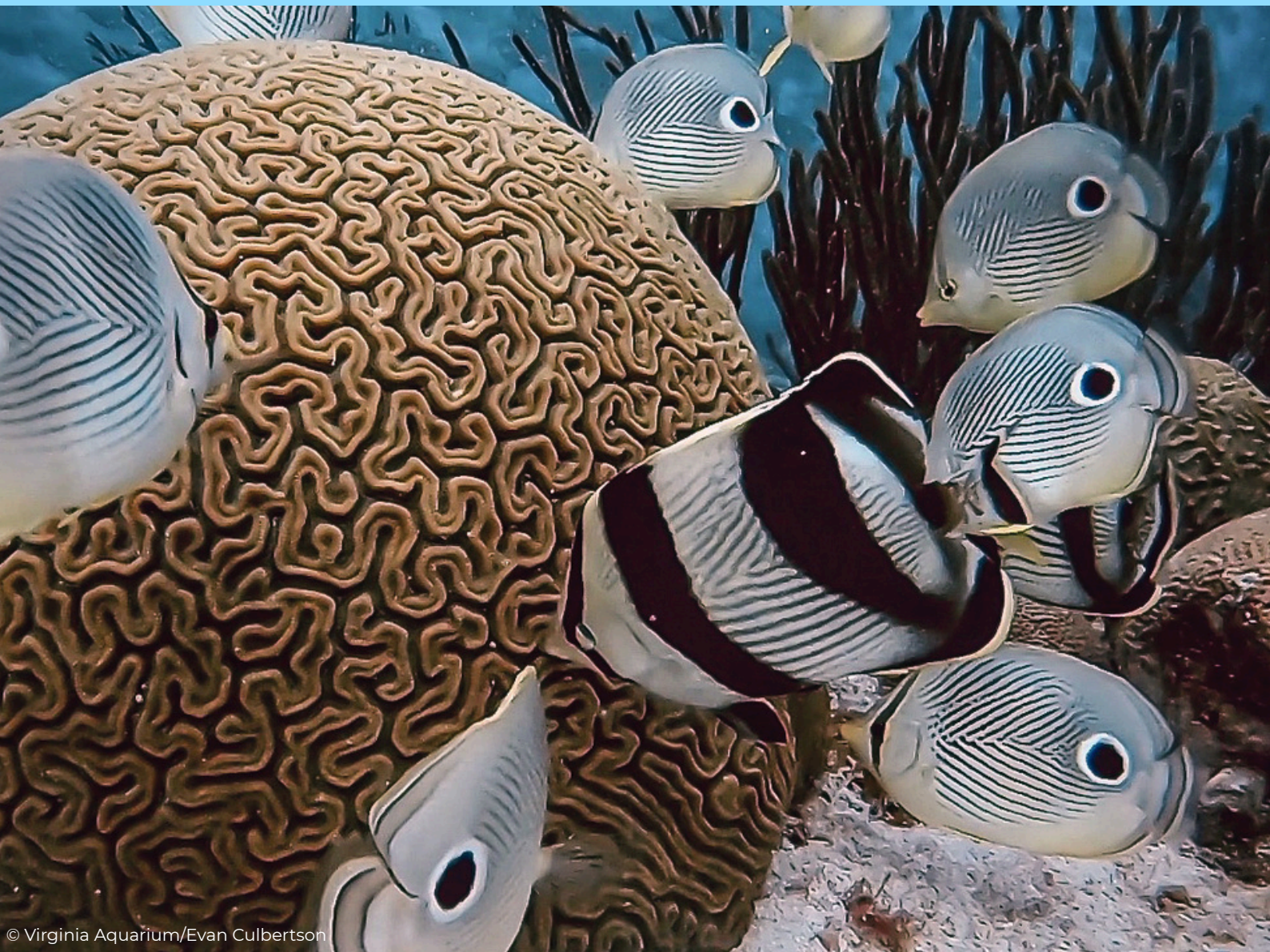# TALKING CORAL

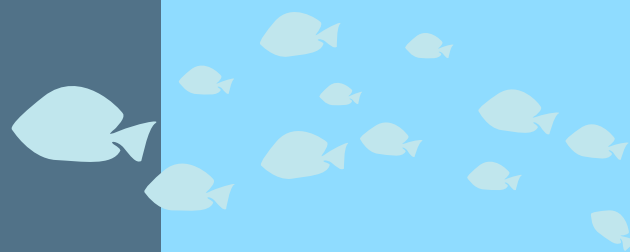The **extended toolkit & full report** for effective and impactful coral conservation messaging

© Virginia Aquarium/Evan Culbertson

How conservation organizations talk about coral conservation

What the science says about effective coral conservation messaging

And putting it all together for conservation impact!

SAFE SAVING ANIMALS FROM EXTINCTION CORAL

Disney CONSERVATION

HUMAN NATURE GROUP

TABLE OF CONTENTS

WHY MESSAGING MATTERS

THE AZA SAFE CORAL PROGRAM MISSION IS TO:

> *"Inspire and mobilize the AZA community to save corals from extinction."*

Saving corals from extinction requires more than scientific expertise – it requires connection. The way we frame and design our messages influences whether our audiences simply hear about coral decline or feel a personal connection and an inspiration to act. Thoughtful message framing helps us meet people where they are, linking coral conservation to values they already hold and to actions they can personally take. By intentionally designing messages around clear, pre-determined outcomes, we aim to ensure that *every sign, every story, and every interaction* moves our audiences closer to those outcomes – whether that's deepened understanding, a spark of wonder, or a commitment to change one's behavior.

Equally important is measuring the impact of these efforts. Evaluation tells us what resonates, what falls flat, and how we can adapt as social and digital environments evolve. Message design and evaluation are more than just communication tools - they are conservation tools, empowering the AZA SAFE Coral community to reach people meaningfully, inspire them to act, and continually adapt a collective strategy to conserve corals.

METHODS

ABOUT THIS PROJECT

PROJECT GOAL
Provide AZA SAFE Coral program partners and coral conservation practitioners with guidance on how to best communicate with diverse audiences to achieve meaningful conservation outcomes for corals.

PHASE I - OUTCOMES DEVELOPMENT

The first phase of this project produced consensus-based outcomes that SAFE Coral messaging efforts are aspiring to achieve. Human Nature Group (HNG) distributed a feedback form to SAFE Coral program partners to generate initial ideas for a suite of messaging outcomes. We then facilitated an online workshop in September 2024 with 10 SAFE Coral program partners to achieve consensus on a set of six desired messaging outcomes. HNG sent out an additional call for feedback for those who could not attend the workshop and received nine responses. HNG incorporated feedback at each stage, with emphasis on feedback shared by multiple program partners.

PHASE II - DATA COLLECTION

In the second phase, HNG collected information to understand current coral conservation messaging strategies across SAFE Coral partner institutions. We conducted interviews with 13 program partners and solicited program materials from institutions that provide messaging on coral conservation, resulting in an additional 6 responses. HNG also reviewed all SAFE Coral program partner institution websites for coral conservation messaging, and conducted a literature review of current peer-reviewed articles relevant to coral conservation messaging.

PHASE III - ANALYSIS, REPORTING, AND RECOMMENDATIONS

Informed by Phase I and grounded in the data collected in Phase II, HNG synthesized all collected information to provide evidence-based guidance on impactful messaging strategies, resulting in this toolkit for use by SAFE Coral partners and other engaged stakeholders.
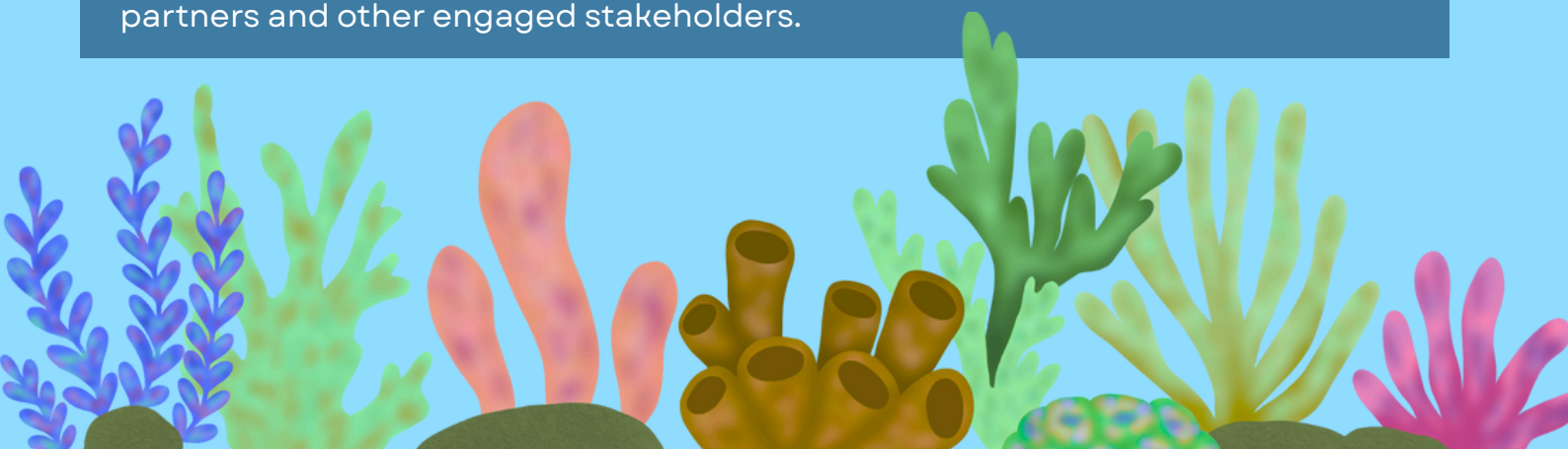
DATA COLLECTION METHODS

To understand and describe current messaging practices across SAFE Coral program partner institutions, Human Nature Group conducted 13 semi-structured interviews, collected messaging and program materials from six partner institutions, and reviewed all 29 current SAFE Coral program partner websites as well as the AZA-SAFE Coral website.

INTERVIEWS

Each interviewee represented a different institution, with the exception of one institution with two respondents. Respondents were education professionals (n=11) and conservation professionals (n=2). There was representation from entry-level (n=1), mid-career (n=7) and executive leadership (n=5) roles. Respondents represented aquariums (n=6), zoo/aquariums (n=3), zoos (n=2), and non-zoological facilities (n=2). Both coastal states (n = 7) and inland states (n = 5) were represented.

PROGRAM MATERIALS

A call for coral program materials was requested from all progam partner institutions. We recieved 6 responses, each representing a different institution. Twenty-four documents were provided ranging from educational flyers and signs, to scripts for programs and tours, to full program outlines.
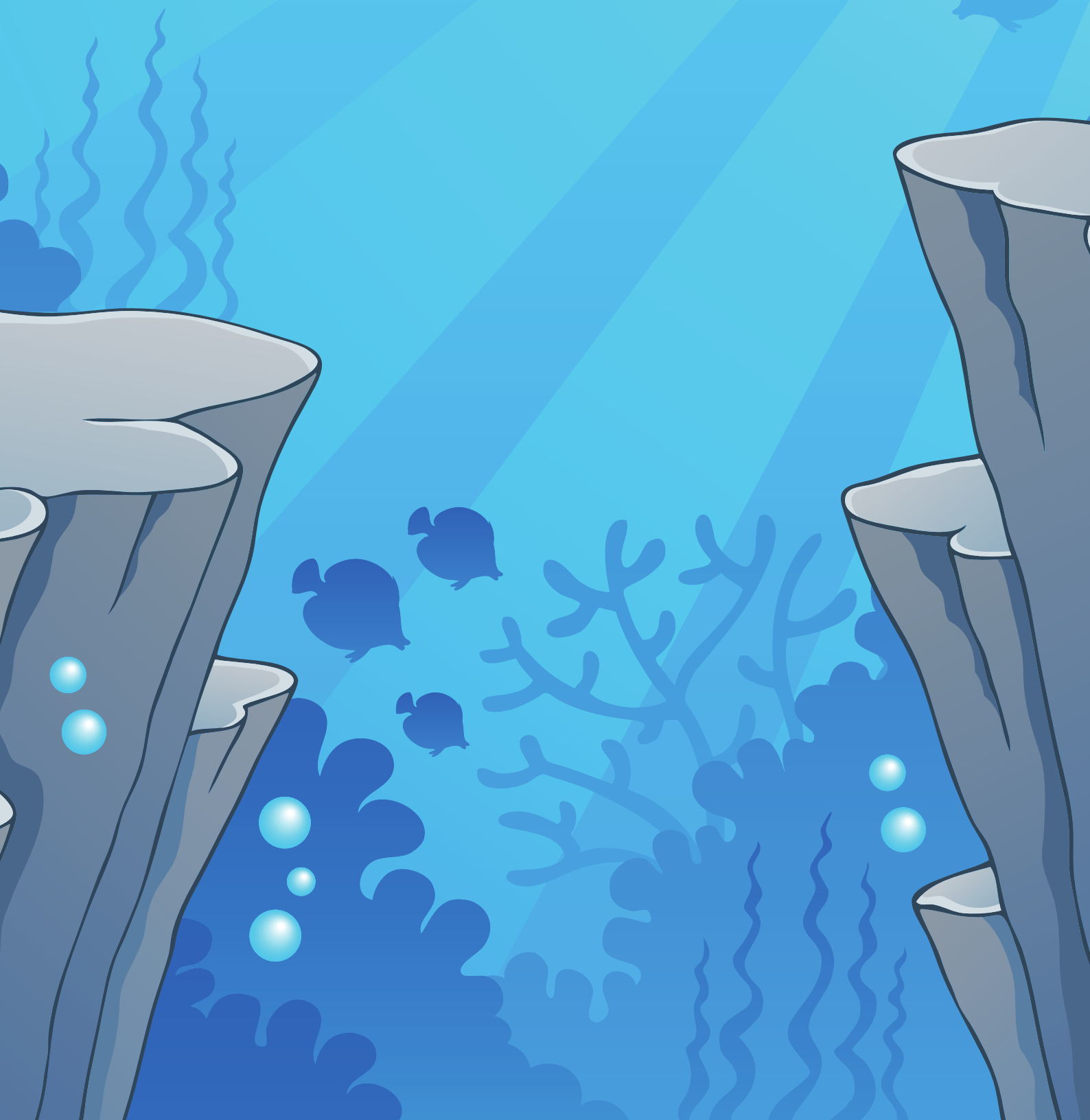
INSTITUTION WEBSITES

All 29 SAFE Coral program partner websites were reviewed, as well as the AZA-SAFE Coral website and program materials.

1 institution
2 institutions
3 institutions
4 institutions
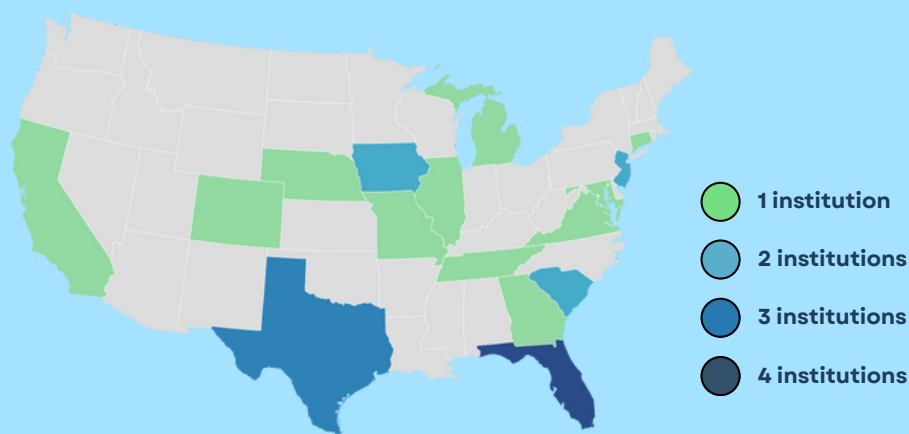
SAFE Coral program partner institutions.

CRAFTING YOUR MESSAGE

THE MESSAGE DESIGN ROADMAP

This roadmap provides practical steps to help institutions design, test, and refine communication that achieves specific outcomes - empowering the AZA community to reach and mobilize people to save corals. This toolkit focuses primarily on **Step 3** - message design.

STEP 1: SELECT DESIRED OUTCOMES

All messaging should have a **specific intended outcome**. Consider your audience and the context of the message (e.g., mode of delivery, messenger, location) to help you determine which outcome(s) might be appropriate for your situation.

STEP 2: CONDUCT AUDIENCE RESEARCH

Messaging is often more impactful when it is **designed for a specific audience**. Audience research can help you understand and segment your audience into appropriate groups for targeted messaging.

STEP 3: DEVELOP AND FRAME YOUR MESSAGES

There are many ways to frame a message, and your strategy should be informed by both your audience and the message context. This toolkit highlights some of the most effective **message framing concepts** used in conservation communication.
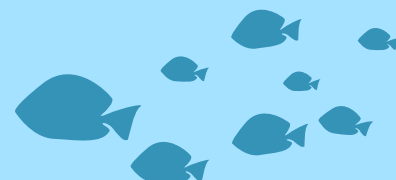
THE MESSAGE DESIGN ROADMAP

The roadmap does not end at Step 6. Rather, consider the steps as part of a cycle to design, test, implement, and adapt messaging as audiences and local context shift over time.

STEP 4:
CONDUCT PILOT TESTING

Small-scale testing (e.g., signage A/B tests, intercept surveys) will allow you to *adapt your messaging strategy* before full-scale implementation.

STEP 5:
ADAPT & IMPLEMENT

Refine key messages based on pilot results. Implement messaging and pair with interactive engagement methods and visuals for increased impact.

STEP 6:
EVALUATE OUTCOMES

Use evaluation methods (e.g., surveys, embedded observations) to *measure shifts* in knowledge, attitudes, and behaviors. Continue to evaluate, share learnings, and adapt.
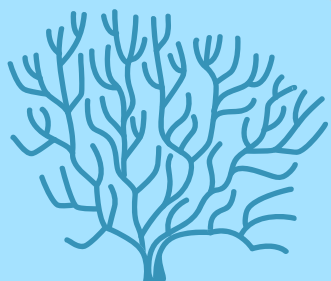
GETTING STARTED

Before crafting your message, it is important to recognize two key steps in the messaging strategy and design process that precede the development of your key message(s).

CHOOSE DESIRED MESSAGING OUTCOMES

All messaging should have a *specific intended outcome*. Consider your audience and the context of the message (e.g., mode of delivery, messenger, location) to help you determine which outcome(s) might be appropriate for your situation.

GET TO KNOW YOUR AUDIENCE

Messaging is often more impactful when it is *designed for a specific audience*. People interpret messages based on their pre-existing values, beliefs, and life experiences. Audience research can help you understand and segment your audience into appropriate groups for targeted messaging.

DEVELOP AND FRAME YOUR MESSAGE

There are many ways to frame a message, and your strategy should be *informed by your audience, desired outcomes, and messaging context*. This toolkit highlights some of the most prevalent and effective message framing approaches and concepts used in conservation communication.

SELECT YOUR DESIRED OUTCOMES

An early and necessary step in developing your messaging strategy is to select your desired outcomes (there can be more than one). A virtual workshop held in connection with this project yielded six distinct and consensus-based desired outcomes for AZA SAFE Coral program partner messaging efforts, shown below, with suggested uses for each outcome.

COGNITIVE (KNOWLEDGE-BASED) OUTCOMES

Our audiences will know that corals are **important for the health** of people, wildlife, and the planet.

Our audiences will know that **climate change** is a significant threat to corals.

BEST FOR WHEN:

Audiences may be unaware or misinformed, or when relevance must be established.

AFFECTIVE (EMOTION-BASED) OUTCOMES

Our audiences will feel a sense of **wonderment**, **awe**, and **connection** with corals.

Our audiences will feel a sense of **responsibility** and **empowerment** to act to protect and restore corals.

BEST FOR WHEN:

Audiences may have some awareness but lack motivation, empathy, or connection to the issue.

BEHAVIORAL (ACTION-BASED) OUTCOMES

Our audiences will make **coral-friendly decisions** in their daily lives.

Our audiences will **learn** about corals and **share** ways to help protect them.

BEST FOR WHEN:

Audiences are already motivated and/or connected, but unsure what to do, or feel helpless despite caring.

SELECT YOUR TARGET AUDIENCE

Identifying and characterizing your target audience is a critical step preceding message design. The more you know about your specific target audience, the more potential your messaging strategies will have to achieve key desired outcomes.
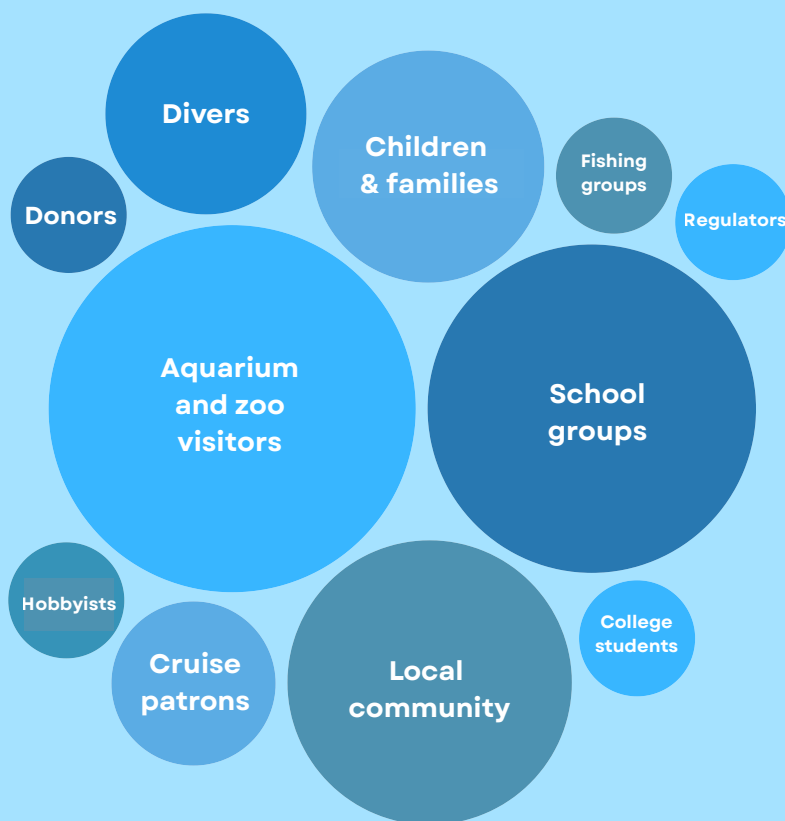
AZA-SAFE Coral partner institution target audiences, as identified by interviewed program leaders and staff. The size of the circle corresponds to the frequency with which each target audience was mentioned.

SAFE Coral partners aim to reach a diversity of target audiences, each with a different relationship to coral conservation issues. Divers are likely more directly connected to coral and may benefit from actionable localized messaging, while inland zoo visitors may need more affective messaging to draw them in and connect them to coral in a foundational way. Knowing these audience attributes is critical to developing messaging that will resonate. Audience segmentation allows for targeted messaging, which avoids efforts to reach "the general public" - a less effective strategy for inspiring action.

For some additional information about audience segmentation, check out the literature on **Community-Based Social Marketing** pioneered by Doug McKenzie-Mohr[12].

FRAME YOUR MESSAGE

Framing is the intentional and targeted design of messaging to achieve certain audience outcomes - in this case, coral conservation outcomes. The way in which information is presented shapes how people interpret and respond to it. In conservation, message framing helps make complex or distant issues like coral disease or decline more relevant, relatable, and actionable to different audiences.

The remaining pages of this toolkit will focus on message framing, tailored to both audiences and desired outcomes. We will explore the following concepts in more depth as they relate to the development and dissemination of coral conservation messaging produced by and for SAFE Coral partner institutions:

VALUES
Deeply held beliefs about what matters most - formed from social influence and lived experience.

VALENCE
The emotional tone of a message: positive, negative, neutral, or a mix.

PSYCHOLOGICAL DISTANCE
How far away an issue feels - in time, space, relevance, or certainty.

Framing is about **HOW** you tell the story.

SOCIAL NORMS
Our sense of what people like us do and what is socially expected of us.

DOMAIN
Role of the message: informing (cognitive), engaging emotions (affective), or prompting action (behavioral).

FRAMING BY
ALIGNING VALUES

From an intrinsic love for the environment to prioritizing community or self-interest, we each place importance on different values, often based on our own lived experiences. Audience research can help organizations understand the predominant values of their target audiences and frame conservation messaging accordingly.

Examining messages for potential value incongruence prevents alienating certain audience segments. Value-bridging, or using messages that are widely aligned with a broad set of values (such as responsibility, care, or community), can be helpful in avoiding messages that clash with pre-existing values[8,9,11].

A sample of broadly-aligned values:

SENSE OF PLACE, *LOCALLY*.	**PERSONAL HEALTH, SAFETY, AND SECURITY.**	**PRIDE IN ONE'S COMMUNITY OR FAMILY.**

WHAT WORKS:

Value-congruent messages. A helpful tactic is value-bridging (using messages that are widely aligned with a broad set of values - such as community, safety, and family).

WHAT DOESN'T:

Value-incongruent messages. Common areas of incongruence include perceptions of polarizing or politically-charged content, appeals to misaligned value orientations (e.g., centering community over self), or dishonesty (e.g., greenwashing).

It's important not to assume that audience values align with your own.

A NOTE ON: CLIMATE CHANGE MESSAGING

Connecting corals to climate change is a key desired outcome of AZA-SAFE Coral messaging efforts. However, communicating about climate change can be challenging. Here are some tips to consider to engage your target audiences with climate change messages:

AVOID PERCEPTIONS OF POLITICALLY-CHARGED MOTIVES

Using *alternative language* to describe the impacts and results of climate change (such as "heat stress" or "marine heat events"), rather than using the term itself, may help to avoid your message being perceived as ideological - helping your audiences to receive your message and get on board.

AVOID CRISIS FRAMING AND GUILT-BASED LANGUAGE

The use of alarmist language, as well as evoking guilt, has the potential to cause emotional shutdown in your audiences. This can have unintended consequences and reduce the likelihood of behavior change.

PRIORITIZE LOCAL PLACE-BASED MESSAGING

Don't focus solely on climate change messaging *at the expense of* local place-based messaging to manage local stressors[1]. Climate change can feel like an existential and overwhelming threat, not just to corals, but to humanity. Audiences may feel more empowered to tackle smaller and more local components of the climate crisis.

Climate change is overwhelming. How can we make it less existential and more actionable?

There is an entire group of communication professionals dedicated to providing professional development on climate change communication. For more information, check out the National Network for Ocean and Climate Change Interpretation (NNOCCI).

DEFINING
EMOTIONAL VALENCE

Messaging valence refers to the overall emotional tone or directionality of a message. Because emotional valence influences how people feel when receiving a message, it can affect how they perceive, process, and act on that information.

POSITIVE FRAMING
Tone:
Hopeful, inspiring,
solution-focused

Watch-outs:
Can feel misleading
if real threats are ignored

NEGATIVE FRAMING
Tone:
Alarmist, dooming,
guilt, shame

Watch-outs:
Can lead to fatalism,
apathy, or shutdown

MIXED FRAMING
Tone:
Balances urgency
with hope

Watch-outs:
Order matters: end
with a hopeful tone

As a conservation community, we have long relied on negative framing to evoke emotion, and hopefully inspire action, in our audiences. Conservation issues are complex and often urgent. As conservation researchers, educators, and practitioners, we ourselves have a strong emotional response to issues like extinction, habitat loss, and climate change. When we are the messenger, these sentiments are often transferred to our audiences.

However, while negative framing can spur problem recognition and risk perception of conservation issues, it often erodes motivation and in serious cases, can cause emotional shutdown.

Positive framing has been demonstrated to be an effective conservation messaging strategy [3,8,9].

Mixed framing is another effective strategy that allows for conveying the gravity of conservation threats while still encouraging hope and individual action [8,14].

FRAMING WITH
EMOTIONAL VALENCE

Across SAFE Coral program materials and staff interviews, there was a propensity to frame messages with a mixed positive and negative frame; however, a third of institutions leaned on negative framing.

EMOTIONAL VALENCE IN SAFE CORAL MESSAGING

Positive framing	
Negative framing	
Mixed framing	

0   10   20   30   40
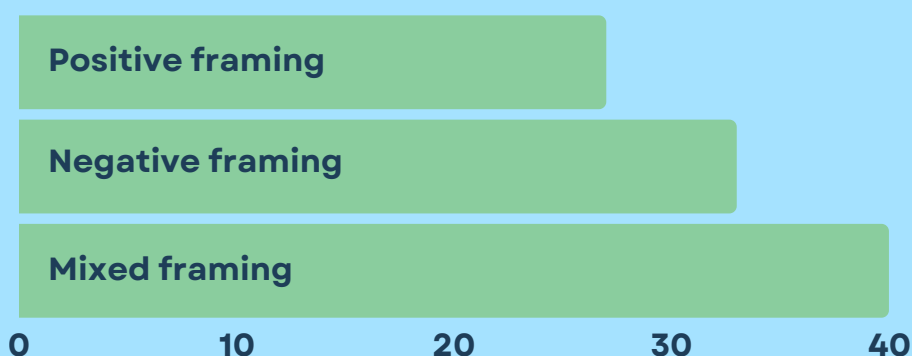
Percent of institutions using each valence approach in website content (n=30) and/or in submitted program materials (n=6).

A safer messaging strategy is to keep messaging positively framed, or to follow negatively-framed messaging with positive, solution-oriented framing (i.e. mixed valence framing). In most cases, alarmist and otherwise negative messaging can cause emotional retreat or avoidance from your audiences. Your goal should be to hold the attention of your audience, informing them while also inspiring them to care.

However, decisions about the most appropriate emotional valence framing to use in a messaging effort are highly influenced by the intended audience. Overly positive message framing can, in certain contexts, give the impression that your institution is uninformed or not realistic about known and serious conservation challenges.

Crisis-framing can evoke strong negative emotions like fear and worry, and are best reserved for issues that are urgent, require immediate action, and are unknown to your target audiences[8].

DEFINING
SOCIAL NORMS

Social norms are informal shared rules or expectations about what people typically do (descriptive norms) or what people approve of and believe is right (injunctive norms).

In the context of conservation, social norms are forces that shape how individuals may decide to engage in environmentally responsible behaviors. Our actions can be influenced by what we think others are doing or by what we believe others expect us to do. Social norms and the use of normative language have been shown to be among the strongest and most primary motivators of behavior[2,4,5].
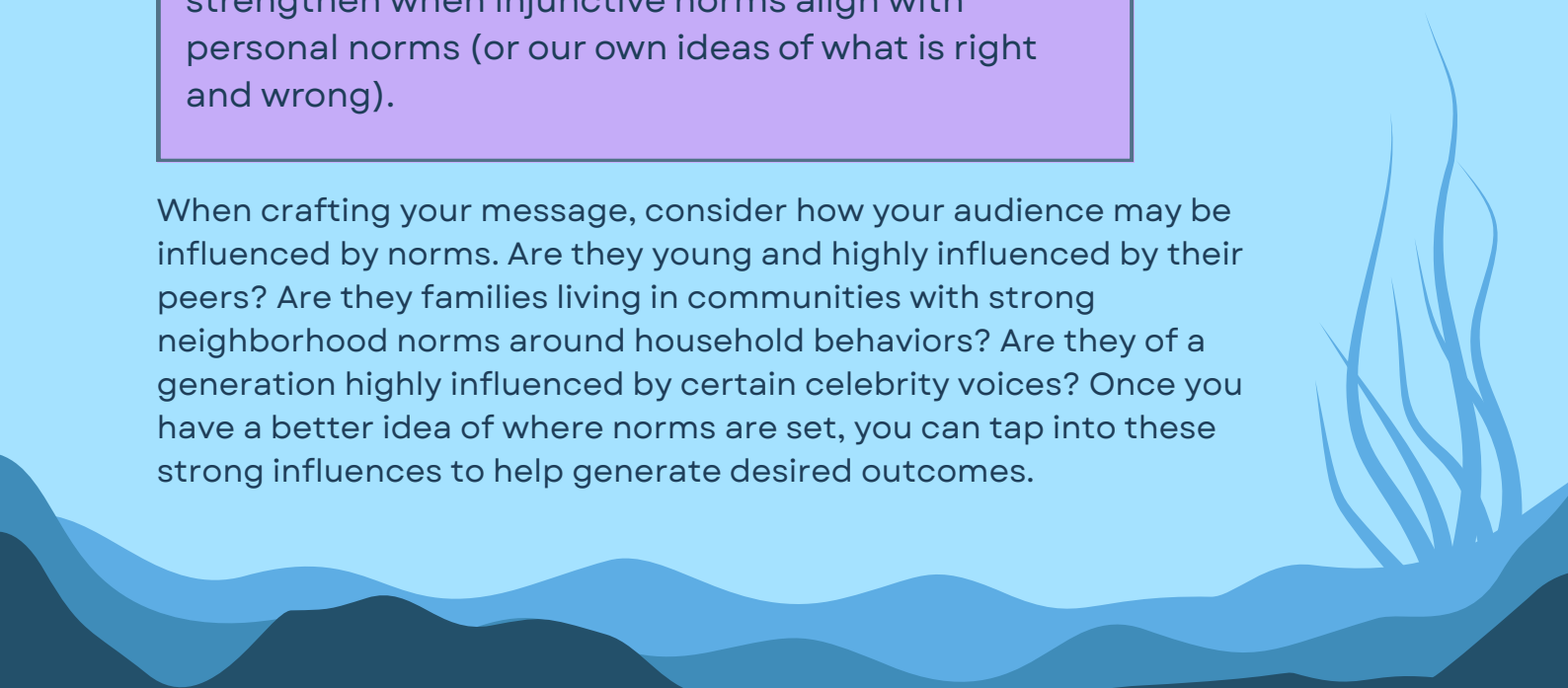
DESCRIPTIVE NORMS

Describe what most people think or do, or what is commonly observed.

INJUNCTIVE NORMS

Prescribe what people should do, reflecting social approval or moral obligation. Motivation to act can strengthen when injunctive norms align with personal norms (or our own ideas of what is right and wrong).

When crafting your message, consider how your audience may be influenced by norms. Are they young and highly influenced by their peers? Are they families living in communities with strong neighborhood norms around household behaviors? Are they of a generation highly influenced by certain celebrity voices? Once you have a better idea of where norms are set, you can tap into these strong influences to help generate desired outcomes.

FRAMING WITH
SOCIAL NORMS

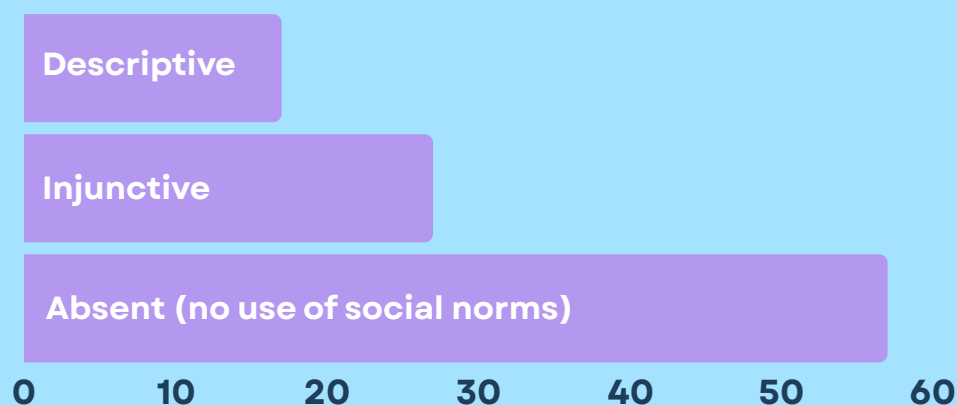**A notable opportunity exists to invoke the use of social norms in coral conservation messaging. Most SAFE Coral partner institutions are not currently invoking either descriptive or injunctive social norms.**

USE OF SOCIAL NORMS IN SAFE CORAL MESSAGING

Descriptive

Injunctive

Absent (no use of social norms)

0   10   20   30   40   50   60

Percent of institutions using descriptive, injunctive, or no normative language in coral conservation messaging in website content (n=30) and/or in program materials (n=6).

Messages that emphasize both descriptive (common behaviors) and injunctive (social acceptance) norms tend to be most effective [9]. Consider how you might frame messaging to emphasize both the commonality of actions to protect corals, as well as the social expectation to do so locally.

Normative language used in messaging efforts may also be complemented by nudges, prompts, or demonstrations of "socially acceptable" behavior in the messaging environment. For example, if the target behavior is using a reusable water bottle, encourage staff to visibly carry their own reusable water bottles in the physical area in which related normative messaging is being delivered to the target audience.

Ensure that you **avoid** highlighting the prevalence of an **undesirable** behavior. This can unintentionally increase the prevalence of the behavior if your audiences believe it is common and will go unnoticed.

DEFINING
PSYCHOLOGICAL DISTANCE

Psychological distance refers to an individual's subjective experience with a problem (in this case, a coral conservation issue). There are several dimensions of psychological distance, further described below. In conservation messaging, our goal is to *reduce distance* between our audience and the conservation issue. This is especially important for coral!

DIMENSIONS OF PSYCHOLOGICAL DISTANCE

SPATIAL DISTANCE

How far away a problem is (or is perceived to be)

SOCIAL DISTANCE

How connected one is to a problem (or is perceived to be)

TEMPORAL DISTANCE

How close in time a problem is (or is perceived to be)

HYPOTHETICAL DISTANCE

The likelihood (or perceived likelihood) of a problem

Oftentimes, multiple forms of psychological distance are present and work synergistically to create separation between a person and the conservation issue that needs their attention. In your messaging, consider themes of spatial connectivity, peer importance, and tangible illustrations of certainty that the issue is, in fact, occurring. Using both cognitive and affective approaches may be helpful in achieving both the connectivity and certainty required to reduce psychological distance.

FRAMING BY
REDUCING DISTANCE

AZA-SAFE Coral partners have done well with reducing spatial distance in their coral message framing, but opportunities remain to further reduce the three other dimensions of psychological distance.

DISTANCE ADDRESSED IN SAFE CORAL MESSAGING

Spatial

Temporal

Social

Hypothetical

0   20   40   60

Percent of institutions that addressed four different forms of psychological distance in their website content (n=30) and/or in program materials (n=6).
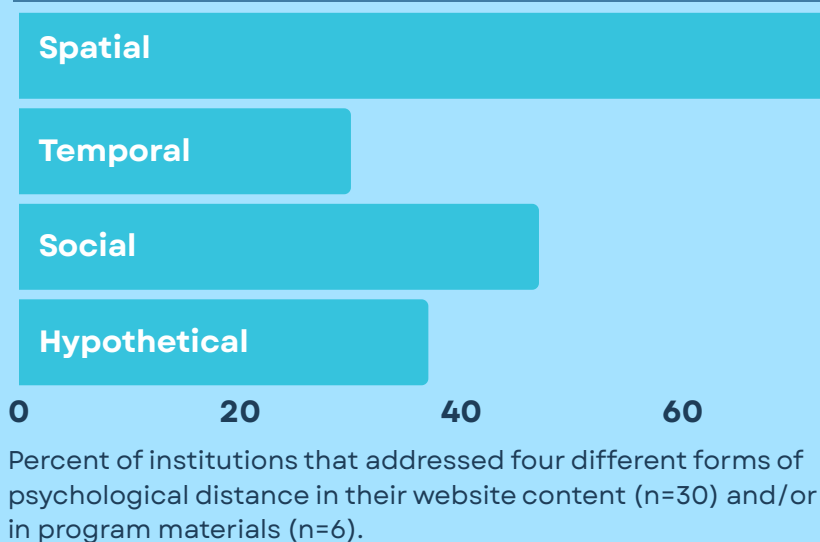
Recommendation: Focus on impacts that are closer in time and space (location) to your audience [1,9]. Highlight local impacts of and solutions to conservation challenges, wherever possible. Here are some more considerations for reducing each type of psychological distance:

Type of distance	If distance is high, consider this message type:	Rationale
Spatial	Cognitive + Behavioral	Can show local impacts and links to daily life
Temporal	Cognitive + Affective	Can show present-day benefits and relevance
Social	Affective + Normative	Can show what people like them are doing
Hypothetical	Cognitive + Behavioral	Can show certainty and credible pathways

DEFINING BEHAVIOR CHANGE

In most cases, messages that heighten motivations, reduce barriers, and enhance self-efficacy are more likely to result in desired action (or behavior change), compared to providing information alone. Audience research can inform target behavior and message selection.

RECOMMENDATIONS

1) Consider **what you know about your audience** and their motivations and barriers to act. Messages that motivate, reduce perceived barriers, and enhance self-efficacy and empowerment are more likely to be effective. Another approach is to use messaging that makes the undesirable behavior more difficult or less appealing.

DIRECT CONSERVATION	**EDUCATION**
ORGANIZATIONAL SUPPORT	**SUSTAINABILITY**

Broad categories of target conservation behaviors. Consider selecting behaviors that minimize distance for your specific audience and in your specific location.

2) **Make clear what you are asking** of your audience. Choosing a specific, non-divisible behavior has a higher chance of impact[10,]. Behaviors like reducing energy consumption can be further broken down into more specific behaviors such as turning off lights in your home or work spaces, opting for more efficient vehicles, or turning off your air conditioning when not at home. Implicit messages, or focusing only on promoting awareness, are less impactful on behavioral outcomes.

3) Select behaviors most likely to **reduce distance and increase relevance** to your audience's everyday lives. This may depend on the specific coral conservation issue, your physical location in relation to that issue, and the social dynamics and engagement of your audience relative to that issue.

4) For complex behaviors, **tell your audience exactly how to do them**. Procedural, or skills-based, knowledge is critical for building self-efficacy.
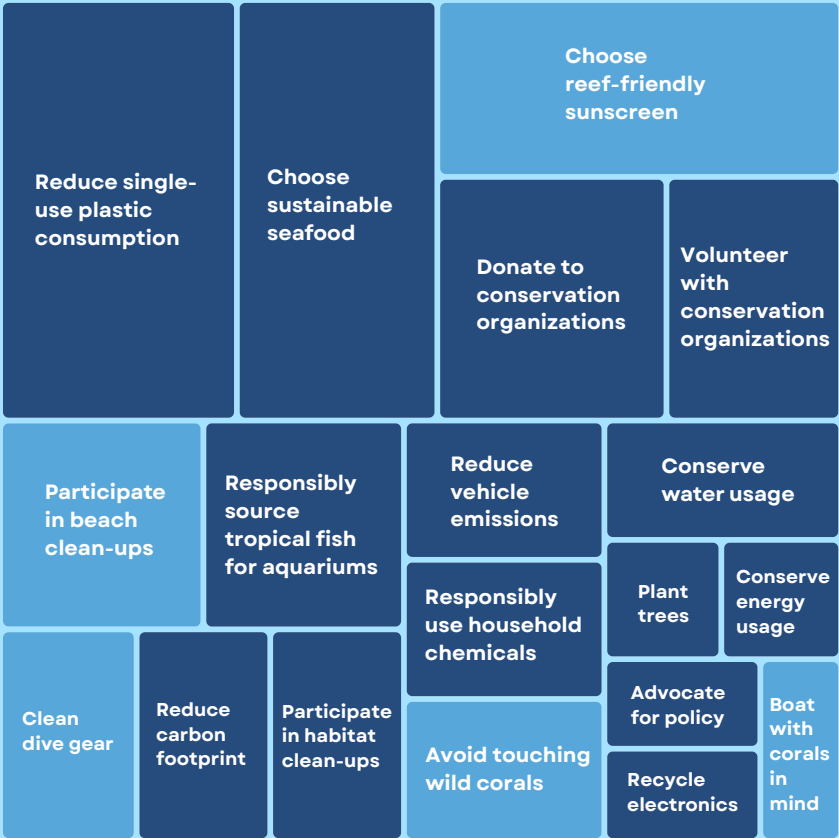
FRAMING FOR
BEHAVIOR CHANGE

A review of SAFE Coral partner websites and institutional program materials revealed that audiences are given more than 20 different coral conservation actions. The most frequently mentioned behaviors are shown here, with box size corresponding to the frequency with which each conservation action was suggested across institutions.

● Action can be performed anywhere

○ Action must be performed in an ocean environment

Conserving corals, with the multitude of known and emerging threats they face, presents a unique challenge from an audience behavior change perspective. However, the more that institutions can simplify behavioral messaging, the more likely the target behaviors will resonate with audiences. SAFE Coral program partner institutions are encouraged to convene and establish a set of target behaviors deemed to be actionable, feasible, and impactful for intended audiences. These target behaviors may differ based on institution location, target audiences, and other factors - but refining the multitude of behaviors reported here to a smaller subset of specific, non-divisible behaviors will improve message penetration across the program.

Reduce single-use plastic consumption

Choose sustainable seafood

Choose reef-friendly sunscreen

Donate to conservation organizations

Volunteer with conservation organizations

Participate in beach clean-ups

Responsibly source tropical fish for aquariums

Reduce vehicle emissions

Conserve water usage

Responsibly use household chemicals

Plant trees

Conserve energy usage

Clean dive gear

Reduce carbon footprint

Participate in habitat clean-ups

Avoid touching wild corals

Advocate for policy

Recycle electronics

Boat with corals in mind

MESSAGE FRAMING:
OUTCOME ALIGNMENT

Of the desired outcomes established in Phase I of this project, all three outcome types (cognitive, affective, and behavioral) were identified by interviewees from SAFE Coral partner institutions as goals of their messaging efforts. However, the predominant messaging used by SAFE Coral partners favored cognitive framing.
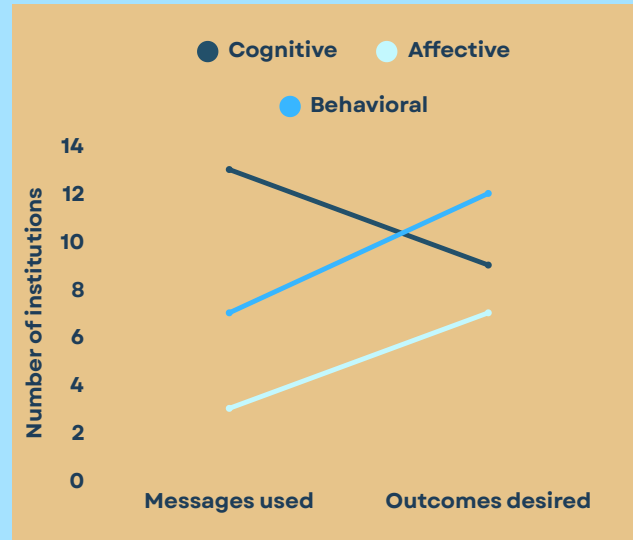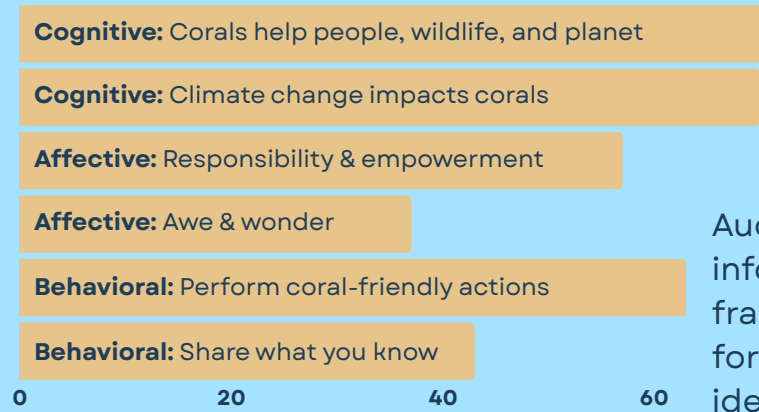

Interviews: Alignment of institutional messaging (as identified by program partner interview subjects) and desired outcomes of messaging.

Materials: Percent of SAFE Coral institutions whose website content and submitted program materials focused on each desired messaging outcome.

Interview data show that while cognitive messaging is most often used, behavioral outcomes are most desired. Additionally, affective framing may be underutilized in coral messaging, despite having a strong potential to connect with audiences.

In our review of **website content and program materials**, cognitive messaging was again used more often than affective or behavioral messaging.

These results highlight a mismatch between the messaging outcomes institutions most desire, and the messaging approaches that they are currently taking.

Audience research can help to inform how different message frames will resonate. Particularly for behavioral messaging, identifying audience motivations and their *readiness for change* can catalyze outcome achievement[13].

PUTTING IT INTO PRACTICE
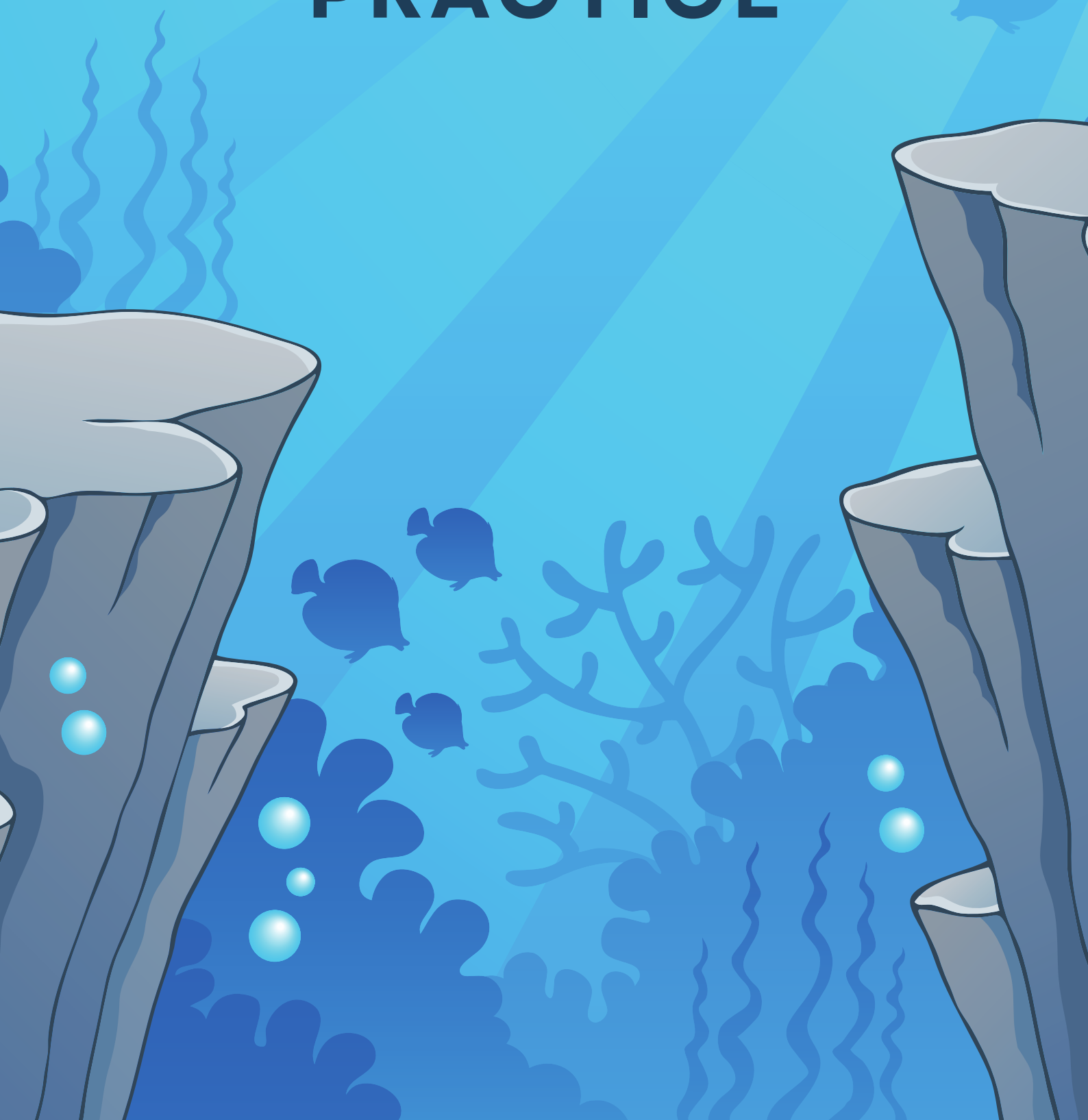
EXAMPLES FOR COGNITIVE OUTCOMES

Below we share example messages for each SAFE Coral cognitive outcome designed using best practices. These can be refined further once the target audience is defined and characterized.

OUTCOME: Our audiences will know that corals are **important for the health** of people, wildlife, and the planet.

Remind your audience why this matters not just to corals, but to them and the things they care about.

Example 1: "Healthy reefs support healthy oceans, and healthy oceans support all of us."

Example 2: "From coastal protection to cancer research, coral reefs quietly help billions of lives."

OUTCOME: Our audiences will know that **climate change** is a significant threat to corals.

Climate change can be a politically-charged phrase. Consider value-neutral language, and promote agency as opposed to doom.

Example 1: "More and more people are learning how the temperature of the ocean is impacting corals - and choosing to take action."

Example 2: "Corals are struggling with rising ocean heat. The good news? We are teaming up to help reefs bounce back."

Consider which cognitive outcomes might be most meaningfully linked to other desired affective and behavioral outcomes.

Message-o-meter: Messaging alone can have a moderate to strong impact on cognitive outcomes.

EXAMPLES FOR AFFECTIVE OUTCOMES

Below we share example messages for each SAFE Coral affective outcome designed using best practices. These can be refined further once the target audience is defined and characterized.

OUTCOME: Our audiences will feel a sense of **wonderment**, **awe**, and **connection** with corals.

Supplement messages with vivid imagery, and leverage technology like virtual reality or other digital media.

Example 1: "Coral reefs are built not by machines, but by millimeter-long animals working together. A place where life bursts from every crevice."

Example 2: "Coral reefs are home to a quarter of all marine life, pulsing with color and motion. They support an ecosystem that feeds millions, protects our coastlines, and even inspires life-saving medicines."

OUTCOME: Our audiences will feel a sense of **responsibility** and **empowerment** to act to protect and restore corals.

Lead with a hopeful tone, and use language that speaks to your audience's personal identity and community values.

Example 1: "Every generation leaves a mark. Ours can be the one that helped coral reefs bounce back."

Example 2: "This is a story of challenge - but also of incredible resilience. Corals *can* recover, with our help."

Check out Dr. Dacher Keltner's awe-inspiring work exploring the science of awe![6,7,]

Message-o-meter: Messaging alone can have a weak to moderate impact on affective outcomes.

EXAMPLES FOR BEHAVIORAL OUTCOMES

Below we share example messages for each SAFE Coral behavioral outcome designed using best practices. These can be refined further once the target audience is defined and characterized.

> *OUTCOME*: Our audiences will make **coral-friendly decisions** in their daily lives.

Suggested behaviors should be specific, simple, and feasible. Where possible, emphasize social norms and catalyze self-efficacy.

Example 1: "At our aquarium, we've reduced plastic use across our café and gift shop. Join us! What you do at home matters to reefs."

Example 2: "Seafood choices shape the health of our seas. Choosing ocean-friendly seafood means choosing a future for coral reefs."

> *OUTCOME*: Our audiences will **learn** about corals and **share** ways to help protect them.

Affirm your audience's role as trusted messengers - people listen to other people they trust. And make information-sharing easy.

Example 1: "If you know more than you did 10 minutes ago, you've got the power to help. Text one friend a reason corals matter."

Example 2: "Are you inspired to help coral? Get your friends and family involved too! Collectively, we can make a big impact."

Conduct workshops or other trainings to **build skills** that the behavior requires. Also, see what you can do to make undesirable behaviors more difficult!

Message-o-meter: Messaging alone can have a weak to moderate impact on behavioral outcomes.

EXAMPLES USING COMMON FRAMES

The messaging matrix below links each SAFE Coral desired outcome to a variety of framing approaches. Read across the rows to explore short sample messages for each outcome, and down the columns to see how various framing approaches - such as sense of place or generational framing - are utilized to create messages that resonate with your specific target audiences.

	PLACE-BASED (REDUCING DISTANCE)	**NORMATIVE** (USE OF SOCIAL NORMS)
COGNITIVE (Corals improve planetary health)	*Just offshore, the FL Reef Tract buffers our coastlines and fuels our livelihoods.*	*Our guests often say they never realized how much they rely on coral reefs.*
COGNITIVE (Corals and climate change)	*Right offshore, warmer seas are stressing reefs that have thrived for centuries.*	*Our guests are learning how marine heat threatens corals reefs.*
AFFECTIVE (Awe, Wonder)	*Thousands of miles from the ocean in _____, corals are coming to life right here.*	*Here at _____, we are constantly inspired about what corals can do.*
AFFECTIVE (Responsibility, Empowerment)	*These are our waters. Small everyday choices keep them healthy.*	*Across the country, people are stepping up to defend coral reefs.*
BEHAVIORAL (Coral-friendly actions)	*What we do here on land flows to the sea. Choose native and reef-conscious.*	*Most folks leave with 1 coral-conscious habit to try at home - what's yours?*
BEHAVIORAL (Share with others)	*Reefs are part of our natural heritage. Tell your neighbors- actions matter.*	*People love sharing reef stories- join the movement and share what you know!*

EXAMPLES USING COMMON FRAMES

	GENERATIONAL (TAPPING INTO LEGACY)	CONNECTION (LOCAL & GLOBAL LINKS)
COGNITIVE (Corals improve planetary health)	By advancing medicine, corals protect your children's future.	Healthy reefs support healthy seas, and healthy seas support us.
COGNITIVE (Corals and climate change)	Whether reefs endure warming seas depends on what we do now.	The same heat that scorches our cities reaches coral reefs.
AFFECTIVE (Awe, Wonder)	That moment of awe you just felt? Let's keep it alive for our families.	Tiny coral builders support this blue planet we all depend on.
AFFECTIVE (Responsibility, Empowerment)	Each generation makes a mark. Ours can be helping coral come back.	Your choices ripple outward, helping reefs seemingly far away.
BEHAVIORAL (Coral-friendly actions)	Each small choice today shapes the ocean that your kids will experience.	Even inland, our daily actions help reefs to breathe easier.
BEHAVIORAL (Share with others)	Your family's legacy can include saving coral by telling its story.	When you talk about corals, you connect others to the ocean.

This matrix is only a small sampling of the ways in which messaging can be designed for outcome achievement. You can use these message framing approaches as a starting point and further tailor your institutional messaging after conducting audience research.

TYING IT TOGETHER

COASTAL AUDIENCES

EXAMPLE MESSAGE FOR COASTAL AQUARIUMS AND ZOOS

✨ "Our reefs are part of who we are. Protecting them keeps our coasts strong and our traditions alive."

- **Frame Used:** Local identity, sense of place.
- **Desired Outcomes**:
  - <u>Cognitive</u> - Know the importance of corals for people, wildlife, and planet.
  - <u>Affective</u> - Feel responsibility and empowerment.
- **Framing Construct**: Reducing distance – ties the global coral crisis to the visitor's home and community.
- **Support With**: Graphics that illustrate coral's connection to the local community; compelling imagery.

Refine this message with audience research, community observations, and/or additional strategic planning that:

Explores specific traditions and attributes of the community/audience to invoke in the message.

Identifies local products & businesses that, directly or indirectly, coral reefs help to produce and support. Incorporate these points of community connection into your messaging.

Determines the strength of social norms in the local messaging environment. Who are your audiences influenced by, and how can this be leveraged?

TYING IT TOGETHER

COASTAL AUDIENCES

EXAMPLE MESSAGE FOR COASTAL AQUARIUMS AND ZOOS

✨ Here along our coast, the ocean shapes who we are. It provides food, shelter, jobs, and joy - and coral reefs are at the heart of it all. These vibrant underwater cities protect our shores, nurture countless species, and store carbon that helps stabilize our planet's climate. ***But our reefs are in trouble.*** Rising temperatures and pollution are putting centuries of life at risk. When you learn, share, and take action - whether by choosing reef-conscious products, choosing sustainable seafood, or inspiring others - you become part of the solution. Together, we can protect the reefs that protect us.

- **Frame Used:** Local identity, sense of place, mixed emotional valence, collective efficacy.
- **Desired Outcomes**:
  - <u>Cognitive</u> - Know the importance of corals for people, wildlife, and planet.
  - <u>Behavioral</u> - Make coral-friendly decisions.

Support messaging with other *engagement techniques* such as:

💡 Encouraging institution staff to model desirable behaviors, such as carrying a reusable water bottle or discussing their sustainable seafood choices with peers.

💡 Allowing guests the opportunitiy to share or 'pledge' how they will help support coral reefs.

💡 Connecting guests to local water quality initiatives, beach/waterway cleanups, or shoreline stability projects.

TYING IT TOGETHER

INLAND AUDIENCES

EXAMPLE MESSAGE FOR INLAND AQUARIUMS AND ZOOS

✨ "Someday your kids might ask what coral reefs looked like when they were still bright with life. Because of work happening here, you'll be able to tell them they still are."

- **Frame Used:** Generational/legacy.
- **Desired Outcomes**:
  - <u>Affective</u> - Feel responsibility and empowerment.
  - <u>Behavioral</u> - Share with others.
- **Framing Construct**: Mixed valence - balancing concern with hope.
- **Support With**: Graphics that explain the zoo/aquarium's role in coral recovery; 2-3 suggestions for audiences to share with friends and family.

Refine this message with audience research, community observations, and/or additional strategic planning that:

Explores audience demographics and values to determine the salience of family-oriented messaging.

Allows for the development of a strategy to adapt over the course of months/years. Update messaging with key milestones in coral recovery matched to local actions audiences can take.

Supplements the message with institutionally-specific information for audiences to share more broadly.

TYING IT TOGETHER

INLAND AUDIENCES

EXAMPLE MESSAGE FOR INLAND AQUARIUMS AND ZOOS

✨ Even here in ___, our actions reach the sea. The water that flows through our neighborhoods eventually finds its way to the Atlantic Ocean - and the reefs beyond. Florida's coral reefs are losing color and life, but through the Florida Reef Tract Rescue Project, we are helping to restore these underwater forests, one coral at a time.

By sharing what you learn about coral rescue and inspiring others, you help protect a living legacy that *connects us all*. Together, we can make sure future generations inherit healthy rivers, healthy coasts, and thriving reefs.

- **Frames Used:** Generational/legacy, mixed valence, reducing distance, collective efficacy.
- **Desired Outcomes**:
  - <u>Affective</u> - Feel responsibility and empowerment.
  - <u>Behavioral</u> - Share with others.

Support messaging with other *engagement techniques* such as:

Highlighting how your local region's scientists, volunteers, conservationists, and community members are helping coral reefs.

Creating interactive displays showing how water moves across the landscape to reach coral reefs.

Engaging guests after they leave by suggesting they 'adopt' a propagated coral and sending updates on its journey.

These messages are examples only; we encourage you to try your hand at crafting your own messages based on the concepts introduced in this guide!

NEXT STEPS
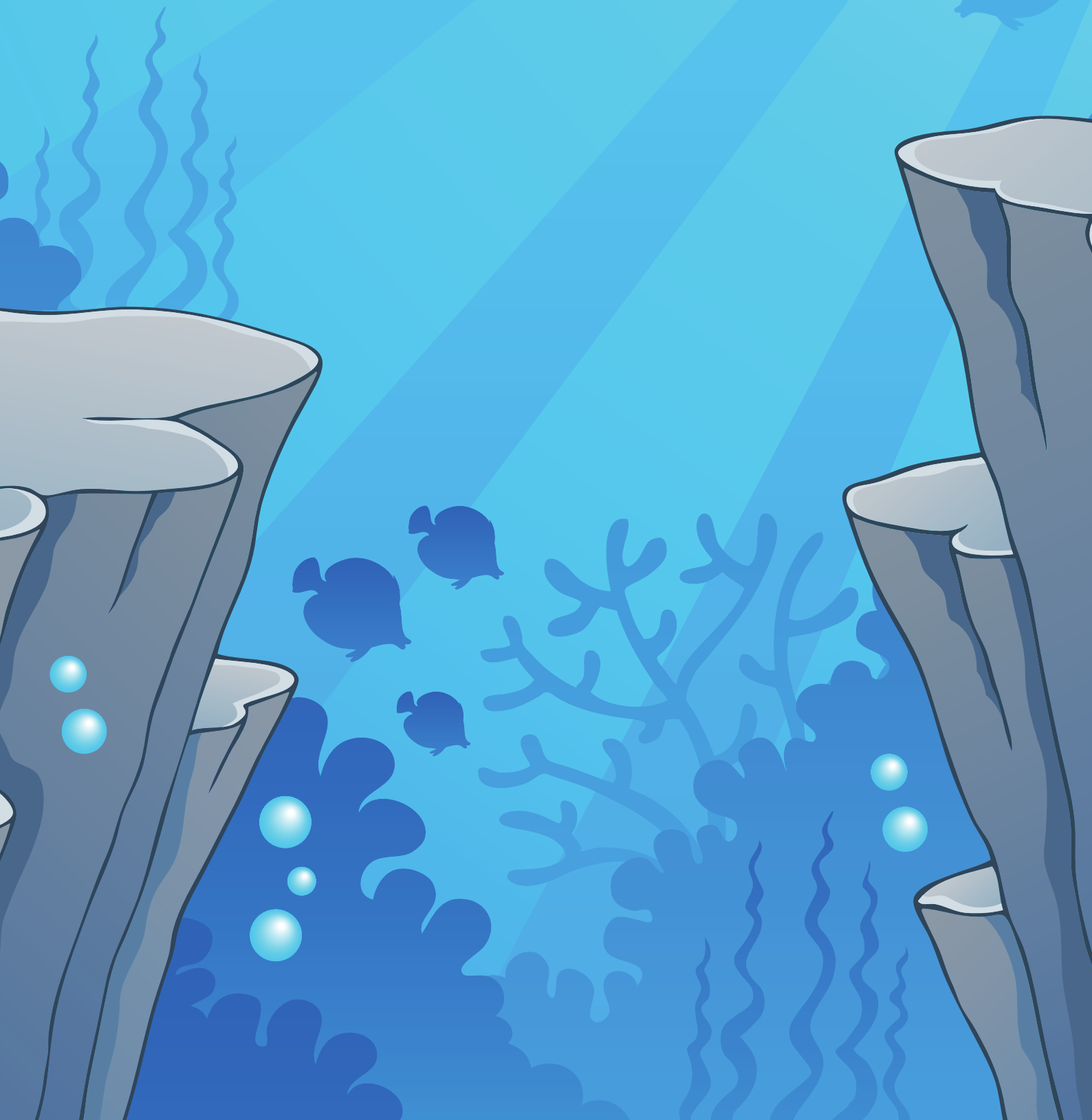
EVALUATION

Because the design and resulting impact of messaging can be highly context and audience-dependent, it is essential to pilot test and evaluate your messaging. The resulting data are useful to communicate impact, advocate for funding, and inform adaptations for improvement.

CURRENT PRACTICES

The following are current evaluation practices employed by SAFE Coral partners, identified from interviews conducted for this project.

Satisfaction surveys
- Post-program satisfaction surveys (general or exit surveys) – often not coral-specific

Informal evaluation
- "What did you learn?" conversations recorded by educators
- Peer-review program audits

Pre/Post assessments
- Likert-scale surveys to measure changes in desired outcomes

Reach metrics and analytics
- Website/blog engagement and social media analytics
- Tracking participant numbers

External evaluation
- Contracted external evaluators
- Message testing

INSTITUTIONAL BARRIERS

Below are the primary barriers to conducting messaging evaluation, as identified by SAFE Coral partners interviewed for this project.

1. **Lack of coral-specific messaging evaluation**: Though institutions seek to evaluate the general impact of interpretive or conservation programs, few have metrics tied specifically to coral.
2. **Resource constraints**: Limited staff time, budget, and in-house expertise mean that rigorous, systematic evaluations rarely occur.
3. **Emphasis on cognitive and affective outcome evaluation over behavioral**: Knowledge and attitude shifts are easier to capture; long-term behavior change is "*tough to measure*" and seldom assessed.
4. **Evaluation data do not always drive adaptation**: Even when data are collected, it is not typically used to adapt and refine messaging.

Surveys, interviews, focus groups, observations, journals, photovoice, concept mapping, and other participatory evaluation tools can be used to measure desired outcomes and gather feedback from your audiences. High-quality evaluation often requires specific skills that may not be readily available at your institution. But there is a whole community of social scientists and evaluators excited to partner with you!

MESSAGING OPPORTUNITIES

In summary, we share a list of opportunities to improve the impact of your coral communication and messaging.

AUDIENCE RESEARCH: KNOW YOUR AUDIENCE

- Identify target audiences - the more specific, the better.
- Use formal or informal research methods to learn about your audiences.

FRAMING OF CONSERVATION MESSAGING

- Align messaging with audience values.
- Balance concerning realities with hope and empowerment.
- Use the power of social norms to inspire audience action.
- Make corals relevant to your target audience.
- Reduce psychological distance.
- Design messaging with the goal of achieving desired outcomes.

EVALUATE CONSERVATION MESSAGING

- Pilot, implement, and evaluate audience messaging efforts.
- Use evaluation results to adapt messaging and programming.
- Partner with social scientists.

BUILD MESSAGING CONSISTENCY ACROSS INSTITUTIONS

- **Shared, unified voice**
  - Develop consensus on core talking points across institutions, informed by the six desired messaging outcomes for SAFE Coral partners identified through this project.
- **Simplify and focus calls to action**
  - Streamline calls to action to avoid overwhelming audiences.
  - Consolidate two or three achievable actions per strategy.
- **Share key messages and resources**
  - Pool evaluation tools, content libraries, and best practices to avoid duplicated or inconsistent efforts.
  - Coordinate multilingual and regionally-tailored campaigns.

BEYOND MESSAGING

- Consider media and infrastructure that reinforce key messages.
- Evoke wonder with stunning imagery and interactive displays.
- Demonstrate behavioral norms in areas where audiences receive calls to action.

LIFE AFTER THIS TOOLKIT

LEARN MORE

Stay up-to-date on current trends in conservation messaging by following organizations such as:

- North American Association for Environmental Education (NAAEE)
- National Association for Interpretation (NAI)
- National Network for Ocean and Climate Change Interpretation (NNOCCI)
- Advancing Conservation through Empathy for Wildlife Network (ACE for Wildlife)

SUPPORT RESEARCH AND EVALUATION EFFORTS

There is a lack of coral-specific research and evaluation regarding messaging use and impact. While relying on evidence from more general conservation messaging studies is useful, pilot testing and evaluating coral messaging strategies is our best opportunity to learn about and design more effective and impactful messaging,

Advocate for funds or in-house expertise or partner with external evaluators to conduct formal evaluations of your messaging efforts. Share the results broadly (e.g., through the AZA Social Science Research and Evaluation SAG) to help your fellow community members. Conduct informal evaluations, such as visitor observations, comment cards, or program audits to continue to refine your messaging.

STAY IN TOUCH WITH HUMAN NATURE GROUP

We would love to stay in touch and learn about how you have implemented and/or evaluated your messaging strategies, and how we can further support AZA and the coral conservation community.

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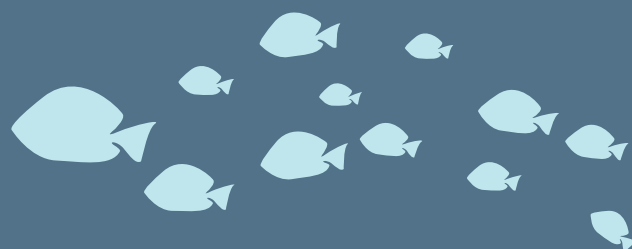
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WHAT WE DO

At Human Nature Group, we empower organizations to make informed decisions using evidence-based practices to create a brighter future for both people and the planet. We specialize in crafting people-centered solutions to environmental challenges through **social science** and **behavior change, strategic planning,** and **evaluation.**

In practice, this looks like supporting environmental and conservation organizations to:

- Design behavior change campaigns and strategies to improve outcomes for people, planet, and wildlife.
- Conduct evaluations of programs and projects.
- Facilitate strategic planning and development of desired outcomes.
- Conduct social science and audience research.

SPONSOR

THIS TOOLKIT WAS GENEROUSLY SPONSORED BY DISNEY CONSERVATION.

DISNEY CONSERVATION IS COMMITTED TO WORKING TO PROTECT WILDLIFE AND BUILD A GLOBAL COMMUNITY INSPIRED TO CELEBRATE THE MAGIC OF NATURE TOGETHER.