New Jersey Research & Monitoring Initiative

12/20/2021

Where are we?

- ERWG August 2021
  - Presented short-term Research Priorities
  - Answered clarifying questions
  - Provided survey for written comments
- Received survey responses
- Met with federal, regional, state, and academic colleagues to solicit feedback
- ERWG December 2021
  - Reviewing input received
  - Updates on progress

Research Priorities Survey Responders & Commenters

- American Littoral Society
- Anglers for Offshore Wind Power
- Atlantic Shores (Fisheries Liaison)
- Clean Ocean Action
- Commercial Fishers
- Interstate PAM Coordination Team
- National Wildlife Federation
- The Nature Conservancy of NJ
- NJ Audubon
- NJMFC
- NMFS – Office of Protected Resources
- NOAA Fisheries/NEFSC
- NYSERDA
- ROSA
- RODA
- RWSE
- Rutgers Cooperative Extension
- Surfside Foods
- Wildlife Conservation Society

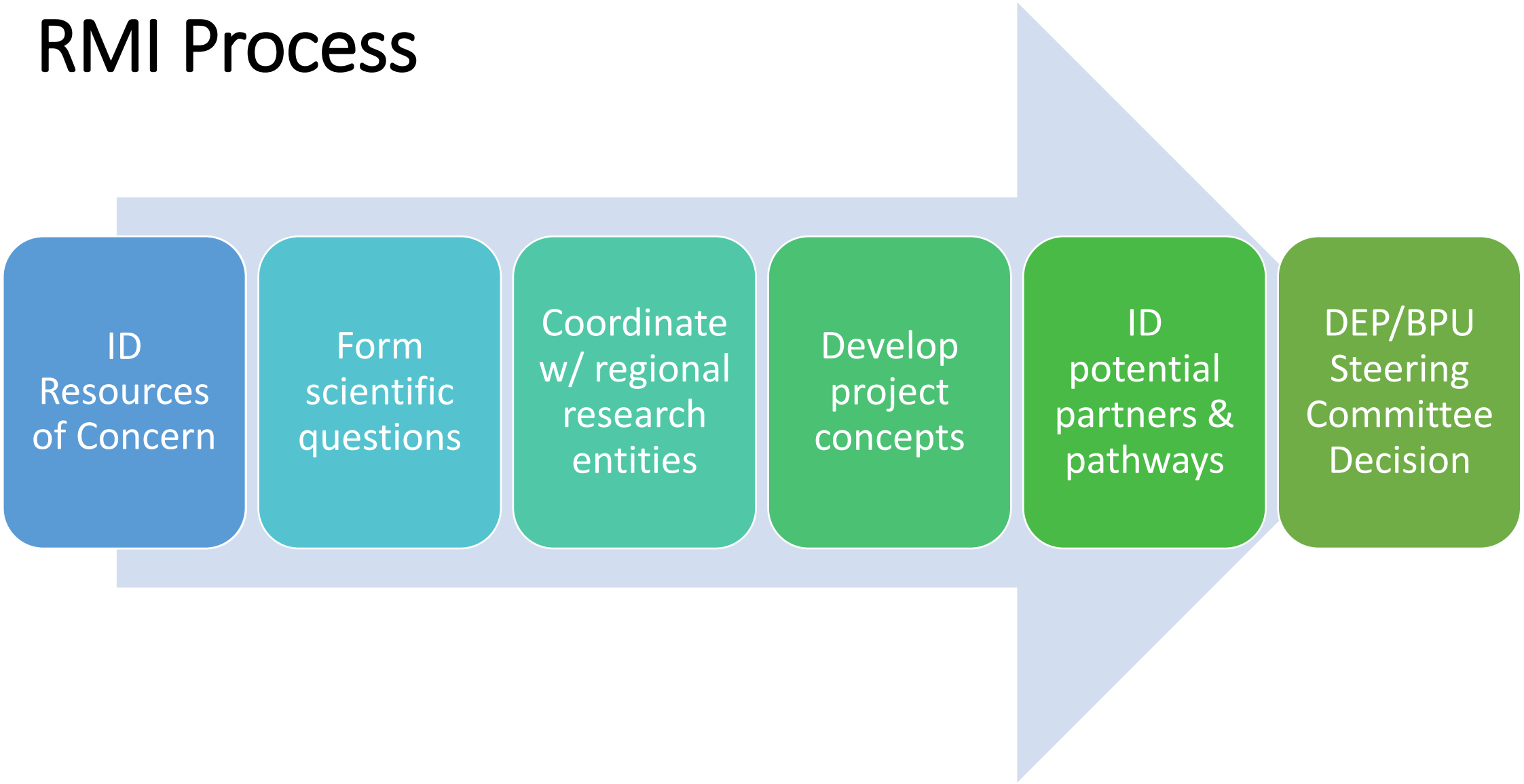
Input & Feedback Themes

- Provide a clear process for the Initiative
- Communicate our collaborative plan
  - Regional coordination
  - Create economic efficiencies/maximize research dollars
  - Phased research agenda
- Include Data Management as a research priority

Solicitation 2 Guidance

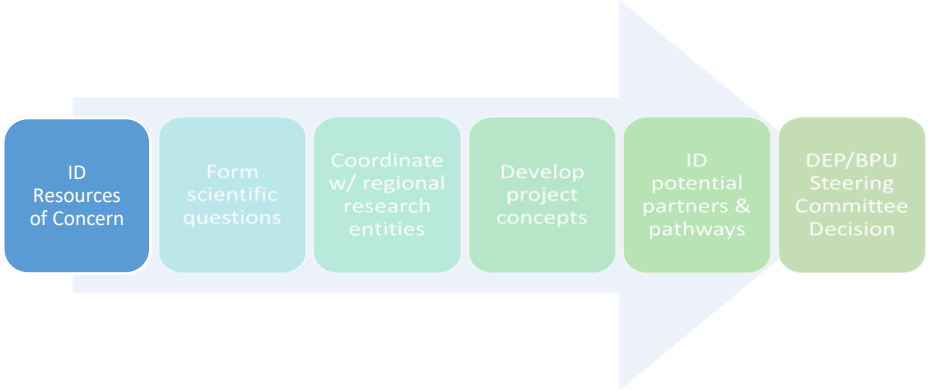
"To facilitate a shared understanding of these effects Applicants will be required to commit financial and technical support to ***research initiatives and the regional monitoring of wildlife and fisheries*** *related to the introduction of offshore wind projects with a $10,000 per megawatt of project nameplate capacity fee. NJDEP and BPU will collaborate with the selected Applicant, research institutions, industry, regional monitoring organizations and members of the* ***New Jersey Offshore Wind Environmental Resources Working Group*** *to identify and prioritize research and monitoring needs."*

RMI Process


ID Resources of Concern
Form scientific questions
Coordinate w/ regional research entities
Develop project concepts
ID potential partners & pathways
DEP/BPU Steering Committee Decision

Identify Resources In & Around Project Area

- NJ Ecological Baseline Studies
- High-value marine habitats (see CZM Special Areas, Cold Pool)
- Mid-Atlantic Data Portal
- Federally & state-managed fisheries
- Literature review



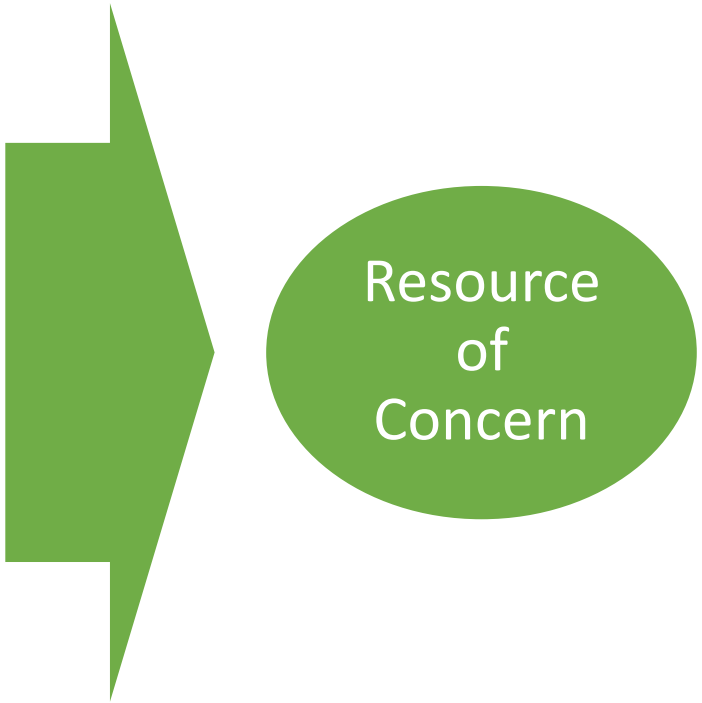
Resources of Concern

For living resources: is it a threatened or endangered species?

Are individuals sensitive to a particular known/expected effect?

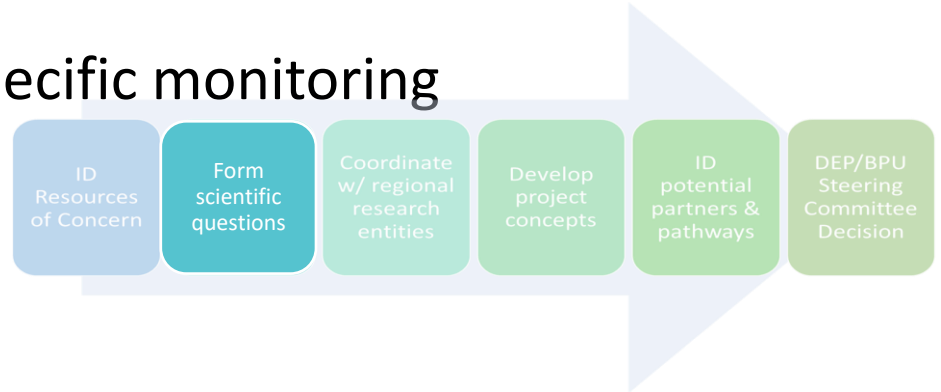
Will the habitat (physical, chemical, geological, or ecological) likely be significantly altered?

Is the habitat of such high value that any potential impact could be significant?

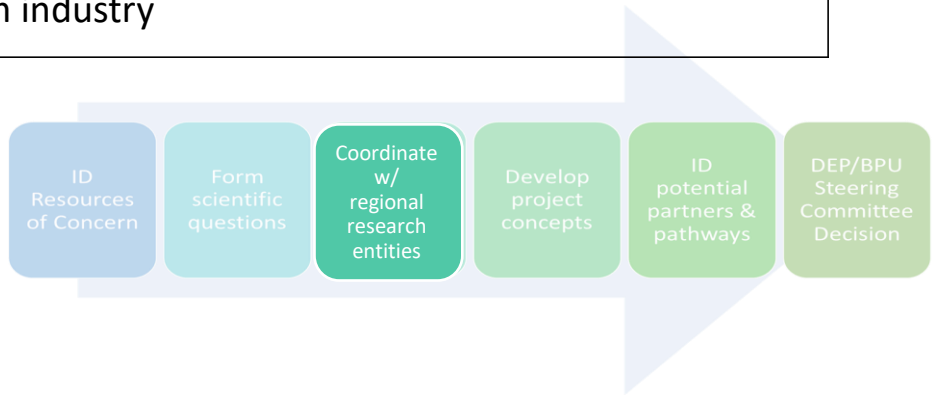


Formation of Scientific Questions

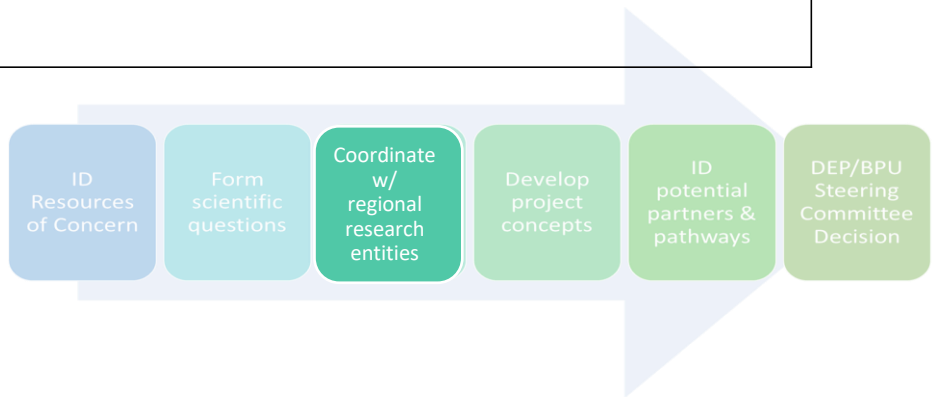
- Impact-oriented approach
- Is there convincing evidence that any impact would be negligible?
  - Literature Review
  - Stakeholder Input
  - Input from local subject matter experts
  - Yes: Compile relevant information & make publicly available
- Is the topic being pursued by other entities?
  - Yes: Coordinate with that entity
- Are the potential impacts to the resource limited to the development project site?
  - Yes: Should be included in developer's project-specific monitoring
  - No: Suitable for regional research funding



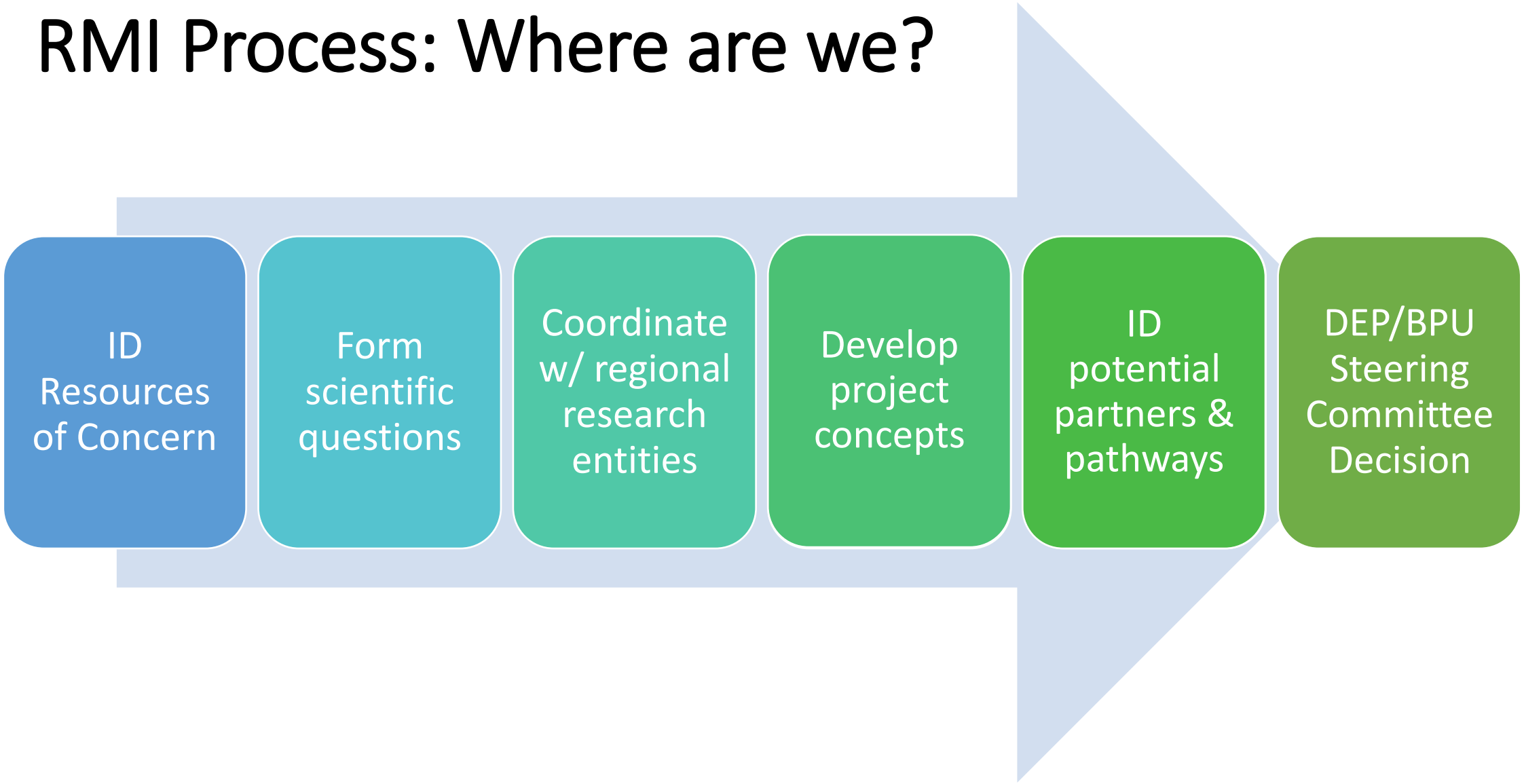
Organization/Group	Groups Involved
BOEM Office of Renewable Energy Programs	NJDEP/BPU
Coastal States Organization	Coastal Management Programs across the US, Energy and Infrastructure Work group for information sharing relevant to OSW
Interstate OSW Fisheries Call	New England and Mid-Atlantic States
Marine Life Work Groups	NROC, MARCO, MDAT, RWSE
Mid Atlantic Regional Council on the Ocean (MARCO)	NY, NJ, DE, MD and VA Coastal Programs lead. Multiple working groups Ocean Mapping Data Team (Data Portal), State level Wind working group
Mid-Atlantic Committee on the Ocean (MACO)	MARCO, BOEM, NOAA, USCG, USACE, MAFMC, Shinnecock Tribe. Multiple working groups. Offshore Wind Regional Collaborative
Multi-state Offshore Wind Call	New England and Mid-Atlantic States
NJ Surfclam Meeting	NJDEP, Rutgers, NOAA, Surfclam industry



Organization/Group	Groups Involved
NJ Climate Change Alliance (NJCCA - Rutgers University)	Bloustein School of Planning & Public Policy, Rutgers Climate Institute, NGO's, Public/Private stakeholders
NOAA Fisheries	GARFO, NEFSC
NYSERDA/NJDEP Research & Monitoring Coordination	NJDEP, NYSERDA
NYSERDA	E-TWG, F-TWG
Regional Wildlife Science Entity for Atlantic Offshore Wind (RWSE)	**Atlantic States (ME through VA), BOEM, NOAA, Shell, Equinor, NRDC, NWF, NROC/MARCO staff lead.**
Responsible Offshore Science Alliance (ROSA)	**NJDEP, Commercial & Recreational Fishing Industries, Developers, Fisheries Management Councils & Commissions, BOEM**
Rutgers Center for Ocean Observing Leadership (RUCOOL)	BPU, NJDEP
USEPA	Air permitting for OSW facilities & related activities
USFWS	MOU w/ BOEM on migratory birds



RMI Process: Where are we?



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Phased Research Agenda

1-2 years

- Spring 2022 Field Season
- Pre-construction characterizations needed
- Many timing details beyond this are undefined, and not under NJ authority – adaptive approach needed

Short-term Highest Priority Research & Monitoring Needs (as of 12/20/21)		
Data Management	**1**	Data standardization, processing, analysis, housing, QA/QC, and sharing
Environmental Change	**2**	Examine impacts of OSW energy development on seafloor, light conditions, and ocean stratification (i.e., how could potential changes in circulation patterns due to OSW development affect geological and physical oceanographic properties, such as the mid-Atlantic Cold Pool?)
Benthos	**3**	Identify & evaluate valuable bottom habitats (e.g., sand ridges, surfclam beds, SAV in estuaries - use survey work in lease areas to identify habitat types) and organisms (summer flounder, skate, dogfish, horseshoe crab, sturgeon); model potential changes to these habitats and organisms
Birds	**4**	Develop baseline estimates of population-level distribution information (with focus on Red Knot, Piping Plover, and Roseate Tern) by expanding GPS, Motus, and satellite tag technology to characterize migratory movements – particularly flight altitudes – throughout the NY bight
Bats	**5**	Update known population data at the proposed development sites (i.e., how many bats will potentially be interacting within the known lease areas)
	6	Use best available technologies (e.g., nanotags and Motus network) to determine the extent of bat migration/activity offshore in the NY Bight (especially for Hoary, Silver-haired, and Eastern red bats)
Fishes & Invertebrates	**7**	Examine effects of OSW on the distribution/connectivity of fish & invertebrate species and communities (e.g., acoustic tags for horseshoe crabs or species with obligate migration paths)
	8	Examine the distribution and use of habitat by larvae and juveniles (fishes/crustaceans) in the New York Bight (e.g., nursery function and spawning grounds)
Sea Turtles	**9**	Collate existing data for sea turtle movement, distributions, and habitat use patterns; conduct beach surveys where possible (i.e., how do these animals use the space?)
Marine Mammals	**10**	Estimate habitat use, distribution, and abundance by season (e.g., overwintering harbor seals) for the right whale, other whales and dolphins through supporting regional PAM efforts in the NY Bight; identify environmental variables driving these patterns
	11	Evaluate relative threat of mortality/injury to for the right whale, other whales and dolphins from vessel strikes (including increased vessel interactions due to creation of traffic corridors) associated with OSW and non-OSW activities
Fisheries	**12**	Adapt DEP trawl survey design to allow for comparison of biases/limitations in and outside of OSW development areas and calibrate new time series
	13	Identify and implement methods to determine how dredge, purse-seine, and trawl fisheries will be affected by construction/during operation; model increased vessel interactions due to creation of traffic corridors
	14	Develop and implement methods to assess impact of OSW on recreational fisheries (e.g., changes in access within the WEAs)

Opportunities for engagement

NJ Environmental Resources Working Group

Identify most vulnerable resources

Develop Strategic Scientific Questions

Request for Proposals

Research Project

Report

Regional Wildlife Science Entity

Looking ahead

- Research Project Implementation
- NJ Participation in ROSA/RWSE Caucuses and Subcommittees
- Public involvement
  - Reporting out to ERWG
  - Consideration to the RMI Process in future phases
  - *Stay tuned*: RMI Web Presence (www.dep.nj.gov/offshorewind)