

APPALACHIAN LANDSCAPE CONSERVATION COOPERATIVE GRANT 2012 ABSTRACT

Quarter: (circle one)

2012 1st

2012 2nd

2012 3rd

2012 4th

Grant Number and Title: 2012-02; Assessing Future Impacts of Energy Extraction in the Appalachian LCC

Grant Receipt/Organization: The Nature Conservancy

Grant Project Leader: Joseph Kiesecker/Judy K. Dunscomb

Please provide a short (1-2 paragraphs) abstract that addresses EACH of the following: the objectives of your project, accomplishments to date, future plans and timelines with an estimate for when the project will be completed.

The goal of this project is to provide individual projections of the coal, natural gas, and wind energy development footprints across the Appalachians LCC in a format that facilitates a cumulative assessment of impacts on an array of valued natural resources including intact forests and watersheds, species, and natural communities. To date a model has been developed that depicts the probability of wind energy development across the Appalachian Landscape Conservation Cooperative; this model is currently undergoing review and should be ready for release in early 2013. Wind development scenarios are currently under development.

We are in the process of compiling necessary data for shale gas model development and are working to create a preliminary shale gas model that should be completed in early in 2013. Shale gas development scenarios are also currently under development.

A contract to develop a coal predictive model has been executed with Dr. Michael Strager of the Natural Resources Analysis Center at West Virginia University. Specifically, Dr. Strager's team will provide:

- (1) a spatial model of three possible future scenarios which will drive the allocation of land for surface mining in the Appalachian energy build out analysis area over the next 25 years;
- (2) landscape exclusions used in the surface mining spatial model;
- (3) remaining mine resource extents of extractable coal not identified in the 25 year build out model;
- (4) current permit boundaries with mapped disturbance extent within the permit to identify activity in queue or highest probability of land conversion to surface mining;
- (5) disturbance mapping and summary statistics for TNC aquatic priority areas specifically in the Central Appalachian Coalfields to highlight avoidance areas from energy extraction activities.

APPALACHIAN LANDSCAPE CONSERVATION COOPERATIVE GRANT 2012 PROGRESS REPORT

Quarter: (circle one) 2012 1st 2012 2nd 2012 3rd 2012 4th

Grant Number and Title: 2012-02; Assessing Future Impacts of Energy Extraction in the Appalachian LCC

Grant Receipt/Organization: The Nature Conservancy

Grant Project Leader: Joseph Kiesecker/Judy K. Dunscomb

Were planned goals/objectives achieved last quarter? YES

ALCC Need Addressed: Forecast Resource Extraction

Progress Achieved: (For each Goal/Objective, list Planned and Actual Accomplishments)

- 1) Expand current analysis of wind energy buildout scenarios to Appalachian LCC boundary.
 - a. A draft model has been developed; wind scenario development is underway
- 2) Map resource probability and develop projections for Utica Shale, subject to availability of data.
 - a. We are still in the process of acquiring necessary data for the entire study area; model is still in development
- 3) Contract external expertise to create a probability surface for land disturbance associated with large area surface coal mining throughout the Appalachian LCC.
 - a. We received 2 responses to our RFP and after reviewing the two proposals we are very pleased to have executed a Sub-Award contract to develop a coal predictive model with Dr. Michael Strager of the Natural Resources Analysis Center at West Virginia University.
- 4) Create a public web-based map server.
 - a. No planned or actual accomplishments for this objective in this period.

Summary of Progress: (Provide a paragraph describing progress, work to come, and timelines)

To date a model has been developed that depicts the probability of wind energy development across the Appalachian Landscape Conservation Cooperative; this model is currently undergoing review and should be ready for release in early 2013. Wind development scenarios are currently under development. We are in the process of compiling necessary data for shale gas model development and are working to create a preliminary shale gas model that should be completed in early in 2013. Shale gas development scenarios are also currently under development. A contract to develop a coal predictive model has been executed with Dr. Michael Strager at West Virginia University. We will review a draft model from Dr. Strager in December 2012.

Difficulties Encountered: Still attempting to acquire detailed data for shale gas model across entire study area.

Activities Anticipated Next Quarter: Completion of wind and shale gas models (pending data availability); development of wind and shale gas development scenarios; preliminary coal model developed.

Expected End Date: December 31st 2013

Costs:

Funds Expended to Previous to this Report: No costs incurred prior to this report

Amount of ALCC Funds Requested within this Report: \$2,665.25

Total Approved Budgeted ALCC Funds: **\$216,329.13**

Are you within the approved budget plan? YES

Are you within approved budget categories? YES

Signature:

A handwritten signature in black ink, appearing to read "Joseph K. Kunk". The signature is written in a cursive style with a large initial "J" and a long, sweeping underline.

Date: 10/30/2012