Gulf Coast Ecosystem Restoration Science, Observation, Monitoring and Technology Program
NOAA RESTORE Science Program



2021 Program Review







November 18, 2021





SCIENCE PROGRAM Welcome Back!



GRAM Group Norms

- Mute yourself when not talking.
- We encourage you to close internet tabs and mute your email and phone to give presenters your full attention.
- Please keep cameras on whenever possible.
- Use hand raise icon to signal that you have a question or comment.
- Notetakers are documenting verbal discussions and chat comments.
- Save questions for Q&A times.





- If you have tech issues, drop a note in the chat or text me at **904-415-2105**.
- We have a tech assistant standing by.
- When in doubt, hop on the phone!
 - Dial-in information is provided for all sessions.



TORE Today's Agenda

- Welcome
- Communications and Engagement
- Planning and Executing Actionable Science
- Synthesis Initiative
- -Break-
- Long-Term Budget and Program Outlook
- Wrap-Up
- Executive Session III (1 hour)
- Review Panel Report (30 minutes)





Who Is In The Room Today

- RESTORE Science
 Program team
- Federal and state government
- Researchers

- Project Leads
- Technical Monitors
- End Users

You have a list of all presenter names and affiliations in the most recent agenda you received.



CIENCE PROGRAM Questions before we begin?



Gulf Coast Ecosystem Restoration Science, Observation, Monitoring and Technology Program NOAA RESTORE Science Program

Communications & Engagement

Hannah O. Brown November 18, 2021 NOAA RESTORE Science Program — Review





- Evolving Communications
- Communications Support
- Funding Competitions
- Communication Assets
- Facilitation
- Future Opportunities





Evolving Communications

- In the beginning...
 - Introducing our program to the Gulf
 - Getting feedback on what needs we should address
- A while later...
 - Promoting our funding competitions
- Now...
 - Sharing the findings and impacts of research
 - Connecting the dots for the public
 - Building a network of managers and researchers



Communication Objectives

- Share the findings and products, application, and impacts of awarded research projects.
- Emphasize the uniqueness of the Gulf of Mexico ecosystem and its importance for human communities.
- Reach audiences from diverse communities across the Gulf with stories, events, and funding competitions.
- Build a network between diverse stakeholders and partners who can help guide our future competitions and communications.
- Connect Gulf research to national and international discussions of climate change impacts and other environmental changes.



SCIENCE PROGRAM Our Audiences

- Applicants
 - Researchers
 - Managers
- Partner Programs in the Gulf
- Congress
- Media
- Gulf Stakeholders/ "The Public"





Communications Support

Name	Title	Affiliation	Support Type
Catherine Polk	Graphic & Web Designer	NCCOS	Website, email subscriber messages, graphic design, etc.
Sierra Sarkis	Program Analyst & Communications Specialist	NCCOS	Social media, press rollouts, etc.
John Hayes	Writer/Editor & Video Producer	NCCOS	Video production
Mike Jarvis	Congressional Affairs Specialist	Office of Legislative and Intergovernmental Affairs – NOS	Congressional communications and updates
Jennie Lyons	Director of Public Affairs	NOS	Media requests, communication strategy, etc.





Engagement Coordination Team

- Team of individuals across Gulf with connections to stakeholders, knowledge, tools, and techniques
 - NOAA and USFWS
- Identify opportunities, communicate concerns and needs of stakeholders, offer advice
- Meet quarterly



SCIENCE PROGRAM Funding Competitions

- One-page summaries
 - Distributed at conferences
- Coordination across NOAA to announce competition and awards
- Website
- Subscriber listserv message
- Share with other listservs
- Emails to researchers



NOAA RESTORE ACT SCIENCE PROGRAM - FEDERAL FUNDING OPPORTUNITY 2017

The NOAA RESTORE Act Science Program's second federal funding opportunity (FFO-2017) is focused on living coastal and marine resources and their habitats.

The funding competition has two priorities: a **research priority** directed at six specific areas of living coastal and marine resource research and a **decision-support tool priority** directed at improving the tools available for resource management. To receive funding, applicants will need to directly address the needs of resource managers and have a clear plan for how their research findings or decision support tool will be used by resource managers.



Research Priority

Proposals addressing the research priority must focus on one or more of these specific areas :

- Movement of living coastal and marine resources between and among habitats
- Use of habitat by living coastal and marine resources;
 Recruitment of juvenile fish to fisheries
- Recruitment of juvenile fish to fisheries
 Food web structure and dynamics, trophic linkages,
- and/or predator-prey relationships 5. Impact of multiple stressors on food web structure
- and dynamics and/or habitat quality and quantityConnections between restored habitat and
- surrounding habitats and the living coastal and marine resources and wildlife that use those habitats

Proposals that describe how the research will be applied, relate to a challenge facing resource managers, and detail a path for communicating their results to the management community will be given priority.

Decision-Support Tool Priority

Proposals addressing the decision-support tool priority should focus on improving these tools for the management of living coastal and marine resources and their habitats. The decision-support tools should inform a current or near-term management decision or challenge that has been identified as a priority by the management community. In addition, there must be a clear path forward for the use of the tool by resource managers.

These decision-support tools may take the form of a data integration platform, models for identifying and predicting the impacts of stressors or interactions among components of the ecosystem, and/or structured approaches for making decisions that develop and evaluate alternatives. Proposals focused on improving an existing decision-support tool actively being used by a resource manager will be given priority.

Science Program Mission

To carry out research, observation, and monitoring to support, to the maximum extent practicable, the long-term sustainability of the ecosystem, fish stocks, fish habitat, and the recreational, commercial, and charter-fishing industry in the Gulf of Mexico.

Science Program Outcomes

- The Gulf of Mexico ecosystem is understood in an integrative, holistic manner
- Management of, and restoration activities within, the Gulf of Mexico ecosystem are guided by this ecosystem understanding

For more information: www.restoreactscienceprogram.noaa.gov | noaarestorescience@noaa.gov



- 1-2K unique visitors/month
- So far:
 - Announcements
 - Funding Competitions
 - Project Explorer
- To come:
 - Featured Stories
 - Engaging Graphics
 - Co-production





Feature Stories



- Tailored for public audiences
- Communicate impact of funded projects in the Gulf
- Humanize research and application process



Subscriber Messages

- Nearly 4,000 subscribers
 - 19% open rate (~1K)
 - Subscribers are from government, universities, non-profit, and personal accounts
- What we send:
 - Announcements
 - Feature stories
 - Seminars and other events





RESTORE Social Media

- We partner with other NOAA programs to share tweets and Facebook posts
 - NCCOS
 - NOS
 - NOAA Fisheries
- Building an audience from scratch and managing accounts is very time intensive.

NOAA Coastal Ocean Science 🤄 @noaacoastalsci · Sep 15 · · · · The #NOAARESTORE Science Program has announced \$2.3M in new awards focused on planning for actionable science and research to inform the management of #GulfofMexico species, habitats, and restoration projects. noaa.gov/news-release/n...



NOAA Coastal Ocean Science @ @noaacoastalsci · Sep 29 With funding from the #NOAARESTORE Science Program, scientists are working to identify Rice's whales' critical habitat and foraging activities in order to inform their recovery, management, and protection. go.usa.gov/xMEAw







- John Hayes (NCCOS) helps us produce videos on our funded projects
- Video possibilities
 - Researcher features
 - Intro video for the Science Program





RESTORE SCIENCE PROGRAM Facilitation

- Sometimes we serve as a boundary organization...
 - Connecting research projects
 - Facilitating workshops and meetings
- Provide facilitation training to funded teams
- Should we do more of this in the future?



FORE Future Opportunities

- Developing communications plan
- Focus on reaching diverse communities and audiences
- More content tailored for the public
- Building a network of researchers and managers in the Gulf
- Creative collaborations and relationship building





CIENCE PROGRAM Questions and Answers



Gulf Coast Ecosystem Restoration Science, Observation, Monitoring and Technology Program NOAA RESTORE Science Program

2021 and 2023 Funding Competitions Overview: Actionable Science

Julien Lartigue November 18, 2021 NOAA RESTORE Science Program – Review



Funding Opportunity Concept

- Co-production has four phases:
 - Scoping
 - Design
 - Research and development (R&D)
 - Transfer and application of findings and products.
- First competition is for planning actionable science (scoping and design).
- Second competition is for executing actionable science (R&D and transfer and application).

In both competitions, the driver is a specific natural resource management decision.



Funding Opportunity Concept

- Why focus on planning first?
 - It increases the likelihood that research findings and products are used by resource managers.



- What will happen after the plans are made?
- Competitions are independent.
 - A project team has to demonstrate that they have scoped and designed their project around a specific decision whether they received a planning award from the Science Program









Natural Resource (Management)

- What is a natural resource?
 - Abiotic (e.g., sand, water), biotic (e.g., animals, plants), or energy (e.g., solar and wind) component of the Earth that is useful to humans and not built by humans
- What is natural resource management?
 - Any management decision regarding the human use of or interaction with a natural resource





- Examples of <u>specific</u> natural resource management decisions
 - Setting catch limits in a fishery
 - Purchasing land for conservation
 - Opening and closing beaches
 - Siting of restoration projects
 - Setting nutrient reduction targets for water bodies and siting monitoring stations
 - Deciding on use/disposal of dredged sediment







Engagement with Applicants

- What is our specific natural resource management decision?
 - What is its context and related uncertainties?
- Who is making the decision?
 - Who on our team is involved in the decision process and how?
- What are the steps for making the decision and the timeline?
- Who should be on our team and how should we work together?
- What specific planning activities and steps are we going to take?
- How will we use the plans we produce?



Link to Management

- A resource manager must be the lead investigator or an equal partner on the project team
 - Letter of support from resource manager/management body
- Specific natural resource management decision











SCIENCE PROGRAM FFO-2021 Funding

	Announced	Awarded
Number of awards	~20	20
Amount available	~\$2.5M	\$2.3M
Minimum award	\$25,000	\$79,770
Maximum award	\$125,000	\$130,200
Length of awards	1 year	1 year
Start date	Sep 1	Sep 1





SCIENCE PROGRAM FFO-2023 Funding

	Announced	Awarded
Number of awards	~10	TBD
Amount available	~\$15M	TBD
Minimum award	\$500K	TBD
Maximum award	\$2M	TBD
Length of awards	3 - 5 years	TBD
Start date	Oct 1, 2023	TBD





SCIENCE PROGRAM FFO-2021 Review Process

Stage	Letter of intent (1 page limit)	Full applications	Awards
Total count	135	63	20
Strongly encouraged	10	10 (100%)	4
Encouraged w/minor modifications	60	48 (80%)	15
Discouraged w/out major modifications	43	5 (12%)	1
Discouraged	22	0 (0%)	0
Success rate (%)			31.7%



ESTORE Awards by the Numbers

- 20 lead institutions (18 Gulf of Mexico-based, FL – 5, MS – 4, LA – 6, TX - 4)
- 129 investigators (113 Gulf of Mexico-based)




SCIENCE PROGRAM Awards by the Numbers





Туре	Lead Institutions	Amount
Fisheries management (5)	Mississippi State University and Mississippi-Alabama Sea Grant, Duke University, Fish & Wildlife Foundation of Florida, Inc., University of Texas Rio Grande Valley, Vaughan Analytics	\$561K
Barrier island and beach management (3)	University of Southern Mississippi, University of Louisiana at Lafayette, United States Geological Survey	\$327K
Water management (4)	Mississippi Department of Marine Resources, Texas A&M University - Corpus Christi, The Administrators of the Tulane Educational Fund, Capital Region Planning Commission	\$492K
Coastal and shorebird management (2)	Texas A&M University – Galveston, National Audubon Society	\$222K
Marine mammal management (2)	Florida Fish and Wildlife Conservation Commission, Fish and Wildlife Research Institute; National Marine Mammal Foundation, Inc.	\$190K
Management of coastal uplands, seagrass, and harmful algal bloom and marsh restoration (4)	Mississippi State University; University of New Orleans; Florida Fish and Wildlife Conservation Commission, Fish and Wildlife Research Institute; Louisiana State University	\$433K





SCIENCE PROGRAM Accomplishments

Coming soon... •



CRAM Science Program Next Steps

- 2021 Projects
 - Project management
 - Project close outs
- 2023 Competition
 - Approval of prospectus by Executive Oversight Board
 - Conduct competition and make awards



Gulf Coast Ecosystem Restoration Science, Observation, Monitoring and Technology Program NOAA RESTORE Science Program

2021 Project: Incorporating co-benefits and costs to coastal hazard mitigation decision making

Rachelle Sanderson, Dr. Thomas Douthat, and Dr. Jerrod Penn November 18, 2021 NOAA RESTORE Science Program – Review





- Project overview
- High quality research aspects
- Contributing to our comprehensive understanding of the Gulf of Mexico ecosystem
- Application of research findings and products to a specific resource management decision





NATURAL RESOURCE **PROJECT TEAM MANAGERS Capital Region Planning Commission** Pontchartrain Conservancy LOUISIANA Office of —



COMMUNITY

DEVELOPMENT

Project Overview

 Context: Louisiana Watershed Initiative (LWI) is an effort established following 2016 floods. The initial investment is \$1.2B in CDBG-MIT funds. Three rounds of project funding





- **Purpose:** Research and develop cost-benefit framework for watershed management that will inform and reduce uncertainties during multi-criteria LWI project selection
- Specific resource management decision: Round 3 of project funding, water is the resource



• Every HUC 6 and HUC 8 in Region 7 flows into Lakes Maurepas or Pontchartrain

GRAM

- Harmful Algal Blooms linked to development and flooding events
- Decision-making process for project selection may also impact water quality, resources, and the surrounding communities
- Increasing vulnerability from climate change





High quality research aspects

- Anchored in the reality of the decisionmaking process
- Linked to current literature
- Framed to link coastal hazard mitigation, environmental and social resilience goals



SCIENCE PROGRAM





- Hypothetical Pool of 100 scored Projects
- Majority applications fail to...

Project Name	Application Status Description
Mounes St. Box Culvert	Application does not provide sufficient data to support benefit to MID
Woodlake Drainage Mitigation	Application does not provide sufficient data to support benefit to MID
Upper Barataria Risk Reduction Project - Bayou	Application does not provide evidence that project can be fully funded.
Chatlin Lake Canal Hardening - Sandy Bayou to	Application does not provide sufficient data to verify project has no adverse upstream/downstream impact.
Orleans Landbridge	Application does not provide sufficient data to support benefit to MID
Goodbee Regional Detention Pond	Application does not provide sufficient data to verify stated project benefits and/or flood risk reduction.
Anslem Coulee Regional Detention Pond	Application does not provide sufficient data to verify stated project benefits and/or flood risk reduction.
Cancienne Canal	Application does not provide sufficient data to verify stated project benefits and/or flood risk reduction.
Portal #62 - 20E038.01 Channel from Bayou	No H&H report was submitted with the application.

- Benefits/losses for LMI populations scored low or at zero for many projects
- Water quality Improvements evaluated but not potential harm



Equity considerations

- US Regulatory Review includes conceptual separation of distributional effects and cost-benefit considerations
- How can LWI multi-criteria weighting more directly involve relative vulnerability?
- New executive mandate to consider equity
- Is it practical to weigh damages by vulnerability or LMI populations?
- Is the application process a barrier?
- What mechanisms can be used to facilitate access to H&H modeling and other tools to demonstrate benefits?



Spillovers and Current Toolkit

- H&H Models for Projects Not Designed to Consider Down Stream Effects?
- Uncertainty about integration of models with project level boundary conditions to regional decision making
- FEMA BCA tool Recently Incorporated Ecosystem Service Benefits
 - Need to consider fit to coastal areas, e.g., fisheries
- Mitigation BCA tools not designed to consider environmental spillovers (e.g., water quality degradation from channelization)



Direct application of research findings (two paths)

- Fundamental problem in demonstrating these benefits in project application tool, these are multiplied when we think about larger environmental system
- Ambition of our decision-making process outstretches the actual process because of capacity barriers, etc.



Direct application of research findings (two paths)

Natural resource decision to be impacted: Round 3 of project funding

- If the development of the tool is <u>not</u>funded through additional resources...
- Supports ongoing LWI efforts related to NBS, development of a watershed explorer tool, and more. All of which will support Round 3 of project decision-making.
- Capacity-building and clear state direction is key
- Research to contribute to decreased barriers to projects that reduce vulnerability and improving project selection





If the development of the tool is funded through additional resources...

- Develop tool to inform decision-making related to Round
 3 of project funding for at least one region of the LWI
- Capacity-building and clear state direction is key
- Research to contribute to decreased barriers to projects that reduce vulnerability and improving project selection



Photo credit: Rachelle Sanderson

Gulf Coast Ecosystem Restoration Science, Observation, Monitoring and Technology Program
<u>NOAA RESTORE Science Program</u>

2021 Project

Characterizing cryptic mortality in Gulf of Mexico reef fish: evaluating the nature and extent of depredation

JM Drymon, M Karnauskas November 16, 2021 NOAA RESTORE Science Program – Review



Background



Stock assessments provide critical information used to set sustainable catch targets and limits.

However, uncertainty in removals can occur for a variety of reasons (e.g., misreporting catch or ignoring biological removals), which can result in bias in the assessment model outputs.

Depredation, defined as the partial or complete removal of captured fishes by non-target species, is a cryptic form of mortality that can lead to underestimation of population removals and inappropriate harvest recommendations.







Background

Accounting for depredation in a stock assessment is impossible without first effectively characterizing the problem, which can inform research needs for developing estimates of the magnitude of depredation.

Although depredation has become a topic of significant concern worldwide, a comprehensive characterization of this issue is currently lacking in the Gulf of Mexico (GoM).

Therefore, our objective is to co-produce a shared characterization of the impacts of depredation in the GoM reef fish fishery.







The specific natural resource management decision to be made in the future:

How can depredation in the GoM reef fish fishery be quantified to reduce uncertainty when setting catch targets and limits?



Approach



First: gather, analyze, and interpret existing GoM depredation-related datasets.

Second: design and implement a depredation-related electronic survey of commercial and recreational fishermen across the GoM.

Third: present data synthesis and community models to stakeholders at an iterative, collaborative mental modeling workshop.







High-quality Research

How will this approach lead to high quality research?

1. Comprehensive characterization can lead to effective mitigation.

2. Mitigation research will require stakeholder buy-in.

3. Stakeholder buy-in will provide opportunities for collaborative research on GoM wide scale.







GoM Ecosystems

How will this approach increase our comprehensive understanding of GoM ecosystems?

1. Allow stakeholders to assess, discuss, and revise the participatory maps and community models generated from the survey data.

2. Facilitate in-person discussion and reciprocal learning among researchers, resource managers, and stakeholders.

3. Identify additional knowledge gaps concerning GoM reef fish depredation.







Direct Application

How will this approach lead to direct application of research findings and products to a specific resource management decision?

1. Surveys and interviews (Peterson and Carothers 2013).

2. Account for depredation in stock assessment (Peterson and Hanselman 2017).

3. Develop a depredation-corrected index of relative abundance (Hanselman et al. 2018).







Summary

Grateful to NOAA RESTORE, stakeholders who have enthusiastically embraced this work.

Effective mitigation requires comprehensive characterization.

Co-production of knowledge.





CIENCE PROGRAM Questions and Answers



Gulf Coast Ecosystem Restoration Science, Observation, Monitoring and Technology Program NOAA RESTORE Science Program

Future Opportunities: Synthesis Initiative

Caitlin Young November 18, 2021 NOAA RESTORE Science Program – Review



Synthesis Background

Definition: Scientific synthesis blends diverse research to yield novel insights or explanations at an ecosystem level. Synthesis provides a mechanism to address complex social and environmental problems that are beyond the scope of any one discipline while simultaneously capitalizing on the vast amount of data now available due to recent technological advances.

Catalyze interdisciplinary and multi-sector collaborations among researchers and managers by bringing together

- Data
- Expertise
- Perspectives
- Accelerate scientific knowledge and generate results to inform policy and management



RESTORE SCIENCE PROGRAM

Synthesis Methodologies

- Conceptual
- Data integration
- Enhanced use of findings from different sources
- Method integration



SCIENCE PROGRAM Anticipated Impacts

Literature Examples

Conceptual –Demonstrating a link between human health and ecosystem health

Relationship – Knowledge of migratory species pathways spur new collaborations between public and private land managers

Strategic – Promoting climate change as an economic challenge to motivate political action

Instrumental – Use of decision-support tools for fisheries management

Capacity – Communications training for data scientists.





Synthesis for the Gulf of Mexico



- Watersheds and connecting waters
- Ecosystem-based fishery management
- Workforce development



Approach to Synthesis

Stakeholder conversations

- What do you see as the end goals of synthesis?
- Are there sufficient data sets to support synthesis?
- What scientific priorities should be the focus of synthesis work?
- Should outputs be focused on actionable science for natural resource management?



Science PROGRAM Scientific Priorities



Fisheries and Ecosystem-Based Fisheries Management



Climate Change



Ecological Impact of Management Actions



Approach to Synthesis

Synthesis Center

Specifically designed research facilities that offer a unique combination of leadership, facilitation, culture, and computing infrastructure that support synthesis activities



- High performance computing
- Logistical support
- Complex data management
- Informatics and computational expertise
- Open dialog and cross fertilization of ideas
- Community building



Funding Profile



- Award total: ~\$3.5M
- Award duration: 5 years
- Administration total: \$750k

Synthesis Working Group Sub-awards

- Total working group sub-awards \$2.75M
- Total number of awards: ~10 awards
- Individual sub-award range: \$125k \$250k
- Individual sub-award length: 2-3 years


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Synthesis Initiative Next Steps





CIENCE PROGRAM Questions and Answers



SCIENCE PROGRAM Break until 3:00 pm ET



Gulf Coast Ecosystem Restoration Science, Observation, Monitoring and Technology Program NOAA RESTORE Science Program

Long-term Budget and Competition Outlook

Frank Parker November 18, 2021 NOAA RESTORE Science Program – Review



Budget Background

<u>Gulf Coast Trust Fund</u>: managed by Treasury; non-appropriated, no-year, penalty funds; FY spend plan approach for obligations and disbursements

- NOAA receives 2.5% principle (~\$140.9M) + 25% interest (~\$22.4M thru FY21)
- Treasury seeks approval for its investment strategy from the programs that share the Trust



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Penalty Payments:

- FY13-16: ~\$23.3M from settlements with Transocean and Anadarko
- BP payments from FY17-31 (~\$7.6M y⁻¹) + FY32 interest payment (~\$7.3M)



ESTORE Budget Background

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Financial Controls:

- Administrative expenditures (3% cap) tracked using a set of accounting codes
- CFDA number (11.451) assists with tracking grants (published Oct 2014)
- Established internal SOPs to get approvals from OMB and funds from Treasury
- Two Treasury audits, no findings: OIG-15-002 (Oct 2014) & OIG-18-036 (Feb 2018)





Trust Fund Balance (\$)								
Gross C and Per	Civil Fines nalties	57,733,980						
	FY13	11,682						
	FY14	65,103						
	FY15	79,830						
st	FY16	552,831						
e	FY17	1,623,397						
Ite	FY18	4,253,435						
<u> </u>	FY19	5,119,617						
	FY20	7,914,432						
	FY21	2,778,111						
	Total	22,398,439						
Gross F	Receipts	80,135,194						
S	FY15	(3,087,099)						
ůt	FY16	(320,000)						
ne	FY17	(6,673,449)						
er	FY18	(6,364,525)						
sur	FY19	(7,685,824)						
pr	FY20	(5,644,560)						
)is	FY21	(6,027,190)						
	FY22	(6,428,559)						
Gross Disburs	ements	(42,231,206)						
Availab Balance	le Fund (Oct 2021)	37,903,988						

Trust Fund Balance

- \$8.3M committed to FFO-2019 and synthesis projects in FY23-26
- Earned interest available next FY
- FY22 BP payment of \$7.6M expected in April



SCIENCE PROGRAM Financial Status

Available Fund

Balance (Oct 2021)

37,903,988

Trust Fund Balance (\$)			alance (\$)	FY15-22 Spend Plans (\$K)											
Gross Civil Fines		57,733,980		FY15-17	FY18	FY19	FY20	FY21	FY22	Total					
		FY13	11,682	Admin. Expenditures	65	19	18	10	17	17	146				
		FY14	65,103	Programmatic Costs	1,163	541	604	464	556	771	4,100				
		FY15	79,830	Operating Costs	1 229	560	622	474	573	788	4 246				
	st	FY16	552,831		1,220	000	022		010	100	7,270				
	le	FY17	1,623,397	Projects	8,436	5,676	7,167	5,137	6,378	5,760	37,981				
	Ite	FY18	4,253,435	TOTAL	9,665	6,236	7,789	5,611	6,570	6,548	42,227				
<u>_</u>		FY19	5,119,617	% Administrative	0.7%	0.3%	0.2%	0.2%	0.3%	0.3%	0.4%				
		FY20	7,914,432	% Drogrammatia	12.00/	0 70/	7 00/	0 20/	0 70/	11 00/	0.70/				
		FY21	2,778,111	70 FTOYIAIIIIIAUC	12.0 /0	0.7 /0	7.0/0	0.3 /0	0.7 /0	11.0 /0	9.1 /0				
		Total	22,398,439	% Projects	87.3%	91.0%	92.0%	91.5%	91.0%	87.9%	89.9%				
Gross Receipts			80,135,194	T. I.F. I.B. I.											
S		FY15	(3,087,099)	Trust Fund Baland	nd Balance										
	int	FY16	(320,000)	• \$8.3M commi	nitted to FFO-2019 and synthesis projects in FY23-26										
OE FY17 OE FY18 SI FY19		FY17	(6,673,449)	 Earnad intara 											
		FY18	(6,364,525)	• Earned Intere	Earned Interest available next FY										
		FY19	(7,685,824)	• FY22 BP paym	payment of \$7.6M expected in April										
	FY20		(5,644,560)	EV1E 22 Chand D											
	<u>is</u>	FY21	(6,027,190)	<u>F115-22 Spend Pi</u>	-2-22 Spend Plans										
		FY22	(6,428,559)	 Well below 3% cap on administrative expenditures 											
	Gross Disburs	sements	(42,231,206)	 ~90% of funds spent on projects due to lean staffing model and 											

~90% of funds spent on projects due to lean staffing model and NOAA in-kind support



Competition Timeline

Fiscal year	15 16 17	18	19	20 21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
FFO-2015	•••			~\$2.5M	, 7 pro	ojects	;																
FFO-2017	•••			•	-	~\$15	5M, 1	5 pro	jects														
FFO-2019							_					_	\$1	5-30N	l, 5 p	rojec	ts						
FFO-2021				•••	-	~\$2	2.5M,	20 p	rojec	ts													
FFO-2023									-•		-•	~\$1	5M, ~	-10 p	rojec	ts							
Synthesis					••					-•	~\$3	3.5M,	~10	proje	cts								
FFO-2024	~\$16	.3-32.5	5M, ~5	projec	S		-					_											
FFO-2026				~\$2.8	SM, ~2	0 pro	jects		-														
FFO-2028					~\$15	M, ~1	0 pro	ojects	;		-			-•		-•							
FFO-2029					~\$1	7.5-3	5M, ~	-5 pro	ojects	5							-•					-•	
FFO-2031									~\$3N	∕I, ~2() proj	jects			-								
FFO-2033										~\$15	M, ~1	0 pro	ojects	5					-•		-•		
Special projects							-	~\$1M	y⁻¹, T	ſBD	•												•
																							DDRF

Long-term Outlook



- Balance @ 0.25% - Balance @ 1% - Balance @ 3% - Science Program Expenditures

<u>Uncertainties</u>: interest rates, partner disbursement rates, inflation rates



Long-term Outlook



- Balance @ 0.25% - Balance @ 1% - Balance @ 3% - Science Program Expenditures

Ċ.N.A.	Interest Rates										
ŞIVI	0.25%	1.0%	3.0%								
Penalty payments	\$140.9	\$140.9	\$140.9								
Interest	\$ 48.1	\$136.6	\$518.8								
Program value	\$186.6	\$275.1	\$657.3								
Commitments	\$ 46.2	\$ 46.2	\$ 46.2								
Program sunset*	~2038	~2046	~2084								

<u>Uncertainties</u>: interest rates, partner disbursement rates, inflation rates

The plan for competitions is <u>scalable</u> based on the trajectories of the uncertainties



RESTORE SCIENCE PROGRAM Path Ahead...

Given the uncertainties, the Science Program plans a commensurate slow ramp up and slow ramp down that allows it to focus on high quality science and its application, while not swamping the capacity of the science or management communities in the Gulf region (*i.e.*, not diluting the quality of the science or the potential for its application)

Approach endorsed by Executive Oversight Board









CIENCE PROGRAM Questions and Answers



Day 3 Summary

- Communications and Engagement
- Planning and Executing Actionable Science
- Synthesis Initiative
- Long-Term Budget and Program Outlook

UP NEXT:

- Executive Session III (1 hour)
 - See separate video call link
- Panel Report Out (30 min)
 - Rejoin main Review video call link





CIENCE PROGRAM Next Steps

- Executive Session III
 - Science Program staff standing by...
- Panel Report Out
 - Science Program staff and NCCOS Director will rejoin
- Individual responses due within 60 days:
 - Monday, January 17, 2022
- Please fill out our review feedback survey
 It's brief!



CIENCE PROGRAM Thank you for your participation!

