**#20190001 McGrath Pond & Salmon Lake Watershed Protection Project, Phase IV**

7 Lakes Alliance

**I. Waterbody and Watershed Information**

**a. Background**

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| Waterbody Name: | McGrath Pond (MIDAS # 5348)  Salmon Lake (Ellis Pond) (MIDAS # 5352) |
| Waterbody Size: | McGrath Pond- 467 acres  Salmon Lake- 666 acres |
| Watershed Area: | 8.7 square miles (including lake area = 1.8 square miles) |
| Watershed Town(s): | Belgrade and Oakland |
| Comprehensive Plan Adoption: | Belgrade |

**b. Waterbody and Watershed Physical Characteristics**

McGrath Pond and Salmon Lake are Maine DEP NPS Priority Watersheds located within the Belgrade Lakes complex, a set of interconnected lakes that form a valuable resource in the State of Maine. McGrath Pond flows into Salmon Lake, and Salmon Lake flows into Great Pond (impaired) via the outlet stream (a.k.a. Hatchery Brook). Great Pond flows into Long Pond (impaired), which flows into Messalonskee Lake (Watch List), which flows into the Kennebec River and onto the Gulf of Maine.

McGrath Pond is 467 acres, has a perimeter of 6.9 miles, a maximum depth of 27 feet, and average depth of 16 feet. Salmon Lake covers 666 acres, has 7.9 miles of shoreline, a maximum depth of 57 feet, and an average depth of 23 feet. McGrath Pond and Salmon Lake receive inflow from a number of small, unnamed, intermittent streams and drainages, as well as many wetlands bordering the lakes and streams. The primary inlet to Salmon Lake is Cold Brook. The flushing rates of the two lakes are similar (McGrath- 0.69/yr, Salmon-0.54/yr.). McGrath Pond's shallower depth limits stratification, while Salmon Lake stratifies during the summer.

The total watershed area is 8.7 square miles-the direct watershed area of McGrath Pond (3.8 mi2) and Salmon Lake (3.1 mi2). The watershed is located in the towns of Oakland and Belgrade. Land cover in the watershed is dominated by mixed forest (43%), coniferous forest (11%) and open water (20%). Agriculture in the watershed is clustered on the west shore of Salmon Lake, and the north end of McGrath Pond. Roads include 3 state roads and 12 town roads that are 27.7 linear miles. There are 66 mainly gravel roads that consist of an additional 13.2 miles of road. There are 611 residential properties in the watershed, 275 of which are located within 250 ft. of the lakes. There are approximately 24 private boat launches on McGrath Pond and Salmon Lake.[[1]](#footnote-1)

**c. Description of Resource Uses and Value**

The Belgrade Lakes region provides excellent year-round recreational opportunities and is a popular summer vacation destination. The population of the Town of Belgrade (~ 4,000) doubles when non-residents arrive in the summer, and similar population shifts are documented in the neighboring towns in the watershed. Approximately 1/3 of homes in the Belgrade Lakes watershed are seasonal, and lake front properties account for 60% of the property valuation in Belgrade and 26% in Oakland.[[2]](#footnote-2) The seasonal influx of recreational users is an important contributor to the local economy, providing numerous economic benefits for local businesses who rely heavily on water quality for their businesses to thrive. In particular, several watershed properties see a dramatic increase in use during the summer, including youth camps (Camp Modin, New England Golf and Tennis Camp, and Camp Tracy) as well as privately-owned commercial camps (Whisperwood Lodge, Wheeler's Camps, Ellis Pond Camps, and Woodrest Cottages). The watershed also contains a sawmill, gravel pit, town park (Pleasant Point Park, Oakland) with athletic fields and carry-in boat launch, and a public boat launch (Salmon Lake).

McGrath Pond and Salmon Lake are used extensively for swimming, fishing and boating. McGrath Pond contains 15 species of fish including both coldwater (e.g. brown trout and brook trout) and warmwater fish (e.g., small and largemouth bass, chain pickerel, white and yellow perch). Salmon Lake contains 14 species of fish, and was renowned for its smelt fishery in the 1980s. The watershed contains a wealth of water resources including 1.8 mi2 of lakes/ponds, 1.6 miles of perennial streams, 49.9 miles of ephemeral/intermittent streams, 0.5 mi2 of wetlands, and 4.3 mi2 of freshwater riparian habitat.[[3]](#footnote-3) The majority of smaller wetlands (<10 acres) are primarily associated with intermittent headwater streams. The largest wetland is located on the northeast corner of McGrath Pond near Pleasant Point Park. Data from Beginning with Habitat4 identified significant areas of high-value plant and animal habitat in the watershed including large undeveloped land blocks, inland wading bird and waterfowl habitat (north end of McGrath Pond at Pleasant Point, outlet of Cold Brook, and near the public boat launch); five large deer wintering areas, wild brook trout habitat, a significant vernal pool, and several species of special concern. The 2016 Maine Audubon Loon Count documented 18 adult loons and two chicks.

**II. NPS Pollution Problem / Need:**

McGrath Pond and Salmon Lake are both listed as “Threatened” on the Maine DEP's 2018 Nonpoint Source Priority Watershed List. The reasons for listing are that McGrath Pond is a “sensitive” lake and Salmon Lake in on the “watch list”. McGrath Pond flows into Salmon Lake, which flows into downstream Great Pond, an impaired lake listed on the federal 303(d) list due to declines in water quality. Actions to reduce phosphorus loading to McGrath Pond and Salmon Lake will not only help improve water quality locally, but also regionally, by improving the quality of the water flowing downstream into Great Pond and Long Pond.

The McGrath Pond-Salmon Lake watershed has a history of water quality problems dating back to 1926 when the Maine Dept. of Inland Fisheries and Wildlife recorded the occurrence of low dissolved oxygen at the landlocked salmon hatchery, which ultimately led to the closure of the hatchery in 1942. Algal blooms were reported on Salmon Lake in 1971, prompting the Maine DEP to begin studies to determine the sources of the problems. Several more blooms through the 1970s prompted additional watershed surveys, and identified a large dairy farm and lumberyard as major contributors. The delivery of nutrient-laden sediment into McGrath Pond and Salmon Lake has resulted in low-levels of dissolved oxygen in deep areas of Salmon Lake, release of phosphorus from bottom sediments into the water column, and periodic algal blooms during the summer months. This is further compounded by nutrient and sediment inputs from current land uses. Salmon Lake's historic nutrient loading has resulted in a shift from a coldwater fishery to a predominantly warmwater fishery. Colby College estimated an annual phosphorus load of 871 kg, 32% internal and 68% external. Approximately 225 kg phosphorus/yr (or 6.5% of the total phosphorus load in Great Pond) is estimated to flow out of Salmon Lake into Great Pond[[4]](#footnote-4) (which is also experiencing anoxia and internal phosphorus loading). Therefore, reducing the phosphorus load in McGrath Pond and Salmon Lake will benefit downstream waterbodies on Maine DEP's list of impaired lakes.

Addressing NPS pollution in the watershed is a necessary piece for managing the watershed, reducing the amount of phosphorus delivered to the lakes, and limiting the amount of nutrients that are contributing to phosphorus recycling in Salmon Lake. The 2017 McGrath Pond-Salmon Lake Watershed Survey identified 105 sites throughout the watershed-McGrath Pond (70 sites, or 67%) and Salmon Lake (35 sites or 33%). The majority of sites are located near the shoreline, with a few sites associated with roads and stream crossings.

**Water Quality Status**

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| --- | --- |
| Is water quality listed as impaired? | No, NPS Priority Waterbodies-Threatened List. McGrath="Sensitive"; Salmon="Watch List" |
| If impaired, what is the listed cause(s) and/or impaired use? | n/a |
| Name and date of any DEP TMDL report(s) for the waterbody. | n/a |

**Water Quality Overview**

Water quality data has been collected at Station 1 in Salmon Lake since 1975. This includes 41 years of Secchi disk transparency (SDT) readings and 38 years of water chemistry. Algal blooms on Salmon Lake were first reported in 1971, '76, '77, and '79. Available data from Maine DEP shows that between 1975-2016, SDT ranged from 1 m to 9.4 m with an average of 5 m, total phosphorus from 8 ppb to 25 ppb with an average of 15 ppb, and Chlorophyll-a from 1.4 ppb to 26 ppb with an average of 6.4 ppb. Phosphorus concentrations in water samples collected at the bottom of the lake have been consistently between 150 - 375 ppb over the past ten years, with the highest concentrations documented in 2015 (375 ppb) and 2016 (340 ppb) indicating that internal loading is a significant concern. Additional data collected by Colby College in 2015 - 2016 confirms these findings: Salmon Lake experiences a period of anoxia between June and September each year and significantly elevated levels of total phosphorus in the hypolimnion. 2016 phosphorus concentrations increased from 78 ppb in mid-July to 999 ppb by early October, and concentrations of total phosphorus at the surface increase dramatically between April and October (from 6.8 ppb to 25.4 ppb), providing food for algae in the lake. The documented increase in the area of anoxia in Salmon Lake, elevated phosphorus in bottom sediments, and visual observations of algal blooms in the lake are a serious cause for concern. Salmon Lake experienced a fish kill in June 2016 due to warmer-than-usual early-summer water temperatures. Salmon Lake remains on the DEP watch list because it periodically blooms.

Water quality data has been collected at Station 1 in McGrath Pond since 1975. This includes 41 years of SDT readings and 28 years of water chemistry. Water quality in McGrath Pond is considered above average based on measures of SDT, total phosphorus (TP) and Chlorophyll-a (Chl-a). The potential for nuisance algal blooms in the lake is moderate, and the potential for internal loading is low. DO profiles show very little depletion in deep areas of the lake, largely due to its shallow nature, which limits temperature stratification and oxygen depletion. SDT readings often reach the bottom, indicating that readings of water clarity in McGrath Pond are often limited by depth. A recent statistical analysis of long- (1975-2016) and short-term water quality trends (2007-2016) indicates that water clarity is improving over the historical sampling period and has remained stable since 1990. McGrath Pond is listed on the Nonpoint Source Priority Watersheds’ Threatened List because it is a “sensitive lake. Reducing nutrient loading in McGrath Pond by addressing current sources of NPS pollution is important for protecting McGrath Pond and helping improve Salmon Lake.

**Summary of Past Watershed Assessments and Most Important Nonpoint Sources**

The McGrath Pond-Salmon Lake watershed has a history of water quality problems dating back to 1926. Several studies have examined potential sources of these recurring blooms.

* **Phosphorus Loading Study (1984)-** Conducted by USGS and MDEP. Studies through the 70s and 80s identified logging, agriculture and the landfill as potential sources of nutrient loading. A large dairy farm and lumberyard were major contributors to the blooms on Salmon Lake.
* **Watershed Survey (1998)** Watershed survey of McGrath Pond and Salmon Lake. 131 NPS sites documented. This was a locally funded survey with support from Maine DEP.
* **Watershed Analysis (2010)-** A Watershed Analysis of Salmon Lake and McGrath Pond was conducted by Colby College. The report presented a phosphorus budget and a summary of land-use changes between 1965 - 2007. This included a 143% increase in non-shoreline development, 30% increase in shoreline development, and a 97% increase in youth camp land. Phosphorus loading estimates identified the following primary sources: internal sediments (32%), septic systems (26%), atmospheric deposition (13%), agriculture (11%), shoreline (10%) and non-shoreline (9%) development.
* **In-Situ Water Quality Monitoring (2015-2017)**- Colby College conducted a 3-year intensive monitoring program which documented increases in the area of anoxia in Salmon Lake and elevated phosphorus in bottom sediments that increase the risk of algal blooms from internal loading and visual observations of algal blooms (metaphyton) that negatively impact fish habitat.. Additional sediment and water chemistry data is needed to inform recommendations for addressing historic nutrient loading.
* **Watershed Survey (2017)** MPSLA organized a locally-funded watershed survey to assess the current state of erosion and delivery of pollutants into the lakes. A total of 105 sites were identified across ten different land-uses which included 12 high-impact sites and 47 medium-impact sites. The number of documented problems on residential properties exceeded all other land-use types.
* **Watershed-Based Protection Plan (2018)** “McGrath Pond-Salmon Lake Watershed-Based Protection Plan” (April 2018) was developed by MPSLA to begin addressing nonpoint source pollution identified in the 2017 watershed survey and to reduce the potential for recurring algal blooms on Salmon Lake.

**Description of Watershed Activities to Address NPS Sources**

Several water quality improvement projects have been completed in the watershed over time:

* USEPA Section 314 Clean Lakes funding- In **1987,** a Maine DEP Restoration Project focused on addressing NPS from agriculture in the Salmon Lake watershed.
* USEPA Clean Water Act Section 319 funds- Following the 1998 watershed survey, three Section 319 projects were completed: **2000-2003 (Phase I)**, thirty-two NPS sites; **2003-2005 (Phase II),** 25 NPS sites; and **2005-2007 (Phase III),** 19 NPS sites. Estimated annual load reductions include 13.9 tons of sediment, 14 lbs of phosphorus, and restoration of 620 feet of shoreline.
* Youth Conservation Corps (YCC) - Since 1996, the 7 Lakes YCC has installed 127 BMPs in the watershed.
* LakeSmart- Since the inception of the MPSLA LakeSmart program in 2013, 13 LakeSmart awards have been given out to landowners in the watershed.
* Land Conservation- A total of 259 acres of land are conserved in the MP-SL watershed. This includes 138 acres by the Town of Oakland, and 121 acres by 7 Lakes.

**III. Purpose:**

The purpose of this project is to significantly reduce the pollutant load to McGrath Pond and Salmon Lake, to maintain water quality in McGrath Pond and to improve water quality in Salmon Lake in order to reduce the probability of nuisance algal blooms. This will be accomplished through targeted implementation of BMPs at high priority NPS sites identified in the 2018 WBPP. BMPs will be installed at a total of 36 NPS sites including 16 high priority NPS Abatement sites located on state, town, and private roads, and beach access sites, as well as commercial youth camp sites, and 20 residential properties.An additional 12 properties will receive LakeSmart evaluations. In addition to pollutant reductions, the project will raise awareness about the need for lake protection through targeted outreach strategies including residential BMP workshops, a gravel road workshop, and a stewardship project at the town beach. Newsletter articles and press releases will stimulate landowners to address NPS sites through Phase IV and beyond.

**IV.** **Project Duration:**

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| --- | --- |
| Project Start Date | January 2019 |
| Project Completion Date | December 2020 |

**V. General Project Plan**

The *McGrath Pond-Salmon Lake Watershed Protection Project, Phase IV* will be sponsored by 7 Lakes in coordination with KCSWCD, MPSLA, Colby College, and the towns of Oakland and Belgrade. The project closely follows actions scheduled for the first three years of the McGrath Pond-Salmon Lake WBPP. The project will be guided by a steering committee to build upon initial planning activities and to jump-start actions outlined in the 2018 WBPP. Planning activities will focus on implementation of BMPs at high priority NPS sites identified during the 2017 watershed survey with a focus on roads, a public park, summer youth camps, and residential properties. The project aims to address the highest impact sites identified in the WBPP.

The goal is to install BMPs at **36 sites** by providing matching grants to watershed stakeholders. 7 Lakes will address **20 high and medium impact residential properties** and **16 NPS sites across several land-uses including:** 1 state road, 2 town roads, 2 private roads; 2 beach access sites and 5 commercial youth camp sites. The YCC will assist on sites where feasible. 7 Lakes will exercise best professional judgment selecting NPS sites and designing/installing BMPs; use BMPs described in Maine BMP guidance manuals, or BMPs otherwise acceptable to DEP; ensure required permits are obtained prior to construction; and not use 319 project funds to conduct work required by existing permits, consent decrees or orders. 7 Lakes will provide a subgrant to KCSWCD for technical assistance with NPS abatement projects (Task 3), and pollutant load reduction calculations (Task 7).

7 Lakes will partner with the MPSLA to bolster education and outreach efforts (Task 5) including two residential BMP workshops in high priority neighborhoods to raise interest in the residential matching grant program and LakeSmart. Other education and outreach will include a gravel road workshop, updating the road association database, a stewardship event at the town- park with educational signage, press releases, newsletter articles, website postings, a presentation at an annual lake association meeting, 12 new Lake Smart evaluations, and a final project report. An NPS Site Tracker will be developed to track completed projects, setting the stage for addressing the remaining survey sites in the next phase of watershed protection. All press releases, outreach materials, project signs, and plans will acknowledge that the project is funded in part by the United States EPA under Section 319 of the Clean Water Act. Project staff will consult with DEP on EPA’s public awareness terms and conditions for Section 319 grants before the project commences. In addition, project staff will consult with DEP and EPA before project signs are designed. Refer to the Grant Agreement, Rider A, Section III. F.

**VI. Tasks, Schedules and Estimated Costs:**

**Task 1 – Project Management**

7 Lakes will administer the project according to the grant agreement with DEP. The sub-agreement to KCSWCD for technical assistance and pollutant load reduction calculations will be provided to DEP for review. 7 Lakes will track project progress, expenses, and matching funds; and submit reports (semi-annual progress reports, annual pollutants controlled reports and final project report) and other deliverables. 7 Lakes will continue use of an NPS Site Tracker spreadsheet tool to efficiently accumulate and record information about NPS sites observed during this project to enable continued activity in future years to maintain existing BMPs and address new NPS sites.

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| Start and Completion Dates | January 2019 - December 2020 | |
| Grant Cost: $4,340 | Match Cost: $0 | **Total Cost: $4,340** |
| Breakdown of Grant by Cost Category: Salary & Fringe: $4,290; Supplies: $50 | | |
| Breakdown of Match by Cost Category: n/a | | |

**Task 2 – Steering Committee**

A steering committee will guide project activities and meet at least four times during the grant period. The committee will include representatives from 7 Lakes, KCSWCD, MPSLA, watershed towns, MDEP, and interested McGrath Pond-Salmon Lake residents.

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| Start and Completion Dates | January 2019 - December 2020 | |
| Grant Cost: $1,490 | Match Cost: $1,900 | **Total Cost: $3,390** |
| Breakdown of Grant by Cost Category: Salary & Fringe: $1,400; Subgrant: $90 | | |
| Breakdown of Match by Cost Category: Donated Services: $1,0837; Travel: $63 | | |

**Task 3 – NPS Abatement Projects**

The project will provide the state, towns and landowners with technical assistance and 50% cost sharing to address 16 high priority (high or medium impact) NPS sites across the watershed including 1 state road site, 2 town road sites, 2 private road sites, 3 driveway sites, 1 municipal/public site, 2 high-impact residential beach-access sites, and 5 commercial youth camp sites (Camp Tracy). MDEP guidelines “Using Project Funds for Construction of BMPs at Road-related Sites” will be used to evaluate NPS sites and determine if NPS funds can be used to help a landowner pay for construction of road-related BMPs. 7 Lakes' YCC program will provide landowners assistance with installing conservation practices. 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 prior to construction. The DEP NPS Site Report form, including before and after photographs, will be prepared for each completed site. Candidate sites are outlined in detail in the Candidate Sites List at the end of the Work Plan.

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| Start and Completion Dates | January 2019 - December 2020 | |
| Grant Cost: $39,388 | Match Cost: $35,037 | **Total Cost: $74,425** |
| Breakdown of Grant by Cost Category: Salary & Fringe: $5,968; Construction: $32,000; Subgrant: $1,080; Travel: $315; Supplies: $25 | | |
| Breakdown of Match by Cost Category: Construction: $34,000; Donated Services: $1,037 | | |

**Task 4 – Residential BMP Installations**

Residential properties accounted for 78% of the documented NPS sites from the 2017 watershed survey. This number is inclusive of reported residential, beach & boat access, and trail/path sites; therefore, a residential matching grants program will be established to address high and medium impact sites. A total of 20 conservation grants will be awarded for up to $250 toward the purchase of materials for conservation practices. Free technical assistance and labor will be provided through the YCC program. A brief report summarizing site conditions, recommendations, and design will be provided with each grant and before and after photos. A preference for all 20 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.

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| Start and Completion Dates | April 2019 - October 2020 | |
| Grant Cost: $13,767 | Match Cost: $6,364 | **Total Cost: $20,131** |
| Breakdown of Grant Cost by Cost Category: Salary & Fringe: $8,380; Construction: $5,000; Travel: $387 | | |
| Breakdown of Match by Cost Category: Donated Services: $864; Construction: $5,000; Salary & Fringe: $500 | | |

**Task 5 – Education & Outreach**

**Publicity:** Two press releases will be developed and sent to the local newspapers. Yearly project updates will be highlighted in MPSLA's newsletter (300 recipients/mailing), and MPSLA's website. A presentation will be given at the MPSLA annual meeting (2019) emphasizing the benefits of buffers, erosion control measures, and free technical assistance for residential property owners.

**Workshops/Meetings:** Two residential BMP workshops will be held in high priority residential neighborhoods to teach homeowners the value of conservation practices, and to raise interest in the residential matching grant program and LakeSmart. One gravel road workshop will demonstrate techniques for maintaining private gravel roads. Road associations throughout the watershed will be invited to the event, and the road association database will be updated. A stewardship project will be held at Pleasant Point Park to bring together conservation groups, lake association volunteers, the Town of Oakland, and local residents to learn about BMPs that protect water quality. Educational signage will be designed and installed describing the project. Project staff will consult with DEP and EPA before project signs are designed. MPSLA's LakeSmart program will complete twelve LakeSmart evaluations.

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| Start and Completion Dates | April 2019 - December 2020 | |
| Grant Cost: $2,172 | Match Cost: $3,651 | **Total Cost: $5,823** |
| Breakdown of Grant Cost by Cost Category: Salary & Fringe: $1,700; Subgrant: $180; Travel $42; Supplies $250 | | |
| Breakdown of Match by Cost Category: Donated Services: $2,291; Supplies: $1,360 | | |

**Task 6 – Pollutant Reduction Estimates**

7 Lakes will estimate NPS pollutant load reductions and resources protected under this project. During design or installation of conservation practices at NPS sites, appropriate field measurements will be recorded to prepare estimates of pollutant load reductions. Estimates will be prepared for all NPS sites, unless there is not an applicable estimation method. Methods to be used are the EPA Region 5 Load Estimation Model <http://it.tetratech-ffx.com/steplweb> and/or the U.S. Forest Service WEPP Road Model at <http://forest.moscowfsl.wsu.edu/fswepp/>. Results will be provided using DEP’s “Pollutants Controlled Report” (PCR), which will be submitted to the MDEP, by December 31st of each project year. KCSWCD will assist in preparing PCR reports.

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| Start and Completion Dates | May 2019 - December 2020 | |
| Grant Cost: $1,000 | Match Cost: $500 | **Total Cost: $1,500** |
| Breakdown of Grant Cost by Cost Category: Salary & Fringe: $500; Subgrant: $500 | | |
| Breakdown of Match by Cost Category: Subgrant: $500 | | |

**VII. Deliverables**

Two (2) copies of each of the following deliverables will be provided to the DEP Agreement Administrator. Each deliverable will be labeled according to procedures described in the DEP’s Nonpoint Source Grant Administrative Guidelines <http://www.maine.gov/dep/water/grants/319.html>.

1. Subagreements, semi-annual progress reports, final project report and NPS site tracker summary (Task 1).
2. NPS site reports for each NPS abatement site (Task 3).
3. Summary table listing work completed with landowners to install residential BMPs (NPS site, landowner name, brief description of problem, BMPs recommended, and BMPs implemented). List of all LakeSmart evaluations and certifications. (Task 4).
4. Press releases, newsletter articles, educational signage, and final project brochure (Task 5).
5. Pollutants Controlled Reports (PCR) for each year until project completion (Task 6).

**VIII. Interagency Coordination, Roles and Responsibility**

**7 Lakes Alliance (7 Lakes):** Project management, grant administration, task management, steering committee, education and outreach, NPS Abatement and YCC projects.

**Kennebec County Soil & Water Conservation District (District)**: Subgrantee to provide technical assistance on NPS Abatement projects and pollutant controlled reports (PCR).

**McGrath Pond-Salmon Lake Association:** Steering committee, landowner outreach, outreach for public meeting, press releases and newsletter articles, financial support, LakeSmart evaluations, volunteer support for BMP workshops, and public stewardship event.

**Colby College:** Steering committee meetings.

**Towns of Oakland and Belgrade:** Steering committee, public outreach, NPS Abatement (Oakland), public stewardship event (Oakland).

**Maine Department of Environmental Protection:** Administer project funding, serve as the project advisor and provide project and technical support.

The **US Environmental Protection Agency:** Provide project funding and work plan guidance.

**IX. Environmental Outcome**

This project will protect and improve the water quality of McGrath Pond and Salmon 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 NPS sites. Pollutant loading reductions will be estimated during implementation of this project and presented in the final Project Report.

**X. Project Coordinator**

|  |  |
| --- | --- |
| Name | Charles Baeder |
| Organization | 7 Lakes Alliance |
| Mailing Address | 137 Main St., Belgrade Lakes, ME 04918 |
| Telephone Number | (207) 495-6039 |
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| DUNS # | 019963409 |

**XI. Budget Information**

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| **Bidder’s Organization Name:** | **7 Lakes Alliance** |
| **Federal Funds Section 319** | **$62,157** |
| **Non-Federal Match:** | **$47,452** |
| **Proposed Total Cost:** | **$109,609** |

**Part 1. Estimated Personnel Expenses:**

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| --- | --- | --- | --- | --- |
| **Position Name & Title** | **Hourly**  **Rate** | **Number of Hours** | **Salary & Fringe** | **Total Grantee**  **Personnel Expenses** |
| Charlie Baeder, Exec. Director | $45 | 206 | $50 | $10,300 |
| Mary Kerwood, Bookkeeper | $30 | 24 | $35 | $840 |
| YCC Director | $20 | 222 | $25 | $5,550 |
| YCC Crew | $12 | 432 | $14 | $6,048 |
| **Totals** |  | **884** |  | **$22,738** |

**Part 2. Budget Estimates by Cost Category**

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| --- | --- | --- | --- |
| **Cost Category** | **Federal Funds Section 319** | **Non-Federal Match** | **Total Cost** |
| Salary & Fringe (from Part 1) | $22,238 | $500 | $22,738 |
| Construction | $37,000 | $39,000 | $76,000 |
| Contractual |  |  |  |
| Subgrant | $1,850 | $500 | $2,350 |
| Donated Services – Volunteer & In-Kind | - | $6,029 | $6,029 |
| Travel (mileage total) | $744 | $63 | $807 |
| Supplies | $325 | $1,360 | $1,685 |
| Other (specify) | - | - | - |
| Indirect Costs | - | - | - |
| **Totals** | **$62,157** | **$47,452** | **$109,609** |

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| **Part 2 Notes:** A subgrant to KCSWCD is based on 50 hours @ $45/hr. Travel includes 1,834 miles at 0.44/mile. This includes multiple trips to multiple sites for multiple staff (ED, YCC director and crew). Supplies include $250 for educational signage at Pleasant Point Park, $75 for office supplies, and $1,110 for newsletters. |

**Part 3. Sources of Non-federal Match and Estimated Amounts**

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| **Sources of Non-federal Match** | **Amount** |
| **Salary & Fringe**: MPSLA has pledged a $500 cash match to support the YCC on residential properties | $500 |
| **Construction:** NPS Abatement cost-share ($34,000), and Residential NPS matching grants ($5,000) based on 20 sites @ $250/site. | $39,000 |
| **Subgrant:** MPSLA has pledged $500 toward the subgrant to KCSWCD to develop PCR reports. | $500 |
| **Donated Services:** MPSLA volunteer services ($4,192) for education/outreach, coordination with residential landowners, planning for Pleasant Point Park, Pleasant Point Park stewardship, planning for residential BMP workshops, LakeSmart visits, public meetings - 194 hours @ $21.61/hr; Steering Committee ($1,037) for 4 members, 48 hours @ $21.61/hr; and Whitney King, PhD, Colby College professor, Steering Committee meetings, 16 hours @ $50/hr. | $6,029 |
| **Travel:** mileage for steering committee meetings ($63) | $63 |
| **Supplies:** MPSLA newsletters printing and postage costs ($1,110); .Town of Oakland ($250) installation of Pleasant Point Park signage. | $1,360 |
| **Other** | $0 |
| **Total** | **$54,935** |

**CANDIDATE NPS SITES LIST**

| NPS Site Name &  Location | Describe the NPS Site & Conditions at the Site Causing Polluted Runoff to Reach Surface Waters | BMPs Recommended | Construction Cost Estimates:  Grant, Match, Total | Site Photo |
| --- | --- | --- | --- | --- |
| **Site 1-7**  **Driveway**  58 Spruce Lane | Moderate surface erosion on steep driveway ~ 200'x 10'- high impact | Add new surface material, reshape (crown) road, install runoff diverters (rubber razor) | Grant: $3,000  Match: $3,000  **Total: $6,000** |  |
| **Site 1-11**  **Town Road**  McGrath Pond Rd.  Town of Belgrade | Moderate road shoulder erosion (60'), bare soil, winter sand build-up, unstable culvert inlet/outlet-medium impact | Armor culvert inlet & outlet, vegetate road shoulder, winter sand maintenance | Grant: $1,500  Match: $1,500  **Total: $3,000** |  |
| **Site 1-14**  **State Road**  736 Smithfield Rd. Belgrade | Moderate road shoulder erosion, unstable culvert inlet/outlet, winter sand, moderate ditch erosion ~ 300' x 10'- medium impact | Armor culvert inlet/outlet, vegetate ditch and install check dams, install sediment pools, vegetate shoulder | Grant: $3,000  Match: $3,000  **Total: $6,000** |  |
| **Site 2-7**  **Driveway**  16 West Lake Meadows | Unstable retaining wall on stream flowing to lake, invasive plants (knotweed) | Remove existing timber retaining wall and replace with rip rap; develop invasive plant removal plan | Grant: $3,000  Match: $3,000  **Total: $6,000** |  |
| **Sites 2-13, 2-15 through 2-18**  5 sites at  Camp Tracy (YMCA) | Three (3) beach access sites with inadequate shoreline vegetation, bank undercutting, moderate to severe surface erosion and/or bare soil; One (1) trail site | Establish/add to buffer, reseed bare soil areas, rip rap; stabilize path, install waterbar | Grant: $1,500  Match: $1,500  **Total: $3,000** |  |
| **Sites 2-14**  **Private Road**  Camp Tracy | Road shoulder erosion, surface erosion (150') with flow directly into lake- high impact | Add new surface material to road, reshape (crown), install runoff diverters | Grant: $3,000  Match: $3,000  **Total: $6,000** |  |
| **Site 3-3**  **Town Road**  Town Farm Rd. Oakland | Runoff from Town Farm Road into stream, severe ditch erosion- high impact | Stabilize 100' of ditch with rock, install curb at intersection to reduce inputs of winter sand | Grant: $2,000  Match: $2,000  **Total: $4,000** |  |
| **Site 3-4**  **Driveway**  209 Tilton Point Trail | Severe surface erosion on shared gravel driveway with direct flow into lake ~ 400'- high impact | Add new surface material, install runoff diverters (broad-based dip or rubber razor) | Grant: $4,000  Match: $4,000  **Total: $8,000** |  |
| **Site 3-19**  **Public/Municipal**  Pleasant Point Park Town of Oakland | Years of public access to shoreline has resulted in erosion and unstable access at the public beach and approximately 25' of combined bank undercutting along the shoreline within the park- medium impact | Rip rap undercut shoreline; add ECM to trails/paths; vegetative plantings and infiltration steps at beach; educational signage. | Grant: $4,000  Match: $5,000  **Total: $9,000** |  |
| **Site 5-4**  **Private Road**  East Side Trail | Unstable culvert inlet/outlet, clogged outlet, moderate ditch erosion/lack of adequate ditching, surface erosion resulting in direct flow off gravel road into stream flowing to lake- medium impact | Resurface and crown 300' of gravel road, add ditch and turnouts | Grant: $3,000  Match: $4,000  **Total: $7,000** |  |
| **Site 7-2**  **Boat Access**  108 Bickford Place | Severe surface erosion on private gravel boat launch, shoreline erosion- high impact | Stabilize boat launch, install runoff diverters before and after driveway, install sediment pools for ditch, install culvert | Grant: $2,500  Match: $2,500  **Total: $5,000** |  |
| **Site 7-4**  **Boat Access**  Ellis Cove Rd. | 75' of undercut shoreline, inadequate shoreline vegetation, unstable access, severe surface erosion, bare soil- high impact | Stabilize shoreline with combination of riprap and native vegetation, cover bare soil with ECM, stop raking | Grant: $1,500  Match: $1,500  **Total: $3,000** |  |
| **Residential Sites**  (20 sites). High and medium-impact sites on Tilton Point, Pinewoods, Tranquility, & Kelleher Trails | Lack of shoreline vegetation, moderate to severe surface erosion, unstable access, undercut shoreline, roof runoff erosion, unstable foot paths | Establish/add to buffer, ECM and runoff diverters on paths & trails, install | Grant: $5,000  Match: $5,000  **Total: $10,000** |  |
|  |  |  | Total Grant:$37,000  Total Match: $39,000  **Total All: $76,000** | |

1. CEAT, 2010. A Watershed Analysis of Salmon Lake and McGrath Pond: Implications for Water Quality and Land Use Management. Problems in Environmental Science, Colby College, Waterville, ME. [↑](#footnote-ref-1)
2. 2012 Statistical Abstract of the Belgrade Lakes Watershed, Colby College; and personal communication, Charlie Baeder, 7 Lakes, May 1, 2018. [↑](#footnote-ref-2)
3. Calculated in GIS by Ecological Instincts for the 2018 WBPP.

   4  Sources: National Wetlands Inventory, U.S. Fish & Wildlife Service; Riparian Buffers, Maine Natural Areas Program (MNAP); High Value Plant & Animal Habitats, Maine Office of GIS, Maine Department of Inland Fisheries & Wildlife (IFW), MNAP; Undeveloped Habitat Blocks, Maine IFW; map created by Maine IFW, January 2016. [↑](#footnote-ref-3)
4. Memo to Charles Baeder, BRCA from Ken Wagner, Water Resources Services, Inc., April 13, 2017. [↑](#footnote-ref-4)