I. Project Title and Applicant's Organization

Project Title	Wilson Lake Watershed Protection Project, Phase I
Applicant's Organization	Town of Wilton

I. Waterbody and Watershed Information

a. Background

Waterbody Name	Wilson Lake (a.k.a. Wilson Pond)
Waterbody Size (e.g., lake acres, stream miles)	479 acres
Watershed Area (acres or square miles)	26 square miles
Watershed Town(s)	Wilton, Temple, Washington Twp., Perkins Twp., Carthage and Jay
Comprehensive Plan Adoption (List watershed towns that have adopted consistent plans.)	Wilton

b. Waterbody and Watershed Physical Characteristics

Wilson Lake is located in the foothills of Maine's western lakes and mountains in the Town of Wilton, Maine. The watershed covers approximately 26 square miles of land across six towns and townships, though the majority of the watershed is located in Wilton and Temple. The large undeveloped upper watershed begins at Hills Pond in Perkins Plantation. The lake's outlet stream joins with several other small tributaries including Anderson Brook, Townshend Brook, Dakin Brook, Temple Brook, and Pine Brook which all flow into Wilson Stream. A dam on Wilson Stream controls flow at the outlet, as required by Maine DEP to maintain flow levels necessary for the outflow from the Wilton Water Treatment Plant downstream. This also affects lake level. Wilson Stream flows to the Sandy River and eventually into the Kennebec River and into the Gulf of Maine. The surface area of Wilson Lake covers approximately 479 acres, with a maximum depth of 88 feet.

Land uses in the watershed include both managed and unmanaged forests, agriculture, residential development along roadways and along the shoreline, commercial development including the Wilson Lake Golf Club on the northeast shore, the Wilson Lake Inn on the west shore, and a large commercial complex adjacent to the town office on the east side of the lake. Town-owned Kineowatha Park is another notable watershed feature, comprised of 62 acres of land on the east shore of the lake. There are approximately 131 shoreline properties on Wilson Lake serviced by state, town and private roads. Large state-owned roads in the watershed include Rt. 2 and Rt. 156. Of particular concern is the proximity of State Rt. 156 to Wilson Stream. The road follows the stream for approximately six miles from Hanslip Rd. to Hills Pond.

c. Description of Waterbody Uses and Value

Wilson Lake is used extensively for swimming, fishing, and boating, and is important to the local economy. Maine Department of Inland Fisheries and Wildlife reports 16 species of cold and warm-water fish in Wilson Lake, including a small native salmon population. The lake is home to several important wildlife species including the Common Loon, the American eel, and Bald Eagle. The watershed includes 408 acres of wetlands, 38 stream miles with 625 acres of riparian stream

habitat, and 595 acres of lakes and ponds with 253 acres of riparian lake habitat. In addition, the watershed includes large undeveloped land blocks, inland wading bird and waterfowl habitat, state-listed species, deer wintering areas, significant vernal pools and high value freshwater wetlands, grasslands and upland forests.

II. NPS Pollution Problem / Need:

a. Water Quality Listing Status

Is water quality listed as impaired?	No
If impaired, what is the listed cause(s) and/or impaired use?	Not applicable
Name and date of any DEP TMDL report(s) for the waterbody.	Not applicable

b. Water Quality Overview

Wilson Lake is listed on DEP's 2016 Nonpoint Source Priority Watershed List as "Threatened". The priority list reasoning is "Watch List" as a result of the recent trend of declining water clarity. Wilson Lake is on the watch list because data suggests that water quality may be near the impairment threshold. Ongoing water quality monitoring and targeted actions to reduce NPS inputs to Wilson Lake will be imperative to reverse this trend. Water quality data has been collected in Wilson Lake since 1974. Based on these historic data, the potential for nuisance algal blooms is low to moderate, and the potential for internal loading is low. Dissolved oxygen (DO) profiles in Wilson Lake indicate low DO in deep areas of the lake, and data collected by Dr. Dan Buckley at the University of Maine Farmington (UMF) suggests that this trend may be getting worse over time.

Maine DEP recently conducted a classification and condition analysis for Maine lakes, which classified Wilson Lake as an “interior pond” with an "average" watershed based on the level of human activity it contains. Water clarity in Wilson Lake falls below the average reference condition compared to other lakes in the same condition class. The short-term trend (last 10-years) indicates a greater than 1 meter decrease in clarity over a 10 year period (5.16 m in 2005 to 4.12 m in 2014). There is not enough annual epilimnetic data to determine a total phosphorus trend over this same time period.

c. Summary of Past Watershed Assessments and Most Important Nonpoint Sources

In 1994, watershed partners conducted the first watershed survey of Wilson Lake, Varnum Pond and Pease Pond. The 2016 Wilson Lake Watershed Survey identified a total of 62 NPS sites across ten different land-use types. Combined, road sites including town roads, state roads and private roads account for 50% of all sites. Residential properties and driveways account for another 36% (22 sites), while the other less commonly documented land uses (municipal/public, boat access, beach access, commercial and undeveloped) account for the remaining 14% (9 sites) of the sites. Agricultural properties were not included in the watershed survey due to limited access. The golf course was surveyed, however there were no NPS sites identified and it was noted that phosphorus-free fertilizer is used on the greens. High and medium impact sites account for close to half of the documented sites (30 sites). The five high impact sites were located on state, town, and private roads. The full list of sites was prioritized by the watershed

steering committee to target state roads (all sites), town roads (4 sites), private roads (1 site) and municipal properties (2 sites) because of their potential influence on water quality. Sixteen medium and low impact residential sites were prioritized for implementation through FOWLs existing LakeSmart program.

d. Description of Watershed Activities to Address NPS Sources

The watershed community has demonstrated a strong commitment to watershed protection. Public and private partnerships are strong, especially between local non-profits such as FOWL, Franklin County Soil and Water Conservation District (FCSWCD), the Town of Wilton, the business community, and landowners. In 1994, watershed partners conducted the first watershed survey of Wilson Lake, Varnum Pond and Pease Pond. In 1995, (FCSWCD) coordinated a BMP demonstration project (#1995-12) at Kineowatha Park with Clean Water Act Section 319 grant funds from US EPA.

The town and local businesses contribute annual funding to support lake protection projects such as the Courtesy Boat Inspection Program (CBI). Since 2004, FOWL has run a successful LakeSmart program, and was recognized as a LakeSmart "Golden Achievement Award" for its efforts at recruiting property owners to become certified. Only seven other lake associations across the state have achieved this level of involvement which requires that 15% of all lake shore properties are LakeSmart certified. The percentage of homes on Wilson Lake that are certified is at 36% as of 2016.

The Wilson Lake Watershed-Based Protection Plan (WBPP) was developed during the winter/spring of 2017, and accepted by Maine DEP and the US EPA in May 2017. The plan includes the nine minimum elements considered by EPA to be critical for achieving improvements in water quality and required under the Nonpoint Source Program and Grants Guidelines for State and Territories (April 2013). The plan was developed by a Watershed Steering Committee made up of representatives from the Town of Wilton, Friends of Wilson Lake (FOWL), (FCSWCD), USDA/NRCS, UMF, and the Wilton Conservation Commission to help prioritize NPS sites identified during the independently-funded 2016 Watershed Survey, and to outline an action plan to protect and improve water quality in Wilson Lake over a 10-year planning period. The committee has already taken significant steps to begin implementing the plan, first by sending post-survey letters and a survey summary flyer to all landowners with an identified NPS site; meeting with state and town officials; and meeting with landowners to discuss potential projects.

III. Purpose:

The purpose of this project is to address high priority NPS sites that deliver excess sediments and nutrients to the lake through targeted implementation of conservation practices identified in the 2016 WBPP. Conservation practices will be installed at 26 NPS sites in the watershed on state, and town roads, a private road, public boat launch and public park, and on ten residential properties. In addition to pollutant reductions, the project will help reduce current and new sources of pollution by raising public awareness about the need for lake protection and building local capacity for implementing the WBPP through targeted outreach activities.

IV. Project Duration:

Project Start Date	February 2018
Project Completion Date	December 2019

V. General Project Plan

The Wilson Lake Watershed Protection Project Phase I will be sponsored by Town of Wilton in coordination with FOWL, Maine Department of Transportation (MDOT), and the FCSWCD. The project will be guided by a project steering committee to build upon initial planning activities and to jump-start actions outlined in the 2017 WBPP. Planning activities will focus on implementation of conservation practices at high priority NPS sites identified during the 2016 watershed survey with a focus on state and town roads, a private road, municipal, and residential properties. The goal is to install conservation practices at 25 sites by providing matching grants and cost-sharing to watershed stakeholders. Matching grants will be used for addressing NPS at five (5) town road sites, two (2) municipal properties (boat launch, Kineowatha Park) and one (1) private road (Bass Point Cottages). Cost-sharing will be available for up to ten (10) residential properties. The town will conduct pollutant load reduction calculations for the PCR Reports (Task 6), provide technical assistance to cost-share recipients, review site plans, ensure necessary permits are in place, set up cost-share agreements, prepare NPS Site Reports, take before and after photos, and calculate pollutant load reductions for each site. An NPS Site Tracker will be developed to track completed projects, setting the stage for addressing the remaining survey sites in Phase II (Task 6).

The Town of Wilton plans to hire a consultant to assist with the project. Consulting services paid for with grant funds will be arranged and carried out using procurement procedures as described under Section 4 of DEP's Nonpoint Source Grant Administrative Guidelines. The consultant is expected to assist the town with all six tasks described below. The town will partner with FOWL to increase education and outreach efforts (Task 5) in the watershed. This includes a small subgrant to increase the number of new LakeSmart certifications in the watershed and for getting local school children out on the Maine Lakes Floating Classroom to learn how to monitor and protect Wilson Lake. FOWL will conduct the initial LakeSmart site evaluation and coordination with the landowner, and the property will be certified by staff from the FCSWCD. LakeSmart outreach will highlight the value of vegetated buffers and conservation practices and to raise interest in the residential matching grant program. Other education and outreach will include a stewardship event at town-owned Kineowatha Park with a goal of making Kineowatha LakeSmart. FOWL will prepare newsletter articles (3 newsletters/year mailed to 350 residents and businesses), website postings, host presentations at their lake association annual meetings (70 attendees/year), and host boat trips at the annual Blueberry Festival (700 riders/year) to highlight completed projects. The town will prepare a "Watershed-Living" insert for the tax bill mailing (distribution of 2,200 property owners), and prepare and distribute press releases and a final project brochure.

Several project partners have agreed to provide significant services for this project. This includes: a $57,000 match from MDOT to address seven (7) identified NPS sites on Rt. 2 and Rt. 156; $68,740 from the Town of Wilton for addressing five (5) town road sites and two (2) public/municipal sites; $9,984 in cash and in-kind match from FOWL to support education and outreach efforts (described above), to conduct LakeSmart certifications, and to serve on the

Steering Committee. Additional match will be provided through residential matching grants, Steering Committee members, the Kineowatha Stewardship event, and other education/outreach events that require volunteer assistance.

The Town of Wilton understands that implementation of a WBPP takes years of sustained progress with multiple partners and a diversity of funding sources to be successful. The proposed 319 project plan closely follows actions scheduled for the first three years of the Wilson Lake WBPP. Additional funding is needed from other sources to complete tasks such as additional private road sites, a geomorphic survey of Wilson Stream, tributary and in-lake monitoring. Phase II implementation project in 2020-2022 would focus on additional private road and driveway sites, and the remaining medium and low impact residential sites. Low impact residential sites will be targeted through the FOWL LakeSmart program.

VII. Tasks, Schedules and Estimated Costs:

Task 1 – Project Administration

The Town of Wilton and MDEP will sign a grant agreement outlining project roles, responsibilities and funding arrangements. The Town will procure services of a consultant to serve as the Project Coordinator, responsible for overseeing the implementation of Tasks 2 - 6. Contracting for services (or goods) paid for with project funds will be arranged and carried out using procurement procedures as described under Section 4 of DEP's Nonpoint Source Grant Administrative Guidelines. The contract with the Project Coordinator must be reviewed and approved by DEP, and the executed contract submitted to DEP. The Town will also sign a sub-agreement with FOWL to coordinate the LakeSmart evaluations by FCSWCD and the floating classroom with Maine Lakes Society. The subgrant agreement will be provided to DEP for review. The Town of Wilton and the Project Coordinator will track project progress, expenses, and local match, and complete semi-annual progress reports (PRs) and one final project report (FPR). The Project Coordinator will set up and train FOWL and/or town representatives to use the NPS Site Tracker to track the status of NPS sites in the watershed, including work done through this project.

Start and Completion Dates	February 2018 – December 2019	
Grant Cost: $5,100	Match Cost: $293	**Total Cost: $5,393**
Breakdown of Grant by Cost Category: Personnel services: $1,800; Supplies: $50; Contractual: $3,250		
Breakdown of Match by Cost Category: Personnel services: $120; Donated Services: $173		

Task 2 – Steering Committee

A steering committee will guide project activities and meet at least four times during the grant period. This committee will include representatives from the Town of Wilton, FOWL, FCSWCD, MDEP, and interested Wilson Lake residents.

Start and Completion Dates	March 2018 – December 2019	
Grant Cost: $1,402	Match Cost: $1,794	**Total Cost: $3,196**
Breakdown of Grant by Cost Category: Contractual: $1,402		
Breakdown of Match by Cost Category: Personnel services: $471; Donated Services: $1,297; Travel: $26		

Task 3 – Road & Public BMP Installations

The project will provide the town and landowners with technical assistance, matching grants, and cost-sharing to address high priority and high and medium impact sites on 7 state road sites, 5 town road sites, 1 private road site, and 2 municipal/public sites. Cost-share recipients must provide a 50% match through cash, material or labor contributions and agree to maintain the project as directed. The grantee and the cost-share recipient will complete a cost-share agreement or construction plan prior to construction. The DEP NPS Site Report form, including before and after photographs, will be prepared for each completed site. NPS Abatement sites were selected based on the following criteria: high priority and high and medium impact NPS sites identified during the 2016 watershed survey, public visibility, and landowner cooperation. The candidate sites are outlined, in detail, in the Candidate NPS Site List Attachment. MDEP guidelines "Using Project Funds for Construction of BMPs at Road-related Sites" will be used to evaluate road-related NPS sites and determine if NPS project funds can be used to help a landowner pay for construction of road-related BMPs.

Start and Completion Dates	March 2018 – December 2019	
Grant Cost: $50,483	Match Cost: $129,153	**Total Cost: $179,636**
Breakdown of Grant by Cost Category: Contractual: $3,742; Construction cost: $46,741		
Breakdown of Match by Cost Category: Construction: $128,240; Personnel services: $572; Donated services: $281; Supplies: $40		

Task 4 – Residential Conservation Practice Installations

Residential properties (including driveways) accounted for 36% of the documented 2016 NPS sites; therefore, a residential matching grants program will be established to address these sites. A total of 10 cost-share grants will be awarded for up to $150 toward the purchase of native plants and/or materials for conservation practices such as runoff diverters, infiltration steps and trenches, drywells and buffers. A brief report summarizing site conditions, recommendations, and design will be provided with each of these grants as well as before and after photos. A preference for all 10 matching grants will be based on priority ranking and timing of landowner requests. Each grant recipient will sign a cost-share agreement prior to construction outlining the 50% match requirement and that verification of proper installation will occur to complete the agreement. One report will list descriptive information for all sites receiving the Conservation Practice Matching Grants.

Start and Completion Dates	April 2018 – November 2019	
Grant Cost: $4,935	Match Cost: $2,333	**Total Cost: $7,268**
Breakdown of Grant Cost by Cost Category: Contractual: $3,435; Construction cost: $1,500		
Breakdown of Match by Cost Category: Construction: $1,500; Donated services: $432; Personnel services: $357; Travel: $44		

Task 5 – Education and Outreach

Publicity: Three press releases will be developed and sent to the local newspapers. Project information will be posted on both the Town and FOWL website. Free boat tours will be provided by FOWL to over 700 residents each year during the annual Blueberry Festival.

FOWL will ramp up its LakeSmart program to certify 10 new properties. FOWL will do LakeSmart publicity and outreach and conduct initial property visits and evaluations. Once a

property appears to meet LakeSmart status, FCSWCD will visit the site to make the final property evaluation. The grant cost is $175/site for FCSWCD to conduct the certifications. (3/18 to 12/19)

Workshops/Meetings: A stewardship project at Kineowatha Park will bring together town staff, lake association volunteers, students and residents to learn about conservation practices that protect water quality. Two presentations will be given at the FOWL annual meeting (2018 and 2019). The presentations will emphasize the available cost-sharing opportunities and the benefits of erosion prevention. A public boat tour will highlight completed projects. FOWL will coordinate two trips for elementary school students on the Maine Lakes Floating Classroom, where students will learn about lake ecology by collecting Secchi disk, dissolved oxygen and other water quality data. (3/18 to 11/19)

Publications: A final project brochure will include before and after pictures of project sites to be distributed to watershed residents and town selectmen to encourage others to take similar actions to protect the lake. A "Watershed Living" insert will be developed and inserted in 2,800 tax bill mailings. Project updates will be highlighted in six of FOWL's newsletters which are distributed three times/year to 350 residents and businesses.

All press releases, outreach materials, project signs, and plans will acknowledge that the project is funded in part by the United States Environmental Protection Agency under Section 319 of the Clean Water Act. EPA's logo will not be included on materials unless the Grantee receives prior instruction and approval from EPA.

1st Yr. Output Goals: one workshop; two presentations; 50% of the planned project updates; list of new year 1 LakeSmart certifications.

Start and Completion Dates	March 2018 – November 2019	
Grant Cost: $7,256	Match Cost: $10,793	**Total Cost: $18,049**
Breakdown of Grant Cost by Cost Category: Personnel services: $200; Expenses: $1,034; Subgrant: $2,500; Contractual: $3,522		
Breakdown of Match by Cost Category: Donated services: $2,010; Other: 7,520; Subgrant: $750; Personnel services: $470; Travel: $44		

Task 6 – Pollutant Reduction Estimates

Town of Wilton will prepare a report documenting the estimated NPS pollutant load reduction (sediment and phosphorus) that is achieved due to the implementation of the conservation practices at NPS sites in the watershed. Estimates will be prepared for all NPS sites, including the NPS Abatement Projects. If no estimation method fits for a site, an explanation will be provided on the form. EPA Region 5 Load Estimation Model (see website http://it.tetratechffx.com/- step1/) and/or the U.S. Forest Service WEPP Road Model (http://forest.moscowfsl.wsu.edu/fswepp/) will be used. Estimates will be checked for proper application of the method(s) and results will be summarized on a standard "Pollutants Controlled Report" (PCR). The PCR, including calculations, will be submitted by December 31st of each year, until project completion.

Start and Completion Dates	March 2018 – December 2019	
Grant Cost: $520	Match Cost: $80	**Total Cost: $600**
Breakdown of Grant Cost by Cost Category: Contractual: $520		
Breakdown of Match by Cost Category: Personnel services: $40; Supplies: $40		

VIII. Deliverables

1. Subagreements, contracts, progress reports, final project report and NPS site tracker summary (Task 1).
2. NPS site reports for each NPS abatement site, including pre- and post-construction photos (Task 3).
3. Residential matching grant summary report (Task 4).
4. Copies of key education/outreach materials - Final LakeSmart certification list, press releases, newsletter articles, tax bill insert, final project brochure (Task 5).
5. Pollutants Controlled Report (PCR) for each year until project completion (Task 6).

IX. Interagency Coordination, Roles and Responsibility

The **Town of Wilton** will serve as the project grantee and be responsible for the coordination and implementation of all project activities. The town will advertise project activities through their website, Facebook page, and tax bill mailing, serve on the Steering Committee, and provide meeting space for the meetings. The Town of Wilton is committed to providing $73,460 in cash and in-kind match for this project ($68,740 construction, $4,720 tax bill mailing and admin).

Friends of Wilson Lake (FOWL): FOWL will participate on the steering committee; assist with education and outreach activities such as boat tours, hosting presentations at annual meetings, Kineowatha Park Stewardship project, writing articles for their newsletter, posting information on their website and Facebook page; organize annual boat trips for elementary school children; and facilitate and track LakeSmart certifications. FOWL will provide approximately $9,400 in cash and in-kind support for this grant.

Franklin County Soil & Water Conservation District (FCSWCD) will provide a staff person to certify LakeSmart properties in the watershed.

The Wilton Conservation Commission will provide volunteers and outreach support for the Kineowatha Park Stewardship project.

The **Maine Department of Transportation (MDOT)** will address seven state road sites, providing a match of $57,000.

The **Maine Department of Environmental Protection** will administer project funding, serve as the project advisor, participate on the steering committee and provide project support.

The **US Environmental Protection Agency** will provide project funding **through Section 319 of the Clean Water Act, and NPS Program and work plan** guidance.

X. Environmental Outcome

This project will protect and improve the water quality of Wilson Lake by preventing delivery of excess sediment and phosphorus to the lake, and help maintain Class GPA water quality standards. A significant reduction of NPS pollution is expected as a result of addressing high priority and high-impact NPS sites, and a robust education and outreach program. Pollutant loading reductions will be estimated during implementation of this project. The Final Project Report will include a summary of the current status of water quality (water clarity and/or phosphorus; positive, negative or stable trend) in Wilson Lake.

XI. Project Coordinator

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