



Monterey Bay Aquarium
Research Institute

What makes it stick? Assessing deep-sea fauna awareness and engagement from a social media giveaway campaign

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ABSTRACT

Social media engagement on platforms such as Twitter, Facebook, and Instagram is a key part of advancing the goals in MBARI's strategic communications plan. In summer 2020, the social media team launched a weekly giveaway campaign on those platforms, featuring custom-designed stickers of six deep-sea animals, to boost followings and engagement with MBARI. Quantitative and qualitative examination of the sticker campaign outcomes suggest mixed success and impact, as well as some clues towards maximizing the impact of future MBARI sticker giveaway campaigns.

INTRODUCTION

Social media is a ubiquitous feature of public-facing communication in modern American society. As of 2019, two-thirds of Americans under age 30 used Instagram, and 69% of all American adults used Facebook (Perrin and Anderson 2019). In another

survey, 43% of Americans reported getting news from Facebook, nearly as many as use television (49%) (Geiger 2019).

Social media is an especially rich landscape for public-facing communication about research and science, since such communication has often been siloed into insular niches. As one team of science communication scholars notes, digital communication tools like social media “could allow for a broader conversation about research. But the presence of these platforms alone does not guarantee broader conversation: initial studies suggest that social media has rather opened a new channel for informal discussions among researchers, rather than a bridge between the research community and society at large” (Sugimoto et al., 2016). Making social media connections that engage audiences in research and science, outside of tight-knit academic circles, requires time and intention.

The Monterey Bay Aquarium Research Institute (MBARI) has conducted science communication and outreach on Facebook and Twitter since 2011, and on Instagram since 2015. Of MBARI’s six high-level objectives for all its communications content, the following four can be directly advanced through consistent and robust engagement with followers on social media:

- Increase awareness and perception of MBARI as a world center for advanced research and education in ocean science and technology, driven by a unique and powerful peer relationship between engineers and scientists.
- Increase awareness of the importance of ocean health. Explain changes in the ocean and how they impact life on Earth.
- Illustrate the impact of MBARI research and technology development.
- Inspire students to pursue science, technology, engineering, and math careers.

(MBARI Web Content Strategy Playbook)

To better achieve these goals, MBARI’s social media team commissioned a series of morphologically accurate illustrations from artist Emily Hess to make into custom stickers. The team then launched a campaign featuring giveaways of six illustrated deep-sea animals as three-inch stickers. The campaign coincided with the design and publication of “Creature Feature” webpages for non-experts containing visual media and information about each animal. The summer 2020 #DeepSeaSwag social media campaign was the first of its kind for MBARI, and was created to boost MBARI’s engagement and followers across social media platforms.

MATERIALS AND METHODS

Stickers are popular accessories for water bottles and laptops, particularly among young adults and college students. MBARI ordered several hundred of each of the six deep-sea animal sticker designs (Figure 1). Each die-cut sticker, when shipped to a #DeepSeaSwag winner, peeled off a background that included both the scientific and common names as well as a QR code linking to the Creature Feature landing page on MBARI's website.

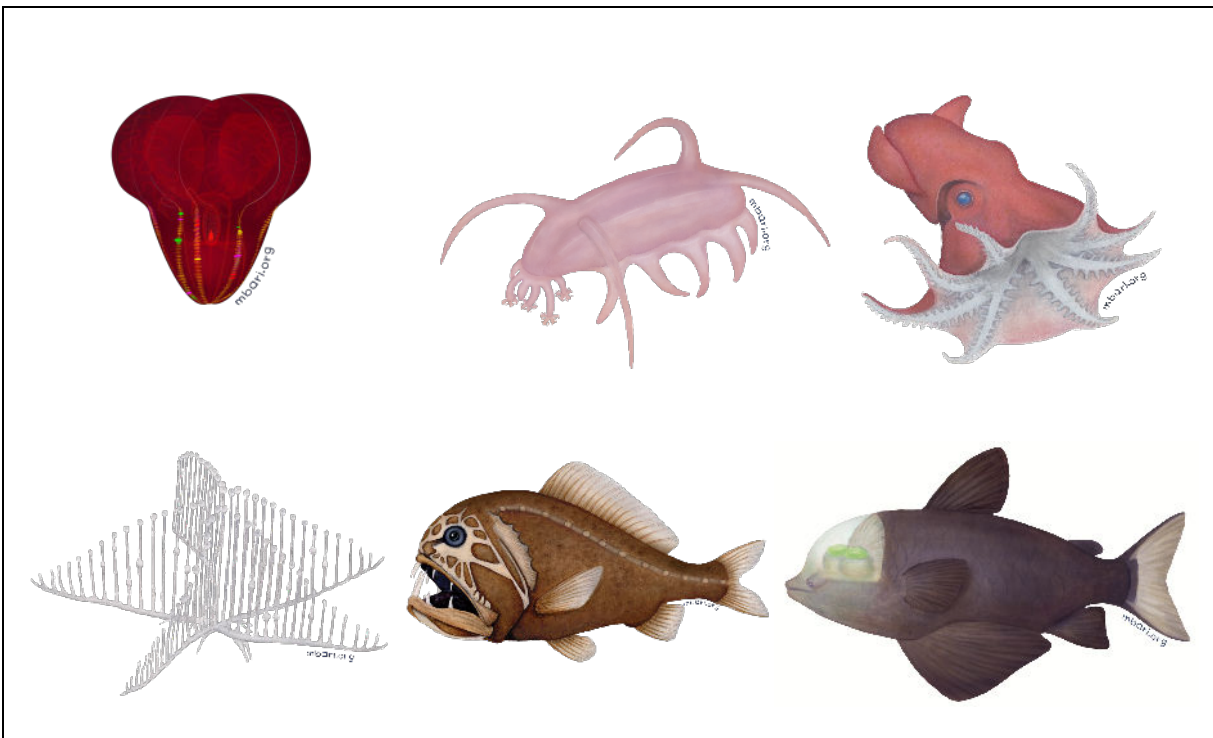


Figure 1. The six stickers used for giveaways on social media throughout summer 2020 were, from top left across: a bloody-belly comb jelly (*Lamproteus cruentiventer*); a sea pig (*Scotoplanes* sp.); a vampire squid (*Vampyroteuthis infernalis*); and on the bottom row, a harp sponge (*Chondrocladia lyra*); a fangtooth (*Anoplogaster cornuta*); and a barreleye fish (*Macropinna microstoma*). One sticker giveaway for each respective animal was announced weekly on Facebook, Twitter, and Instagram from June 23, 2020 through June 27, 2020, culminating in a final round of giveaways encompassing all six animals conducted on August 3, 2020. All six stickers were designed by scientific illustrator Emily Hess, who incorporated multiple rounds of feedback from MBARI experts on each animals' physiology and appearance.

They were also accompanied by a brief congratulatory letter that encouraged the recipient to post about their sticker on social media, with a caption containing #DeepSeaSwag, and to tag MBARI's account.

“CREATURE FEATURE” PAGES

Each social media post announcing sticker giveaways linked viewers to a corresponding “Creature Feature” landing page on MBARI's website nested under the “Products” tab. The pages were all designed to be released in conjunction with the stickers. They each include a non-technical overview of the various animal featured for the giveaway campaign, and include brief descriptions, photos, and videos as well as links to other MBARI pages and research about the animals. Google Analytics provided detailed information about the web traffic throughout the summer on each of these pages.

STICKER GIVEAWAY CAMPAIGN EXECUTION

MBARI staff announced each sticker giveaway on Facebook, Instagram, and Twitter by posting videos, links, or images of the featured animal accompanied by a caption. Each post included instructions on how to enter the sticker giveaway, the phrase #DeepSeaSwag, a brief description of some of the animal's notable attributes, and a disclaimer that the giveaway would only last for 6 days, with 15 winners selected and notified one week after the giveaway announcement. To enter each sticker giveaway on any of the three social media platforms, a social media user had to “like” or “follow” MBARI's account and tag at least three other people in a comment on the post announcing the giveaway. This ensured that for every entry in the giveaway campaign, three distinct users (who may or may not have already followed MBARI) would be notified about MBARI's post the next time they opened the social platform they were tagged on.

The number of winners from each platform was apportioned according to how many complete entries had been submitted on each platform; most weeks, this method produced 12-13 sticker winners on Instagram, 1-2 on Facebook, and 1-2 on Twitter. To select the 15 winners from across the three social media platforms each week, a random number generator website (random.org/integer-sets) created three separate sets of random numbers out of the total number of entrants on each respective platform. The sticker

winners were notified on their respective platforms the day after each sticker giveaway concluded and given six days to fill out a short Google form with their address, after which the stickers were mailed. An additional summer finale giveaway, which had a shorter duration but allowed 30 winners to select any two of the six stickers, is not included in this analysis.

RESULTS

There were 1,185 distinct entries across the three social media platforms throughout the six-week giveaway campaign (Figure 2 and Table 1, Appendix), among which a total of 90 (15 entries for each of the six animals featured) were randomly selected as winners to receive stickers.

#DeepSeaSwag sticker giveaway entries across platforms

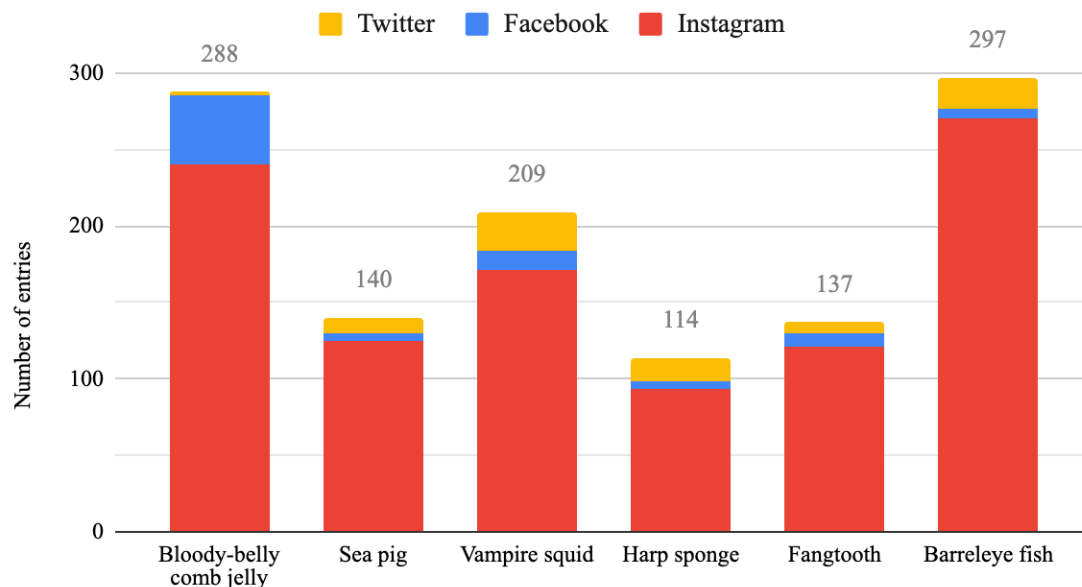


Figure 2. Each week, a large majority of participants in the #DeepSeaSwag sticker giveaways were entering to win through Instagram (1,020 in total, or 86% of all entries throughout the campaign). The barreleye fish sticker had the most participation of the six giveaways.

As of August 11, 2020, 85 of the 90 winners (94.4%) had filled out the form with their addresses. The stickers were distributed throughout the summer to winners in 15 countries (Figure 3a) and 20 U.S. states (Figure 3b).



a.



b.

Figure 3. a. Fifteen sticker giveaway entrants were selected at random and shipped a sticker of the animal they had entered for each week during the six week #DeepSeaSag campaign. The map does not display exactly fifteen of each type of sticker because at the time of creation, one bloody-belly comb jelly winner, one sea pig winner, and three barreleye fish winners had not filled out the form indicating where their stickers should be shipped. The MBARI logos represent MBARI summer interns, who received one of each type of sticker. In total, stickers of the six animals were mailed to 15 countries and every continent, besides Antarctica.

b. A cropped view of the North American sticker recipients demonstrates a strong coastal and Californian concentration of winners, although a substantial number were also inland or otherwise geographically distanced from MBARI. Winners were located in 20 U.S. states. The interactive map can be accessed and cited as: ["Creature Feature Sticker Winners."](https://www.google.com/maps/d/edit?mid=1Ugy8rf19Wzv94A39tk9PbxQAHRcJXxsx&usp=sharing) Google My Maps, August 11, 2020. [google.com/maps/d/edit?mid=1Ugy8rf19Wzv94A39tk9PbxQAHRcJXxsx&usp=sharing](https://www.google.com/maps/d/edit?mid=1Ugy8rf19Wzv94A39tk9PbxQAHRcJXxsx&usp=sharing)

By the conclusion of the sticker campaign, 316 unique individuals had visited the main Creature Feature landing page on MBARI’s website, mostly from social media referrals. There were also 678 unique visits to the individual landing pages for the six animals. For all the individual landing pages and the main Creature Feature landing page, the majority of visitors continued on to other pages on MBARI’s website after viewing the content. There were no obvious correlations between the sticker campaign social media posts and overall traffic on MBARI’s website.

STICKER CAMPAIGN OUTCOME ANALYTICS

From June 20, 2020 (before the first sticker giveaway was announced on social media) through August 10, 2020, MBARI’s increase in Facebook and Twitter followers remained near or below baseline levels of growth since 2018 (Figure 4 and Table 2, Appendix).

Instagram, however, experienced an increase of 6,700 followers over the same dates, a threefold increase from the two-year average gain of 338 new followers per week. Prior to the sticker giveaway, Instagram had consistently been MBARI’s fastest-growing account, and it surpassed Facebook in total followers at the start of 2020. One striking two-day period, which coincided with the highly popular barreleye fish sticker giveaway announcement, resulted in more than 1,000 new Instagram followers—a gain typically achieved, on average, over the course of several weeks.

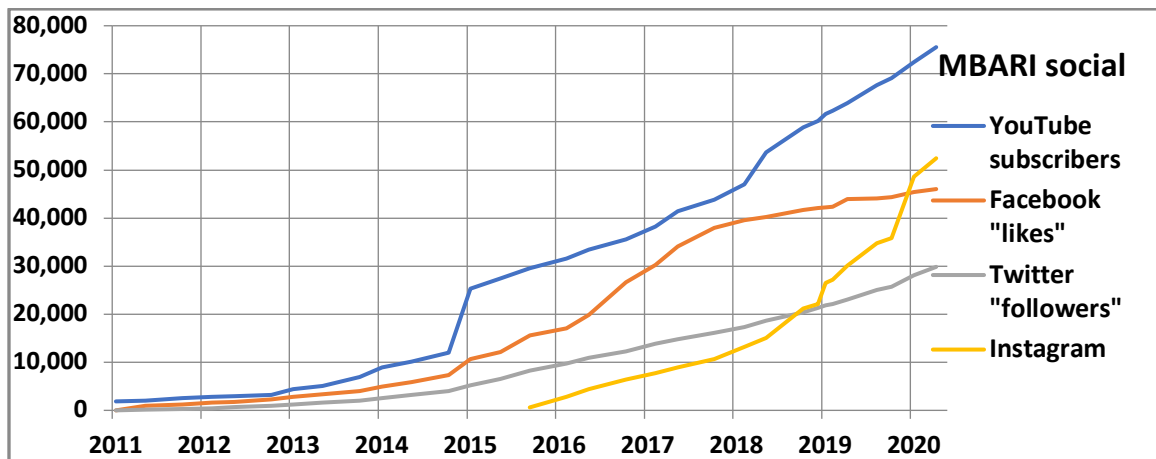


Figure 4. MBARI’s monthly social media following has grown across platforms since each was launched. Instagram is MBARI’s newest social media account, and has experienced substantially faster average growth in followers since February 2018 (1,505/month or 338/week) compared with all other platforms. (From report, “Social Media Board Bullets (Jan 30 – April 27, 2020)”).

Although the sticker giveaway campaign clearly did not align with a surge of new account followers on Twitter or Facebook, the six #DeepSeaSwag Facebook posts all had above average engagement (Table 3, Appendix) relative to the number of accounts they reached. Engagement, defined for Facebook as liking, commenting, sharing, or clicking on a post, was a secondary goal for the campaign along with increasing followers. Average engagement on Facebook posts is 5.4-6.8%, depending on whether the post contains a link, video, or image. Three #DeepSeaSwag posts (bloody-belly comb jelly, fangtooth, and barreleye fish) had roughly double the engagement relative to total reach of a typical Facebook post.

QUALITATIVE CONSIDERATIONS

A non-quantitative look at the Google form comments among people who won stickers illuminates additional results regarding the motivations and backgrounds of the social media followers who won stickers. Among people who commented on the form (and most did), many emphasized their stalwart support for MBARI specifically and ocean conservation and exploration more broadly. Inspiration, awe, and motivation towards achieving career goals were commonly cited as reasons people volunteered for why they follow MBARI (Table 4, Appendix). This emergent pattern is consistent with the presumption that the most predisposed people to engaging in a social media giveaway campaign as specifically tailored as MBARI’s would be the most engaged, dedicated, and committed followers.

DISCUSSION

Interpreting the results of this campaign relies on myriad assumptions about social media analytics, which should be taken with a grain of salt. Indeed, some assumptions that facilitate ease of analysis are almost certainly flawed, such as supposing that the

average measured social media engagement is equivalent across platforms, people, and postings. A view or retweet on Twitter is not interchangeable with a Facebook engagement. Facebook's estimated reach encompasses people who scroll mindlessly past a post as well as engaged participants in the giveaway campaign, and counts them equally. Metrics of engagement, such as liking, commenting, and even visiting MBARI's webpages about the animals featured serve as proxies for, rather than measures of, progress towards MBARI's highest goals of content fostering awareness and inspiration around MBARI's mission and work. Lacking sufficient data from Instagram, the primary platform people used to participate in the giveaways, makes asserting even casual correlations tricky.

Even taking for granted the assumption that social media engagement reflects deeper learning, analyzing the success of various components of the sticker campaign also suffers from serious confounding factors. One example is that amplification from a single popular account, such as Laughing Squid, can skew a particular post on a particular platform towards high levels of engagement by reposting. There are also numerous potential positive impacts of the sticker campaign that cannot be adequately captured with analytics. Non-measurable, offline engagement, such as the conversations or interactions the stickers will engender in their far-flung settings, are no less valuable for being intangible.

Of the 85 #DeepSeaSwag winners who had filled out the Google form to receive their stickers as of August 11, 69 (81%) indicated that they wanted to join MBARI's quarterly mail-list. Many of these individuals likely already engage with MBARI, as indicated both by their participation in the giveaway contest as well as the comments they left in the winners form they each completed; however, the majority of them wanted to engage with MBARI on a deeper level (by joining the newsletter list). MBARI might consider creating further novel opportunities for already enthusiastic followers and supporters to engage even more deeply with MBARI's mission and content. Doing so would also further their capabilities to act as engaged online community members and followers, which can in turn create an online environment of two-way communication (Lee and VanDyke 2015).

Despite the abundance of existing data on Facebook and Twitter for analyzing various metrics of the #DeepSeaSwag giveaway campaign, the limitations of the data Instagram provides hampered more granular efforts to examine and attribute broad trends. Future giveaways MBARI conducts on Instagram might benefit from daily recordings of metrics, despite the cumbersome nature of copying the numbers each day, if assessing the data in detail is an important aspect of the campaign. For example, the stickers that had follow-up posts on Instagram reminding people how to enter the giveaway typically resulted in several dozen new entrants for the original contest; yet there is little to no quantitative proof of the degree to which these final-day boosts in giveaway entries impacted the overall number of entrants for each sticker.

Another challenge in devising an optimized social media giveaway campaign lies in the scholarly literature's bent towards maximizing reach and engagement for for-profit companies rather than not-for-profit research institutions. As MBARI's Science Communication and Content Manager Susan von Thun often says, MBARI isn't selling anybody anything besides love of the ocean—and studies with revenue-focused metrics and guidelines serve little purpose for reaching an educationally-driven goal. The dearth of primary literature guiding social media giveaway campaigns for science outreach, not-for-profit groups, or research institutions could be in part due to the novel nature of MBARI's giveaway.

CONCLUSIONS/RECOMMENDATIONS

MBARI's inaugural social media campaign, a series of illustrated deep-sea sticker giveaways identified as #DeepSeaSwag, provided a novel avenue for MBARI's social media followers to engage in new ways with MBARI's content while recruiting new followers across Instagram, Facebook, and Twitter. Based on the empirical results of the sticker giveaway, MBARI might review the following considerations for implementing successful future giveaways:

- Novelty: The first and last sticker giveaways, which were identified as such on social media, received substantially more entries than the other four. Future campaigns might maximize engagement, and impact, by

remaining brief and accentuating the exclusive nature of winning. The final-chance-to-enter reminders on Instagram also gave substantial (though unquantified) boosts to the total entrants for each sticker, and repeating such reminder posts would be fruitful in future campaigns.

- Play to the strengths of platforms: The social media giveaway format is strongly suited to Instagram, and is less commonly observed on Facebook and Twitter. Although MBARI has comparable followings across the three platforms, participation in the sticker giveaways on Instagram was an order of magnitude greater than on either Facebook or Twitter. Designing campaigns that are attuned to the unique audiences and expectations of different social media communities can help ground MBARI in tailored and effective efforts.
- Don't overlook existing followers: Although the goal of the campaign was attracting new followers and engagement, the sticker giveaway produced a heartfelt and enthusiastic response from many dedicated MBARI social media followers. MBARI should embrace further opportunities to deputize their most stalwart fans in engaging new followers, but also to give the loyal followers continued novel ways of engaging with MBARI.

The work of translating MBARI's science and engineering feats into compelling communication on social media is nuanced, flighty, and never-ending. The novel sticker giveaway campaign on social media likely contributed to a surge in new Instagram followers in late June through early August, and generated an enthusiastic response from dedicated MBARI account followers. Replicating the work, with some fine-tuned adjustments, would likely be well-received by MBARI followers, generate further engagement with MBARI's content, and provide a natural testing ground for exploring some of the casual correlations described in this paper.

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APPENDIX

	Instagram	Facebook	Twitter	Total entries	Maximum tagged	Maximum potential direct interactions with content (people tagging + people tagged)
Bloody-belly comb jelly	240	45	3	288	864	1152
Sea pig	125	5	10	140	420	560
Vampire squid	171	13	25	209	627	836
Harp sponge	93	5	16	114	342	456
Fangtooth	121	9	7	137	411	548
Barreleye fish	270	7	20	297	891	1188
Total	1020	84	81	1185	3555	4740

Table 1. A roundup of key metrics of participation in the #DeepSeaSwag sticker campaign, including the change in followers across platforms and the entrants by platform for each weekly giveaway, shows a clear emphasis on Instagram in participation.

Platform	Before #DeepSeaSwag sticker campaign	After #DeepSeaSwag sticker campaign	Rate of increase in follows during #DeepSeaSwag (net follows/week) ¹	Background rate of increase in follows (net follows/week) ²
Instagram	54,700	61,400	957	338
Facebook	46,300	46,550	36	108
Twitter	30,500	31,100	86	56

¹ Net follows/week is the average number of new follows minus unfollows, and was calculated from June 20 through August 10.

² The background rate of increase in followers was determined from February 2018 through April 2020. Net follows/week is defined as above.

Table 2. Followers increased across the three social media platforms used for the #DeepSeaSwag sticker giveaway campaign. However, relative to the background rate of increase over the preceding two years, only Instagram (which accounted for 86% of total participation in the giveaways) showed a potentially significant boost in growth rate over the duration of the campaign.

	FB Estimated Reach	FB Engagement	Reach:Engagement	Average Reach:Engagement for media type in post
Bloody-belly comb jelly (image)	9,490	995	10.5%	5.8%
Sea pig (video)	4,046	359	8.9%	6.8%
Vampire squid (video)	6,199	438	7.1%	6.8%
Fangtooth (video)	4,340	510	11.8%	6.8%
Barreleye fish (video)	3,840	498	13.0%	6.8%
Harp sponge (link)	1,634	108	6.6%	5.4%

Table 3. The engagement on each of the Facebook #DeepSeaSwag sticker giveaway posts, relative to the reach, was higher than average for all six giveaways. “Engagement” on Facebook is defined as interaction with the post, by reacting, commenting, sharing, or clicking. “Reach” is Facebook’s estimate of how many unique users saw the post.

“Thank you for doing these fun giveaways! I've been in love with MBARI and MBAq for a long time and I really love what you guys are doing :D Your YouTube videos and lives make my days so much better. I love you guys! ♡♡♡” (<i>Fangtooth sticker winner, Indonesia</i>)
“I love you guys! Hope I get to work with y'all someday. Keep up the amazing work.” (<i>Barreleye fish sticker winner, California</i>)
“Thank you for being so awesome and making me love marine life more than I did before!” (<i>Fangtooth sticker winner, Mexico</i>)
“Thanks! You do great work. And I love have (<i>sic</i>) MBARI tweets in my feed as an antidote to the dismaying politics. Best regards!” (<i>Harp sponge sticker winner, California</i>)
“I love your Instagram, it's my favorite account.” (<i>Bloody-belly comb jelly sticker winner, New York</i>)
“I love the work that MBARI do every day. I studied marine biology, I'm a diver, I'm in love with the sea.” (<i>Bloody-belly comb jelly sticker winner, Italy</i>)
“Thank you so much! I'm a huge fan of MBARI and can't wait for a sticker. 😊” (<i>Fangtooth sticker winner, California</i>)

Table 4. A selection of comments from MBARI social media followers who won stickers demonstrates some of the strong existing bonds these followers have with MBARI's social media accounts, subject matter, and mission.

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