



Water and Wastewater Capacity: Issues and Opportunities in Huntington's Village Districts

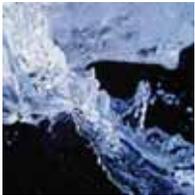
Lower Huntington Village, Huntington Center, and Hanksville



Amy Macrellis, Alan Huizenga, & the Water & Wastewater Working Group

Huntington Public Library

November 15, 2011





Introductions and Acknowledgements



The Huntington River, summer 2011.

- Water & Wastewater Working Group Members
- Consultant Team Members
- Project funding partner from Vermont DEC



Meeting Agenda



1 Background and Project Purpose / Goals



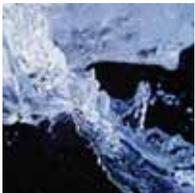
2 Overall Project Plan and Project Areas



3 Overview of Information Sources

4 Results and Findings to Date by Village

5 Capacity Analysis Summary



6 Next Steps

7 Questions and Answers / Discussion





Background



Huntington Town Hall, Fall 2011.

- Limited area available on-site for wastewater treatment at Town Hall
- Drinking water shortages during droughts
- Draft bacteria TMDL for Huntington River near Lower Village
- Planning advance funding available from DEC to assess capacity, issues at village scale



Project Goals



Brewster Pierce Memorial School grounds and garden, Huntington Center, Fall 2011.

- Identify current water and wastewater issues and needs in villages
- At village level, identify potential available capacity
- Assess options (and costs) for “no action” and for expanding water and wastewater capacity under different future “build-out” scenarios

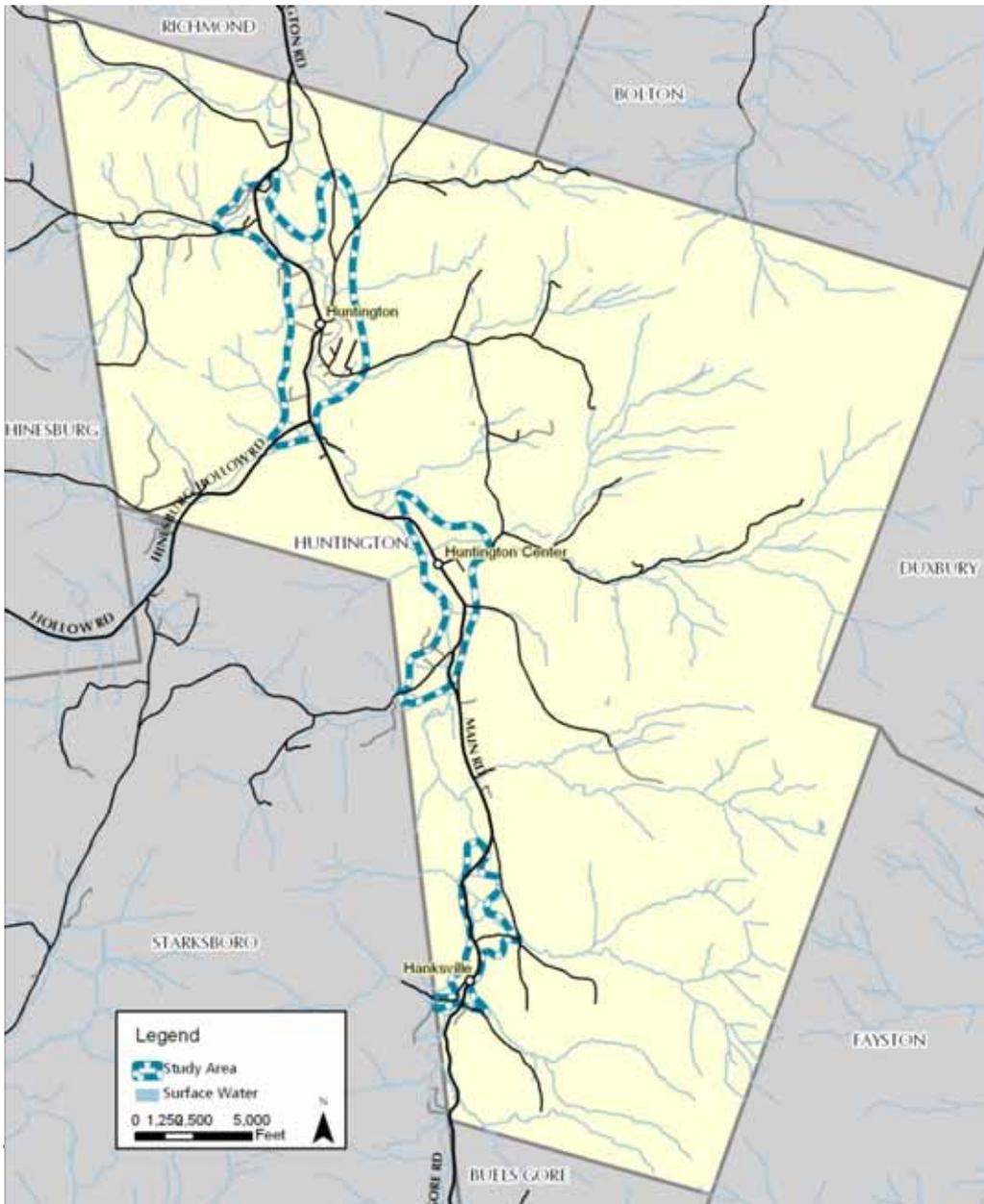


Project Plan and Schedule

Task	Aug 2011					Sep				Oct					Nov				Dec				Jan 2012					Feb				Mar				Apr					
	8/1	8/8	8/15	8/22	8/29	9/5	9/12	9/19	9/26	10/3	10/10	10/17	10/24	10/31	11/7	11/14	11/21	11/28	12/5	12/12	12/19	12/26	1/2	1/9	1/16	1/23	1/30	2/6	2/13	2/20	2/27	3/5	3/12	3/19	3/26	4/2	4/9	4/16	4/23	4/30	
Phase 1: Preliminary Investigation																																									
Task 1: Kick-off meeting	★																																								
Task 2: Define project area																																									
Task 3: Survey residents and property owners																																									
Task 4: Collect and assess existing information																																									
Task 5: Interim report																																									
Phase 2: Analysis of Alternatives and Report Preparation																																									
Task 6: Evaluate technologies, options, and opportunities																																									
Task 7: Build-out scenarios and appropriate alternatives																																									
Task 8: Evaluate Funding Options																																									
Task 9: Priorities, Final Report and Presentation																																									



Project Areas - Villages



- Lower Huntington Village
- Huntington Center
- Hanksville
- Project areas limited to Village Zoning Districts plus 50-foot buffer



Overview of Information Sources

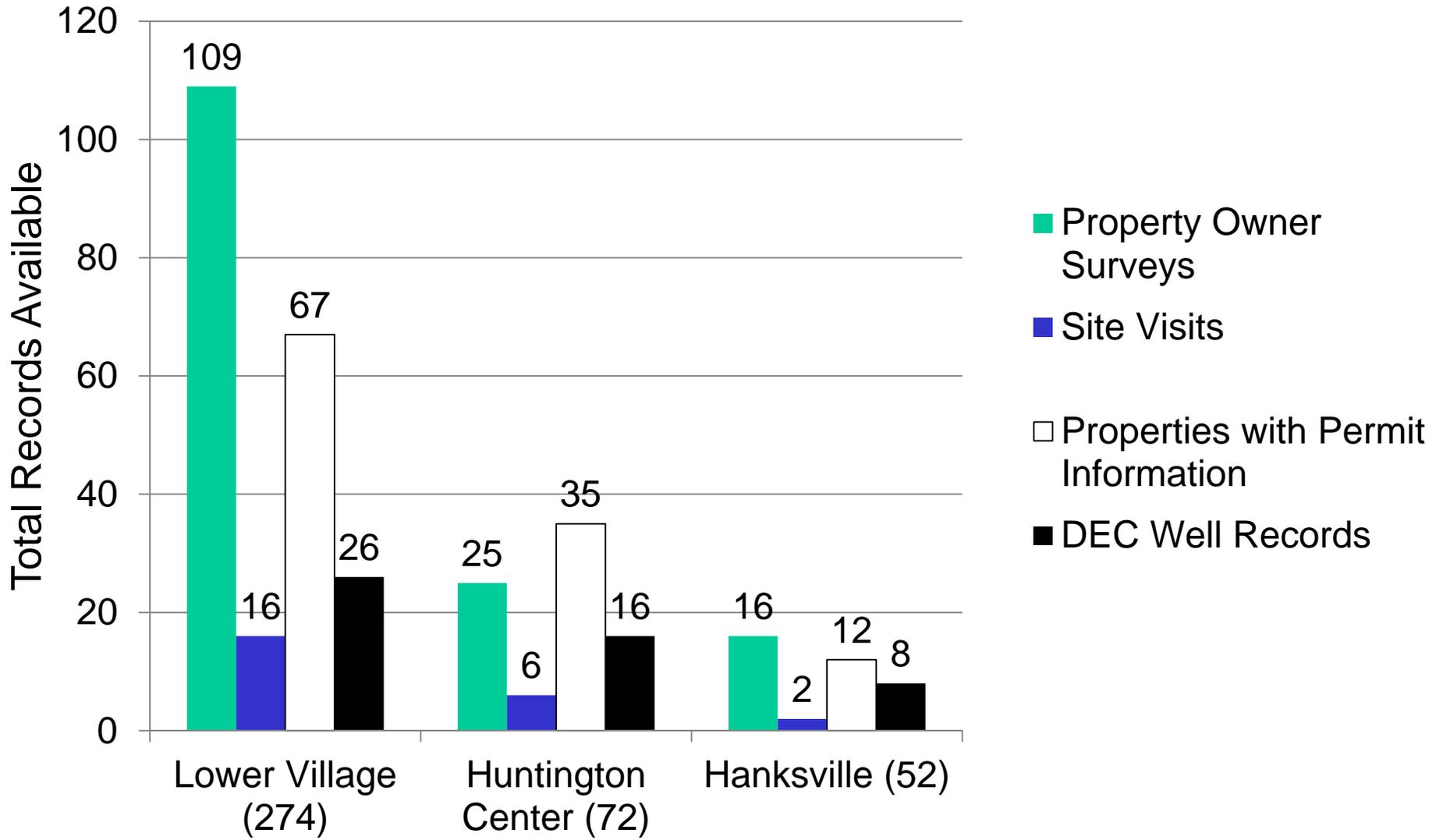


- Natural resource inventory (topography, wetlands, floodplains, streams, soils, geology)
- Infrastructure inventory (property owner surveys and site visits, permit reviews, State private well database)

Natural resources and water infrastructure in Huntington, Summer-Fall 2011.



Overview of Information Sources



Infrastructure inventory data sources summary by village.



Property Owner Survey Results



Beaudry's and nearby properties, Lower Village, summer 2011.

- Participation rate – 38%
- General state of knowledge about infrastructure
- Reports on water treatment, water problems
- Opinions on the future of water and wastewater in the villages
- Ideas for changing / expanding land uses if capacity available



Site-Specific System Evaluations



- Completed for all Town-owned properties
 - School system in great shape
 - A few repairs needed at Town Garage, Fire Dept.
- Also completed for 18 private properties





Capacity Assessments for Water Supply and Wastewater Treatment



*Huntington as viewed from Camel's Hump.
Image credit: Laura Hill Bermingham, University of Vermont.*

- Village scale—where are there opportunities and limitations? What are they?
- Water quantity and water quality
 - Assessed well yields, evaluated reports of water quantity/quality issues
- Current condition soil-based wastewater capacity
 - Compared land area on each parcel to current property use and regulations



What have we learned so far?



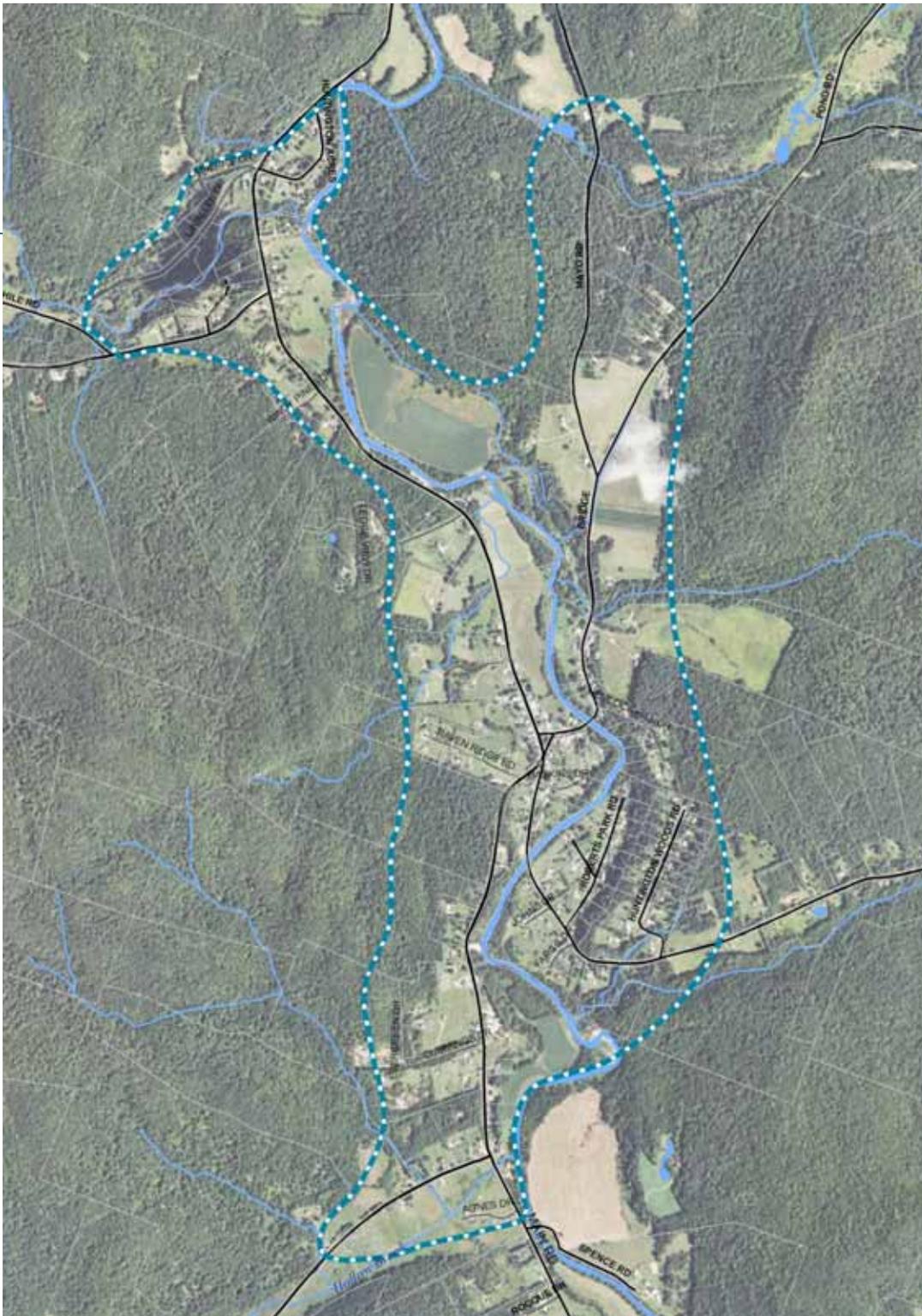


Lower Village



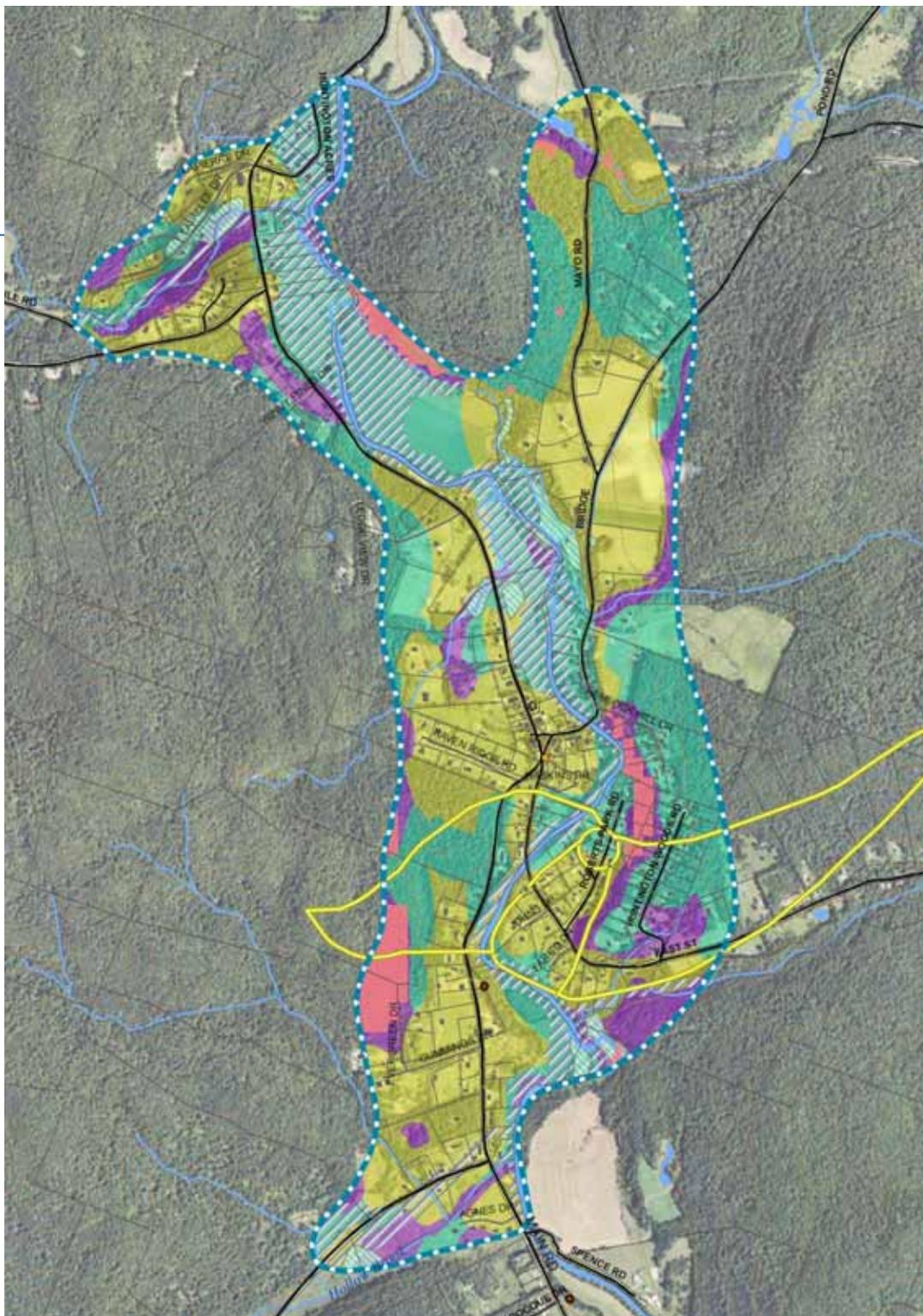


Village Areas Overview



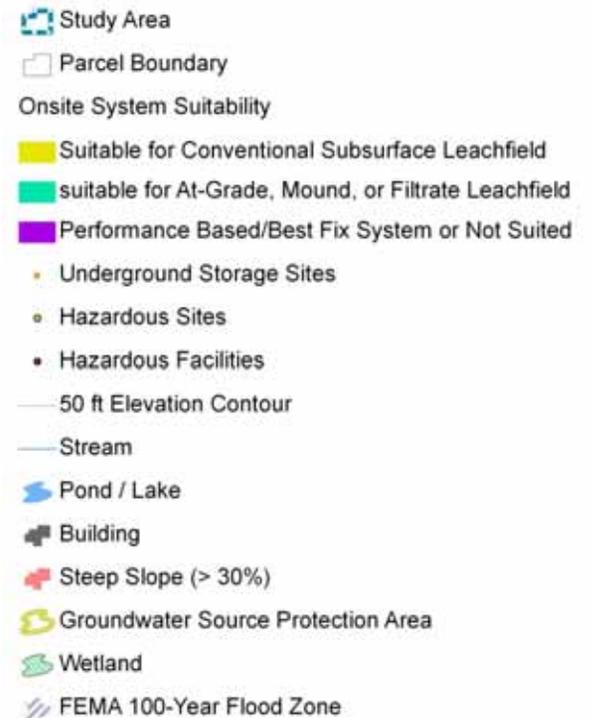
- Lower Village
- 796 acres
- 274 properties total
- 247 residential
- 5 commercial or municipal properties
- 22 undeveloped

Natural Resource Inventory



■ Lower Village

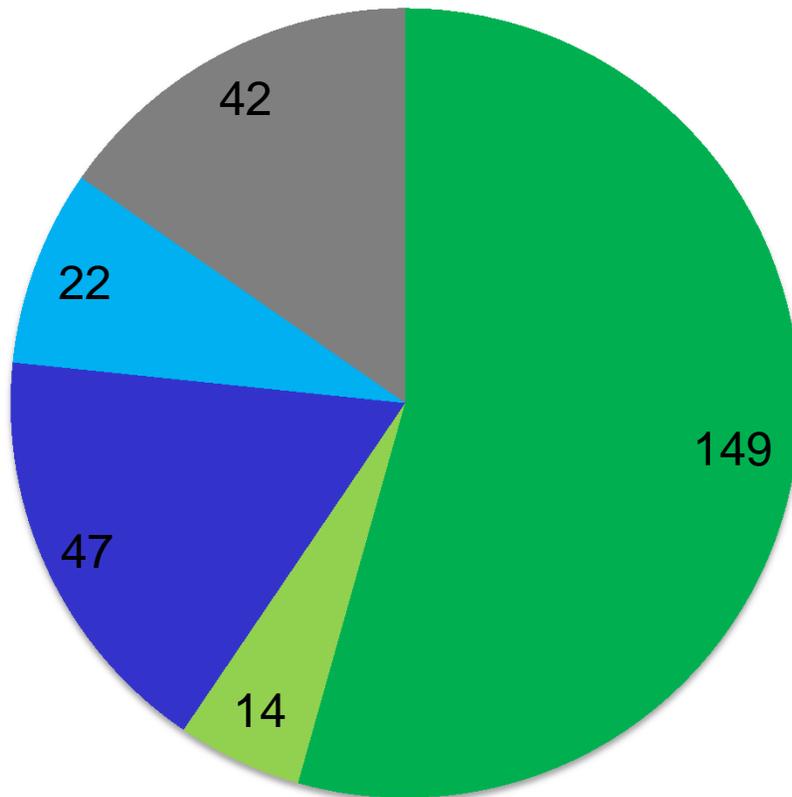
- Limited wetlands, but large area in 100-year floodplain
- ~40% of soils suitable for in-ground leachfields
- Surficial, gravel and bedrock aquifers



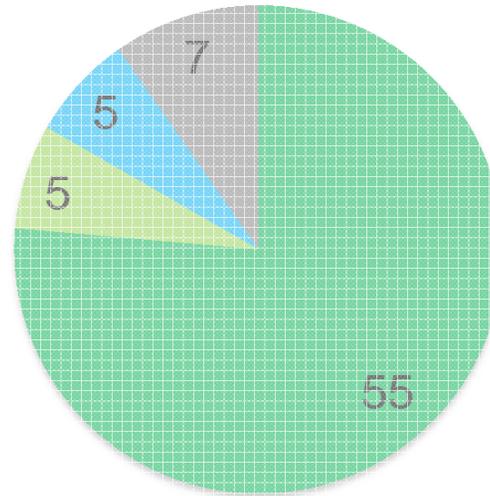


Current Water Supply Infrastructure

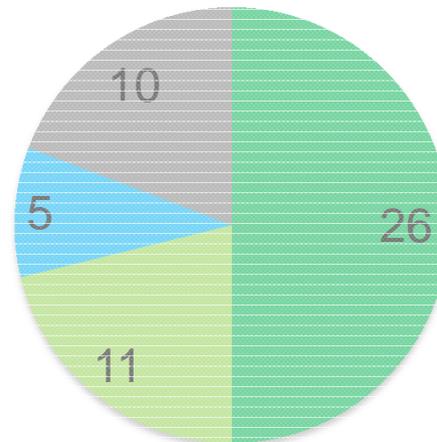
Lower Village



Huntington Center

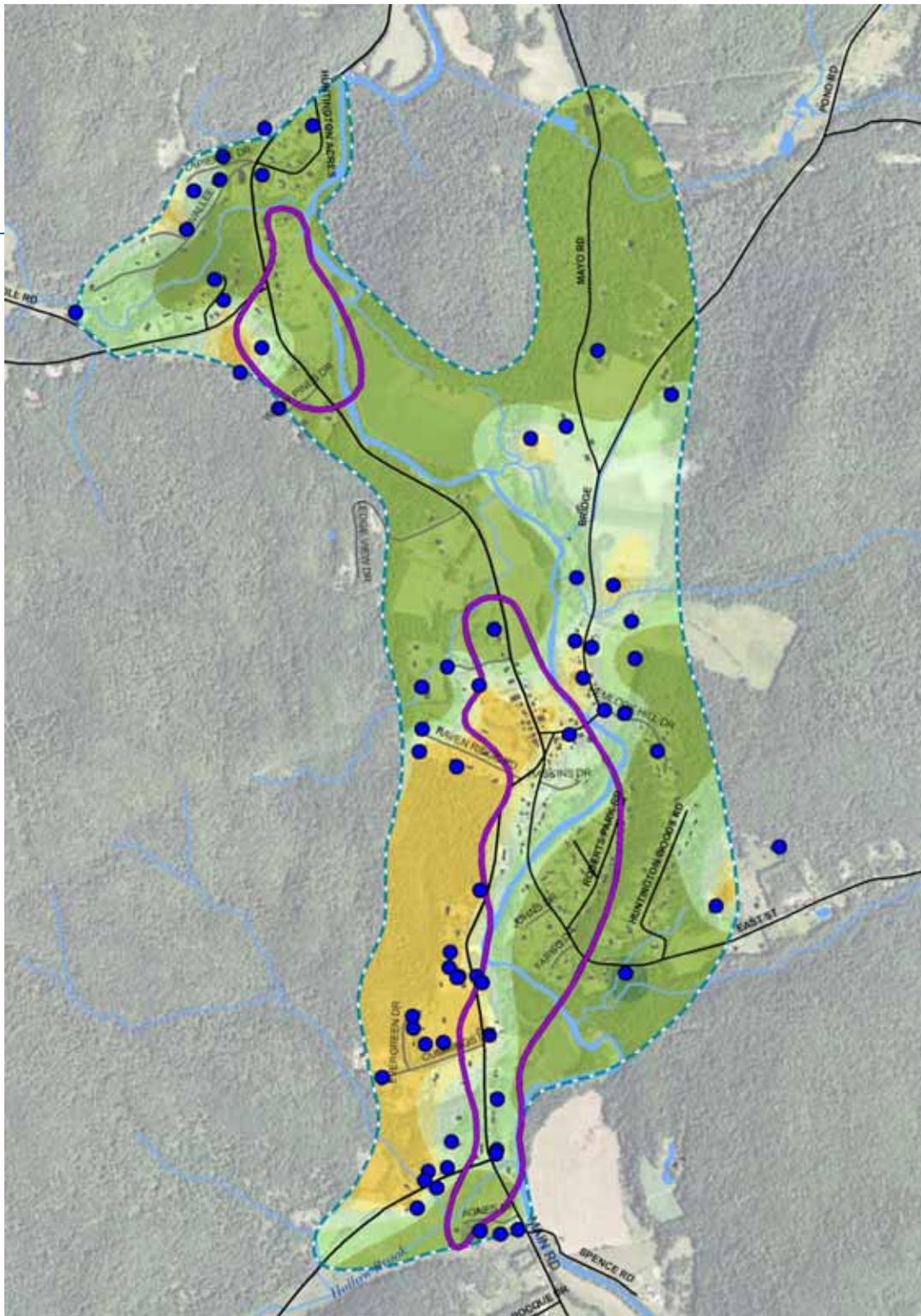


Hanksville



- Individual or shared drilled wells
- Individual or shared shallow wells/springs
- Connections to Huntington FD No. 1
- Undeveloped locations, no water
- No water supply information

Water Supply Capacity— Well Yields and Quality



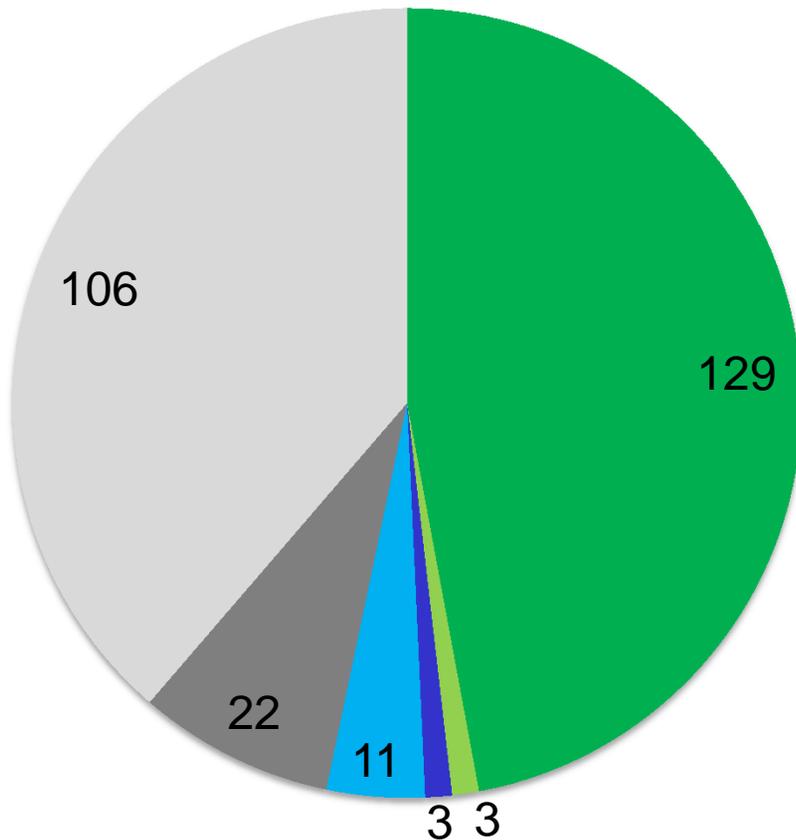
Lower Village

- Small proportion of dug wells or springs
- Drilled gravel wells are high-yielding
- Low-yielding bedrock wells in southwest portion of village
- Water quality issues include aesthetics, coliform (~17%)

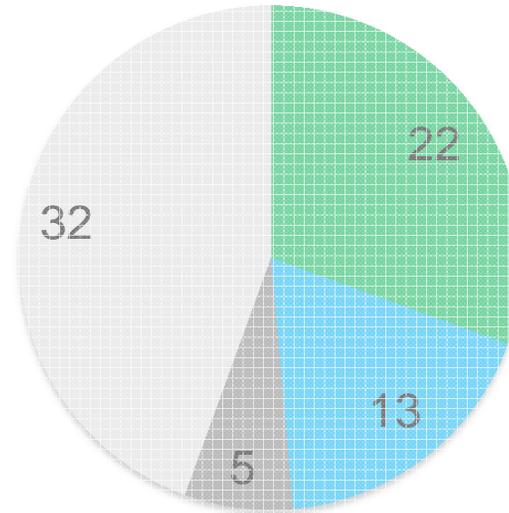


Current Wastewater Treatment Infrastructure

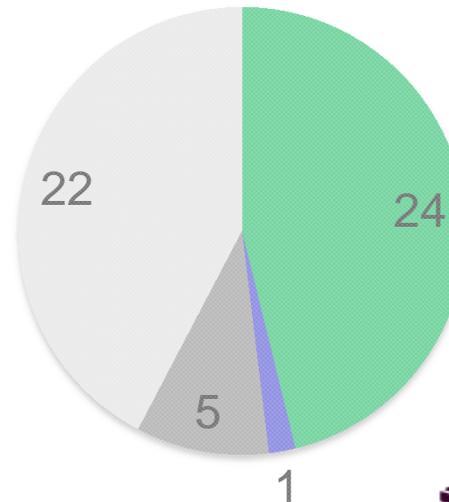
Lower Village



Huntington Center



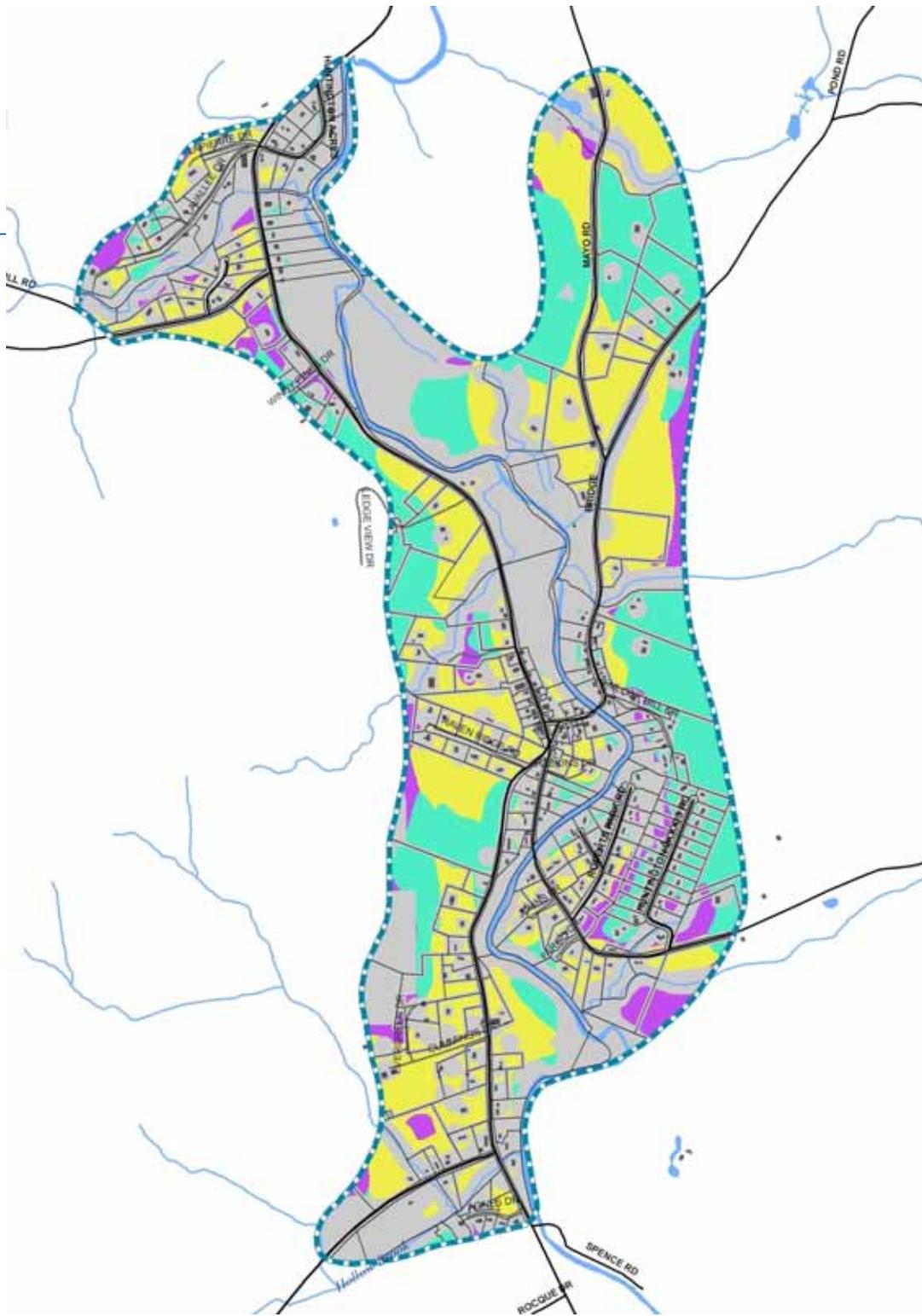
Hanksville



- In-ground septic systems
- Raised or mound systems
- Advanced treatment, best fix, etc.
- Connections to shared leachfields
- No wastewater treatment system
- No wastewater treatment information



Wastewater Treatment Capacity, Current Condition



Lower Village

- Primary environmental limitations are streams, floodplains
- Well shields are primary development-related limitation, esp. on small lots
- Several instances where future plans need wastewater capacity

-  Study Area
-  Building
-  Parcel Boundary
-  Environmental or Development Setback
- Onsite System Suitability**
 -  Conventional Subsurface Leachfield
 -  At-Grade, Mound, or Filtrate Leachfield
 -  Performance Based/Best Fix or Not Suited

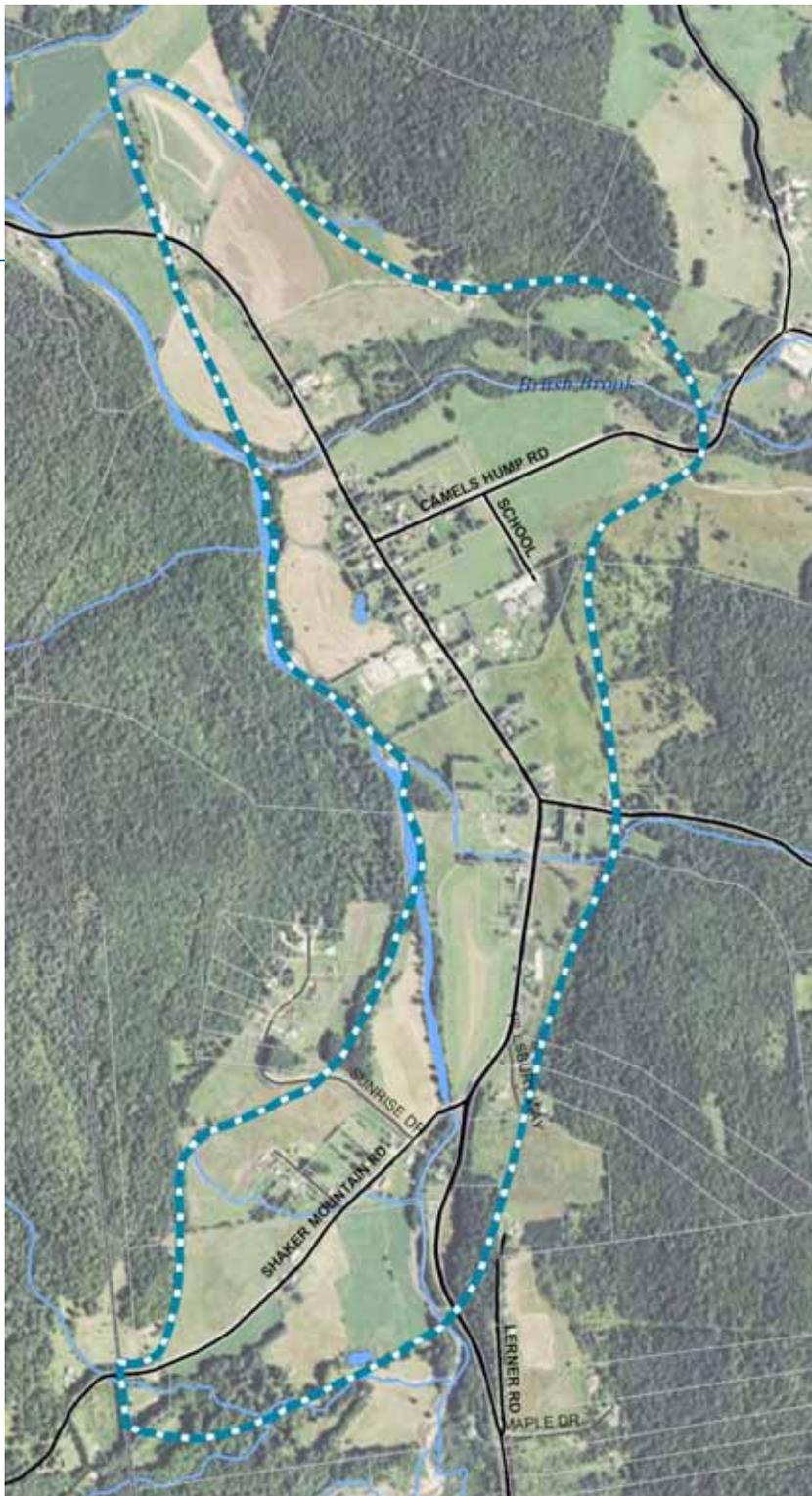


Huntington Center





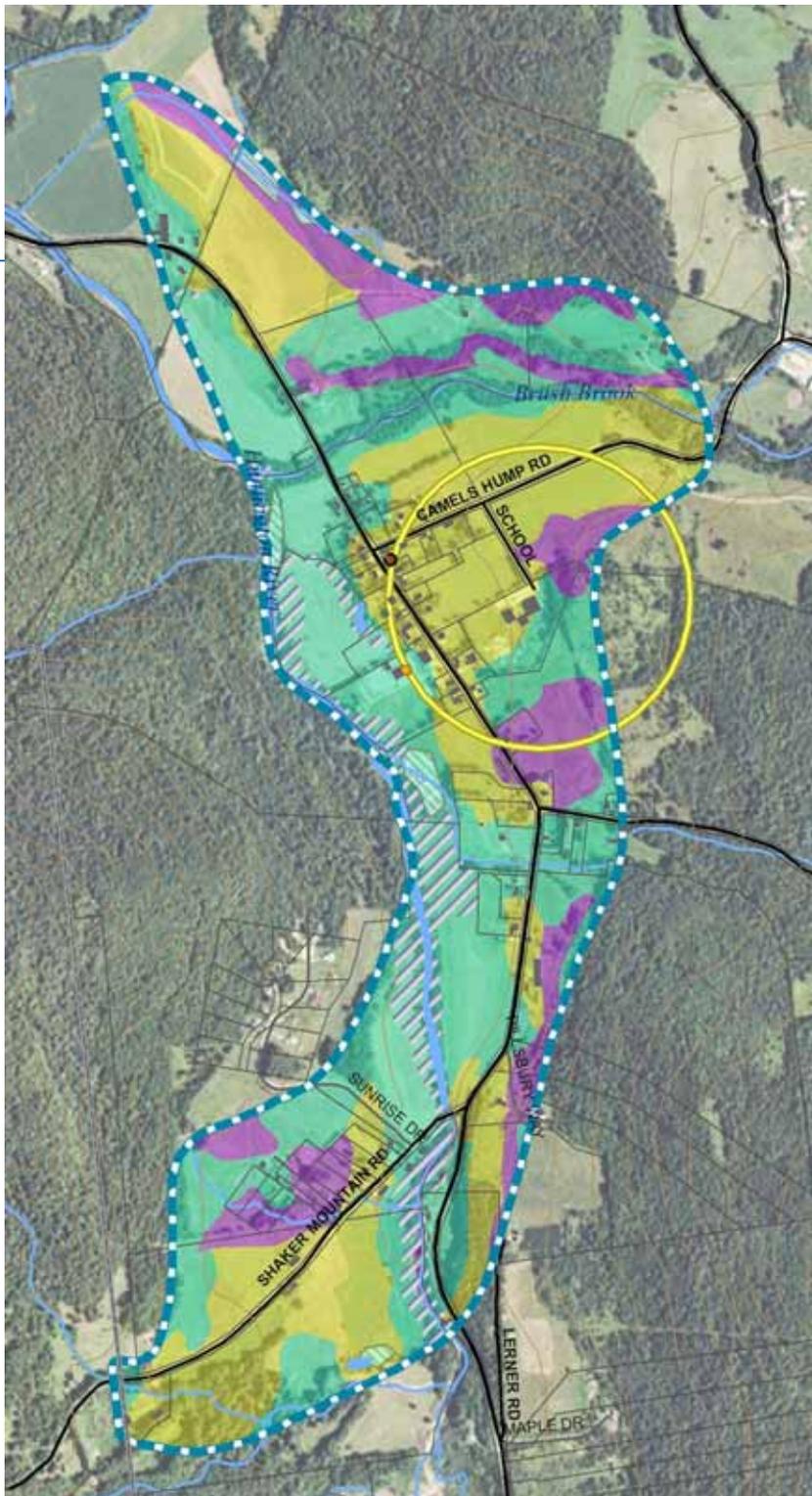
Village Areas Overview



- Huntington Center
- 389 acres
- 72 properties total
- 59 residential
- 5 commercial or municipal properties
- 5 undeveloped



Natural Resource Inventory



■ Huntington Center

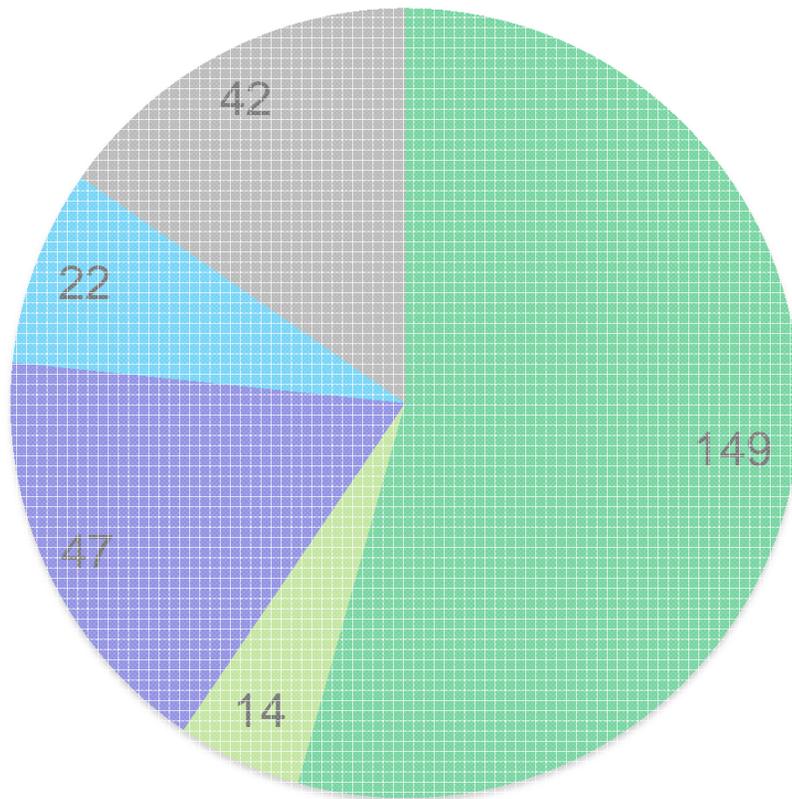
- ~35% of soils suitable for in-ground leachfields
- Limited wetlands; less area in 100-year floodplain
- Surficial, gravel, and bedrock aquifers

- Study Area
- Parcel Boundary
- Onsite System Suitability
 - Suitable for Conventional Subsurface Leachfield
 - suitable for At-Grade, Mound, or Filtrate Leachfield
 - Performance Based/Best Fix System or Not Suited
- Underground Storage Sites
- Hazardous Sites
- Hazardous Facilities
- 50 ft Elevation Contour
- Stream
- Pond / Lake
- Building
- Steep Slope (> 30%)
- Groundwater Source Protection Area
- Wetland
- FEMA 100-Year Flood Zone

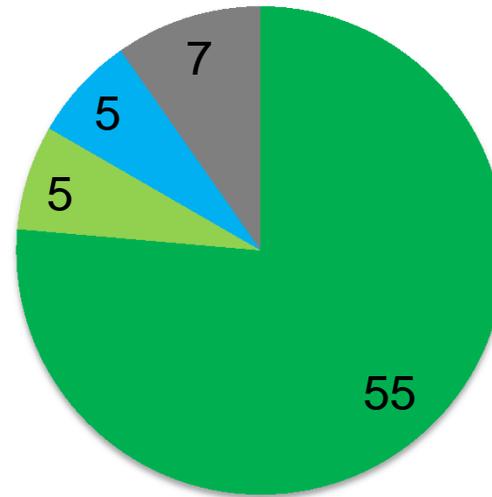


Current Water Supply Infrastructure

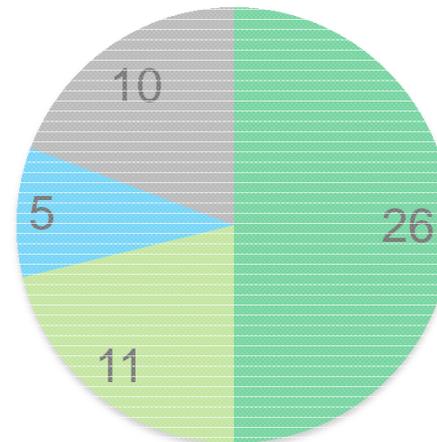
Lower Village



Huntington Center

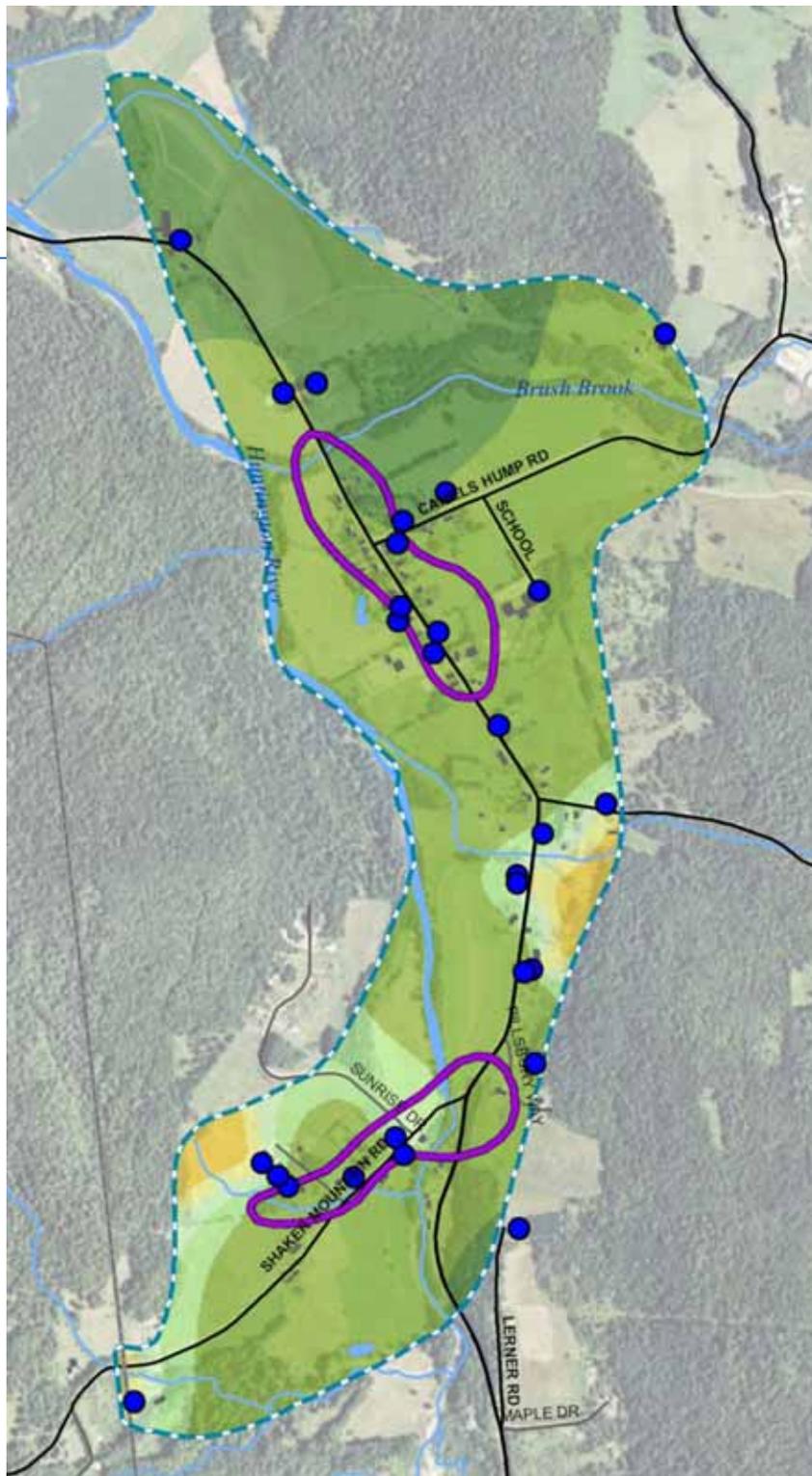


Hanksville



- Individual or shared drilled wells
- Individual or shared shallow wells/springs
- Connections to Huntington FD No. 1
- Undeveloped locations, no water
- No water supply information

Water Supply Capacity— Well Yields and Quality



■ Huntington Center

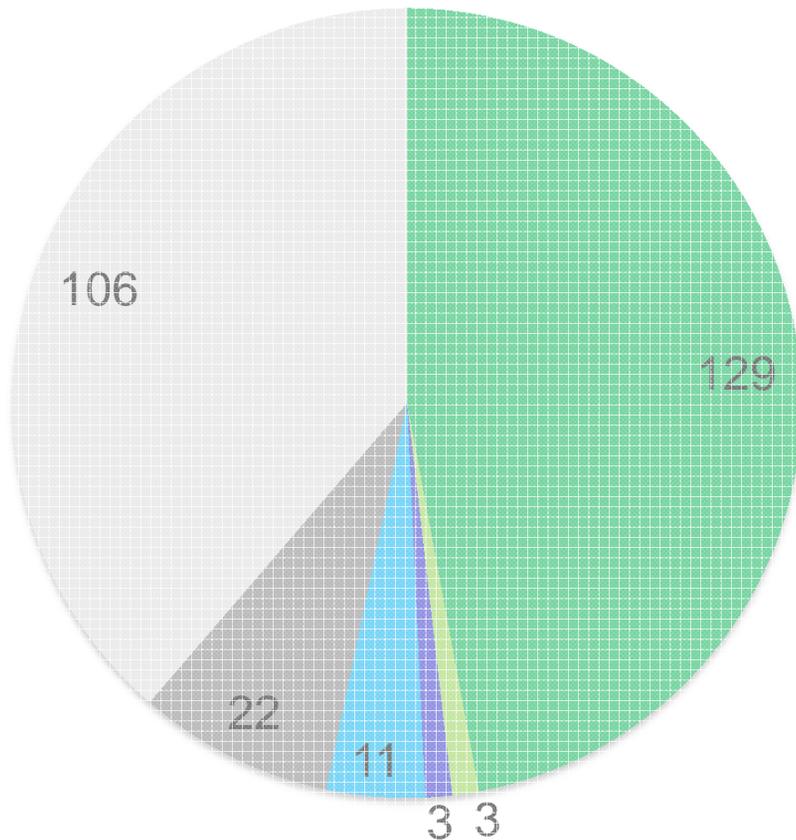
- Very few dug wells or springs
- Drilled gravel wells are high-yielding
- Fewer, isolated areas of low-yielding bedrock wells
- Reports of water quality issues mostly aesthetic (11%), a few coliform issues reported



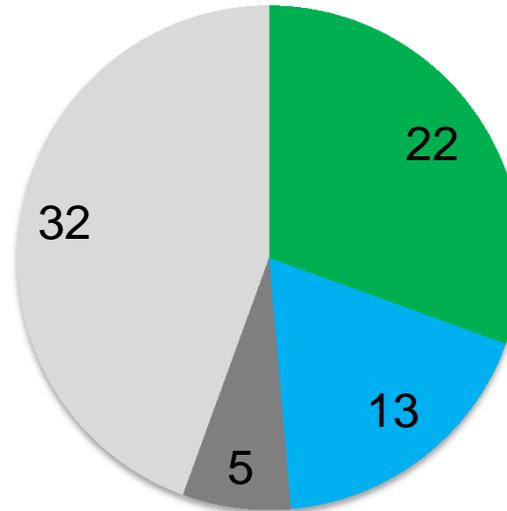


Current Wastewater Treatment Infrastructure

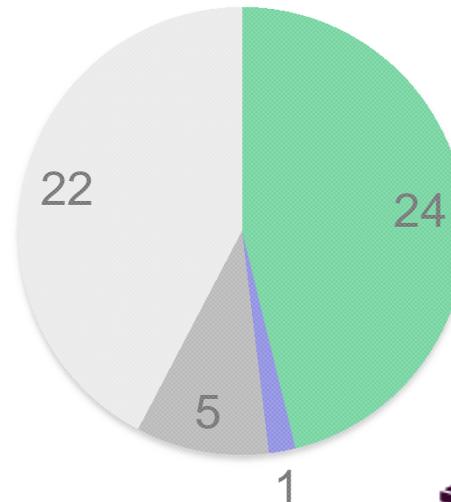
Lower Village



Huntington Center



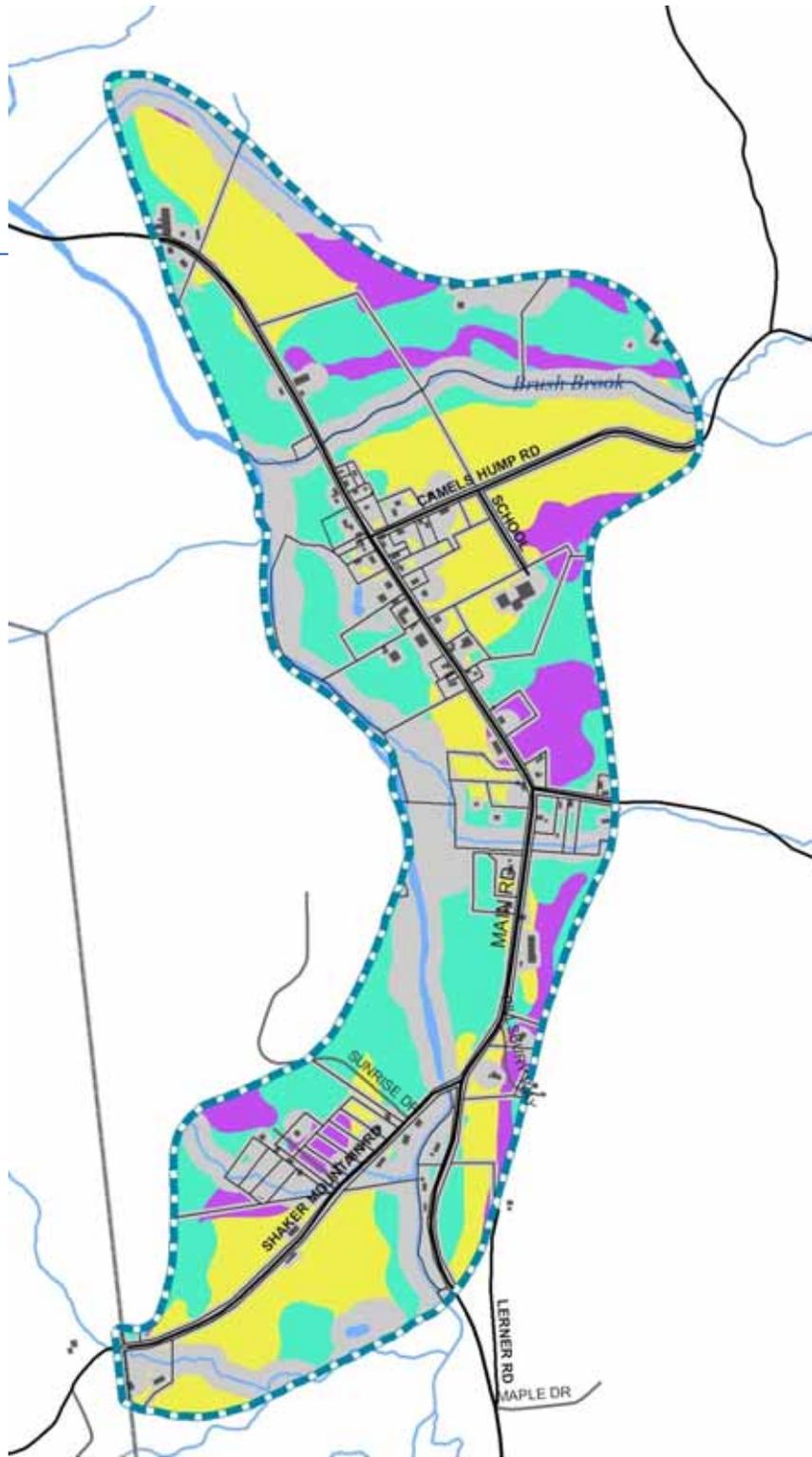
Hanksville



- In-ground septic systems
- Raised or mound systems
- Advanced treatment, best fix, etc.
- Connections to shared leachfields
- No wastewater treatment system
- No wastewater treatment information



Wastewater Treatment Capacity, Current Condition



Huntington Center

- Primary environmental limitations are streams, floodplains
- Well shields are primary development-related limitation, esp. on small lots
- Several instances where future plans need wastewater capacity

-  Study Area
-  Building
-  Parcel Boundary
-  Environmental or Development Setback

Onsite System Suitability

-  Conventional Subsurface Leachfield
-  At-Grade, Mound, or Filtrate Leachfield
-  Performance Based/Best Fix or Not Suited

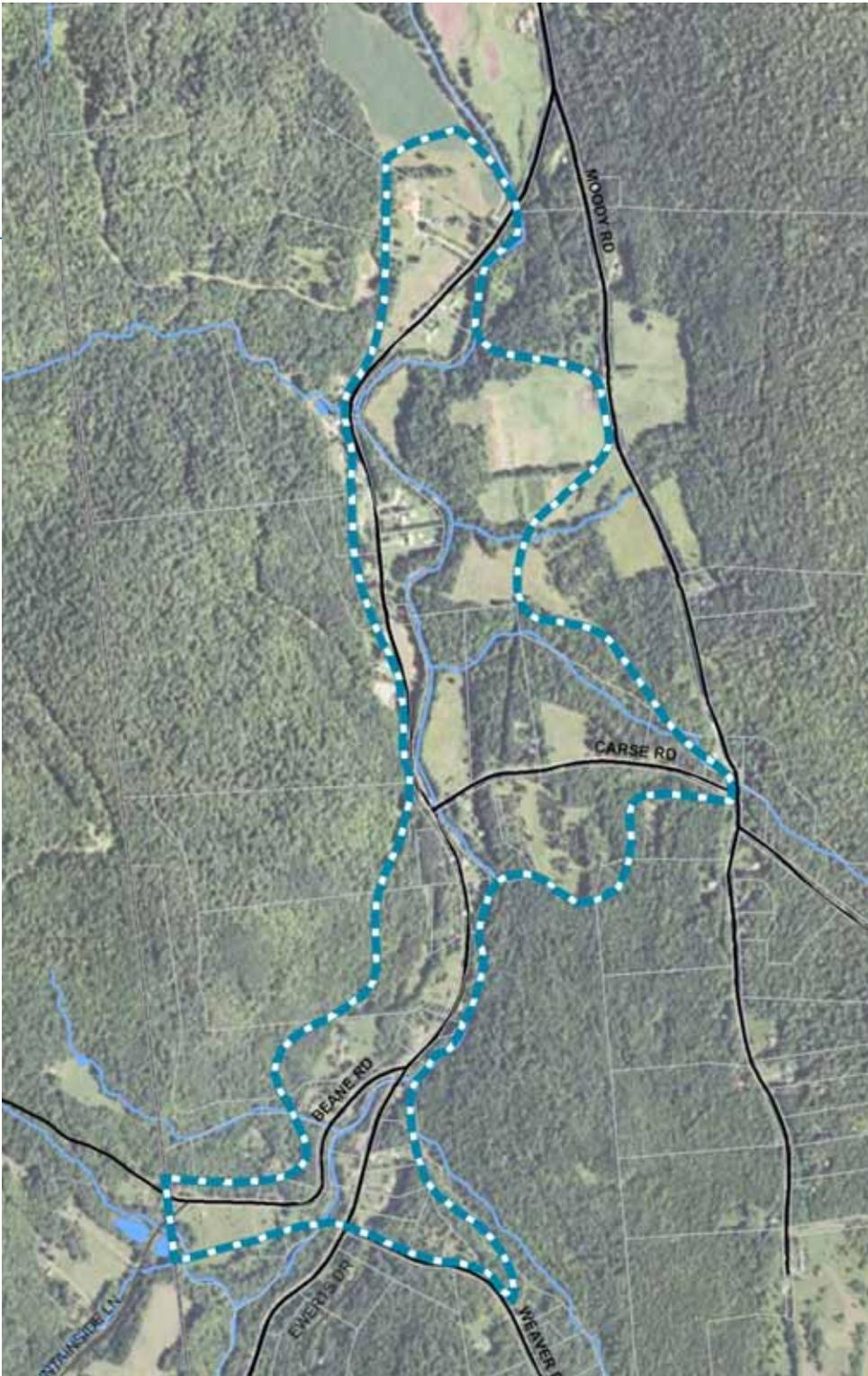


Hanksville



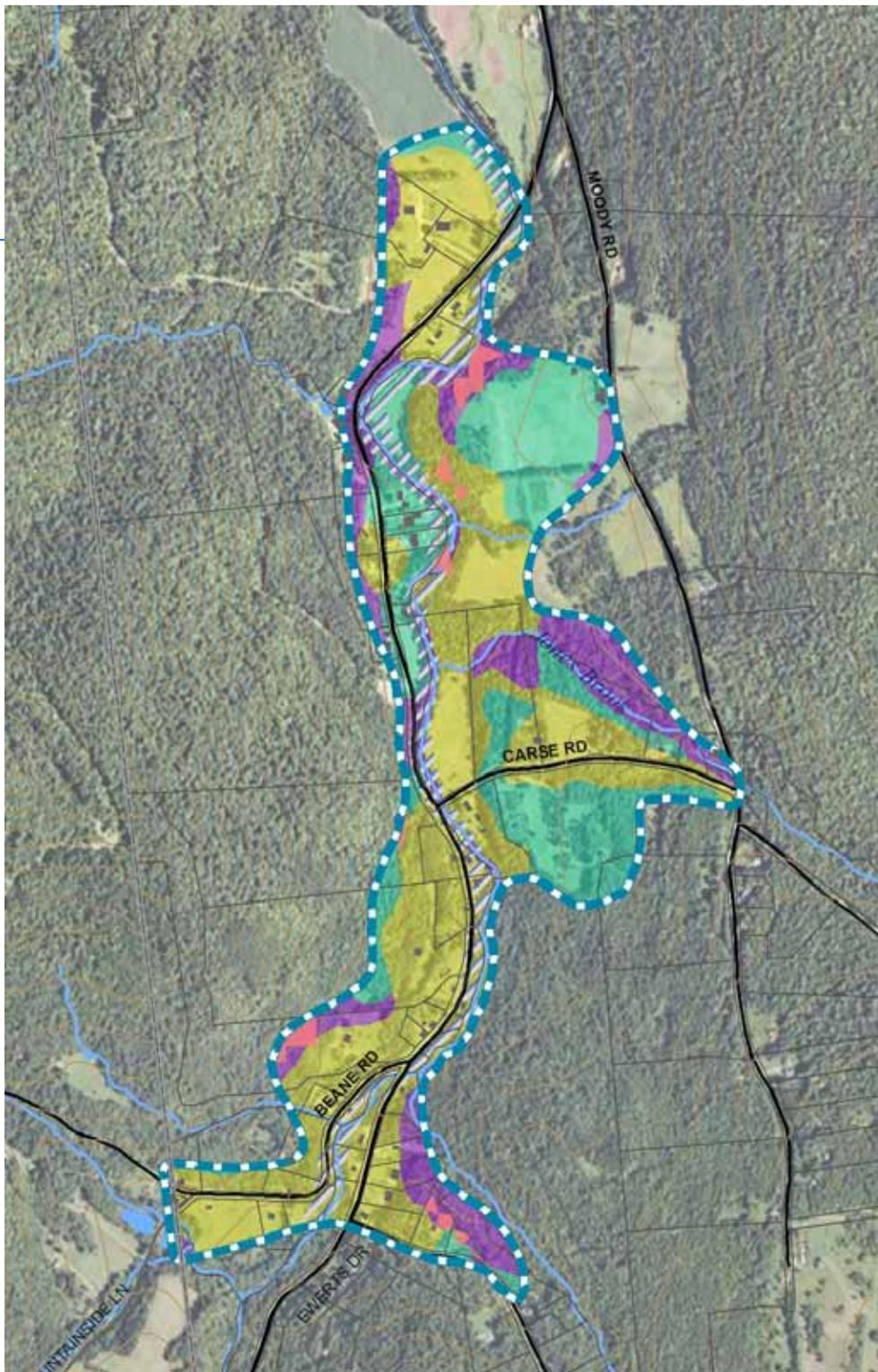


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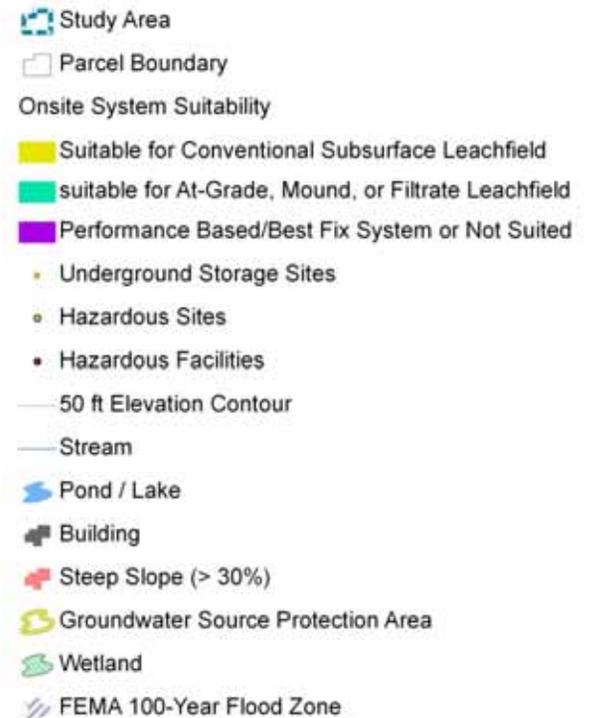
- Hanksville
- 209 acres
- 52 properties total
- 47 residential
- 5 undeveloped

Natural Resource Inventory



Hanksville

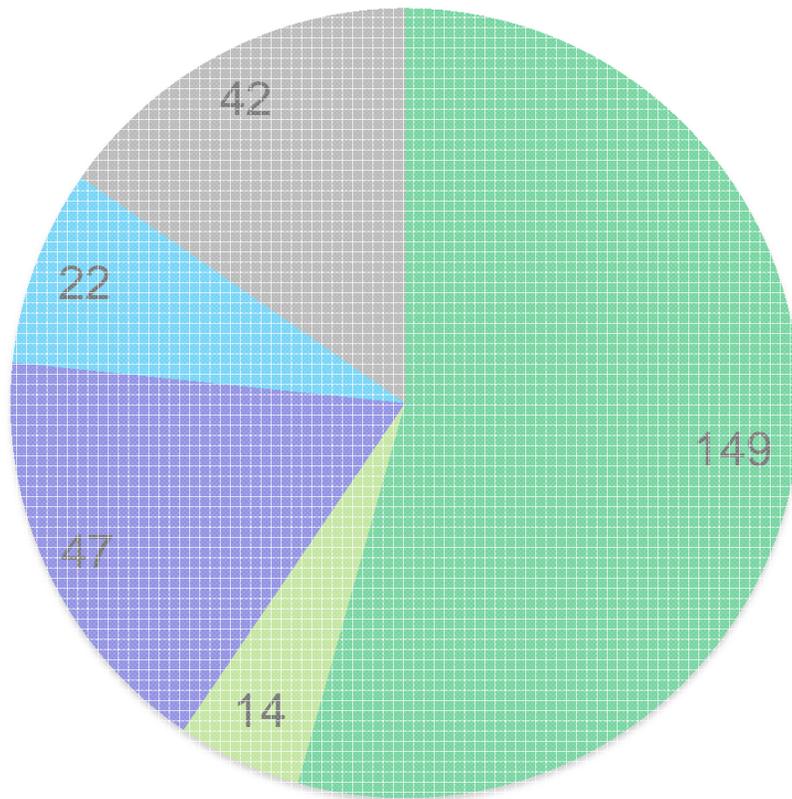
- 50% of soils suitable for in-ground leachfields
- Steep slopes, bedrock limiting
- Some small lots in 100-year flood elevation
- Surficial and bedrock aquifers



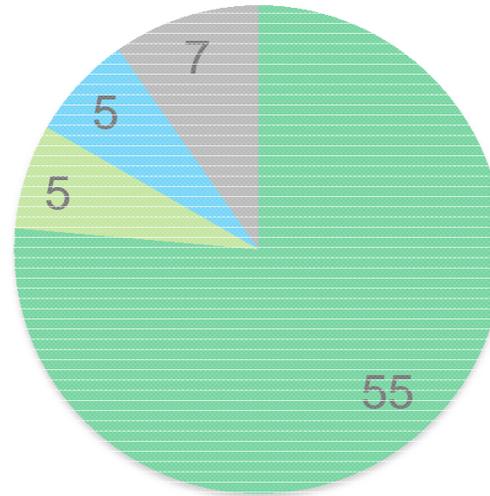


Current Water Supply Infrastructure

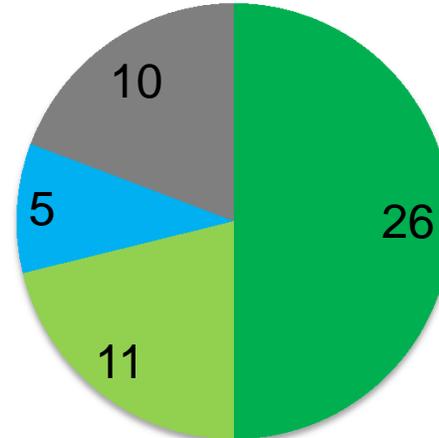
Lower Village



Huntington Center

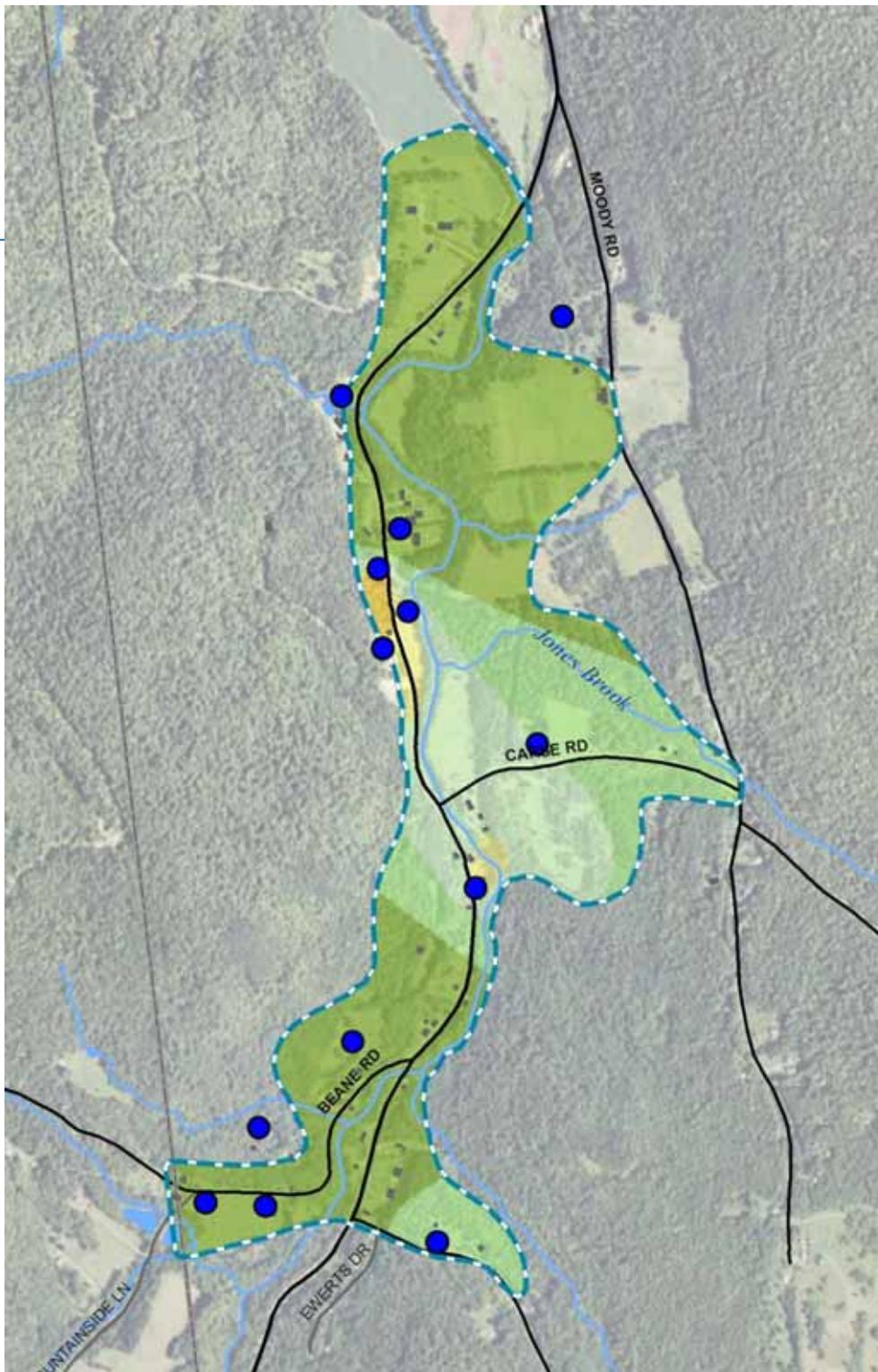


Hanksville



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Water Supply Capacity— Well Yields and Quality



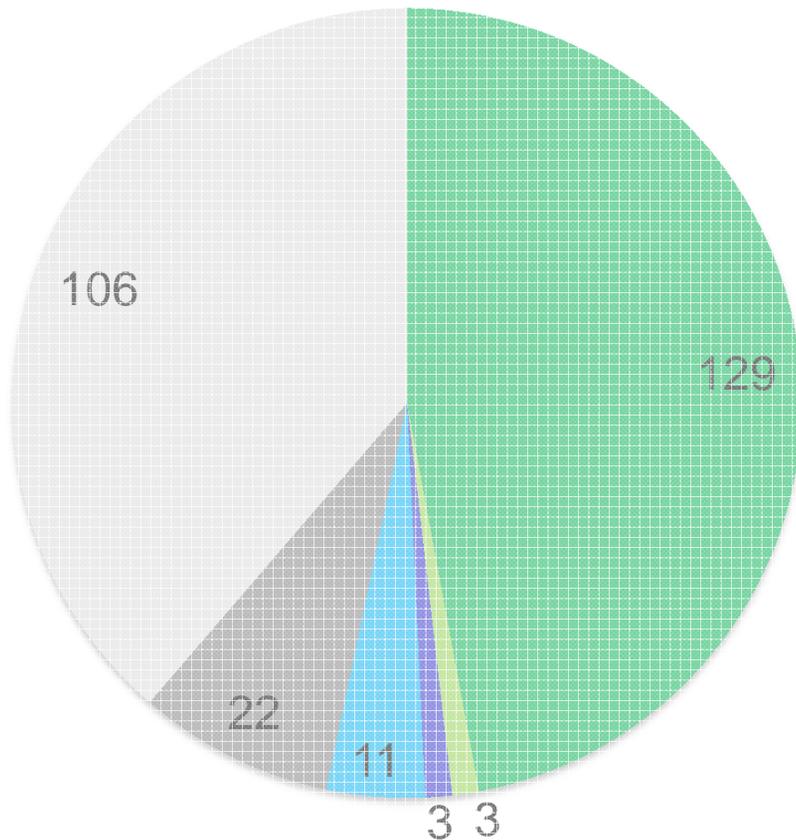
Hanksville

- Higher proportion of dug wells and springs
- No drilled gravel wells found
- Few, isolated areas of low-yielding bedrock wells
- Few water quality issues reported

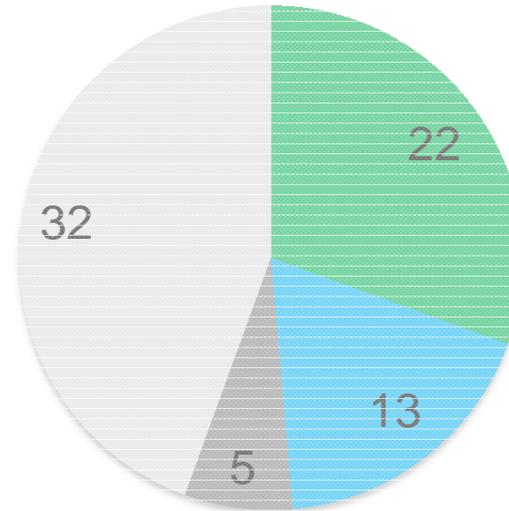


Current Wastewater Treatment Infrastructure

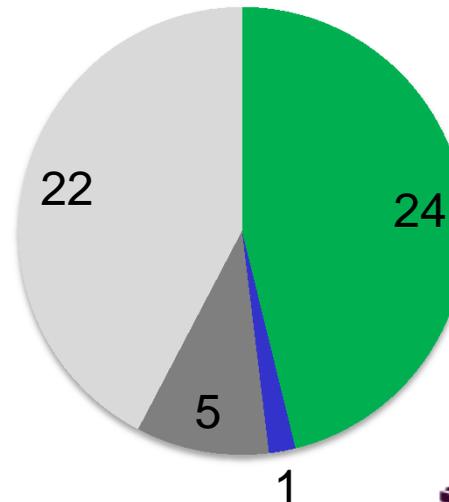
Lower Village



Huntington Center



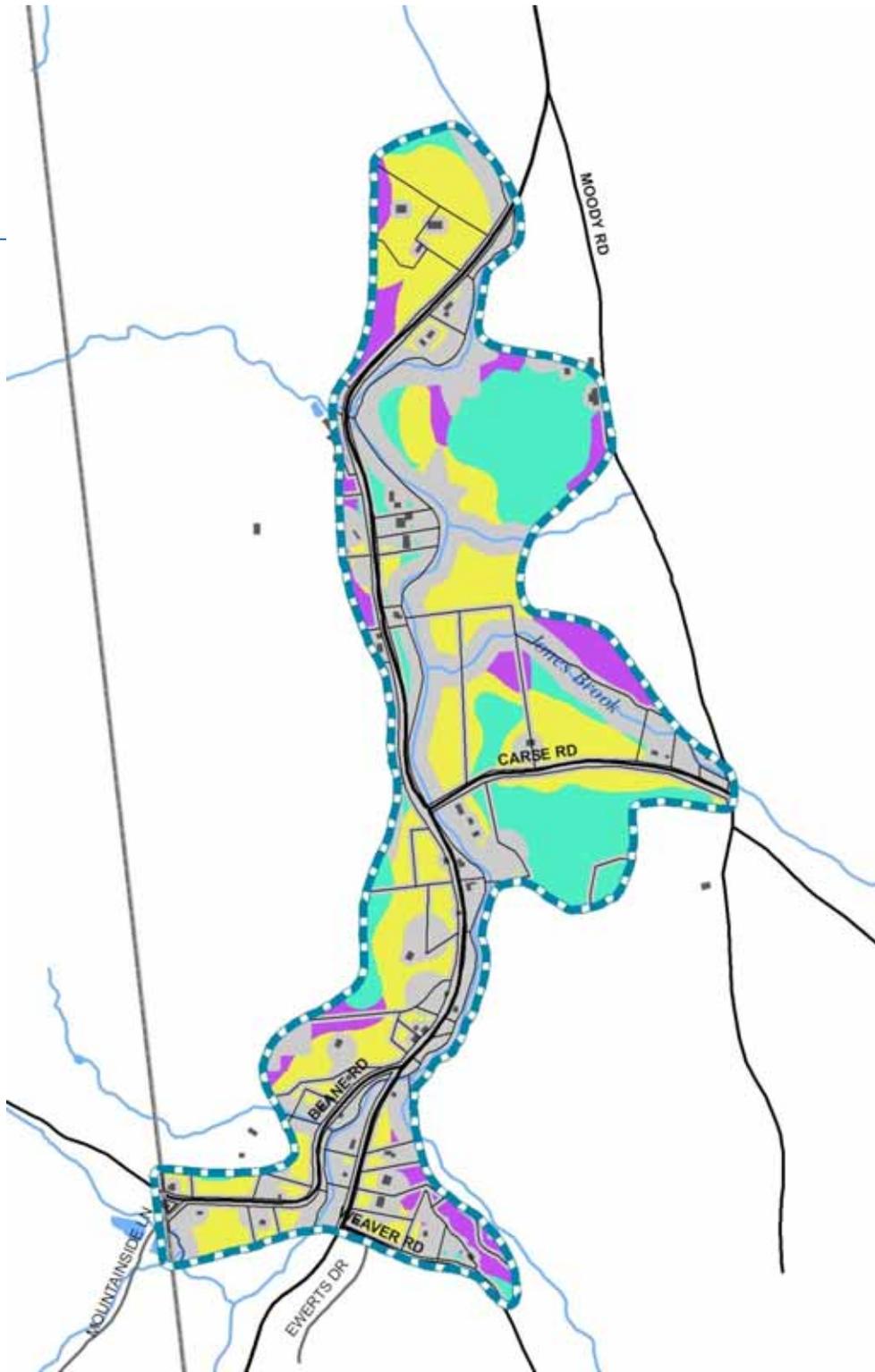
Hanksville



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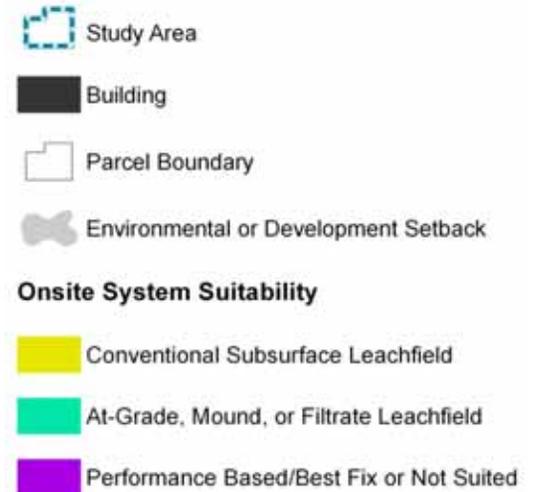


Wastewater Treatment Capacity, Current Condition



Hanksville

- Streams/floodplain, steep slopes primary environmental limitations
- Well shields primary developmental limitation for small lots – but fewer of those
- No future plans described that need capacity





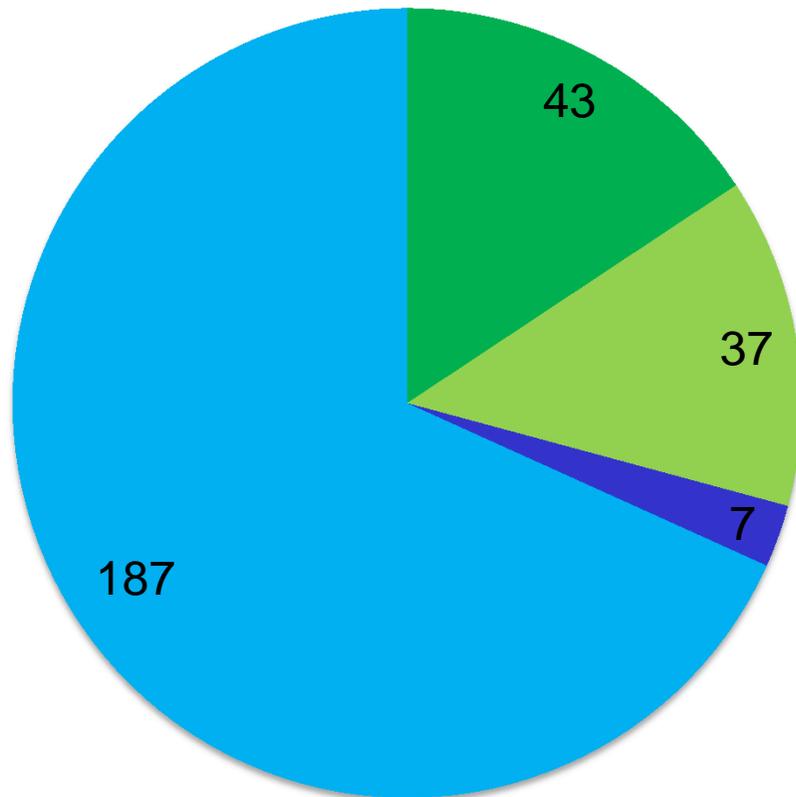
Capacity Assessments Summary



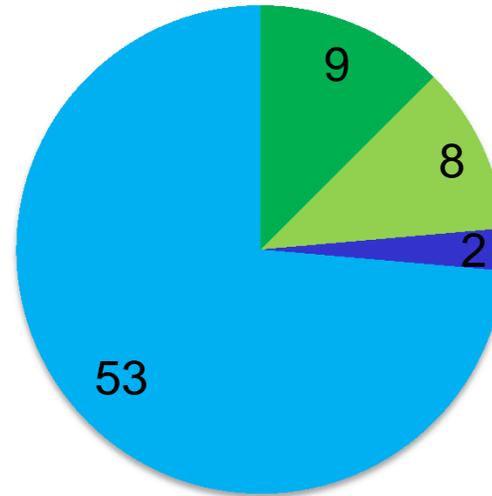


Water Supply Capacity Assessment Summary

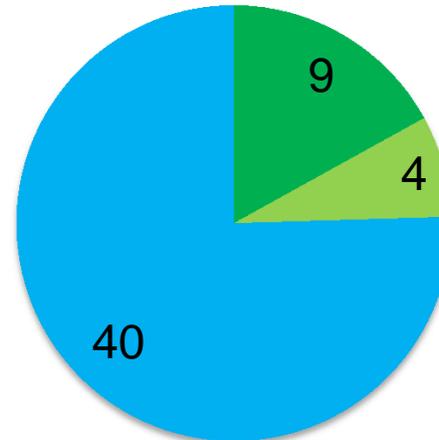
Lower Village



Huntington Center



Hanksville

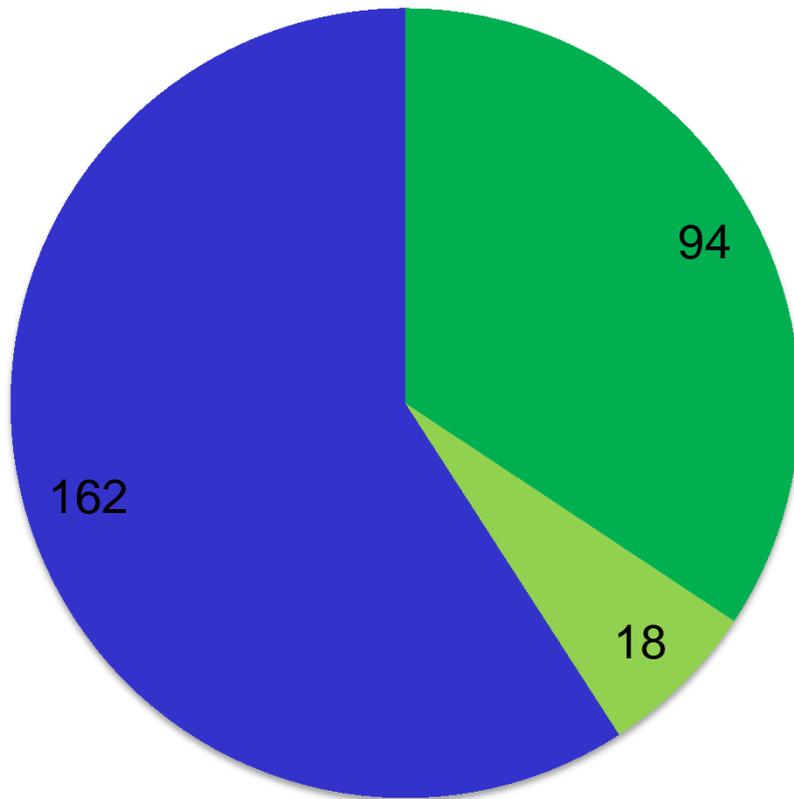


- Low-yielding wells, or water quantity issues identified/ reported
- Water quality issues identified
- Water quality and quantity issues
- No issues identified or reported

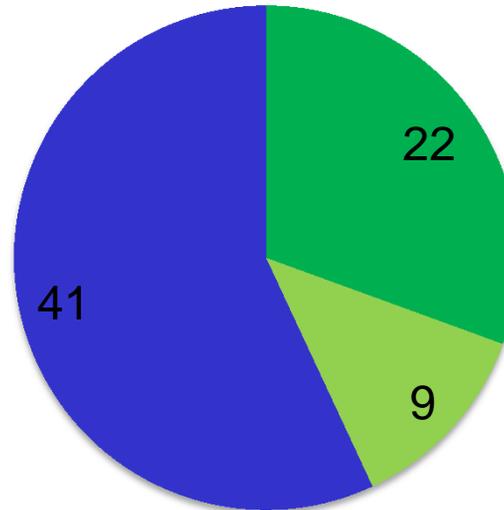


Wastewater Treatment Capacity Assessment Summary (Properties)

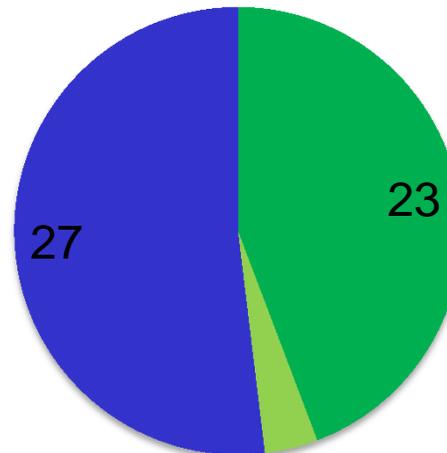
Lower Village



Huntington Center



Hanksville



■ Limited area for existing system replacement

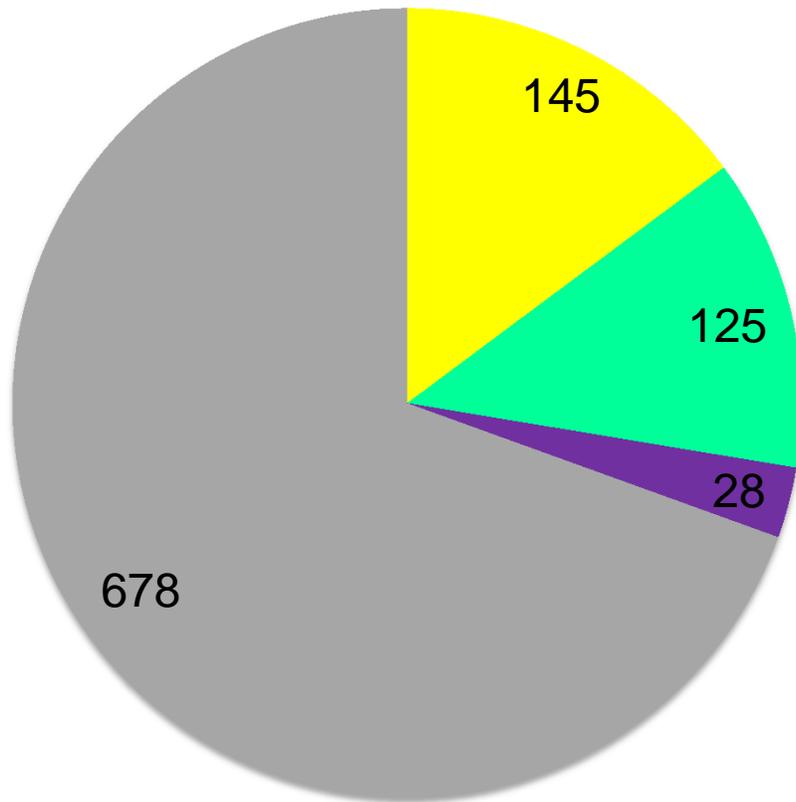
■ Currently comply, future capacity limited

■ Currently comply, additional capacity possible

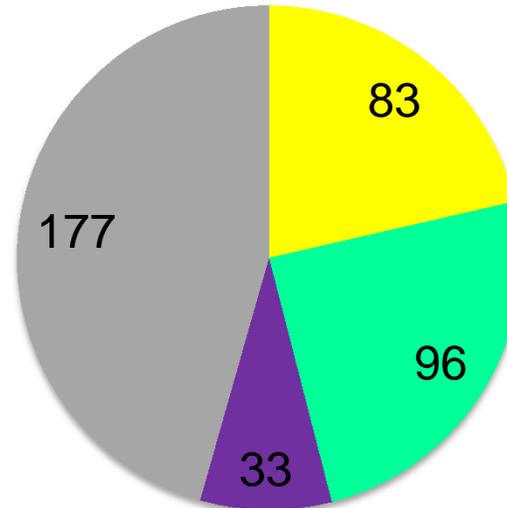


Wastewater Treatment Capacity Assessment Summary (Acreages)

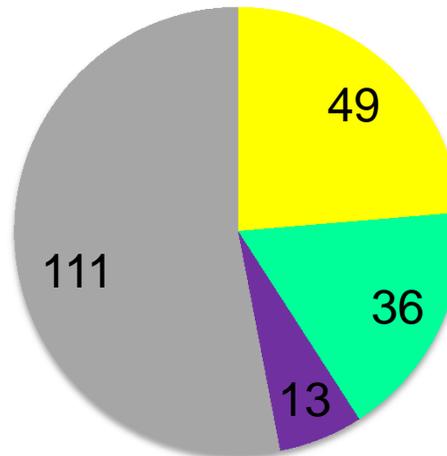
Lower Village



Huntington Center



Hanksville



- Acres Suitable for Conventional Subsurface Leachfield
- Acres Suitable for At-Grade, Mound, or Filtrate Leachfield
- Acres with Marginal Soils (Performance Based/Best Fix)
- Acres with Environmental or Development Limitations



Next Steps



1 Identify range of technologies/options of interest

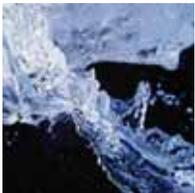


2 Develop and execute “no action” and “build-out scenarios”



3 Develop accompanying costs

4 Evaluate potential financial options



5 Public Meeting and summary report





Thank You!