

**Fiscal Year 2016 Project Proposal Forms for EPA GIT-Funding
Sustainable Fisheries
Top Three Proposals**

Sustainable Fisheries GIT Priority 1

Project Title:	Shell/habitat loss rates in oyster restoration and fishery management
Project Type (See Section IV of guidelines document):	Monitoring/tracking program development, assessments of data to evaluate progress on metrics
Goal/Outcome:	Oyster Restoration
Estimated Cost:	\$50-\$60K
Justification: Provide a 2 paragraph description of the work and why it is needed. It is recommended that you draw upon one or more work plans.	<p>Oyster shell is an essential component of oyster restoration efforts and supports healthy oyster reef ecosystems that provide habitat for many fish and shellfish species. The dynamics of the shell budget (accumulation and loss) in the Bay is complex and poorly quantified. Shell is an increasingly expensive, very limited resource that is insufficient in availability to support current bi-state restoration and fishery management goals.</p> <p>This project seeks to (1) develop salinity (upbay-downbay) dependent shell budgets for both high density (3D structures) restoration reefs and large area coverage shell plants (2D structures) in support of fisheries including rotational harvest; (2) from these shell budgets set critical baseline population demographics to sustain shell presence and reef/habitat integrity; and (3) project future shell needs under various restoration and fishery scenarios. Developing estimates of future shell resource availability and resource needs is important to support ongoing investment in and success of oyster restoration and other oyster activities in the Bay.</p>
Methodology: Provide a 1-2 paragraph description of how the work is likely to be accomplished.	<p>The project will use historical survey and replenishment data, revisit a time series of restoration sites, and include current short-term studies at new shell plants to generate shell dynamics data.</p> <p>Data sources include the VMRC-VIMS VA stock assessment (1993-present) archive, VMRC replenishment archives (1995-present) and the MD DNR stock assessment (1995-present) archive. Analysis will provide annual census of shell (standing stock), addition through mortality (from live oyster density and demographics) and loss rates (from difference by methods cited). Reef area estimates provide scaling functions.</p>
Cross-Goal Benefits: What other goals may be advanced through this work?	Sustainable Fisheries, Vital Habitats
Are you willing to serve as GIT lead (see description of the role in Section VI) If no, suggest other GIT lead	Stephanie Westby

Sustainable Fisheries GIT Priority 2

Project Title:	Blue Crab Stock Assessment (Select Terms of Reference)
Project Type (See Section IV of guidelines document):	Support for science needed to develop metrics, metric/indicator development, performance measure development, data collection program development, assessments of data to evaluate progress on metrics
Goal/Outcome:	Blue Crab Abundance Blue Crab Management
Estimated Cost:	\$75k (only covers a subset of analysis listed below)
Justification: Provide a 2 paragraph description of the work and why it is needed. It is recommended that you draw upon one or more work plans.	<p>The blue crab (<i>Callinectes sapidus</i>) is an icon for the Chesapeake Bay region and the commercial fishery for blue crab remains one of the most valuable fisheries in the Bay. Ecologically, the blue crab is an important component of the ecosystem. Sound and sustainable management of blue crabs is based on the best available science which is generated through benchmark stock assessments, academic research, and the annual winter dredge survey. This proposal requests a benchmark stock assessment for blue crab, which is a full analysis and review of the stock condition, focusing on the consideration of new data sources and newer or improved assessment models that is generally conducted every five years. The last benchmark assessment was completed in 2011 and resulted in the current female specific management framework and the 215 million adult female abundance target.</p> <p>The assessment will be comprised of a subset or all of the following terms of reference: (i) critically reviewing, and where necessary revising the life history parameters of blue crab in the Chesapeake Bay that are relevant to an assessment of the stock with particular attention to the extent and scale of inter-annual variation, (ii) describing and quantifying patterns in fishery-independent surveys, (iii) describing and quantifying patterns in catch and effort by sector and region including analyses that examine the impacts of reporting changes and trends in catch-per-unit-effort (CPUE), (iv) evaluating the utility of incorporating a commercial CPUE index in the assessment, (v) updating the assessment with relevant new data assessment models used previously in assessing the Chesapeake Bay, (vi) evaluate the feasibility of assessment models that operate on a sub-annual time-step and/or finer spatial resolutions, (vii) evaluating and providing recommendations for sex-specific and aggregate biological reference points for the Chesapeake Bay blue crab population, (viii) providing an evaluation of the status of the stock relative to recommended reference points, (ix) characterizing uncertainty in assessment estimates, and (x) evaluating the potential for ecosystem-based considerations.</p>

<p>Methodology: Provide a 1-2 paragraph description of how the work is likely to be accomplished.</p>	<p>The stock assessment will be conducted based on a subset of the terms of reference outlined above as selected by the Sustainable Fisheries Goal Implementation Team Executive Committee. Stock assessment scientists and staff from the blue crab management jurisdictions would work together to compile and work-up the necessary data for the assessment. Scientists will use the most recent scientific information and data to update and run the stock assessment models from the 2011 blue crab benchmark stock assessment. Scientists will also review reference points for the stock.</p>
<p>Cross-Goal Benefits: What other goals may be advanced through this work?</p>	<p>If evaluating the potential for ecosystem-based considerations, from above is funded, factors influencing blue crab populations would be identified and help identify other outcomes that most affect blue crab.</p>
<p>Are you willing to serve as GIT lead (see description of the role in Section VI) If no, suggest other GIT lead</p>	<p>Request NOAA rep for lead</p>

Sustainable Fisheries GIT Priority 3

Project Title:	Evaluation of the forage-habitat relationship in the Chesapeake Bay
Project Type (See Section IV of guidelines document):	Support for science needed to develop metrics, policy research and recommendations, environmental monitoring
Goal/Outcome:	Forage, Fish Habitat
Estimated Cost:	TBD
Justification: Provide a 2 paragraph description of the work and why it is needed. It is recommended that you draw upon one or more work plans.	<p>Forage species provide important ecosystem services in Chesapeake Bay as conduits of energy transfer, supporters of ecosystem structure, and in some cases, as commercial fisheries. Due to the critical energy transfer role played by forage, effective and sustainable management of these species is crucial to the maintenance of ecosystem function in the Bay.</p> <p>Wide variations in forage abundance and availability to fish and avian predators are driven generally by the species' biology and by environmental factors, but these drivers remain poorly understood. In particular, the potential effects of near-future climate changes may impact forage growth and maturity, patterns of movement, food availability, and access to critical habitats. An improved understanding of forage including: population dynamics, biotic interactions, and responses to enviro-climate variability would contribute to achieving the forage outcome.</p>
Methodology: Provide a 1-2 paragraph description of how the work is likely to be accomplished.	Methodology will likely include a synthesis of available data and published studies to assess the forage-habitat relationship.
Cross-Goal Benefits: What other goals may be advanced through this work?	Vital Habitats, Climate, Water Quality
Are you willing to serve as GIT lead (see description of the role in Section VI) If no, suggest other GIT lead	Tom Ihde