



Soil Treatment Completed

Majority of Site will be ready for re-use in 2004

Eastland Woolen Mill Superfund Site
Corinna, Maine

Community Update # 12
March 2004

Introduction:

In 2003, EPA achieved a watershed moment in the cleanup of the Eastland Woolen Mill. The contaminated soil that had been excavated and placed in the stockpile was successfully treated or shipped to an off-site facility. This activity was completed one year ahead of schedule. The success of the soil treatment program allows EPA to turn over the majority of the Site to the Town of Corinna for redevelopment and reuse during 2004. The first step in the revitalization of downtown Corinna will be the construction of an over 55 housing facility on property previously owned by the former Eastland Woolen Mill. Construction of the facility is expected to begin in 2004.

Background:

There are three distinct phases of on-going activity at the Eastland Woolen Mill Site. These phases are referred to as:

- ◆ **Early Cleanup or Non-Time-Critical Removal Action (NTCRA):** This is the soil cleanup in downtown Corinna that has been underway since 1999.
- ◆ **Groundwater Cleanup or Operable Unit I (OU I) Cleanup:** This is the recent cleanup decision to address the contaminated groundwater beneath the former Eastland Woolen Mill and downtown area.

- ◆ **East Branch of the Sebasticook River (EBSR) sediments and flood plain or Operable Unit II (OU II):** The final investigation activities for the sediments and flood plain soil of the EBSR were completed in 2003 with a final cleanup proposal schedule to be released in 2004.

Figure 1 shows the areas that are included within OU I and OU II as well as the areas where soil was excavated as part of the NTCRA.

Early Cleanup (NTCRA) Summary:

The treatment of the contaminated soil was completed in October 2003. Highlights of the soil treatment program are listed below:

- ◆ 100,000 tons (60,450 cubic yards) of contaminated soil were subject to treatment.
- ◆ 171 batches of soil were run through the eight treatment beds during 2003.
- ◆ Less than 10% of the soil (6,895 tons) failed the treatment criteria and required shipment and disposal off-site.
- ◆ About 10,000 pounds of contamination were removed from the soil, captured by the treatment system, and sent off-site for disposal.

Tables 1 and 2 present additional information relating to the soil treatment program including the percent reduction of contamination and a comparison of the residual levels of contamination remaining in the treated soil to levels that are considered protective of human health and the environment.

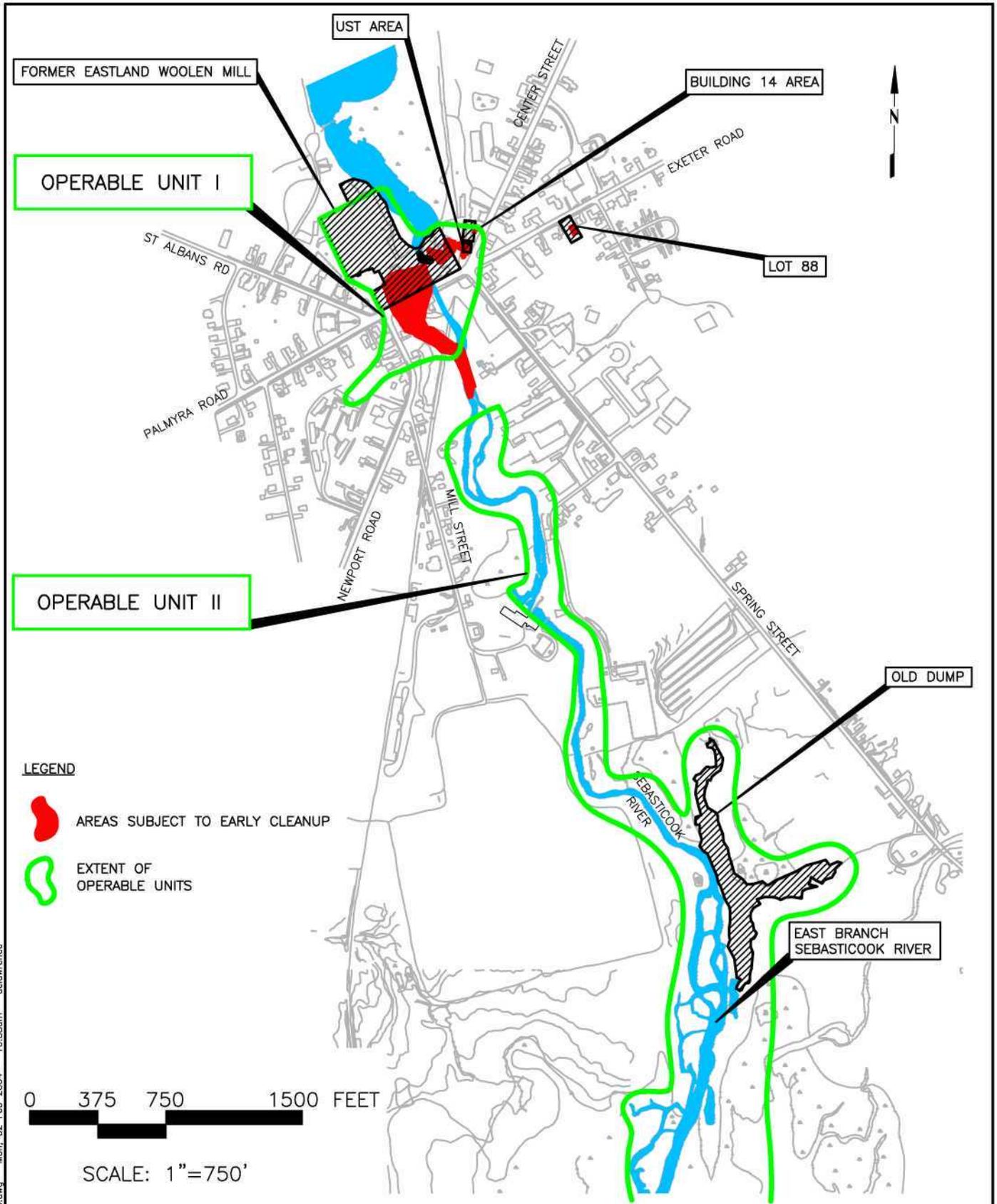


FIGURE 1
SITE PLAN SHOWING OPERABLE
UNIT BOUNDARIES AND
STUDY AREAS

EASTLAND WOOLEN MILL SITE
CORINNA, MAINE

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TABLE 1
SUMMARY STATISTICS OF SOIL TREATMENT

Contaminant (All concentrations in ug/kg)	Average Concentration in Soil prior to Treatment (see note 1)	95% Upper Confidence Level Concentration in Soil prior to Treatment	Post-Treatment Average Concentration (see note 2)	Post-Treatment 95% Upper Confidence Level Concentration	Percent Contaminant Reduction (Based on Average Concentration)	Level of Contaminant in Soil Considered Safe for a Residential Setting (see note 3)
1,2, 4 - Trichlorobenzene	72,178	92,070	5,594	5,773	92%	540,000
1,2, 3 - Trichlorobenzene	20,175	25,955	1,741	1,794	91%	not available
1,2 - Dichlorobenzene	12,905	17,091	739	766	94%	370,000
1,3 - Dichlorobenzene	1,132	1,427	277	285	76%	16,000
1,4 - Dichlorobenzene	9,636	12,279	662	683	93%	3,400
Chlorobenzene	2,796	3,938	184	191	93%	150,000

Notes:

1. The pre-treatment concentrations are estimated from approximately 100 samples.
2. The post-treatment concentrations are estimated from approximately 4,200 samples.
3. This concentration was selected based on the EPA Preliminary Remediation Goals which are set to protect a resident who may be exposed to soil for 250 days per year for 30 years or the State of Maine Remedial Action Guidelines.

TABLE 2
COMPARISON OF TREATED SOIL TO PROTECTIVE LEVELS

Contaminant All concentrations in ug/kg	Post-Treatment Average Concentration for Soil Remaining On-Site	Post-Treatment 95% Upper Confidence Level Concentration for Soil Remaining on Site	Residential Yard Protective Level (seen note1)	Groundwater Protective Level (see note 2)	Groundwater Protective Level (see note 3)
1,2, 4 - Trichlorobenzene	4,343	4,451	540,000	5,000	3,900 - 8,000
1,2 3 - Trichlorobenzene	1,376	1,408	not available		
1,2 - Dichlorobenzene	592	610	370,000	17,000	4,700 - 4,900
1,3 - Dichlorobenzene	277	285	16,000		4,300 - 4,800
1,4 - Dichlorobenzene	548	563	3,400		3,400 - 3,800
Chlorobenzene	163	169	150,000	1,000	3,300 - 3,600

Notes:

1. This level of Contaminant in Soil Considered Safe in Residential Setting.
2. Level of Contaminant that would not result in groundwater in contact with the soil exceeding drinking water standards from Maine Remedial Action Guidelines.
3. Level of Contaminant that would not result in groundwater in contact with the soil exceeding drinking water standards estimated by EPA using site specific information. This level varies based upon the organic carbon content of the soil.

The two components of the early cleanup action that will continue into 2004 are:

1. **In-situ treatment of the highly contaminated soil and shallow bedrock:**

There are two areas that are acting as a source of contamination to the groundwater that were not accessible during the excavation program. These areas will be targeted for treatment using an in-situ oxidation technology.

Treatment of these areas is expected to significantly reduce the remaining source contamination in the soil and weathered bedrock. **Figure 2** shows the areas that will be subject to additional work as part of the NTCRA and the areas that will be available for re-use in 2004.

2. **Final Grading and Restoration:** The areas of the Site that were disturbed as part of the cleanup will be brought to final grade and stabilized. This activity is being coordinated with the Town of Corinna's redevelopment plan for the Site. The highest priority is to complete the grading and restoration of the area that will be used by Penquis Cap to construct a housing facility. **Figure 3** shows a conceptual drawing of the Corinna Re-Development Plan.

EPA plans to complete the majority of the grading and restoration work in 2004. The in-situ treatment and associated grading and restoration work are expected to be completed in 2005.

Is the Site safe for re-use given that there is still some contamination in the soil after treatment?

The answer is "yes."

Although low levels of contamination remain in the soil after treatment, the concentrations are so low that the soil is considered safe for residential use. There should be no concern regarding human

or animal contact with the treated soil. Since the soil does contain low levels of contamination that could contribute a small amount of contamination to groundwater, EPA and the Maine DEP will require that the treated soil remain on-site and not be used as backfill for areas where the groundwater is not already impacted by the Site. The Town of Corinna has also identified the cemetery as a repository for any soil that may be removed as part of the redevelopment activities.

Groundwater Cleanup (Operable Unit I):

In September 2002, EPA signed a Record of Decision finalizing the cleanup plan for the groundwater contamination at the Eastland Woolen Mill Site. The goal of the OU I groundwater cleanup is to prevent human ingestion of contaminated groundwater and restore the contaminated groundwater to drinking water standards.

In 2003, EPA began the design for the OU I cleanup. One of the first activities has been to identify the areas that will require groundwater use restrictions and determine which properties should be connected to the public water supply. EPA is also coordinating with the Maine DEP and Town of Corinna to institute local ordinances to prevent future use of the groundwater. As part of the efforts, EPA and Maine DEP will be seeking the cooperation of the landowners within the groundwater use restriction zone to prevent future use of the groundwater by placing restrictive covenants on these properties.

During 2004, EPA will continue to develop the design for the OUI groundwater cleanup. The OUI in-situ treatment design will benefit from the results of the NTCRA in-situ treatment program. Design of the groundwater extraction and treatment system will continue as well. The construction and implementation of the OU I groundwater cleanup is not expected to begin until 2005 at the earliest.

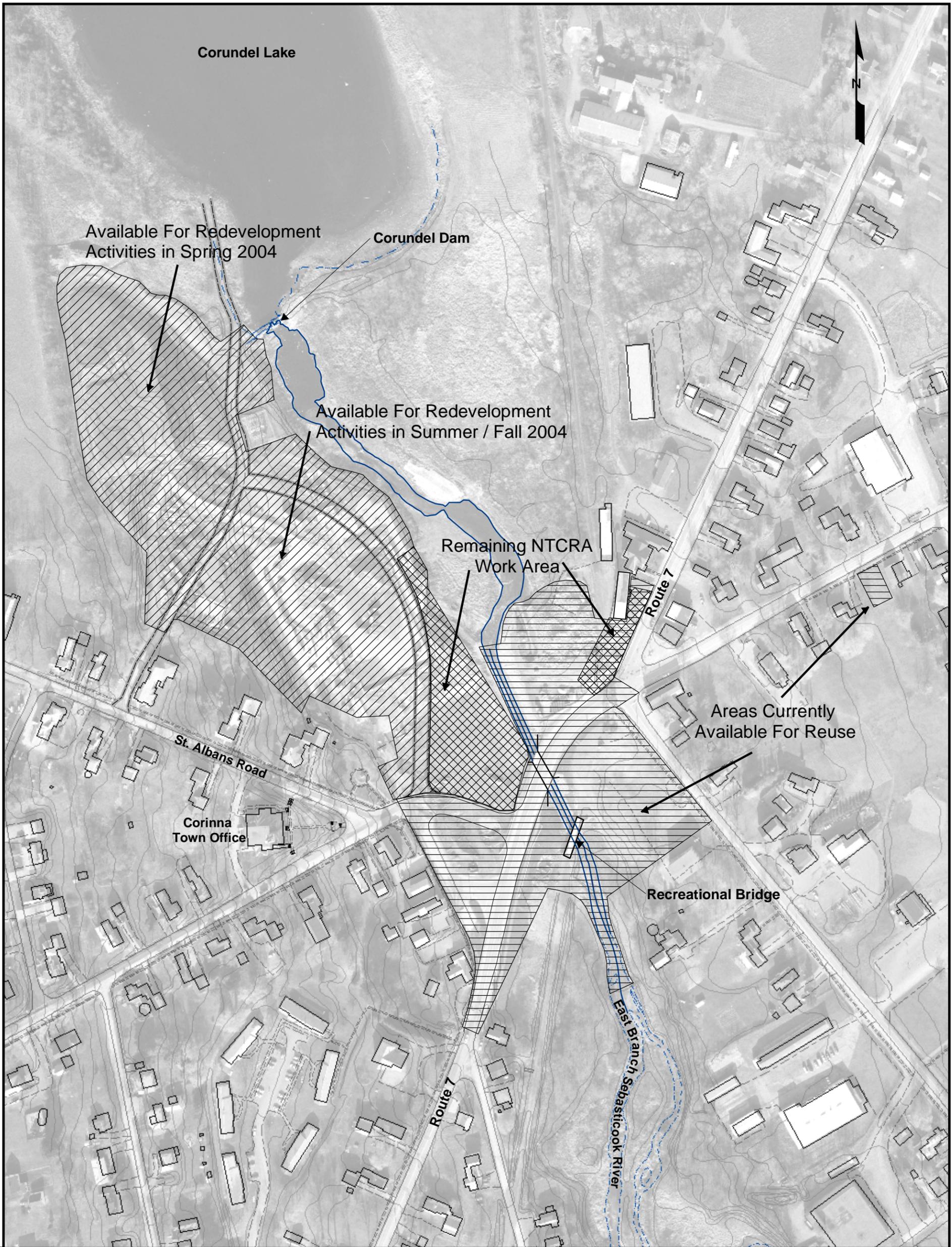


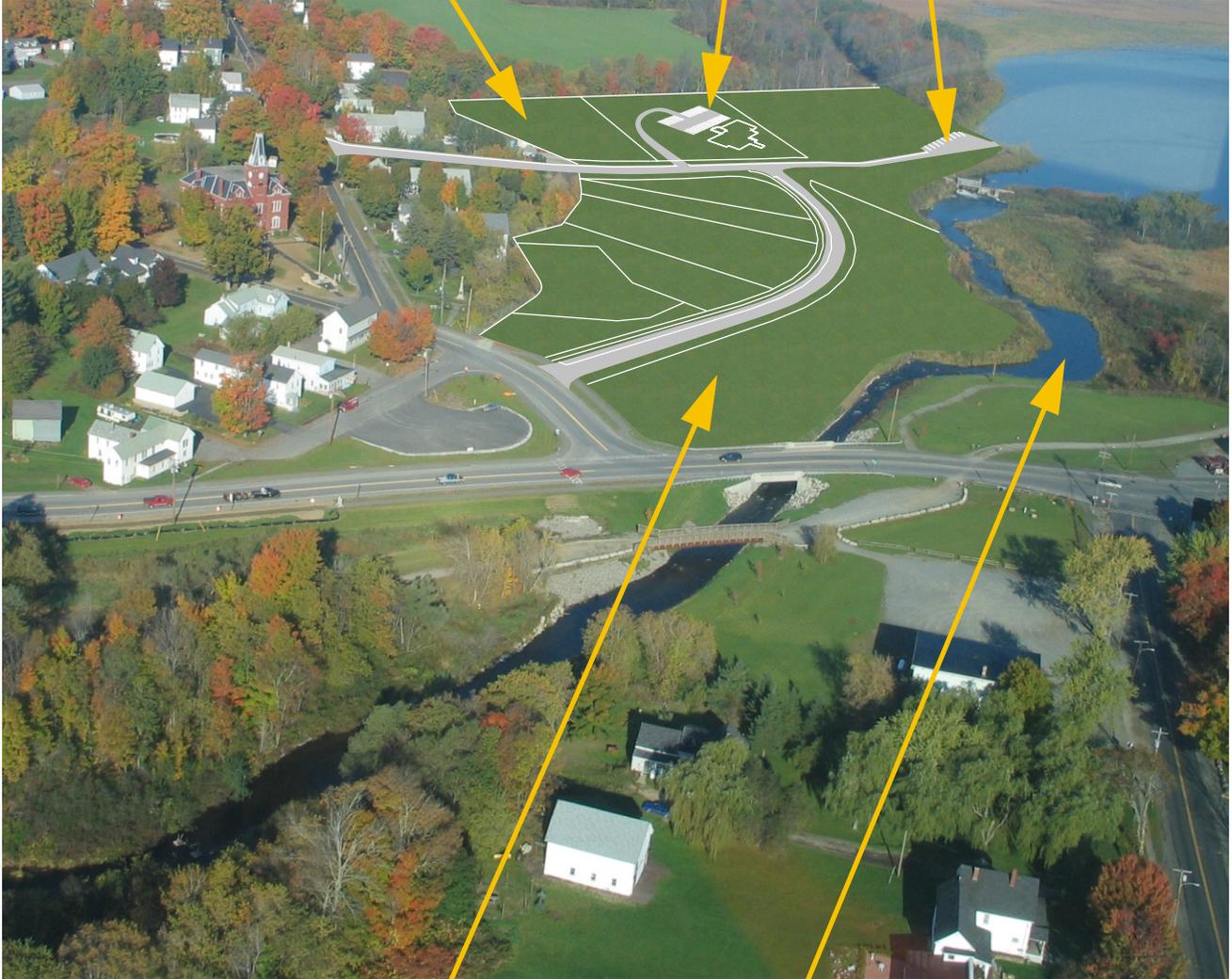
FIGURE 2
LAND AVAILABLE FOR REUSE IN 2004

EASTLAND WOOLEN MILL SITE
CORINNA, MAINE

**Building
Lots**

**Future Senior
Housing**

**Boat
Launch**



**Green Space and
River Access**

**Sebasticook
River**

**FIGURE 3
CORINNA RE-DEVELOPMENT**

**EASTLAND WOOLEN MILL SITE
CORINNA, MAINE**

EBSR River Sediments and Flood plain Soils and Old Dump (Operable Unit II):

During 2003, EPA performed a series of investigations that were designed to refine the assessment of the ecological impacts at the Site. The investigations included:

- ◆ A survey of the benthic community in contaminated and uncontaminated locations. The benthic community is composed of organisms that live on or in the sediment or bottom of a water body.
- ◆ A survey of the pelagic community in contaminated and uncontaminated locations. The pelagic community is composed of the plants and animals that live in the water above the sediment.
- ◆ Earthworm surveys.
- ◆ Collection and analysis of crayfish tissue to complete the fish and mussel tissue data base.

The preliminary results of these investigations reveal that there is no appreciable accumulation of dieldrin in the crayfish tissue. This is similar to the result obtained from the fish and mussel sampling programs that had been previously completed at the Site. In addition, the benthic community was found to be more abundant than would be expected based upon the levels of contamination detected in the sediment. **Figures 4 and 5** show the locations of the crayfish and benthic samples.

A supplemental Remedial Investigation Report and revised Ecological Risk Assessment Report will be issued in 2004 to document the studies and the results. Once the report is complete, EPA will release a proposal for the long-term cleanup approach for OU II.

2004 Site Activities:

- ◆ Final grading and restoration of early cleanup areas.
- ◆ Begin in-situ treatment of remaining source areas.
- ◆ Continue design of the groundwater cleanup action.
- ◆ Release of the river sediment and flood plain supplemental Remedial Investigation Report and revised Ecological Risk Assessment Report.
- ◆ Release of the proposed long-term cleanup plan for the EBSR sediments and flood plain soil (including the Old Dump).

If you have questions or concerns about the Eastland Woolen Mill Superfund Site, please contact one of the following officials:

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All of the Site information is available for public review at the Corinna Town Library or EPA Record Center in Boston, MA

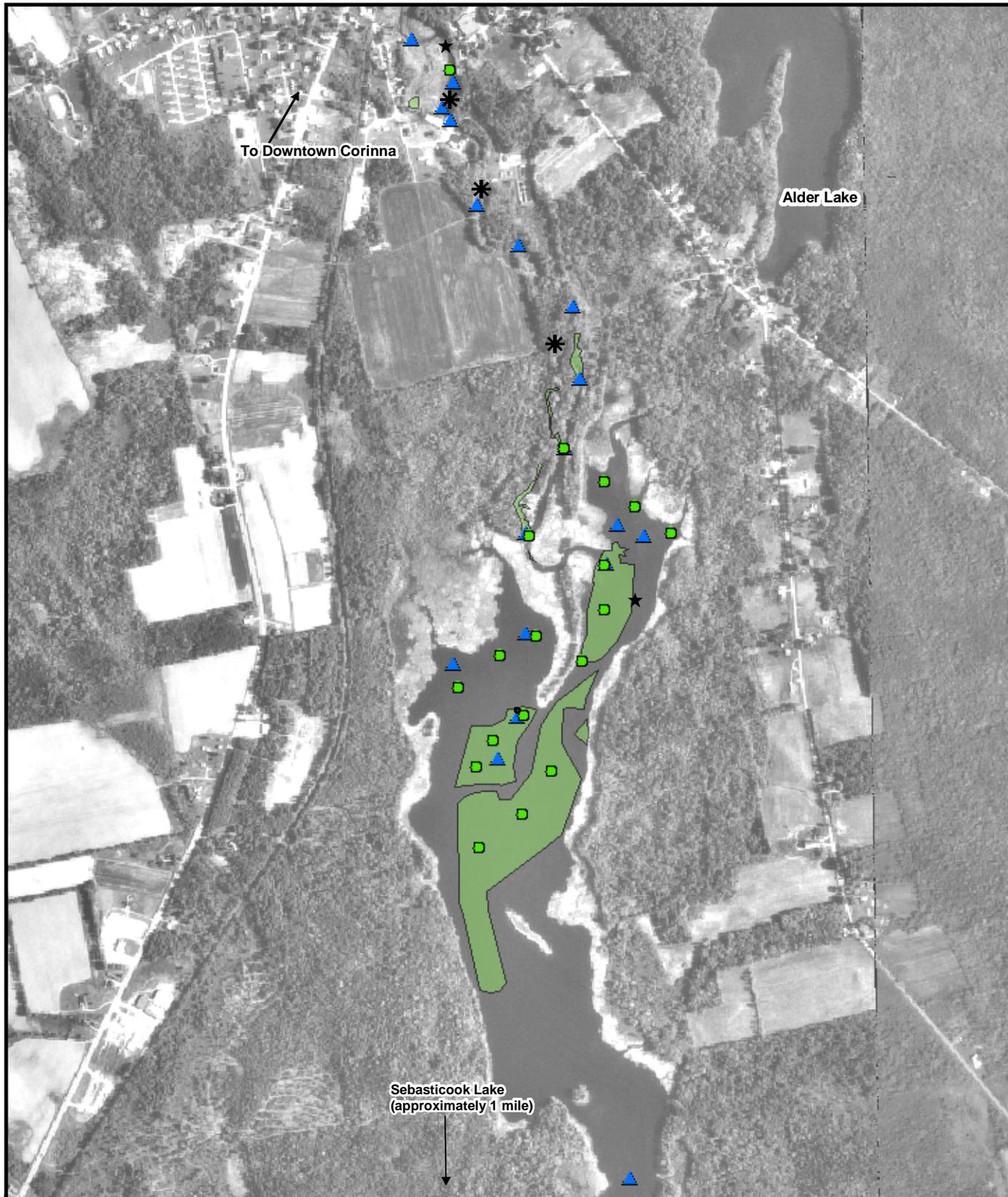
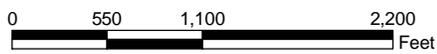
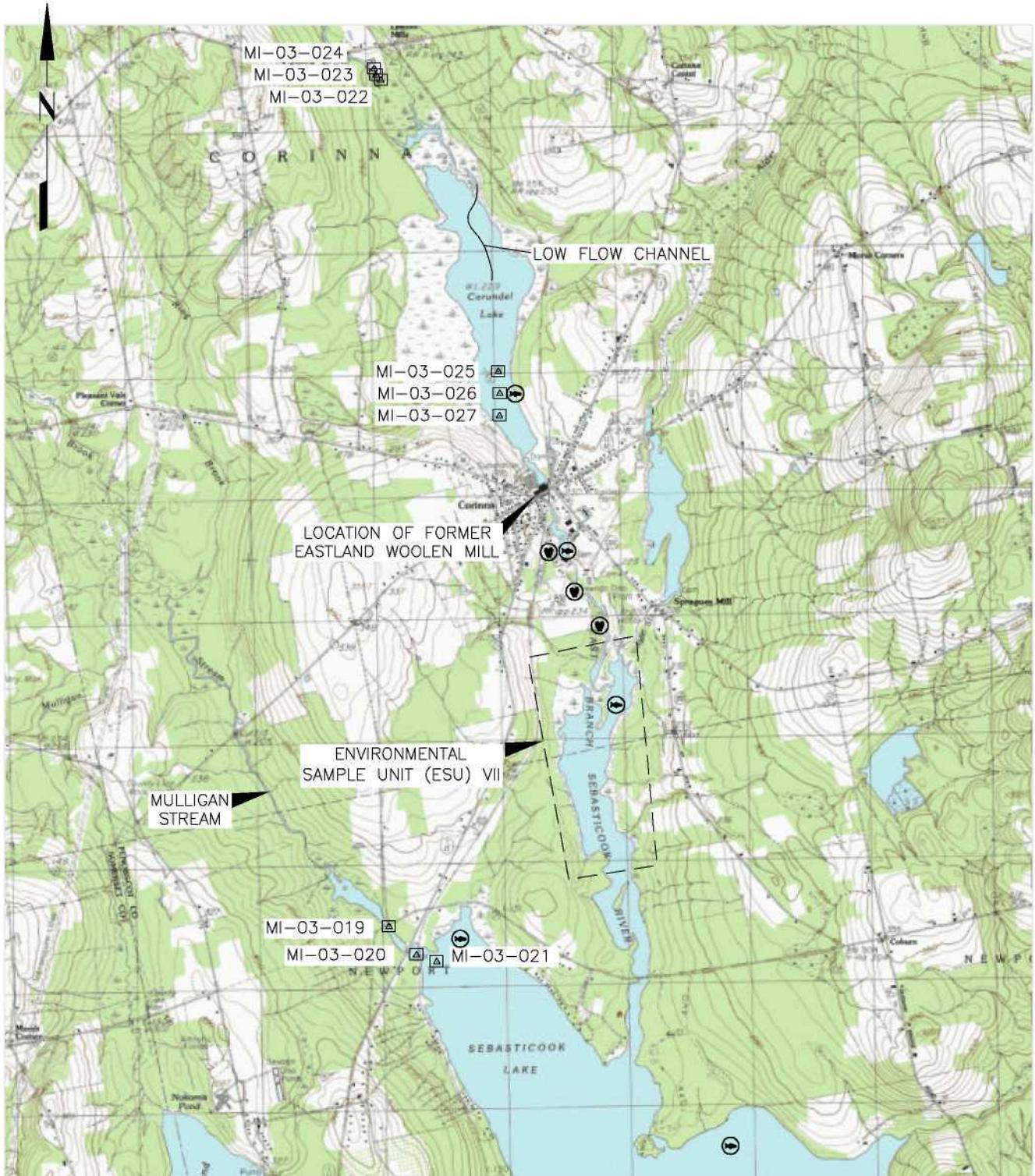


Figure 4
Location of Biota Samples



- Legend**
- ▲ Crayfish Sample
 - Benthic Macroinvertebrate Sample
 - Areas containing levels of contaminants that could potentially impact the environment
 - ★ Fish Tissue Sample
 - ✱ Mussel Tissue Sample

Eastland Woolen Mill Site
Corinna, Maine



LEGEND

- △ Location of Macroinvertebrate Sample (Reference Location)
- ⊕ Location of Fish Sample
- ⊙ Location of Freshwater Mussel Sample

NOTES:

1. REFERENCE LOCATION FOR FRESHWATER MUSSEL SAMPLE (LINCOLN MILLS) NOT SHOWN.
2. MAP SOURCE: USGS DEXTER, GARLAND, CORINNA, STETSON, NEWPORT, AND PLYMOUTH, ME. 7.5 MINUTE QUADRANGLES.
3. SEE FIGURES IN SECTION 4.0 FOR LOCATIONS OF SAMPLES ON THE SITE.



Approximate Scale in feet

**FIGURE 5
SITE AND REFERENCE SAMPLE LOCAITON MAP**

**EASTLAND WOOLEN MILL SITE
CORINNA, MAINE**