



United States Department of the Interior

NATIONAL PARK SERVICE
Natural Resources Stewardship and Science
200 Chestnut Street
Philadelphia, PA 19103

Memorandum

To: Tim Hudson, Superintendent, Katahdin Woods and Water National Monument (KAWW)

From: Seth Lerman, Carmen Chapin, and Peter J. Sharpe, Northeast Regional Office

Subject: Report for Travel to Katahdin Woods and Water National Monument (KAWW)



Photo 1. View of Mount Katahdin, taken from KAWW October 2017.

Purpose and Objectives

The purpose of the visit was to discuss with park staff specific wetland/water resource compliance issues associated with the renovation of two existing trails, as well as general issues regarding park infrastructure maintenance and improvements, and community relations.

Participants

Peter J. Sharpe, NERO
Carmen Chapin, NERO
Seth Lerman, NERO
Tim Hudson, Superintendent, KAWW
Roger Currier, Maintenance Worker, KAWW

Introduction

Over the course of the field visit (11-13 October 2017), park staff identified a variety of issues including general forest management, beaver activity, vegetation encroaching on roadways, vault toilet siting and installation, boat launch siting and installation, invasive plant management, culvert repair and replacement, bridge repair and replacement, future campsite/hiking trail locations, and parking lot enlargement.

Adding complexity to management of the 87,500 acre monument is the fact that it is comprised of a number of parcels which have different restrictions, regulations, and easements governing what is permitted and what is not. Additionally, the monument is currently staffed by one permanent employee (park superintendent), and one seasonal maintenance worker along with a new NPS detailee every 120 days.

On October 11 regional staff toured the southern half of the monument, with the majority of the visit consisting of a drive along the Katahdin Loop Road. The southern portion of KAWW appeared to have been harvested to a substantial degree within the last 10 - 20 years. Much of the area was comprised of relatively young, even aged regrowth. Vegetation was a combination of mixed hardwoods and conifers. Most of the woody material observed from the Loop Road route looked to be roughly 5 inches dbh or less, and ranged anywhere in height from a 2 feet to 20-25 feet.

The northern portion of KAWW, visited on the 12th, was much like the southern portion, comprised of a mix of deciduous and coniferous woody vegetation. In contrast to the southern parcel, the northern section did not show as much recent evidence of timber harvesting. There seemed to be diversity in tree age classes as well.

The majority of roads in KAWW are unpaved logging roads in various states of repair with the main routes being fine for cars, but some of the side roads being safely accessible only by 4-wheeled drive vehicles. Cars, logging trucks and equipment, snowmobiles, and pedestrians all use the access roads. The two main visitor area roads also allow bicycles and horses, but few, if any, logging trucks. The private access roads do not want horses or bicycles on them. Significant portions of these roads are in need of repair, and the superintendent noted that during the week of October 16 roughly 10 miles of the KAWW Loop Road in the southern parcel were scheduled to be regraded. Current plans are to incorporate the

material along the sides of the road and ditches as fill and resurfacing material.

Top Priority Management Concerns

Beaver Activity

Beaver activity was observed throughout the monument. However, based on field observations and discussions with the KAWW staff the southern parcel is the top priority for beaver management because of its proximity to monument infrastructure. According to Tim Hudson, beaver activity along portions of the Loop Road (Southern parcel) have created some minor flooding issues in the past and continue to present a potential for future flooding along with erosion and sedimentation of roadways, and limiting visitor access to portions of the monument. Two sites in particular were noted as areas of more immediate concern. One site is located on the section of Roberts Road in the monument, and the other is at the bridge on Neck Road. At the time of the visit standing water was observed on the road at the Roberts Road site, while the damming on the entrance to Loop Road was reasonably managed. Material has been repeatedly removed from the dam on the entrance Loop Road in order to keep water levels below the road. If the dam can be maintained at its current height flooding will likely not present a problem and the beaver may continue to occupy the site.



Photo 2: Entrance to Loop Road Bridge and Beaver Dam



Photo 3: Entrance to Loop Road Beaver Dam

Road Maintenance

Roadside vegetation is presenting a management challenge along some sections of road within the north and south parcels. Specifically, small woody vegetation (such as alder) is growing directly adjacent to the roads with woody branches extending into the roadways. Without periodic maintenance the encroaching vegetation will limit vehicle access on roadways, and may create long-term road maintenance issues.

Vault Toilets

Four new vault toilets are planned to be installed in the monument for waste management control. According to park staff, three new toilets will be installed on the northern portion of the property with the highest expected visitor use and one on the southern section. It was agreed that the toilets should be sited and installed in areas that are easily accessible for visitors, while being kept away from sensitive areas, such

as wetlands/waterways, that could be affected either through the installation process or if the unit should fail.

Culverts

Several culverts have been identified as needing repair or maintenance. These structures present road hazards as portions of the tops of some of these culverts are significantly above road grade, they were not properly sized when initially installed, or have been obstructed and are impeding flow.

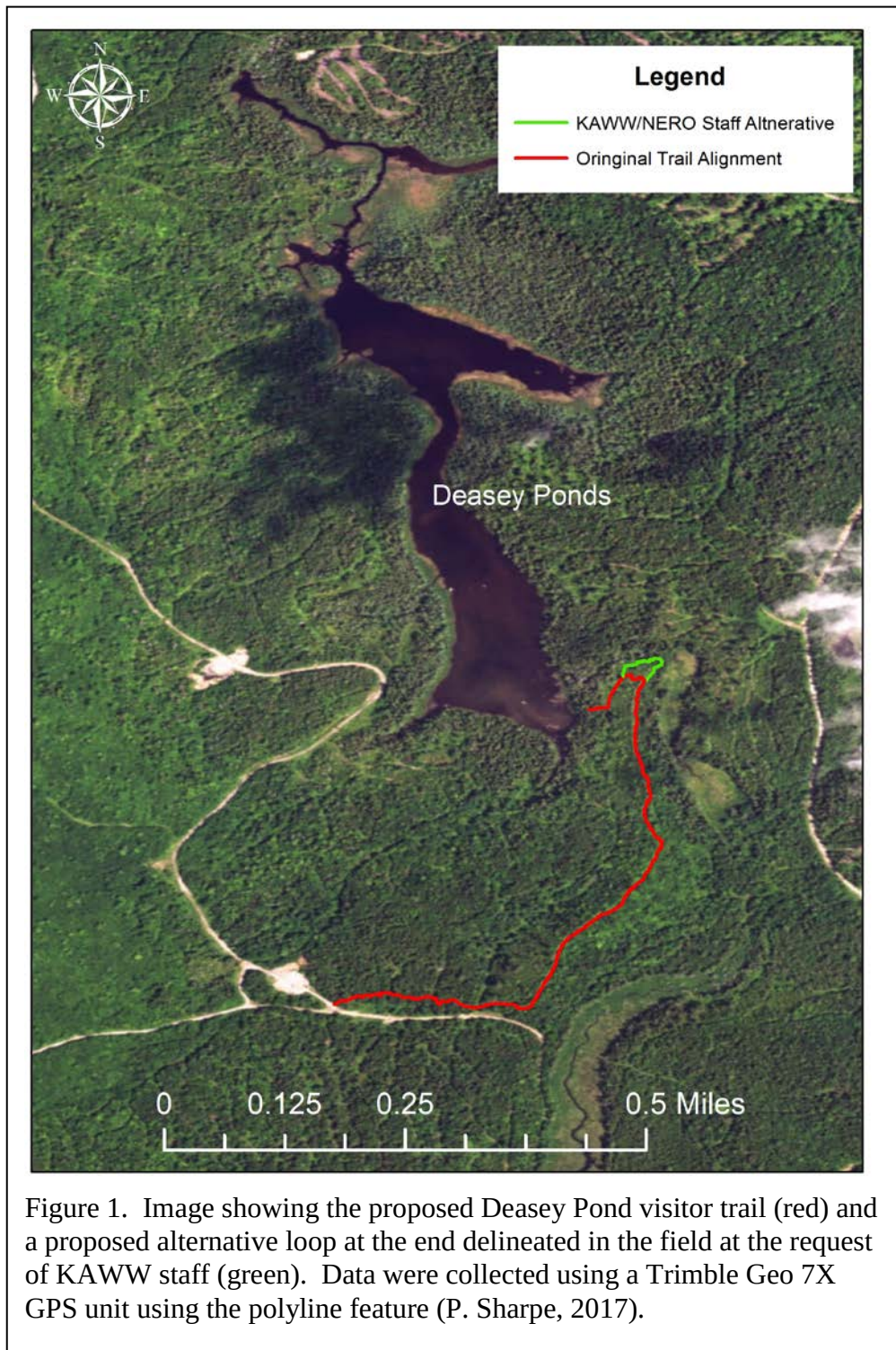


Photo 4: Obstructed Culvert on Loop Road

While some of these culverts do not necessarily present a natural resources concern, improperly sized or plugged culverts may result in longer-term issues with flooding and erosion and sedimentation of roads which will adversely impact water resources. Many culverts may need compliance as they are associated with drainages that have been stocked with Atlantic salmon as part of a species restoration program.

Deasey and Twin Ponds Access trails and boat launches

A number of locations within the monument where boat launches are being considered were visited during the tour. Specific KAWW priority areas for trail improvements/construction were rapidly assessed in the field by a certified Professional Wetland Scientist, Peter J. Sharpe, to eliminate or reduce the potential of wetland/waterway encroachments resulting from trail construction. Specific locations within the monument where this occurred were at the Deasey and Twin Ponds Areas (see Figures 1 and 2).



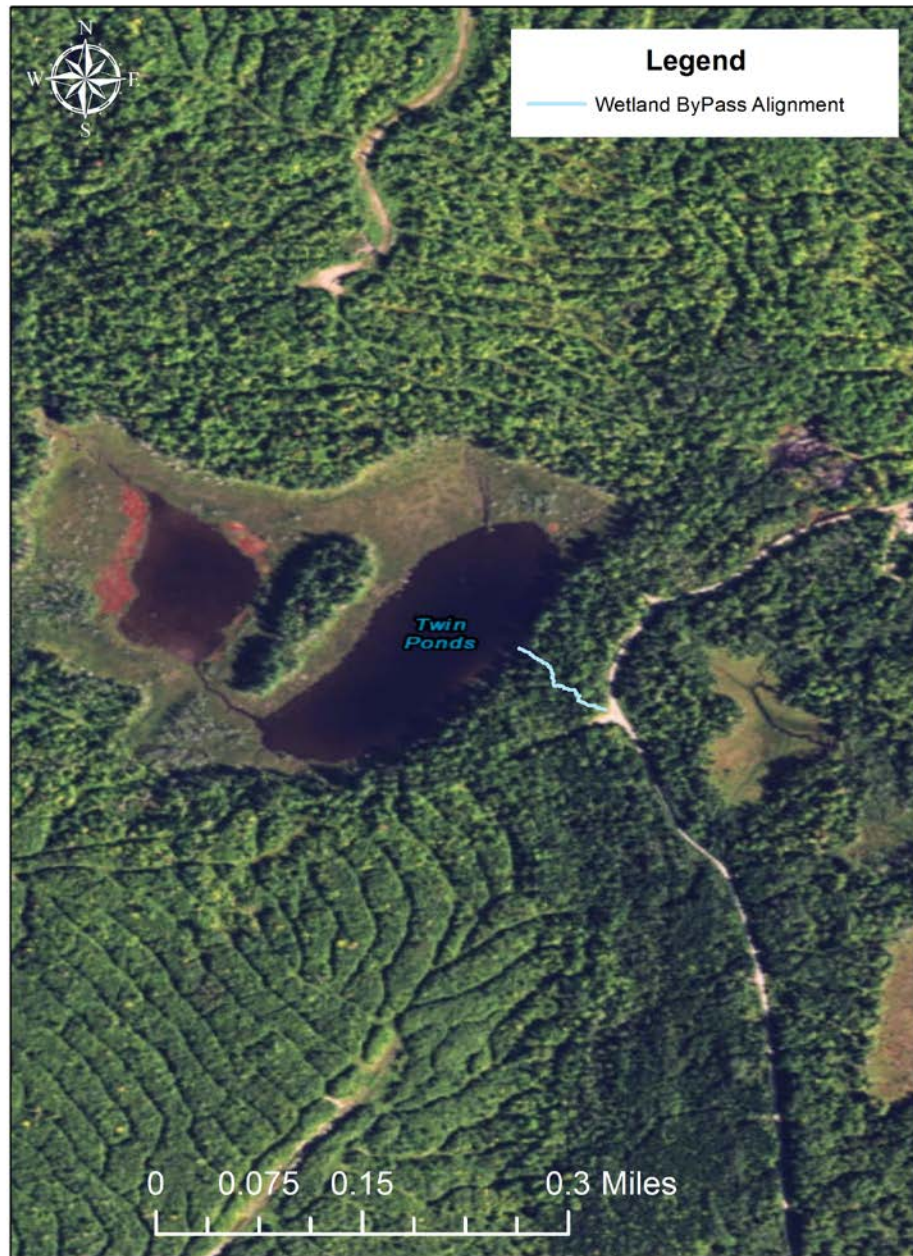


Figure 2. Image showing the proposed realignment of the Twin Ponds visitor trail (light blue). This route will avoid wetland encroachments while still providing visitor access to the pond. Data were collected using a Trimble Geo 7X GPS unit using the polyline feature (P. Sharpe, 2017).

The Proposed Deasey Ponds trail appears to avoid any wetland and waterway encroachments along the entire alignment shown on Figure 1. Near the northern terminus of the trail park staff were concerned that the originally proposed trail traversed too steep of a gradient. To address this concern NERO and KAWW staff mapped an alternative alignment (green line on Figure 1) which utilizes more gradual terrain features before looping back into the original alignment near the toe of slope of the hill to the southeast of Deasey Ponds.



Photo5: Twin Ponds Trail - Corduroy east view

The trail at Twin Ponds runs through a wetland area that has had some corduroy placed in it in an attempt to reduce impacts and facilitate a dry crossing on foot. KAWW and NERO staff identified an alternative trail alignment (see Figure 2) which will bypass the wetland entirely thereby eliminating the existing wetland impact and still allow for visitor access to the site.



Photo6: Twin Ponds Trail - Corduroy west view

Bridge Maintenance

A number of bridges are either close to needing repair or in immediate need of repair. Park staff is aware of the condition of the bridges and has prioritized work for this. Some of the bridges and/or culverts will need consultation with the Fish and Wildlife Service due to Atlantic salmon habitat.

Non-native exotic invasive plants

No invasive plants were observed in the park during the site tour. According to the superintendent, invasive plant species are known to be present in northern Maine, and it is expected that it is just a matter of time before they are found in the monument. At the present time, invasive plant control is a low priority for the State of Maine. No control based management recommendations can be made until exotic/invasive plants are found on site. Until that time, regular checks of the property are suggested as a way to monitor for the presence of invasive species.

Though no invasive plants were observed over the course of this field view it should be noted that our intent was not to perform a rigorous field assessment for invasive/exotic plants. Based on current plant management efforts within nearby Acadia National Park, KAWW staff interviews, and information gleaned from the Maine Department of Agriculture, Conservation, and Forestry

(http://www.maine.gov/dacf/mnap/features/invasive_plants/invsheets.htm), the presence of one or more invasive/exotic plant species within the park seems likely. However, given the limitations in staff and funding currently at KAWW, as well as, the presence of more pressing management issues focused on visitor access and safety and basic park infrastructure needs related to roadway maintenance, invasive plant species management is a low priority currently. In these efforts, particularly road maintenance, best practice measures for prevention (e.g., sourcing gravel on site) should be used to limit introduction of invasive plant species which will reduce future cost and control effort.

Management Recommendations

Forest Management

It is suggested that a forest management plan (FMP) be written as a way to understand the resources in the monument as a whole and develop a cohesive approach towards their management. This will enable NPS staff to have a well-defined understanding of the forest resources in the monument, and the various options for managing the resources over the long-term. Well aware of the need for and value of an FMP, monument staff expects that the development of such a plan will be done as part of and within the management planning process. Staff expects that this process will be ready for final public review by the end of 2019.

Beaver Activity

As discussed with park staff during our field view the most suitable management approach towards the beaver would be to discourage residency with the use of structures like a "beaver deceiver", failing that it is possible to capture and relocate them to sites within the monument that are more remote and less likely to result in infrastructure damage. If relocation is not feasible, trapping would be an alternative management option. In certain circumstances where site conditions allow, water control devices may be installed to control water levels and reduce flooding potential.

Roads

1. Periodic cutting vegetation of the roadsides is recommended as an effective and efficient way to manage growth and maintain an adequate road width without affecting the surroundings. This can be done with a lot of hand labor or by brush-hogging or other mechanical means or a combination of these methods.
2. Improperly sized and installed culverts should be replaced or reinstalled at the proper stream gradient elevation and ensuring that they are appropriately sized for streamflow and backfilled with sufficient cover to prevent humps in the road, and blocked culverts cleared of all obstructions. Culvert replacement should consider future climate scenarios which may include more intense periods of rainfall that would require larger drainage capacity. When possible, the culverts in fish habitat should be replaced with open-bottomed culverts or small bridges.
3. Gravel should be sourced from on site, whenever possible, for re-grading to minimize introduction of invasive species.

Trails

1. At Deasey Ponds the proposed trail appears to have no obvious signs of water resource impacts. The KAWW staff directed realignment (green line - Figure 1) should be considered the preferred route to traverse around the southeast hill at the Ponds.
2. At Twin Ponds the proposed trail alignment shown in blue Figure 2 should be utilized as the preferred alternative to the existing alignment as it will eliminate current wetland impacts.

cc: Carmen Chapin, Pete Sharpe