

HO-C Discussion Summary of TOP Ranked Science Needs / IPT Recommendations for FY13

The Integrated Planning Team (IPT) recommends 5 Top Science Needs (not ranked). Each thought to be completed in 12-18 mos.

Project A. (Unranked by IPT -but Terrestrial COP Ranked as #1)

Project Description: Review literature, document previous efforts and develop classification system then classify and map cave/karst habitats that occur within the Appalachian LCC boundary.

[IPT: Both Aquatics and Terrestrial COPs identified cave/karst as a priority. This is the only major ecosystem in Appalachia lacking this Foundational need, and experts strongly believe it is impairing the ability to conduct landscape planning for these resources; related to 5-Year Work Plan, Objective 1.7 *Develop and deliver landscape-level (scalable) planning tools.*]

Ballpark estimate: \$75-100K

Project B. (Unranked by IPT – but Human Dimensions COP Ranked as#1; and by Aquatic COP Ranked as #4)

Project Description: Collect data, model, and map ecosystem services and socio-economic values to quantify and establish thresholds for ecosystem functions.

[IPT: IPT recommends this as a “clear need” and important to developing AppLCC relevance (i.e. DOI Hayes’ video discussion); related to 5-Year Work Plan, Objective 2, Task 2.2.1 - *Identify relevant information to portray the human dimensions (cultural and social resources) in landscape-level planning.*]

Ballpark estimate: (1st phase as an assessment: \$50K) Total \$120-150K

Project C – (Unranked by IPT – but Climate Change Experts Ranked as #1)

Project Description: Identify parameters for tracking change in highly vulnerable soils and then establish an integrated long-term soil-mapping/modeling effort for soils. Characterize soil processes and chemistry changes due to changes in temperature and precipitation/moisture (as related to climate change). Examine how nutrient dynamics are influenced by climate change and other stressors – 1) study and document nutrient processes 2) map most vulnerable soils for nutrient imbalances.

[IPT: Data/products available but LCC could serve important role as integrator and disseminator at LCC scale, which is consistent with AppLCC’s stated role in the Work Plan to serve as “The Forum” for Appalachian-specific information.]

Ballpark estimate: (pull together existing maps: \$30K) Total \$100-150K

Project D – (Unranked by IPT – but Aquatics COP Ranked as #1)

Project Description: Determine the effects of energy development and resource extraction (gas, coal, wind) with focus on how sitings affect the physical landscape; effects of fragmentation, connectivity and sedimentation rates. Create an interactive GIS-based decision support tool to support reduction of environmental impacts of resource extraction sitings.

[IPT: Strong support from COPs to address Energy sector threats. Felt to be additive to our two AppLCC/FY12-funded projects, IPT recommends focusing on impacts of Energy sitings on aquatic resources because several projects already addressing terrestrial impacts, however IPT questions whether adequate aquatics data are available to meet proposed deliverable DST. Consistent with Steering Committee Dec. 14th guidance to focus on mitigating Energy development and related to 5-Year Work Plan, Objective 2.1 *Conduct an Overall Threats Assessment.*]

Ballpark estimate: (basic DST/if datasets exist \$50K) Total \$100+++ (if non-exist)

Project E – (Unranked by IPT – but Terrestrial COP Ranked as #2; Aquatics Ranked as #2-3; Climate Change Ranked as #3)

Project Description: As a first step to determine effects of stressors (urbanization, energy development, climate change, etc.) on Appalachian ecosystems integrity/functionality and endemic species, conduct a comprehensive status assessment of pre-existing work that would contribute to a landscape-scale threats assessment for Appalachia, and identify knowledge gaps.

[IPT: This is recommended as a first step toward a high priority, longer-term effort toward conducting a cumulative assessment of all major stressors (Project Description/SN Portfolio); also related to 5-Year Work Plan, Objective 2.1 *Conduct an Overall Threats Assessment.*]

Ballpark estimate: (if possible to expand on USFS Eastern Forest Environmental Threat Assessment Center \$30-50K)