

**Report to the
North Carolina General Assembly**

***Private Well Inspection and Permitting Study
Report***

NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY



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Final Report on the Study of whether the transfer of functions related to private well inspection and permitting from the Division of Public Health of the Department of Health and Human Services to the Division of Water Resources of the Department of Environmental Quality would enhance program effectiveness, operational and financial efficiency, and customer service.

Report from the N.C. Department of Environmental Quality and N.C. Department of Health and Human Services to the Joint Legislative Oversight Committee on Agriculture and Natural and Economic Resources, the Joint Legislative Oversight Committee on Health and Human Services, the Environmental Review Commission, and the Fiscal Research Division under S.L. 2017-57, Section 13.25.

March 1, 2018

Reporting Requirement

Section 13.25 of S.L. 2017-57 directs the Department of Environmental Quality and the Department of Health and Human Services to study and report upon whether transferring the functions related to the private well inspection and permitting program (private well program) from the DHHS Division of Public Health to the DEQ Division of Water Resources would enhance program effectiveness, operational and financial efficiency, and customer service. To achieve this directive, the agencies consulted with a stakeholder group comprised of well contractors, well inspectors, and local health department officials who engage in activities related to the inspection and permitting of private wells. The DEQ and the DHHS respectfully submit this final report to the Joint Legislative Oversight Committee on Agriculture and Natural and Economic Resources, the Joint Legislative Oversight Committee on Health and Human Services, the Environmental Review Commission, and the Fiscal Research Division under S.L. 2017-57, Section 13.25.

Stakeholder Process

The Division of Water Resources and Division of Public Health convened stakeholder meetings on Nov. 9 and Dec. 5, 2017, and Jan. 4, 2018. Discussions during the meetings provided significant insight for the study and preparation of this report. Stakeholder participants are listed in Table 1. They represent industry sectors that engage in activities directly related to the permitting and inspection of private drinking water wells.

Table 1. List of Stakeholders Participating in Study Group for S.L. 2017-57 Section 13.25

Name	Title and Affiliation
Debra Watts	Supervisor; Animal Feeding Operations & Groundwater Protection Branch, DWR, DEQ
Eric Smith	Hydrogeologist, DWR, DEQ
Andrew Pitner	Environmental Program Supervisor, DWR, DEQ
Mark Phelps	Environmental Health Supervisor Pitt Co. Health Department
Andrew Blethen	Environmental Health Supervisor, Appalachian Health District Health Department
Stacey Harris	Environmental Health Supervisor, Beaufort Co. Health Department
Jon Fowlkes	Environmental Health Supervisor, Alamance Co. Health Department; President, NC Environmental Health Supervisors Assn.
Billy Yow	Well Contractor Certification Commission
Chauncey Leggett	Certified Well Contractor; President, NC Groundwater Association
Wilson Mize	Environmental Health Regional Specialist, Wells Team Leader, On-site Water Protection Branch, DPH, DHHS
John Brooks	Environmental Health Regional Specialist, On-site Water Protection Branch, DPH, DHHS
Nancy Deal	Branch Head, On-site Water Protection, DPH, DHHS

Stakeholders were unanimous in their opinion that they are highly satisfied with the service currently provided by Division of Public Health private wells program, with representatives from both the private and the public sector agreeing that program staff is responsive and reliable. The representative for certified well contractors stated that North Carolina's well drilling industry requires problems to be resolved quickly and the current program provides an elevated level of customer service that streamlines the regulatory process. When issues arise, well contractors and division staff are in constant communication. Because well and septic permits are often issued simultaneously, being able to secure technical and regulatory consultation within a single department is key. Local health department representatives echoed the certified well contractor's satisfaction with the current structure of well permitting and inspection activities carried out within the Division of Public Health. They affirmed that the link between the private well and on-site wastewater programs is inseparable, and it is unreasonable and inefficient to require local health department staff to work with two different agencies when permitting a private well and septic system on a single property.

Staff with the two divisions compiled comments and suggestions from the study group for use in developing this report, which outlines the basis for a unanimous recommendation from both agencies in response to the statutory directive. The recommendation is for the private well program to remain within the Division of Public Health.

Current Responsibilities

Current Oversight of the Private Well Program within the DHHS Division of Public Health

The Division of Public Health develops and promulgates rules for adoption by both the Commission for Public Health and the Environmental Management Commission. Within the division, the Environmental Health Section is responsible for administering a wide variety of programs through three branches: On-Site Water Protection/Well Contractor's Commission,

Food Protection and Facilities, and Lead and Asbestos (including the Health Hazards Control Unit and Children’s Environmental Health Program). The Environmental Health Section performs both regulatory and non-regulatory functions and is responsible for implementing 16 sections of the N.C. Administrative Code representing 406 individual rules. These rules include permitting, inspection, monitoring and regulatory enforcement related to septic systems, private drinking water wells, food and lodging establishments, institutional facilities, camps, public swimming pools, and tattoo artists. These are public health programs that protect our most vulnerable populations (i.e., children, the elderly and immunocompromised people), as well as citizens and visitors of North Carolina every day in multiple ways. Environmental health laws and rules represent the foundation of public health protection and the enforcement authority resides currently with a public health-oriented agency. The Division of Public Health, Environmental Health Section and local county health departments jointly implement the programs.

The On-Site Water Protection Branch oversees statewide programs governing subsurface wastewater treatment and dispersal systems (septic systems), private drinking water wells, and well contractor certification. Additionally, it includes a Non-Point Source Pollution Program that works to assess the nutrient load contribution of septic systems to sensitive waters of the state. Program staff includes registered environmental health specialists, soil scientists, professional engineers, and a PhD scientist. The branch staff and local health departments implement these statewide programs jointly with based upon support from the Division of Public Health, Environmental Health Section.

The Division of Public Health private well program currently consists of two environmental health regional specialists who are required to be registered with the N.C. State Board of Environmental Health Specialist Examiners in accordance with 15A NCAC 01O .0100 and NCGS 90A-52. See Appendix A, Tables A-1 and A-2 that break down the private well inspection and permitting activities within the Division of Public Health. In summary, the private well program staff:

- Trains and oversees delegation of authority for local health department personnel to enable them to enforce laws and rules (See Centralized Intern Training {CIT} below);
- Provides technical assistance and consultation to local health department delegated agents, property owners and other stakeholders via telephone, email and in person;
- Advises and directs local health department personnel regarding rule interpretation, rule revisions, and enforcement actions to support local program implementation;
- Engages the public directly to inform and educate citizens on how to protect their water supply and make informed decisions concerning well siting, repairs and water treatment devices;
- Visits sites with local health department personnel and Certified Well Contractors to review difficult well permitting conditions and identify available alternatives;
- Examines the potential need for, proposes recommendations on and, if appropriate, issues variances to 15A NCAC 02C. 0100 to overcome well site or construction limitations within the constraints of law and rule;

- Investigates well construction problems and collaborates to identify potential solutions upon request from local health department personnel or in response to complaints;
- Leads or participates in pre-construction meetings or final installation inspections of private drinking water wells as required or upon request of local health departments;
- Advises and guides local county environmental health department issuance of Health Risk Evaluations (HREs) when water quality standards are not met based upon direction from the Division of Public Health's Occupational and Environmental Epidemiology Branch;
- Seeks technical consultation from DWR regional office staff and cooperates on investigative and enforcement actions when groundwater contamination is suspected.
- Guides emergency management activities to mitigate environmental health threats related to private wells during state disaster recovery efforts; and,
- Interacts regularly with the Well Contractor Certification Commission on matters related to well contractor certification and collaborates to support its mission to ensure that qualified individuals engage in well construction.

Private well program staff are uniquely equipped to fulfill these roles because of their direct association with local health departments and their customers (the local citizenry) and their knowledge of well construction. By being closely associated with the local health departments, Division of Public Health private wells staff (many of whom worked previously at the local level) promotes consistency within and among county well programs across the state. Further, being located within the Division of Public Health with the full range of Environmental Health programs facilitates broad communication and coordinated permitting and enforcement. Frequent and regular communication with DEQ's Division of Water Resources occurs on matters of mutual concern or overlapping jurisdiction.

Centralized Intern Training (CIT) Required for LHD Delegation of Authority

To qualify for delegated authority to perform the regulatory functions of specific state sanitation programs administered by the Environmental Health Section (including private drinking water wells), county interns must comply with the provisions of 15A NCAC 01O .0100, *Delegation of Authority to Enforce the Commission for Public Health Sanitation Rules*. A critical function within the Division of Public Health is coordination of Centralized Intern Training (CIT) so that interns receive required training in seven environmental health subject matter areas. During the 2017 calendar year, 183 interns attended the training. Of these, 73 (40%) sought authorization in private drinking water wells. Training materials are based upon nationally recognized environmental health tenets and peer-reviewed research. Section staff comprise most of the instructors for intern training.

Upon successful completion of study and practice in their home county, interns attend CIT, complete a field practicum and a written examination. If they are successful, regional staff recommend to the State Environmental Health Director that the intern be delegated authority to enforce laws and rules within specific program areas. Regardless of their specialization in

one or more areas, all interns receive instruction on the full range of environmental health disciplines and must become registered with the N.C. Board of Environmental Health Specialist Examiners which administers a written examination (both multiple choice and essay) as well as oral exercises covering all aspects of environmental health.

Authorization is not granted lightly and is subject to suspension or revocation by the Division of Public Health for due cause. There are approximately 915 Registered Environmental Health Specialists at the local level and they hold a total of 3,366 authorizations. Most local environmental health specialists are cross-trained with authority over multiple environmental health programs, particularly in small counties with limited staff. This training and authorization process (provided exclusively through the Division of Public Health) ensures that interns gain the necessary expertise to implement these crucial programs at the local level across the state.

Current Oversight of Wells within the DEQ Division of Water Resources

The Division of Water Resources is responsible for protecting the state's surface water and groundwater resources. It accomplishes this through five sections: Water Quality Regional Operations, Water Quality Permitting, Water Sciences, Public Water Supply, and Water Planning. The division performs both regulatory and non-regulatory functions through the provision of technical assistance, consultative services, permitting of regulated entities and activities, certification of water and wastewater treatment plant operators, inspection and compliance activities, laboratory analysis and testing, and educational outreach and training.

The Water Quality Regional Operations Section (WQROS) implements programs which protect groundwater and surface water resources. They are charged with responding to citizen complaints and incidents such as spills, fish kills and sewer overflows; emergency situations such as hurricane flooding; performing ambient water quality monitoring and delivering customer service and technical assistance to the public. Program staff is housed at seven regional offices across the state.

Section staff has a broad regulatory focus including Non-Discharge and National Pollutant Discharge Elimination Systems (NPDES), 401 wetlands and buffer program implementation, animal feeding operations, underground injection control and proper well construction. Staff regulate these programs through permitting actions, determination of compliance status through regular inspections, initiation of enforcement actions and legal orders for non-compliance, as well as evaluation of groundwater and surface water monitoring data to determine any resource impacts.

Although portions of both central and regional office staff have responsibilities for the construction of wells, this is not a major program. See Appendix A, Tables A-3 and A-4 that summarize the workload for staff, highlighting tasks associated with wells. Responsibilities include rule interpretation, recommended changes to or enforcement of the well construction rules, development of policy on well construction, provision of technical assistance to well contractors and/or local health departments for variances or for suspected groundwater impacts and permitting of all types of wells *except* private drinking water wells as required by

the well construction rules. These activities are primarily the responsibility of staff hydrogeologists, though environmental specialists may be assigned as well. Typically, a percentage of one position at each regional office is designated to respond to well complaints and process well permits and variances. Senior staff and central office staff are available for more advanced and complex situations. The Animal Feeding Operations and Groundwater Protection Branch staff at the central office has overall responsibility for regulation of well construction.

Effects of Proposed Program Transfer: *Financial Efficiency*

The logistics for the proposed transfer were not defined in Section 13.25 of Session Law 2017-57. Thus, the DEQ Division of Water Resources and DHHS Division of Public Health evaluated costs under three possible scenarios:

1. Incorporate the private well program staff and functions into DEQ regional offices with some personnel and process changes.
2. Move the private well program staff and functions to the DEQ Division of Water Resources while maintaining the same processes.
3. Leave the staff and functions related to private well permitting and inspections within the DHHS Division of Public Health.

Scenario 1

Five additional staff would be hired to establish a designated private well contact within each of seven Division of Water Resources regional offices to provide statewide coverage. DEQ would incur an estimated additional \$469,864 in personnel and administrative costs (Appendix B, Table B-1).

These newly hired personnel would have to attend training and become registered and authorized themselves to be able to train and authorize local health department staff in accordance with provisions of 15A NCAC 01O .0100, *Delegation of Authority to Enforce the Commission for Public Health Sanitation Rules*. This would, at a minimum, require six to eight weeks of field work at a host county in addition to attendance at Centralized Intern Training in Raleigh. The salary and fringe for five staff to focus solely on registration for the full eight weeks accounts for an estimated \$56,160 of the total personnel costs. The travel, per diem and lodging reimbursement for CIT expenses varies depending upon where and when travel originated and whether lodging was required. If personnel do not pass the requisite exams, the DEQ would incur additional costs for study, training and re-examination.

The critical issue of CIT and delegation of authority to authorized agents would have to be addressed within this context to ensure that *both* the Division of Water Resources and local departments are adequately staffed. Under the current statutory framework, the Division of Public Health is the sole agency that provides this comprehensive and fundamental environmental health instruction.

The departmental transfer itself will result in delayed processing times as additional management layers are identified, coordination is established, and staff navigate the onboarding personnel processes specific to DEQ. In the long term, processes would become more streamlined.

Until then, since approximately 50% of private well permits are issued concurrently with an on-site wastewater permit, stakeholders who wish to install a septic system and a well would have to engage two agencies. Applicants seeking approval to construct or remodel a home or business may encounter significant delays at critical junctures during their projects, which could affect project financing or other aspects of the overall construction process. The ability of the owner of a permitted establishment to conduct business could be compromised as they seek multiple permits (e.g., a food establishment which needs both an on-site wastewater system as well as a safe drinking water source).

Once private well program functions are transferred, local health departments would have to engage two separate agencies for delegation of authority for their Environmental Health staff. Further, they would consult with both agencies for rule interpretation, consultative services and enforcement actions. This additional layer of management means that developers, home builders and entrepreneurs would be compelled to seek permits and technical assistance from multiple state agencies in addition to their county agency, potentially slowing local economic development.

Scenario 2

Current private well program staff move to the Division of Water Resources with no process change. Staff would continue to have the same duties, be home-based and travel as requested by local health departments, with occasional regional office staff assistance as needed. There would be no increase in DEQ Division of Water Resources regional office staff. Since a transfer would likely be a Type II, all related budgets (a total of approximately \$203,000.00 representing the sum of figures in Appendix B, Tables B-2 and B-3) would transfer with program functions and personnel.

This scenario has negligible effect on the financial efficiency of the Departments, but the transfer would still affect stakeholders financially as result in delays associated with the organizational restructuring process. The many issues related to dual jurisdiction described under Scenario 1 will apply here until logistics surrounding the transfer are fully implemented.

Scenario 3

Staff remains in the Division of Public Health, processes remain unchanged and there is no effect on current financial efficiency of either department. Local health departments retain a cohesive Environmental Health program bolstered by a dedicated support network at the state level. These agencies can, in turn, provide expedient service to their applicants who would consult a single agency for all regulatory issues related to their water and wastewater needs.

Financial Efficiency in Perspective

The effect on financial efficiency of a potential transfer under either Scenario 2 or 3 is likely negligible from a purely budgetary perspective. However, each must be evaluated within the context of potential increased costs to property owners resulting from inevitable delays associated with these types of transfers. If the permitting process takes more time, this is a genuine cost to property owners who must respond to investors or lending institutions in a timely fashion and meet project interim deadlines. The unquantified costs associated with delays from rearranging the organizational structure must be weighed in the balance.

Effects of Proposed Program Transfer: Operational Efficiency

Operationally, environmental public health programs at the state and county levels work in concert with each other to ensure efficient and consistent application of the laws, rules, and policies to protect public health statewide. The private well program staff already works closely with Division of Water Resources staff to ensure wells are permitted in accordance with the well construction standards. Further, they ensure that the wells are located and constructed to protect North Carolina's groundwater resources as well as the public health of residents throughout the state. Examples of current operational efficiency of the DPH private well program follow.

Since approximately 50% of permits for private wells are issued concurrently with an on-site wastewater permit, assistance is often needed to locate an existing septic system or relocate a proposed septic system to meet the required well construction standards. Private well personnel can obtain accurate consultation and guidance directly and expediently within the branch, section or division.

Division of Public Health private well program staff provides technical assistance for wells serving child care centers, schools, assisted living facilities, swimming pools, food and lodging establishments as well as a variety of camps. A safe water supply is fundamental to public well-being and, by extension, laws and rules which govern regulated facilities require a safe potable water source. When water quality issues arise, the private well program staff assists by examining wells during investigations and providing technical assistance to bring the wells back into compliance. This allows the facility to conduct business safely. These requests for guidance are often urgent (e.g., to avoid closure of the facility or within the scope of a disease outbreak investigation) and staff must be prepared to act quickly when they receive inquiries. Based on stakeholder feedback, Division of Public Health staff has demonstrated a significant capacity for efficient and rapid response when multiple sets of environmental health regulations are involved. This ensures that compliance monitoring and enforcement actions are conducted swiftly. Time is of the essence whenever public health and environmental threats are identified.

Local health department environmental health staff must be granted delegation of authority from the Division of Public Health's state environmental health director to enforce environmental public health laws and rules for their local department. Until they hold this authorization, they can do very little productive work for their county. The state environmental

health director relies on recommendations from staff prior to granting authority and the local health departments rely on a quick response. Division of Public Health staff typically complete the field portion of the process within seven to 10 business days from the date of request. Once staff sends a recommendation for authorization, it is processed “in-house” by Environmental Health Section administrative staff within a matter of days. This allows local health departments to confidently and expediently staff their county programs with personnel prepared to serve their citizens.

Operational efficiency is currently maximized through direct and significant coordination among the On-Site Water Protection, the Food Protection and Facilities and the Children’s Environmental Health programs at both the state and county levels with additional consultative support from the Division of Water Resources as necessary. If a transfer occurs, resources that are now readily available to the private well program staff will become less so.

County-level stakeholders and certified well contractors indicate that the current process is very effective at providing expedient and coordinated services (intern training, authorization, permitting guidance and technical assistance) within one agency. The potential loss of operational efficiency from Division of Public Health staff transferring to Division of Water Resources would likely translate into delayed permitting procedures which always affects applicants adversely. We agree with stakeholders that the current logistics favor optimal response times and complete, highly efficient service.

Effects of Proposed Program Transfer: *Customer Service*

Delayed services resulting from decreased operational efficiency directly affects the quality of customer service. One of the most common complaints by permittees is having to deal with multiple agencies for one project or permit and encountering delays, inconsistency, and increased costs.

The Division of Public Health private well permitting process requires close collaboration among well program staff, local health department staff, county building and zoning departments, local builders or developers and well drillers. Territories are assigned to the Division of Public Health private well program staff based primarily upon the historical demand from local health departments across the state. This facilitates rapid response to both routine issues and public health emergencies. Developers, home builders and entrepreneurs would experience delays in obtaining permits and technical assistance as they engage multiple state agencies in addition to their county agency, potentially slowing local economic development.

Division of Public Health private well program staff provide critical customer service when water quality standards are not met by assisting local health departments in conveying epidemiological information on exceedances and related health effects. Because both the Occupational and Environmental Epidemiology and the On-Site Water Protection programs reside within the Division of Public Health, communication is swift and effective, facilitating an accurate and timely response when problems arise.

Local health departments are also our customers. As stated previously, there are approximately 915 registered environmental health specialists at the local level and they hold a total of 3,366 authorizations across seven subject matter areas of environmental health. This emphasizes the fact that most local environmental health specialists are cross-trained in the full range of environmental health programs which affect NC citizens every day. Small counties with limited staff rely directly upon the Environmental Health Section and the Division of Public Health to provide seamless, comprehensive training and delegation of authority as appropriate. The potential transfer of the Division of Public Health's private well program duties would split delegation of authority between two state departments – an unprecedented action that will delay authorization and, by extension, permitting processes for both the private wells and the residential, commercial or industrial facilities where their use is proposed. Other unintended consequences are also possible.

Without exception, stakeholder representatives within this study group stressed multiple times that the current level of customer service provided is superlative.

Effects of Proposed Program Transfer: *Program Effectiveness*

The effectiveness of any regulatory program is based not only on objective implementation of statutory mandates, but also on providing efficient and streamlined service to the public (our customers) within the scope of law and rule. Each department plays a role in protecting public health and the environment. The mission is common, but the focus differs. The text and tables in Appendix A provide additional detail on the respective organizational structures and duties within DPH and DEQ as they relate to implementation of the private well program.

Private well programs have traditionally been implemented at the local level with support from the State originating within the Environmental Health Section. It is a successful program because of the Section's well-established infrastructure for training and authorization, program monitoring/quality improvement, continuing education, cross-program regional consultant capacity and technical assistance provided to all 100 counties.

The existing focus for the Division of Water Resources is on well permits for municipalities and businesses. The addition of the private well program to regional office staff duties would require, at a minimum, the addition of two FTEs to assume the private well program while maintaining the current ability to respond to groundwater pollution incidents or address concerns about coal ash or emerging contaminants such as GenX. The Division of Water Resources is not currently structured to accommodate the needs of 100 local agencies and their staff. Establishing the necessary rapport with constituents will take time.

Under current operating configurations, management and support of decentralized water and wastewater (wells and septic) occurs within a single department with a well-established support infrastructure. With the direct support of other Environmental Health Section staff and the Division of Public Health, the effectiveness of the private drinking water wells program can be maintained and even strengthened.

Stakeholders support the *status quo*, stating that it is already very effective.

Recommendation

The DHHS and DEQ agree with stakeholders that maintaining the current organizational structure promotes optimal financial efficiency, maintains exceptional operational efficiency and provides high-level customer service. The sum of these metrics translates into a strong and effective program. The departments and stakeholders therefore jointly recommend retaining the functions of the private well permitting and inspection program, including issuance of well construction variances, within the DHHS Division of Public Health, Environmental Health Section, On-Site Water Protection Branch. By being closely associated with the local health departments, On-Site Water Protection staff promote consistent, objective program implementation within and among county programs across the state. Further, being organizationally located within the Environmental Health Section alongside the complete range of sanitation programs facilitates coordinated program implementation. Finally, the foundation provided by the Division of Public Health, with full cooperation with the Division of Water Resources as appropriate, completes the optimal scenario.

The Division of Public Health has a unique, long-standing and strong connection with local health departments as evidenced by the firmly established support infrastructure in place within the Environmental Health Section and the Division. In fact, the foundations of public health, particularly safe water, are built upon county efforts supported by state public health infrastructure. The DEQ Division of Water Resources plays a prominent role in protecting water supplies, and the DHHS Division of Public Health will continue to collaborate regularly in that mission as appropriate.

Managing the functions of permitting and inspection of both private wells and septic systems within a single agency that also includes the full range of environmental health disciplines ensures an efficient and comprehensive permitting and inspection process to better serve our customers while protecting both public health and the environment.

Appendix A

Personnel Activities

Tables A-1 and A-2 summarize current private well inspection and permitting activities within the Division of Public Health. Tables A-3 and A-4 provide similar information for the Division of Water Resources. The text provides additional detail regarding program implementation for each entity.

The DHHS Division of Public Health's private well program consists of two FTEs which provide technical assistance, training to local environmental health specialists and delegation of authority services throughout North Carolina. Table A-1 summarizes the workload for the two staff members who directly oversee the private well program. The private well program provides technical assistance immediately upon request. The demand for consultative service is illustrated in that more than nearly 65% of staff time (2,850 hours) was spent on these activities during FY15/16. Because of the interconnectedness of Environmental Health Section programs, some issues require consultation with staff from other Division of Public Health branches and other division programs. This coordination within the Environmental Health Section is extremely efficient, and guidance is typically provided to the local health department or permittee within 24-48 hours.

Table A-1. FY15-16 Division of Public Health Private Well Inspection and Permitting Program Activities*

Private Well Program Duties	Total # of Requests/Year	Avg. Time Per Task (hr.)	Total Time Per Activity
All duties related to intern authorizations [not including CIT]	35	10	350
Consultation/tech assistance for private drinking water supplies with site visit.	125	6	750
Consultation/tech assistance for private drinking water supplies in office	2100	1	2100
All duties related to variance issuance including site visits or telephone/email conversations.	261	1.5	391.5
Complaint investigations related to wells including phone, office, field activities.	53	5	265
All Duties related to quality assurance and accreditation	7	6	42
All Duties related to board and commission meetings	7	8	56
Preparing for and participating in hearings, mediation, Tort claims, court cases.	8	2	16
All Activities related to Rule writing and revision	2	8	16
Time spent writing and reviewing policy statements, position statements, guidance documents, and rule interpretation.	5	4	20
Presentation preparation, travel, and attendance to courses at which you speak	33	6	198
Training attended (no presentation)	7	10	70
Data entry; website revision/update; travel, etc.	44	1.5	66
Time spent on grant projects, surveys, workgroup or task force meetings.	2	4	8
Meetings attended that are not specifically listed in another category.	14	5	70
Annual Total	2,703	-	4418.5

*Source: Staff Activity reports for SFY 15/16, except that stipends for CIT Wells module were calculated from 2016 figures.

Local health department environmental health staff must be granted delegation of authority from the Division of Public Health's state environmental health director to enforce environmental public health laws and rules for their local department. Until they hold this authorization, they can do very little productive work for their county. The state environmental health director relies on recommendations from staff prior to granting authority and the local health departments rely on a quick response. Division of Public Health staff logged nearly nine weeks of time dedicated to training and authorization during FY 16/17 and they typically complete the field portion of the process within seven to 10 business days from the date of request. Once staff sends a recommendation for authorization, it is processed "in-house" by Environmental Health Section administrative staff within a matter of days. This allows local health departments to confidently and fully staff their county programs with personnel prepared to provide accurate and expedient service to the public. Thirty-three local personnel earned the delegation of authority for private wells through DPH staff efforts during this period.

Table A-2 illustrates estimated workload for personnel in all 100 North Carolina counties that are performing private well program duties within their respective local health departments. This includes the number of specific well-related tasks and time logged per task as reported in monthly activity reports submitted by counties to the state during the 2014 calendar year, the last year for which data is compiled. Since the economy has improved in the past three years, it is reasonable to assume that the number of local health department inspection and permitting activities has increased. During 2014 calendar year Division of Public Health staff supported work performed by 56 FTEs at the county level including issuance of more than 6,000 permits (initial and repair) and collection of more than 17,000 water samples. This demonstrates the collaborative spirit of the relationship between the local health departments and the division and illustrates that this is a highly productive program.

Table A-2. 2014 Local Health Department Private Well Inspection and Permitting Program Activities

Local Health Department Private Well Program Duties	Total # of Requests/Year	Avg. Time Per Task (hours)	Total Time Per Activity
Well Permit Issued	5,571	6.5	36211.5
Well Site Evaluations	5,826	2	11652
Well Repair Permit Issued	708	4	2832
Well Consultation Visits	4,615	3	13845
Well Abandonment Permit Issued	968	1	968
Well Head Inspections	4,564	1.5	6846
Well Grout Inspections	5,491	1.5	8236.5
Well Camera Inspections	103	3	309
Bacteriological Samples Collected	9,066	2	18132
Other Samples collected (inorganics, organics, pesticides)	8,201	2	16402
Well Complaint Investigations	448	4	1792
Annual Totals	45,561	-	117,226

*Source: Monthly Activity Reports for calendar year 2014.

Table A-3 summarizes the workload for water quality staff in the DEQ's Division of Water Resources regional offices, which totals 112 positions including engineers, hydrogeologists, soil scientists, and environmental specialists. Their primary responsibilities are to provide protection of groundwater and surface water resources through a variety of tasks that are listed under Activity Category in Table 2. The number of full time equivalents (FTEs) is listed for each activity (2,080 hours are estimated for each FTE), with four categories broken out to show private well program responsibilities (highlighted in yellow). The FTEs include the central office staff as well as the seven regional office staff members that are responsible for inspection and compliance of programs in 100 counties. The time spent on each task was estimated by each employee and summarized for the calendar year 2017. This data was gathered in a division internal workload analysis.

Table A-3. 2017 DEQ DWR WQROS Regional Office Activities with Well Activities Highlighted

<u>Activity Category</u>	<u>FTE/ Description</u>
Administrative Services and Support	1.81
Budget	0.59
Commission /Board Support	0.39
Complaint Investigation	7.42
Compliance Oversight / Determination	Activities to assess regulated entities compliance, and follow-up meetings, correspondence, etc. (including data/annual report review)
401 jurisdictional wetlands	2.36
Animal Feeding Operations (AFO)	3.54
Collection	1.69
Non-Discharge (not incl. Coll, AFO)	3.98
NPDES (not incl. AFO)	4.31
Pretreatment	0.60
Wells (incl. Underground Injection Control (UIC))	0.98
Groundwater (GW) incident/Coal Ash	4.00
Data Analysis / Modeling / Planning	0.60
Data Coll / Monitoring / Aquatic Weeds	5.52
Data Entry and Processing	1.80
Emergency Response	2.56
Enforcement / Litigation / Legal	Researching, preparing enforcement cases, meetings, negotiations, testimony, depositions
401 Jurisdictional Wetlands	0.99
AFO	1.57
Collections	1.38
Non-Discharge (not incl. Coll, AFO)	1.49
NPDES (not incl. AFO)	3.61
Pretreatment	0.12
Wells (including UIC)	0.28
GW incident/Coal Ash	1.00

Inspection (Routine Compliant)	Routine inspections (ex. Annual CAFO inspection, 2/yr. Major WWTF) - planning, travel, inspection, paperwork, oversight
401 Jurisdictional Wetlands	1.95
AFO	6.72
Collections	3.42
Non-Discharge (not incl. Coll, AFO)	5.86
NPDES (not incl. AFO)	8.03
Pretreatment	1.03
Wells (including UIC)	0.50
GW incident/Coal Ash	0.63
Operator Certification	0.76
Permitting / Plan Review	Meetings, studies, correspondence, reviews, 401 includes stream calls and pre-application meeting, Field staff site visit and staff reports
401	5.07
AFO	1.19
Collections	1.75
Non- Discharge (not incl. Coll, AFO)	3.57
NPDES (not incl. AFO)	1.75
Pretreatment	0.25
Wells (including UIC)	1.74
GW incident/Coal Ash	0.82
Personnel	1.56
Program / Policy Development	2.13
Requests for Information/FOIA/Research	1.65
Rule-Making	0.54
Staff Development	1.81
Technical Assistance	5.16
Training / Outreach / Presentations	1.62
Water Quantity Management	0.00
TOTAL FTE	112.07 (233,106 hours)
TOTAL Well FTE	3.50 (7280 hours)

*Source: Division of Water Resources internal workload analysis.

Table A-4. lists the type of well permits issued by Division of Water Resources regional office staff and the number of permits and/or wells. The numbers are excerpts from the division's Basin-wide Information Management System (BIMS) and the Annual Underground Injection Control annual report sent to EPA Region 4. These numbers do not include wells issued other types of permits by the Division of Water Resources such as the non-discharge spray irrigation permits. Regional staff are responsible for inspecting the construction of and monitoring the data for these permitted wells. For the wells listed below, only those in the Underground Injection Control category are required to be inspected.

Table A-4. 2017 Division of Water Resources Well Permits Issued

2017 Well Permits Issued	
Type of Permit	Number of Permits (Number of Wells if Different)
Monitoring Wells	229
Recovery Wells	0
Water Supply Wells (>100gpd)	77
Injection Wells:	
Geothermal Heating/Cooling Water Return Wells	14 (16 wells)
Groundwater Remediation Wells	61 (1012 wells)
Tracer/Other Wells	7 (4 wells)
Well Construction Variances	21
Total Permits	409

*Source: Excerpts from the Division of Water Resources' Basin-wide Information Management System (BIMS) and the Annual Underground Injection Control annual report sent to EPA Region 4.

As shown in Tables A-3 and A-4, the Division of Water Resources currently uses 3.4 FTEs for well activities (approximately 3% of available man-hours). Two FTEs are dedicated to the Underground Injection Control program, which leaves 1.4 FTEs for the remaining well construction program. The addition of the private well program to DEQ regional office staff duties would require, at a minimum, the addition of two FTEs to assume the private well program while maintaining the current ability to respond to groundwater pollution incidents or address concerns about coal ash or emerging contaminants such as GenX. In addition, their existing focus is on permits for municipalities and businesses rather than the individual citizen. The addition of the private well program to DEQ regional office staff duties would hinder their current ability to respond to groundwater pollution incidents and perform other duties such as response to concerns about coal ash or emerging contaminants such as GenX.

Appendix B

Personnel Costs

Table B-1 provides estimated costs to the Division of Water Resources for a proposed transfer under Scenario 1. Tables B-2 and B-3 provide current actual personnel and estimated administrative costs, respectively, for the Division of Public Health Private Drinking Water Wells program for FY 16/17.

Table B-1. Projected Annual Estimated Additional Costs to the Department of Environmental Quality Division of Water Resources under Scenario 2

Cost	Amount
Personnel Cost for 5 additional FTEs (Compensation excluding longevity, travel, Office equipment, office supplies, software, and service, Field equipment and supplies)	\$443,479
CIT cost for 5 FTEs (Travel, per diem, lodging, etc.)	variable
Administrative Costs (CIT Training materials and other costs, CIT Stipends to Counties and Legal Settlements))	\$26,385
Total Additional costs for Scenario 2*	\$469,864

*Total does not reflect approximately \$203,000 budget transfer from the DPH in DHHS to the DWR in the DEQ.

Table B-2. Current Annual Actual Personnel Costs for DPH Private Drinking Water Wells Staff*

Category	Item	Annual Recurring Cost	Non-recurring Costs	Category Total
Compensation excluding longevity	Salary/fringe 1 FTE TL (REHS)	\$78,237		
	Salary/fringe 1 FTE (REHS)	\$67,803		
	Total Compensation	\$146,040		\$146,040
Travel	CIT Travel (per diem, lodging)	\$69		
	Motor fleet 1 (FY 15/16)	\$4,352		
	Motor fleet 2 (FY 15/16)	\$4,640		
	Other travel, meetings, conferences, etc.	\$2,500		
	Total Travel	\$11,561		\$11,561
Office equipment, office supplies, software, and service to include 2 FTEs	Computers and peripherals		\$2,239	
	Printer/fax		\$596	
	Scanner		\$550	
	Cell phone case, car charger (assuming free phone and wall charger)		\$123	
	Cell phone/hot spot (12 months @ \$64.27/Mo)	\$1,542		
	Office supplies (paper, ink, etc.)	\$400		
	PO Box rental (2 boxes annually)	\$100		
	Total Office Equipment and Supplies	\$2,042	\$3,508	\$5,551
	Work boots	\$200		

Field equipment and supplies	Well camera/monitor		\$14,000	
	Flags, marking tape, etc.	\$40		
	Total Field Equipment and Supplies	\$240	\$14,000	\$14,240
Total Annual Recurring Costs (Salary and fringe, motor fleet and other travel, office services)		\$159,883		
Total Non-recurring and Variable Personnel costs (Office and Field Equipment replacement)			\$17,508	
Grand Total Personnel costs (2 FTEs)				\$177,392

*Source: OSWP Budget figures SFY 16/17

Table B-3. Current Annual Estimated Administrative Costs for Division of Public Health Private Drinking Water Wells Staff*

Category	Item	Annual Recurring Cost	Non-recurring Costs	Category Total
CIT program costs for Wells Day	Training materials (% of costs for printing training materials for Wells participants based upon FY 17/18 figures)	\$60		
	Other CIT costs (% of costs for snacks, etc. for only Wells participants based upon FY 17/18 figures.)	\$30		
	Stipends to counties* 2016 calendar year data for stipends awarded for attendance at the Wells module		\$16,295	
	Total CIT costs	\$90	\$16,295	\$16,385
Legal	settlements paid		\$10,000	
	Total Legal settlements		\$10,000	\$10,000
Total Annual Recurring Administrative Costs (CIT Training materials and other costs)		\$90		
Total Non-recurring and Variable Administrative costs (CIT Stipends to Counties and Legal Settlements)			\$26,295	
Total estimated Administrative Costs				\$26,385

*Source: OSWP Budget figures SFY 16/17, except that stipends for attendance at the Wells module were calculated from 2016 Calendar year figures (\$62.00 per module, plus mileage allocation based upon four geographic areas of the state).