

Proposed Natural Gas Development of the 'Clarence Moore' Lands Loyalsock State Forest

Department of Conservation and Natural Resources
Bureau of Forestry

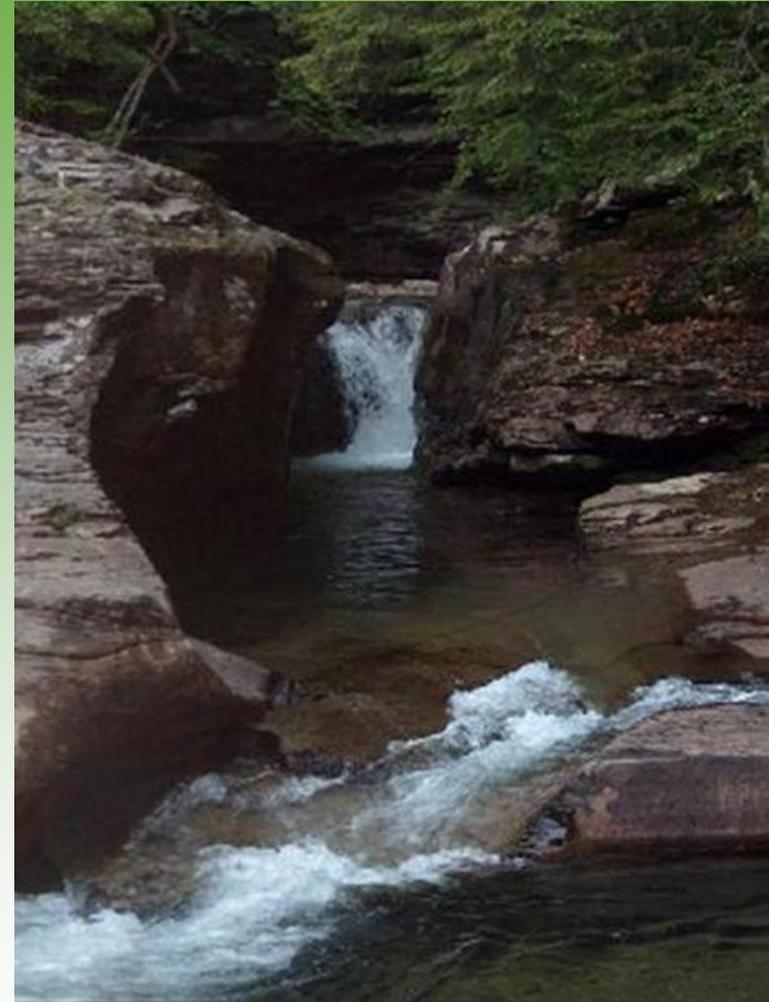
June 3, 2013

www.dcnr.state.pa.us



Loyalsock State Forest

- Covers 114,494 acres
- Much was purchased from the Central Pennsylvania Lumber Co in the early 1930's (following lumbering era)
- Named for the Loyalsock Creek that meanders through the forest district
- Unique topography which provides habitat for species that are typically found in more northern climates, making them some of the most rare and special habitats in PA
- Revered by hikers, campers, hunters, and outdoor enthusiasts

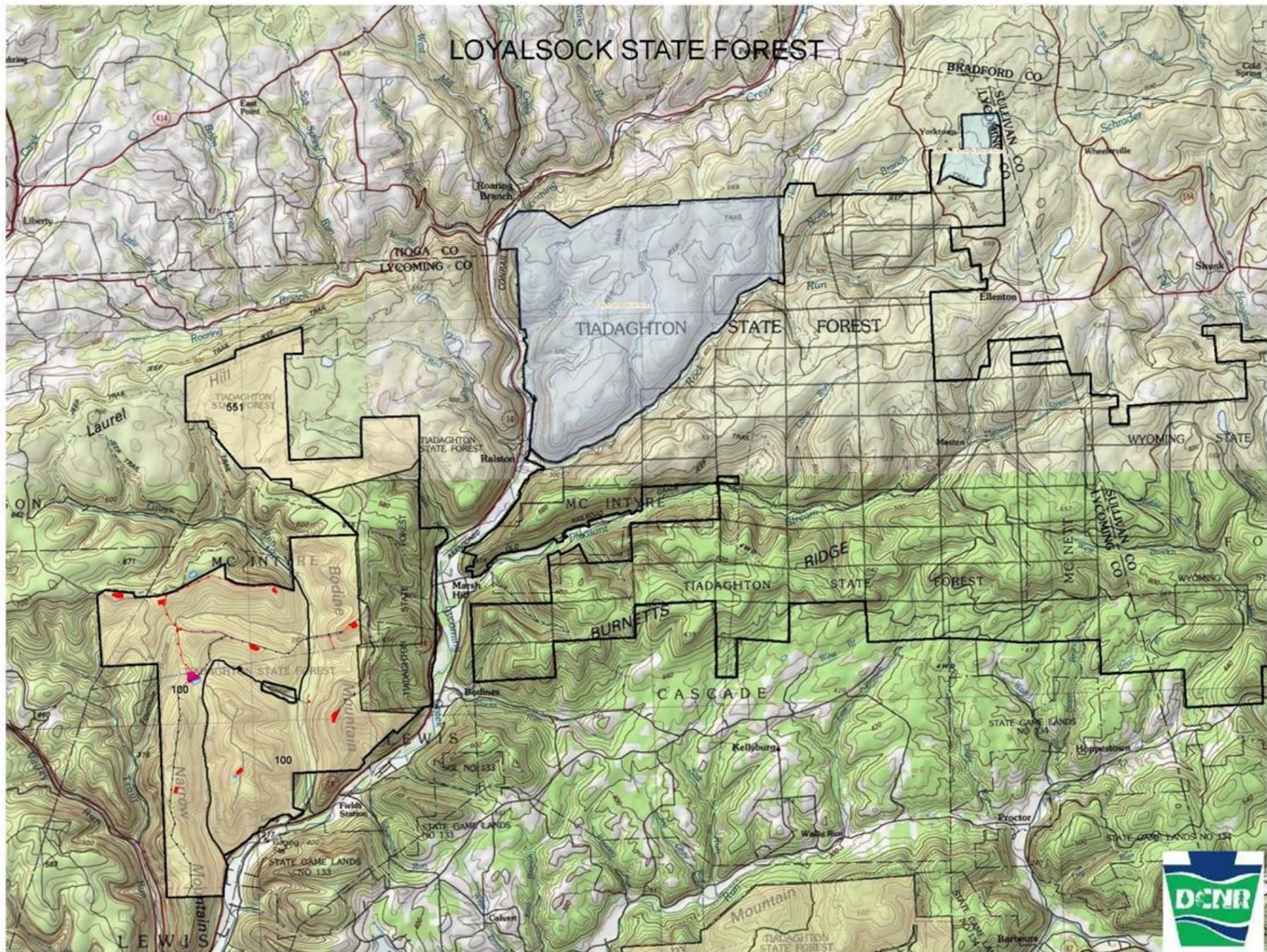


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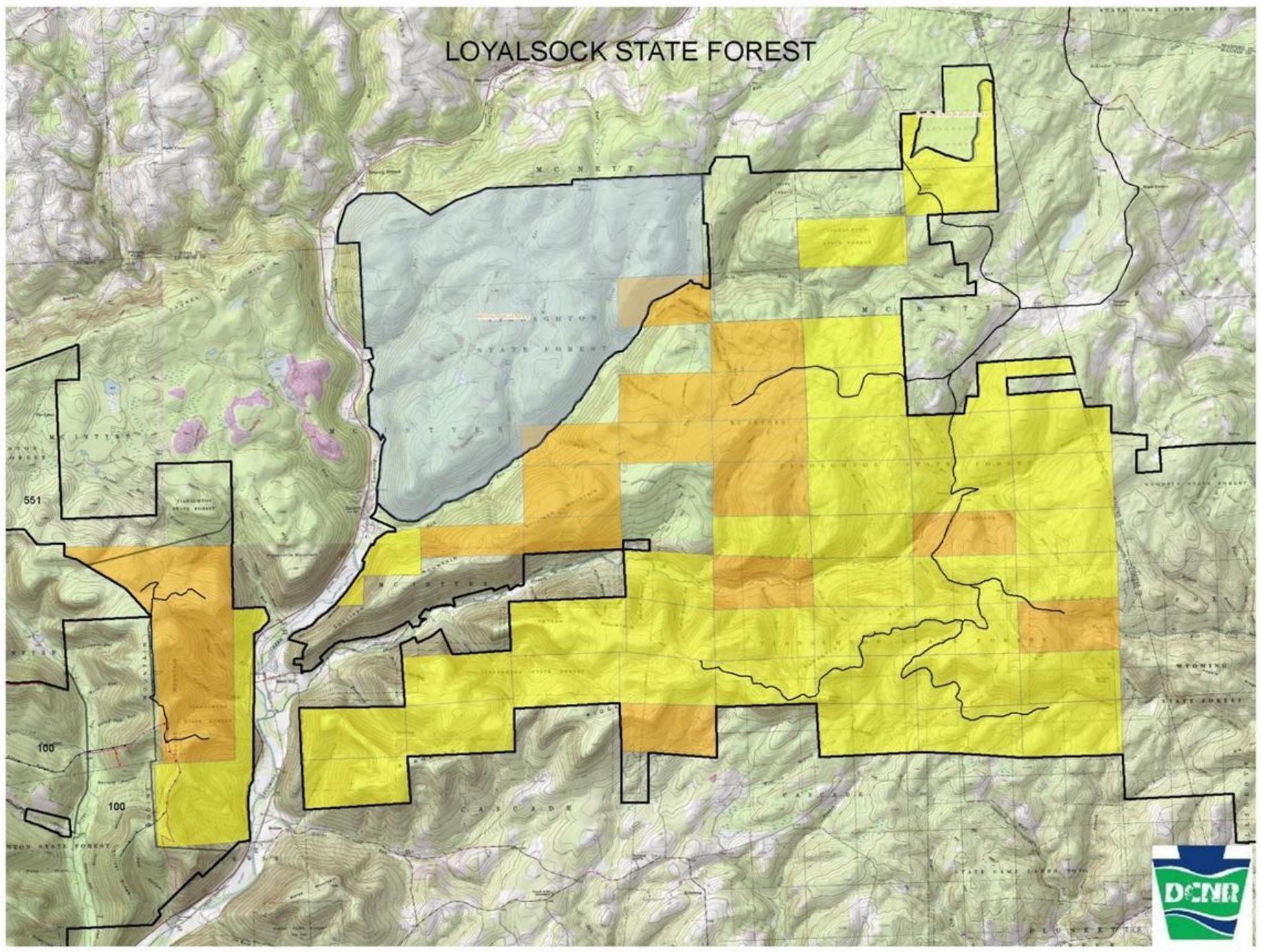


pennsylvania
DEPARTMENT OF CONSERVATION
AND NATURAL RESOURCES

LOYALSOCK STATE FOREST



LOYALSOCK STATE FOREST



Anadarko's Proposed Development Plans

- Magnitude of overall development proposed highlighted the potential for impacts and warrants caution and thoughtful planning prior to initiation of any development activities

Anadarko's Proposed Development Plans

- 500 acres of conversion
- Described as <2% conversion
 - Pads:
 - 26 well pads
 - Roads:
 - 15.6 miles of new roads
 - 15.5 miles of rebuilt existing roads (permanent 35-40' road ROW width)

Anadarko's Proposed Development Plans

- Pipeline - 34 miles total of new ROW
 - 12 miles of 24" steel pipe
 - 4 miles of 16" steel pipe
 - 9 miles 12" steel pipe
 - 48 miles of 6" steel reinforced polyethylene pipe
 - ROW construction width estimated to vary from 25'-100' in addition to road width depending on existing roads, number of pipes, diameter of pipes and terrain
 - All open cuts – no Hydraulic Directional Drilling (HDD) proposed

Anadarko's Proposed Development Plans

– Compressor Stations

- 4 stations proposed
- 500'x500' footprint
- Noise mitigation - 50 dB at station boundary
- Painted, fenced, and vegetative screening

– Fresh Water Impoundments

- 5 earthen impoundments proposed
- LOD – 12-15 acres
- Approx 15 million gallon capacity

Anadarko's Proposed Development Plans

- Safety System Communication Infrastructure
 - Allows remote monitoring of assets
 - Provides dispatch of personnel
 - Reduces vehicle traffic
 - Alerts potential safety problems
 - Enables security incidents to be identified and addressed

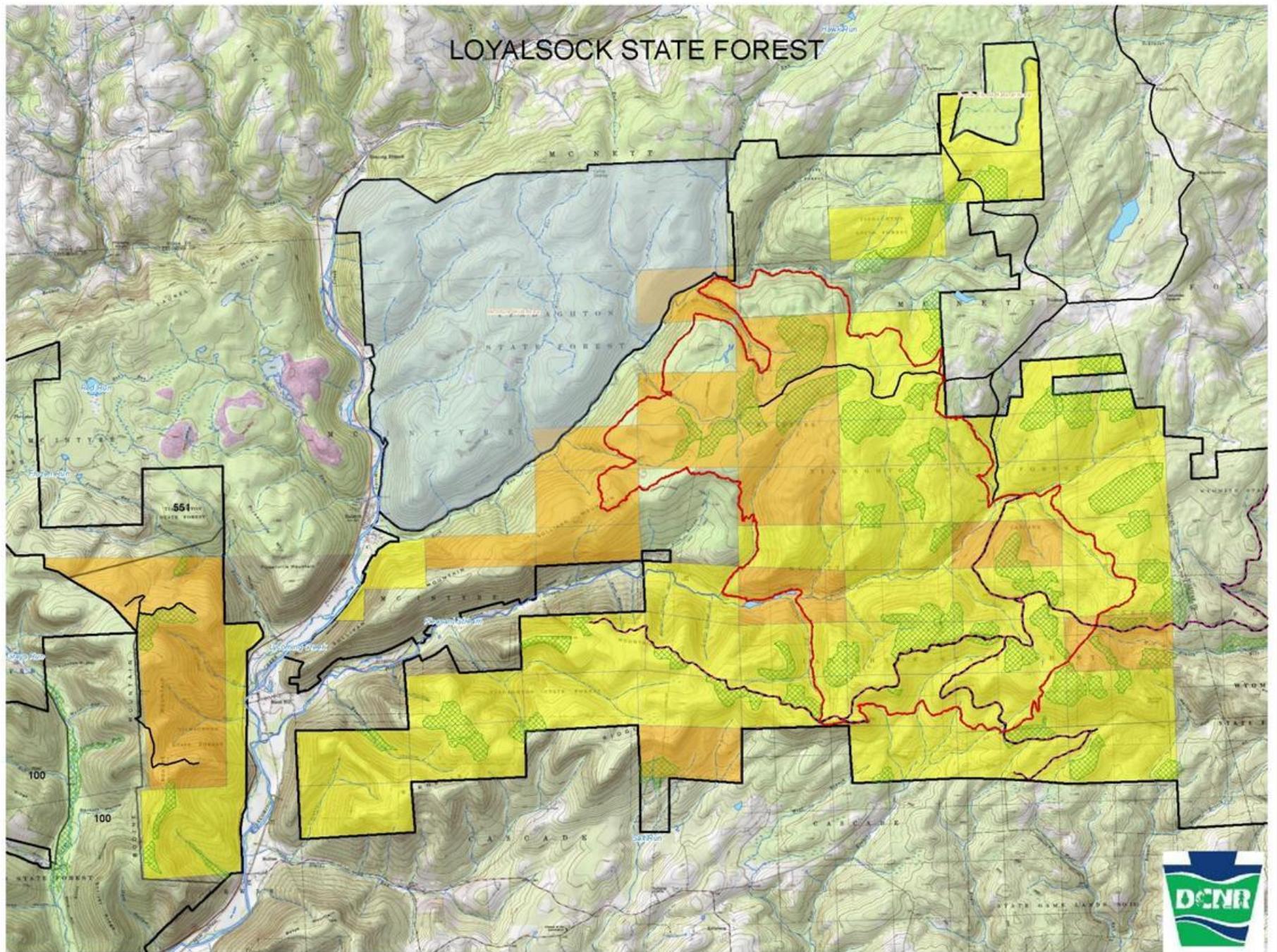
Anadarko's Proposed Development Plans

- Safety System Communication Infrastructure
 - Proposed each well pad would require a 60' tall wooden pole with an antennae on top
 - Each compressor station would require either a 120' or 200' self supporting tower
 - Would be used as telemetry data gathering points for well pads then repeat data to other tall towers that serve as backbone

Anadarko's Proposed Development Plans

- Surface Consideration Payment
 - \$15 million payment in 3 installments
 - Anadarko acknowledged using BOF ROW fee structure based on 500 acres of disturbance
 - DCNR calculations using BOF ROW fee structure placed surface consideration payment at \$24 million

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Ecological Summary

- Any wetlands identified within the potential development area will be surveyed for the following plant species:
 - *Scirpus ancistrochaetus* (northern bulrush): Federal Endangered Species. It commonly occurs on edges of seasonal pools, wet depressions, beaver ponds, wetlands, and small ponds.
 - *Carex paupercula* (bog sedge): Bog sedge is a PA Rare Species (S3) and commonly occurs in sphagnum bogs and boggy woods.
 - *Carex oligosperma* (few seeded sedge): Few seeded sedge is a PA Threatened Species (S2) that commonly occurs in sphagnum bogs.
 - *Potamogeton confervoides* (tuckerman's pondweed): Tuckerman's pondweed is a PA Threatened Species (S2) commonly occurring in glacial lakes and boggy ponds
- Additional studies:
 - *Viola selkirkii* (great spurred violet; PA Rare; S3/S4): Habitat consists of dry, cool woods and rock crevices, and the flowering time (i.e., window of time for survey) is from mid-April to mid-May.
 - *Bartonia paniculata* (screwstem; PA Rare species; S3): Habitat consists of bogs and peaty lake margins.

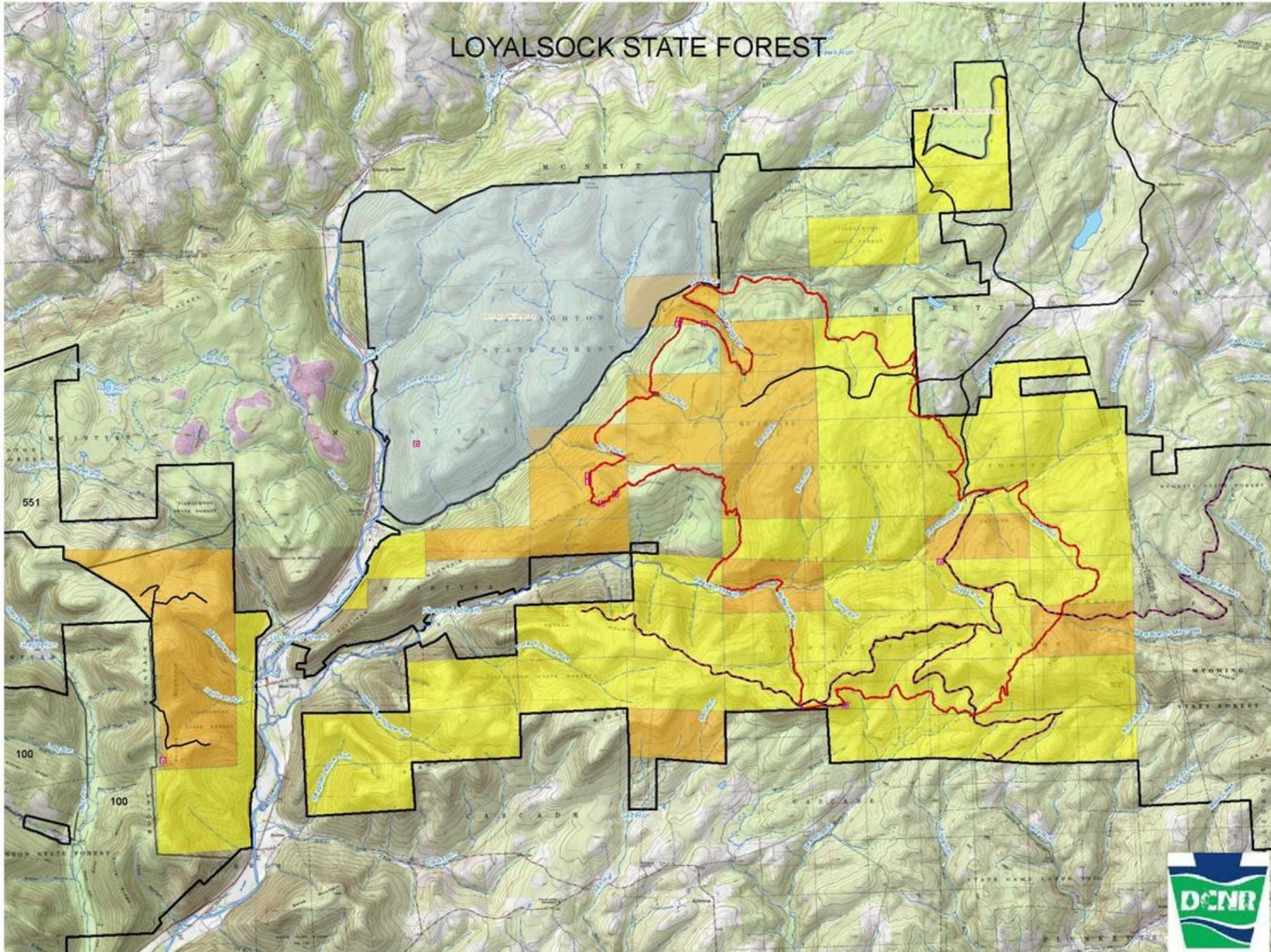


Ecological Surveys

- Necessary Ecological Surveys will include:
 - Timber rattlesnake, Northern water shrew, Yellow-bellied flycatcher, wetland plants, bats and wetland delineations



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Recreation

- **The Old Logger's Path**
 - 27 mile hiking trail that traverses the valleys of Rock Run and Pleasant Stream as well as the historic, former town of Masten which was once a lumber mill company town.
 - Designed to preserve and promote the lumbering heritage of Pennsylvania by following historical narrow gauge railroad grades and truck roads used in the late 1800's and early 1900's

Recreation

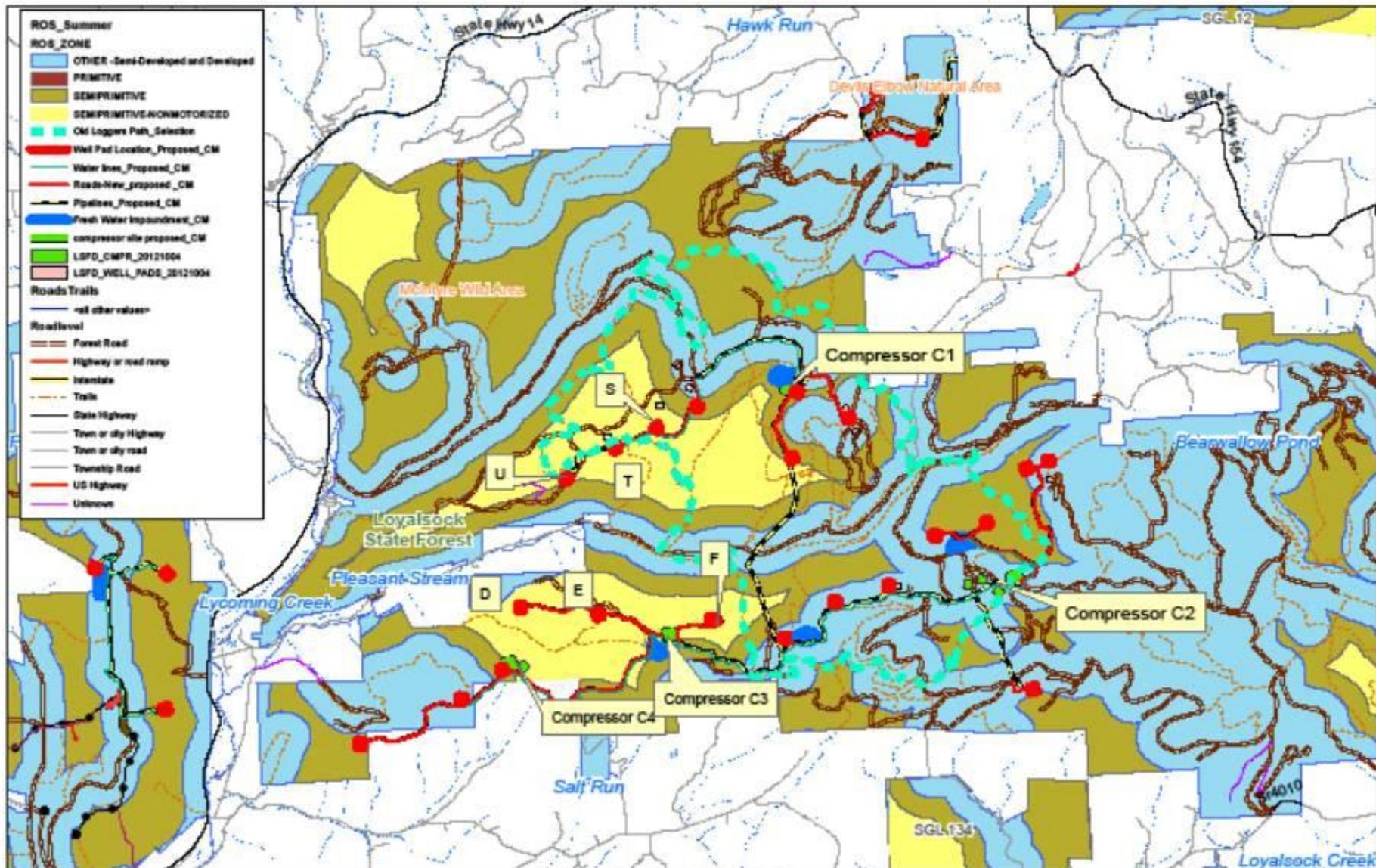
- **Snow mobile trails**
 - LSF has 115 miles of joint-use roads
 - Current gas activity (Tr. 100) has temporarily suspended snow mobile traffic from ~ 15 miles of the available SMT system
- **Primitive Recreation**





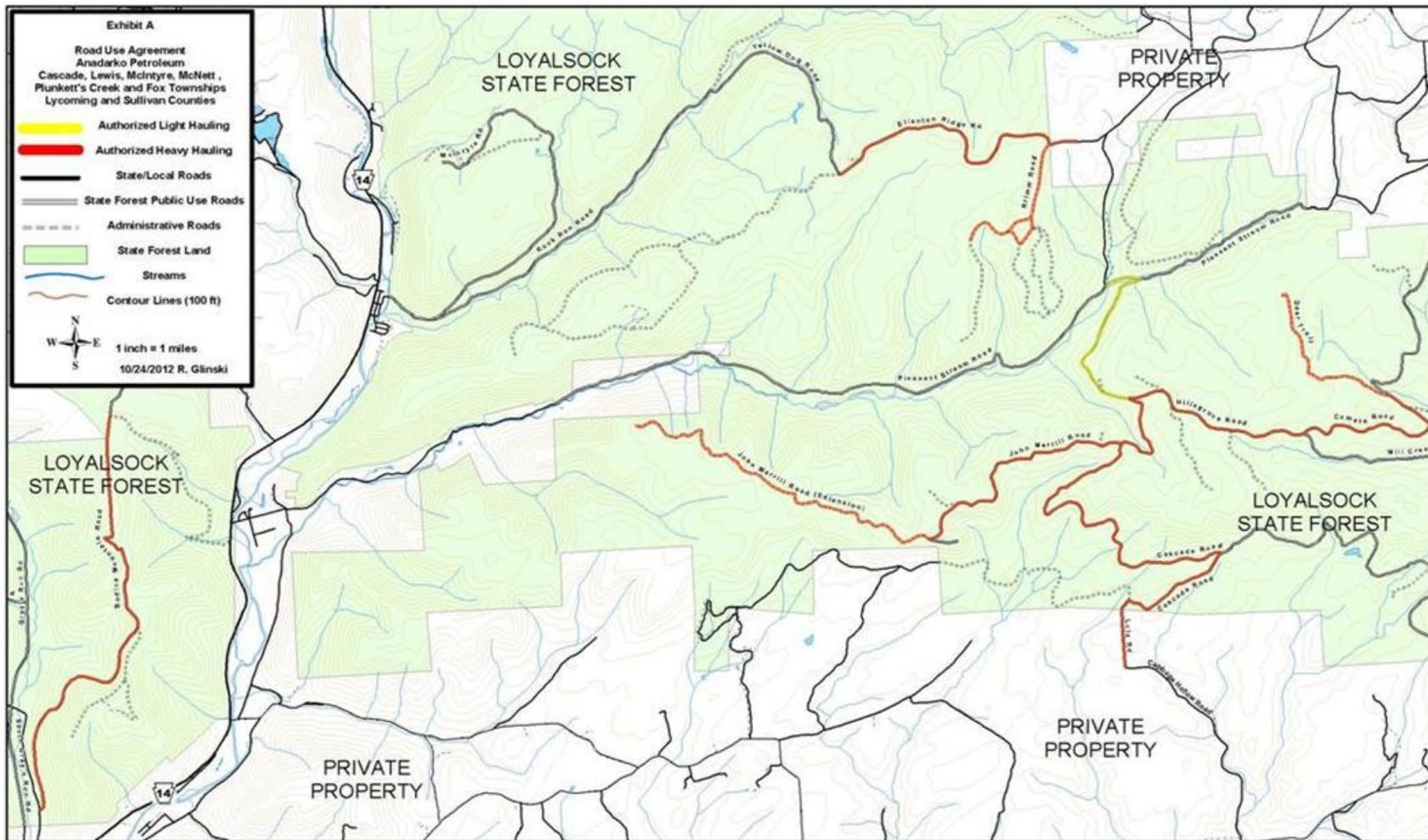
Current ROS for Clarence Moore Lands Loyalsock State Forest

PA DCNR Bureau of Forestry
Loyalsock State Forest
10/12



This document may contain confidential information. Draft data may also be included which should not be released to entities outside of DCNR.

Road Use



Next Steps

- Gather and review stakeholder recommendations for mitigation projects and avoidance areas
- Continue Monitoring efforts and gathering baseline data
- Determine extent of Commonwealth surface control
- Negotiate a SDMA for management of surface
- Coordinate with PNDI jurisdictional agencies as a result of regulatory permitting

QUESTIONS

Submit comments to Loyalsock@pa.gov

AVOID

MINIMIZE

MITIGATE

MONITOR

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