Auburn-Lewiston Airport

ENVIRONMENTAL DOCUMENTATION

APPENDIX B

McFARLAND JOHNSON

STATE OF MAINE
DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY
177 STATE HOUSE STATION
AUGUSTA, MAINE 04333

JANET T. MILLS
GOVERNOR

AMANDA E. BEAL
COMMISSIONER

December 26, 2023

Jordan Tate
McFarland Johnson
5 Depot Street
Freeport, ME 04032

Via email: jtate@mjinc.com

Re: Rare and exemplary botanical features in proximity to: Auburn-Lewiston Municipal Airport Master Plan Update, Auburn, Maine

Jordan Tate:

I have searched the Maine Natural Areas Program's Biological and Conservation Data System files in response to your request received December 15, 2023 for information on the presence of rare or unique botanical features documented from the vicinity of the project in Auburn, Maine. Rare and unique botanical features include the habitat of rare, threatened, or endangered plant species and unique or exemplary natural communities. Our review involves examining maps, manual and computerized records, other sources of information such as scientific articles or published references, and the personal knowledge of staff or cooperating experts.

Our official response covers only botanical features. For authoritative information and official response for zoological features you must make a similar request to the Maine Department of Inland Fisheries and Wildlife, 284 State Street, Augusta, Maine 04333.

According to the information currently in our Biological and Conservation Data System files, there are no rare botanical features documented specifically within the project area. Based on the information in our files and the landscape context of this project, there is a low probability that rare or significant botanical features occur at this project location.

This finding is available and appropriate for preparation and review of environmental assessments, but it is not a substitute for on-site surveys. Comprehensive field surveys do not exist for all natural areas in Maine, and in the absence of a specific field investigation, the Maine Natural Areas Program cannot provide a definitive statement on the presence or absence of unusual natural features at this site.

The Maine Natural Areas Program (MNAP) is continuously working to achieve a more comprehensive database of exemplary natural features in Maine. We would appreciate the contribution of any information obtained should you decide to do field work. MNAP welcomes coordination with individuals or organizations proposing environmental alteration or conducting environmental assessments. If, however, data provided by MNAP are to be published in any form, the Program should be informed at the outset and credited as the source.

MOLLY DOCHERTY, DIRECTOR
MAINE NATURAL AREAS PROGRAM
90 BLOSSOM LANE, DEERING BUILDING

maine DEPARTMENT OF Agriculture Conservation & Forestry

PHONE: (207) 287-8044
WWW.MAINE.GOV/DACF/MNAP

The Maine Natural Areas Program has instituted a fee structure of $75.00 an hour to recover the actual cost of processing your request for information. You will receive an invoice for $150.00 for two hours of our services.

Thank you for using MNAP in the environmental review process. Please do not hesitate to contact me if you have further questions about the Natural Areas Program or about rare or unique botanical features on this site.

Sincerely,

Lisa St. Hilaire

Lisa St. Hilaire | Information Manager | Maine Natural Areas Program
207-287-8044 | lisa.st.hilaire@maine.gov

JANET T. MILLS
GOVERNOR

STATE OF MAINE
DEPARTMENT OF
INLAND FISHERIES & WILDLIFE
353 WATER STREET
41 STATE HOUSE STATION
AUGUSTA ME 04333-0041

JUDITH CAMUSO
COMMISSIONER

February 02, 2024

Jordan Tate
McFarland Johnson
5 Depot Street
Freeport, ME 04032

RE: Information Request – Auburn, Auburn-Lewiston Airport Project (ERID 2789)

Dear Jordan:

Per your request received on December 15, 2023, we have reviewed current Maine Department of Inland Fisheries and Wildlife (MDIFW) information sources for known locations of Endangered, Threatened, and Special Concern (Rare) species; designated Essential and Significant Wildlife Habitats; inland fisheries and aquatic habitats; and other Protected Natural Resources concerns within the vicinity of the *Auburn, Auburn-Lewiston Airport* project. For the purposes of this review, we assume tree clearing and future development is proposed.

Our Department has not mapped any Essential Habitats that would be directly affected by your project.

Endangered, Threatened, and Special Concern Species

Bat Species – Of the eight species of bats that occur in Maine, four species are afforded protection under Maine's Endangered Species Act (MESA, 12 M.R.S §12801 et. Seq.): little brown bat (State Endangered), northern long-eared bat (State Endangered), eastern small-footed bat (State Threatened), and tri-colored bat (State Threatened). The four remaining bat species are designated as Species of Special Concern: big brown bat, red bat, hoary bat, and silver-haired bat. While a comprehensive statewide inventory for bats has not been completed, based on historical evidence, it is likely that several of these species occur within the project area during spring/fall migration, the summer breeding season, and/or for overwintering. However, our Agency does not anticipate significant impacts to any of the bat species as a result of this project.

Upland Sandpiper – Upland sandpipers, a State Threatened species, have been historically documented in the project area. Upland sandpipers nest only on the ground and use both native and cultivated vegetation for nesting sites. Due to lack of recent survey efforts, it is unknown if upland sandpipers are still present in this area. Therefore, if development is planned, surveys should be conducted with a biologist with experience with grassland bird surveys in Maine following MDIFW protocol. Upland sandpipers are protected under Maine's Endangered Species Act and, as such, are afforded special protection against activities that may cause "Take" (kill or cause death), "harassment" (create injury or significantly disrupt normal behavior patterns), and other adverse actions.

Significant Wildlife Habitat

Significant Vernal Pools - At this time MDIFW Significant Wildlife Habitat (SWH) maps indicate no known presence of Significant Vernal Pools (SVPs) in the project search area. However, a comprehensive statewide inventory for Significant Vernal Pools has not been completed. SVPs are not included on MDIFW maps until project areas have been surveyed using approved methods and the survey results confirmed. Thus, their absence from resource maps is not necessarily indicative of an absence on the ground. Therefore, we recommend that surveys for vernal pools be conducted within the project boundary by qualified wetland scientists prior to final project design to determine whether there are Significant Vernal Pools present in the area. These surveys should extend up to 250 feet beyond the anticipated project footprint because of potential performance standard requirements for off-site Significant Vernal Pools, assuming such pools are located on land owned or controlled by the applicant. Once surveys are completed, survey forms should be submitted to our Agency for review well before the submission of any necessary permits. Our Department will need to review and verify any vernal pool data prior to final determination of significance.

Aquatic Resources

Fish Habitat - We generally recommend that 100-foot undisturbed vegetated buffers be maintained along streams. Buffers should be measured from the edge of stream or associated fringe and floodplain wetlands. Maintaining and enhancing buffers along streams is critical to the protection of water temperatures, water quality, natural inputs of coarse woody debris, and various forms of aquatic life necessary to support conditions required by many fish species. Stream crossings should be avoided, but if a stream crossing is necessary, or an existing crossing needs to be modified, it should be designed to provide full fish passage. Small streams, including intermittent streams, can provide crucial rearing habitat, cold water for thermal refugia, and abundant food for juvenile salmonids on a seasonal basis and undersized crossings may inhibit these functions. Generally, MDIFW recommends that all new, modified, and replacement stream crossings be sized to span at least 1.2 times the bankfull width of the stream. In addition, we generally recommend that stream crossings be open bottomed (i.e., natural bottom), although embedded structures which are backfilled with representative streambed material have been shown to be effective in not only providing habitat connectivity for fish but also for other aquatic organisms. Construction Best Management Practices should be closely followed to avoid erosion, sedimentation, alteration of stream flow, and other impacts as eroding soils from construction activities can travel significant distances as well as transport other pollutants resulting in direct impacts to fisheries and aquatic habitat. In addition, we recommend that any necessary instream work occur between July 15 and October 1.

This consultation review has been conducted specifically for known MDIFW jurisdictional features and should not be interpreted as a comprehensive review for the presence of other regulated features that may occur in this area. Prior to the start of any future site disturbance, we recommend additional consultation with the municipality, and other state resource and regulatory agencies including the Maine Natural Areas Program and Maine Department of Environmental Protection in order to avoid unintended protected resource disturbance. For information on federally listed species, contact the U.S. Fish and Wildlife Service's Maine Field Office (207-469-7300, mainefieldoffice@fws.gov).

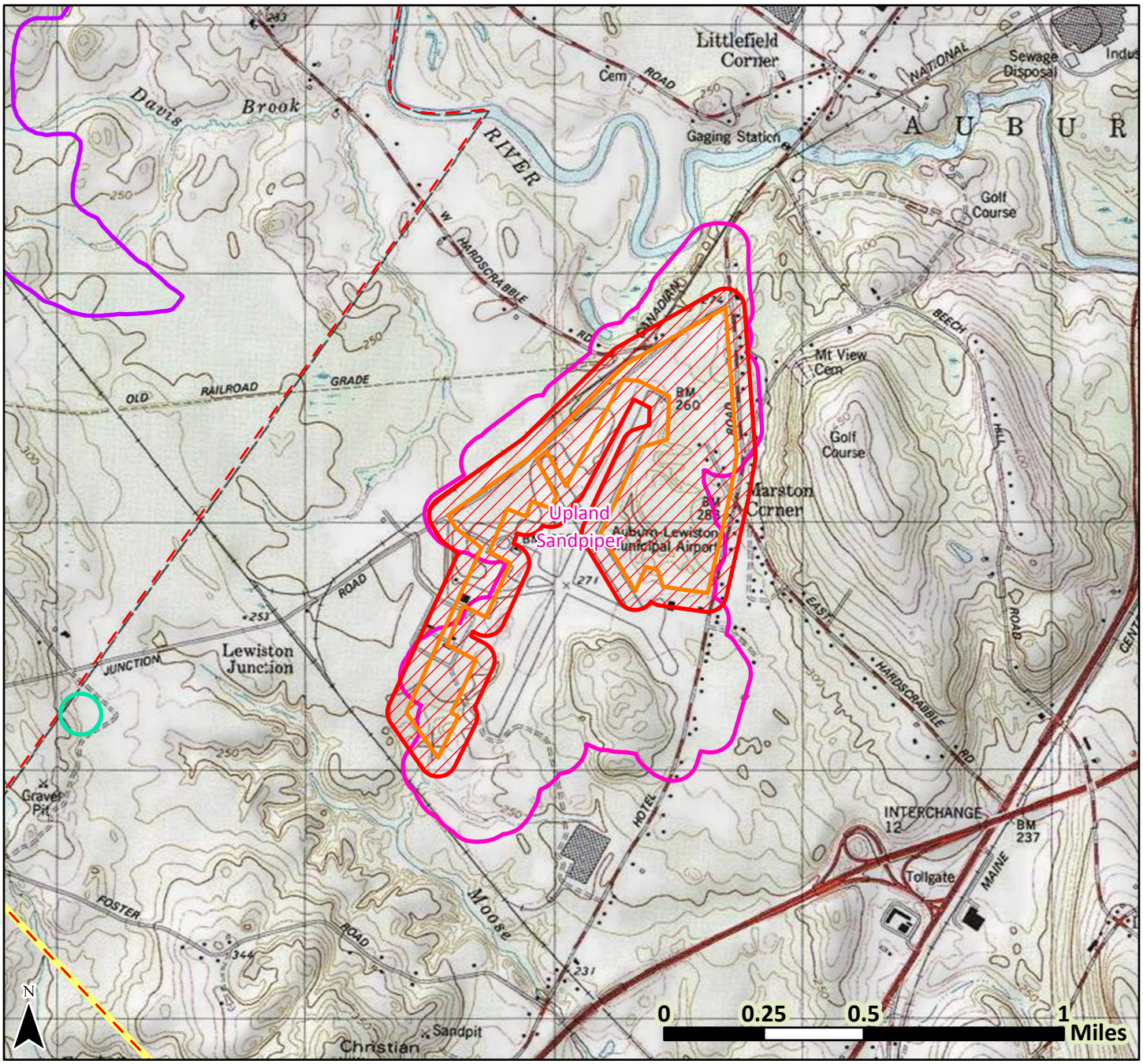
Please feel free to contact my office if you have any questions regarding this information, or if I can be of any further assistance.

Best regards,

Ciara Wentworth
Resource Biologist

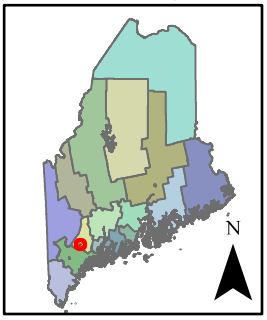
Maine Department of Inland Fisheries and Wildlife
Project Area Review of Fish and Wildlife Observations and Priority Habitats

Auburn, Auburn-Lewiston Airport project



County Boundary
Township Boundary
Project Footprint
Search Area
Deer Wintering Area
E, T, & SC Species
Significant Vernal Pool

Date: 1/9/2024
Projection:
UTM Zone 19N, NAD83



Legend only lists resources visible in the map; see response letter for all resources that were evaluated.

IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

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below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

IPaC is experiencing an issue while generating consistency letters for DKeys. We are working on the issue and hope to have it resolved soon. ×

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Project information

NAME

Auburn-Lewiston Municipal Airport MPU

LOCATION

Androscoggin County, Maine

DESCRIPTION

Some(The Auburn-Lewiston Municipal Airport (LEW), located in Auburn, Maine, is preparing a Master Plan Update.)

Local office

Maine Ecological Services Field Office

(207) 469-7300
(207) 902-1588

MAILING ADDRESS
P. O. Box A
East Orland, ME 04431

PHYSICAL ADDRESS
306 Hatchery Road
East Orland, ME 04431

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Log in to IPaC.
2. Go to your My Projects list.
3. Click PROJECT HOME for this project.
4. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

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1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of

Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
Northern Long-eared Bat Myotis septentrionalis Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9045	Endangered

Fishes

NAME	STATUS
Atlantic Salmon Salmo salar There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/2097	Endangered

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

Bald & Golden Eagles

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act[1] and the Migratory Bird Treaty Act[2].

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats[3], should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

There are bald and/or golden eagles in your project area.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Dec 1 to Aug 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

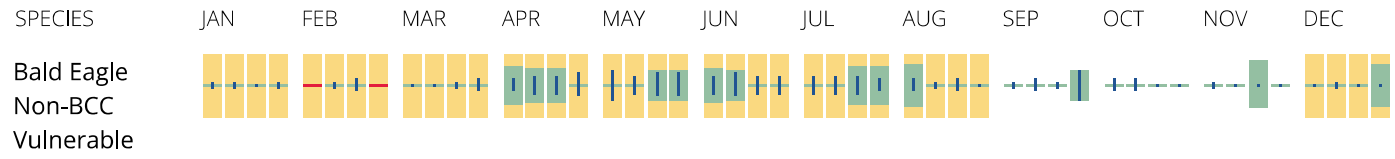
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

▪ probability of presence ▪ breeding season | survey effort – no data



What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply). To see a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs of bald and golden eagles in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur. Please contact your local Fish and Wildlife Service Field Office if you have questions.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats[3] should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Dec 1 to Aug 31
Black-billed Cuckoo *Coccyzus erythropthalmus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9399	Breeds May 15 to Oct 10

Bobolink Dolichonyx oryzivorus — Breeds May 20 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Canada Warbler Cardellina canadensis — Breeds May 20 to Aug 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Chimney Swift Chaetura pelagica — Breeds Mar 15 to Aug 25
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Evening Grosbeak Coccothraustes vespertinus — Breeds May 15 to Aug 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Prairie Warbler Dendroica discolor — Breeds May 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Wood Thrush Hylocichla mustelina — Breeds May 10 to Aug 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

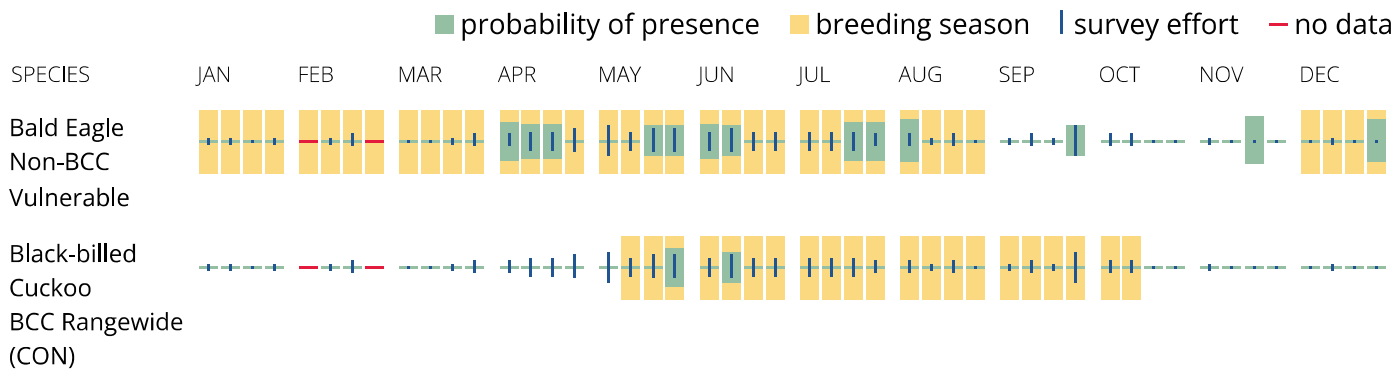
Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

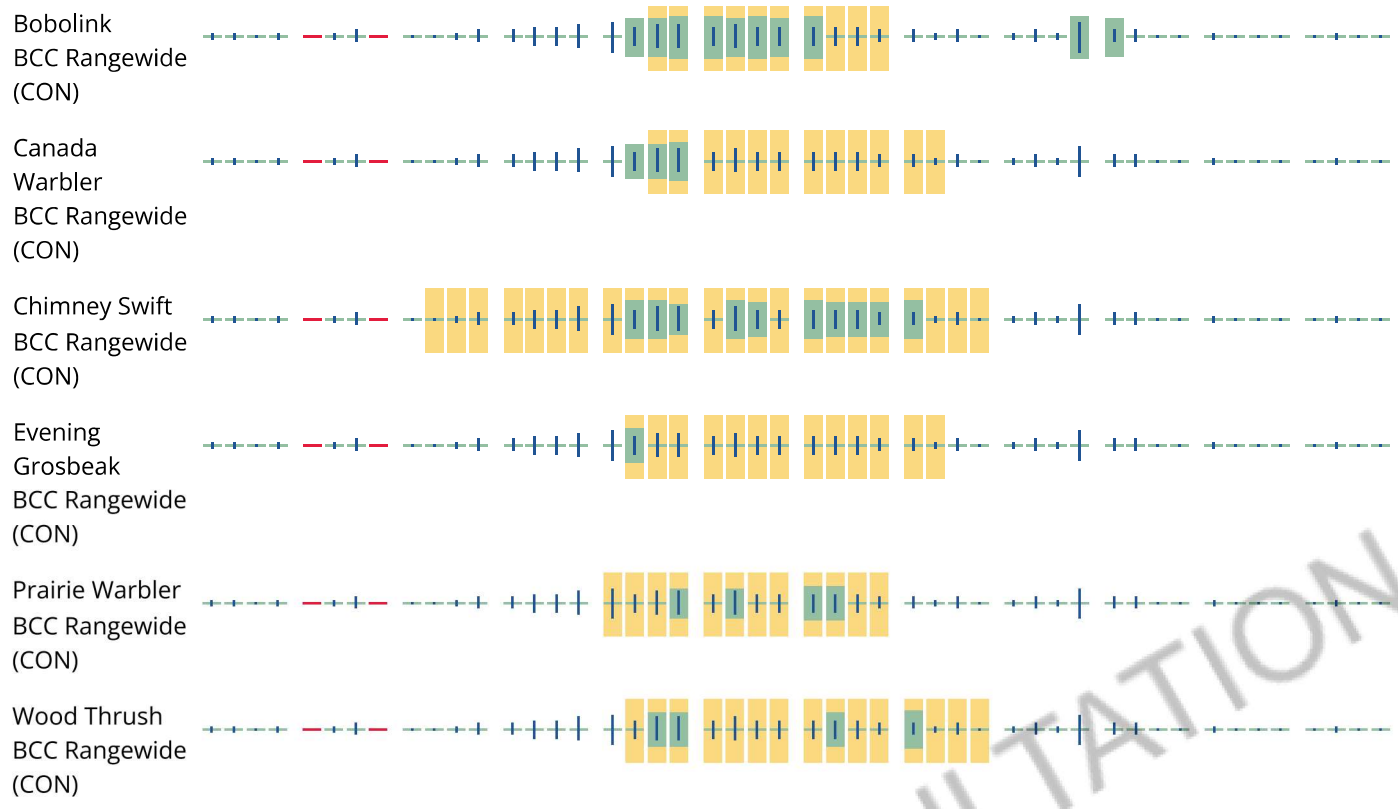
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.





Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact

Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Wetland information is not available at this time

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the NWI map to view wetlands at this location.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local

government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Maine Ecological Services Field Office
P. O. Box A
East Orland, ME 04431
Phone: (207) 469-7300 Fax: (207) 902-1588

In Reply Refer To: 09/06/2024 19:06:14 UTC
Project Code: 2024-0140877
Project Name: Auburn-Lewiston Municipal Airport Master Plan Update

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see https://www.fws.gov/program/migratory-bird-permit/what-we-do.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Bald & Golden Eagles
- Migratory Birds
- Wetlands

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

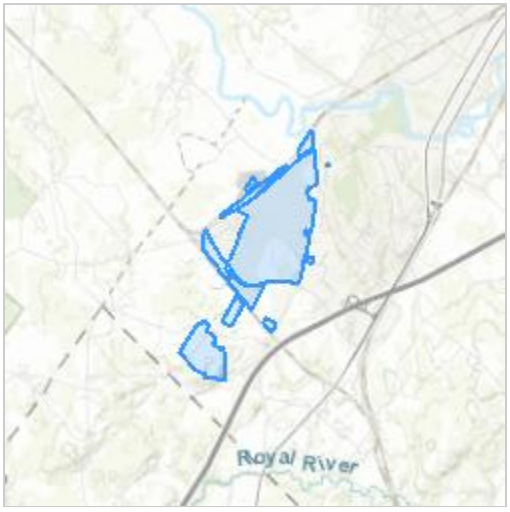
This species list is provided by:

Maine Ecological Services Field Office
P. O. Box A
East Orland, ME 04431
(207) 469-7300

PROJECT SUMMARY

Project Code: 2024-0140877
Project Name: Auburn-Lewiston Municipal Airport Master Plan Update
Project Type: Airport - New Construction
Project Description: The Airport is updating their Master Plan to guide future development and projects.
Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@44.0482601,-70.28308771895848,14z



Counties: Androscoggin County, Maine

ENDANGERED SPECIES ACT SPECIES

There is a total of 3 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Tricolored Bat *Perimyotis subflavus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

FISHES

NAME	STATUS
Atlantic Salmon *Salmo salar* Population: Gulf of Maine DPS There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2097	Endangered

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

BALD & GOLDEN EAGLES

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act[1] and the Migratory Bird Treaty Act[2].

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats[3], should follow appropriate regulations and consider

implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

---

1. The Bald and Golden Eagle Protection Act of 1940.
2. The Migratory Birds Treaty Act of 1918.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

There are likely bald eagles present in your project area. For additional information on bald eagles, refer to Bald Eagle Nesting and Sensitivity to Human Activity

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Dec 1 to Aug 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

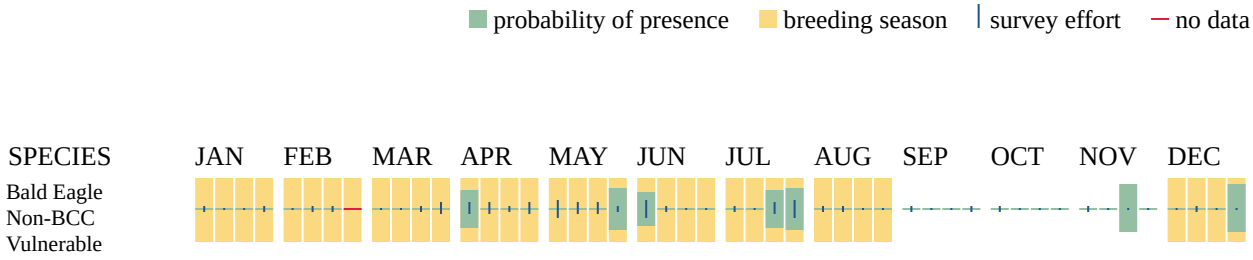
Probability of Presence (▪)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (▪)
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (–)
A week is marked as having no data if there were no survey events for that week.



Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

MIGRATORY BIRDS

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats[3] should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

---

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Dec 1 to Aug 31
Bay-breasted Warbler *Setophaga castanea* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9583	Breeds May 25 to Aug 1
Black-billed Cuckoo *Coccyzus erythropthalmus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9399	Breeds May 15 to Oct 10
Bobolink *Dolichonyx oryzivorus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9454	Breeds May 20 to Jul 31
Canada Warbler *Cardellina canadensis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9643	Breeds May 20 to Aug 10
Chimney Swift *Chaetura pelagica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9406	Breeds Mar 15 to Aug 25
Evening Grosbeak *Coccothraustes vespertinus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9465	Breeds May 15 to Aug 10
Prairie Warbler *Setophaga discolor* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9513	Breeds May 1 to Jul 31
Rose-breasted Grosbeak *Pheucticus ludovicianus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/11965	Breeds May 15 to Jul 31
Veery *Catharus fuscescens fuscescens* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/11987	Breeds May 15 to Jul 15

NAME	BREEDING SEASON
Wood Thrush *Hylocichla mustelina* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9431	Breeds May 10 to Aug 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

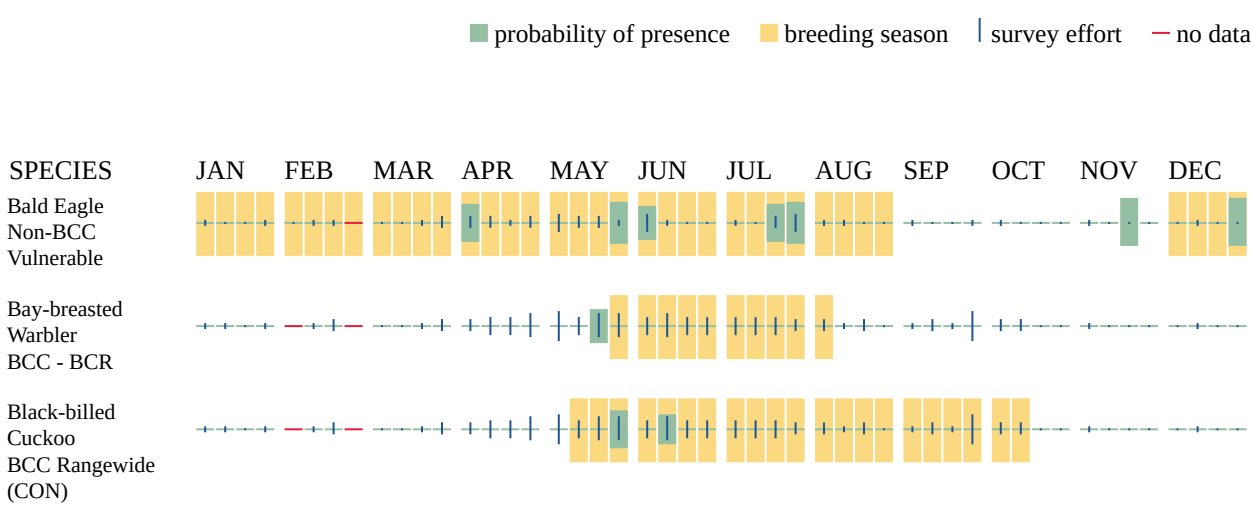
Probability of Presence (■)

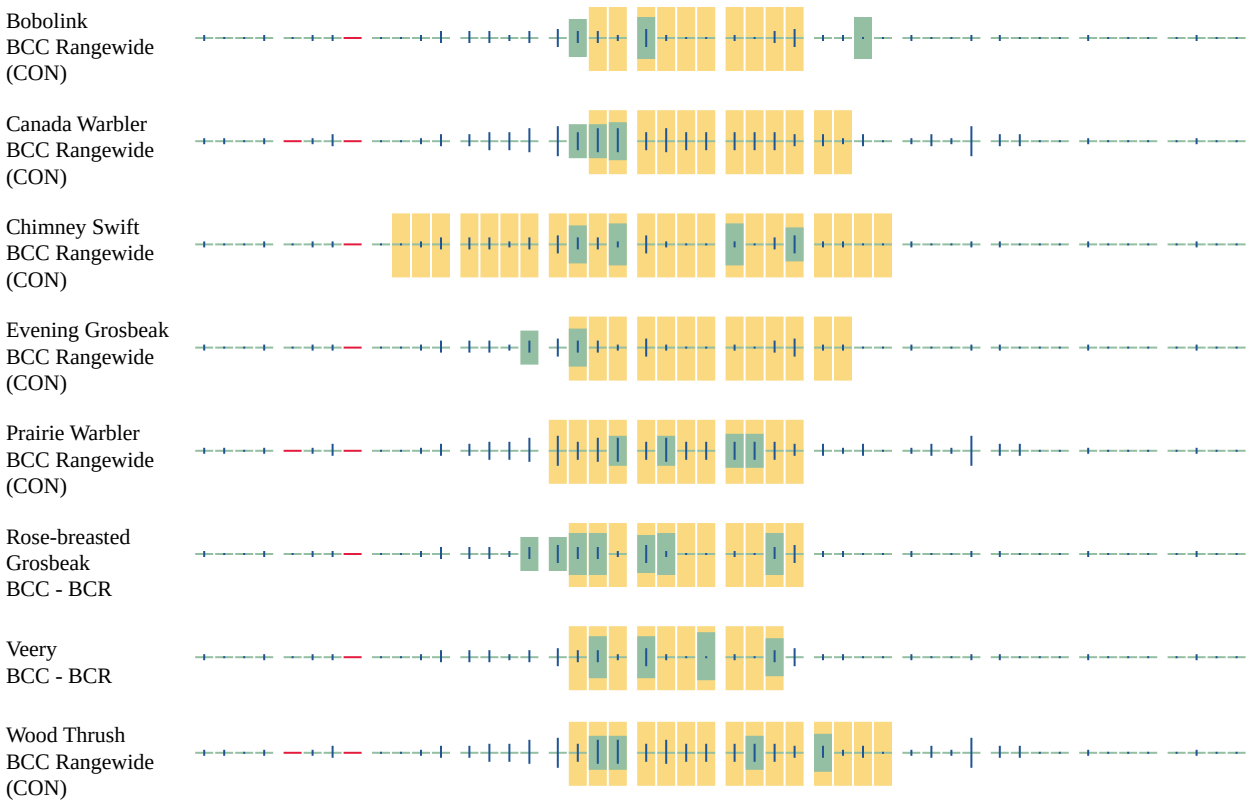
Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (–)
A week is marked as having no data if there were no survey events for that week.





Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

WETLANDS

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

FRESHWATER EMERGENT WETLAND

- PEM1E
- PEM1Fx
- PEM1C

FRESHWATER FORESTED/SHRUB WETLAND

- PFO1E
- PSS1Ex
- PSS1E

FRESHWATER POND

- PUBHh
- PUBFx

IPAC USER CONTACT INFORMATION

Agency:	McFarland Johnson
Name:	Jordan Tate
Address:	5 Depot Street
Address Line 2:	Suite 25
City:	Freeport
State:	ME
Zip:	04032
Email	jtate@mjinc.com
Phone:	2074174036

MAINE HISTORIC PRESERVATION COMMISSION
55 CAPITOL STREET
65 STATE HOUSE STATION
AUGUSTA, MAINE
04333

JANET T. MILLS
GOVERNOR

KIRK F. MOHNEY
DIRECTOR

January 8, 2024

Mr. Jordan N. Tate
McFarland Johnson
5 Depot St
Freeport, ME 04032

Project: MHPC# 0329-23 Auburn-Lewiston Municipal Airport
Cultural Resources; Master Plan Update

Town: Auburn, ME

Dear Mr. Tate:

In response to your recent request, I have reviewed the information received December 15, 2023 to continue consultation on the above referenced project in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended (NHPA).

Archaeological survey in and around the Auburn/Lewiston Municipal Airport has encountered multiple pre-European Indigenous archaeological sites, some on airport property and some nearby. For example, archaeological site 23.39 was discovered, tested and excavated prior to construction of a taxiway west of the northern portion of Runway 4-22. Wide-ranging reconnaissance archaeological survey in 2007 located several other sites, and also managed to determine that no sites are present in some areas of the airport property. Three of the Master Plan Update Study Areas shown in yellow on the map accompanying your recent submission, or portions of them, may need further archaeological survey if development or ground disturbance is planned. Those three areas include the two larger areas east of the northern portion of Runway 4—22, and the smaller area west of the southern end of Runway 4-22.

In addition, historic archaeological survey is recommended for the furthest north parcel outlined in yellow. The I. Hannewell property is present in the area in 1858 and LIDAR imagery suggests two potential anomalies.

Please contact Dr. Arthur Spiess of this office at Arthur.Spiess@maine.gov for further discussion regarding prehistoric archaeological sites.

Please contact Dr. Leith Smith of this office at Leith.Smith@maine.gov for further discussion regarding historic archaeological sites.

Sincerely,

Kirk F. Mohney

Kirk F. Mohney
State Historic Preservation Officer

PHONE: (207) 287-2132 FAX: (207) 287-2335

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TOLL FREE: 877-863-2720
FAX: 207-778-7024
EMAIL: ARC@UMF.MAINE.EDU
ARCHAEOLOGY.UMF.MAINE.EDU

Rick Cloutier
Auburn-Lewiston Municipal Airport
80 Airport Drive
Auburn, Maine 04210

July 24, 2007

RE: Certified Local Government Grant Archeology Project--Auburn-Lewiston Municipal Airport

Dear Rick,

We write to inform you of the completion of the recent archaeological work at the Auburn-Lewiston Municipal Airport, in Auburn, Androscoggin County, Maine which was funded through the Certified Local Government (CLG) Grant Program (Figure 1). The fieldwork was conducted between May 11th and June 29th by the University of Maine at Farmington Archaeology Research Center (UMF ARC). The CLG Grant is being administered through the Maine Historic Preservation Commission (MHPC) and the Auburn-Municipal Airport. The goals of the archaeological work was to identify Native American archeological sites which may be present in previously un-assessed areas of the airport, not previously surveyed, particularly sites dating to the Paleoindian period of Native American history for the region, ca. 9000-7000 B.C. The MHPC, in a document entitled "Focus and Products" outlines the goals and methodology for the CLG grant archaeological project which is to include particular focus on areas to be affected by future airport development as outlined in the Airport Master Plan (Figure 2) (Hoyle, Tanner Associates., Inc. 2006). These include:

1. airport hill (map item C2)
2. northern extension of Runway 4/22 (map item U)
3. future building area near runway 17/35 (map items A and N)
4. airport perimeter road (map item F) and associated fence (map item E)
5. open area (map item V) southeast of airport hill and north of runway 17/35

6. Any other areas of the airport that contains undisturbed sandy soil that has not been previously surveyed.

Robert N. Bartone, and Jake Grindall (UMF ARC), with Airport Manager Rick Cloutier (5/11/07), walked these areas as well as much of the airport property east of the existing Runway 22. The airport property west of the Runway 22 was assessed as part of the Parallel Taxiway project. Assessments with regard to archaeological sensitivity were made and seven areas deemed suitable for archaeological phase I survey were defined, covering the areas of concern outlined by the MHPC as well as other areas (Figure 3).

Archaeological survey work in the seven defined areas resulted in the identification of a single newly recorded archeological site, 23.41 ME, located on the top of the Airport Beacon Hill, within Area 7. Additional CLG grant money was allocated to conduct further field testing at the newly identified site. Each area surveyed is discussed separately below followed by a summary of work completed at site 23.41 ME.

Area 1

Area 1 is the northernmost area tested (map item U). It is located to the northeast of the northern end of Runway 22 near a small east-west trending drainage. Both sides of the drainage were tested including sampling transects T21 and T22. Eight test pits at a 5m interval were placed to the south of the drainage and seven pits at a 5m interval to the north. Testing indicates that the area is entirely disturbed, with a deep layer of fill evident in all test pits. Some pits showed evidence of two distinct fill deposits. No Native American artifacts were recovered during testing of Area 1

Area 2:

Area 2 encompasses two branches of a drainage which runs roughly east-west meeting Runway 22 and creating a roughly 'U'-shaped plateau near the northeast corner of the airport property. Survey work included five sampling transects and 35 pits (T23-T27). Six of the test pits (T23) were placed on the south side of the southern branch of the drainage where it emerges from the tree line toward the eastern property boundary.

Pits at either end of this transect contained intact sediment and the pits in the middle revealed fill down to 80cm. Further west along that side of the drainage was undulating and showed obvious evidence of being disturbed by heavy machinery (i.e., tracks and large patches of bare sand covered by wood chips).

Two 40m long transects (T24 & T25) were placed on the U-shaped plateau between the drainage branches. Most test pits exhibited deep layers of clean fill (some even down to a meter). Several test pits exhibited intact soil profiles, however much of the area seems to be disturbed through grading and filling. Five test pits were excavated on the northern side of the northern drainage (T26). The three westernmost pits on the line were intact and the more of the same clean fill comprised the two pits closer to the tree line. That northern drainage bends to the north once inside the tree line. One transect, with six test pits (T27) was excavated in this area. The entire transect was intact, however no artifacts were recovered. No Native American cultural remains were recovered from the largely disturbed and modified Area 2.

Area 3:

Area 3 comprises the northern side of a pronounced drainage, just south of Area 2, that flows westward beneath Runway 22, by the Taxiway Site (23.39 ME) on the west side of the runway. The area immediately along the drainage is wooded, while the majority of the area is open. Testing was conducted along the edge of the drainage including seven transects (T28-T34) and 62 pits. All test pits were at a 5m intervals. The majority of test pits exhibited disturbed profiles and almost all had some kind of fill episode. When it was possible to sample inside the tree line, there was, as expected a much higher occurrence of intact sediments. Overall, about 15-20% of pits were intact in the area. No artifacts were recovered.

Area 4:

Area 4 is a level area on the southern side of the same drainage that was tested in Area 3. A single 50m transect of 11 pits at a 5m interval was excavated (T35), about 5m west of the steep embankment to the drainage. Test pits along the entire transect revealed a deep layer of fill, full of asphalt and other historic debris. Large chunks of asphalt had

also been pushed over the edge of the embankment along the length of this side of the drainage. The entire area is disturbed.

Area 5:

Area 5 is an area adjacent to the same drainage, to the west and south of Area 4, just northeast of an artificially built up where hangers and other existing airport facilities are located. The landform is about 3-5m lower than those in areas 3 and 4. A single 50m long transect with 11 pits at a 5m interval was excavated roughly parallel to the drainage (T36). Two of the pits preserved a thin 'B' horizons (T36 P2 and 4), but the rest went from a thin organic 'Ao' straight to olive brown clay, indicating some degree of ground disturbance. No artifacts were recovered.

Area 6:

Area 6 is a level area just west of Old Hotel Road and to the south of a set of hangars and the entry gate to. During the initial walkover, it was determined that the area had likely been disturbed through grading. Further, no drainages or other distinguishing topographic features were apparent. Therefore no archaeological survey work was conducted in this area.

Area 7:

Area 7 comprises all of Airport Beacon Hill—the probable drumlin located in the southwest portion of the airport property. It is variably sensitive depending on sediment type, prior disturbance and micro-topography. The top of the hill is comprised of a series of approximately 20-30 bench-like landforms. Subsurface survey was conducted on the larger more level "benches". Most of the areas tested were disturbed or gravely. This was the case for transects at the northern margin of the hillcrest (T44), the western margin (T42), and for the eastern area (T40). Another area on the western portion of the hill was surveyed (T41) and was entirely disturbed. The southernmost transect on the hill (T43) sampled a ridge that looks down toward Old Hotel Road right on the edge of the hill. This landform is predominantly sandy with intact stratigraphy except for a few pits

with jumbled, disturbed soils, but like the others proved negative for the presence of a Native American cultural material.

Other tested areas on the hill included a small bench that extends westward from the roadway up the hill toward the runway. Five test pits along transect T46 were laid out however three were left unexcavated given the presence of fill down to more than 80cm . A small drainage in the wooded area the base of the hill, just north of Kittyhawk Drive and just east of one of the bunkers was sampled as well, including seven test pits along transect T47. This area was intact and sandy, but no artifacts were recovered. The remaining areas inside the tree line on the southern side of the hill were either hummocky or steeply sloped or totally undifferentiated. The northeastern end of the hill was walked as well and includes exposed gravel, cobbles and bedrock. No subsurface sampling was conducted in these areas.

A fairly level cleared area on the back side of airport hill overlooking Kittyhawk Drive and Moose Brook to the south, was sampled with two transects and 16 pits (T37 and T38). T37 is a 50m long transect with 11 pits at a 5m interval running along the relatively flat area at the very top. All of the pits on this transect were intact, but with a fairly high gravel content. A 20m long transect (T38) with 5 pits at a 5m interval was excavated inside the tree line to the west and a little south of the flat cleared spot tested by T37. This transect also sampled intact and gravely sediments. No artifacts were recovered from the area.

Two micro landforms exhibiting intact, sandy deposits were identified on the hill and sampled with transects T39 and T45. The transect T39 landform is a roughly circular bench in the center of the hill (Locus 1). A single Munsungan chert flake was identified in test pit T39 P1 leading to the identification of site 23.41 ME. The second intact landform is located about 30 m to the south and about 3-5m lower in elevation than the one tested by T39 (Locus 2). The northernmost pit on that transect was positive with three Munsungan chert flakes. The site setting and material types strongly indicated Paleoindian origin for the site.

Site 23.41 ME

A horizontal metric grid was established at the site 23.41 ME with the original Locus 1 positive test pit designated N1000 E1000. Test pit sampling, including 38 test pits at 2.5m intervals, was conducted over much of the landform, which measures roughly 970 square meters in area. Two additional test pits were positive. A Munsungun chert side scraper fragment and a worked slate tool fragment were recovered from test pit N1003 E1003 SW and a possibly modified Munsungun chert flake was recovered from N1003 E997. The remaining test pits were negative. The landform is sandy and exhibits and intact "A", "B" "C" soil profile. Higher gravel content was encountered at the periphery of the landform. The grid was extended to Locus 2, on the lower landform, and 37 pits at a 2.5 m interval were excavated, four of which were positive with predominately Munsungan chert lithic debitage. Locus 1 measures approximately 660 square meters in area and similarly to Locus 1, the Locus II landform is composed of intact sandy deposits surrounded by more gravely deposits.

Survey and additional testing at the site clearly established the significance of the site, and in consultation with the MHPC it was decided to reallocate CLG funding slated for analysis and write-up toward additional excavation. This testing included 38 square meters, all within Locus 1, forming a contiguous block of excavation units in the southern portion of the landform. Thus far, excavations at Locus 1 have resulted in the recovery of 25 lithic tools and 144 lithic flakes. The tool inventory includes a single complete Munsungan chert fluted projectile point, firmly establishing the site as Paleoindian.

Conclusions and Recommendations

The CLG grant funded archaeological fieldwork at the Auburn-Lewiston Municipal Airport has been successfully completed. Archaeological assessment and phase I survey has resulted in the identification and testing of a single archaeological site, 23.41 ME—the Beacon Hill Site. The site is clearly significant and eligible for inclusion in the National Register of Historic Places and will require further detailed reporting. The entire Airport Beacon Hill is slated for quarrying which will adversely affect the site. Although a relatively intensive degree of archaeological work has been completed at Locus 1, additional data recovery work may be necessary depending on the final

assessment of the percentage of site area recovered. Locus 2 at this point has only been sampled through test pitting and some degree of archaeological phase III data recovery, still to be determined will likely be necessary. Assessment and survey work indicates that all other portions of the project area are unlikely to preserve significant archaeological deposits and will require no additional archaeological work, outside of the 23.41 ME site area. Please call if you have any questions.

Sincerely,

Robert N. Bartone,
Assistant Director, UMFARC

Ellen R. Cowie Ph.D.,
Director, UMFARC

Jake G. Grindall
Field Supervisor, UMFARC

cc: Dr. Arthur Spiess (MHPC)

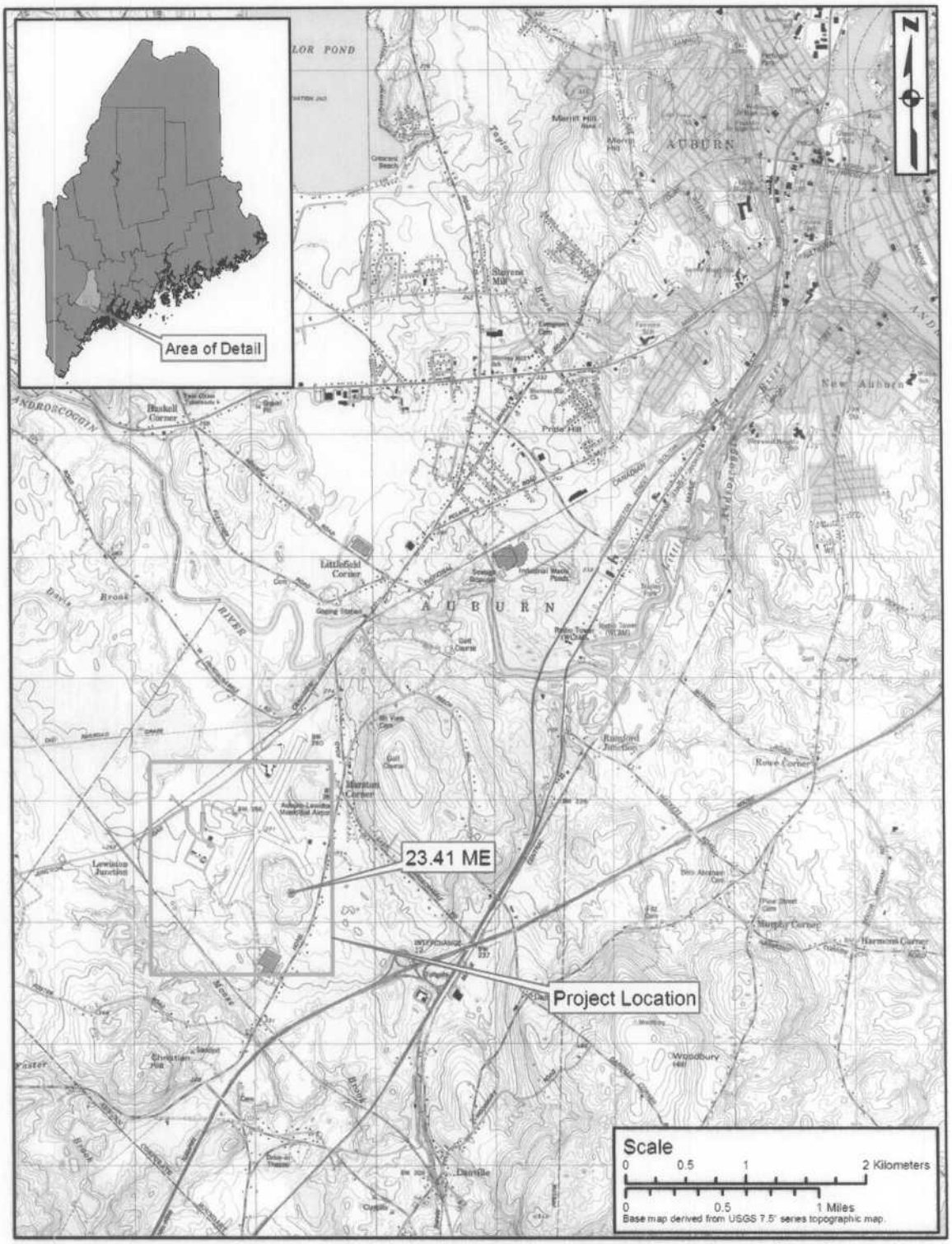

Figure 1. Topographic map showing the location site 23.41 ME within the Auburn-Lewiston Airport Municipal Airport, in Auburn, Androscoggin County, Maine.

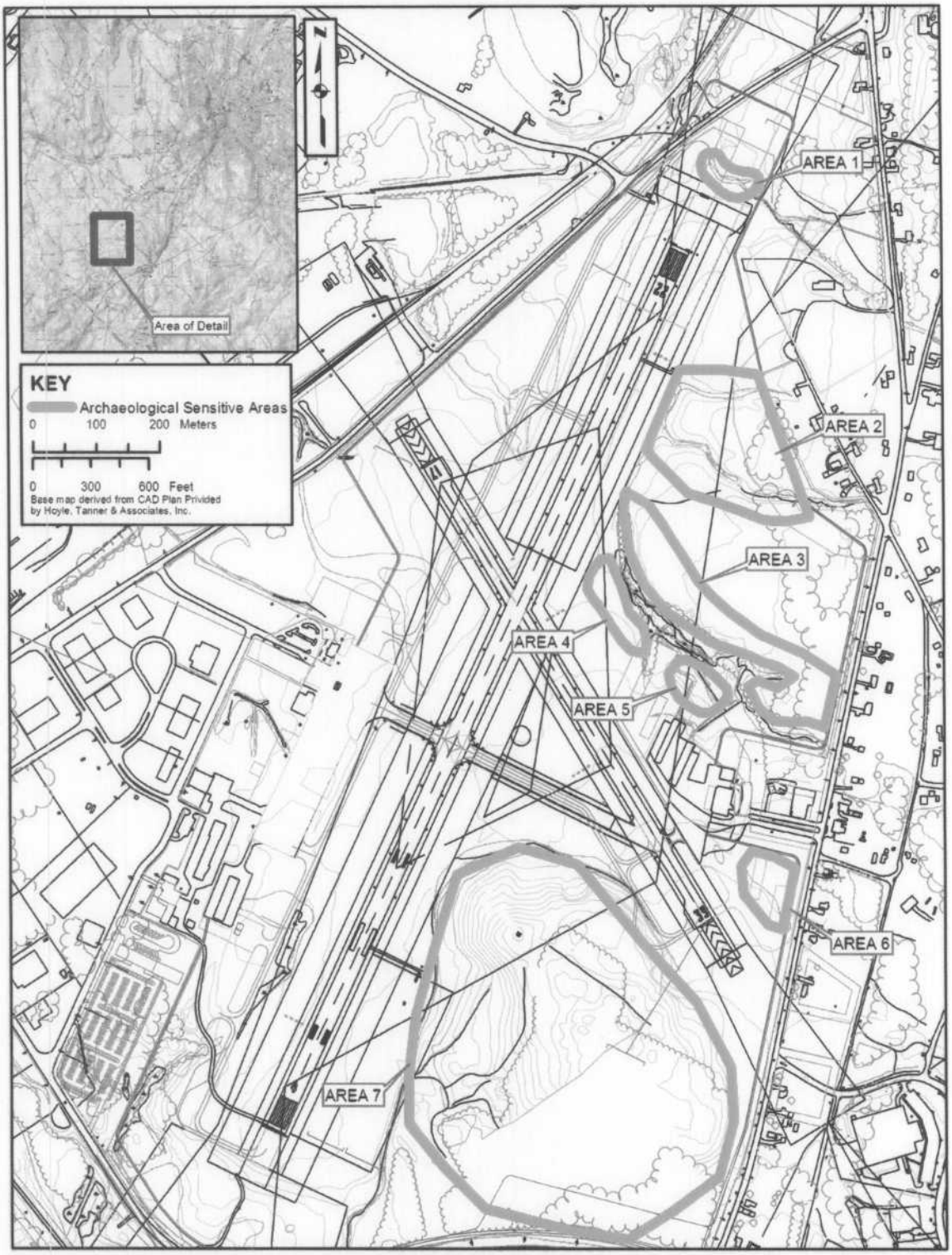

Figure 2. Schematic map of the Auburn-Lewiston Airport Municipal Airport master plan showing the location of archaeological sensitive areas (ASAs) within the Auburn-Lewiston Airport Municipal Airport, in Auburn, Androscoggin County, Maine.

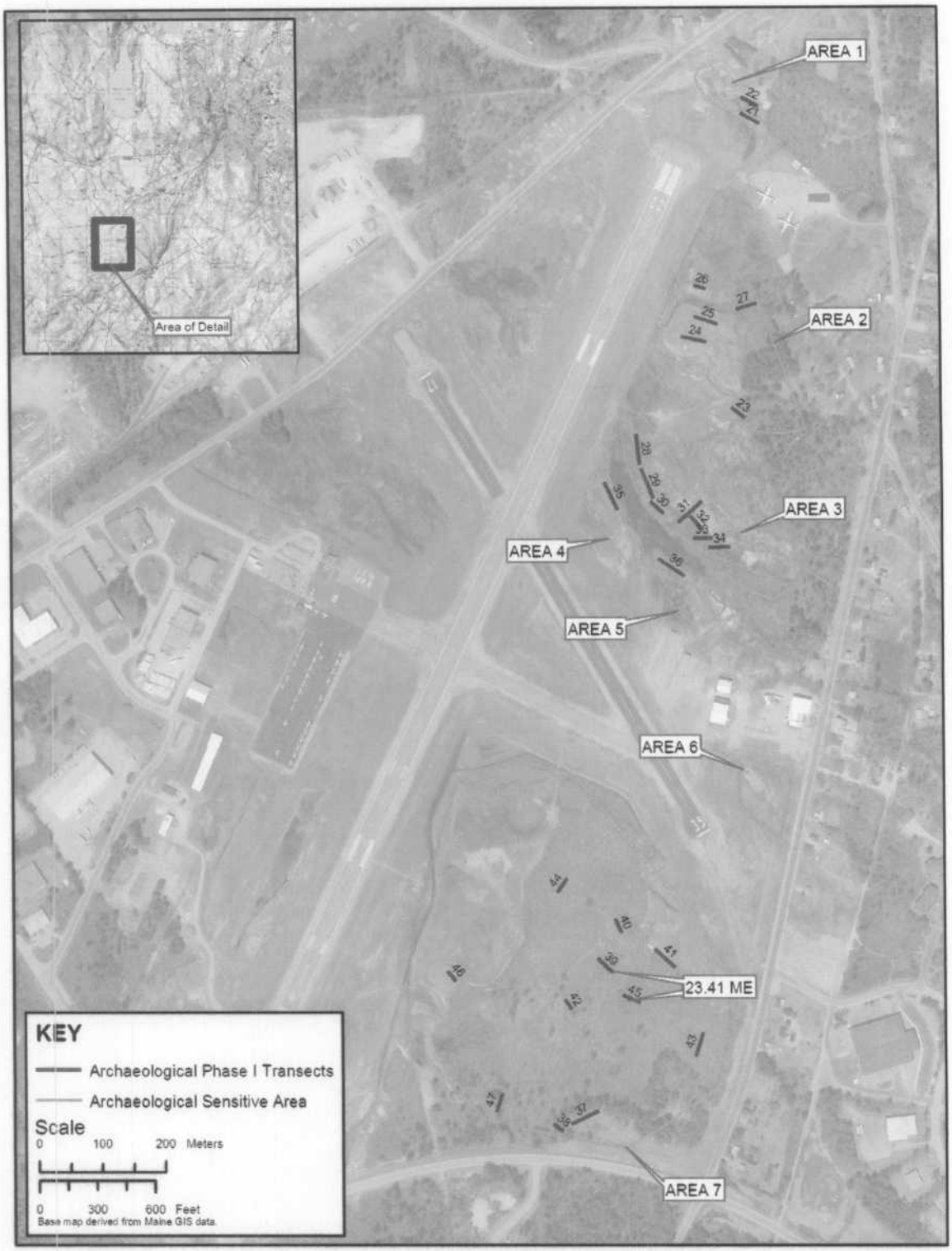

Figure 3. Aerial photograph of the Auburn-Lewiston Airport Municipal Airport showing the location of archaeological sensitive areas (ASAs) and site 23.41 ME within the Auburn-Lewiston Airport Municipal Airport, in Auburn, Androscoggin County, Maine.

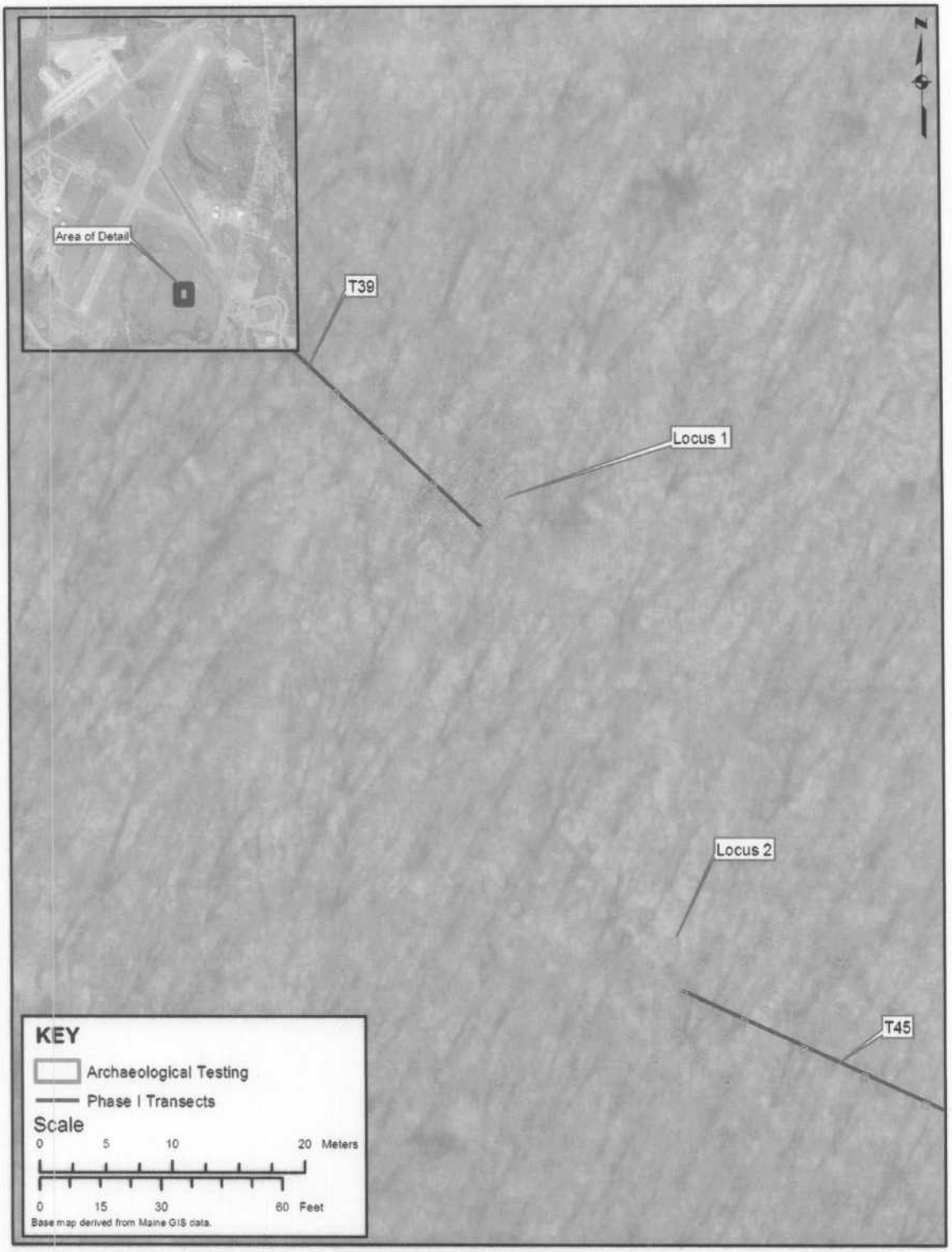

Figure 4. Aerial photograph of the Auburn-Lewiston Airport Municipal Airport showing the location of testing within site 23.41 ME within the Auburn-Lewiston Airport Municipal Airport, in Auburn, Androscoggin County, Maine.

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Rick Cloutier
Auburn-Lewiston Municipal Project
80 Airport Drive
Auburn, Maine 04210

September 20, 2007

RE: CLG Grant Archaeology Project: The Beacon Hill Site 23.41 ME, Additional Information

Dear Rick:

This letter serves as a supplement to the end-of-field letter report (dated July 24, 2007) submitted by the University of Maine at Farmington Archaeology Research Center (UMF ARC) to the Auburn-Lewiston Municipal Airport that summarized the results of the Certified Local Government (CLG) Grant Program funded archaeological work conducted at the airport in May and June, 2007. Specifically, this letter provides additional information, preliminary artifact distribution maps, and recommendations for phase III data recovery at the Beacon Hill Site (23.41 ME), which is the single archaeological site identified as a result of that work (Figures 1 and 2).

The site is located on two micro landforms composed of intact, sandy sediments near the crest of Beacon Hill (Figure 3). The landforms are approximately 30 m apart on a roughly north south axis, with an elevation difference of approximately three meters. The site is attributed to the Paleoindian period of Native American history for the region and is eligible for the National Register of Historic Place (NRHP).

Locus 1

The higher, northern landform is designated Locus 1. The entire landform measures about 620 square meters in area before dropping off on all sides to more gravely, rocky deposits. Testing conducted to date includes 46 square meters, forming a 2.5 m interval grid of 0.5 m x 0.5 m test pits over much of the landform and a contiguous block of excavation, measuring 38 square meters in the southern portion of the landform. Thus far, excavations at Locus 1 have resulted in the recovery of 25 lithic tools and 144 lithic flakes (Figures 4). The tool inventory includes a single complete Munsungun chert fluted projectile point, firmly establishing the site as Paleoindian. Other tools include a variety of scrapers and modified/utilized flakes.

Locus 1 has an unusually high tool to flake ratio (1 tool for every 5.76 flakes), indicating that some specialized activity took place at the site. The site is limited to the very southern portion of the landform with artifacts located in a fairly level area of at least 40 square meters. The site may extend southward over the "bank" to a limited degree as well, although this is undetermined. It may be that much of the core of the locus has been fully excavated, however the additional excavation of 30-35 1.0 m x 1.0 m units is recommended in order to recover cultural material from the perimeter of the locus.

Locus 2

The lower landform is designated Locus 2. The landform measures 600 square meters and like the Locus 1 landform, is topographically defined, as well as being defined by sandy sediments surrounded by rockier, more gravely deposits (Figure 5). A total of 37 0.5 m x 0.5 m test pits at a 2.5 m interval were ultimately excavated, four of which were positive with 15 flakes recovered (the majority are Munsungun chert). The artifacts were recovered over an area of roughly 25 square meters. Testing to date at Locus 2 is limited to 0.5 m x 0.5 m test pits with no phase II level data recovery conducted to date. A total of 100-125 square meters of phase III data recovery is recommended. It is assumed that this level of work may provide near full data recovery of cultural material from the locus.

Conclusions

Thus, a total of 155-160 square meters of phase III data recovery excavation is recommended at the Beacon Hill site in order to mitigate the adverse effects of proposed construction activity. The site is relatively unique for several reasons, and is clearly significant in local and regional contexts. It is situated in a commanding setting at the crest of an ancient drumlin formation, it preserves an unusually high percentage of lithic tools in comparison to debitage, and it is part of a rare assemblage of nearby Paleoindian sites, the relationship of which is not yet understood. Please call if you have any questions.

Sincerely,

Robert N. Bartone, M.A.
Assistant Director, UMF ARC

Ellen R. Cowie, PhD
Director, UMF ARC

cc: Dr. Arthur Spiess (MHPC)

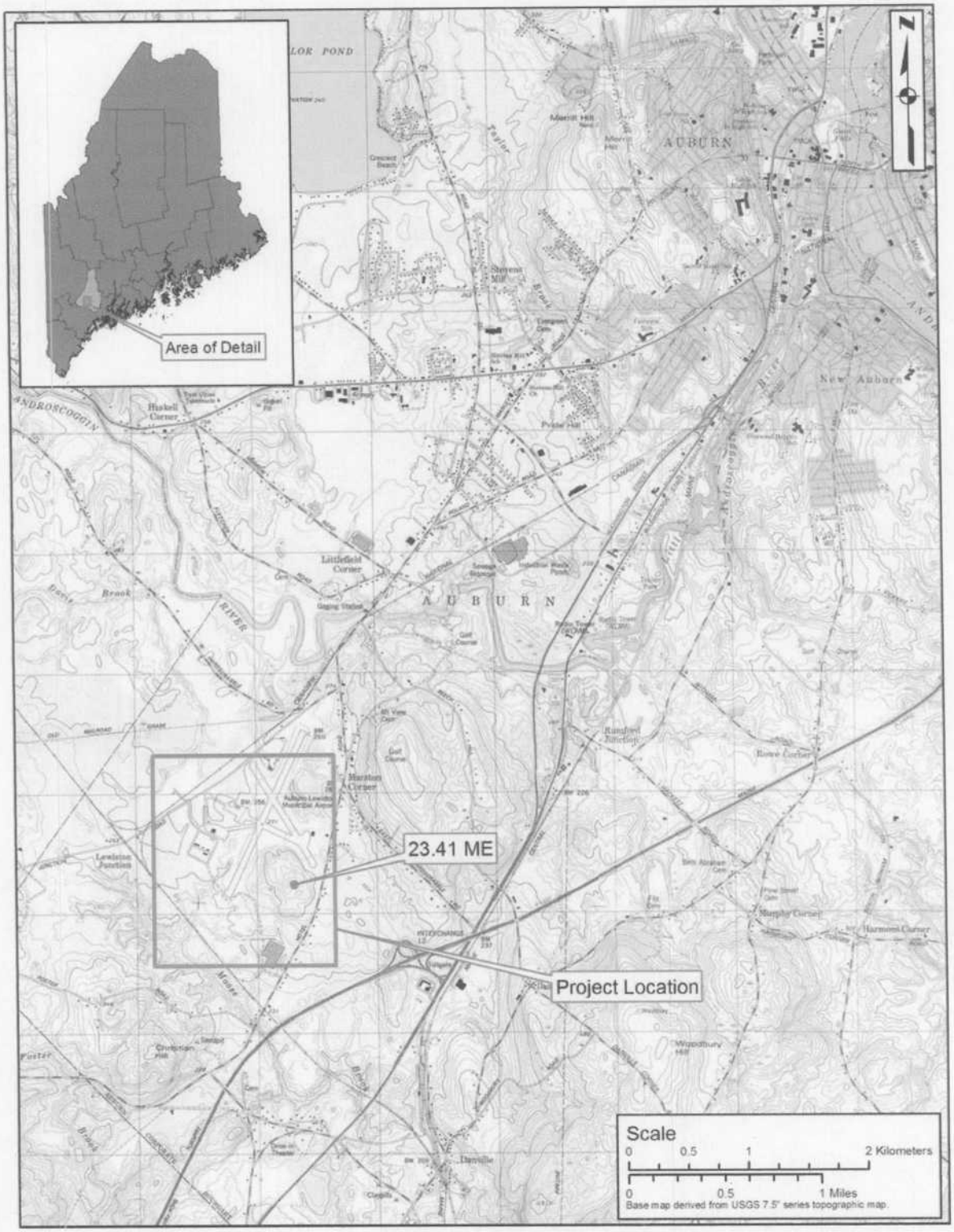


Figure 1. Topographic map showing the location site 23.41 ME within the Auburn-Lewiston Airport Municipal Airport, in Auburn, Androscoggin County, Maine.

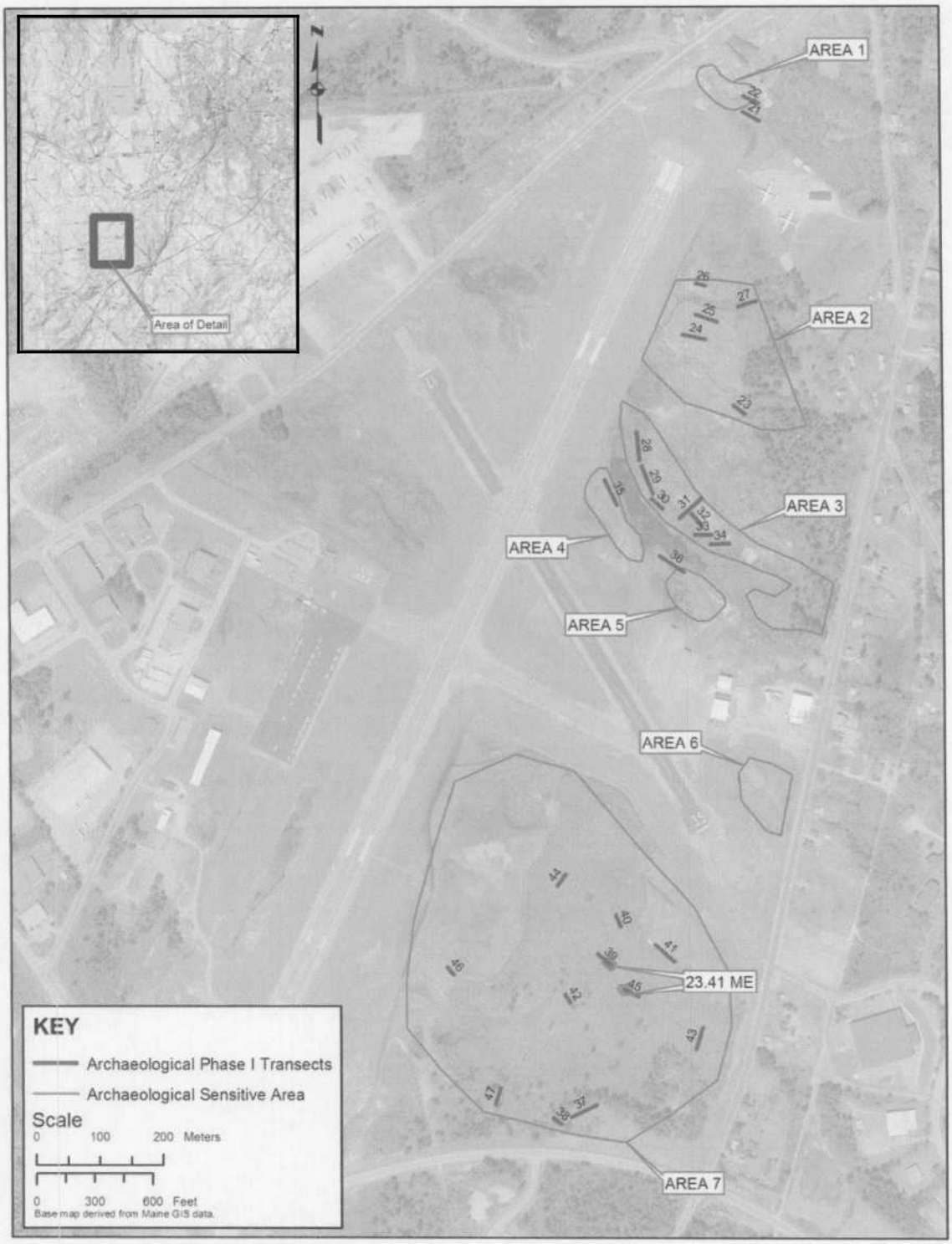


Figure 2. Aerial photograph of the Auburn-Lewiston Airport Municipal Airport showing the location of archaeological sensitive areas (ASAs) and site 23.41 ME within the Auburn-Lewiston Airport Municipal Airport, in Auburn, Androscoggin County, Maine.

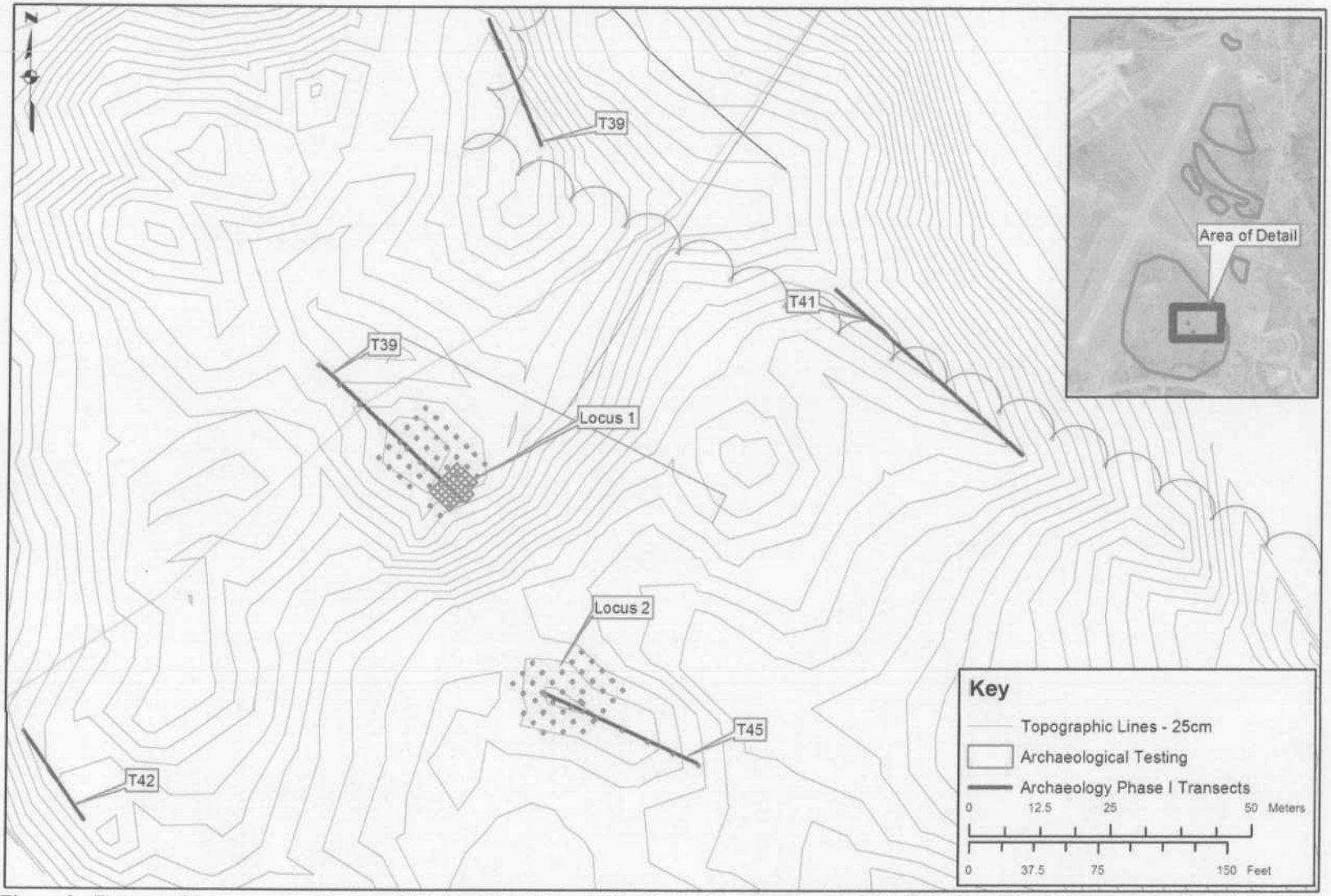
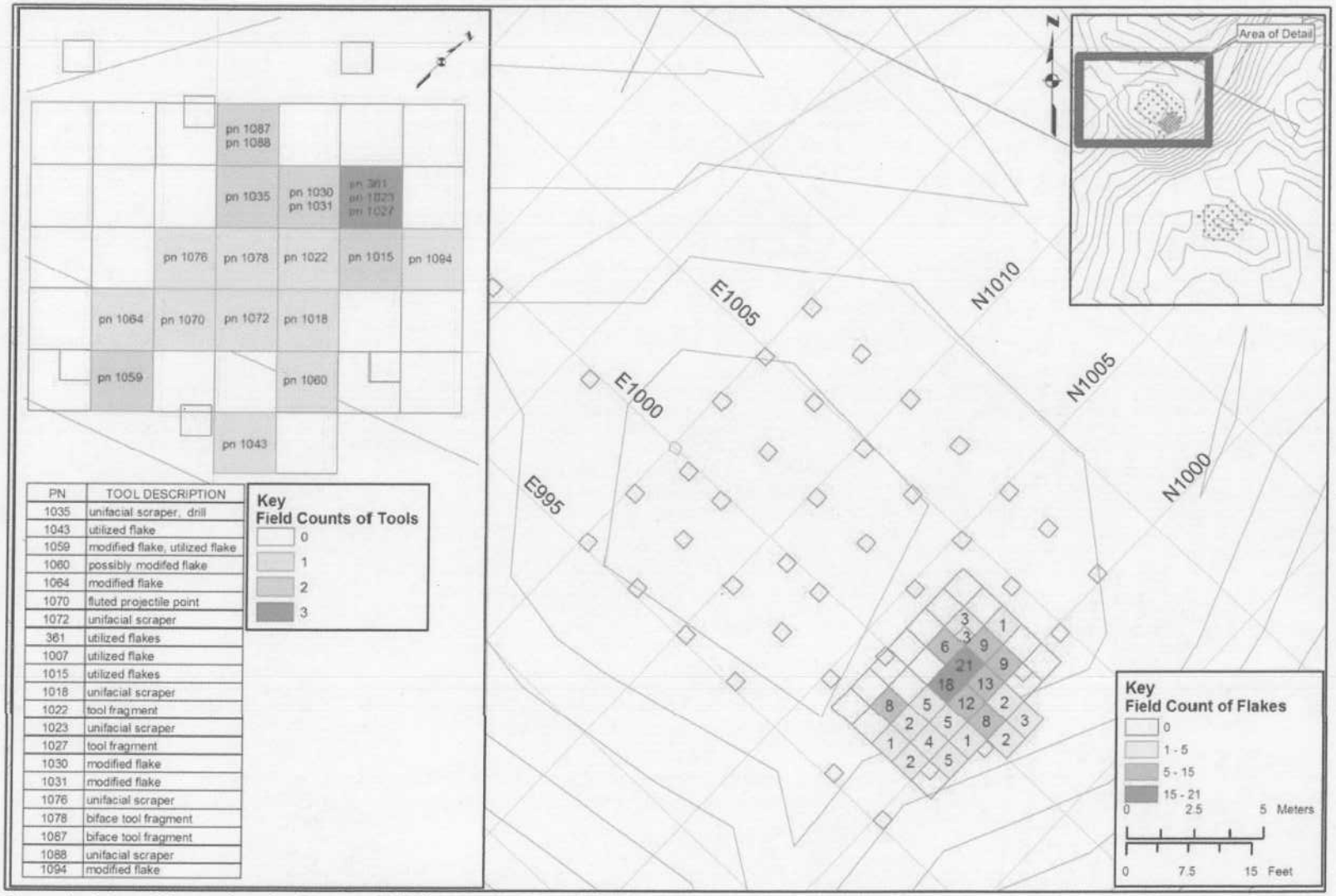


Figure 3. Topographic map of the Beacon Hill site, 23.41 ME, within the Auburn-Lewiston Municipal Airport in Auburn, Androscoggin County, Maine. Note location of archaeological testing conducted to date.



PN	TOOL DESCRIPTION
1035	unifacial scraper, drill
1043	utilized flake
1059	modified flake, utilized flake
1060	possibly modifed flake
1064	modified flake
1070	fluted projectile point
1072	unifacial scraper
361	utilized flakes
1007	utilized flake
1015	utilized flakes
1018	unifacial scraper
1022	tool fragment
1023	unifacial scraper
1027	tool fragment
1030	modified flake
1031	modified flake
1076	unifacial scraper
1078	biface tool fragment
1087	biface tool fragment
1088	unifacial scraper
1094	modified flake

Figure 4. Map of Locus 1 at the Beacon Hill site, 23.41 ME, within the Auburn-Lewiston Municipal Airport in Auburn, Androscoggin County, Maine, showing the distribution of recovered cultural material.

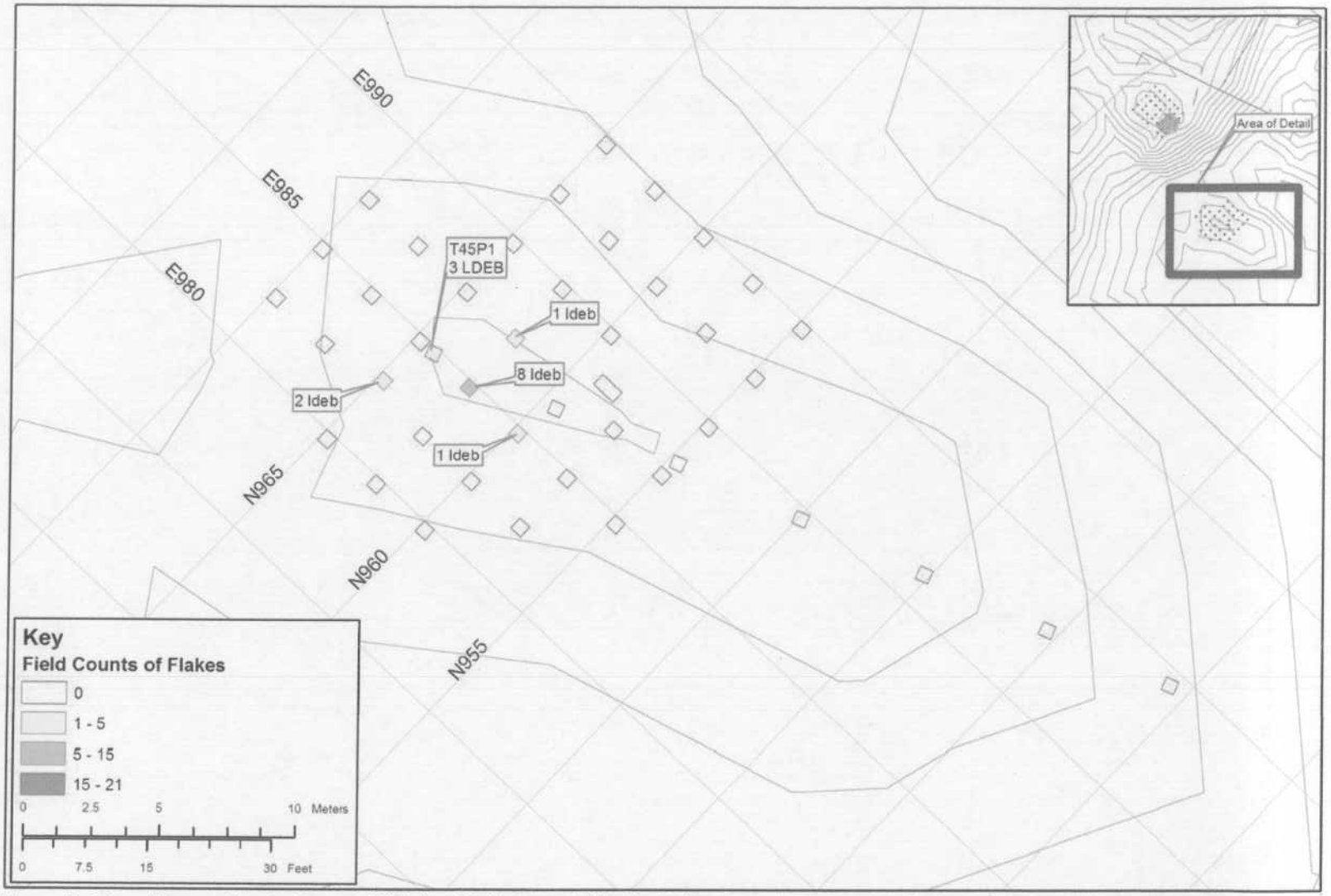


Figure 5. Map of Locus 2 at the Beacon Hill site, 23.41 ME, within the Auburn-Lewiston Municipal Airport in Auburn, Androscoggin County, Maine, showing the distribution of recovered cultural material.

CHAPTER V

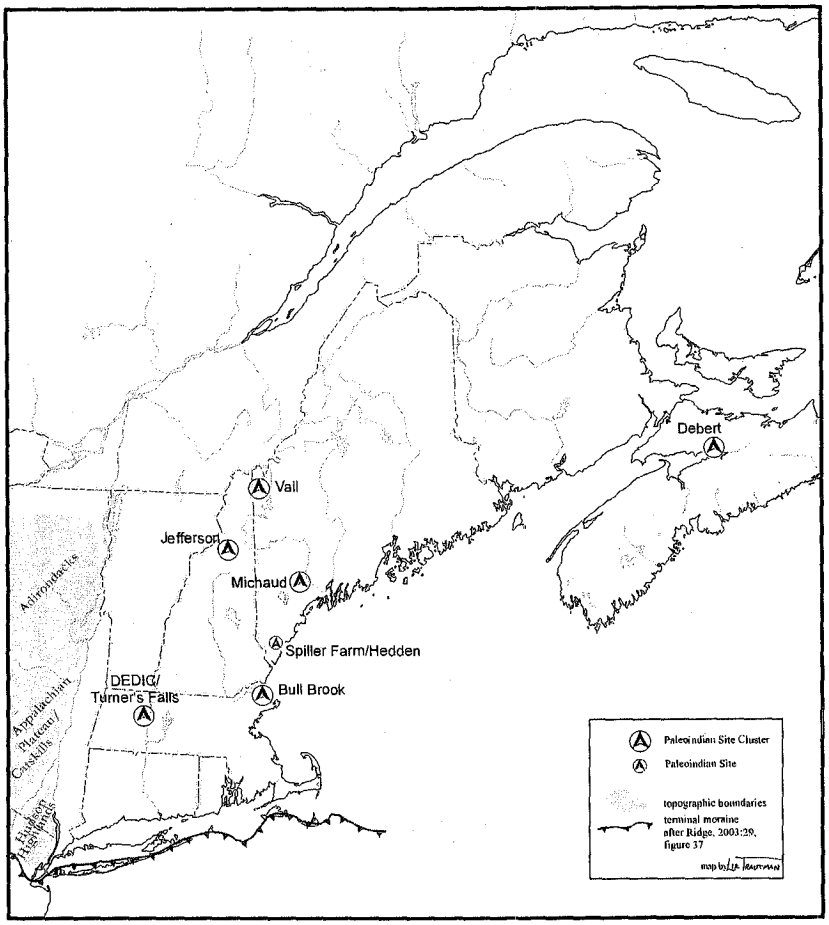
Geographic Clusters of Fluted Point Sites in the Far Northeast

Arthur Spiess, Ellen Cowie, and Robert Bartone

There have been many advances in Paleoindian research in the past ten years. The geographic boundary of fluted point sites in the New England–Maritimes region (Spiess and Wilson 1987:129) has been expanded into Quebec (Chapdelaine 2007). Bull Brook has revealed much greater spatial complexity in a large Paleoindian site (Robinson et al. 2009), and the Late Paleoindian Reagan site has been fit into the chronological and environmental picture of the Far Northeast (Robinson 2009). Much work has been done in geological and chemical descriptions of the lithic material used by Paleoindians, notably by Adrian Burke (2008) and Stephen Pollock (Pollock et al. 1999; Pollock et al. 2007, 2008). A sequence of fluted point and later Paleoindian point styles (Spiess et al. 1998:235–236) has been refined with attribute seriation and loosely attached to a radiocarbon chronology (Bradley et al. 2008). Calibrated date equivalents based on the radiocarbon chronology have allowed correlation of the Paleoindian cultural sequence with regional environmental changes based on pollen cores (Newby et al. 2005). This correlation highlights cultural continuity with slow environmental change over nearly 1,000 calendar years during the cold Younger Dryas climate episode, followed by rapid cultural and environmental change in the Far Northeast at the Younger Dryas/Holocene transition.

Recent Paleoindian site discoveries have been made in New Hampshire (Boisvert 1998, 1999), Vermont (Robinson and Crock 2006, 2007), Massachusetts (Binzen 2005), Connecticut (Jones 1997), Nova Scotia (Davis 1991, 2005), and now Quebec. Archaeological survey in Maine, mostly mandated CRM or government-funded archaeological survey, has resulted in the addition of many Paleoindian sites to the Maine archaeological survey records (Spiess and Newby 2002; Spiess and Trautman 2003) in the past thirty years. Between 1980 and 1998, fifty-one sites with fluted point or general Paleoindian age components were found, along with twenty-two sites with Late Paleoindian components. Between 1999 and 2009, another twenty sites with Paleoindian components and six sites with Late Paleoindian components have been discovered. Some of these sites are published (Spiess and Newby 2002; Spiess et al. 1998:203–206, map and table; Bradley et al. 2008 for references), but many are known only in file reports or Maine Historic Preservation Commission survey records.

Discovery of many Paleoindian sites in the past decades has allowed us to recognize geographic clusters or groups



5.1. Geographic clusters of Paleoindian sites in the Far Northeast

of sites (figure 5.1) based solely on geographic proximity (Bradley et al. 2008:119). Paleoindian sites in the region are generally "single component" and are probably therefore of short-term occupation (Spiess 1984). What then are the geographic clusters of Paleoindian sites? Do all of the sites in a geographic cluster represent the same short-term reuse of an area, with only one point style? The range of style variation among sites in geographic clusters is the subject of this chapter.

If we examine these geographic clusters of sites for the forms of fluted points on them, we can, in an inexact way, see the range of time that each geographic area was useful to the Paleoindians. Looking at the lithic raw materials allows us to examine the range and variation in Paleoindian movement to and from each place. We list some of the probable geographic clusters of sites below and examine two of them (Vail cluster and Michaud cluster) in detail. First, however, we review the sequence of Paleoindian point forms and paleoenvironmental context.

FAR NORTHEAST PALEOINDIAN SEQUENCE

Looking closely at the variability in fluted point and other Paleoindian point forms in the Far Northeast, one can construct a seriation and a time sequence. The most recent iteration of the sequence is by Bradley et al. (2008). The seriation of point forms runs from larger points, measured primarily by basal width and maximum thickness, to smaller points. We are encouraged that the seriation is a true sequence of change by the fact that the modest radiocarbon record progresses from oldest to youngest (in contrast to proclamations of radiocarbon date confusion [e.g., Levine 1990]). In addition, we note a rapid change in point form that coincides with the end of the Younger Dryas event and rapid environmental change (Newby et al. 2005). The change in point form includes a "degeneration" of fluted point technique and replacement by various nonfluted Late Paleoindian styles. Thus, the sequence of forms

and chronology seem to be logical, but they could be falsified by contrary evidence such as a securely dated site with a "wrong" fluted point style.

Moreover, we are not certain that the point forms that have been named within the sequence of fluted points are "styles" with perceptible boundaries to variation, or whether the archaeological record has by chance shown us well-spaced variability on an indivisible continuum. Only the accumulation of more sites and points will test this hypothesis.

There are no Clovis points in the region (Bradley et al. 2008). Clovis points are generally the earliest fluted point type across most of North America (Haynes et al. 2007; Watters and Stafford 2007; 13,125–12,925 cal BP). Their absence probably means that the region was not populated at the time. The nearest recognizable Clovis points to our region may be at the Shawnee Minisink site in Pennsylvania (Gingerich 2007; 12,950–12,800 cal BP).

The fluted point sequence in the Far Northeast begins with the Kings Road/Whipple form (Bradley et al. 2008:126–130, estimated 12,900–12,500 cal BP). These are large, robust points with a moderately deep basal concavity and single flutes of moderate length on each face. The Vail/Debert form follows (Bradley et al. 2008:130–136), also generally large points but with a deep basal concavity. They may overlap Kings Road/Whipple points chronologically. Bull Brook/West Athens Hill style points are less robust than earlier points, the sides may be slightly divergent, and they may have small basal "ears" and moderate depth basal concavities (Bradley et al. 2008:137–141). Bull Brook has recently been radiocarbon-dated to approximately 10,400 BP (12,600 or later cal BP) (Robinson 2009:425); thus Bull Brook is not the first site in the region by many hundred years, despite some contrary published opinions (Dincauze 1993). The Michaud/Neponset form (figure 5.2) follows Bull Brook/West Athens Hill (Bradley et al. 2008:141–146; ca. 12,200–11,900 cal BP). Michaud/Neponset points are medium to long points with slightly divergent sides, long channel flakes, and prominent basal ears. The Crowfield form follows (Bradley et al. 2008:146–148) with unknown chronological overlap. Crowfield points are rare in New England but easily recognizable. They are large, thin, and have strongly divergent sides. Cormier/Nicholas points are last in the fluted point sequence, broadly equivalent to Holcombe points in the Great Lakes (Bradley et al. 2008:148–152). One radiocarbon date of 10,090 BP (ca. 11,600 cal BP) may be applicable. Cormier/Nicholas points are narrow on the base, often thin, and with "weak" fluting. Many of these points are characterized by a planoconvex cross section, with the ventral side preserving a minimally retouched flake surface from a larger flake preform.

5.2. Four points from the Michaud site

There are at least two Late Paleoindian point styles in the Far Northeast, a poorly understood Agate Basin–like group (Bradley et al. 2008:152–156) with points with sides divergent from a narrow base, and Ste. Anne/Varney points (Bradley et al. 2008:156–161) that are often parallel-flaked, long, and thin. Ste. Anne/Varney points may date as late as 10,600–10,000 cal BP, and they may represent a separate migration into the region (Dumais 2000).

There are a set of metric and nonmetric attributes for each of these point forms, with ranges of variation based on known samples (Bradley et al. 2008). We refer to these attributes for guidance in matching some points from specific sites and cite appropriate data later.

PALEOENVIRONMENTAL CONTEXT

The occupation of the Far Northeast by fluted-point-using Paleoindians is closely contemporary with the Younger Dryas chronozone. Here we summarize a recent (Newby et al. 2005) examination of regional pollen data sets at 1,000 calibrated year intervals to characterize regional vegetation cover from 14,000 to 10,000 cal BP. Within this time frame, the Younger Dryas lasted from approximately 12,900 to 11,600 cal BP. Pollen maps for earlier than 11,600 cal BP show large areas of open sedge "tundra" in northern Maine, New Brunswick, Nova Scotia, and the eastern townships of Quebec, grading to open spruce woodland in southern Maine and perhaps denser spruce-pine mixed forest in southern New England. The Younger Dryas is evident as a slight shift of spruce pollen southward and expansion of open sedge "tundra" in the Maritime provinces compared with the 14,000 cal BP conditions. In other words, the Younger Dryas represents a "pause" or slight reversal of considerable length in the postglacial vegetation trend. Rapid forest growth after 11,600 cal BP covered Maine with dense mixed forest by 11,000 cal BP, with a surviving remnant open spruce-sedge woodland in northern New Brunswick and Nova Scotia.

The Younger Dryas vegetation conditions in the Far Northeast are similar to recent broad patterns of vegetation cover on the Labrador-Quebec peninsula suitable for the development of one or more long-distance migratory herds of caribou (Newby et al. 2005:150–151). The fringe of open spruce woodland and denser woodland in southern New England may have supported smaller, locally migratory caribou herds as well as providing winter habitat for long-distance migratory herds. Faunal remains, mostly calcined bone fragments, clearly support some sort of caribou-hunting adaptation by Paleoindians using fluted points in the region (Robinson et al. 2009; Spiess et al. 1998:204–211). The caribou-hunting focus must have been seasonal in nature, again by analogy with recent environments and ethnographic accounts (Spiess 1979), although seasonality and intensity of focus on caribou may have been variable across the region.

The Atlantic shoreline during Paleoindian occupation is now offshore, under up to 65 m of water in the central Gulf of Maine. Maximum regression (land exposure) appears to have coincided with Paleoindian immigration, so the shoreline during Paleoindian occupation was rapidly transgressive (rising). Robinson (et al. 2009; Pelletier and Robinson 2005) proposed now-underwater exposed land masses such as Jeffrey's Ledge as summer caribou refuges. However, localized ecological conditions of the shoreline, and possible Paleoindian adaptation to them such as littoral foraging or maritime hunting, are unknown so far.

To the west, the region was bounded by a series of proglacial lakes in the Champlain and Memphremagog basins (Richard and Occhietti 2005) and the Hudson River corridor and Connecticut River, associated with the retreat of glacial ice. Recent examination of varve records and accelerator radiocarbon dating indicate glacial ice retreat north of the Vermont-Quebec border by 13,700–13,400 cal BP (11,700–11,400 ^{14}C yr BP [Ridge 2003, 2004]) and formation of large glacial Lake Vermont. The final drainage of the large proglacial lakes as the ice retreated north of the St. Lawrence and flooding of the depressed upper St. Lawrence and Champlain basins to become a marine Champlain Sea occurred at roughly 11,100 ± 100 BP ^{14}C yr BP (ca. 13,200–12,900 cal BP [Richard and Occhietti 2005]). Thus, the final drainage of proglacial lakes to the west, inception of the Younger Dryas, and initial Paleoindian settlement of the New England–Maritimes-Quebec region are roughly concurrent in time.

Because postglacial rebound occurred during the time of the Champlain Sea, Champlain Sea shorelines are now above water. Loring (1980) postulated Paleoindian occupation of the Champlain Sea shore as a maritime or littoral

adaptation, based on fluted points associated with fossil shorelines. The Reagan site in Vermont (Robinson 2009) is clearly associated with a Champlain Sea estuary (Robinson 2008). Robinson (2008) has demonstrated sequential Paleoindian use of land exposed by retreat of the Champlain Sea with postglacial rebound. The extent of Paleoindian adaptation to marine shorelines is still an open question, but the evidence from Vermont tends to support such an adaptation.

Archaeologists (Fitting 1965; Fitting et al. 1966; Funk 1972:30; MacDonald 1968:116–117; Spiess et al. 1998:227) have for decades recognized the geographic placement of regional fluted point Paleoindian sites as logical in terms of caribou hunting camps. As discussed above, the faunal data and paleovegetation reconstructions support this interpretation. Given a maritime coastal adaptation by Paleoindians using fluted points in the region, including the Quebec City area (see Pintal, this volume), the repetitive settlement patterns of Paleoindian sites as limited-term occupations on generally well drained soils (e.g., Maine; Spiess et al. 1998) must be an *interior* (or noncoastal) adaptation. We now focus on an examination of the phenomenon that many of these sites appear in geographic clusters.

DEFINITION AND LIST OF GEOGRAPHIC CLUSTERS

A remarkable number of Paleoindian sites in the Far Northeast, and the abutting Great Lakes region to the west, preserve intrasite patterning in the form of "concentrations" of stone tool debris separated by seeming sterile space, which we presume means contemporaneity of occupation or reoccupation at a short enough interval to avoid the garbage produced by previous inhabitants (Spiess 1984). Viewing Paleoindian site maps at the same scale (Spiess et al. 1998:Figure 13; the Bull Brook map notably now revised by Robinson et al. 2009) raises interesting questions about the scale of concentrations visible in plowed field sites such as Fisher and Parkhill versus sites that are less disturbed. In any case, each multilocus "site" covers a distance between 100 m and 400 m.

Leaving aside the meaning of that scale of variation, in this chapter we explore geographic clusters of Paleoindian sites at a slightly larger scale, the presence of several to many sites within a diameter of a few kilometers. Some concentrations of Paleoindian sites in the region focus around available, high-quality lithic material. Several Paleoindian sites (e.g., Bonnichsen 1982) in the Munsungun Lake region of northern Maine are a clear example, associated with a variety of Ordovician chert outcrops (Pollock et al. 1999). The sites in the Israel River Complex (Boisvert 1998, 1999) in Jefferson, New Hampshire, are also probably there because of stone quarrying. Part of the attractiveness of the Jefferson area to Paleoindian people in the region is bedrock outcrops of a local rhyolite and boulder till field of a closely related rhyolite (Pollock et al. 2008). But some geographic clusters of Paleoindian sites are not located near quarries, so stone quarrying was not the reason for reuse of an area in all cases.

Possible geographic clusters of fluted point Paleoindian habitation sites have been found in the northern, central, and southern parts of the region. We return to the Vail and Michaud clusters of sites, in northwestern Maine and central Maine, respectively, in greater detail after a brief review of other possible or known site clusters in the region.

The well-known Debert site near Truro, Nova Scotia (MacDonald 1968), has at least five other sites located within a few kilometers, known as Belmont, Belmont II, Hunter Road, and others (Davis 1991, 2005). These sites are known to contain fluted points or are strongly suspected to be Paleoindian sites on the basis of lithic materials and flake tools such as endscrapers. The Belmont I site (sixteen concentrations) is larger than Debert (approximately eleven concentrations), and the Belmont II and Hunter Road sites are smaller than Debert. Ongoing archaeological work and stewardship of these sites are being lead by the Confederacy of Mainland Mi'kmaq (see Rosenmeier et al., this volume).

There are multiple habitation and habitation/workshop sites in the Israel River valley near Jefferson, New Hampshire (Boisvert 1998, 1999; Boisvert and Puseman 2002), as mentioned. At least six sites are known, including sites with Vail/Debert point forms (Jefferson II and III), Michaud/Neponset point forms (Jefferson I and III) (Bradley et al. 2008), and probable Bull Brook point forms (Richard Boisvert, personal communication, October 2009).

Two sites in Kennebunk and Wells, southwestern Maine, are separated by about 7 km and may represent an incompletely known site cluster: the Hedden site (Spiess et al.

1995) and the Spiller Farm site (Spiess and Newby 2002; Spiess et al. 1998:217). The Hedden site is radiocarbon-dated at 10,550 BP, without diagnostic points. The Spiller Farm site contains points with moderately deep basal concavities that could be either Vail/Debert or Bull Brook/Kings Road points forms, as well as a point that is clearly a Michaud/Neponset form point.

The Bull Brook site (Byers 1954) and a nearby, smaller companion, Bull Brook II (Grimes et al. 1984), are located in northeastern Massachusetts. The ring-shaped pattern of thirty-six discrete loci at Bull Brook, with its own internal organization (Robinson et al. 2009), contains as many or more loci or concentrations as any of the geographic clusters of sites that we currently know. Bull Brook, therefore, represents an alternative spatial organization to be understood on its own terms and in relationship to the geographic cluster phenomenon we explore herein.

Finally, there may be a cluster of three or more fluted point Paleoindian sites in the Connecticut River valley in western Massachusetts, near Amherst. These include the DEDIC/Sugarloaf site (Gramly 1998), and the Turner's Falls site (Binzen 2005), and at least one other lesser known site (J. Bradley, personal communication, October 2009).

Thus, the phenomenon of geographic clusters of fluted point Paleoindian sites is not limited to one portion of the region. The remainder of this chapter includes an examination of the sites that make up the Vail and Michaud geographic clusters, because these two geographic site clusters are well known to us. The majority of the sites in the Vail cluster have been published (Gramly, 1982, 1988), and many of the artifacts are on display in the Maine State Museum's "12,000 Years in Maine" exhibit. Thus, information on the Vail cluster is more accessible than that for any other large site cluster in the region. The sites in the Michaud cluster have been investigated primarily by us, and much of the information provided herein is being published for the first time.

One hypothesis would be that all sites in a geographic cluster were used (deposited) in a limited time, perhaps one or a few seasons of use of the area. To test this hypothesis, we use the finer fluted point modal form sequence of Bradley et al. (2008). We wish to investigate if all sites in a geographic cluster are from the same time period as indicated by fluted point form. If not all the fluted points in the sites of a geographic cluster are of the same form, then the cluster was created by Paleoindian activity over a period of some time depth (perhaps centuries). Therefore, whatever attracted people to the area was a factor that lasted for some time during the Younger Dryas.

THE VAIL GEOGRAPHIC CLUSTER

The Vail site geographic cluster is located in a mountain valley in northwestern Maine near the Quebec–New Hampshire border (figure 5.3). The cluster comprises three habitation sites, two nearby "kill" sites, and three smaller sites that may have been special-purpose or limited-activity areas. The largest of these sites, the habitation sites, are the Vail site (Gramly 1982), Adkins site (Gramly 1988), and Morss site (Gramly 2001). The eight sites are spread over a distance of just less than 4 km along the former Magalloway River valley, exposed by erosion under the fluctuating Aziscohos Lake impoundment. In addition, there are two other Paleoindian habitation sites, the Upper and Lower Wheeler Dam sites (Gramly 2005a, 2005b), located 8 km farther north up the valley from the Vail/Adkins/Morss group. We include the two Wheeler Dam sites in the Vail geographic cluster, making ten sites total.

Survey coverage of the devegetated Aziscohos Lake bottom has been extensive during low-water conditions (Gramly 1981, 1982, 1988, 2001, 2005a, 2005b). The many square kilometers of soil exposure allow confidence that all large and medium-size Paleoindian sites in the valley have been located. Archaeological survey has been completed around several other large lake basins within a 20 km radius of Aziscohos Lake without locating more fluted point Paleoindian sites. Thus, we are reasonably certain that the Vail geographic cluster is unique within that radius and substantially completely identified. Gramly (1988:10–11) refers to these sites as the "Magalloway Valley Paleoindian Complex," in the sense of a limited time and geographic area cultural unit—specifically, "a brief period of New England culture prehistory, likely a single phase as evidenced by the similarity of projectile points from all components." In fact, we disagree with the interpretation of the range of variability in the points from these sites, as we describe below.

As mentioned above, there are limited-purpose sites

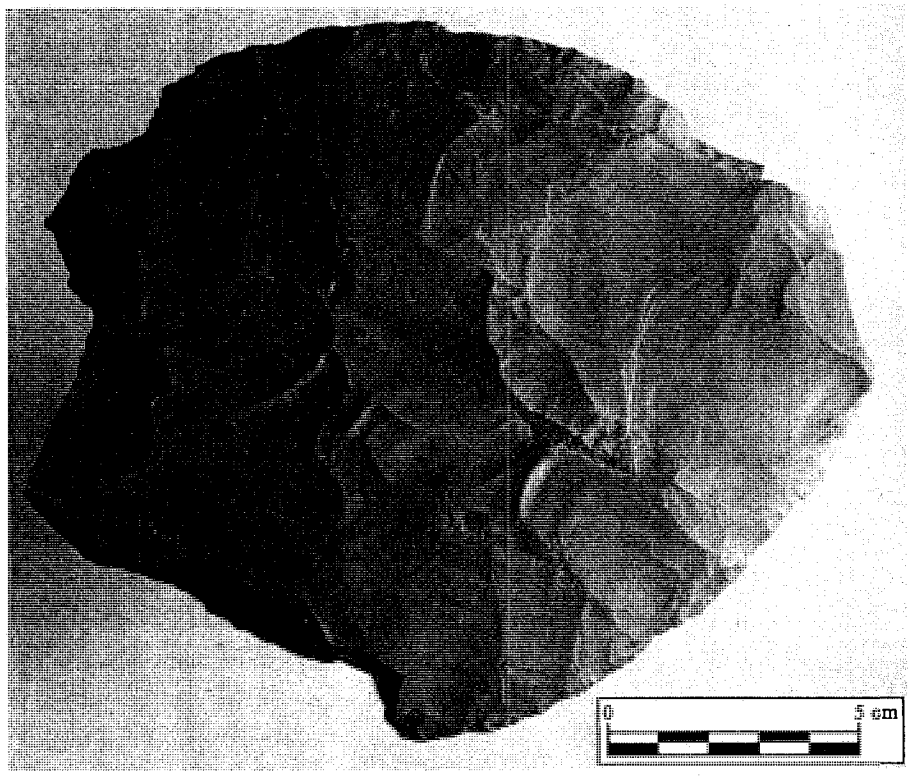
5.3. Vail geographic cluster in the flooded Magalloway River valley (Aziscohos Lake). KS1, KS2 = Kill Site 1, Kill Site 2

interpreted as kill sites in the Vail geographic cluster (Gramly 1984). Vail Kill Site 1 (site 81.1b) is located about 280 m west-northwest of the Vail site. It is obviously associated with the Vail habitation site, demonstrated by refits of at least a half-dozen fluted point tips from the kill site with bases recovered from the habitation site. This pair of uniquely related sites provides a geographic scale baseline of Paleoindian camp location from kill site (0.3 km). Kill Site 2 (site 81.13), represented by two fluted points and no debitage, is 650 m northwest of the Vail site.

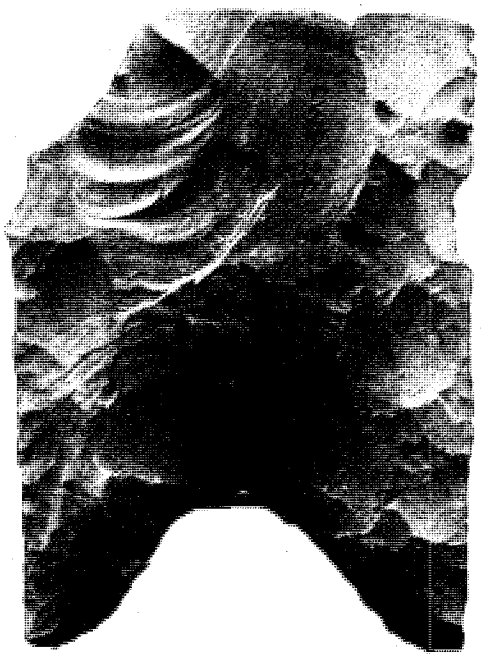
As mentioned, there are three smaller sites that are neither kill sites (containing fluted points exclusively) nor larger habitation sites—the Wight, Cox, and Big Brook sites (Gramly 2005b)—but none of the three produced a "diagnostic" fluted point fragment. The Wight site yielded five large biface and flake tools, including a backed sidescraper, ovate biface tip, and pièce esquillée (wedge). The Wight site is only 100 m from Kill Site 2 and about 700 m from the Vail site. Gramly (2005b:75) thinks that the broken large biface tip might match a biface base from the Vail site, and that the Wight site is a processing or butchery locality. The Cox site (Gramly 2005b:68) is a site of two small activity loci yielding a total of 40 artifacts, including an awl, channel flakes, a biface fragment, and biface reduction flakes. It is located between the Vail and Adkins sites. The Big Brook site is located on the opposite side of the valley from the Morss site. Six tools from the site—two biface preforms, a large sidescraper/cutter combination tool, an ovate biface knife, and two retouched flake tools—are made from a range of Munsungun cherts similar to those found at the Morss site (Gramly 2005b:68).

The diversity of site types in the geographic cluster may also include a cache (from an unknown location, no site number assigned) similar to western North American Clovis caches in the sense of having large flaked bifaces and little else (figure 5.4). A summer resident found two of these large biface knives on the Aziscohos Lake shoreline, many decades ago, presumably together without other artifacts. One of the specimens is extant, the other lost.

Fluted points have been recovered from all but the three smaller sites (Wight, Cox, and Big Brook). The points from the Vail site are deeply indented on the base and very large. The channel flakes do not extend more than halfway down the point, and basal ears are absent. This distinctive



5.4. Aziscohos large biface made of red Munsungun chert



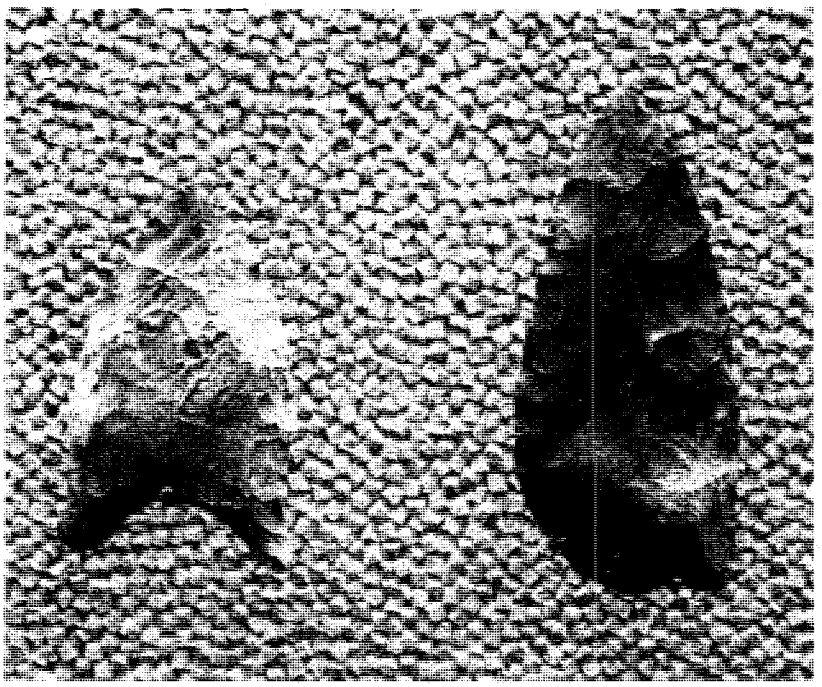
5.5. Lower Wheeler Dam site point. This is a deeply indented, Vail/Debert form fluted point.

fluted point form is also seen at the Debert site (Bradley et al. 2008) and can be differentiated from presumably later styles, as discussed above.

Points from the Upper and Lower Wheeler Dam sites, 8 km farther up the lake, are both deeply indented, Vail/Debert points (figure 5.5). The Adkins site is only about a kilometer from Vail. There are two fluted point bases from this site. One has a medium-depth basal indentation, and one has slight basal ears. If these points are contemporary with the Vail points, then they are at the edge of variation of the Vail/Debert modal point form. The Adkins point attributes (medium basal depth, slight ears) best match the attributes of the Bull Brook/West Athens Hill form.

The Morss site, 2.3 km northeast of the Vail site, has a couple of broken points and one reworked point. The reworked point base exhibits two moderate ears (figure 5.6). This point seems to fall within the Michaud/Neponset point form. One preform from the Morss site has a fluting scar that travels the length of the point, another attribute characteristic of the Michaud/Neponset form and not the Vail/Debert form.

Kill Site 2 has yielded two fluted points (Gramly 1984) (figure 5.7). One has a slight basal ear and channel flake



5.6. Morss site points

5.7. Vail area Kill Site 2 point

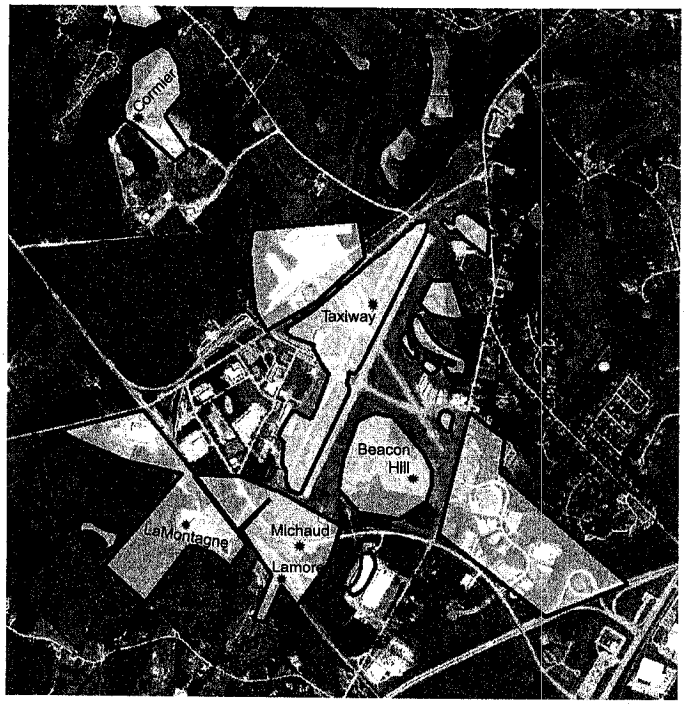
scars that travel the length of the point, attributes of the Michaud/Neponset point form. The other is a distal half, but it too exhibits channel flake scars that travel nearly the length of the point (Gramly 1984:119). Again, this point is probably a Michaud/Neponset point form. Even though Kill Site 2 is only 650 m from the Vail site, the point forms match those from the Morss site, 2.1 km away.

In summary, both Vail/Debert and Michaud/Neponset points are definitely present on sites in the Vail geographic cluster. Bull Brook points may be present at one site. The three closest habitation sites, Vail, Adkins, and Morss, exhibit different point forms. The other sites with Vail/Debert points are the Wheeler Dam sites, 8 km farther up the valley. Kill Site 2 has Michaud/Neponset type points, as does the Morss site. If Kill Site 2 and the Morss sites are related, then the distance between them (2.1 km southwest from Morss to Kill Site 2) provides another distance between kill and habitation site for temporally related sites. If Bradley et al. (2008) are correct about the radiocarbon dates assigned to these point styles, the Magalloway River valley remained an attractive place for Paleoindian groups for centuries, from perhaps 10,500–10,200 ^{14}C yr, or as much as 12,600–11,900 cal years, more or less coincident with much of the Younger Dryas climate event.

THE MICHAUD (AUBURN AIRPORT) GEOGRAPHIC CLUSTER

Turning our attention to the Auburn Airport located in central Maine, the Michaud site was discovered there about twenty-five years ago. A great deal of professional archaeological survey in the area, all in advance of development, located six habitation sites and one isolated artifact find spot. One other site was found by a collector and surface-collected in advance of sand and gravel quarry operations (figure 5.8). This is the first published report of some of these sites. Omitting the single artifact find spot, each of the seven sites is a habitation, camp, or work site with two or more concentrations of stone tools. The extent of professional survey in the Auburn Airport vicinity has produced a sense of archaeological site distribution similar to the exposure of sites on the eroded floor of Aziscohos Lake, around the Vail site. We know where sites are and where they are not in large areas around the airport.

In contrast to the Vail geographic cluster, no kill sites (localized, fluted point concentrations) have been located in the airport vicinity. However, one of the Michaud geographic cluster sites is a hilltop site with obvious advantages for observing the surrounding countryside in a minimally



5.8. Michaud, or Auburn Airport, geographic cluster. Light areas have been surveyed by professional archaeologists. The Keogh, Michaud, Taxiway, and Cormier sites have been completed excavated and are now destroyed. LaMontagne and Lamoreau site locations are approximate.

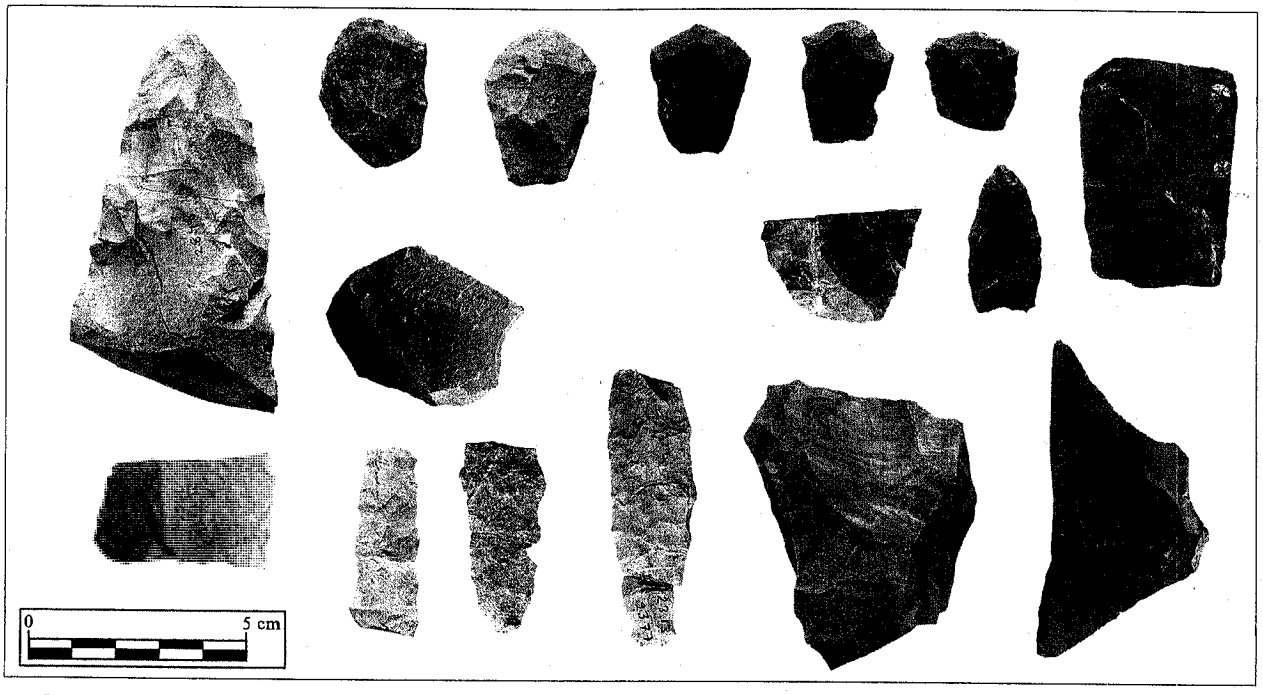
wooded environment. Most of the lithic raw materials found on these sites are easily identifiable to bedrock source, unlike the lithics in the Vail cluster. Therefore, we have the additional opportunity to look at variability of broad lithic procurement patterns with the Michaud sites.

The Michaud site was completely excavated in advance of road construction (Spiess and Wilson 1987). The fluted points recovered there are one basis for the Michaud/Neponset point form, with flaring ears and sometimes long channel flakes that extend the length of the point. The raw materials include Munsungun chert, Mount Jasper or Israel River rhyolite, and one or more Champlain or Hudson valley cherts.

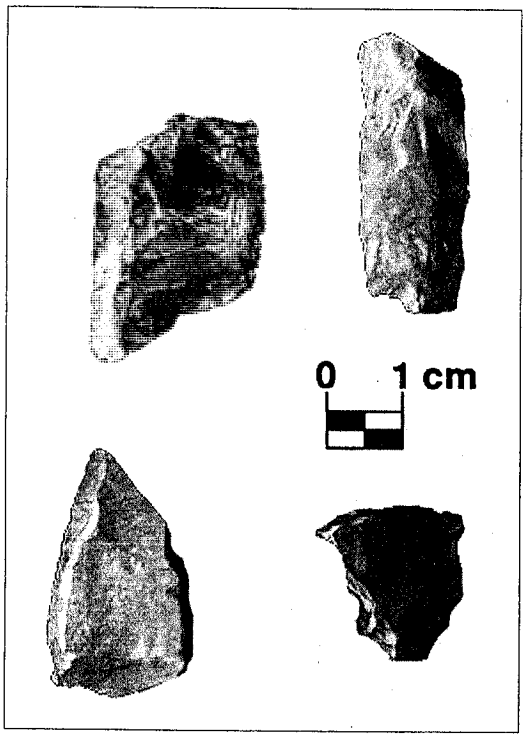
Located across Moose Brook from the Michaud site is the Lamoreau site (Spiess and Wilson 1987:125–128; two subsequent seasons of work unpublished). So far there are no finished or broken/discarded fluted points from this site. There is one broken preform and one miniature point (figure 5.9). Despite the absence of finished fluted point bases, there are many channel flake fragments, some of which refit into long channel flakes (made of Israel River rhyolite). There is also a ground tip from a fluted point preform. Ground tips and long channel flakes are markers for the Michaud/Neponset point form. The lithics are dominated by Munsungun chert and Israel River/Mount Jasper rhyolite. There seems to be much less use of Champlain/Hudson valley cherts at the Lamoreau site than at the Michaud site.

Cowie and Bartone and colleagues (Bartone et al. 2007; Brigham et al. 2009; Gammon and Bartone 2007) are responsible for discovering three other sites at the airport and in an associated industrial park and recording one found by a collector in a sand blowout. The LaMontagne site is on a geographic landform similar to that at the Lamoreau site near the south bank of Moose Brook. One fluted point base has been recovered (figure 5.10). The point lacks a basal ear on the one preserved lateral edge and has straight sides, a moderately deep base, and a moderate to long channel flake scar. In addition, there are relatively long channel flake fragments from the site. The point from the LaMontagne site falls within the attribute range of the Bull Brook/West Athens Hill form. The raw materials from this site are mostly Munsungun cherts, but there is Pennsylvania jasper as well.

The Taxiway site was found next to the northern airport runway during testing for construction of a new aircraft taxiway (figure 5.11). This site has six or more concentrations of stone tools, depending on how we count them. The one recognizable fluted point is a Michaud/Neponset point with a large basal ear on the right side and long channel



5.9. Lamoreau site artifacts: broken fluted point preform (upper right) and long channel flakes (bottom center).

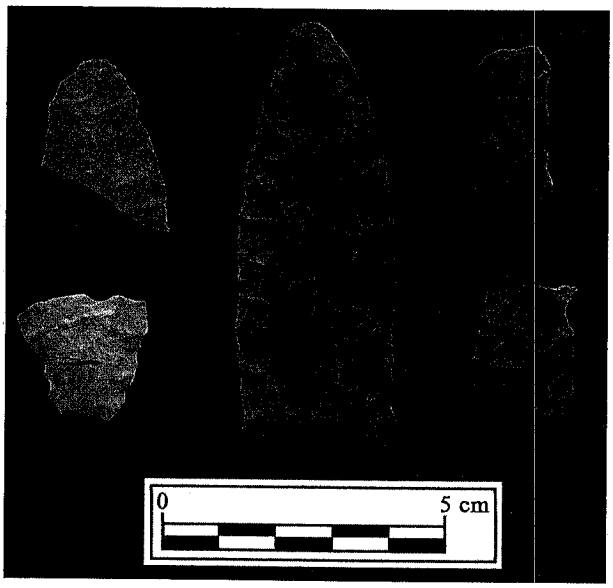


5.10. LaMontagne site artifacts, including fluted point base with one broken ear (upper left).

5.11. Taxiway site under excavation, Auburn airport.

flakes (figure 5.12, center). The dominant raw material at the Taxiway site is Mount Jasper/Israel River rhyolite, with Munsungun chert being a close second in frequency. Crystal quartz is also common. And there are some odd cherts, including a brick-red material that we have rarely seen in other Paleoindian sites in Maine.

Overlooking the airport is a bedrock hill with the flashing airport beacon on top. Here there is a Paleoindian site with two stone tool concentrations (Beacon Hill site). This was probably an overlook and workshop site, with visibility for miles around. A discarded, reworked fluted point from the Beacon Hill site is clearly a Michaud/Neponset point



5.12. Taxiway site point (center), biface fragments (left), and channel flakes (right).

(figure 5.13). Mount Jasper/Israel River rhyolite is by far the most common raw material, with Munsungun chert being a distant second in frequency.

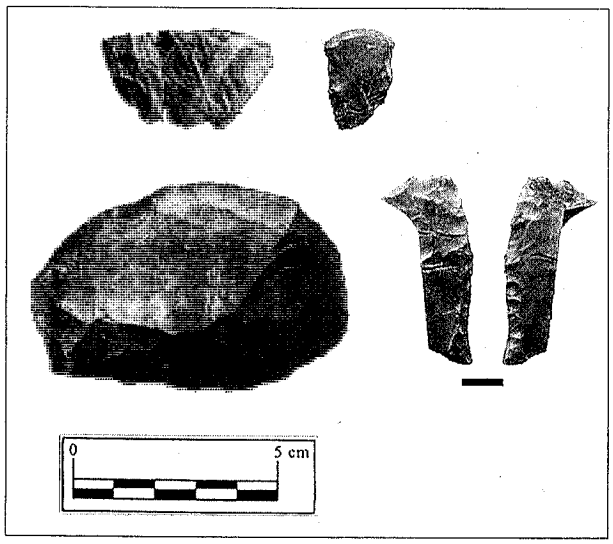
A site was found in a sand blowout about a kilometer west of the airport by a Mr. Keogh, who had the presence of mind to collect all the lithic material on the surface (Keogh site) and report the site during the Taxiway site excavation. The collection includes one broken or reworked Michaud/Neponset point base made of beautiful Munsungun chert (figure 5.14), a range of other cherts, and Mount Jasper/Israel River rhyolite.

The Cormier site, located on the sandy slope of a hill about a kilometer northwest of the airport, was excavated by Richard Will and colleagues (Moore and Will 1998). The points from the site (figure 5.15) are one holotype of the Cormier/Nicholas point form, which is stylistically equivalent to the points from the Holcombe site in the Great Lakes. The artifacts at the Cormier site are dominated by Mount Jasper/Israel river rhyolite. Munsungun chert

5.13. Beacon Hill site artifacts. Fluted point just above scale.

is the second most common raw material, but less than 20 percent in frequency. There are other cherts, including a couple of pieces of Champlain or Hudson valley chert. There are three larger reworked chert points in the Cormier assemblage that are larger and thicker than the rest of the points from the site, with remnant long channel flakes. All the points are made of Mount Jasper/Israel river rhyolite, with the exception of these three larger points. We suspect that they were scavenged from the Michaud and related sites around the airport and used by the later Cormier site inhabitants.

In summary, the lithic material from the Michaud, or Auburn Airport, geographic cluster is dominated by Munsungun chert and Mount Jasper/Israel River rhyolite. One or the other of these two materials is more common and obviously the most recent lithic resupply, but it varies from site to site. Additionally, there are lesser amounts of Hudson Valley or Champlain Valley chert and minor other materials including crystal quartz, indicating that these people were not just going north to Munsungun and southwest to Jefferson, New Hampshire. Thus, we see that use of one local geographic area was not part of a regular round of visits to these quarry locations. The sequence of visiting the quarries varied from site to site, a conclusion we reached when examining lithic variation among artifact concentrations within the Michaud site (Spiess and Wilson 1989).



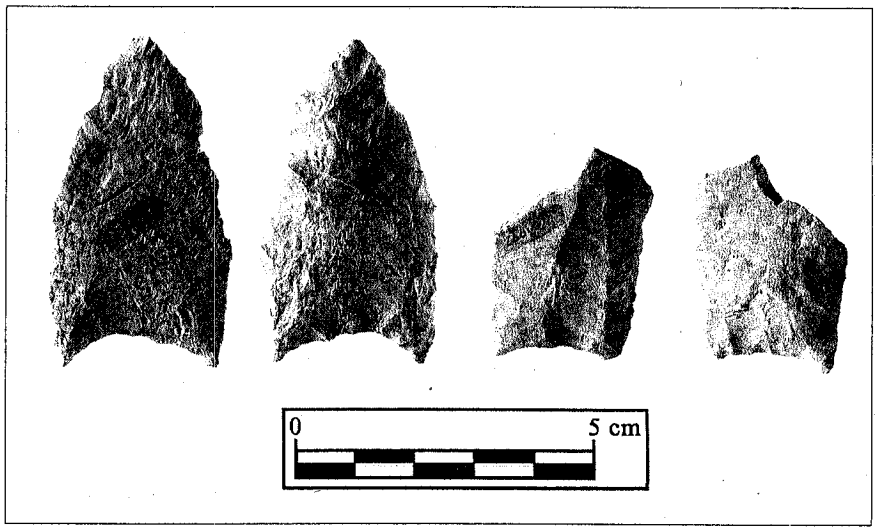
5.14. Some of the larger Keogh site artifacts. Obverse and reverse of broken fluted point at right.

Most of the sites around the Auburn Airport have Michaud/Neponset points, except the Cormier site about a kilometer farther up the Moose Brook drainage. It is probable that the LaMontagne site point is a Bull Brook/West Athens Hill form. Like the Vail site area, the Auburn Airport geographic area was attractive for a span of time that overlapped the manufacture of two or three Paleoindian point forms, a chronological span of a couple of centuries to as much as 500 calendar years.

DISCUSSION

We have learned that the Vail and Michaud geographic clusters of Paleoindian sites were formed by reuse of each area over hundreds of years. It is also probable that use of these

5.15. Two Cormier site fluted points, obverse and reverse.



two clusters overlapped in time, during the manufacture of Bull Brook/West Athens Hill and Michaud/Neponset point forms. The use of the Vail cluster apparently began and ended earlier than at the Michaud geographic cluster. Use of the Michaud cluster extended into the time of manufacture of Cormier/Nicholas points at the end of the Younger Dryas. We have also learned that the lithic materials brought to the sites in the Michaud cluster are variable from site to site, although two materials dominate (Munsungun chert from the north and Israel River/Mount Jasper rhyolite from the southwest). Thus, the multiple sites in the Vail and Michaud geographic groups do not reflect simple repetition of the same behavior over a short period of time. We will have to look more closely at the site location and environmental reconstructions to figure out why.

We suspect that each area remained a useful seasonal geographic focus for caribou hunting over centuries during the Younger Dryas. We also suspect that very localized changes in vegetation cover over a time scale of decades caused people to shift their camping or working locations on the scale of hundreds of meters with each geographic area reuse. Whereas the multiple concentrations or activity loci in what we call one Paleoindian archaeological site represent very limited or contemporaneous occupation, the multiple sites in geographic clusters represent measurably longer time scales.

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Edited by Claude Chapdelaine • *Foreword by* Christopher Ellis

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Custom Soil Resource Report for Androscoggin and Sagadahoc Counties, Maine

LEW MPU

June 13, 2024

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

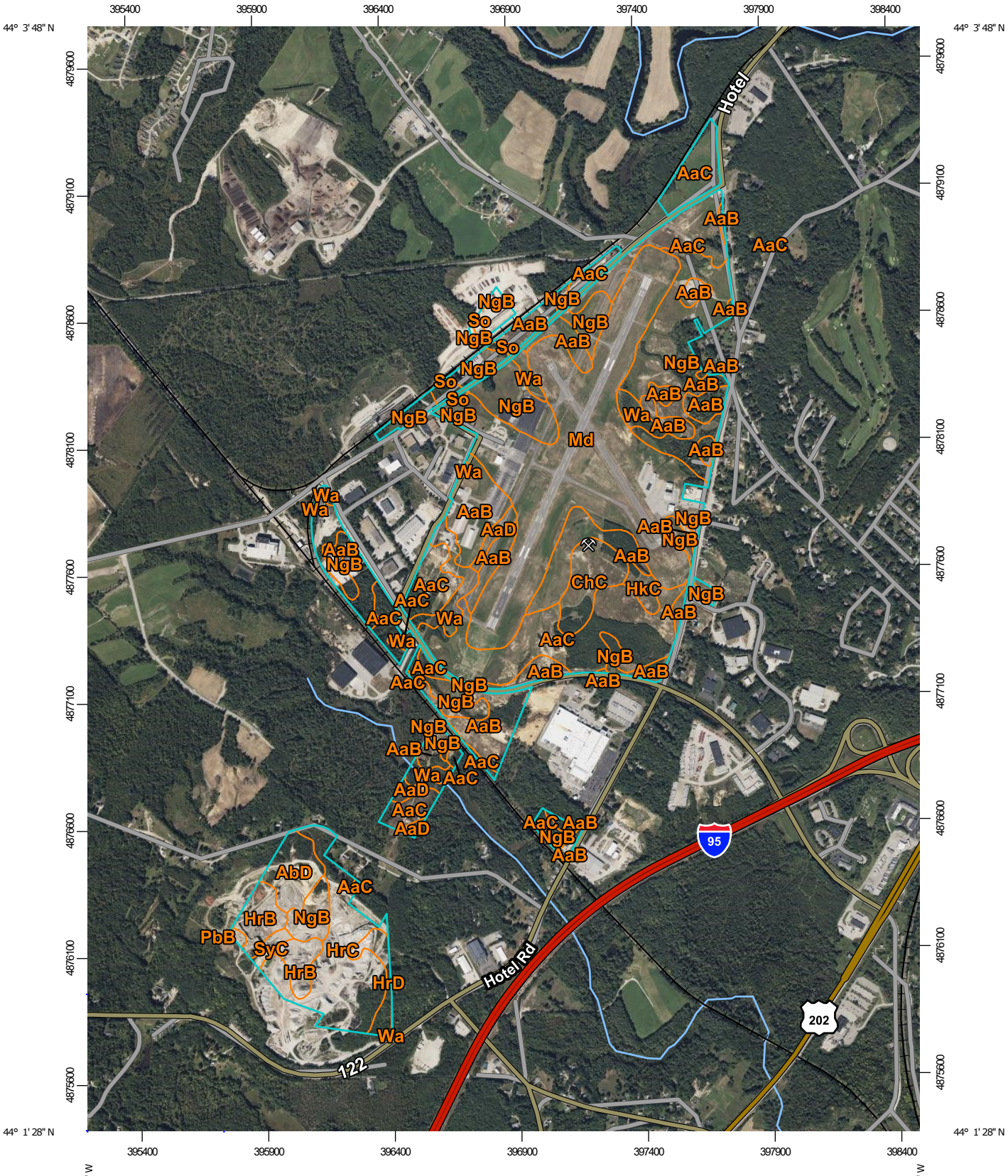
Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.



Map Scale: 1:21,200 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 300 600 1200 1800

Feet: 0 1000 2000 4000 6000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Androscoggin and Sagadahoc Counties, Maine
Survey Area Data: Version 24, Sep 5, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 11, 2021—Oct 29, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend (Auburn-Lewiston Municipal Airport MPU)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
AaB	Adams loamy sand, 0 to 8 percent slopes	91.8	16.0%
AaC	Adams loamy sand, 8 to 15 percent slopes	104.4	18.2%
AaD	Adams loamy sand, 15 to 30 percent slopes	6.2	1.1%
AbD	Adams loamy sand, 5 to 20 percent slopes, very stony	12.0	2.1%
ChC	Charlton very stony fine sandy loam, 8 to 15 percent slopes	14.3	2.5%
HkC	Hinckley gravelly sandy loam, 8 to 15 percent slopes	4.0	0.7%
HrB	Lyman-Tunbridge complex, 0 to 8 percent slopes, rocky	14.7	2.6%
HrC	Lyman-Tunbridge complex, 8 to 15 percent slopes, rocky	37.3	6.5%
HrD	Lyman-Tunbridge complex, 15 to 35 percent slopes, rocky	6.2	1.1%
Md	Made land, loamy materials	147.2	25.7%
NgB	Ninigret fine sandy loam, 0 to 8 percent slopes	106.0	18.5%
PbB	Paxton loam, 2 to 8 percent slopes	0.7	0.1%
So	Scarboro fine sandy loam	3.4	0.6%
SyC	Sutton very stony loam, 8 to 15 percent slopes	2.4	0.4%
Wa	Walpole fine sandy loam	21.5	3.8%
Totals for Area of Interest		**572.2**	**100.0%**

Map Unit Descriptions (Auburn-Lewiston Municipal Airport MPU)

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the

landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present

or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Androscoggin and Sagadahoc Counties, Maine

AaB—Adams loamy sand, 0 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2wqn9
Elevation: 10 to 2,000 feet
Mean annual precipitation: 31 to 95 inches
Mean annual air temperature: 27 to 52 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Adams and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Adams

Setting

Landform: Outwash terraces
Landform position (two-dimensional): Summit, backslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy glaciofluvial deposits

Typical profile

Ap - 0 to 7 inches: loamy sand
Bs - 7 to 21 inches: sand
BC - 21 to 27 inches: sand
C - 27 to 65 inches: sand

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (1.42 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: A
Ecological site: F144BY601ME - Dry Sand
Hydric soil rating: No

AaC—Adams loamy sand, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2wqn8
Elevation: 10 to 2,000 feet
Mean annual precipitation: 31 to 95 inches
Mean annual air temperature: 27 to 52 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Adams and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Adams

Setting

Landform: Outwash terraces
Landform position (two-dimensional): Summit, backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy glaciofluvial deposits

Typical profile

Ap - 0 to 7 inches: loamy sand
Bs - 7 to 21 inches: sand
BC - 21 to 27 inches: sand
C - 27 to 65 inches: sand

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (1.42 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: A
Ecological site: F144BY601ME - Dry Sand
Hydric soil rating: No

AaD—Adams loamy sand, 15 to 30 percent slopes

Map Unit Setting

National map unit symbol: 9kcf
Elevation: 300 to 2,200 feet
Mean annual precipitation: 30 to 48 inches
Mean annual air temperature: 37 to 46 degrees F
Frost-free period: 70 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Adams and similar soils: 86 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Adams

Setting

Landform: Outwash terraces
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Sandy glaciofluvial deposits derived from crystallin rock

Typical profile

H1 - 0 to 4 inches: loamy sand
H2 - 4 to 24 inches: loamy sand
H3 - 24 to 40 inches: fine sand

Properties and qualities

Slope: 15 to 30 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): High to very high (6.00 to 20.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 2.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: A
Ecological site: F144BY601ME - Dry Sand
Hydric soil rating: No

AbD—Adams loamy sand, 5 to 20 percent slopes, very stony

Map Unit Setting

National map unit symbol: 2x1cl
Elevation: 10 to 2,000 feet
Mean annual precipitation: 31 to 95 inches
Mean annual air temperature: 36 to 52 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Adams and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Adams

Setting

Landform: Kames, eskers
Landform position (two-dimensional): Summit, backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy glaciofluvial deposits

Typical profile

Oe - 0 to 4 inches: moderately decomposed plant material
E - 4 to 6 inches: loamy sand
Bs - 6 to 21 inches: sand
BC - 21 to 27 inches: sand
C - 27 to 65 inches: sand

Properties and qualities

Slope: 5 to 20 percent
Surface area covered with cobbles, stones or boulders: 1.5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (1.42 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 4.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: A
Ecological site: F144BY601ME - Dry Sand
Hydric soil rating: No

ChC—Charlton very stony fine sandy loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 9kcy
Elevation: 50 to 3,500 feet
Mean annual precipitation: 40 to 50 inches
Mean annual air temperature: 39 to 45 degrees F
Frost-free period: 100 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Charlton and similar soils: 86 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Charlton

Setting

Landform: Till plains
Landform position (three-dimensional): Dip
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Coarse-loamy supraglacial meltout till derived from mica schist

Typical profile

H1 - 0 to 7 inches: fine sandy loam
H2 - 7 to 24 inches: fine sandy loam
H3 - 24 to 65 inches: fine sandy loam

Properties and qualities

Slope: 8 to 15 percent
Surface area covered with cobbles, stones or boulders: 1.6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 6.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: A
Ecological site: F144BY501ME - Loamy Slope (Northern Hardwoods)
Hydric soil rating: No

HkC—Hinckley gravelly sandy loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 9kdb
Elevation: 10 to 2,000 feet
Mean annual precipitation: 30 to 48 inches
Mean annual air temperature: 37 to 46 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Hinckley and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hinckley

Setting

Landform: Outwash terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy-skeletal glaciofluvial deposits derived from granite and gneiss

Typical profile

H1 - 0 to 4 inches: gravelly sandy loam
H2 - 4 to 20 inches: gravelly loamy sand
H3 - 20 to 44 inches: very cobbly sand
H4 - 44 to 65 inches: stratified very gravelly coarse sand

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Capacity of the most limiting layer to transmit water (Ksat): High to very high (6.00 to 20.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 1.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: A
Ecological site: F144BY601ME - Dry Sand
Hydric soil rating: No

HrB—Lyman-Tunbridge complex, 0 to 8 percent slopes, rocky

Map Unit Setting

National map unit symbol: 2x1cx
Elevation: 0 to 520 feet
Mean annual precipitation: 36 to 65 inches
Mean annual air temperature: 36 to 52 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Lyman and similar soils: 50 percent
Tunbridge and similar soils: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lyman

Setting

Landform: Ridges, hills
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Nose slope, crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy supraglacial till derived from granite and gneiss and/or loamy supraglacial till derived from phyllite and/or loamy supraglacial till derived from mica schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 3 inches: loam
E - 3 to 5 inches: fine sandy loam
Bhs - 5 to 7 inches: loam
Bs1 - 7 to 11 inches: loam
Bs2 - 11 to 18 inches: channery loam
R - 18 to 79 inches: bedrock

Properties and qualities

Slope: 0 to 8 percent
Surface area covered with cobbles, stones or boulders: 1.5 percent
Depth to restrictive feature: 11 to 24 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.03 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s

Hydrologic Soil Group: D
Ecological site: F144BY702ME - Shallow and Moderately-deep Till
Hydric soil rating: No

Description of Tunbridge

Setting

Landform: Ridges, hills
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Loamy supraglacial till derived from granite and gneiss and/or loamy supraglacial till derived from phyllite and/or loamy supraglacial till derived from mica schist

Typical profile

Oe - 0 to 3 inches: moderately decomposed plant material
Oa - 3 to 5 inches: highly decomposed plant material
E - 5 to 8 inches: fine sandy loam
Bhs - 8 to 11 inches: fine sandy loam
Bs - 11 to 26 inches: fine sandy loam
BC - 26 to 28 inches: fine sandy loam
R - 28 to 79 inches: bedrock

Properties and qualities

Slope: 3 to 8 percent
Surface area covered with cobbles, stones or boulders: 1.5 percent
Depth to restrictive feature: 21 to 41 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.03 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 5.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: C
Ecological site: F144BY702ME - Shallow and Moderately-deep Till
Hydric soil rating: No

HrC—Lyman-Tunbridge complex, 8 to 15 percent slopes, rocky

Map Unit Setting

National map unit symbol: 2x1cy
Elevation: 0 to 520 feet
Mean annual precipitation: 36 to 65 inches
Mean annual air temperature: 36 to 52 degrees F

Frost-free period: 90 to 160 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Lyman and similar soils: 45 percent
Tunbridge and similar soils: 40 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lyman

Setting

Landform: Ridges, hills
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Nose slope, crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy supraglacial till derived from granite and gneiss and/or loamy supraglacial till derived from phyllite and/or loamy supraglacial till derived from mica schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 3 inches: loam
E - 3 to 5 inches: fine sandy loam
Bhs - 5 to 7 inches: loam
Bs1 - 7 to 11 inches: loam
Bs2 - 11 to 18 inches: channery loam
R - 18 to 79 inches: bedrock

Properties and qualities

Slope: 8 to 15 percent
Surface area covered with cobbles, stones or boulders: 1.5 percent
Depth to restrictive feature: 11 to 24 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.03 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: D
Ecological site: F144BY702ME - Shallow and Moderately-deep Till
Hydric soil rating: No

Description of Tunbridge

Setting

Landform: Ridges, hills
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Linear
Across-slope shape: Convex

Parent material: Loamy supraglacial till derived from granite and gneiss and/or loamy supraglacial till derived from phyllite and/or loamy supraglacial till derived from mica schist

Typical profile

Oe - 0 to 3 inches: moderately decomposed plant material
Oa - 3 to 5 inches: highly decomposed plant material
E - 5 to 8 inches: fine sandy loam
Bhs - 8 to 11 inches: fine sandy loam
Bs - 11 to 26 inches: fine sandy loam
BC - 26 to 28 inches: fine sandy loam
R - 28 to 79 inches: bedrock

Properties and qualities

Slope: 8 to 15 percent
Surface area covered with cobbles, stones or boulders: 1.5 percent
Depth to restrictive feature: 21 to 41 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.03 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 5.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: C
Ecological site: F144BY702ME - Shallow and Moderately-deep Till
Hydric soil rating: No

HrD—Lyman-Tunbridge complex, 15 to 35 percent slopes, rocky

Map Unit Setting

National map unit symbol: 2x1cz
Elevation: 0 to 520 feet
Mean annual precipitation: 36 to 65 inches
Mean annual air temperature: 36 to 52 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Lyman and similar soils: 45 percent
Tunbridge and similar soils: 40 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lyman

Setting

Landform: Ridges, hills

Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Nose slope, crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy supraglacial till derived from granite and gneiss and/or loamy supraglacial till derived from phyllite and/or loamy supraglacial till derived from mica schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 3 inches: loam
E - 3 to 5 inches: fine sandy loam
Bhs - 5 to 7 inches: loam
Bs1 - 7 to 11 inches: loam
Bs2 - 11 to 18 inches: channery loam
R - 18 to 79 inches: bedrock

Properties and qualities

Slope: 15 to 35 percent
Surface area covered with cobbles, stones or boulders: 1.5 percent
Depth to restrictive feature: 11 to 24 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.03 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Ecological site: F144BY702ME - Shallow and Moderately-deep Till
Hydric soil rating: No

Description of Tunbridge

Setting

Landform: Ridges, hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy supraglacial till derived from granite and gneiss and/or loamy supraglacial till derived from phyllite and/or loamy supraglacial till derived from mica schist

Typical profile

Oe - 0 to 3 inches: moderately decomposed plant material
Oa - 3 to 5 inches: highly decomposed plant material
E - 5 to 8 inches: fine sandy loam
Bhs - 8 to 11 inches: fine sandy loam
Bs - 11 to 26 inches: fine sandy loam
BC - 26 to 28 inches: fine sandy loam
R - 28 to 79 inches: bedrock

Properties and qualities

Slope: 15 to 35 percent
Surface area covered with cobbles, stones or boulders: 1.5 percent
Depth to restrictive feature: 21 to 41 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.03 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 5.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: C
Ecological site: F144BY702ME - Shallow and Moderately-deep Till
Hydric soil rating: No

Md—Made land, loamy materials

Map Unit Composition

Made land: 91 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Made Land

Typical profile

H1 - 0 to 60 inches: very gravelly sandy loam

Properties and qualities

Slope: 0 to 35 percent
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to very high (0.06 to 20.00 in/hr)
Depth to water table: About 24 to 72 inches
Available water supply, 0 to 60 inches: Moderate (about 6.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Ecological site: F144BY501ME - Loamy Slope (Northern Hardwoods)
Hydric soil rating: No

NgB—Ninigret fine sandy loam, 0 to 8 percent slopes

Map Unit Setting

National map unit symbol: 9kdx
Elevation: 20 to 2,000 feet

Mean annual precipitation: 34 to 48 inches
Mean annual air temperature: 37 to 46 degrees F
Frost-free period: 80 to 160 days
Farmland classification: All areas are prime farmland

Map Unit Composition
Ninigret and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ninigret

Setting
Landform: Outwash terraces
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Coarse-loamy glaciofluvial deposits derived from slate

Typical profile
H1 - 0 to 8 inches: fine sandy loam
H2 - 8 to 28 inches: fine sandy loam
H3 - 28 to 65 inches: loamy fine sand

Properties and qualities
Slope: 0 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: About 18 to 36 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 8.7 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C
Ecological site: F144BY505ME - Loamy over Sandy
Hydric soil rating: No

PbB—Paxton loam, 2 to 8 percent slopes

Map Unit Setting
National map unit symbol: 9kf0
Elevation: 130 to 850 feet
Mean annual precipitation: 47 to 49 inches
Mean annual air temperature: 43 to 45 degrees F
Frost-free period: 145 to 155 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Paxton and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Paxton

Setting

Landform: Drumlinoid ridges
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Interfluve, crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Coarse-loamy lodgment till derived from mica schist

Typical profile

H1 - 0 to 8 inches: loam
H2 - 8 to 20 inches: fine sandy loam
H3 - 20 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 2 to 8 percent
Depth to restrictive feature: 18 to 40 inches to densic material
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.60 in/hr)
Depth to water table: About 24 to 42 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 2.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Ecological site: F144BY501ME - Loamy Slope (Northern Hardwoods)
Hydric soil rating: No

So—Scarboro fine sandy loam

Map Unit Setting

National map unit symbol: 9kff
Elevation: 10 to 2,800 feet
Mean annual precipitation: 34 to 48 inches
Mean annual air temperature: 37 to 46 degrees F
Frost-free period: 80 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Scarboro and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Scarboro

Setting

Landform: Outwash plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy glaciofluvial deposits derived from granite and gneiss

Typical profile

Oa - 0 to 10 inches: mucky peat
H2 - 10 to 21 inches: fine sandy loam
H3 - 21 to 65 inches: fine sand

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 6.00 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Available water supply, 0 to 60 inches: Moderate (about 6.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: A/D
Ecological site: F144BY303ME - Acidic Swamp
Hydric soil rating: Yes

SyC—Sutton very stony loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 9kfm
Elevation: 0 to 800 feet
Mean annual precipitation: 47 to 49 inches
Mean annual air temperature: 45 degrees F
Frost-free period: 150 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Sutton and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Sutton

Setting

Landform: Till plains
Landform position (three-dimensional): Base slope

Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Coarse-loamy supraglacial meltout till derived from mica schist

Typical profile
H1 - 0 to 7 inches: loam
H2 - 7 to 30 inches: fine sandy loam
H3 - 30 to 65 inches: gravelly sandy loam

Properties and qualities
Slope: 8 to 15 percent
Surface area covered with cobbles, stones or boulders: 1.6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.60 in/hr)
Depth to water table: About 18 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 7.1 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: C
Ecological site: F144BY501ME - Loamy Slope (Northern Hardwoods)
Hydric soil rating: No

Wa—Walpole fine sandy loam

Map Unit Setting
National map unit symbol: 9kfq
Elevation: 0 to 540 feet
Mean annual precipitation: 47 to 49 inches
Mean annual air temperature: 45 degrees F
Frost-free period: 150 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition
Walpole and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Walpole

Setting
Landform: Outwash plains
Landform position (three-dimensional): Talf
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Sandy glaciofluvial deposits

Typical profile
H1 - 0 to 6 inches: fine sandy loam

H2 - 6 to 15 inches: loamy sand
H3 - 15 to 60 inches: sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: About 0 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 5.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: A/D
Ecological site: F144BY303ME - Acidic Swamp
Hydric soil rating: Yes

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Site Name: Auburn-Lewiston Municipal Airport
Location: 80 White Hangar Dr, Auburn, ME 04210
Prepared for: McFarland-Johnson
Ref: Master Plan Update
Center Coordinates: 44.04720644,-70.27916602
Prepared Date: Mon Jan 08 2024 09:12:14 GMT-0700 (Mountain Standard Time)

ENVIRONMENTAL RADIUS REPORT

ASTM E1527-21

NETROnline

2055 E. Rio Salado Pkwy, Tempe, AZ 85381 | 480-967-6752

Summary

Federal	< 1/4	1/4 - 1/2	1/2 - 1
Lists of Federal NPL (Superfund) sites	0	0	0
Lists of Federal Delisted NPL sites	0	0	-
Lists of Federal sites subject to CERCLA removals and CERCLA orders	0	0	-
Lists of Federal CERCLA sites with NFRAP	0	0	-
Lists of Federal RCRA facilities undergoing Corrective Action	0	0	0
Lists of Federal RCRA TSD facilities	0	0	-
Lists of Federal RCRA generators	0	-	-
Federal institutional control/engineering control registries	0	-	-
Federal ERNS list	0	-	-

State	< 1/4	1/4 - 1/2	1/2 - 1
Lists of state and tribal Superfund equivalent sites	0	0	2
Lists of state and tribal hazardous waste facilities	0	3	0
Lists of state and tribal landfills and solid waste disposal facilities	0	0	-
Lists of state and tribal leaking storage tanks	0	0	-
Lists of state and tribal registered storage tanks	2	0	0
State and tribal institutional control/engineering control registries	0	-	-
Lists of state and tribal voluntary cleanup sites	0	1	0
Lists of state and tribal brownfields sites	0	0	-

Other	< 1/4	1/4 - 1/2	1/2 - 1
State and/or tribal lists of sites requiring further investigation / remediation	0	0	-
State list of Significant Environmental Hazards (SEH)	0	0	-
Lists of state and tribal mine sites requiring further investigation and/or remediation	0	0	-
State and/or tribal lists of spills and spill responses	0	0	-
State and/or tribal lists of emergency responses	0	0	-
State and/or tribal lists of dry cleaners	0	0	-
State and/or tribal lists of clandestine laboratory cleanups	0	0	-
State and/or tribal lists of scrap/used tire processing facilities	0	0	-
State and/or tribal lists of underground injection control sites	0	0	-
State and/or tribal listings of permitted drywells	0	-	-
Automobile salvage yards	0	0	-
Livestock Waste Control sites	0	0	-
Controlled Animal Feeding Operations (CAFOs)	0	0	-
State and/or tribal lists of registered aboveground storage tanks (ASTs)	2	0	0
C.A.A. Permitted Facilities	0	0	-
NPDES Permitted Facilities	0	0	-
Onsite Wastewater Treatment sites	0	0	-
State and/or tribal lists of permitted facilities	2	0	0
Resource Conservation and Recovery Act Information (RCRAInfo)	0	3	0
U.S. EPA Enforcement, Compliance History Online (ECHO)	0	0	-
U.S. EPA Underground Storage Tanks (UST)	1	0	0
U.S. EPA Toxic Substances Control Act (TSCA) database	0	0	-
U.S. EPA Toxic Release Inventory System (TRIS)	0	0	-

Lists of Federal NPL (Superfund) sites

The National Priorities List (NPL) is the list of sites of national priority among the known releases or threatened releases of hazardous substances, pollutants, or contaminants throughout the United States and its territories. The NPL is intended primarily to guide the EPA in determining which sites warrant further investigation. The NPL is updated periodically, as mandated by CERCLA.
There were no Federal NPL sites found within a one-mile radius of the target property.

Lists of Federal Delisted NPL sites

The EPA may delete a final NPL site if it determines that no further response is required to protect human health or the environment. Under Section 300.425(e) of the NCP (55 FR 8845, March 8, 1990), a site may be deleted when no further response is appropriate if EPA determines that one of the following criteria has been met: 1) EPA, in conjunction with the state, has determined that responsible parties have implemented all appropriate response action required, 2) EPA, in consultation with the state, has determined that all appropriate Superfund-financed responses under CERCLA have been implemented and that no further response by responsible parties is appropriate, 3) A remedial investigation/feasibility study (RI/FS) has shown that the release poses no significant threat to public health or the environment and, therefore, remedial measures are not appropriate.

There were no Federal Delisted NPL sites found within a half-mile radius of the target property.

Lists of Federal sites subject to CERCLA removals and CERCLA orders

CERCLA identifies the classes of parties liable under CERCLA for the cost of responding to releases of hazardous substances. In addition, CERCLA contains provisions specifying when Federal installations must report releases of hazardous substances and the cleanup procedures they must follow. Executive Order No. 12580, Superfund Implementation, delegates response authorities to EPA and the Coast Guard. Generally, the head of the Federal agency has the delegated authority to address releases at the Federal facilities in its jurisdiction.

There were no Federal sites subject to CERCLA removals and/or orders found within a half-mile radius of the target property.

Lists of Federal CERCLA sites with NFRAP

No Further Remedial Action Planned (NFRAP) is a decision made as part of the Superfund remedial site evaluation process to denote that further remedial assessment activities are not required and that the facility/site does not pose a threat to public health or the environment sufficient to qualify for placement on the National Priorities List (NPL) based on currently available information. These facilities/sites may be re-evaluated if EPA receives new information or learns that site conditions have changed. A NFRAP decision does not mean the facility/site is free of contamination and does not preclude the facility/site from being addressed under another federal, state or tribal cleanup program.

There were no Federal CERCLA sites with No Further Remedial Action Planned (NFRAP) decisions found within a half-mile radius of the target property.

Lists of Federal RCRA facilities undergoing Corrective Action

Corrective action is a requirement under the Resource Conservation and Recovery Act (RCRA) that facilities that treat, store or dispose of hazardous wastes investigate and cleanup hazardous releases into soil, ground water, surface water and air. Corrective action is principally implemented through RCRA permits and orders. RCRA permits issued to TSDFs must include provisions for corrective action as well as financial assurance to cover the costs of implementing those cleanup measures. In addition to the EPA, 44 states and territories are authorized to run the Corrective Action program.

There were no Federal RCRA facilities undergoing corrective action(s) found within a one-mile radius of the target property.

Lists of Federal RCRA TSD facilities

The final link in RCRA's cradle-to-grave concept is the treatment, storage, and disposal facility (TSDF) that follows the generator and transporter in the chain of waste management activities. The regulations pertaining to TSDFs are more stringent than those that apply to generators or transporters. They include general facility standards as well as unit-specific design and operating criteria.

There were no Federal RCRA treatment, storage and disposal facilities (TSDFs) found within a half-mile radius of target property.

Lists of Federal RCRA generators

A generator is any person who produces a hazardous waste as listed or characterized in part 261 of title 40 of the Code of Federal Regulations (CFR). Recognizing that generators also produce waste in different quantities, EPA established three categories of generators in the regulations: very small quantity generators, small quantity generators, and large quantity generators. EPA regulates hazardous waste under the Resource Conservation and Recovery Act (RCRA) to ensure that these wastes are managed in ways that protet human health and the environment. Generators of hazardous waste are regulated based on the amount of hazardous waste they generate in a calendar month, not the size of their business or facility.

There were no Federal RCRA generators found at the target property and/or adjoining properties.

Federal institutional control/engineering control registries

Institutional Controls (IC) are defined as non-engineered and/or legal controls that minimize the potential human exposure to contamination by limiting land or resource use. Whereas, Engineering Controls (EC) consist of engineering measures (e.g, caps, treatment systems, etc.) designed to minimize the potential for human exposure to contamination by either limiting direct contact with contaminated areas or controlling migration of contaminants through environmental media.

There were no Federal institutional or engineering controls found at the target property.

Federal ERNS list

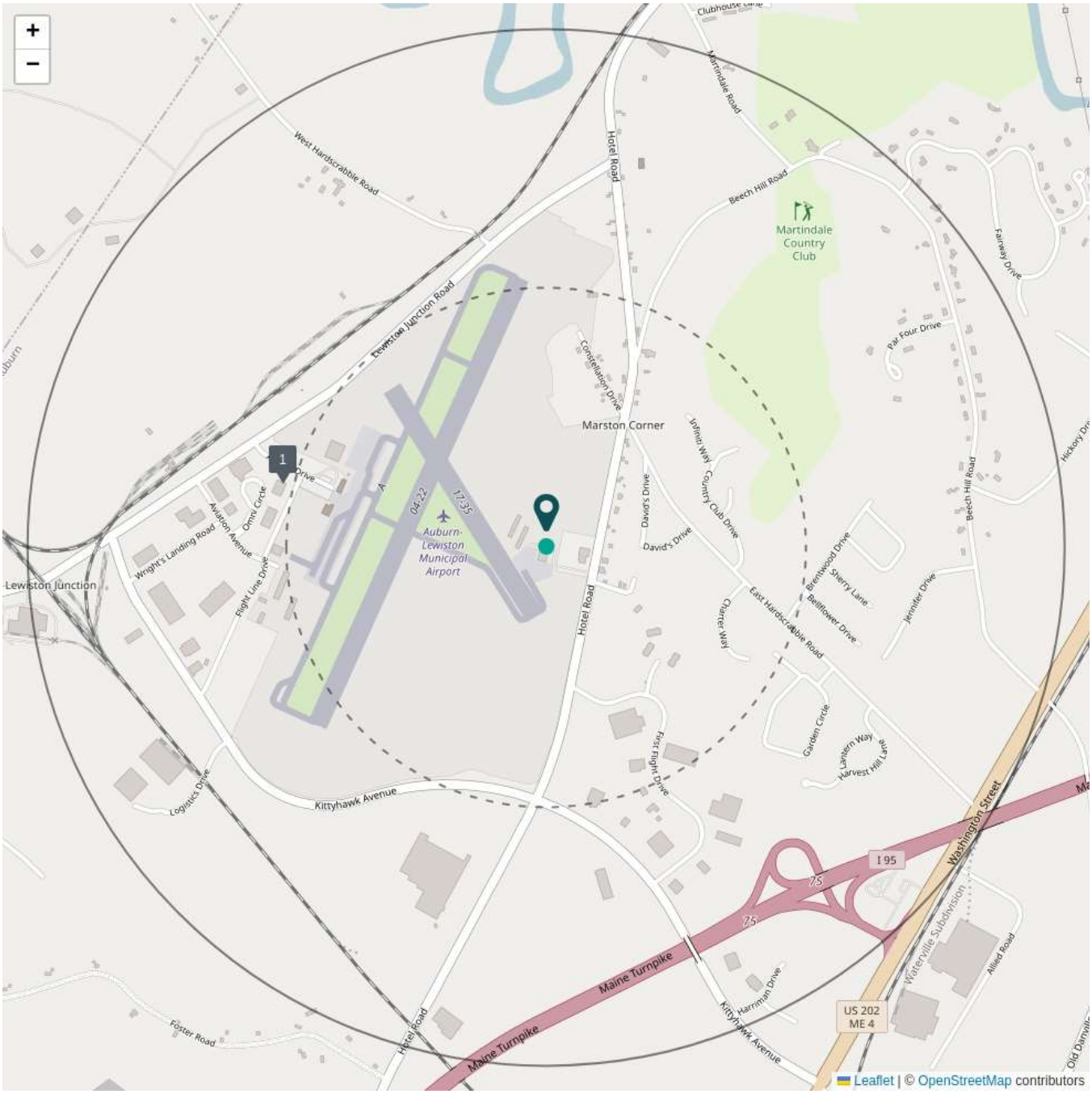
The Emergency Response Notification System (ERNS) is a database used to store information on notification of oil discharges and hazardous substances releases. The ERNS program is a cooperative data sharing effort encompassing the National Response Center (NRC), operated by the US Coast Guard, EPA HQ and EPA regional offices. ERNS data is used to analyze release notifications, track EPA responses and compliance to environmental laws, support emergency planning efforts, and assist decision-makers in developing spill prevention programs.

There were no Federally recorded releases of oil and/or hazardous substances at the target property.

Lists of state and tribal Superfund equivalent sites

MEDEP - STATE SUPERFUND PROGRAM

The federal government is involved in all sites that fall under Federal Facilities and Superfund Program umbrella. Sometimes the federal representative is the U.S. EPA as the lead regulator for sites listed on the National Priorities List (NPL). Sometimes the federal representative is a component of the Department of Defense (DOD), because the problems at the site are a result of past military activity. This listing, maintained by the Maine DEP, of federal facilities and superfund sites was searched to return all records within a mile of the target property.



center: 44.04720644,-70.27916602

0.5 Miles 1.0 Miles

1

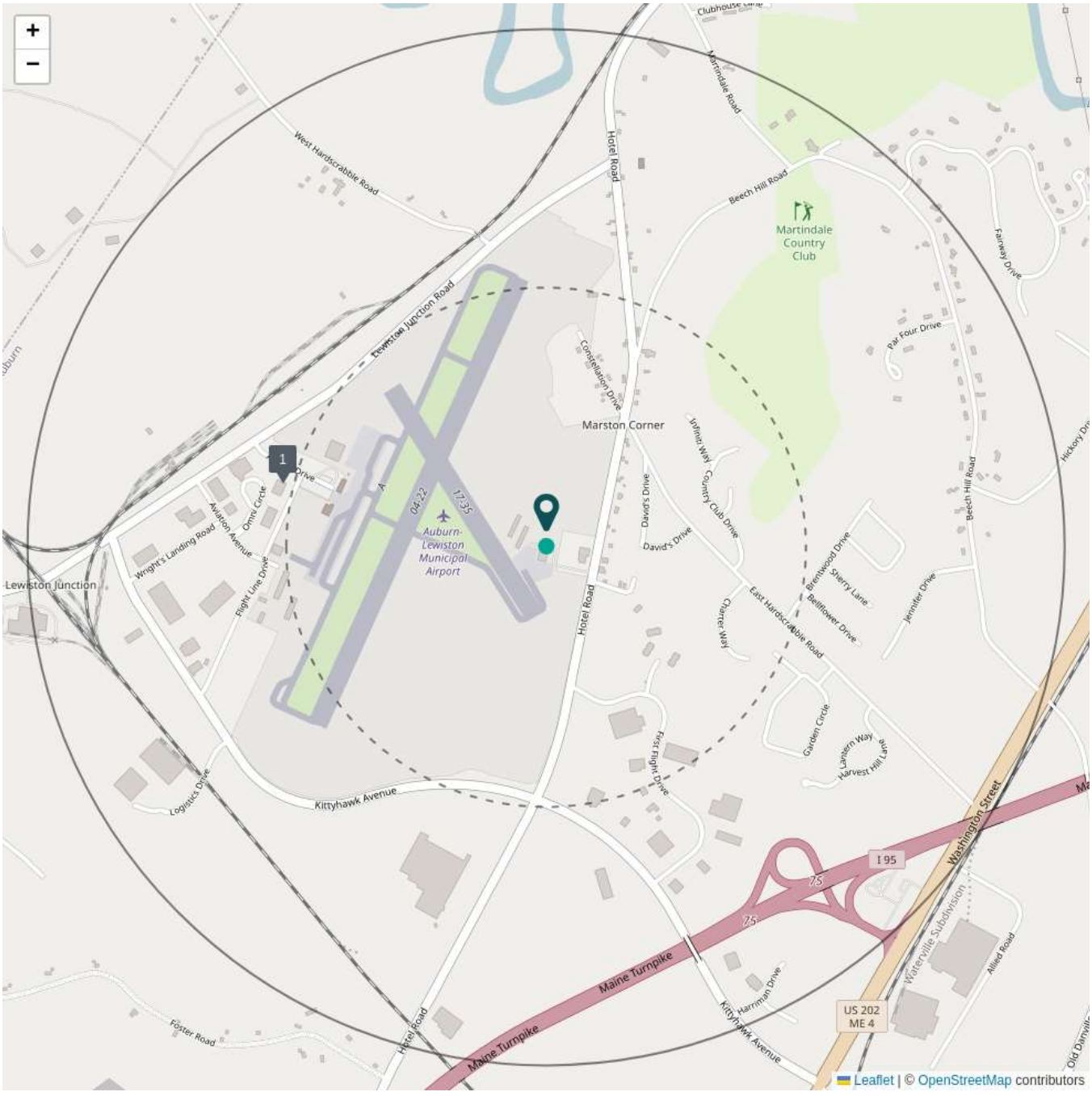
US NAVAL AUX ILIARY AIR FACILITY

380 LEWISTON JUNCTION ROAD

Site Number: REM01329
Name: US NAVAL AUX ILIARY AIR FACILITY
Address: 380 LEWISTON JUNCTION ROAD
City: AUBURN
Program: FEDERAL FACILITIES
Institutional Controls: FALSE
Status: COMPLAINT INVESTIGATED
Sub-Status: REVIEWING PRELIMINARY SITE INFORMATION
Acreage: 0
Status Date: 2009-04-08
Distance From Center (Miles): 0.5264

MEDEP - UNCONTROLLED SITES PROGRAM

The Maine Department of Environmental Protection (MEDEP) Uncontrolled Hazardous Substance Sites Program (USP) was created to abate the threats to human health and the environment posed by abandoned hazardous substance contaminated sites. The USP is the state equivalent to U.S. EPA's Federal Superfund Program. The USP has the authority to issue orders to responsible parties requiring them to conduct clean up actions.



center: 44.04720644,-70.27916602

0.5 Miles — 1.0 Miles

1

US NAVAL AUX ILIARY AIR FACILITY

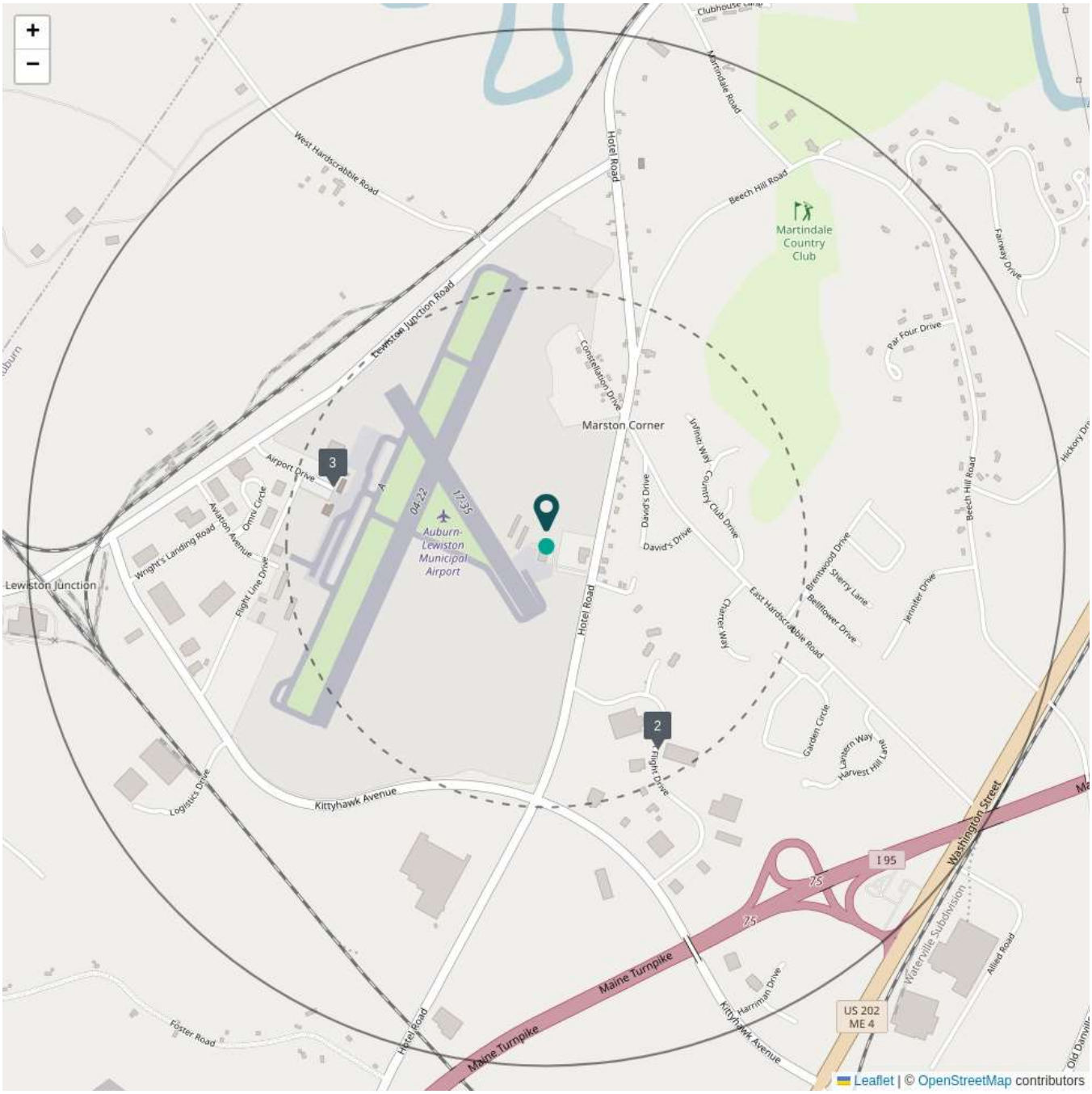
380 LEWISTON JUNCTION ROAD

Site Number: REM01329
Name: US NAVAL AUX ILIARY AIR FACILITY
Address: 380 LEWISTON JUNCTION ROAD
City: AUBURN
Program: UNCONTROLLED SITES
Institutional Controls: FALSE
Status: COMPLAINT INVESTIGATED
Sub-Status: REVIEWING PRELIMINARY SITE INFORMATION
Acreage: 0
Status Date: 2009-04-08
Distance From Center (Miles): 0.5264

Lists of state and tribal hazardous waste facilities

MEDEP - RCRA HAZARDOUS WASTE FACILITIES

The Resource Conservation and Recovery Act's (RCRA) hazardous waste permitting program ensures the safe management of hazardous wastes. Under this program, EPA establishes requirements regarding the treatment, storage and disposal of hazardous wastes. The permitting program is important to the cradle-to-grave management system for hazardous wastes, which prevents dangerous releases and avoids costly Superfund cleanups. Permits are issued by authorized state or EPA regional offices. State and EPA cooperate to implement RCRA. Hazardous waste management facilities receive hazardous wastes for treatment, storage, or disposal. These facilities are often referred to as treatment, storage and disposal facilities, or TSDFs. This data set was searched to return all records within a half-mile of the target property.



center: 44.04720644,-70.27916602

0.5 Miles 1.0 Miles

1

AUBURN-LEWISTON MUNICIPAL AIRPORT

80 AIRPORT DR

RCRA Name: AUBURN-LEWISTON MUNICIPAL AIRPORT
Source ID: MEP000021547
Street Address: 80 AIRPORT DR
City: AUBURN
Registry ID: 110041432642
Significant Non-Compliance: No
Quarters with Non-Compliance: 0
Inspection Count: 0
Distance From Center (Miles): 0.4287

2

EWASTE RECYCLING SOLUTIONS LLC

225 FIRST FLIGHT DRIVE

RCRA Name: EWASTE RECYCLING SOLUTIONS LLC
Source ID: MER000502260
Street Address: 225 FIRST FLIGHT DRIVE
City: AUBURN
Registry ID: 110017619727
Significant Non-Compliance: No
Quarters with Non-Compliance: 0
Inspection Count: 0
Distance From Center (Miles): 0.4452

3

LUFTHANSA TECHNIK NORTH AMERICA

78 AIRPORT DRIVE

RCRA Name: LUFTHANSA TECHNIK NORTH AMERICA
Source ID: MER000510776
Street Address: 78 AIRPORT DRIVE
City: AUBURN
Registry ID: 110057787006
Significant Non-Compliance: No
Quarters with Non-Compliance: 0
Inspection Count: 0
Distance From Center (Miles): 0.4315

Lists of state and tribal landfills and solid waste disposal facilities

Title 40 of the CFR parts 239 through 259 contain the regulations for non-hazardous solid waste programs set up by the states. EPA has requirements for state solid waste permit programs, guidelines for the processing of solid waste, guidelines for storage and collection of commercial, residential and institutional solid waste, and the criteria for municipal solid waste landfills. State solid waste programs may be more stringent than the federal code requires.

There were no State and/or tribal landfills or solid waste disposal facilities found within a half-mile radius of the target property.

Lists of state and tribal leaking storage tanks

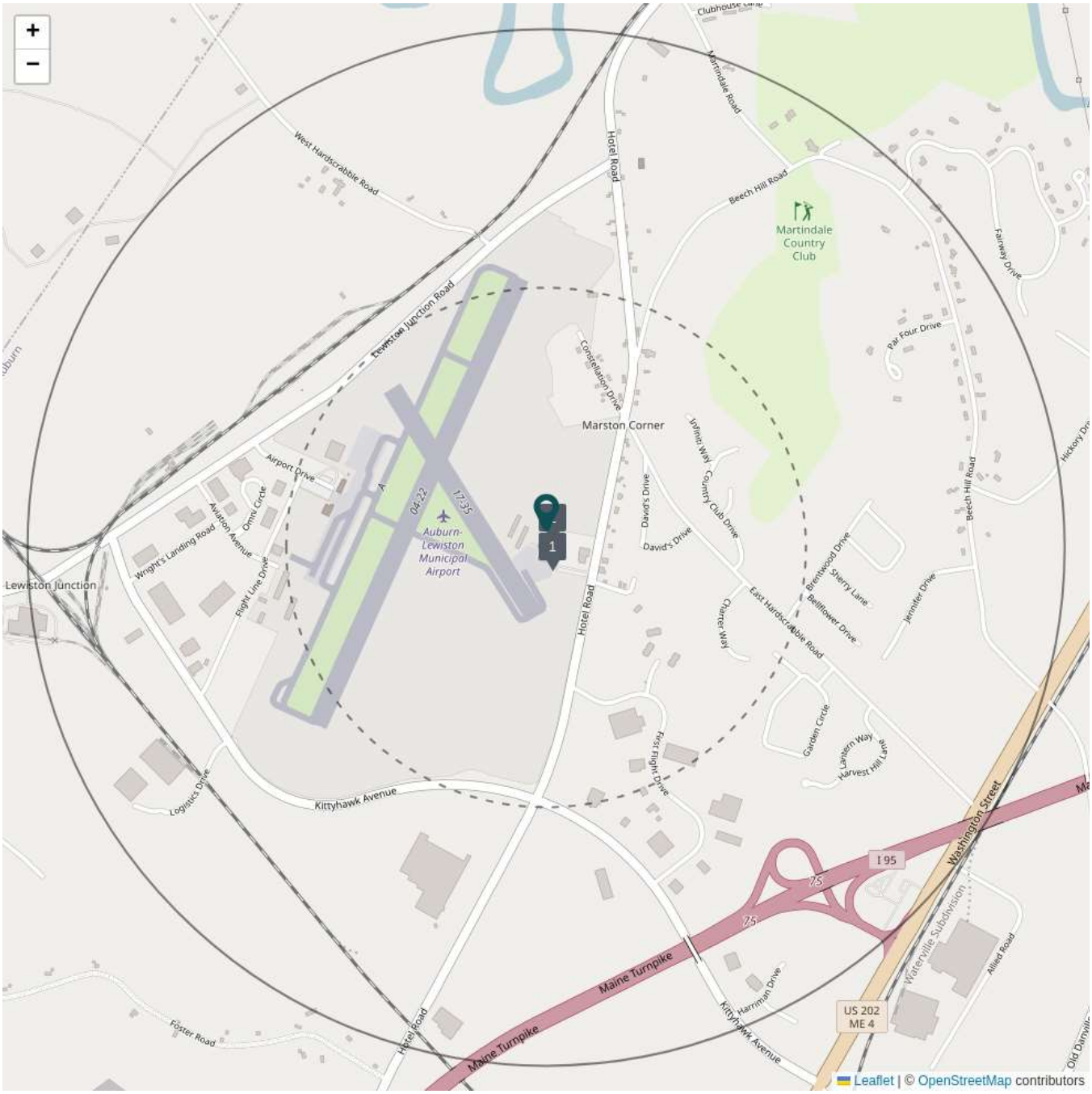
A typical leaking underground storage tank (LUST) scenario involves the release of a fuel product from an underground storage tank (UST) that can contaminate surrounding soil, groundwater, or surface waters, or affect indoor air spaces. Once a leak is confirmed, immediate response actions must be taken to minimize or eliminate the source of the release and to reduce potential harm to human health, safety, and the environment. Each state has unique requirements for initiating responses to a release, and it is up to the UST owner or operator to conduct actions in compliance with his/her local rules.

There were no State and/or tribal leaking storage tanks found within a half-mile radius of the target property.

Lists of state and tribal registered storage tanks

MEDEP - UNDERGROUND STORAGE TANK PROGRAM

The Main Department of Environmental Protection's Underground Storage Tank (UST) Program is responsible for protecting public health and the environment, in particular groundwater, by preventing oil discharges to the greatest extent possible. The UST Program staff provide technical expertise, training, and outreach to UST facility owners and operators.



center: 44.04720644,-70.27916602

0.5 Miles 1.0 Miles

1

SILVER WINGS AVIATION

WHITE HANGER DR

Registration Number: 21075
Master Tank ID: 21075002
Facility Name: SILVER WINGS AVIATION
Address: WHITE HANGER DR
City: AUBURN
Near Public Water: No
Near Private Water: No
Near Other Water: No
On Aquifer: No
Tank Number: 2
Tank Material: STEEL_ASPHALT_COATED
Tank Installation Date: 2005-10-23
Tank Status: ACTIVE
Status Date: 2006-01-29
Distance From Center (Miles): 0.0469

2

SILVER WINGS AVIATION

WHITE HANGER DR

Registration Number: 21075
Master Tank ID: 21075001
Facility Name: SILVER WINGS AVIATION
Address: WHITE HANGER DR
City: AUBURN
Near Public Water: No
Near Private Water: No
Near Other Water: No
On Aquifer: No
Tank Number: 1
Tank Material: STEEL_ASPHALT_COATED
Tank Installation Date: 2005-10-23
Tank Status: ACTIVE
Status Date: 2006-01-29
Distance From Center (Miles): 0.0469

State and tribal institutional control/engineering control registries

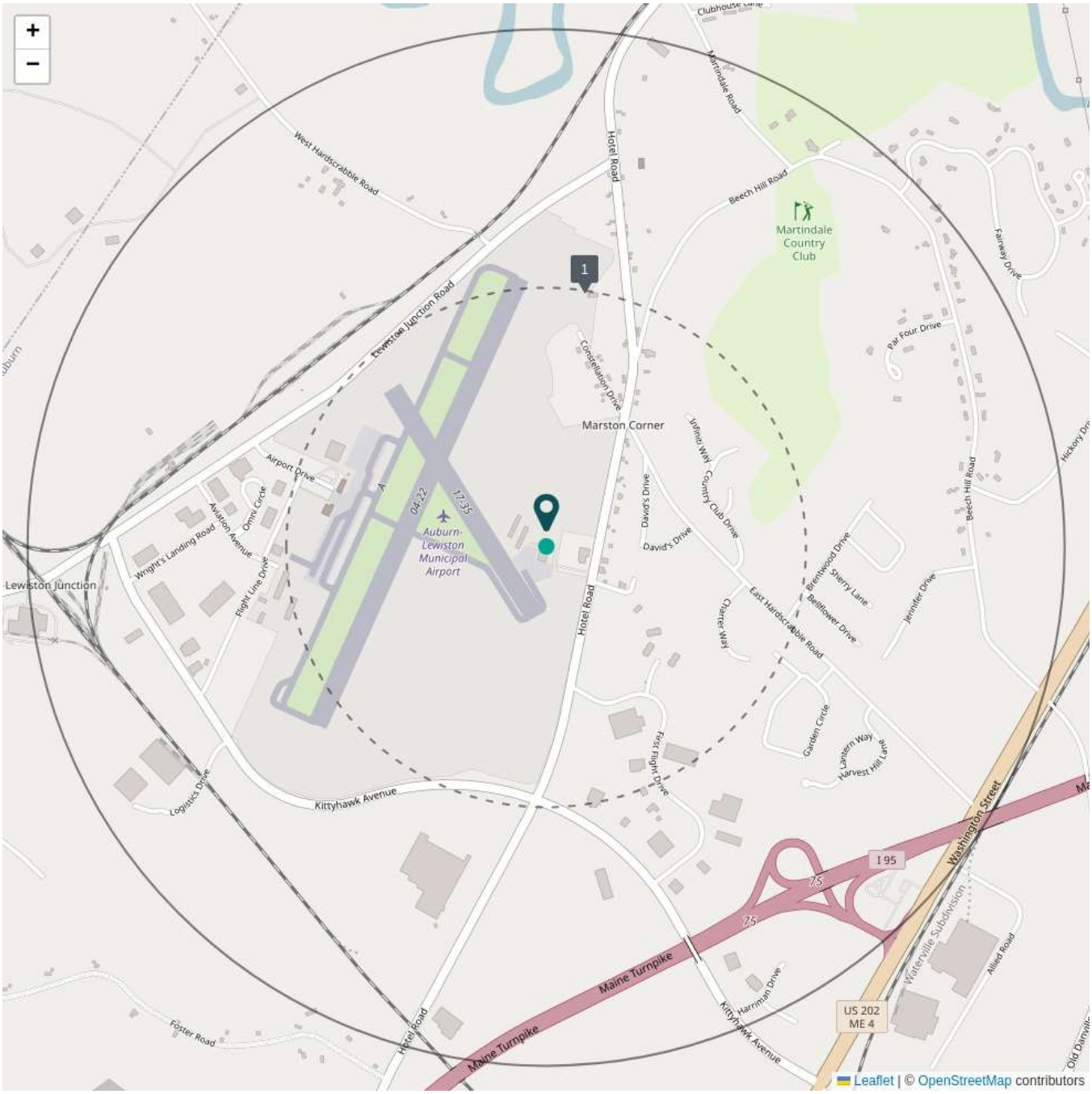
Institutional controls are non-engineered instruments such as administrative and legal controls that help minimize the potential for human exposure to contamination and/or protect the integrity of the remedy. Engineering controls consist of engineering measures (e.g, caps, treatment systems, etc.) designed to minimize the potential for human exposure to contamination by either limiting direct contact with contaminated areas or controlling migration of contaminants through environmental media. It is EPA's expectation that treatment or engineering controls will be used to address principal threat wastes and that groundwater will be returned to its beneficial use whenever practicable.

There were no State and/or tribal institutional and/or engineering controls found filed against the target property.

Lists of state and tribal voluntary cleanup sites

MEDEP - VOLUNTARY REMEDIAL ACTION PROGRAM

The Voluntary Response Action Program (VRAP) allows applicants to voluntarily investigate and cleanup properties to the Department's satisfaction, in exchange for protections from MEDEP enforcement actions. The VRAP is intended to encourage the cleanup and redevelopment of contaminated properties within the state.



center: 44.04720644,-70.27916602

0.5 Miles 1.0 Miles

1

ROUNDY/THEBERGE PARCEL

2355 HOTEL ROAD

Site Number: REM01440
Name: ROUNDY/THEBERGE PARCEL
Address: 2355 HOTEL ROAD
City: AUBURN
Program: VRAP
Institutional Controls: FALSE
Status: REMEDY IN PLACE: CLOSED
Sub-Status: UNDERTAKING POST-CLOSURE OBLIGATIONS
Acreage: 8.7
Status Date: 2006-10-29
Distance From Center (Miles): 0.4939

Lists of state and tribal brownfields sites

Since its inception in 1995, EPA's Brownfields and Land Revitalization Program has grown into a proven, results-oriented program that has changed the way communities address and manage contaminated property. The program is designed to empower states, tribes, communities, and other stakeholders to work together to prevent, assess, safely clean up, and sustainably reuse brownfields. Beginning in the mid-1990s, EPA provided small amounts of seed money to local governments that launched hundreds of two-year Brownfields pilot projects and developed guidance and tools to help states, communities and other stakeholders in the cleanup and redevelopment of brownfields sites.

There were no State and/or tribal brownfields sites found within a half-mile radius of the target property.

State and/or tribal lists of sites requiring further investigation / remediation

No records found

State list of Significant Environmental Hazards (SEH)

No records found

Lists of state and tribal mine sites requiring further investigation and/or remediation

No records found

State and/or tribal lists of spills and spill responses

No records found

State and/or tribal lists of emergency responses

No records found

State and/or tribal lists of dry cleaners

No records found

State and/or tribal lists of clandestine laboratory cleanups

No records found

State and/or tribal lists of scrap/used tire processing facilities

No records found

State and/or tribal lists of underground injection control sites

No records found

State and/or tribal listings of permitted drywells

No state and/or tribal permitted drywells were found within a half-mile radius of the target property.

Automobile salvage yards

No records found

Livestock Waste Control sites

No records found

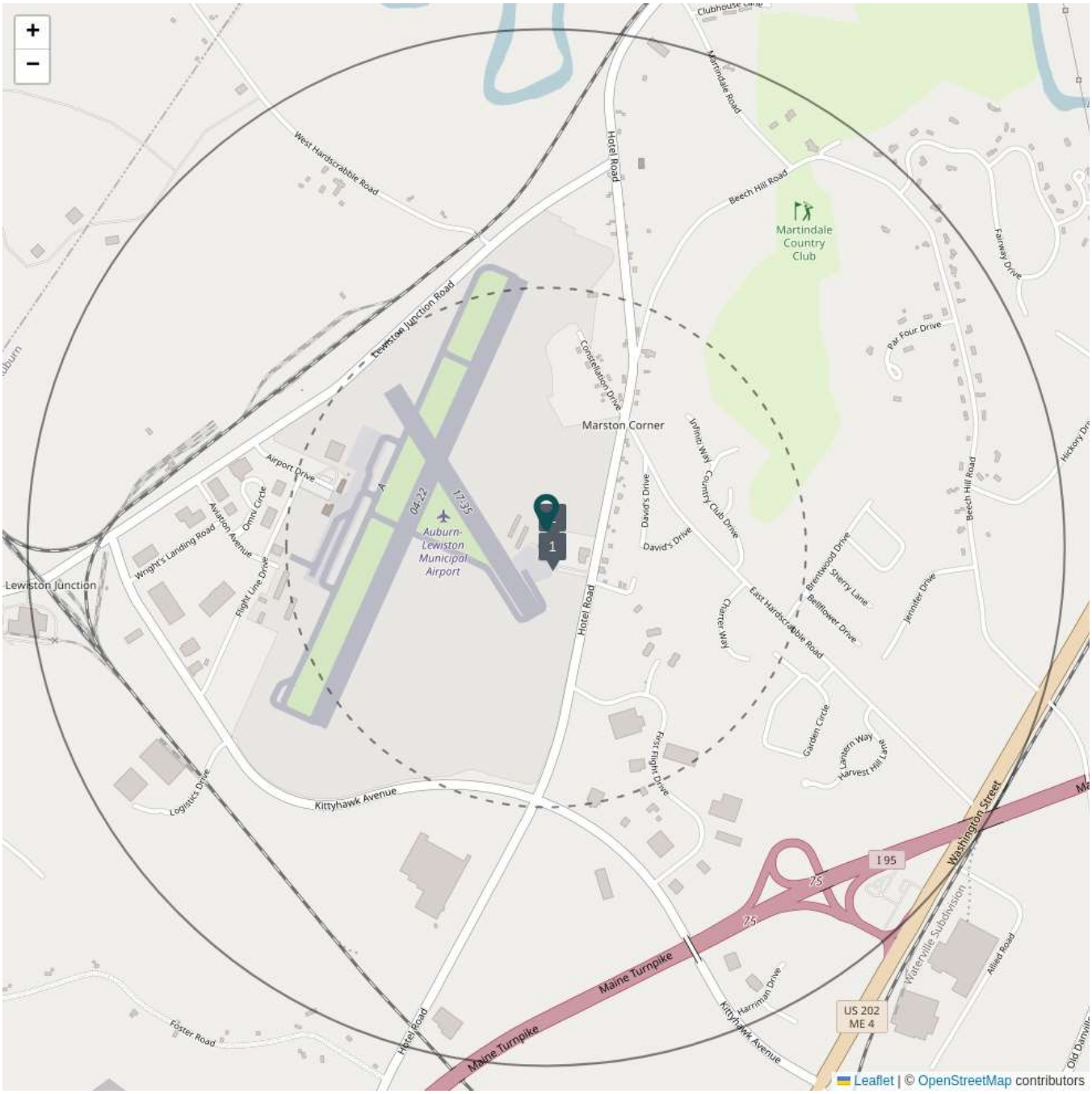
Controlled Animal Feeding Operations (CAFOs)

No records found

State and/or tribal lists of registered aboveground storage tanks (ASTs)

MEDEP - ABOVEGROUND OIL STORAGE TANK PROGRAM

The Aboveground Oil Storage Tank Program staff are responsible for administering the technical aspects of the DEP's SPCC program and Home Heating Oil Tank Replacement Program. In addition, staff provides technical assistance to the UST Program as well as general guidance to the public, UST and AST community, and other bureaus within the DEP in the proper storage and handling of hazardous materials. The DEP's listing of AST systems was searched to return all records within a half-mile of the target property.



center: 44.04720644,-70.27916602

0.5 Miles 1.0 Miles

1

SILVER WINGS AVIATION

WHITE HANGER DR

Registration Number: 21075
Master Tank ID: 21075001
Facility Name: SILVER WINGS AVIATION
Address: WHITE HANGER DR
City: AUBURN
Near Public Water: No
Near Private Water: No
Near Other Water: No
On Aquifer: No
Tank Number: 1
Tank Material: STEEL_ASPHALT_COATED
Tank Installation Date: 2005-10-23
Tank Status: ACTIVE
Status Date: 2006-01-29
Distance From Center (Miles): 0.0469

2

SILVER WINGS AVIATION

WHITE HANGER DR

Registration Number: 21075
Master Tank ID: 21075002
Facility Name: SILVER WINGS AVIATION
Address: WHITE HANGER DR
City: AUBURN
Near Public Water: No
Near Private Water: No
Near Other Water: No
On Aquifer: No
Tank Number: 2
Tank Material: STEEL_ASPHALT_COATED
Tank Installation Date: 2005-10-23
Tank Status: ACTIVE
Status Date: 2006-01-29
Distance From Center (Miles): 0.0469

C.A.A. Permitted Facilities

No records found

NPDES Permitted Facilities

No records found

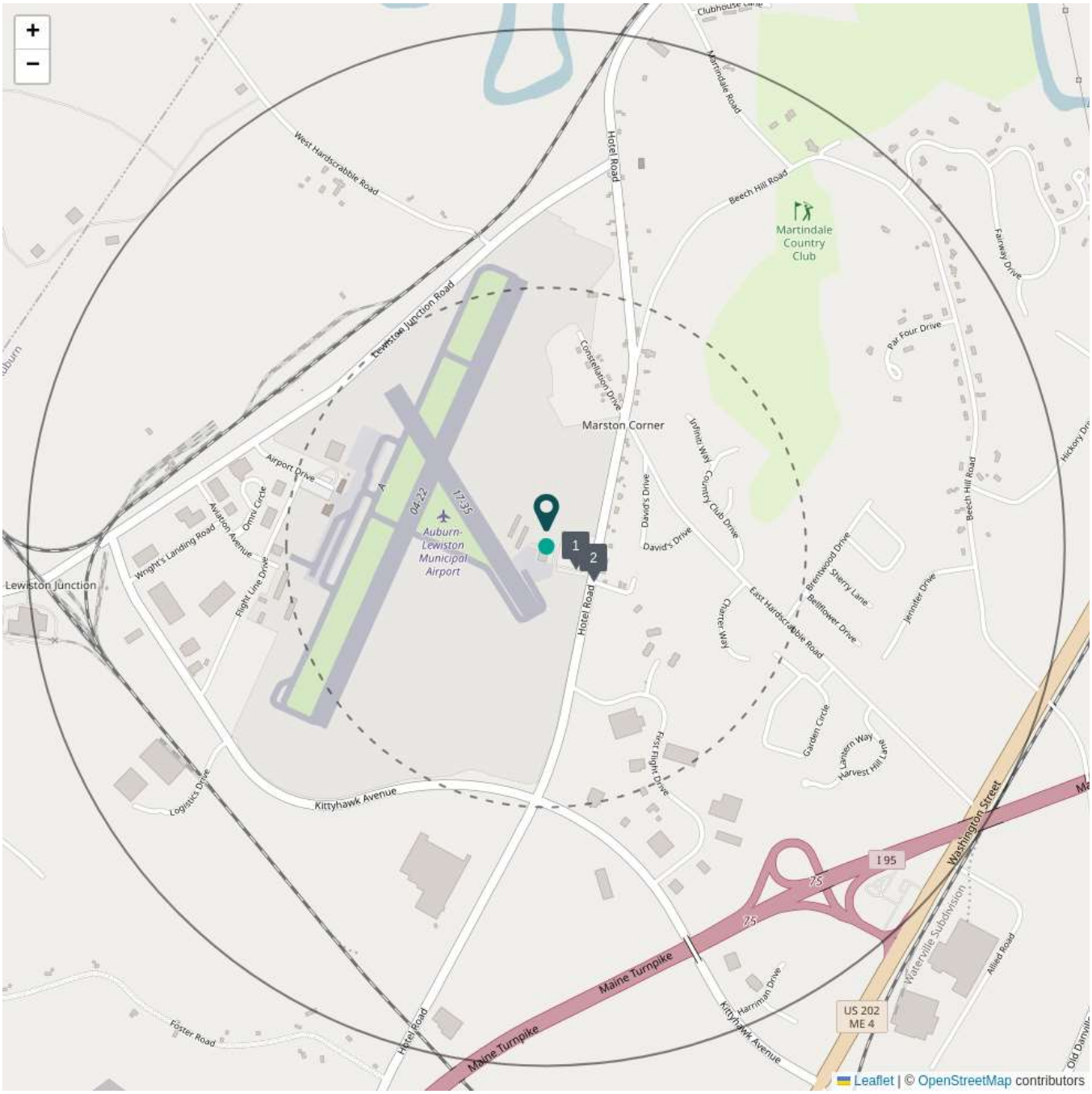
Onsite Wastewater Treatment sites

No records found

State and/or tribal lists of permitted facilities

MAINE - ENVIRONMENTAL FACILITY INFORMATION SYSTEM

The ME-EFIS, managed by the Department of Environmental Protection (DEP), integrates information on environmental facilities, permits, violations, enforcement actions, and compliance activities needed to support regulatory requirements and target environmental quality improvements for the water, air, solid waste, and hazardous waste program areas.



center: 44.04720644,-70.27916602

0.5 Miles 1.0 Miles

1

SILVER WINGS INC

45 WHITE HANGAR DR

Registry ID: 110039668231
Name: SILVER WINGS INC
Address: 45 WHITE HANGAR DR
City: AUBURN
Site Type: STATIONARY
Program Acronyms: ME-EFIS:FN00000017269242934
Interest Type: STATE MASTER
Point of Reference Description: ENTRANCE POINT OF A FACILITY OR STATION
Date Created: 30-OCT-09
Date Updated: 31-AUG-13
FRS Facility Detail Report URL: Link
Distance From Center (Miles): 0.0686

2

SKYWARD AVIATION

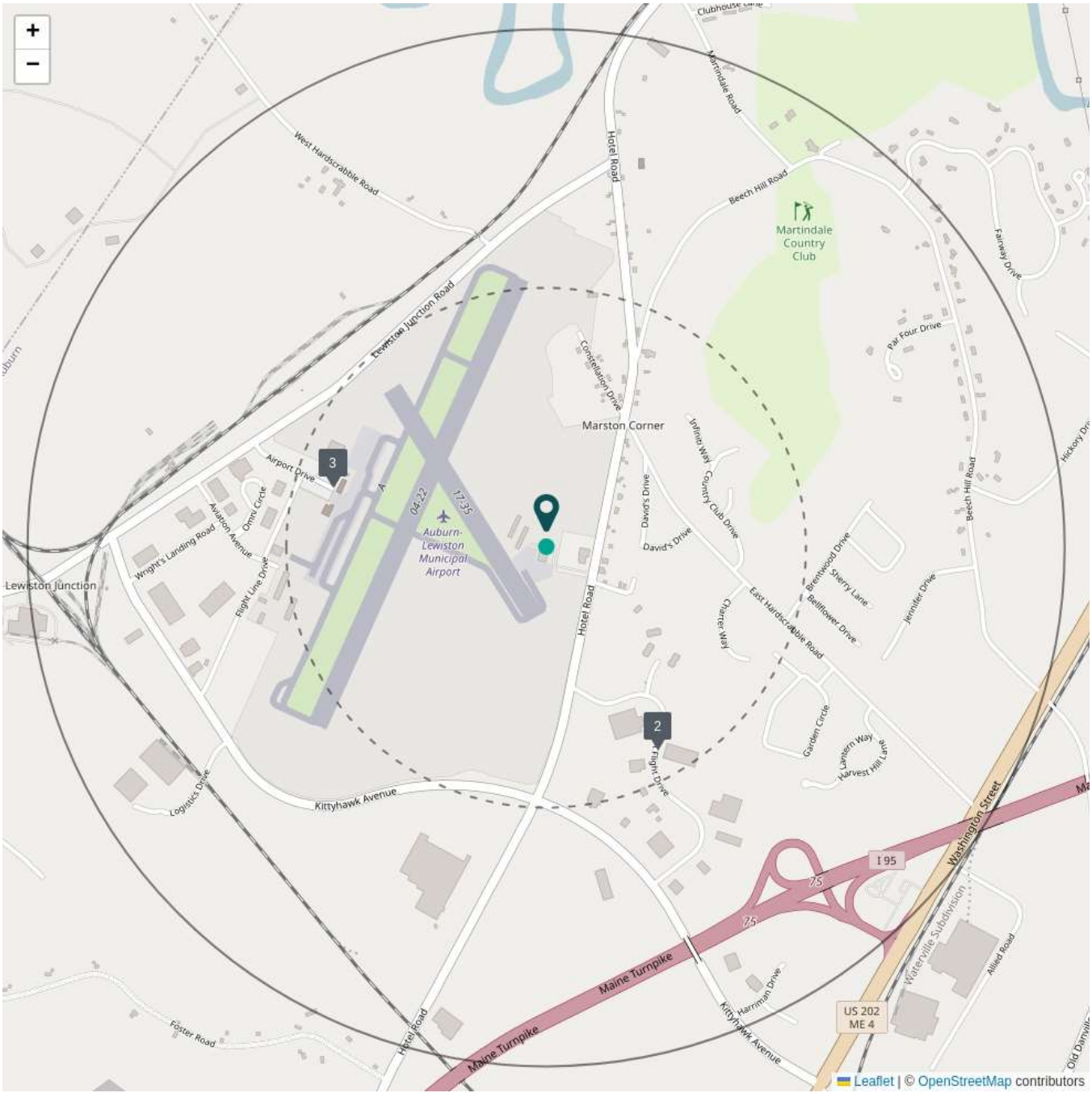
2595 HOTEL RD

Registry ID: 110039676829
Name: SKYWARD AVIATION
Address: 2595 HOTEL RD
City: AUBURN
Site Type: STATIONARY
Program Acronyms: ME-EFIS:FN00000005429240056, NPDES:MERNEB525
Interest Type: ICIS-NPDES NON-MAJOR, STATE MASTER, STORM WATER INDUSTRIAL
Point of Reference Description: CENTER OF A FACILITY OR STATION
Date Created: 30-OCT-09
Date Updated: 07-OCT-15
FRS Facility Detail Report URL: Link
Distance From Center (Miles): 0.1114

Resource Conservation and Recovery Act Information (RCRAInfo)

RESOURCE CONSERVATION AND RECOVERY ACT INFORMATION SYSTEM

RCRAInfo is EPA's comprehensive information system that supports the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984 through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste.
Please note that RCRAInfo contains all hazardous waste handlers in addition to TSDFs, generators, and facilities undergoing RCRA corrective action. One may encounter duplicate records from the TSDF, generators, and/or the RCRA corrective action sections. This source was searched for all records within a half-mile of the target property.



center: 44.04720644,-70.27916602

0.5 Miles 1.0 Miles

1

AUBURN/LEWISTON MUNICIPAL AIRPORT

80 AIRPORT DR

Registry ID: 110041432642
Name: AUBURN/LEWISTON MUNICIPAL AIRPORT
Address: 80 AIRPORT DR
City: AUBURN
Site Type: STATIONARY
Program Acronyms: EIS:9609911, ICIS:6681820, RCRAINFO:MEP000021547
Interest Type: AIR EMISSIONS CLASSIFICATION UNKNOWN, ENFORCEMENT/COMPLIANCE ACTIVITY, UNSPECIFIED UNIVERSE
Point of Reference Description: CENTER OF A FACILITY OR STATION
Date Created: 06-JUL-10
Date Updated: 01-JUN-17
FRS Facility Detail Report URL: Link
Distance From Center (Miles): 0.4287

2

EWASTE RECYCLING SOLUTIONS LLC

225 FIRST FLIGHT DRIVE

Registry ID: 110017619727
Name: EWASTE RECYCLING SOLUTIONS LLC
Address: 225 FIRST FLIGHT DRIVE
City: AUBURN
Site Type: STATIONARY
Program Acronyms: RCRAINFO:MER000502260
Interest Type: OTHER HAZARDOUS WASTE ACTIVITIES
Point of Reference Description: ENTRANCE POINT OF A FACILITY OR STATION
Date Created: 22-APR-04
Date Updated: 29-DEC-14
FRS Facility Detail Report URL: Link
Distance From Center (Miles): 0.4452

3

LUFTHANSA TECHNIK NORTH AMERICA

78 AIRPORT DRIVE

Registry ID: 110057787006
Name: LUFTHANSA TECHNIK NORTH AMERICA
Address: 78 AIRPORT DRIVE
City: AUBURN
Site Type: STATIONARY
Program Acronyms: OSHA-OIS:339007536, RCRAINFO:MER000510776
Interest Type: OSHA ESTABLISHMENT, SQG
Point of Reference Description: CENTER OF A FACILITY OR STATION
Date Created: 19-MAR-14
Date Updated: 30-JUN-14
FRS Facility Detail Report URL: Link
Distance From Center (Miles): 0.4315

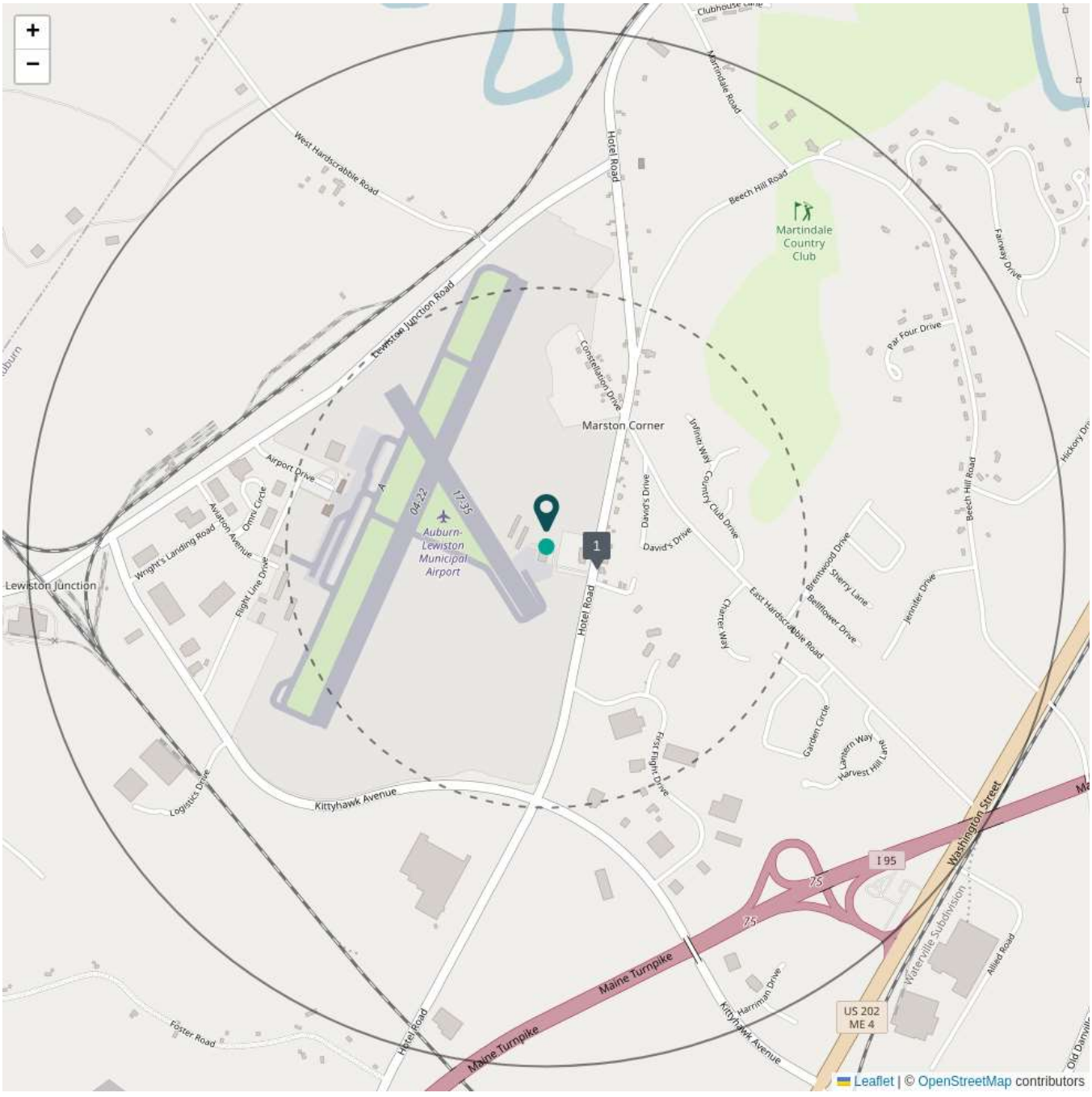
U.S. EPA Enforcement, Compliance History Online (ECHO)

No records found

U.S. EPA Underground Storage Tanks (UST)

EPA - UNDERGROUND STORAGE TANKS

Approximately 542,000 underground storage tanks (USTs) nationwide store petroleum or hazardous substances. The greatest potential threat from a leaking UST is contamination of groundwater, the source of drinking water for nearly half of all Americans. EPA, states, territories, and tribes work in partnership with industry to protect the environment and human health from potential releases. EPA developed UST Finder, a mapping application containing a comprehensive, state-sourced national map of UST and leaking UST data. It provides attributes and locations of active and closed USTs, UST facilities, and LUST sites from states as of 2018-2019 and from Tribal lands and US territories as of 2020-2021. This data set was searched to return all records regarding the target and/or adjoining properties.



center: 44.04720644,-70.27916602

0.5 Miles 1.0 Miles

1

AIRPORT STORE

2584 OLD HOTEL RD

Facility ID: ME13120
Name: AIRPORT STORE
Address: 2584 OLD HOTEL RD
City: AUBURN
County:
State: Maine
ZIP Code:
Latitude: 44.046575
Longitude: -70.277264
Open USTs: 0
Closed USTs: 3
Temporarily Out of Service USTs: 0
Facility Status: Closed UST(s)
Land Use: Developed, Low Intensity
Population Within 1,500ft: 122
Private Wells Within 1,500ft: 13
Within Source Water Protection Area (SPA): No
SPA Public Water System & Facility ID:
WHPA Public Water System & Facility ID: ME0005844_3423
Within Groundwater Wellhead Protection Area (WHPA): Yes
Within 100-Year Floodplain: No
SPA Water Type:
SPA Facility Type:
Distance From Center (Miles): 0.104

U.S. EPA Toxic Substances Control Act (TSCA) database

No records found

U.S. EPA Toxic Release Inventory System (TRIS)

No records found

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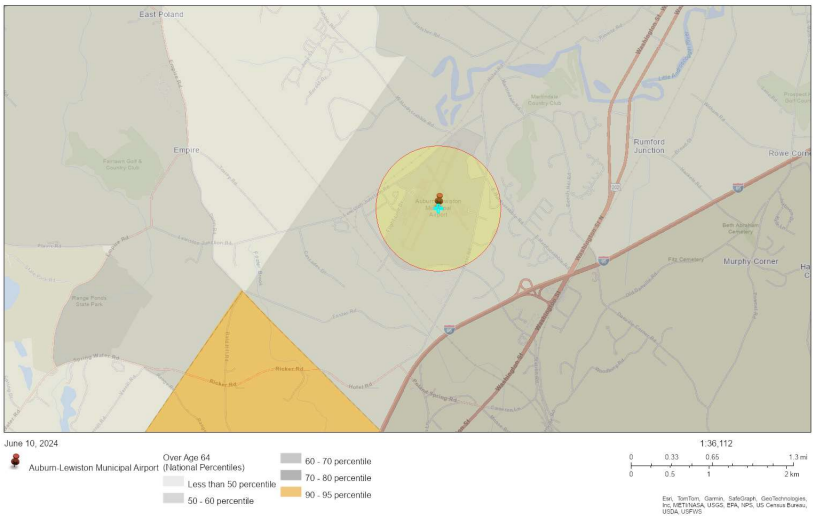
EJScreen Community Report

This report provides environmental and socioeconomic information for user-defined areas, and combines that data into environmental justice and supplemental indexes.

Auburn, ME

0.5 miles Ring Centered at 44.047156,-70.283682
Population: 48
Area in square miles: 0.79

A3 Landscape



LANGUAGES SPOKEN AT HOME

LANGUAGE	PERCENT
English	94%
French, Haitian, or Cajun	4%
Other Indo-European	1%
Total Non-English	6%

COMMUNITY INFORMATION

- Low income: 1 percent
- People of color: 9 percent
- Less than high school education: 4 percent
- Limited English households: 0 percent
- Unemployment: 3 percent
- Persons with disabilities: 12 percent
- Male: 41 percent
- Female: 59 percent
- 80 years — Average life expectancy
- $57,774 — Per capita income
- Number of households: 23
- Owner occupied: 90 percent

BREAKDOWN BY RACE

- White: 91%
- Black: 2%
- American Indian: 0%
- Asian: 0%
- Hawaiian/Pacific Islander: 0%
- Other race: 0%
- Two or more races: 5%
- Hispanic: 2%

BREAKDOWN BY AGE

From Ages 1 to 4	7%
From Ages 1 to 18	21%
From Ages 18 and up	79%
From Ages 65 and up	15%

LIMITED ENGLISH SPEAKING BREAKDOWN

Speak Spanish	0%
Speak Other Indo-European Languages	0%
Speak Asian-Pacific Island Languages	0%
Speak Other Languages	0%

Notes: Numbers may not sum to totals due to rounding. Hispanic population can be of any race.
Source: U.S. Census Bureau, American Community Survey (ACS) 2017 -2021. Life expectancy data comes from the Centers for Disease Control.

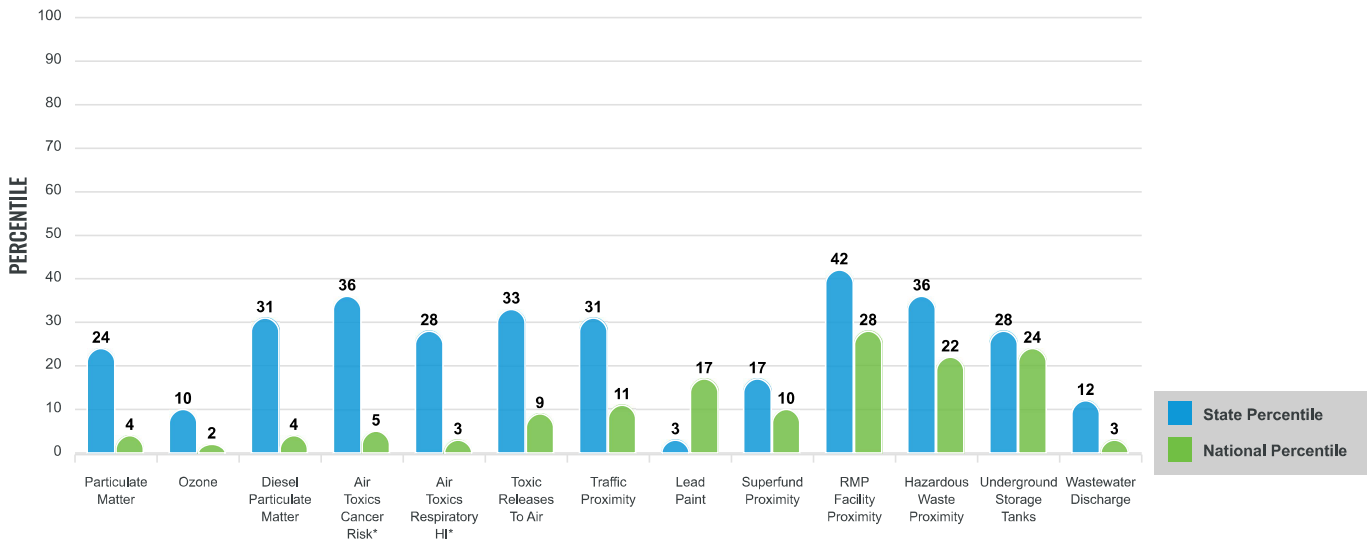
Environmental Justice & Supplemental Indexes

The environmental justice and supplemental indexes are a combination of environmental and socioeconomic information. There are thirteen EJ indexes and supplemental indexes in EJScreen reflecting the 13 environmental indicators. The indexes for a selected area are compared to those for all other locations in the state or nation. For more information and calculation details on the EJ and supplemental indexes, please visit the EJScreen website.

EJ INDEXES

The EJ indexes help users screen for potential EJ concerns. To do this, the EJ index combines data on low income and people of color populations with a single environmental indicator.

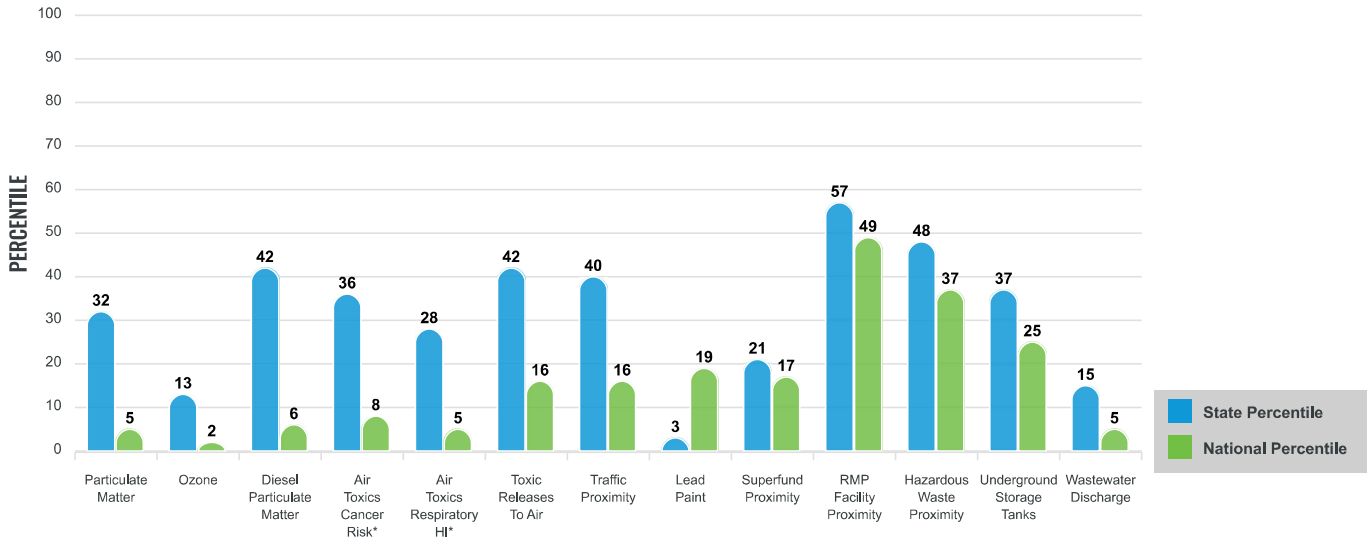
EJ INDEXES FOR THE SELECTED LOCATION



SUPPLEMENTAL INDEXES

The supplemental indexes offer a different perspective on community-level vulnerability. They combine data on percent low-income, percent linguistically isolated, percent less than high school education, percent unemployed, and low life expectancy with a single environmental indicator.

SUPPLEMENTAL INDEXES FOR THE SELECTED LOCATION



These percentiles provide perspective on how the selected block group or buffer area compares to the entire state or nation.

Report for 0.5 miles Ring Centered at 44.047156,-70.283682

EJScreen Environmental and Socioeconomic Indicators Data

SELECTED VARIABLES	VALUE	STATE AVERAGE	PERCENTILE IN STATE	USA AVERAGE	PERCENTILE IN USA
POLLUTION AND SOURCES					
Particulate Matter (µg/m^3)	6.01	5.59	65	8.08	8
Ozone (ppb)	51.5	52.8	27	61.6	3
Diesel Particulate Matter (µg/m^3)	0.0855	0.0745	71	0.261	12
Air Toxics Cancer Risk* (lifetime risk per million)	20	17	31	25	5
Air Toxics Respiratory HI*	0.2	0.18	23	0.31	4
Toxic Releases to Air	170	370	76	4,600	30
Traffic Proximity (daily traffic count/distance to road)	27	66	66	210	28
Lead Paint (% Pre-1960 Housing)	0.059	0.37	4	0.3	28
Superfund Proximity (site count/km distance)	0.039	0.071	42	0.13	35
RMP Facility Proximity (facility count/km distance)	3	0.21	99	0.43	98
Hazardous Waste Proximity (facility count/km distance)	1.5	1.1	78	1.9	68
Underground Storage Tanks (count/km^2)	0.35	0.68	66	3.9	36
Wastewater Discharge (toxicity-weighted concentration/m distance)	1.5E-06	0.002	27	22	9
SOCIOECONOMIC INDICATORS					
Demographic Index	5%	18%	7	35%	3
Supplemental Demographic Index	5%	12%	7	14%	7
People of Color	9%	8%	72	39%	22
Low Income	1%	28%	0	31%	3
Unemployment Rate	3%	5%	47	6%	39
Limited English Speaking Households	0%	1%	0	5%	0
Less Than High School Education	4%	6%	43	12%	33
Under Age 5	7%	4%	78	6%	68
Over Age 64	15%	22%	29	17%	50
Low Life Expectancy	18%	19%	35	20%	39

*Diesel particulate matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. Cancer risks and hazard indices from the Air Toxics Data Update are reported to one significant figure and any additional significant figures here are due to rounding. More information on the Air Toxics Data Update can be found at: https://www.epa.gov/haps/air-toxics-data-update.

Sites reporting to EPA within defined area:

Superfund 0
Hazardous Waste, Treatment, Storage, and Disposal Facilities 0
Water Dischargers 5
Air Pollution 2
Brownfields 0
Toxic Release Inventory 0

Other community features within defined area:

Schools 0
Hospitals 0
Places of Worship 0

Other environmental data:

Air Non-attainment ..... No
Impaired Waters ..... No

Selected location contains American Indian Reservation Lands* ..... No
Selected location contains a "Justice40 (CEJST)" disadvantaged community ..... No
Selected location contains an EPA IRA disadvantaged community ..... No

Report for 0.5 miles Ring Centered at 44.047156,-70.283682

EJScreen Environmental and Socioeconomic Indicators Data

HEALTH INDICATORS

INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Low Life Expectancy	18%	19%	35	20%	39
Heart Disease	6.1	7.1	25	6.1	52
Asthma	10.6	10.9	39	10	71
Cancer	6.8	7.3	31	6.1	64
Persons with Disabilities	13.3%	16.3%	34	13.4%	55

CLIMATE INDICATORS

INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Flood Risk	6%	11%	31	12%	45
Wildfire Risk	0%	0%	0	14%	0

CRITICAL SERVICE GAPS

INDICATOR	VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Broadband Internet	1%	14%	0	14%	12
Lack of Health Insurance	9%	8%	73	9%	65
Housing Burden	No	N/A	N/A	N/A	N/A
Transportation Access	No	N/A	N/A	N/A	N/A
Food Desert	No	N/A	N/A	N/A	N/A

Report for 0.5 miles Ring Centered at 44.047156,-70.283682

DEPARTMENT OF ENVIRONMENTAL PROTECTION
Bureau of Remediation & Waste Management

Oil Storage Tank Search & Operator Training

ONLINE SEARCH & TRAINING SERVICE

Search Details

The registration certificate for the facility you selected is provided below. The information on the certificate is submitted by the facility owner. The Department has not necessarily verified all information on the certificate.

If information on this form is accurate and complete, please retain for your records. The Maine Department of Environmental Protection must be notified of any errors or changes in the information on this form. To make changes to the information on this form, print the form and draw a line through the incorrect or outdated information, insert the correct information, and return the form to:

Department of Environmental Protection, Bureau of Remediation and Waste Management
Attn: Underground Tanks Program
State House Station #17
Augusta, ME 04333-0017

If you have any questions, please call 207-287-7688 and ask for the administrator of the Underground Storage Tanks program.

Download PDF version of this registration certificate (requires the free Adobe Reader software).

Facility Information

Facility Name:	AUBURN LEWISTON MUN AIRPORT
Facility Address:	LEWISTON JUNCTION RD
Facility City/Town:	AUBURN
Facility Registration Number:	9102
Date of Registration:	10/23/1986
Facility Phone Number:	207-784-5408
Sensitive Area Status:	None
Facility Use:	RETAIL OIL
Date of last Annual Inspection:	
Next Triennial Test Date:	N/A
Number of Active Tanks:	0

Operator Information

Operator(s) Contact Name:	
Operator(s) Name:	EXECUTIVE AVIATION INC
Operator Address:	RR 4 BOX 170
Operator City/Town:	AUBURN
Operator State:	ME
Operator Zip Code:	04210-0170
Operator Phone Number:	207-784-5408

Owner Information

Owner(s) Contact Name:	AIRPORT MANAGER
Owner(s) Name:	AUBURN LEWISTON MUN AIRPORT
Owner Address:	80 AIRPORT DR
Owner City/Town:	AUBURN

Owner State:	ME
Owner Zip Code:	04210-
Owner Phone Number:	207-786-0631

Individual Tank Data for all USTs

Tank Number:	**1**
Tank Type:	STEEL - BARE OR ASPHALT COATED.
Tank Under/Above Ground:	BELOW
Tank Size:	6000 gal.
Tank Monitoring:	MANUAL GROUNDWATER SAMPLING
Date Tank Was Installed:	05/01/1976
Tank Expiration Date:	N/A
Tank Status:	REMOVED
Substatus:	
Tank Status Date:	10/01/1992
Chamber Number:	*1*
Chamber Size:	6000 gal.
Product Stored:	AVIATION GASOLINE
Pipe Type:	GALVANIZED STEEL
Piping Under/Above Ground:	BELOW
Date Piping Installed:	n/a
Pipe Monitoring:	UNKNOWN
Overfill Protection:	UNKNOWN
Tank Number:	**2**
Tank Type:	STEEL - BARE OR ASPHALT COATED.
Tank Under/Above Ground:	BELOW
Tank Size:	6000 gal.
Tank Monitoring:	MANUAL GROUNDWATER SAMPLING
Date Tank Was Installed:	05/01/1976
Tank Expiration Date:	N/A
Tank Status:	REMOVED
Substatus:	
Tank Status Date:	10/01/1992
Chamber Number:	*1*
Chamber Size:	6000 gal.
Product Stored:	AVIATION GASOLINE
Pipe Type:	GALVANIZED STEEL
Piping Under/Above Ground:	BELOW
Date Piping Installed:	n/a
Pipe Monitoring:	UNKNOWN
Overfill Protection:	UNKNOWN
Tank Number:	**3**
Tank Type:	STEEL - BARE OR ASPHALT COATED.
Tank Under/Above Ground:	BELOW

Tank Size:	1000 gal.
Tank Monitoring:	MANUAL GROUNDWATER SAMPLING
Date Tank Was Installed:	05/01/1974
Tank Expiration Date:	N/A
Tank Status:	REMOVED
Substatus:	
Tank Status Date:	11/03/1994
Chamber Number:	*1*
Chamber Size:	1000 gal.
Product Stored:	#2 FUEL OIL
Pipe Type:	GALVANIZED STEEL
Piping Under/Above Ground:	BELOW
Date Piping Installed:	n/a
Pipe Monitoring:	UNKNOWN
Overfill Protection:	UNKNOWN
Tank Number:	**4**
Tank Type:	STEEL - BARE OR ASPHALT COATED.
Tank Under/Above Ground:	BELOW
Tank Size:	10000 gal.
Tank Monitoring:	MANUAL GROUNDWATER SAMPLING
Date Tank Was Installed:	05/01/1970
Tank Expiration Date:	N/A
Tank Status:	REMOVED
Substatus:	
Tank Status Date:	08/01/1993
Chamber Number:	*1*
Chamber Size:	10000 gal.
Product Stored:	JP1
Pipe Type:	GALVANIZED STEEL
Piping Under/Above Ground:	BELOW
Date Piping Installed:	n/a
Pipe Monitoring:	UNKNOWN
Overfill Protection:	UNKNOWN

Download Registration Certificate | Back to Search Results | New Search

Questions about this Service? Contact the TankSmart Program Manager at: (207) 592-4092 or by email at: Kailee.reeves@maine.gov.