a moment of "Peak Japan", before the deflation of the bubble economy triggered the "Lost Decades" of the 1990s and 2000s. By setting *Gamera Rebirth* in this alluring past, one where Japan enjoyed unprecedented power and prosperity, the series not only capitalizes on 1980s nostalgia trends but also hints towards an escape from the problems of the present day, not only the perennial concerns of political and socio-economic strife, but pressing environmental concerns as well. Here, the series offers an escape into a lost past, like *Stranger Things* and other nostalgic fantasies, yearning to flee contemporary troubles through a return to a fondly misremembered era (Breier 2022). The threats posed by oceanic pollution, overfishing, and the existential threat of climate change—particularly to an island-nation like Japan—are such overwhelming and omnipresent threats that an escape

to the seemingly “simpler” environmental problems of the 1980s, like overpopulation and the loss of the ozone layer, may seem preferable to some.

Such environmental concerns directly inform the series’ plot. *Gamera Rebirth*’s primary antagonist is the secretive cabal that runs the enigmatic Eustace Foundation. In the alternate history of *Gamera Rebirth*, the environmental crises of the late twentieth were not only not solved but magnified. During a flashback sequence in the fifth episode, “The Moon is a Harsh Mistress”, the Eustace Foundation’s evil plan is revealed to the children.<sup>9</sup> Due to a variety of environmental fears, with the global population “now over twenty billion” and “food production decreases”, the leaders of the Eustace Foundation decide to embark on “population control”. Confident in their own abilities and the righteousness of their cause, they plan to harness the *kaijū* they have discovered to decimate humanity’s population. They declare the *kaijū* to be “guardian angels who will purify and save the world” (1:25). From their secret moonbase, the cabal vows that “every last trace of [humankind’s] hideous civilization will be purified” (1:28). Later, the descendants of those chosen by the cabal will repopulate the Earth.

Although on its surface *Gamera Rebirth* includes environmental fears as a motivation for its villains, it does so by adapting and playing with a variety of *kaijū eiga* tropes and throwbacks, particularly to the Godzilla franchise. For example, the Eustace Foundation discovers *kaijū* through its global mining operations, in scenes that both narratively and visually mimic the excavation of the MUTOs in Legendary’s *Godzilla* (2014). Likewise, the general notion of *kaijū* serving as antibodies to purge the “human virus” from an ailing planet is explored in earlier productions as well, most thoroughly in *Godzilla: King of the Monsters* (2019). Even Kadokawa’s decision to produce *Gamera*’s return in animation rather than live action was likely based on the success of the animated *Godzilla* trilogy, with Kadokawa hiring Seshita Hiroyuki, the co-director of Tōhō’s *Godzilla* anime, to co-write and direct *Gamera Rebirth*. The series also pays homage to (or lifts) visuals, themes, and plot points from other canonical science fiction works. The Eustace Foundation’s plan, outer space base, and focus on humankind’s purity bear more than a passing resemblance to Hugo Drax’s machinations in the James Bond classic *Moonraker* (1979). *Gamera*’s life-saving surgery, provided by Japan’s best and brightest doctors, closely tracks the heart transplant performed on King Kong by Linda Hamilton’s character in *King Kong Lives* (1986). Lastly, several of *Gamera Rebirth*’s eerie scenes mimic the *mise-en-scène* and camera angles of a variety of scenes from Ridley Scott’s *Alien* (1979) and its sequels.

In these numerous ways, *Gamera Rebirth* is a series brimming with science fiction and *kaijū eiga* genre tropes. In fact, given the ubiquity of environmental and ecological commentary throughout *kaijū eiga*, the series’ inclusion of similar environmental and apocalyptic motivations behind its antagonists’ actions feels more like another *de rigueur* genre trope than any true environmental commentary. And the fact that the narrative is set in the past, rather than the present day, leaves the viewer feeling relatively safe and distanced from the threats posed in the series. Aside from the Eustace Foundation’s fears based on the explosion of the human population and global degradation, *Gamera Rebirth* is surprisingly bereft of other environmental commentary. One object lesson can be gleaned from the third episode, “Run Silent, Run Deep”. In this episode, *Gamera*’s seaborne nemesis Zigma returns to battle the giant turtle. However, unlike Zigma’s prior appearance in the 1971 film, which “promotes the message of oceanic conservation” through images of whales, seals, fish, and other marine life, the seas of *Gamera Rebirth* are notably vacant (Rhoads and McCorkle 2018, p. 135). The underwater battles between *Gamera* and Zigma, while dynamic and visually exciting, feature no other marine life, in either the background or establishing shots. There is no discussion or mention of overfishing or oceanic pollution causing the scarcity of marine life, so this paucity of other creatures seems more like an animation decision than an intentional narrative one. After rescuing Boco, Joe, Junichi, and Brody once again, *Gamera* defeats Zigma, but without offering any larger appeal to protect the ocean or Japan’s seas.<sup>10</sup>

Through its 1989 setting and its homages to other *kaijū eiga* and science fiction works, *Gamera Rebirth* relies extensively on nostalgia for both the genre and earlier Gamera films. The six episodes of the series follow a traditional story arc, and simple heroes and villains. Although the temptress character Emiko Melchiorri (Hayama Saori) first appears as an ally, only to later reveal herself as an agent of the Eustace Foundation, the positioning of the series' child protagonists and other heroes—especially Gamera—is never questioned. Likewise, rather than facing new threats, the monsters Gamera confronts throughout the series are retreads of old Gamera villains, with indiscernible motives and only slightly updated appearances. Finally, although the series seems to make a direct commentary on environmental issues, it remains largely inscrutable and only surface deep. The Eustace Foundation is a diabolical organization bent on the destruction of human civilization, but due to the series' setting in an alternate history, the viewer never feels threatened by either environmental calamity or their megalomaniacal scheming.

Regardless of whether the environmental themes present in *Gamera Rebirth* represent true ecocritical commentary or whether they simply represent the repetition of a genre trope, it nevertheless repeats the theme and motif we established in *Japan's Green Monsters*: that “beneath a fantastic façade, *kaijū eiga* contain a kernel of the serious and can be interpreted as importance sources of environmental, social, and political critiques” (Rhoads and McCorkle 2018, p. 2). If the inclusion of fears of global overpopulation and humanity's abuse of the natural world reveals true concerns embodied in the series, then *Gamera Rebirth* continues the strident environmental messaging of its forebears like *Daikaijū Gamera* and *Gamera* vs. *Zigra*. On the other hand, if the environmental issues are included as a genre trope instead, then *Gamera Rebirth* only reinforces our thesis: that *kaijū eiga* are an inherently environmental form of cinema, dating back to both *King Kong* and the original 1954 *Godzilla*. It makes sense, then, that like his competitor Gamera, the king of the monsters would likewise continue this environmental commentary in his more recent live-action iterations.

#### 4. What Is Old Is New Again: *Shin Godzilla* and *Godzilla Minus One*

Following the global financial and critical success of Gareth Edwards's *Godzilla* (2014), the first entry in the Legendary MonsterVerse, Tōhō decided to reboot the Godzilla franchise in Japan as well. Two years later, *Shin Godzilla* (literally “New Godzilla”) debuted at the Shinjuku Tōhō Building on 25 July 2016. *Shin Godzilla* represents a unique entry in the Godzilla franchise—not only is it a series reboot, but it remains a standalone film, with no direct sequels of its own. Timothy S. Murphy notes that “*Shin Godzilla* has generated some critical analysis, most of it focuses on the film's harsh satire of the slow-moving, self-serving, ineffectual state bureaucracy that allows the monster to decimate Tokyo largely unchallenged” (Murphy 2023, p. 239). Several writers, Murphy and ourselves included, directly connect this critique to the Japanese state's failure to promptly or adequately address the calamity and aftermath of the 2011 Fukushima Daiichi earthquake, tsunami, and nuclear meltdown disaster. However, it is worth revisiting this critique here in detail, not only for its brutal criticism of the Japanese government, but also for its relationship to prior and subsequent Godzilla pictures, and the environmental implications of the world's second-worst nuclear disaster after Chernobyl.

*Shin Godzilla* is striking in comparison to other entries in the franchise in a few ways. First, the film depicts a clear evolution of the monster from amphibian to full-blown *kaijū*. In each instance, the monster is underestimated by the government, and this ineptitude leads to devastation. Interestingly, this parallels the transformation and treatment of Hedorah in *Godzilla* vs. *Hedorah*, another film that strongly critiqued the Japanese establishment. While *Godzilla*'s evolutionary process is a clear parallel with the Fukushima triple disaster, the monster might also be understood as a metaphor for climate change. This connection has been briefly noted by Zac Hestand, who opines: “As with climate change, *Godzilla* is the result of humanity making a mess of things” (Hestand 2017). In both instances, national and international leadership has proven to be incompetent as the monster develops beyond human control. Rather than directly confront the threat early, it is allowed to linger

and grow in strength and power. Another distinguishing feature of *Shin Godzilla* is its incorporation of handheld cinematography and references to social networking. Early in the film, Godzilla's attacks are portrayed as if they have been filmed on cell phones and uploaded to the internet, somewhat like *Cloverfield* (2008). In a later scene, texts stream across the screen as viewers respond to the videos. These two stylistic decisions endow *Shin Godzilla* with a sense of realism and immediacy that is often absent in *kaijū eiga*.

Throughout the film, references to ecological concerns appear. For example, it is explained that Godzilla is a form of ancient life who mutates because of illegal dumping of radioactive waste.<sup>11</sup> Thus, the monster is once again the byproduct of human activity, like his radioactive awakening in the 1954 film. Later, as the rag-tag team of petty bureaucrats and scientists investigates Godzilla, they discover that the monster poses an incredible threat to Earth, but also offers a potential path for infinite energy. Finally, in an effort to stall the United Nations' plan to bomb the monster, Japan identifies France as an ally, due to the European country's similar reliance on nuclear energy. Overall, *Shin Godzilla* is deeply entwined with the Fukushima triple disaster, critical of the Japanese government's political hierarchy, and overtly resistant to American political pressure while simultaneously hinting at more long-lived issues, such as pollution and climate change. In the final shot, the carcass of Godzilla decomposes, revealing human skeletons embedded within it. The image seems to harken back to photographs from Hiroshima and Nagasaki following the atomic bombings. Yet it has a deeper implication. As Erik R. Lofgren has argued, this imagery implies that humans are part of the monster: "The figures remind us that this Godzilla, as a metaphor for the nuclear disaster at Fukushima, is of us, a consequence of choices made by the very people it has been attacking" (Lofgren 2021, p. 272). Humanity is inextricable from the existence of Godzilla and his wrath.

While *Shin Godzilla* proved successful in Japan and abroad (it was the most financially successful Tōhō Godzilla film at the time), its success paled in comparison to Tōhō's next live-action Godzilla film (Klein 2023). Due to their licensing agreement with Legendary Entertainment, Tōhō was barred from producing another Godzilla film until at least 2020. After delays partially tied to the COVID-19 pandemic, the next Godzilla picture premiered in Shinjuku on 18 October 2023. Directed by Yamazaki Takashi, *Godzilla Minus One* roared into the box office and quickly became the most successful Japanese-language Godzilla film of all time (Bolt 2023). Not only did *Godzilla Minus One* prove a box office hit, but it also received critical acclaim and became the highest grossing Japanese-language film ever in North America (Harding 2024). Finally, *Minus One* became the first Godzilla film to ever be nominated for an Academy Award, and the first Japanese-language film to ever be nominated for and win for Best Visual Effects at the 96th Academy Awards (Schilling 2024).

On its surface, *Godzilla Minus One* bears several visual and thematic similarities to *Shin Godzilla*. First off, as in *Shin Godzilla*, Godzilla is created through CGI special effects in *Minus One*. Although this is true of all live-action Godzilla films of the twenty-first century after the monster's Millennium series following the premiere of *Godzilla: Final Wars* on 29 November 2004, it remains a departure from the "suitmation" puppetry of fifty years of Godzilla movies. Rendering Godzilla through CGI, rather than a human in a rubber suit and other puppetry, changes many aspects of *kaijū eiga*. Gone are the days of "big-time wrestling in seedy latex suits", and with it, one of the genre's time-honored and fan-beloved aspects (Tsutsui 2004, p. 13). The use of computers, rather than humans, to simulate the monster creates what should be an obvious result: Godzilla seems less personable, less anthropomorphized, and far more like an inscrutable machine-like destroyer (Murphy 2023, p. 236).

Additionally, both films feature Ifukube Akira's musical cues from the original 1954 film, and 1964's *Mothra vs. Godzilla*. *Shin Godzilla* and *Minus One* are also critical of the Japanese government and challenge any reliance on the United States for help. As a result, in each film, the heroes are a hodgepodge group of individuals that come together to save their nation, rather than a centralized state effort. But while in *Shin Godzilla* the task force is composed of so-called lone-wolves, outsiders, and low-ranking politicians as well as

civilians, the heroic collective in *Minus One* is made up of former World War II soldiers and scientists. Thus, *Shin Godzilla* continues to embrace the common theme of military impotence. Conversely, *Minus One* instead celebrates likely wartime criminals as the saviors of Japan. Despite this apparent unapologetic nationalism, *Minus One*, with its focus on an individual protagonist-hero, is much more in line with Hollywood-style narratives than *Shin Godzilla*'s cast-driven enviro-political messaging. As a result, *Shin Godzilla* was much more specifically targeted at a domestic audience that had survived the Fukushima 3/11 tragedy while *Minus One* clearly aims for an international audience interested in good storytelling and giant monsters.

*Godzilla Minus One*, interestingly, is chronologically set earlier than any other Godzilla film. The movie's opening scene takes place during the closing days of World War II (a period only visited in flashbacks and time-travel sequences in other Godzilla pictures), and most of the story happens in 1947. This revised timeline places the film's events a full seven years before the original *Godzilla* in 1954. This setting has led fans and journalists to wonder whether *Minus One* serves as a remake, a reboot, a prequel, or something else entirely (Miller 2024). The seven-year gap, too, represents a sea change in eras as well, like the 1989 setting in *Gamera Rebirth*. The original *Godzilla* setting was also in the postwar era, but two years after the end of the Allied Occupation (1945–1952). By shifting the story backwards in time seven years, to 1947, *Godzilla Minus One* performs an intriguing bit of storytelling legerdemain. The original *Godzilla*, which heavily criticizes nuclear weaponry and calls to mind the atomic bombings of Hiroshima and Nagasaki, would likely have never passed the extensive censorship apparatus in place during the Occupation (Dower 1999, pp. 413–15). *Minus One*, on the other hand, proves to be an even darker and more poignant critique of the nuclear issues that imbued the first film, set during the immediate postwar period, when Japan was still struggling to rebuild itself in the direct aftermath of war's end, the atomic bombings, and the country's defeat.

The story of the *Lucky Dragon No. 5*'s irradiation by the Castle Bravo nuclear test at Bikini Atoll, and how it influenced Tanaka Tomoyuki when he envisioned Godzilla, is the stuff of *kaijū eiga* lore and legend. It is recounted in almost every book and article on the original film and monster (Tsutsui 2004, pp. 18–19). Needless to say, the historical incident from March 1954 appeared in slightly altered form in *Godzilla*, when the monster destroys the *Glory No. 5* through the first on-screen use of his radioactive breath. However, the film coyly avoids directly blaming or implicating the United States by name. *Godzilla Minus One* dispenses with these pleasantries, and instead directly ties the irradiation, enlargement, and enagement of Godzilla to American nuclear testing on Bikini Atoll. Seventy years after the original *Godzilla*'s production, Japan is less dependent on the United States, and less tied to its wartime legacy, than it was in the postwar era. *Minus One* does not hold its other punches either; the film is extremely pugilistic, even by *kaijū eiga* standards. The film targets not only the United States and Soviet Union (and, by implication, Russia) for criticism, causing the Cold War tensions that threaten Japan, but also the wartime Imperial Japanese government and military, as well as the country's willingness to disregard the lives of its citizens.

One of the ways *Godzilla Minus One* proves so successful is through its intertextual relationship with the original *Godzilla*. Like other prior Godzilla films, the 2023 picture looks to the original for guidance and inspiration, but it does not feel beholden to it like many earlier *kaijū eiga*. Narratively, *Minus One* recasts several of the plotlines, locations, and characters of the original *Godzilla*. The film's opening sequence begins with an establishing shot of a Mitsubishi "Zero" fighter plane approaching Ōdo Island. Its kamikaze pilot and the film's central protagonist, Shikishima Kōichi (Kamiki Ryunosuke), lands at the Japanese air base there. Although Ōdo Island is mentioned in passing in a small handful of Godzilla films, the only films to include scenes there are 1954's *Godzilla* and *Minus One*. This is important because Ōdo Island is not just any place, it is Godzilla's point of origin, and he receives his name from the island's local population. Although Godzilla does not appear until nearly thirty minutes into the original film, in *Minus One*, he arrives on the

scene almost immediately, when he attacks and decimates the Japanese air base. Although already aggressive and violent, at this point Godzilla is only a prehistoric, dinosaur-like creature, not yet the gargantuan irradiated nightmare he eventually becomes. In this scene, he is more akin to the Godzillasaurus of other franchise films like *Gojira* vs. *Kingu Gidora* (*Godzilla* vs. *King Ghidorah*, 1991). After surviving the attack, Shikishima returns to the burned-out remains of postwar Tokyo, where he meets Ōishi Noriko (Hamabe Minami).<sup>12</sup>

The following year, in July 1946, the American Operation Crossroads nuclear testing at Bikini Atoll irradiates Godzilla, causing him to grow massively in size and gain regenerative capabilities. As in the opening scenes of the original *Godzilla*, the monster then begins making his way towards Japan, destroying ships and submarines en route. The Americans abandon Japan to its fate, with the film including archival footage of Gen. Douglas MacArthur, who announces that Japan must rise to its own defense due to escalating U.S.–U.S.S.R. Cold War tensions. *Godzilla Minus One*'s inclusion of these Cold War tensions marks a departure from *Godzilla*, which strenuously tries to avoid commenting on the very Cold War nuclear fears that underpin the entire film. Russia's 2022 invasion of Ukraine may have contributed to this shift, as renewed fears of Russian aggression and related nuclear fears have increased to heights not seen since the end of the Cold War in 1991 (O'Shea and Maslow 2024). Russia's invasion sparked renewed fears of nuclear war globally, and Godzilla's radioactive pollution of the seas and cityscape in Japan echo these rising fears in *Godzilla Minus One* (Kimball 2024). Moreover, Godzilla's heat ray's power appears exponentially more powerful, and nuclear, here. The monster uses his radiation-breath attack to destroy the Japanese cruiser *Takao*, and later in Tokyo's Ginza district, the effects mimic an atomic blast's shockwave, and a telltale mushroom cloud rises on both occasions (44:14; 1:01:55). Lastly, when Godzilla blasts and levels the Ginza with his heat ray, seemingly killing Noriko, a "black rain" of nuclear fallout then pours onto the shocked Shikishima. *Godzilla Minus One* represents a resurgence of both the environmental and human concerns of nuclear weaponry and radiation in a way and on a scale not seen since the original 1954 film (See Appendix A, Figure A3).

Aside from the obvious ecological implications of nuclear war and radioactive fallout, one of the original 1954 *Godzilla*'s other environmental concerns relates to Dr. Serizawa's (Hirata Akihiko) plan to defeat Godzilla with his oxygen-destroyer device. Although Godzilla represents an environmental terror, Dr. Serizawa's oxygen-destroyer is perhaps even more threatening. He claims that his device is powerful enough to extinguish all life in Tokyo Bay, and presumably that devastation occurs when he triggers the weapon and kills Godzilla during the film's climax. Later *Godzilla* installments have included characters that harken back to Dr. Serizawa, like *Godzilla* vs. *Hedorah*'s Dr. Yano (Yamanouchi Akira) and Dr. Kirishima (Mitamura Kunihiro) from *Gojira tai Biorante* (*Godzilla* vs. *Biollante*, 1989). *Godzilla Minus One*'s Dr. Serizawa-like character is Dr. Noda Kenji (Yoshioka Hidetaka). A comparative analysis of Dr. Serizawa and Dr. Noda reveals several intriguing points.

To start, both Dr. Serizawa and Dr. Noda are war veterans, but whereas Serizawa is brooding and aloof, Noda is gregarious and charismatic. Serizawa's wartime experience remains vague; William Tsutsui notes that he "sports an eye patch (the resort of an un-elaborated wartime injury)" (Tsutsui 2004, p. 29). Serizawa appears deeply affected and traumatized by the war, causing him to devote his life to science. In *Godzilla*, Serizawa describes the power of his oxygen-destroyer: "A little piece of this, dropped into the water, could turn all of Tokyo Bay into a graveyard!" (1:12:29). The scientist demonstrates the device to his betrothed Emiko (Kōchi Momoko), annihilating an aquarium filled with fish to prove his invention's efficacy. As we note in *Japan's Green Monsters*, Serizawa's actions are deeply problematic from an environmental perspective. Although *Godzilla* portrays the scientist as a hero, sacrificing himself to save the Japanese nation, his actions nevertheless create an ecological calamity: "it seems clear that all life in Tokyo Bay has been destroyed, saving Japan from Godzilla but creating a massive environmental catastrophe in return" (Rhoads and McCorkle 2018, p. 40). Conveniently, the characters and audience are spared

this messy fact, as the film's credits begin to roll shortly after Godzilla's demise, avoiding this troubling aftereffect.

Noda, on the other hand, offers an updated and revised iteration of Serizawa for the twenty-first century. However, although Noda's plan to defeat the monster in *Godzilla Minus One* is less problematic than Serizawa's, with less devastating consequences, it is not totally innocuous. Serizawa is not present in *Godzilla Minus One*, nor is his oxygen-destroyer available for deployment. From a storyworld perspective, this is likely due to the fact that Serizawa had just completed his invention in 1954—the film's setting in 1947 means the device does not yet exist. As events have moved earlier in this alternate timeline, the task of defeating Godzilla instead falls to Noda, who “developed naval weapons” for the Imperial Japanese Navy (IJN) during the war (23:31). In 1947, Japan also lacks any means of direct defense against the monster—the Japan Self-Defense Forces (JSDF) were also not established until 1954. Therefore, in the film's climax, Noda and other war veterans must confront Godzilla with a handful of disarmed IJN destroyers and a single recommissioned Kyūshū “Shinden” canard aircraft piloted by Shikishima.

Noda devises a plan to defeat Godzilla—rather than kill the monster directly, he plans to envelop him with a cloud of Freon gas bubbles while at sea. The Freon will disrupt Godzilla's buoyancy, causing him to plummet to the depths of the Sagami Bay trench, 1500 m (5000 feet) deep. Noda makes the case that they will be utilizing nature to defeat the unnatural abomination Godzilla: “We'll kill it with the power of the sea” (1:09:36). If Godzilla survives the rapid pressure change from his descent into the abyss, balloons attached to the Freon tanks will then force the monster to rapidly rise to the surface, killing him through explosive decompression (“the bends” and barotrauma). The Freon is a catalyst to kill Godzilla through natural means, not a weapon on its own. Noda's plan only partially succeeds—Godzilla is simply tougher and more resilient than expected. Although the monster is visually harmed, he endures. Shikishima seemingly deals the final blow by flying the kamikaze fighter into Godzilla's mouth, detonating its bombs just after he safely ejects from the aircraft.

There are some interesting resonances between Serizawa, Noda, and Godzilla. Serizawa, in the original film, infamously kills his aquarium fish and then all marine life in Tokyo Bay. In *Minus One*, on the other hand, Godzilla is the one responsible for the widespread death of sea creatures. Every time the monster appears, he is presaged by the arrival of dead deep-sea fish floating to the surface. This happens during his initial appearance on Ōdo Island, and only increases in scale following his enlargement and irradiation. Therefore, Godzilla seems to represent the unnatural anomaly in this film, rather than Serizawa's scientific invention. This mimics the treatment of Hedorah, the smog monster, in *Godzilla vs. Hedorah*, where the pollution-creature's reign of terror causes the death of Dr. Yano's aquarium fish (Rhoads and McCorkle 2018, p. 118). This cinematic sleight-of-hand presents interesting possible readings—unlike the horrifying yet somewhat sympathetic creature in *Godzilla*, in *Minus One*, the monster becomes a true unnatural abomination, much like Hedorah.

There are a few final environmental angles in *Godzilla Minus One* worth discussing. The first is the movie's use of Freon. Although Noda's plan seems less fantastical and more based in science than Serizawa's oxygen-destroyer, it is unclear if the plan stands up to scrutiny. Whether the bubbles would really disrupt Godzilla's buoyancy or the seawater's density enough to plunge Godzilla to Sagami Bay's depths remains dubious. Writing for *Medium*, physicist Rhett Allain makes the case that Noda's plan as carried out would not cause Godzilla to sink, and that since there is no direct knowledge of Godzilla's anatomy, there is no way to know if he would suffer from pressure changes at depth or explosive decompression during his rapid rise to the surface. Perhaps most interesting, however, is Allain's contention that “really [...] any gas”, would be just as effective—in other words, there is no scientific reason for Noda's (or the film's) decision to use Freon (Allain 2024). Perhaps, like the oxygen-destroyer, defeating Godzilla must come with some environmental price, balancing the scales. Freon is not only dangerous to humans, but also

harmful to the planet. Freon is a generic descriptor for a variety of refrigerant and aerosol products, all of which are chlorofluorocarbons (CFCs) or hydrofluorocarbons (HFCs). CFCs were responsible for the depletion of the ozone layer, and their use is now largely banned or heavily restricted by a variety of international agreements. Both CFCs and HFCs are also recognized as “super-greenhouse effect” gases that contribute to global warming. Like Serizawa’s decimation of Tokyo Bay, Noda’s plan likewise comes with an environmental cost, contributing to the depletion of the ozone layer and the accumulation of greenhouse gases that cause climate change.

Noda’s plan combined with Shikishima’s bravery appears to defeat Godzilla and save Japan. However, the film’s denouement brings several unexpected twists. First, Noriko, presumed dead during Godzilla’s attack on the Ginza district, turns out to be alive. Shikishima rushes to the hospital to visit her, immediately after the conclusive battle with Godzilla. Noriko, bandaged in bed, with one eye covered (like Drs. Serizawa and Yano before her), leans over to hug Shikishima. As she does so, a black mark is revealed on her neck. While first appearing to be a radiation burn or keloid scar, like those that affected the victims of the atomic bombings of Hiroshima and Nagasaki, the black mark then begins to move and flow. After *Minus One*’s release, director Yamazaki Takashi confirmed the mark to be caused by Godzilla cells (or G-cells), a Godzilla storyworld element that first appeared in 1989’s *Godzilla vs. Biollante* (Mercuri 2024). Like the monster-plant hybrid in that film, this closing shot implies that Noriko’s survival is more supernatural or paranormal than it is due to luck. She seems to now possess some of Godzilla’s regenerative properties. And, like Noriko, the film’s final shot reveals that Godzilla is not truly dead either—in the depths of Sagami Bay, some of Godzilla’s flesh begins to mutate back to life, implying that the monster, and the environmental threats he embodies, will return to wreak havoc on Japan and the planet yet again.

### 5. Conclusions: Evergreen Avengers

In the last few decades, Japanese-produced *kaijū* fare have continued to deal with environmental concerns both specific to the nation (like nuclear power) and relevant to the world, like climate change and dwindling natural resources. So dire have these latter issues become that even Hollywood’s escapist tentpole monster movies have come to address environmental concerns. As Steven Rawle notes, “these films provide a dark pedagogical strain of humanity’s growing sense of irrelevance in the face of the climate emergency” (Rawle 2024, p. 170). For example, 2019’s *Godzilla: King of the Monsters* pits the protagonists against eco-terrorists who argue that the *kaijū* (dubbed Titans) are the planet’s natural and necessary response to the environmental destruction wreaked by humans. In the follow-up film *Godzilla vs. Kong* (2021), the two Titans first tangle before teaming up to defeat the technological monster Mechagodzilla (who is now being controlled by King Ghidorah). In this way, while the film is primarily a CGI-infused romp, it still implies that nature will triumph over the artificial. In the most recent MonsterVerse entry, *Godzilla x Kong: The New Empire* (2024), the two Titans (who have historically represented Japan and America, respectively) team up once again. This time Mothra even joins the mix. Together, the *kaijū* trio must defeat the evil giant ape Skar King and his ice-breathing reptilian servant Shimo. In a kind of inversion of global warming, the entire planet is at risk of plunging into a new Ice Age. So, while monster battles and special effects are at the heart of the Legendary films, it is apparent that even Hollywood’s giant monster movies cannot help but incorporate environmental messaging, so vital and intimately connected to the *kaijū* genre has it become.

Legendary’s recent blockbusters draw their environmental inspiration from the long line of *kaijū eiga* that came before them. As we argued in *Japan’s Green Monsters*, the genre is an inherently environmental one. From *King Kong*’s humanity-versus-nature themes and *Godzilla*’s antinuclear origins to Mothra’s representation of Mother Earth and the feminine and Gamera’s voracious consumption of natural resources, environmental and ecological questions and concerns are intimately connected to the font of *kaijū eiga*. It comes as no

surprise, then, that even seventy years after *Godzilla*'s premiere, environmental commentary continues to be a strong and recurring element in *kaijū* productions of the early twenty-first century. In some cases, *kaijū eiga* are now so thoroughly connected with ecological concerns that even non-environmental productions seem to include surface-level environmental issues, simply as a genre trope. In much the same way that superhero movies need maniacal villains and fantasy ones include magic, it seems that *kaijū eiga* now almost require an environmental angle.

All in all, despite the fragmentation and diversification of *kaijū eiga* in the twenty-first century, environmental messages and ecological commentary remain relevant and pervasive in the genre. The resurgent threat of nuclear devastation and radiological contamination (reinvigorated by Fukushima and in the face of Russian aggression in Ukraine), coupled with the omnipresent threats posed by climate change and the global loss of biodiversity, continue to appear as motivations and fears throughout recent *kaijū eiga* productions. This flexibility reflects the adaptability and timeliness—and timelessness—of *kaijū eiga*. Like their predecessors from the prior century, twenty-first century monster movies steadfastly continue to comment on a range of environmental and ecological issues. After all these years, *kaijū* remain Japan's green monsters and Earth's evergreen avengers.

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## Appendix A



**Figure A1.** Little Hedorah visits Mount Fuji in *Godziban* (Tōhō/YouTube).



**Figure A2.** Joe, Boco, and Junichi rescue a turtle in *Gamera Rebirth* (Kadokawa/Netflix).



**Figure A3.** Godzilla looms over his nuclear destruction of the Ginza district in the decolorized black-and-white version of *Godzilla Minus One* (Tōhō/Netflix).

## Notes

- <sup>1</sup> Throughout this essay, we use the preferred Japanese style of placing surnames before given names. We also omit the diacritical marks for certain words common in English, like Tokyo.
- <sup>2</sup> It is worth noting that *Godzilla vs. Mechagodzilla II*'s premier in December 1993 occurred during a boom of dinosaur motion pictures: *Jurassic Park* (1993), *Carnosaur* (1993), *Super Mario Bros.* (1993), *Dinosaur Island* (1994), *The Flintstones* (1994), *Tammy and the T-Rex* (1994) and the *Dinosaurs* (1991–1994) TV series were all in vogue during this cultural moment.
- <sup>3</sup> Some film examples include *Pacific Rim* (2013), *Kong: Skull Island* (2017), *Pacific Rim Uprising* (2018), *Rampage* (2018) and *Monster Hunter* (2020), series examples include *Game of Thrones* (2011–2019) and *Stranger Things* (2016–2025), and video games include *The Legend of Zelda: Breath of the Wild* (2017) and *Resident Evil Village* (2021).
- <sup>4</sup> Sakaki Haruo is presumably named in honor of Nakajima Haruo, the stuntman inside the Godzilla suit in twelve films, including the original 1954 film. Nakajima died on 7 August 2017, just three months before the release of *Godzilla: Planet of the Monsters* that November.
- <sup>5</sup> In the third film, the Houtua twins compare Godzilla to a tornado and thunderstorm.
- <sup>6</sup> Boco's and Joe's names are unusual transliterations of the original Japanese, which would be more properly rendered as "Boko" and "Jo", respectively. However, these are the spellings used in Netflix's subtitles and in the literature available on the series, so we follow that spelling here.
- <sup>7</sup> For a discussion on "temptress" characters in *kaijū eiga*, including multiple examples, see (Rhoads and McCorkle 2018, pp. 82–86).
- <sup>8</sup> The death of Queen Elizabeth II on 8 September 2022 is probably the closest analogy to those in the West outside Japan.
- <sup>9</sup> Like other science fiction references sprinkled throughout the series, the episode's title is a direct reference to Robert A. Heinlein's 1966 novel of the same name. The Japanese title of the episode is "Tsuki ha Mujihi na Yoru no Jo-ō".

- <sup>10</sup> For our audio commentary on *Gamera vs. Zigra*, see Arrow Video's remastered release of the Gamera series.
- <sup>11</sup> Whether this nuclear waste is the product of corporate manufacturing or a government endeavor is left unclear.
- <sup>12</sup> The character Noriko's name, role, and appearance call to mind Hara Setsuko's character of the same name from renowned director Ozu Yasujiro's "Noriko trilogy", of *Banshun* (*Late Spring*, 1949), *Bakushū* (*Early Summer*, 1951), and *Tokyo Monogatari* (*Tokyo Story*, 1953). The effect is particularly striking in the decolorized, black-and-white release of *Godzilla Minus One*.

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