Beyond the deep: Expanding the reach of MBARI's digital storytelling

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ABSTRACT

The rise of social media has significantly increased public visibility of science, empowering research institutions to connect with and educate audiences around the world. YouTube is a dominant force in the digital landscape and has grown from a simple video-sharing site to a major hub for content creation and community engagement. MBARI's content on YouTube aims to educate and connect viewers to deep-sea animals and the ocean's health. Over the years, YouTube has expanded to promote interactive content creation that actively fosters community and engagement with subscribers. During the 10-week internship, we hope to create a social media hub for community building on YouTube's new Posts and Shorts features. We found that by leveraging MBARI's YouTube audience, we were able to explore new strategies to connect new and existing audiences while reinforcing MBARI's role as a leader in ocean science research.

INTRODUCTION

Social media plays a crucial role in communicating MBARI's research to the broader public. Since launching the MBARI YouTube channel in 2009, the channel has accumulated an audience of 275,457 subscribers (Figure 1). MBARI shares videos of deep-sea animals with a goal of

sparking curiosity and empathy for the deep-sea. Animal content on the channel regularly receives higher views, reactions, and shares than other content. As animal content continues to grow engagement on social platforms, it provides opportunities to highlight tech and science advancements. Long-form, high-production videos on MBARI's channel have highlighted the variety of research conducted at the institute in series like *Meet MBARI* and *Animals of the Deep*. While MBARI's high-production horizontal videos effectively showcase advancements in ocean research, new features like YouTube Shorts and Posts call for new strategies that boost short, vertical, informative, and engaging content.

These new features help creators build better connections with existing and new subscribers. YouTube represents the world's largest video-sharing platform and the second most popular website on the internet (Neufeld, 2021). Whether viewers are engaging in media related to lifestyle, science, or politics, an estimated 70 percent of videos are discovered by users through the platform's recommender system (Macready & Stanton, 2025). This wide range in audience age demographics and usage on the app offers video and photo media as a promising avenue for sharing science and research. The algorithmic recommendation system suggests videos based on the expected watch time and probability of users interacting with the content (Covington et al. 192). The algorithm for Shorts and Posts prioritizes different factors, but all aim to reach audiences that find content engaging and relevant. By leveraging YouTube's new Posts feature and increasing posting on the Shorts tab, the goal is to connect with existing and new audiences while highlighting MBARI's deep-sea, science, and tech advancements. The goal for consistently posting diverse content that highlights MBARI's research is to train the algorithm to understand the scope of MBARI's content and direct media to curious users who are interested in ocean science and technology.

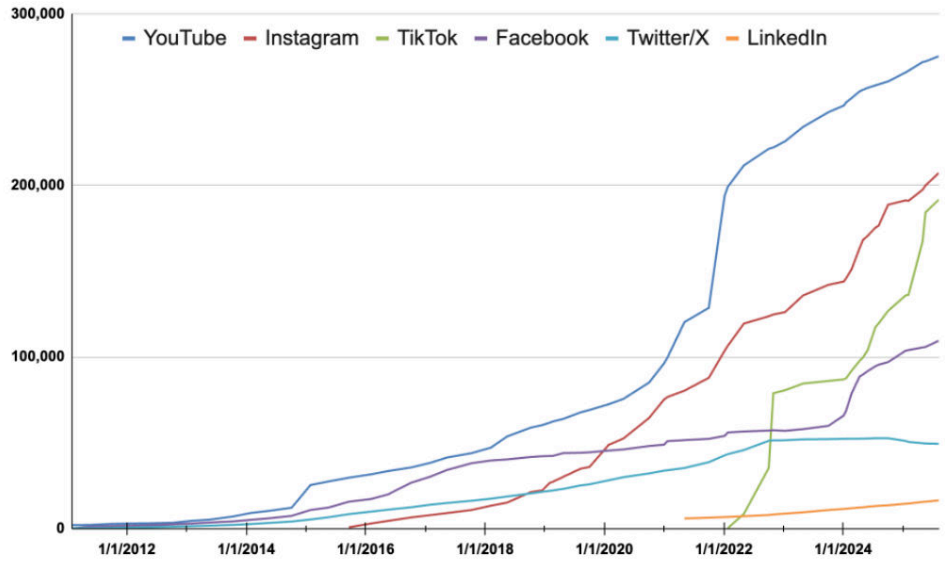

Figure 1. MBARI social media growth over the last 14 years. Years are displayed on the x-axis, and follower count is displayed on the y-axis. YouTube is represented by the blue line. The blue line shows MBARI's YouTube growth from 2009 to 2025, with a total audience of 275,457 subscribers.

STRATEGY AND PRODUCTION

The approach to posting on YouTube Posts and Shorts began with planning communication goals, developing a posting schedule, and collecting images and videos for editing. In order to collect a diverse range of footage, we combined existing MBARI footage with new photos and videos collected during the 10 weeks. Content was organized into four communication goals (Figure 2) in order to encompass all aspects of ocean research. A strategy for posting was developed utilizing YouTube's algorithm to understand the frequency, time, day, and duration of videos that are likely to perform the best on the platform. We aim to pair algorithmically tailored posts featuring deep-sea imagery with engaging STEM content to boost overall audience engagement. This approach is explored on two YouTube platform features, Posts and Shorts.

Figure 2. Communication goals for content creation on YouTube Posts and Shorts.

YOUTUBE POSTS

The Post feature allows creators to include images, polls, quizzes, and video links on the channel homepage. Image posts were used to highlight researchers, technology, and deep-sea species. This gave viewers the opportunity to visually learn about tech and science while gaining insight about the people behind the discoveries. Image and text polls were used to gain insight into what content viewers were most interested in seeing. These responses prioritized what content would be collected during shoot days. Dense scientific papers were transformed into interactive quizzes, enabling a broad audience to engage and understand scientific research more effectively. YouTube offers a feature that links previous content, allowing videos to resurface and engage subscribers who have missed the initial post. In order to increase engagement on YouTube Posts, new content was uploaded three to four times a week. With a consistent posting schedule, we gained more exposure and built a community of subscribers who were actively engaging with Posts.

YOUTUBE SHORTS

YouTube Shorts is a feature on YouTube that allows creators to post short-form, vertical videos that users can like, comment on, and share. In accordance with our communication goals, videos highlighted different aspects of MBARI research. Videos highlighted specific deep-sea species while others embedded storytelling elements and narrative science communication (Figure 3). Planning content, shooting, and editing videos took more time than YouTube Posts; therefore, videos were posted on a weekly basis rather than three to four posts a week. For this research project, our primary goal was to identify which types of content perform the best on YouTube's new features, and how top-performing videos drive engagement across the broader channel.

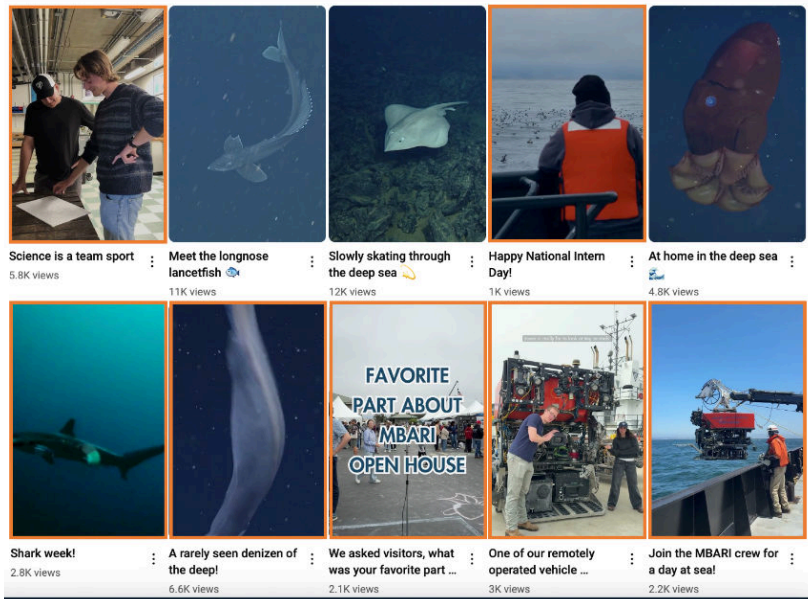

Figure. 3 Seven YouTube Shorts published. Indicated by orange borders.

ENGAGEMENT

YOUTUBE POSTS

YouTube Posts experienced an increase in impressions, likes, and subscribers (Figure 4). Impressions were used as a key metric for these posts to help understand how well the content performed and resonated with users. This metric measures the number of users viewing, interacting with, and revisiting content. Out of the four communication goals, deep-sea animals received the highest number of impressions. Overall impressions received on the post page increased by 150 percent in the span of 30 days (Figure 4). Diversifying content that complements deep-sea animals, MBARI is connecting subscribers with animals, research, and tech.

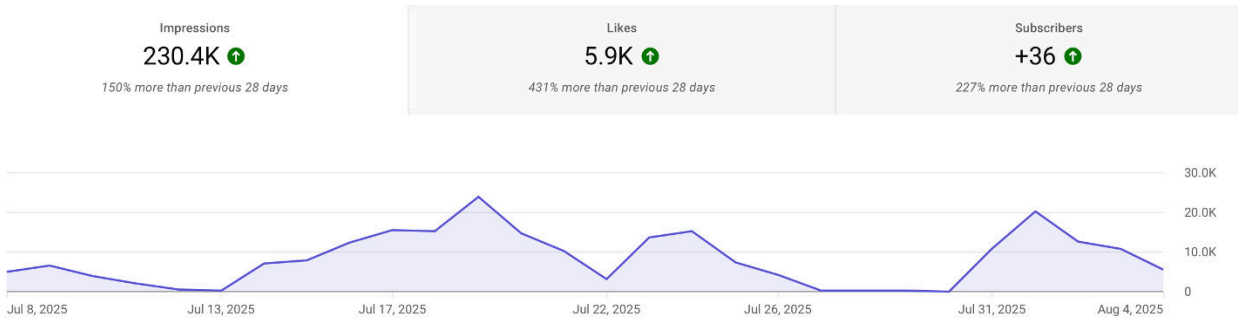

Figure 4. YouTube Posts engagement. Impressions increased by 150 percent in 30 days. The spikes in the graph correlate to top-performing posts that received the most impressions.

YOUTUBE SHORTS

YouTube Shorts saw a 53 percent increase in the number of views when scheduled videos about deep-sea animals, people, and tech were featured. Views provided insight into the level of engagement a user has with content. Videos with high viewership are boosted within the algorithm and appear on feeds of target audiences. As more people are interacting with our

deep-sea content, they are also engaging in people and engineering-focused videos, boosting our overall engagement.

Figure 5. YouTube Shorts engagement increased overall views by 53%. Spikes in the graph correlate to top-performing videos and posting frequency.

DISCUSSION

Generating multiple weekly posts revealed the complexities of communicating science to broader audiences. Representing a brand's voice, setting communication goals, and adjusting platform-specific content and strategy were accounted for during the planning, editing, and publishing process. Each post considered MBARI's voice to maintain consistency and credibility while educating diverse audiences of varying levels of scientific literacy. In order to translate complex scientific content into an accessible format for broad audiences, science communicators provide that bridge between science and the broader public. This level of communication is essential for public awareness and informed decision-making related to public policies and interactions with ocean science.

In order to investigate how well content would perform on different platforms, the seven short videos were published on different social media platforms including Instagram, TikTok, Tumblr, and BlueSky. Similar engagement trends were seen, as frequency of posts increased, the amount

of engagement increased. Deep-sea animals engaged the most users, which also boosted exposure of tech and science-focused posts.

CONCLUSION

YouTube, as a dominant force in the digital landscape, has grown from being a simple video-sharing site to a major hub for content creation and community engagement, with the power to connect and influence audiences. By leveraging MBARI's built-in audience on YouTube, new platform features gave way to exploring innovative strategies to connect with new and existing audiences. Tech and science-focused videos reinforce MBARI's position as a leader in ocean technology with strategic storytelling. By continuing to post popular deep-sea animal content, the high viewership offers the opportunity to dive into MBARI science, engineering, and technology with our targeted audience.

ACKNOWLEDGMENTS

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