

Hypothesis	Typology	Variable - Objective	Variable - Subjective
High growth rate of muni adversely affects water quality vs highly ag community adversely affects water quality	% developed % ag		
Municipal personalities importance	1 meter resolution Lydar __ through ___ / U Vt		
Municipal professionals Y/N if yes age/-	Across all		
Munis with more engaged staff, volunteers and elected officials are more likely to have more actions on water quality.	Across the board	Open space committees EAC/EC/STC? Planner on staff? Zoning officer? Watershed association	How do you define engagement? How often? Activities? Updates to comprehensive plan?
agricultural communities are hesitant to impose regulations on farmers, yet the farm practices degrade water quality	AG	zoning tools lacking that apply to ag lands TMDLs = sediment, nitrogen, phosphorus	
MS4 requirements prompt municipal investment in LID or GSI	all MS4 regulated munis what is impairment?	# of GSI projects over last 5 years or programmed in capitol budget	how much influence was requirement to invest on decision who was the "champion"?
technical assistance will improve muni ordinances	all muni without on staff planners	planner assist	ask for town "wish list", problem areas, and zoning/planning
Munis have no interest in stormwater management outside of what they are faced with via regulation	all munis		interview community officers in their viewpoint
lack of "public will" and public understanding (and public supporters) of the value of clean water and the costs (financial and societal) of polluted waters limits political will to do water quality protection	all typologies	muni costs expended for stormwater regulation (muni ordinance implementation and enforcement; MS4/TMDL costs to date; stormwater infrastructure maintenance/replacement/improvement costs	

munis with development pressure have better land use policies	change in development over time		
munis experience population loss are less likely to take action for water	change in population over time	known tools for water quality protection	
munis with EACs have strong environmental protection zoning ordinances	correlate suite of "good" environmental protection ordinances with presence of active EAC	inventory of existing environmental ordinances/plans	as muni officials about influence of EACs
Municipalities are "ordinanced out"/planning fatigue.	Different counties	When's the last time they updated their comprehensive plan, ordinances?	Does your municipality have a decent base of volunteers to carry out task force work?
downstream munis	downstream vs. upstream/headwaters		
Capacity/presence of volunteer EC/Green Team/EAC/Watershed Association total voices/regional collaboration	EAC/EC/stormwater collaborative		
environmental justice economically-disadvantaged communities have more degraded environments (needs work...)	low medium housing values versus high heg values	MS4 TMDL pollutant loads	
Rural municipalities think they don't impact water quality (ind. Ag/forest/wetland) "There's all this protected/open land... why do we need to worry?"	Low population % protected open space (open space and ag)	Public versus private ownership Ag regulations (ag exemptions) Are there any ag regulations?	Would clean water help your economy (fishing, ag)? Do you think your municipality impacts water quality?
munis with lower development pressures are less likely to enact protection measures	low vs. high development pressure	# of plans submitted for approval (development or new houses permits?)	does muni feel pressure vs. # of protection measures

more populated munis have better tools	low vs. high population density	pop values and tools	
residents all uninformed regarding stormwater and water pollution	more cemm__(?) in economically depressed communities		
MS4 permitted munis are more likely to take action for water	MS4 permit or not		
Rural munis think land use has no impact on water quality	muni of low population	water quality data	fishing + farming/culture needs and desires?
Ex. Rich municipalities have better tools	Municipalities distributed across multiple income levels	Inventory of tools; known best practices exhibited in tools	
If we can convince of economic benefits of conserving water, communities will take measures ie. Env conservation/economic prosperity not mutually exclusive	munis in return on env area vs those not	# muni tools adopted in RarE Twps vs. no econ	ask elected official reasons
munis that offer programs and support of water quality education and feel they are more effective have best regulatory measures	NGO's work in muni toward water quality		
Development pressures lead to actions to protect water quality.	Projections Land use pattern Density over time	Data on land conversion	What triggered development pressure? What has been done to protect water quality?
if you drink the water you care about (local source)	pub/well water supply		

communities that do not use surface water as a source of drinking water have little care for water quality or if they do not know where their drinking water comes from	public water supply are there muni OS in communities that drink their local water		
are you drinking your "own" water locally/streams/groundwater	public with supply water supply		
Munis with calcs(?) programs have greater water quality	ref munis	% conserved land presence of referendum	
Source drinking water vs not and attitude towards water quality	rural vs. urban	absence/presence of public water	
when grant \$ available, munis will step forward and do good things regarding land use regulations	those in counties (Chester and Monroe) with \$ for reg updates NJ?	Inventory munis that used grant \$ versus those that did not	
Munis with state/federal regulatory mandates will have more water quality protection measures in place (regulations are driving municipal investment in water quality/protection projects).	Who is in the CWA regulatory program or not (used in Ches Co): - MS4s (current and future) - CSOs (Philadelphia, Wilmington) - TMDLs - impaired streams What is the type of impairment?	What programs have been funded? Look at capital improvement program	
Munis with stormwater fees are more likely to have more effective programs	Yes/No	# stormwater projects pollutants removed	How did you come to adopt your fee?
Ex. Flooding prompt municipalities to take action to protect or improve water quality.		FEMA Claims in municipality	Ask interviewees about any crises, and how municipality responded.

Munis with low development pressure are less likely to enact water protection.		# of plans submitted for approval Development over time Change in population # of building permits	Do you feel development pressure?
Munis that have dealt with a crisis will be more proactive.		Flood plain mapping Source water protection plan All hazards mapping Road warning signs/flood signs	Do people support floodplain zoning even if it means less development?
Municipalities that have a stormwater management line item are more progressive.			
Municipal officials don't prioritize water quality because it's not an issue they can be elected on, but would prioritize water quality if there were more public support.		Type of municipality	Community culture Environmental ethic Deeply seeded conservation ethic
Progressive leaders create opportunities for action.			
Culture and politics effect level of water quality protection.			
Communities with high "private property rights" have high conservation ethic but less interest in environmental regulations.		# of hunting licenses # of fishing licenses High quality streams/trout streams	
Relationships matter. Non-profits go to the same communities over and over for technical assistance.			
Municipalities with access to professional planning technical assistance and financial assistance have more tools in place.			Do you work with county planning commission or non-profits? Do you have access to grants?

Diverse land use patterns within a muni creates challenges for addressing; one size doesn't fit all.		# zoning districts	
"Low hanging fruit" gets implemented first.			How do you define "low hanging fruit"? How effective was that? Value added?
Do TMDLs/MS4s lead to stronger regulations within the community that result in improved water quality?		PennFuture has for PA # projects since stronger regs level of public awareness of water quality issues	
Do munis who get drinking water from within the muni care more about water quality?		Who's on well water/local source # actions taken	
Do munis that depend on water resources for their economy care more/do more?			
Lack of understanding about tools precludes action.			
Public water versus other Do you drink your own water? Where it comes from			
Technical competency			
Growth pressure yields more pressure to regulate			

economic development versus water quality?			
Regional collaboration benefits			
Aging infrastructure is a big driver Communities will prioritize sewer, gas ___			
SSO ___ are very high --> a driver			
Regulatory - prompt water management/ I+F Flooding, aging infrastructure, sewer authority, public health			
technical competency - experience GI begets GI			
water quality =/= economic development			
assumption ag community not as ratable chase us			
perception mutually exclusive econ/water env			

professionals - in house/consultant and age of professionals			
the age of the officials you are dealing with impacts support for water quality management			
munis with regulatory mandates (from state/federal regs) will have more water quality protection measures in place		what munis are under federal/state water quality regulatory mandates	
individual property owners (public, private, commercial, residential, ag, etc.) think they are not a source of the water pollution			
perceived effectiveness of "water quality" standards in their munis existing regulation?		existing regulations dealing with water quality	
munis with low development pressure are less likely to adopt water protection		# of plans submitted for approval development over time change in population # of building permits	Do you feel development pressure?
Municipalities designated in DRW have more water quality regulations than those not designated			
munis that may care are "ordinanced out". Are weary from too much past ordinance work, planning work			
muni officials don't prioritize water quality because it's not an electable platform			

munis don't care about water quality if they don't have a visible water related issue in their community, like clean drinking water, flooding, or erosion			
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