Gulf Conference Workshop Monday May 4, 1:30-5:00pm
Examining Gulf species declines through the lens of connectivity and convergence

Meeting Description:
Long-term data collection (DEEPEND, GoMMAPPS/VSAD, LISTEN Gulf, marine mammal stranding record, fishery landings, and more) strongly indicate concurrent species declines in the pelagic Gulf since the 2010 *Deepwater Horizon* oil spill, and restoration efforts for marine mammals, fish, water column invertebrates, and benthic/mesophotic habitats move forward against the backdrop of population declines that are not easily explained by any one threat. This workshop will bring together experts from the pelagic and benthic Gulf, physical oceanography, marine mammals, fish, and more to consider new theories, models, and tools to examine and explain declines through the lens of Gulf connectivity and convergence.

Meeting Goals:
1. Develop a shared understanding of the scientific knowledge indicating concurrent species declines in key pelagic Gulf species (documented or inferred), potential contributing factors (*e.g.,* physical oceanography, oil, trophic dynamics, *etc.*), and important gaps that would reduce uncertainty.
2. Examine the potential roles of the natural resource management and restoration communities in supporting efforts to improve our understanding of these trends and in ameliorating the trends themselves.
3. Explore how to move forward collectively to address key scientific gaps and reduce uncertainty, grow awareness of the trends, share and organize information and data, seek funding, and inform natural resource management and restoration activity.

Meeting agenda

1:30 - 1:45p Welcome - Frank Parker, Caitlin Young
- Results from survey, who is in the room?

1:45 - 2:05p Declines of deep-pelagic life in the Gulf: take homes from DEEPEND
- Tracey Sutton, Rosanna Milligan

2:05 - 2:25p Trends of Gulf cetaceans and responses to oceanographic processes and anthropogenic noise
- Alba Solsona Berga, Kait Frasier

2:25 - 2:35p A key data gap in the open Gulf: larger nekton as a “hidden” component of deep-pelagic food webs
- April Cook

2:35 - 2:45p Historical depletion and future drought-driven risks to Gulf of Mexico fisheries production
- Kim de Mutsert

2:45 - 2:55p Decoding the depths: Using automated probabilistic echo-solving to develop a refined community timeseries for the deep pelagic in the Northern Gulf
- Haley Glasmann, Sam S. Urmy, Bruce A. Lozano, Kevin M. Boswell

3:00 - 3:30p Break with refreshments

3:35 - 3:45p Observations in Tilefish from the northern Gulf, 2012 - 2017
- Susan Snyder

3:45 - 3:55p Pink and white shrimp population collapse in the southern Gulf of Mexico
- Adolfo Gracia

3:55 - 4:05p Seabirds in the Northern Gulf: Knowledge Gaps Remain
- Jeffrey Gleason

4:05 - 4:15p Regional connectivity among dispersal-stage sea turtles in the Gulf
- Katrina Phillips

4:15 - 5:00p Open Discussion - Frank Parker, Caitlin Young

Discussion Questions:

1. What are the key gaps that would help us understand the phenomenon with greater confidence?
2. How do we tie the puzzle pieces together into a synoptic/comprehensive view of the ecosystem (pelagic - benthic - aerial)?
    - Conceptually, what are the boxes and arrows that define this system (*e.g.*, conceptual diagram)?
    - How else should we be thinking about looking at these declines and their connectivity?
3. How can the science and management communities come together? At this stage, what are the appropriate role(s) for (1) natural resource managers and (2) researchers?
4. How do we organize as a group to move forward on understanding what is going on?
    - Who has species decline data? How do we organize it? How do we find them?

Background links:

1. Pelagic nekton
2. Deep pelagic post DWH
3. Dolphins and whales
4. Coastal Migratory Pelagic fish
5. Integrated Ecosystem Assessment
6. Loop current eddies and SLR
7. Loop current trends and coastal impacts
8. Mississippi River drought and fisheries
9. Resource patchiness
10. Multi-stressors and dolphins