

Alaska State & Tribal Response Program Brownfield Handbook



Alaska Department of
Environmental Conservation
Reuse and Redevelopment Program

December 2012

Alaska State & Tribal Response Program Brownfield Handbook

Alaska Department of Environmental Conservation
Contaminated Sites Program
Reuse & Redevelopment Program

John B. Carnahan
Brownfield Coordinator

Sonja L. Benson
Brownfield Program Specialist

Melinda S. Brunner
Brownfield Program Specialist

Developed initially for the

Alaska State and Tribal Response Program
Brownfield Workshop

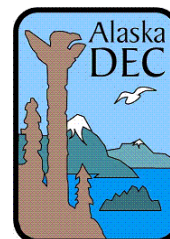
Fairbanks, Alaska

December 10-11, 2008

With updates December 2010, November 2011, and December 2012



*This project made possible by funding through
Alaska's EPA State Response Program Grant*



Alaska Brownfield Program Handbook

Table of Contents

1. Introductory Information
 - 1.1. Introduction
 - 1.2. Brownfield Background and History
 - 1.3. Brownfield Legislation

2. State and Tribal Response Programs
 - 2.1. Goals and Objectives of STRP funding
 - 2.2. EPA Tribal Report 2008
 - 2.3. The Four Elements at a Glance
 - 2.4. EPA Guidance for STRP Grants FY09--Page 1 (Full version on CD)
 - 2.5. Region 10 STRP Template Example FY09—Pages 1-2 (Full version on CD)

3. Alaska State Response Program
 - 3.1. R&R Goals and Objectives
 - 3.2. R&R Fact Sheet
 - 3.3. Alaska Regional Framework
 - 3.4. Example Alaska Projects (site summaries—RESERVED)

4. Alaska Tribal Response Programs
 - 4.1. Anvik Tribal Council (*Now part of GASH, see 4.19*)
 - 4.2. Bristol Bay Native Association
 - 4.3. Kasaan, Organized Village
 - 4.4. Maniilaq Association (*Inactive*)
 - 4.5. Metlakatla Indian Community
 - 4.6. Middle Kuskokwim Consortium (*Inactive*)
 - 4.7. Nelson Island Consortium – Native Village of Tununak
 - 4.8. Port Heiden Native Council
 - 4.9. Tangirnaq Native Village aka Woody Island
 - 4.10. Yakutat Tlingit Tribe
 - 4.11. Yukon River Inter-Tribal Watershed Council
New in 2009:
 - 4.12. Kuskokwim River Watershed Council
 - 4.13. Point Hope, Native Village (*Inactive*)
 - 4.14. Saint Michael, Native Village
 - 4.15. Tetlin Village Council
New in 2010:
 - 4.16. Alaska Native Tribal Health Consortium
 - 4.17. Central Council of Tlingit Haida Indian Tribes of Alaska

- 4.18. Eyak, Native Village
 - 4.19. Grayling, Anvik, Shageluk and Holy Cross Consortium
New in 2011:
 - 4.20. Copper River Native Association
 - 4.21. Craig Tribal Association
 - 4.22. Douglas Indian Association
 - 4.23. Hydaburg Cooperative Association
 - 4.24. Orutsararmut Native Council
New in 2012:
 - 4.25. Sun'aq Tribe of Kodiak
 - 4.26. Tazlina, Native Village
5. Brownfield Assistance and Funding
- 5.1. DEC Brownfield Assessments:
DBA Fact Sheet and DBA Request Form
 - 5.2. EPA Targeted Brownfield Assessments:
EPA TBA Fact Sheet and EPA TBA Request Form
 - 5.3. EPA Guidance for Assessment Grants FY09--Page 1
(Full version on CD)
 - 5.4. EPA Guidance for Cleanup Grants FY09--Page 1
(Full version on CD)
 - 5.5. EPA Guidance for Revolving Loan Fund Grants FY09--Page 1
(Full version on CD)
 - 5.6. EPA Guidance for Job Training Grants FY09--Page 1
(Full version on CD)
 - 5.7. EPA Guidance for Training, Research, and Technical Assistance Grants FY09--
Page 1
(Full version on CD)
 - 5.8. EPA Guidance for Tribal Solid Waste Management Assistance Project Grants
FY09--Page 1
(Full version on CD)
 - 5.9. Other Opportunities (HUD, ICDBGs, USDA, etc.—RESERVED)
6. The Cleanup Process
- 6.1. Cleanup Process Fact Sheet
 - 6.2. The Conceptual Site Model
 - 6.3. The Risk Assessment
 - 6.4. Phase 1 - Environmental Site Assessment (ASTM Standard E1527-05)
 - 6.5. Phase 2 - Site Characterization Process (as per 18 AAC 75-78)
 - 6.6. Phase 3 - Cleanup and Corrective Action (RESERVED)
 - 6.7. Basic Analytical Testing Requirements (RESERVED)

7. Resources

- 7.1. [Brownfield Resources: Web Page Listings and Selected Pages](#)
- 7.2. [DEC Contaminated Sites Database Search](#)
- 7.3. [Newsletters \(RESERVED\)](#)
- 7.4. [Training and Conference Information](#)
- 7.5. [Mapping – Google Earth User’s Guide](#)
- 7.6. [Contact Information](#)

8. Community Gardens

- 8.1 [Brownfields and Urban Agriculture: Interim Guidance for Safe Gardening Practices \(EPA 2011\)](#)
- 8.2 [“So You Want to Start a Community Garden in Alaska?” – Presentation by Heidi Rader of the University of Alaska Fairbanks Cooperative Extension Service](#)

9. (RESERVED)

10.(RESERVED)

Compact Disk Contents

Google Information

- [Google Earth User Guide](#)
- [Google Earth Win.exe \(application\)](#)

Handbook Materials

(to provide full versions of long documents or interactive forms)

- [1.3 Federal Brownfield Legislation HR 2869.pdf](#)
- [2.4 EPA Guidance for STRP Grants FY09.pdf](#)
- [2.5 Region 10 STRP Template Example FY09.doc](#)
- [5.1 DBA Request Form.doc](#)
- [5.2 EPA TBA Request Form.doc](#)
- [5.3 FY09 Guidelines for Brownfield Assessment Grants.pdf](#)
- [5.4 FY09 Guidelines for Brownfields Cleanup Grants.pdf](#)
- [5.5 FY09 Guidelines for Brownfields RLF Grants.pdf](#)
- [5.6 FY09 Guidelines for Brownfields Job Training Grants.pdf](#)
- [5.7 FY09 Guidelines for Training Research and Tech Assistance Grants.pdf](#)
- [5.8 FY09 Guidelines for Tribal Solid Waste Mgt Assistance Project Grants.pdf](#)
- [6.2-6.3 DEC Eco Scoping Guidance 2007.pdf](#)
- [6.2 DEC CSM Draft Guidance 2005.pdf](#)
- [6.2 DEC CSM Graphic Form.pdf](#)
- [6.2 DEC CSM Scoping Form.pdf](#)
- [6.3 DEC DRAFT Risk Assessment Procedures Manual-Nov2005.pdf](#)

Other References

18 AAC 75 Article 3.pdf (DEC's Cleanup Rules – “The Regs”)

Abbreviations and Acronyms List.docx

ATSDR Glossary.docx

C Site Documentation Form.docx

Job Training Grants FAQs.pdf

Introductory Information

State and Tribal Response Programs

Alaska State Response Programs

Alaska Tribal Response Programs

Brownfield Assistance and Funding

The Cleanup Process

Resources

Community Gardens

(RESERVED)

(RESERVED)

1. Introductory Information

1.1. Introduction

1.2. Brownfield Background and History

1.3. Brownfield Legislation

Introduction

What this handbook is:

The purpose of this handbook is to provide a resource to assist new and veteran Tribal Response Program (TRP) grant managers in their roles as grant administrators and environmental specialists. It is intended to help individuals better understand the world of brownfields, develop their programs, and coordinate with both the Alaska Department of Environmental Conservation (DEC) and the U.S. Environmental Protection Agency (EPA). The State & Tribal Response Program (STRP) grant program covers a lot of ground, and it can be difficult to keep track of the many different tasks and requirements associated with this grant.

This handbook is meant to be an individual working document and resource. Individual grant managers are encouraged to update information as it becomes available and incorporate new chapters as necessary. Please share pertinent information that you come across with the brownfield community in Alaska. DEC intends to provide supplementary materials as they are developed, and will notify and post the information for TRP managers as it becomes available.

What this handbook is not:

This handbook is not meant to be a comprehensive guidance manual of everything you need to know as a TRP grant manager. Each program manager essentially controls how their program will operate and what their objectives and priorities are; our goal is to simply help you do that. We don't expect you to agree with everything we say or propose, but we are striving to maximize our capacity to efficiently use limited brownfield funding in Alaska. Any time we can spend helping you do your job more effectively is less time you have to spend reinventing the wheel.

We invite your ideas, updates, and inserts to this handbook. Please contact us with any information that you would like to share with other TRP grant managers and we can help you to do that. This is our community, and it is what we make of it.

A special thanks to the following people for helping us put this handbook together:

Tamara Cardona-Marek – *Environmental Program Specialist*

Marti Early – *Community Involvement Specialist*

Ann Farris – *Environmental Engineer Associate*

Latrisha “Trish” Jennings – *Administrative Clerk*

Mitzi Read – *Environmental Program Technician*

Janice Wiegers – *Environmental Program Specialist*

Thank you,

John B. Carnahan

DEC Brownfield Coordinator

Sonja L. Benson

Brownfield Program Specialist

Deborah L. Williams

Brownfield Program Specialist

Brownfield Background and History

What do you think of when you hear the word “brownfield”? Are you confused about how they seem to be viewed more as old industrial sites and gas stations rather than the types of brownfields found in rural Alaska? Do you have contaminated sites in your community? Is anything being done to clean up these sites? How do these sites affect the adjacent land? How do they affect your ability to use that site, or the land, or the water around that site? Could they impact groundwater or surface water and affect your subsistence activities? These are some of the questions and problems that led to brownfields legislation; something *is* being done.

Think of brownfields as “land recycling.” Where we (as a society) have neglected or ignored contaminated property and left it to ruin, we are now attempting to identify new and compatible uses for that property. Where we were once primarily concerned with cleaning up contaminated property to the most stringent cleanup levels, we are now able to better define *risk to receptors* and establish the necessary controls to manage contamination and site activities on a property. Where we were once unconcerned with the effect of a contaminated property on adjacent properties, such as the lost usability of the property, decreased property value, and the societal problems that can be associated with abandoned and run-down facilities, we are now taking an active role in facilitating reasonable and sustainable redevelopment.

What are Brownfields?

A brownfield site is generally defined by the U.S. Environmental Protection Agency (EPA) as "real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant or contaminant..."

At one time an estimated 600,000 properties once used for industrial, manufacturing, or commercial purposes were lying abandoned or underused because of the suspicion of hazardous substance contamination. People observed that these “brownfield” areas devalued surrounding properties and contributed greatly to blight and joblessness in their communities. The resulting economic and social downward spiral was not acceptable to community leaders and was devastating to individuals – and the majority of those affected had nothing to do with the contamination in the first place.

We have similar sites throughout urban Alaska – at our airports, in our industrial areas, in our commercial business districts, but brownfields also are found in rural areas. The number of underutilized Alaska properties that fit the brownfield description is probably in the thousands. The concern with these sites is compounded by Alaska’s development history of placing industrial and commercial activities alongside residential developments. In rural Alaska, the logistics are costly and complicated, with many communities off the road system and only accessible by air or water transportation.

It is frequently the unknown environmental liabilities that prevent communities, developers, and investors from restoring these properties to productive use. In rural Alaska people have been concerned with the health effects of environmental contamination on subsistence resources, sometimes even causing them to question the safety of using traditional hunting and gathering places.

Environmental cleanup has been perceived as a financial “black hole,” making the problem easier to ignore. Given the choice between action and no action, many responsible parties simply let the problem sit. Lacking financial resources to take on all cleanups, regulatory agencies and communities were at a standstill, suffering from the lack of action, yet financially powerless to remedy the situation. As such, the regulatory agencies have historically focused their attention on those sites posing the greatest risk to human health and the environment. For all practical purposes, the rest of the abandoned sites would have to take a backseat.

In the early 1990s, the federal government and the states began to focus their attention on the problems associated with brownfields.

Introduction of Brownfield Legislation

In 1994, the U.S. Environmental Protection Agency (EPA) introduced an environmental protection approach based on local initiative, encouraging strong public-private partnering, and promoting innovative and creative ways to assess, clean up, and redevelop brownfield sites. This new approach empowers state, tribal, and local environmental and economic development organizations to coordinate and manage brownfield projects. EPA also has provided funding to create local environmental job-training programs to ensure that the economic benefits of brownfield revitalization remain in local neighborhoods. A strong focus of this new, *brownfield* program is local control, local oversight, local contractors, and local solutions. EPA was helping the

states to implement their own solutions, by providing a “brownfield tool box” to work on brownfield problems. The key to brownfield revitalization is understanding that a viable and safe environmental remedy only works when it incorporates not only risk, but liability, land use, economics, and sustainability – something that has often been missing in environmental decision making.

The Federal Brownfields Law

On January 11, 2002, the President signed into law *The Small Business Liability Relief and Brownfields Revitalization Act* (P.L. 107-118), the federal “Brownfields Law.” The Brownfields Law expands potential federal assistance for brownfield revitalization, including grants for assessment, cleanup and job training.

The two major functions of this legislation are: (1) to provide funding to state and tribal governments to redevelop specific brownfield sites and to enhance their voluntary cleanup programs; and (2) to provide liability relief under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) for new purchasers, property owners, and others who conduct cleanups under voluntary cleanup programs, as well as for those owners of property that are affected by contamination migrating from adjacent sites.

Legislation was later enacted to further define the term “brownfield site” to include a site that “is contaminated by a controlled substance...; is contaminated by petroleum or a petroleum product excluded from the definition of ‘hazardous substance’...; is mine-scarred land.” More funding was being made available for more sites, and the funding included training opportunities, grants, and revolving loan programs.

Liability Relief

Possibly the most important provision of the brownfield legislation is the one that provides immunity from CERCLA liability for purchasers of contaminated property. Liability is generally applied jointly and severally – meaning that if you are involved in the ownership history of a site, you may be held liable for the entire site cleanup, regardless of whether you contributed to the contamination. The “innocent landowner” defense previously incorporated into CERCLA only protected an owner if they were unaware of the contamination on the site. As such, this legislation is important to enable the purchase of contaminated properties. Associated with this limitation of liability

are strict requirements for the purchaser, generally including (but not limited to):

- ◆ Fulfilling all appropriate inquiry requirements;
- ◆ Exercising appropriate care to limit and correct problems;
- ◆ Full cooperation with regulatory oversight agencies;
- ◆ Compliance with all land-use restrictions; and
- ◆ No corporate or family relationship to a potential responsible party.

Since sites posing the greatest risk are generally more difficult to remediate, they consequently take longer to clean up. With the large number of “priority” sites under remedial action, regulatory staff spend more time on sites that will not close over the short term, and much less time on sites that could more easily and quickly reach closure.

Responsible parties for sites that regulators perceive as having less risk (i.e., no receptors in the immediate vicinity), may not be forced to conduct substantial assessment or cleanup, since they have historically prioritized low. These sites have often been left idle until a property transaction occurs, elevating the status of the site and demanding action. The result is a perpetuating dilemma of a large number of unclosed, vacant, less risky sites. Liability relief can be an important tool to freeing up many sites for reuse.

Note: Although liability relief is available through CERCLA, the state of Alaska still has strict, joint and several liability requirements that are not affiliated with CERCLA authority. In order to relieve a potential purchaser from liability, they must obtain approval for liability limitation from the state through a *Prospective Purchaser Agreement* (PPA). The state attorney general is the only entity that can relieve any responsible party from liability.

Summary of Brownfield Law Provisions

The following summarizes the significant elements of the brownfield legislation:

1. Protection from CERCLA liability for purchasers (and tenants) of property that meets certain requirements (**this is federal protection only, NOT state of Alaska protection**);
2. A bar against federal enforcement of CERCLA against any person – *including any party who owned or operated property at the time of a release* – who cleans up a property under a state voluntary cleanup program.

3. Protection from CERCLA liability for property owners who have been affected by adjacent contaminated sites. **(This is federal protection only, not state protection)**
4. Clarification of the “all appropriate inquiry” standard, which is currently under review for public comment.
5. Provision of federal grants every year to states and tribes to build and develop their oversight programs. **(This is the State and Tribal Response Program Funding)**
6. Provision of direct grants to local governments, regional authorities, and states for assessment and cleanup. **(These are the assessment, revolving loan fund, cleanup, and training grants)**

The intent of EPA was not to simply repackage all contaminated sites with its legislation – the goal was to focus on those underutilized, abandoned, or stagnant sites for which few remedies appeared available to restore *sustainable* economic viability. It was also not intended as a means to provide emergency funding for critical situations. Thus, the definition of “brownfield” excludes sites subject to a corrective action or an enforcement order, or sites that are federally owned.

DEC staff has been applying general brownfield principles into our oversight process for some sites. Although not all sites meet the federal definition of “brownfield,” nearly all private site cleanups are conducted voluntarily, and often are initiated as a result of a sale with development plans. When determining cleanup requirements we consider the risk of exposure, which incorporates future land-use into the decision process. We coordinate between the property owner and the purchaser, and often work with the bank to keep them informed of our progress. The result is a partnership between the regulatory agency and the regulated community, which should be applied when appropriate to any site – not only brownfield sites.

The Brownfield Community

The interest in brownfields extends far beyond DEC. DEC plays an important part simply because the sites require cleanup, and DEC establishes the rules under which cleanup is complete. However, brownfield legislation is driven as much by economics as by environmental concerns.

Why care about brownfield redevelopment? For many reasons, including the following:

- ◆ Many brownfield properties are in ideal locations, near city centers, transportation, industrial corridors, and waterfronts;
- ◆ Many have facilities and infrastructure that can be reused;
- ◆ Many cost less to purchase;
- ◆ Some could be eligible for benefits or incentives such as federal tax programs or state assistance (if developed);
- ◆ The rebound of adjacent property values could be significant; and
- ◆ Creation of new jobs.

Since its inception in 1995, EPA's Brownfields Program has grown into a proven, results-oriented program that has changed the way contaminated property is perceived, addressed, and managed. Brownfields grants continue to serve as the foundation of EPA's Brownfields Program. These grants support revitalization efforts by funding environmental assessment, cleanup, and job training activities. EPA's investment in the Brownfields Program has resulted in the leveraging of more than \$6.5 billion in brownfields cleanup and redevelopment funding from the private and public sectors and creating approximately 25,000 new jobs.

Brownfield redevelopment results in overall improved quality of life and the preservation of green space. In Alaska DEC's Contaminated Sites Program has established clear cleanup standards that must be met to ensure the safe reuse of brownfields and other contaminated sites. In some cases, state funding may be available to assist with assessment and sometimes remediation of brownfield sites. DEC's Brownfield Program will continue to look to the future and work with EPA to expand the types of properties we address, form new partnerships, and create new initiatives to help revitalize communities throughout Alaska.

References:

EPA website: <http://www.epa.gov/brownfields/sblrbra.htm>

H.R.2869

**One Hundred Seventh Congress
of the
United States of America
AT THE FIRST SESSION**

Begun and held at the City of Washington on Wednesday, the third day of January, two thousand and one

An Act -- To provide certain relief for small businesses from liability under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, and to amend such Act to promote the cleanup and reuse of brownfields, to provide financial assistance for brownfields revitalization, to enhance State response programs, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the `Small Business Liability Relief and Brownfields Revitalization Act'.

TITLE I--SMALL BUSINESS LIABILITY PROTECTION

SEC. 101. SHORT TITLE.

This title may be cited as the `Small Business Liability Protection Act'.

SEC. 102. SMALL BUSINESS LIABILITY RELIEF.

(a) EXEMPTIONS- Section 107 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. 9607) is amended by adding at the end the following new subsections:

`(o) DE MICROMIS EXEMPTION-

`(1) IN GENERAL- Except as provided in paragraph (2), a person shall not be liable, with respect to response costs at a facility on the National Priorities List, under this Act if liability is based solely on paragraph (3) or (4) of subsection (a), and the person, except as provided in paragraph (4) of this subsection, can demonstrate that--

`(A) the total amount of the material containing hazardous substances that the person arranged for disposal or treatment of, arranged with a transporter for transport for disposal or treatment of, or accepted for transport for disposal or treatment, at the facility was less than 110 gallons of liquid materials or less than 200 pounds of solid materials (or such greater or lesser amounts as the Administrator may determine by regulation); and

`(B) all or part of the disposal, treatment, or transport concerned occurred before April 1, 2001.

`(2) EXCEPTIONS- Paragraph (1) shall not apply in a case in which--

`(A) the President determines that--

ˆ (i) the materials containing hazardous substances referred to in paragraph (1) have contributed significantly or could contribute significantly, either individually or in the aggregate, to the cost of the response action or natural resource restoration with respect to the facility; or

ˆ (ii) the person has failed to comply with an information request or administrative subpoena issued by the President under this Act or has impeded or is impeding, through action or inaction, the performance of a response action or natural resource restoration with respect to the facility; or

ˆ (B) a person has been convicted of a criminal violation for the conduct to which the exemption would apply, and that conviction has not been vitiated on appeal or otherwise.

ˆ (3) NO JUDICIAL REVIEW- A determination by the President under paragraph (2)(A) shall not be subject to judicial review.

ˆ (4) NONGOVERNMENTAL THIRD-PARTY CONTRIBUTION ACTIONS- In the case of a contribution action, with respect to response costs at a facility on the National Priorities List, brought by a party, other than a Federal, State, or local government, under this Act, the burden of proof shall be on the party bringing the action to demonstrate that the conditions described in paragraph (1)(A) and (B) of this subsection are not met.

ˆ (p) MUNICIPAL SOLID WASTE EXEMPTION-

ˆ (1) IN GENERAL- Except as provided in paragraph (2) of this subsection, a person shall not be liable, with respect to response costs at a facility on the National Priorities List, under paragraph (3) of subsection (a) for municipal solid waste disposed of at a facility if the person, except as provided in paragraph (5) of this subsection, can demonstrate that the person is--

ˆ (A) an owner, operator, or lessee of residential property from which all of the person's municipal solid waste was generated with respect to the facility;

ˆ (B) a business entity (including a parent, subsidiary, or affiliate of the entity) that, during its 3 taxable years preceding the date of transmittal of written notification from the President of its potential liability under this section, employed on average not more than 100 full-time individuals, or the equivalent thereof, and that is a small business concern (within the meaning of the Small Business Act (15 U.S.C. 631 et seq.)) from which was generated all of the municipal solid waste attributable to the entity with respect to the facility; or

ˆ (C) an organization described in section 501(c)(3) of the Internal Revenue Code of 1986 and exempt from tax under section 501(a) of such Code that, during its taxable year preceding the date of transmittal of written notification from the President of its potential liability under this section, employed not more than 100 paid individuals at the location from which was generated all of the municipal solid waste attributable to the organization with respect to the facility.

For purposes of this subsection, the term 'affiliate' has the meaning of that term provided in the definition of 'small business concern' in regulations promulgated by the Small Business Administration in accordance with the Small Business Act (15 U.S.C. 631 et seq.).

ˆ (2) EXCEPTION- Paragraph (1) shall not apply in a case in which the President determines that--

ˆ (A) the municipal solid waste referred to in paragraph (1) has contributed significantly or could contribute significantly, either individually or in the aggregate, to the cost of the response action or natural resource restoration with respect to the facility;

ˆ (B) the person has failed to comply with an information request or administrative subpoena issued by the President under this Act; or

ˆ (C) the person has impeded or is impeding, through action or inaction, the performance of a response action or natural resource restoration with respect to the facility.

ˆ (3) NO JUDICIAL REVIEW- A determination by the President under paragraph (2) shall not be subject to judicial review.

ˆ (4) DEFINITION OF MUNICIPAL SOLID WASTE-

- ˆ (A) IN GENERAL- For purposes of this subsection, the term 'municipal solid waste' means waste material--
 - ˆ (i) generated by a household (including a single or multifamily residence); and
 - ˆ (ii) generated by a commercial, industrial, or institutional entity, to the extent that the waste material--
 - ˆ (I) is essentially the same as waste normally generated by a household;
 - ˆ (II) is collected and disposed of with other municipal solid waste as part of normal municipal solid waste collection services; and
 - ˆ (III) contains a relative quantity of hazardous substances no greater than the relative quantity of hazardous substances contained in waste material generated by a typical single-family household.
- ˆ (B) EXAMPLES- Examples of municipal solid waste under subparagraph (A) include food and yard waste, paper, clothing, appliances, consumer product packaging, disposable diapers, office supplies, cosmetics, glass and metal food containers, elementary or secondary school science laboratory waste, and household hazardous waste.
- ˆ (C) EXCLUSIONS- The term 'municipal solid waste' does not include--
 - ˆ (i) combustion ash generated by resource recovery facilities or municipal incinerators; or
 - ˆ (ii) waste material from manufacturing or processing operations (including pollution control operations) that is not essentially the same as waste normally generated by households.
- ˆ (5) BURDEN OF PROOF- In the case of an action, with respect to response costs at a facility on the National Priorities List, brought under section 107 or 113 by--
 - ˆ (A) a party, other than a Federal, State, or local government, with respect to municipal solid waste disposed of on or after April 1, 2001; or
 - ˆ (B) any party with respect to municipal solid waste disposed of before April 1, 2001, the burden of proof shall be on the party bringing the action to demonstrate that the conditions described in paragraphs (1) and (4) for exemption for entities and organizations described in paragraph (1)(B) and (C) are not met.
- ˆ (6) CERTAIN ACTIONS NOT PERMITTED- No contribution action may be brought by a party, other than a Federal, State, or local government, under this Act with respect to circumstances described in paragraph (1)(A).
- ˆ (7) COSTS AND FEES- A nongovernmental entity that commences, after the date of the enactment of this subsection, a contribution action under this Act shall be liable to the defendant for all reasonable costs of defending the action, including all reasonable attorney's fees and expert witness fees, if the defendant is not liable for contribution based on an exemption under this subsection or subsection (o).'
- (b) EXPEDITED SETTLEMENT- Section 122(g) of such Act (42 U.S.C. 9622(g)) is amended by adding at the end the following new paragraphs:
 - ˆ (7) REDUCTION IN SETTLEMENT AMOUNT BASED ON LIMITED ABILITY TO PAY--
 - ˆ (A) IN GENERAL- The condition for settlement under this paragraph is that the potentially responsible party is a person who demonstrates to the President an inability or a limited ability to pay response costs.
 - ˆ (B) CONSIDERATIONS- In determining whether or not a demonstration is made under subparagraph (A) by a person, the President shall take into consideration the ability of the person to pay response costs and still maintain its basic business operations, including consideration of the overall financial condition of the person and demonstrable constraints on the ability of the person to raise revenues.
 - ˆ (C) INFORMATION- A person requesting settlement under this paragraph shall promptly provide the President with all relevant information needed to determine the ability of the person to pay response costs.
 - ˆ (D) ALTERNATIVE PAYMENT METHODS- If the President determines that a person is unable to pay its total settlement amount at the time of settlement, the President shall consider such alternative payment methods as may be necessary or appropriate.

ˆ (8) ADDITIONAL CONDITIONS FOR EXPEDITED SETTLEMENTS-

ˆ (A) WAIVER OF CLAIMS- The President shall require, as a condition for settlement under this subsection, that a potentially responsible party waive all of the claims (including a claim for contribution under this Act) that the party may have against other potentially responsible parties for response costs incurred with respect to the facility, unless the President determines that requiring a waiver would be unjust.

ˆ (B) FAILURE TO COMPLY- The President may decline to offer a settlement to a potentially responsible party under this subsection if the President determines that the potentially responsible party has failed to comply with any request for access or information or an administrative subpoena issued by the President under this Act or has impeded or is impeding, through action or inaction, the performance of a response action with respect to the facility.

ˆ (C) RESPONSIBILITY TO PROVIDE INFORMATION AND ACCESS- A potentially responsible party that enters into a settlement under this subsection shall not be relieved of the responsibility to provide any information or access requested in accordance with subsection (e)(3)(B) or section 104(e).

ˆ (9) BASIS OF DETERMINATION- If the President determines that a potentially responsible party is not eligible for settlement under this subsection, the President shall provide the reasons for the determination in writing to the potentially responsible party that requested a settlement under this subsection.

ˆ (10) NOTIFICATION- As soon as practicable after receipt of sufficient information to make a determination, the President shall notify any person that the President determines is eligible under paragraph (1) of the person's eligibility for an expedited settlement.

ˆ (11) NO JUDICIAL REVIEW- A determination by the President under paragraph (7), (8), (9), or (10) shall not be subject to judicial review.

ˆ (12) NOTICE OF SETTLEMENT- After a settlement under this subsection becomes final with respect to a facility, the President shall promptly notify potentially responsible parties at the facility that have not resolved their liability to the United States of the settlement.'

SEC. 103. EFFECT ON CONCLUDED ACTIONS.

The amendments made by this title shall not apply to or in any way affect any settlement lodged in, or judgment issued by, a United States District Court, or any administrative settlement or order entered into or issued by the United States or any State, before the date of the enactment of this Act.

TITLE II--BROWNFIELDS REVITALIZATION AND ENVIRONMENTAL RESTORATION

SEC. 201. SHORT TITLE.

This title may be cited as the 'Brownfields Revitalization and Environmental Restoration Act of 2001'.

Subtitle A--Brownfields Revitalization Funding

SEC. 211. BROWNFIELDS REVITALIZATION FUNDING.

(a) DEFINITION OF BROWNFIELD SITE- Section 101 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. 9601) is amended by adding at the end the following:

ˆ (39) BROWNFIELD SITE-

- ˆ (A) IN GENERAL- The term `brownfield site' means real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant.
- ˆ (B) EXCLUSIONS- The term `brownfield site' does not include--
- ˆ (i) a facility that is the subject of a planned or ongoing removal action under this title;
 - ˆ (ii) a facility that is listed on the National Priorities List or is proposed for listing;
 - ˆ (iii) a facility that is the subject of a unilateral administrative order, a court order, an administrative order on consent or judicial consent decree that has been issued to or entered into by the parties under this Act;
 - ˆ (iv) a facility that is the subject of a unilateral administrative order, a court order, an administrative order on consent or judicial consent decree that has been issued to or entered into by the parties, or a facility to which a permit has been issued by the United States or an authorized State under the Solid Waste Disposal Act (42 U.S.C. 6901 et seq.), the Federal Water Pollution Control Act (33 U.S.C. 1321), the Toxic Substances Control Act (15 U.S.C. 2601 et seq.), or the Safe Drinking Water Act (42 U.S.C. 300f et seq.);
 - ˆ (v) a facility that--
 - ˆ (I) is subject to corrective action under section 3004(u) or 3008(h) of the Solid Waste Disposal Act (42 U.S.C. 6924(u), 6928(h)); and
 - ˆ (II) to which a corrective action permit or order has been issued or modified to require the implementation of corrective measures;
 - ˆ (vi) a land disposal unit with respect to which--
 - ˆ (I) a closure notification under subtitle C of the Solid Waste Disposal Act (42 U.S.C. 6921 et seq.) has been submitted; and
 - ˆ (II) closure requirements have been specified in a closure plan or permit;
 - ˆ (vii) a facility that is subject to the jurisdiction, custody, or control of a department, agency, or instrumentality of the United States, except for land held in trust by the United States for an Indian tribe;
 - ˆ (viii) a portion of a facility--
 - ˆ (I) at which there has been a release of polychlorinated biphenyls; and
 - ˆ (II) that is subject to remediation under the Toxic Substances Control Act (15 U.S.C. 2601 et seq.); or
 - ˆ (ix) a portion of a facility, for which portion, assistance for response activity has been obtained under subtitle I of the Solid Waste Disposal Act (42 U.S.C. 6991 et seq.) from the Leaking Underground Storage Tank Trust Fund established under section 9508 of the Internal Revenue Code of 1986.
- ˆ (C) SITE-BY-SITE DETERMINATIONS- Notwithstanding subparagraph (B) and on a site-by-site basis, the President may authorize financial assistance under section 104(k) to an eligible entity at a site included in clause (i), (iv), (v), (vi), (viii), or (ix) of subparagraph (B) if the President finds that financial assistance will protect human health and the environment, and either promote economic development or enable the creation of, preservation of, or addition to parks, greenways, undeveloped property, other recreational property, or other property used for nonprofit purposes.
- ˆ (D) ADDITIONAL AREAS- For the purposes of section 104(k), the term `brownfield site' includes a site that--
- ˆ (i) meets the definition of `brownfield site' under subparagraphs (A) through (C); and
 - ˆ (ii) (I) is contaminated by a controlled substance (as defined in section 102 of the Controlled Substances Act (21 U.S.C. 802));
 - ˆ (II)(aa) is contaminated by petroleum or a petroleum product excluded from the definition of `hazardous substance' under section 101; and

- ˆ (bb) is a site determined by the Administrator or the State, as appropriate, to be--
 - ˆ (AA) of relatively low risk, as compared with other petroleum-only sites in the State; and
 - ˆ (BB) a site for which there is no viable responsible party and which will be assessed, investigated, or cleaned up by a person that is not potentially liable for cleaning up the site; and
- ˆ (cc) is not subject to any order issued under section 9003(h) of the Solid Waste Disposal Act (42 U.S.C. 6991b(h)); or
- ˆ (III) is mine-scarred land.'.

(b) BROWNFIELDS REVITALIZATION FUNDING- Section 104 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. 9604) is amended by adding at the end the following:

ˆ (k) BROWNFIELDS REVITALIZATION FUNDING-

ˆ (1) DEFINITION OF ELIGIBLE ENTITY- In this subsection, the term `eligible entity' means--

- ˆ (A) a general purpose unit of local government;
- ˆ (B) a land clearance authority or other quasi-governmental entity that operates under the supervision and control of or as an agent of a general purpose unit of local government;
- ˆ (C) a government entity created by a State legislature;
- ˆ (D) a regional council or group of general purpose units of local government;
- ˆ (E) a redevelopment agency that is chartered or otherwise sanctioned by a State;
- ˆ (F) a State;
- ˆ (G) an Indian Tribe other than in Alaska; or
- ˆ (H) an Alaska Native Regional Corporation and an Alaska Native Village Corporation as those terms are defined in the Alaska Native Claims Settlement Act (43 U.S.C. 1601 and following) and the Metlakatla Indian community.

ˆ (2) BROWNFIELD SITE CHARACTERIZATION AND ASSESSMENT GRANT PROGRAM-

ˆ (A) ESTABLISHMENT OF PROGRAM- The Administrator shall establish a program to--

- ˆ (i) provide grants to inventory, characterize, assess, and conduct planning related to brownfield sites under subparagraph (B); and
- ˆ (ii) perform targeted site assessments at brownfield sites.

ˆ (B) ASSISTANCE FOR SITE CHARACTERIZATION AND ASSESSMENT-

- ˆ (i) IN GENERAL- On approval of an application made by an eligible entity, the Administrator may make a grant to the eligible entity to be used for programs to inventory, characterize, assess, and conduct planning related to one or more brownfield sites.
- ˆ (ii) SITE CHARACTERIZATION AND ASSESSMENT- A site characterization and assessment carried out with the use of a grant under clause (i) shall be performed in accordance with section 101(35)(B).

ˆ (3) GRANTS AND LOANS FOR BROWNFIELD REMEDIATION-

ˆ (A) GRANTS PROVIDED BY THE PRESIDENT- Subject to paragraphs (4) and (5), the President shall establish a program to provide grants to--

- ˆ (i) eligible entities, to be used for capitalization of revolving loan funds; and
- ˆ (ii) eligible entities or nonprofit organizations, where warranted, as determined by the President based on considerations under subparagraph (C), to be used directly for remediation of one or more brownfield sites owned by the entity or organization that receives the grant and in amounts not to exceed \$200,000 for each site to be remediated.

ˆ (B) LOANS AND GRANTS PROVIDED BY ELIGIBLE ENTITIES- An eligible entity that receives a grant under subparagraph (A)(i) shall use the grant funds to provide assistance for the remediation of brownfield sites in the form of--

- ˆ (i) one or more loans to an eligible entity, a site owner, a site developer, or another person; or
- ˆ (ii) one or more grants to an eligible entity or other nonprofit organization, where warranted, as determined by the eligible entity that is

providing the assistance, based on considerations under subparagraph (C), to remediate sites owned by the eligible entity or nonprofit organization that receives the grant.

ˆ (C) CONSIDERATIONS- In determining whether a grant under subparagraph (A)(ii) or (B)(ii) is warranted, the President or the eligible entity, as the case may be, shall take into consideration--

ˆ (i) the extent to which a grant will facilitate the creation of, preservation of, or addition to a park, a greenway, undeveloped property, recreational property, or other property used for nonprofit purposes;

ˆ (ii) the extent to which a grant will meet the needs of a community that has an inability to draw on other sources of funding for environmental remediation and subsequent redevelopment of the area in which a brownfield site is located because of the small population or low income of the community;

ˆ (iii) the extent to which a grant will facilitate the use or reuse of existing infrastructure;

ˆ (iv) the benefit of promoting the long-term availability of funds from a revolving loan fund for brownfield remediation; and

ˆ (v) such other similar factors as the Administrator considers appropriate to consider for the purposes of this subsection.

ˆ (D) TRANSITION- Revolving loan funds that have been established before the date of the enactment of this subsection may be used in accordance with this paragraph.

ˆ (4) GENERAL PROVISIONS-

ˆ (A) MAXIMUM GRANT AMOUNT-

ˆ (i) BROWNFIELD SITE CHARACTERIZATION AND ASSESSMENT-

ˆ (I) IN GENERAL- A grant under paragraph (2) may be awarded to an eligible entity on a community-wide or site-by-site basis, and shall not exceed, for any individual brownfield site covered by the grant, \$200,000.

ˆ (II) WAIVER- The Administrator may waive the \$200,000 limitation under subclause (I) to permit the brownfield site to receive a grant of not to exceed \$350,000, based on the anticipated level of contamination, size, or status of ownership of the site.

ˆ (ii) BROWNFIELD REMEDIATION- A grant under paragraph (3)(A)(i) may be awarded to an eligible entity on a community-wide or site-by-site basis, not to exceed \$1,000,000 per eligible entity. The Administrator may make an additional grant to an eligible entity described in the previous sentence for any year after the year for which the initial grant is made, taking into consideration--

ˆ (I) the number of sites and number of communities that are addressed by the revolving loan fund;

ˆ (II) the demand for funding by eligible entities that have not previously received a grant under this subsection;

ˆ (III) the demonstrated ability of the eligible entity to use the revolving loan fund to enhance remediation and provide funds on a continuing basis; and

ˆ (IV) such other similar factors as the Administrator considers appropriate to carry out this subsection.

ˆ (B) PROHIBITION-

ˆ (i) IN GENERAL- No part of a grant or loan under this subsection may be used for the payment of--

ˆ (I) a penalty or fine;

ˆ (II) a Federal cost-share requirement;

ˆ (III) an administrative cost;

ˆ (IV) a response cost at a brownfield site for which the recipient of the grant or loan is potentially liable under section 107; or

- ` (V) a cost of compliance with any Federal law (including a Federal law specified in section 101(39)(B)), excluding the cost of compliance with laws applicable to the cleanup.
- ` (ii) EXCLUSIONS- For the purposes of clause (i)(III), the term 'administrative cost' does not include the cost of--
 - ` (I) investigation and identification of the extent of contamination;
 - ` (II) design and performance of a response action; or
 - ` (III) monitoring of a natural resource.
- ` (C) ASSISTANCE FOR DEVELOPMENT OF LOCAL GOVERNMENT SITE REMEDIATION PROGRAMS- A local government that receives a grant under this subsection may use not to exceed 10 percent of the grant funds to develop and implement a brownfields program that may include--
 - ` (i) monitoring the health of populations exposed to one or more hazardous substances from a brownfield site; and
 - ` (ii) monitoring and enforcement of any institutional control used to prevent human exposure to any hazardous substance from a brownfield site.
- ` (D) INSURANCE- A recipient of a grant or loan awarded under paragraph (2) or (3) that performs a characterization, assessment, or remediation of a brownfield site may use a portion of the grant or loan to purchase insurance for the characterization, assessment, or remediation of that site.
- ` (5) GRANT APPLICATIONS-
 - ` (A) SUBMISSION-
 - ` (i) IN GENERAL-
 - ` (I) APPLICATION- An eligible entity may submit to the Administrator, through a regional office of the Environmental Protection Agency and in such form as the Administrator may require, an application for a grant under this subsection for one or more brownfield sites (including information on the criteria used by the Administrator to rank applications under subparagraph (C), to the extent that the information is available).
 - ` (II) NCP REQUIREMENTS- The Administrator may include in any requirement for submission of an application under subclause (I) a requirement of the National Contingency Plan only to the extent that the requirement is relevant and appropriate to the program under this subsection.
 - ` (ii) COORDINATION- The Administrator shall coordinate with other Federal agencies to assist in making eligible entities aware of other available Federal resources.
 - ` (iii) GUIDANCE- The Administrator shall publish guidance to assist eligible entities in applying for grants under this subsection.
 - ` (B) APPROVAL- The Administrator shall--
 - ` (i) at least annually, complete a review of applications for grants that are received from eligible entities under this subsection; and
 - ` (ii) award grants under this subsection to eligible entities that the Administrator determines have the highest rankings under the ranking criteria established under subparagraph (C).
 - ` (C) RANKING CRITERIA- The Administrator shall establish a system for ranking grant applications received under this paragraph that includes the following criteria:
 - ` (i) The extent to which a grant will stimulate the availability of other funds for environmental assessment or remediation, and subsequent reuse, of an area in which one or more brownfield sites are located.
 - ` (ii) The potential of the proposed project or the development plan for an area in which one or more brownfield sites are located to stimulate economic development of the area on completion of the cleanup.
 - ` (iii) The extent to which a grant would address or facilitate the identification and reduction of threats to human health and the environment, including threats in areas in which there is a greater-than-

normal incidence of diseases or conditions (including cancer, asthma, or birth defects) that may be associated with exposure to hazardous substances, pollutants, or contaminants.

ˆ (iv) The extent to which a grant would facilitate the use or reuse of existing infrastructure.

ˆ (v) The extent to which a grant would facilitate the creation of, preservation of, or addition to a park, a greenway, undeveloped property, recreational property, or other property used for nonprofit purposes.

ˆ (vi) The extent to which a grant would meet the needs of a community that has an inability to draw on other sources of funding for environmental remediation and subsequent redevelopment of the area in which a brownfield site is located because of the small population or low income of the community.

ˆ (vii) The extent to which the applicant is eligible for funding from other sources.

ˆ (viii) The extent to which a grant will further the fair distribution of funding between urban and nonurban areas.

ˆ (ix) The extent to which the grant provides for involvement of the local community in the process of making decisions relating to cleanup and future use of a brownfield site.

ˆ (x) The extent to which a grant would address or facilitate the identification and reduction of threats to the health or welfare of children, pregnant women, minority or low-income communities, or other sensitive populations.

ˆ (6) IMPLEMENTATION OF BROWNFIELDS PROGRAMS-

ˆ (A) ESTABLISHMENT OF PROGRAM- The Administrator may provide, or fund eligible entities or nonprofit organizations to provide, training, research, and technical assistance to individuals and organizations, as appropriate, to facilitate the inventory of brownfield sites, site assessments, remediation of brownfield sites, community involvement, or site preparation.

ˆ (B) FUNDING RESTRICTIONS- The total Federal funds to be expended by the Administrator under this paragraph shall not exceed 15 percent of the total amount appropriated to carry out this subsection in any fiscal year.

ˆ (7) AUDITS-

ˆ (A) IN GENERAL- The Inspector General of the Environmental Protection Agency shall conduct such reviews or audits of grants and loans under this subsection as the Inspector General considers necessary to carry out this subsection.

ˆ (B) PROCEDURE- An audit under this subparagraph shall be conducted in accordance with the auditing procedures of the General Accounting Office, including chapter 75 of title 31, United States Code.

ˆ (C) VIOLATIONS- If the Administrator determines that a person that receives a grant or loan under this subsection has violated or is in violation of a condition of the grant, loan, or applicable Federal law, the Administrator may--

ˆ (i) terminate the grant or loan;

ˆ (ii) require the person to repay any funds received; and

ˆ (iii) seek any other legal remedies available to the Administrator.

ˆ (D) REPORT TO CONGRESS- Not later than 3 years after the date of the enactment of this subsection, the Inspector General of the Environmental Protection Agency shall submit to Congress a report that provides a description of the management of the program (including a description of the allocation of funds under this subsection).

ˆ (8) LEVERAGING- An eligible entity that receives a grant under this subsection may use the grant funds for a portion of a project at a brownfield site for which funding is received from other sources if the grant funds are used only for the purposes described in paragraph (2) or (3).

ˆ (9) AGREEMENTS- Each grant or loan made under this subsection shall--

ˆ (A) include a requirement of the National Contingency Plan only to the extent that the requirement is relevant and appropriate to the program under this subsection, as determined by the Administrator; and

- ˆ (B) be subject to an agreement that--
 - ˆ (i) requires the recipient to--
 - ˆ (I) comply with all applicable Federal and State laws; and
 - ˆ (II) ensure that the cleanup protects human health and the environment;
 - ˆ (ii) requires that the recipient use the grant or loan exclusively for purposes specified in paragraph (2) or (3), as applicable;
 - ˆ (iii) in the case of an application by an eligible entity under paragraph (3)(A), requires the eligible entity to pay a matching share (which may be in the form of a contribution of labor, material, or services) of at least 20 percent, from non-Federal sources of funding, unless the Administrator determines that the matching share would place an undue hardship on the eligible entity; and
 - ˆ (iv) contains such other terms and conditions as the Administrator determines to be necessary to carry out this subsection.
- ˆ (10) FACILITY OTHER THAN BROWNFIELD SITE- The fact that a facility may not be a brownfield site within the meaning of section 101(39)(A) has no effect on the eligibility of the facility for assistance under any other provision of Federal law.
- ˆ (11) EFFECT ON FEDERAL LAWS- Nothing in this subsection affects any liability or response authority under any Federal law, including--
 - ˆ (A) this Act (including the last sentence of section 101(14));
 - ˆ (B) the Solid Waste Disposal Act (42 U.S.C. 6901 et seq.);
 - ˆ (C) the Federal Water Pollution Control Act (33 U.S.C. 1251 et seq.);
 - ˆ (D) the Toxic Substances Control Act (15 U.S.C. 2601 et seq.); and
 - ˆ (E) the Safe Drinking Water Act (42 U.S.C. 300f et seq.).
- ˆ (12) FUNDING--
 - ˆ (A) AUTHORIZATION OF APPROPRIATIONS- There is authorized to be appropriated to carry out this subsection \$200,000,000 for each of fiscal years 2002 through 2006.
 - ˆ (B) USE OF CERTAIN FUNDS- Of the amount made available under subparagraph (A), \$50,000,000, or, if the amount made available is less than \$200,000,000, 25 percent of the amount made available, shall be used for site characterization, assessment, and remediation of facilities described in section 101(39)(D)(ii)(II).’.

Subtitle B--Brownfields Liability Clarifications

SEC. 221. CONTIGUOUS PROPERTIES.

Section 107 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. 9607) is amended by adding at the end the following:

- ˆ (q) CONTIGUOUS PROPERTIES--
 - ˆ (1) NOT CONSIDERED TO BE AN OWNER OR OPERATOR--
 - ˆ (A) IN GENERAL- A person that owns real property that is contiguous to or otherwise similarly situated with respect to, and that is or may be contaminated by a release or threatened release of a hazardous substance from, real property that is not owned by that person shall not be considered to be an owner or operator of a vessel or facility under paragraph (1) or (2) of subsection (a) solely by reason of the contamination if--
 - ˆ (i) the person did not cause, contribute, or consent to the release or threatened release;
 - ˆ (ii) the person is not--
 - ˆ (I) potentially liable, or affiliated with any other person that is potentially liable, for response costs at a facility through any direct or indirect familial relationship or any contractual, corporate, or financial relationship (other than

- a contractual, corporate, or financial relationship that is created by a contract for the sale of goods or services); or
- ` (II) the result of a reorganization of a business entity that was potentially liable;
- ` (iii) the person takes reasonable steps to--
 - ` (I) stop any continuing release;
 - ` (II) prevent any threatened future release; and
 - ` (III) prevent or limit human, environmental, or natural resource exposure to any hazardous substance released on or from property owned by that person;
- ` (iv) the person provides full cooperation, assistance, and access to persons that are authorized to conduct response actions or natural resource restoration at the vessel or facility from which there has been a release or threatened release (including the cooperation and access necessary for the installation, integrity, operation, and maintenance of any complete or partial response action or natural resource restoration at the vessel or facility);
- ` (v) the person--
 - ` (I) is in compliance with any land use restrictions established or relied on in connection with the response action at the facility; and
 - ` (II) does not impede the effectiveness or integrity of any institutional control employed in connection with a response action;
- ` (vi) the person is in compliance with any request for information or administrative subpoena issued by the President under this Act;
- ` (vii) the person provides all legally required notices with respect to the discovery or release of any hazardous substances at the facility; and
- ` (viii) at the time at which the person acquired the property, the person--
 - ` (I) conducted all appropriate inquiry within the meaning of section 101(35)(B) with respect to the property; and
 - ` (II) did not know or have reason to know that the property was or could be contaminated by a release or threatened release of one or more hazardous substances from other real property not owned or operated by the person.
- ` (B) DEMONSTRATION- To qualify as a person described in subparagraph (A), a person must establish by a preponderance of the evidence that the conditions in clauses (i) through (viii) of subparagraph (A) have been met.
- ` (C) BONA FIDE PROSPECTIVE PURCHASER- Any person that does not qualify as a person described in this paragraph because the person had, or had reason to have, knowledge specified in subparagraph (A)(viii) at the time of acquisition of the real property may qualify as a bona fide prospective purchaser under section 101(40) if the person is otherwise described in that section.
- ` (D) GROUND WATER- With respect to a hazardous substance from one or more sources that are not on the property of a person that is a contiguous property owner that enters ground water beneath the property of the person solely as a result of subsurface migration in an aquifer, subparagraph (A)(iii) shall not require the person to conduct ground water investigations or to install ground water remediation systems, except in accordance with the policy of the Environmental Protection Agency concerning owners of property containing contaminated aquifers, dated May 24, 1995.
- ` (2) EFFECT OF LAW- With respect to a person described in this subsection, nothing in this subsection--

- ` (A) limits any defense to liability that may be available to the person under any other provision of law; or
- ` (B) imposes liability on the person that is not otherwise imposed by subsection (a).
- ` (3) ASSURANCES- The Administrator may--
 - ` (A) issue an assurance that no enforcement action under this Act will be initiated against a person described in paragraph (1); and
 - ` (B) grant a person described in paragraph (1) protection against a cost recovery or contribution action under section 113(f).'

SEC. 222. PROSPECTIVE PURCHASERS AND WINDFALL LIENS.

(a) DEFINITION OF BONA FIDE PROSPECTIVE PURCHASER- Section 101 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. 9601) (as amended by section 211(a) of this Act) is amended by adding at the end the following:

 ` (40) BONA FIDE PROSPECTIVE PURCHASER- The term ` bona fide prospective purchaser' means a person (or a tenant of a person) that acquires ownership of a facility after the date of the enactment of this paragraph and that establishes each of the following by a preponderance of the evidence:

 ` (A) DISPOSAL PRIOR TO ACQUISITION- All disposal of hazardous substances at the facility occurred before the person acquired the facility.

 ` (B) INQUIRIES-

 ` (i) IN GENERAL- The person made all appropriate inquiries into the previous ownership and uses of the facility in accordance with generally accepted good commercial and customary standards and practices in accordance with clauses (ii) and (iii).

 ` (ii) STANDARDS AND PRACTICES- The standards and practices referred to in clauses (ii) and (iv) of paragraph (35)(B) shall be considered to satisfy the requirements of this subparagraph.

 ` (iii) RESIDENTIAL USE- In the case of property in residential or other similar use at the time of purchase by a nongovernmental or noncommercial entity, a facility inspection and title search that reveal no basis for further investigation shall be considered to satisfy the requirements of this subparagraph.

 ` (C) NOTICES- The person provides all legally required notices with respect to the discovery or release of any hazardous substances at the facility.

 ` (D) CARE- The person exercises appropriate care with respect to hazardous substances found at the facility by taking reasonable steps to--

 ` (i) stop any continuing release;

 ` (ii) prevent any threatened future release; and

 ` (iii) prevent or limit human, environmental, or natural resource exposure to any previously released hazardous substance.

 ` (E) COOPERATION, ASSISTANCE, AND ACCESS- The person provides full cooperation, assistance, and access to persons that are authorized to conduct response actions or natural resource restoration at a vessel or facility (including the cooperation and access necessary for the installation, integrity, operation, and maintenance of any complete or partial response actions or natural resource restoration at the vessel or facility).

 ` (F) INSTITUTIONAL CONTROL- The person--

 ` (i) is in compliance with any land use restrictions established or relied on in connection with the response action at a vessel or facility; and

 ` (ii) does not impede the effectiveness or integrity of any institutional control employed at the vessel or facility in connection with a response action.

 ` (G) REQUESTS; SUBPOENAS- The person complies with any request for information or administrative subpoena issued by the President under this Act.

 ` (H) NO AFFILIATION- The person is not--

- ˆ (i) potentially liable, or affiliated with any other person that is potentially liable, for response costs at a facility through--
 - ˆ (I) any direct or indirect familial relationship; or
 - ˆ (II) any contractual, corporate, or financial relationship (other than a contractual, corporate, or financial relationship that is created by the instruments by which title to the facility is conveyed or financed or by a contract for the sale of goods or services); or
- ˆ (ii) the result of a reorganization of a business entity that was potentially liable.'.

(b) PROSPECTIVE PURCHASER AND WINDFALL LIEN- Section 107 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. 9607) (as amended by this Act) is further amended by adding at the end the following:

ˆ (r) PROSPECTIVE PURCHASER AND WINDFALL LIEN-

- ˆ (1) LIMITATION ON LIABILITY- Notwithstanding subsection (a)(1), a bona fide prospective purchaser whose potential liability for a release or threatened release is based solely on the purchaser's being considered to be an owner or operator of a facility shall not be liable as long as the bona fide prospective purchaser does not impede the performance of a response action or natural resource restoration.
- ˆ (2) LIEN- If there are unrecovered response costs incurred by the United States at a facility for which an owner of the facility is not liable by reason of paragraph (1), and if each of the conditions described in paragraph (3) is met, the United States shall have a lien on the facility, or may by agreement with the owner, obtain from the owner a lien on any other property or other assurance of payment satisfactory to the Administrator, for the unrecovered response costs.
- ˆ (3) CONDITIONS- The conditions referred to in paragraph (2) are the following:
 - ˆ (A) RESPONSE ACTION- A response action for which there are unrecovered costs of the United States is carried out at the facility.
 - ˆ (B) FAIR MARKET VALUE- The response action increases the fair market value of the facility above the fair market value of the facility that existed before the response action was initiated.
- ˆ (4) AMOUNT; DURATION- A lien under paragraph (2)--
 - ˆ (A) shall be in an amount not to exceed the increase in fair market value of the property attributable to the response action at the time of a sale or other disposition of the property;
 - ˆ (B) shall arise at the time at which costs are first incurred by the United States with respect to a response action at the facility;
 - ˆ (C) shall be subject to the requirements of subsection (l)(3); and
 - ˆ (D) shall continue until the earlier of--
 - ˆ (i) satisfaction of the lien by sale or other means; or
 - ˆ (ii) notwithstanding any statute of limitations under section 113, recovery of all response costs incurred at the facility.'.

SEC. 223. INNOCENT LANDOWNERS.

Section 101(35) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. 9601(35)) is amended--

(1) in subparagraph (A)--

(A) in the first sentence, in the matter preceding clause (i), by striking ` deeds or' and inserting ` deeds, easements, leases, or'; and

(B) in the second sentence--

(i) by striking ` he' and inserting ` the defendant'; and

(ii) by striking the period at the end and inserting ` , provides full cooperation, assistance, and facility access to the persons that are authorized to conduct response actions at the facility (including the cooperation and access necessary for the installation, integrity, operation, and maintenance of any complete or partial response action at the facility), is in compliance with any land use restrictions established or relied on in connection with the response action at a facility, and does not

impede the effectiveness or integrity of any institutional control employed at the facility in connection with a response action.'; and

(2) by striking subparagraph (B) and inserting the following:

 ` (B) REASON TO KNOW-

 ` (i) ALL APPROPRIATE INQUIRIES- To establish that the defendant had no reason to know of the matter described in subparagraph (A)(i), the defendant must demonstrate to a court that--

 ` (I) on or before the date on which the defendant acquired the facility, the defendant carried out all appropriate inquiries, as provided in clauses (ii) and (iv), into the previous ownership and uses of the facility in accordance with generally accepted good commercial and customary standards and practices; and

 ` (II) the defendant took reasonable steps to--

 ` (aa) stop any continuing release;

 ` (bb) prevent any threatened future release; and

 ` (cc) prevent or limit any human, environmental, or natural resource exposure to any previously released hazardous substance.

 ` (ii) STANDARDS AND PRACTICES- Not later than 2 years after the date of the enactment of the Brownfields Revitalization and Environmental Restoration Act of 2001, the Administrator shall by regulation establish standards and practices for the purpose of satisfying the requirement to carry out all appropriate inquiries under clause (i).

 ` (iii) CRITERIA- In promulgating regulations that establish the standards and practices referred to in clause (ii), the Administrator shall include each of the following:

 ` (I) The results of an inquiry by an environmental professional.

 ` (II) Interviews with past and present owners, operators, and occupants of the facility for the purpose of gathering information regarding the potential for contamination at the facility.

 ` (III) Reviews of historical sources, such as chain of title documents, aerial photographs, building department records, and land use records, to determine previous uses and occupancies of the real property since the property was first developed.

 ` (IV) Searches for recorded environmental cleanup liens against the facility that are filed under Federal, State, or local law.

 ` (V) Reviews of Federal, State, and local government records, waste disposal records, underground storage tank records, and hazardous waste handling, generation, treatment, disposal, and spill records, concerning contamination at or near the facility.

 ` (VI) Visual inspections of the facility and of adjoining properties.

 ` (VII) Specialized knowledge or experience on the part of the defendant.

 ` (VIII) The relationship of the purchase price to the value of the property, if the property was not contaminated.

 ` (IX) Commonly known or reasonably ascertainable information about the property.

 ` (X) The degree of obviousness of the presence or likely presence of contamination at the property, and the ability to detect the contamination by appropriate investigation.

 ` (iv) INTERIM STANDARDS AND PRACTICES-

 ` (I) PROPERTY PURCHASED BEFORE MAY 31, 1997- With respect to property purchased before May 31, 1997, in making a determination with

respect to a defendant described in clause (i), a court shall take into account--

- ` (aa) any specialized knowledge or experience on the part of the defendant;
- ` (bb) the relationship of the purchase price to the value of the property, if the property was not contaminated;
- ` (cc) commonly known or reasonably ascertainable information about the property;
- ` (dd) the obviousness of the presence or likely presence of contamination at the property; and
- ` (ee) the ability of the defendant to detect the contamination by appropriate inspection.

` (II) PROPERTY PURCHASED ON OR AFTER MAY 31, 1997- With respect to property purchased on or after May 31, 1997, and until the Administrator promulgates the regulations described in clause (ii), the procedures of the American Society for Testing and Materials, including the document known as `Standard E1527-97', entitled `Standard Practice for Environmental Site Assessment: Phase 1 Environmental Site Assessment Process', shall satisfy the requirements in clause (i).

` (v) SITE INSPECTION AND TITLE SEARCH- In the case of property for residential use or other similar use purchased by a nongovernmental or noncommercial entity, a facility inspection and title search that reveal no basis for further investigation shall be considered to satisfy the requirements of this subparagraph.'

Subtitle C--State Response Programs

SEC. 231. STATE RESPONSE PROGRAMS.

(a) DEFINITIONS- Section 101 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. 9601) (as amended by this Act) is further amended by adding at the end the following:

` (41) ELIGIBLE RESPONSE SITE-

` (A) IN GENERAL- The term `eligible response site' means a site that meets the definition of a brownfield site in subparagraphs (A) and (B) of paragraph (39), as modified by subparagraphs (B) and (C) of this paragraph.

` (B) INCLUSIONS- The term `eligible response site' includes--

` (i) notwithstanding paragraph (39)(B)(ix), a portion of a facility, for which portion assistance for response activity has been obtained under subtitle I of the Solid Waste Disposal Act (42 U.S.C. 6991 et seq.) from the Leaking Underground Storage Tank Trust Fund established under section 9508 of the Internal Revenue Code of 1986; or

` (ii) a site for which, notwithstanding the exclusions provided in subparagraph (C) or paragraph (39)(B), the President determines, on a site-by-site basis and after consultation with the State, that limitations on enforcement under section 128 at sites specified in clause (iv), (v), (vi) or (viii) of paragraph (39)(B) would be appropriate and will--

` (I) protect human health and the environment; and

` (II) promote economic development or facilitate the creation of, preservation of, or addition to a park, a greenway, undeveloped

property, recreational property, or other property used for nonprofit purposes.

- ˆ (C) EXCLUSIONS- The term `eligible response site' does not include--
 - ˆ (i) a facility for which the President--
 - ˆ (I) conducts or has conducted a preliminary assessment or site inspection; and
 - ˆ (II) after consultation with the State, determines or has determined that the site obtains a preliminary score sufficient for possible listing on the National Priorities List, or that the site otherwise qualifies for listing on the National Priorities List; unless the President has made a determination that no further Federal action will be taken; or
 - ˆ (ii) facilities that the President determines warrant particular consideration as identified by regulation, such as sites posing a threat to a sole-source drinking water aquifer or a sensitive ecosystem.'

(b) STATE RESPONSE PROGRAMS- Title I of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. 9601 et seq.) is amended by adding at the end the following:

ˆ SEC. 128. STATE RESPONSE PROGRAMS.

ˆ (a) ASSISTANCE TO STATES-

ˆ (1) IN GENERAL-

ˆ (A) STATES- The Administrator may award a grant to a State or Indian tribe that-

- ˆ (i) has a response program that includes each of the elements, or is taking reasonable steps to include each of the elements, listed in paragraph (2); or
- ˆ (ii) is a party to a memorandum of agreement with the Administrator for voluntary response programs.

ˆ (B) USE OF GRANTS BY STATES-

ˆ (i) IN GENERAL- A State or Indian tribe may use a grant under this subsection to establish or enhance the response program of the State or Indian tribe.

ˆ (ii) ADDITIONAL USES- In addition to the uses under clause (i), a State or Indian tribe may use a grant under this subsection to--

- ˆ (I) capitalize a revolving loan fund for brownfield remediation under section 104(k)(3); or
- ˆ (II) purchase insurance or develop a risk sharing pool, an indemnity pool, or insurance mechanism to provide financing for response actions under a State response program.

ˆ (2) ELEMENTS- The elements of a State or Indian tribe response program referred to in paragraph (1)(A)(i) are the following:

ˆ (A) Timely survey and inventory of brownfield sites in the State.

ˆ (B) Oversight and enforcement authorities or other mechanisms, and resources, that are adequate to ensure that--

- ˆ (i) a response action will--
 - ˆ (I) protect human health and the environment; and
 - ˆ (II) be conducted in accordance with applicable Federal and State law; and
- ˆ (ii) if the person conducting the response action fails to complete the necessary response activities, including operation and maintenance or long-term monitoring activities, the necessary response activities are completed.

ˆ (C) Mechanisms and resources to provide meaningful opportunities for public participation, including--

- ` (i) public access to documents that the State, Indian tribe, or party conducting the cleanup is relying on or developing in making cleanup decisions or conducting site activities;
- ` (ii) prior notice and opportunity for comment on proposed cleanup plans and site activities; and
- ` (iii) a mechanism by which--
 - ` (I) a person that is or may be affected by a release or threatened release of a hazardous substance, pollutant, or contaminant at a brownfield site located in the community in which the person works or resides may request the conduct of a site assessment; and
 - ` (II) an appropriate State official shall consider and appropriately respond to a request under subclause (I).
- ` (D) Mechanisms for approval of a cleanup plan, and a requirement for verification by and certification or similar documentation from the State, an Indian tribe, or a licensed site professional to the person conducting a response action indicating that the response is complete.
- ` (3) FUNDING- There is authorized to be appropriated to carry out this subsection \$50,000,000 for each of fiscal years 2002 through 2006.
- ` (b) ENFORCEMENT IN CASES OF A RELEASE SUBJECT TO STATE PROGRAM-
 - ` (1) ENFORCEMENT-
 - ` (A) IN GENERAL- Except as provided in subparagraph (B) and subject to subparagraph (C), in the case of an eligible response site at which--
 - ` (i) there is a release or threatened release of a hazardous substance, pollutant, or contaminant; and
 - ` (ii) a person is conducting or has completed a response action regarding the specific release that is addressed by the response action that is in compliance with the State program that specifically governs response actions for the protection of public health and the environment,the President may not use authority under this Act to take an administrative or judicial enforcement action under section 106(a) or to take a judicial enforcement action to recover response costs under section 107(a) against the person regarding the specific release that is addressed by the response action.
 - ` (B) EXCEPTIONS- The President may bring an administrative or judicial enforcement action under this Act during or after completion of a response action described in subparagraph (A) with respect to a release or threatened release at an eligible response site described in that subparagraph if--
 - ` (i) the State requests that the President provide assistance in the performance of a response action;
 - ` (ii) the Administrator determines that contamination has migrated or will migrate across a State line, resulting in the need for further response action to protect human health or the environment, or the President determines that contamination has migrated or is likely to migrate onto property subject to the jurisdiction, custody, or control of a department, agency, or instrumentality of the United States and may impact the authorized purposes of the Federal property;
 - ` (iii) after taking into consideration the response activities already taken, the Administrator determines that--
 - ` (I) a release or threatened release may present an imminent and substantial endangerment to public health or welfare or the environment; and
 - ` (II) additional response actions are likely to be necessary to address, prevent, limit, or mitigate the release or threatened release; or
 - ` (iv) the Administrator, after consultation with the State, determines that information, that on the earlier of the date on which cleanup was approved or completed, was not known by the State, as recorded in documents prepared or relied on in selecting or conducting the cleanup, has been discovered regarding the contamination or conditions at a facility such that

the contamination or conditions at the facility present a threat requiring further remediation to protect public health or welfare or the environment. Consultation with the State shall not limit the ability of the Administrator to make this determination.

- ˆ (C) PUBLIC RECORD- The limitations on the authority of the President under subparagraph (A) apply only at sites in States that maintain, update not less than annually, and make available to the public a record of sites, by name and location, at which response actions have been completed in the previous year and are planned to be addressed under the State program that specifically governs response actions for the protection of public health and the environment in the upcoming year. The public record shall identify whether or not the site, on completion of the response action, will be suitable for unrestricted use and, if not, shall identify the institutional controls relied on in the remedy. Each State and tribe receiving financial assistance under subsection (a) shall maintain and make available to the public a record of sites as provided in this paragraph.
- ˆ (D) EPA NOTIFICATION-
 - ˆ (i) IN GENERAL- In the case of an eligible response site at which there is a release or threatened release of a hazardous substance, pollutant, or contaminant and for which the Administrator intends to carry out an action that may be barred under subparagraph (A), the Administrator shall--
 - ˆ (I) notify the State of the action the Administrator intends to take; and
 - ˆ (II)(aa) wait 48 hours for a reply from the State under clause (ii); or
 - ˆ (bb) if the State fails to reply to the notification or if the Administrator makes a determination under clause (iii), take immediate action under that clause.
 - ˆ (ii) STATE REPLY- Not later than 48 hours after a State receives notice from the Administrator under clause (i), the State shall notify the Administrator if--
 - ˆ (I) the release at the eligible response site is or has been subject to a cleanup conducted under a State program; and
 - ˆ (II) the State is planning to abate the release or threatened release, any actions that are planned.
 - ˆ (iii) IMMEDIATE FEDERAL ACTION- The Administrator may take action immediately after giving notification under clause (i) without waiting for a State reply under clause (ii) if the Administrator determines that one or more exceptions under subparagraph (B) are met.
- ˆ (E) REPORT TO CONGRESS- Not later than 90 days after the date of initiation of any enforcement action by the President under clause (ii), (iii), or (iv) of subparagraph (B), the President shall submit to Congress a report describing the basis for the enforcement action, including specific references to the facts demonstrating that enforcement action is permitted under subparagraph (B).
- ˆ (2) SAVINGS PROVISION-
 - ˆ (A) COSTS INCURRED PRIOR TO LIMITATIONS- Nothing in paragraph (1) precludes the President from seeking to recover costs incurred prior to the date of the enactment of this section or during a period in which the limitations of paragraph (1)(A) were not applicable.
 - ˆ (B) EFFECT ON AGREEMENTS BETWEEN STATES AND EPA- Nothing in paragraph (1)--
 - ˆ (i) modifies or otherwise affects a memorandum of agreement, memorandum of understanding, or any similar agreement relating to this Act between a State agency or an Indian tribe and the Administrator that is in effect on or before the date of the enactment of this section (which agreement shall remain in effect, subject to the terms of the agreement); or
 - ˆ (ii) limits the discretionary authority of the President to enter into or modify an agreement with a State, an Indian tribe, or any other person relating to the implementation by the President of statutory authorities.

- ˆ (3) EFFECTIVE DATE- This subsection applies only to response actions conducted after February 15, 2001.
- ˆ (c) EFFECT ON FEDERAL LAWS- Nothing in this section affects any liability or response authority under any Federal law, including--
 - ˆ (1) this Act, except as provided in subsection (b);
 - ˆ (2) the Solid Waste Disposal Act (42 U.S.C. 6901 et seq.);
 - ˆ (3) the Federal Water Pollution Control Act (33 U.S.C. 1251 et seq.);
 - ˆ (4) the Toxic Substances Control Act (15 U.S.C. 2601 et seq.); and
 - ˆ (5) the Safe Drinking Water Act (42 U.S.C. 300f et seq.).'

SEC. 232. ADDITIONS TO NATIONAL PRIORITIES LIST.

Section 105 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. 9605) is amended by adding at the end the following:

- ˆ (h) NPL DEFERRAL-
 - ˆ (1) DEFERRAL TO STATE VOLUNTARY CLEANUPS- At the request of a State and subject to paragraphs (2) and (3), the President generally shall defer final listing of an eligible response site on the National Priorities List if the President determines that--
 - ˆ (A) the State, or another party under an agreement with or order from the State, is conducting a response action at the eligible response site--
 - ˆ (i) in compliance with a State program that specifically governs response actions for the protection of public health and the environment; and
 - ˆ (ii) that will provide long-term protection of human health and the environment; or
 - ˆ (B) the State is actively pursuing an agreement to perform a response action described in subparagraph (A) at the site with a person that the State has reason to believe is capable of conducting a response action that meets the requirements of subparagraph (A).
 - ˆ (2) PROGRESS TOWARD CLEANUP- If, after the last day of the 1-year period beginning on the date on which the President proposes to list an eligible response site on the National Priorities List, the President determines that the State or other party is not making reasonable progress toward completing a response action at the eligible response site, the President may list the eligible response site on the National Priorities List.
 - ˆ (3) CLEANUP AGREEMENTS- With respect to an eligible response site under paragraph (1)(B), if, after the last day of the 1-year period beginning on the date on which the President proposes to list the eligible response site on the National Priorities List, an agreement described in paragraph (1)(B) has not been reached, the President may defer the listing of the eligible response site on the National Priorities List for an additional period of not to exceed 180 days if the President determines deferring the listing would be appropriate based on--
 - ˆ (A) the complexity of the site;
 - ˆ (B) substantial progress made in negotiations; and
 - ˆ (C) other appropriate factors, as determined by the President.
 - ˆ (4) EXCEPTIONS- The President may decline to defer, or elect to discontinue a deferral of, a listing of an eligible response site on the National Priorities List if the President determines that--
 - ˆ (A) deferral would not be appropriate because the State, as an owner or operator or a significant contributor of hazardous substances to the facility, is a potentially responsible party;
 - ˆ (B) the criteria under the National Contingency Plan for issuance of a health advisory have been met; or
 - ˆ (C) the conditions in paragraphs (1) through (3), as applicable, are no longer being met.'

Speaker of the House of Representatives. Vice President of the United States and President of the Senate. *END*

2. State and Tribal Response Programs

2.1. Goals and Objectives of STRP funding

2.2. EPA Tribal Report 2008

2.3. The Four Elements at a Glance

**2.4. EPA Guidance for STRP Grants FY09--Page 1
(Full version on CD)**

**2.5. Region 10 STRP Template Example FY09—Pages 1-2
(Full version on CD)**

State and Tribal Response Programs

Goals and Objectives of STRP Funding

Section 128(a) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended, authorizes a *noncompetitive* \$50 million grant program to establish and enhance State and Tribal Response Programs (STRP). Generally, these response programs address the assessment, cleanup, and redevelopment of brownfields sites and other sites with *actual or perceived* contamination. These Section 128(a) cooperative agreements are awarded and administered by the EPA regional offices; Alaska is part of EPA Region 10 (along with Washington, Oregon, and Idaho).

The Alaska organizations that have been awarded STRP grants are:

- Alaska Department of Environmental Conservation
- Anvik Tribal Council (*Now part of GASH, see 4.19*)
- Bristol Bay Native Association
- Kasaan, Organized Village
- Maniilaq Association
- Metlakatla Indian Community
- Middle Kuskokwim Consortium (*Inactive*)
- Nelson Island Consortium – Native Village of Tununak
- Port Heiden Native Council
- Tangirnaq Native Village aka Woody Island
- Yakutat Tlingit Tribe
- Yukon River Inter-Tribal Watershed Council

New in 2009:

- Kuskokwim River Watershed Council
- Point Hope, Native Village (*Inactive*)
- Saint Michael, Native Village
- Tetlin Village Council

New in 2010:

- Alaska Native Tribal Health Consortium
- Central Council of Tlingit Haida Indian Tribes of Alaska
- Eyak, Native Village
- Grayling, Anvik, Shageluk and Holy Cross Consortium

New in 2011:

- Copper River Native Association
- Craig Tribal Association
- Douglas Indian Association
- Hydaburg Cooperative Association
- Orutsararmiut Native Council

New in 2012:

- Sun’aq Tribe of Kodiak
- Tazlina, Native Village

DEC looks forward to working with all STRP grantees in the coming months and years. One of DEC’s objectives is to help regional Tribal organizations understand how to successfully apply for and manage this funding in a manner that maximizes results and minimizes paperwork.

Response Program Funding Options

Tribes can greatly enhance their environmental response programs using cooperative agreement funds. The specifics of funding use can be found in Section 128(a)1B of the CERCLA legislation. (See Section 1.3, pp. 16-17 of this handbook for this CERCLA legislation.)

Essentially, a Tribe may use this funding to develop or improve its environmental response program. This can include activities related to responses at brownfields sites with petroleum contamination – the type of site that is most prevalent across Alaska. Although most Tribes already have defined scopes of work for their programs, it is good to continually reevaluate the program, identify possible changes or additions to the scope, or drop some tasks altogether if they are found to be no longer necessary. What follows is a summary of funding uses:

- Primary Purpose: *Establish or Enhance a Response Program*

STRP Main Points

- *Matching funds not required*
- *Not pass/fail – negotiations are part of grant process*
- *Similar to IGAP – can create own list of goals and tasks*
- *Funds positions, equipment, supplies, vehicles, services, training*
- *Can structure grant to allow overlap and cooperation between brownfields, solid waste, and environmental programs*

- The initial focus of response program funding is on the *four elements*, which are generally (1) a survey of brownfield sites; (2) developing oversight authority; (3) developing mechanisms for meaningful public participation; and (4) creating mechanisms for approval and verification of a cleanup plan. In addition, the response program must also develop and maintain a public record. (For more information on the four elements, see Section 2.3 of this handbook.)
- Develop program resources and expand knowledge of both state and federal regulatory requirements.
- Tribes define and develop their “response program” and hire staff, manage the grant, and coordinate with EPA and DEC.
- Allowable activities are broad and include the development of regulations and ordinances, planning, outreach, coordinating community involvement, and training.
- The brownfield program should coordinate with other environmental programs to maximize efficiencies, such as a Tribe’s Indian General Assistance Program (IGAP).
- Reporting and documenting activities in the grant, and tracking on expenses.
- Secondary use: Site-Specific Activities
EPA will not provide STRP grants solely for assessment or cleanup of specific brownfield sites. Assessment and cleanups must be considered an “incidental” part of the overall grant, and will only be considered *after* a Tribe has established their program, by establishing or enhancing the four elements. Some of the site-specific activities that may be included are:
 - Maintaining controls at a site to prevent exposure, such as *land-use or activity controls*.
 - Developing audits or surveys of contaminated sites in your community or region.
 - Community planning designed to better coordinate economic development interests with environmental or brownfield projects.

- Development of site-specific quality assurance project plans.
- Conducting a Phase I Environmental Site Assessment at a property to provide the necessary information to seek further assessment funding.
- Limited cleanup activities at a site that will further the reuse of that site as part of a brownfield redevelopment.
- Overseeing a cleanup action or response action or conducting audits of cleanup actions.
- Site-specific work keeps in line with the “polluter pays” principle
- Other Uses: Outside the Traditional Uses of Funding
 - Funding through this grant may be used to capitalize a *revolving loan fund* (RLF) for brownfields cleanup under CERCLA Section 104(k)(3). Although this is rarely, if ever, done using the STRP grant, it remains possible to establish this loan agreement.
 - Funding can be used to purchase environmental insurance, or develop a risk-sharing pool, indemnity pool, or insurance mechanism to provide financing for response actions.

What is being funded elsewhere?

- *Staff positions: brownfield coordinator, interns, grant assistance*
- *Office equipment, computers, copiers, printers, software*
- *Field equipment, GPS units, safety suits, goggles, gloves, even Freon extraction units*
- *Program enhancements: Native speakers translating public records and outreach materials, webmaster services, newsletters, promotional materials*
- *Staff training: open dump assessment, Freon removal, database management, time and task management*

*--from Region 8
Presentation on Rural and Small Communities Program*

Each State and Tribe, or Tribal Consortium, needs to determine where best to focus the limited funding. While most of it initially goes toward funding personnel to get the program up and running, eventually it may include conducting limited assessments, planning, outreach, or training. Several Alaska

TRP grant recipients have used this funding in a variety of ways that directly serves their region. Some of the accomplishments by Alaska Tribes include:

- Developing websites to better communication with their members and the state.
- Developing mapping and GIS capabilities.
- Completing a short video that documents Tribal conditions and brownfield need in rural Alaska.
- Developing and implementing training programs.
- Conducting Phase I Environmental Site Assessments.
- Conducting limited site characterizations.
- Public outreach and interviewing individuals about historical environmental activities or site conditions.
- Identifying other significant sources of funding.
- Engaging responsible parties to remedy historical contamination that has otherwise been ignored.
- Developing and mapping inventories of sites in a community or region.
- Expanding communication between DEC and the Tribes.

DEC is in the process of establishing an Alaska STRP working group in which all STRP grant recipients are invited to participate. The intent of this working group is to maintain an open dialogue about Alaska brownfields to ensure that we work together in a unified approach to maximize the benefit of future funding, and to improve environmental conditions in our communities.

For examples of the specific uses of this funding, please see the **EPA Guidance for State and Tribal Response Programs, Fiscal Year 2009**, which is included on the compact disk (the first page of the guidance is provided as hard copy in Section 2.4) of this handbook. The most current EPA guidance for State and Tribal Response Program funding is available online at http://www.epa.gov/brownfields/state_tribal/fund_guide.htm. Remember to discuss any changes to your workplans you may want to propose with your EPA Project Officer. They are the only individuals authorized to enable changes to your grant!

Tribal Brownfields and Response Programs



RESPECTING OUR LAND,
REVITALIZING OUR COMMUNITIES



Forward

EPA's Brownfields Program empowers tribes, states, and communities by providing money and technical assistance to prevent, assess, safely clean up, and sustainably reuse brownfields. EPA is proud of its partnership with the more than 60 tribes that are creating and enhancing Tribal Response Programs to address the cleanup and reuse of contaminated property in Indian country. Through these response programs, tribes are taking an active role in combating environmental issues prevalent in Indian country, while creating self-sufficient organizations for environmental protection. Together, we've made progress in tackling the challenges to restoring lands and, in the process, helped revitalize impacted communities. This report highlights the accomplishments tribes are making in restoring their land and provides examples of tools tribes are developing to meet the needs of their communities. We look forward to continued success from Tribal Response Programs and to building on our growing partnership.

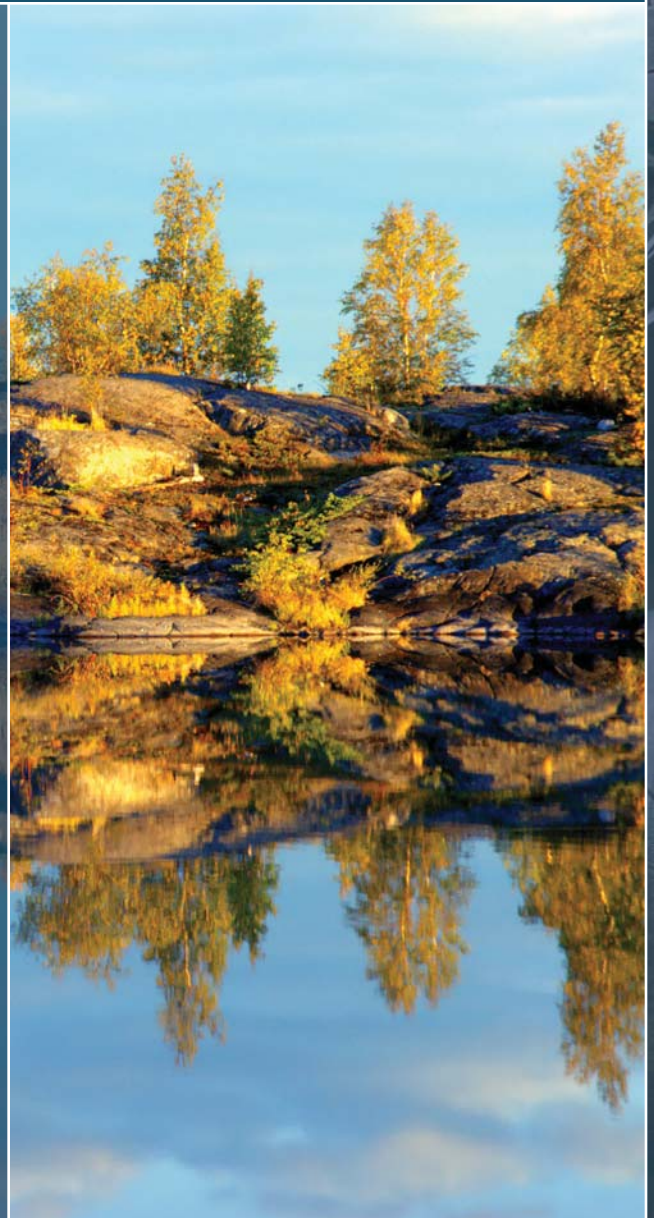
– **Susan Parker Bodine**, Assistant Administrator for EPA's Office of Solid Waste and Emergency Response

Prepared by: SRA International, Inc.
(Contract No. EP-W-07-023) 3434
Washington Boulevard Arlington, VA 22201

Prepared for: U.S. Environmental Protection
Agency Office of Solid Waste and
Emergency Response Office of Brownfields
and Land Revitalization Washington, DC
20460

Purpose

This report highlights how tribes are using U.S. Environmental Protection Agency (EPA) brownfields funding to address contaminated land in Indian country¹ and other tribal lands. It also highlights the challenges they face. It provides an historic overview of EPA's Brownfields Program, as it relates to tribes, and demonstrates EPA's commitment to the development of tribal capacity to deal effectively with contaminated lands in Indian country. The report includes examples of tribal successes to both highlight accomplishments and serve as a resource for ideas, information and reference.

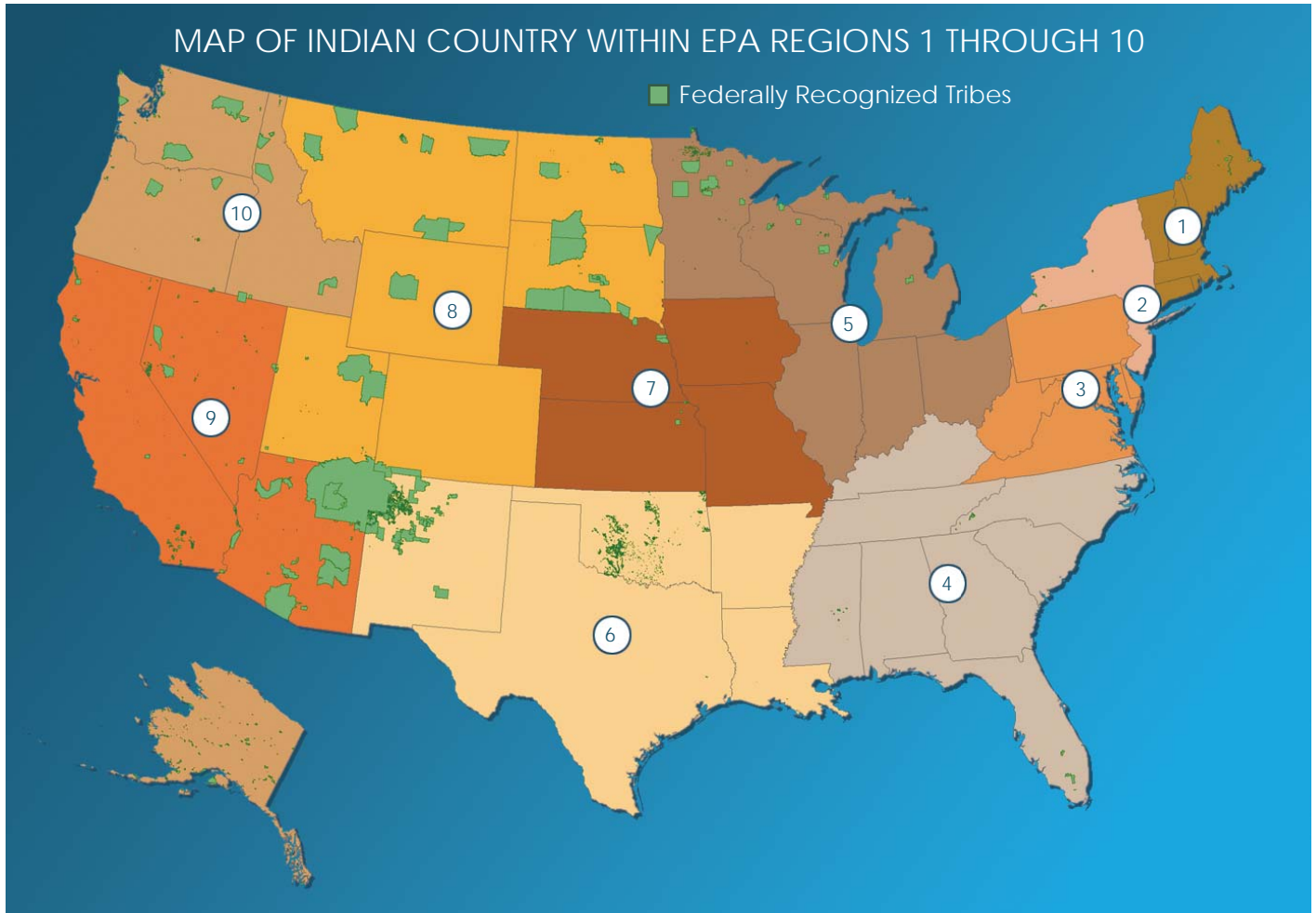


¹ Use of the terms "Indian country," "tribal lands," and "tribal areas" within this document is not intended to provide legal guidance on the scope of any program being described, nor is their use intended to expand or restrict the scope of any such programs, or have any legal effect.

Overview and History of Brownfields Tribal Funding

Overview

There are 561 federally recognized tribes within the United States. Each tribe is an independent, sovereign nation, responsible for setting standards, making environmental policy, and managing environmental programs for its people. While each tribe faces unique challenges, many share similar environmental legacies.



Environmental issues in Indian country run the gamut from developing basic administrative infrastructure to passing sweeping new laws; from controlling illegal open dumping to developing wastewater and drinking water infrastructure; from controlling and removing leaking underground storage tanks to asbestos and lead abatement and removal; and from air pollution to the cleanup and reuse of contaminated land.

Given each tribe's unique history and culture and the complex jurisdictional issues, the ability to deal effectively with environmental issues in Indian country calls for non-traditional approaches and new ways of thinking. The EPA Brownfields Program is providing these approaches with progress and results occurring in many parts of Indian country.

Brownfields and Contaminated Land in Indian Country

Brownfields and other contaminated lands are found throughout the United States. Often legacies of an industrial past or bygone business, they dot the landscape of large and small communities. Brownfields are defined as "real property the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant,"² they come in many forms and sizes. Brownfields can be the abandoned warehouse or corner gas station, the local mill site or abandoned mine. In Indian country they are as diverse as the communities in which they are found.

² Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, § 101(39).

To address the myriad environmental issues in Indian country, many tribes establish their own environmental protection and natural resource management offices. To clean up and reuse contaminated lands, many create brownfields programs or “Tribal Response Programs.” However, despite best efforts, tribal communities often lack funding to sustain environmental program capacity building and continue to need technical assistance and expertise.

Additionally, many tribes seeking to address brownfields in their communities face problems that are found in many small or rural areas in the United States. Rural locations typically do not have the technical resources that many larger communities have, nor the economic drivers associated with more dense populations that might spur cleanup and reuse. While the benefits of reusing existing buildings and infrastructure may be apparent, the funding to make the cleanup and reuse possible are often not present. Tribes may seek to return contaminated land to a non-economic reuse (e.g., returning land to a culturally beneficial reuse), which often must be funded by the public sector or tribal government and which may not attract the interest of those with private cleanup dollars.

Despite the challenges, revitalization of contaminated lands is an environmental issue being addressed successfully in parts of Indian country. With the assistance of grants and other resources available through EPA’s Brownfields Program, tribes are making great strides in cleaning up and returning contaminated land back to productive use. By using the grants and tools available, tribes address their fundamental environmental and revitalization goals and enrich the health and welfare of their communities. This in turn fosters greater environmental awareness, and allows for the sustainable reuse of tribal land in a manner determined by the tribes themselves.

U.S. EPA Brownfields Resources for Revitalization of Contaminated Land in Indian Country

Since the inception of EPA’s Brownfields Program in 1995, the program’s goal has been “to empower states, tribes, communities, and other stakeholders in economic development to work together in a timely manner to prevent, assess, safely clean up, and sustainably reuse brownfields.” The program provides financial and technical assistance for brownfields revitalization, including annual competitive grants for environmental assessment, revolving loan funds (RLF), cleanup, and job training, and non-competitive funding for state and tribal response programs.

In 2002, the passage of the Small Business Liability Relief and Brownfields Revitalization Act—referred to as the Brownfields Amendments—codified many of the policies EPA developed. The Brownfields Amendments authorized, among other things, two main sources of funding that may assist tribes in revitalizing contaminated land in Indian country:

- (1) Section 128(a) State and Tribal Response Program funding**
- (2) Section 104(k) competitive grant program funding**

Tribal Response Program Grants

Tribal Response Program funding—referred to as “Section 128(a)” funding after the section of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) that it falls under—can be used to create new or to enhance existing environmental response programs. Authorized at \$50 million per year and shared among states, tribes and territories, the funding is awarded on an annual basis. The primary goal of the funding is to ensure that response programs include, or are taking reasonable steps to include, the following four elements in their programs:

- 1. Timely survey and inventory of brownfields sites.*
- 2. Oversight and enforcement authorities or other mechanisms and resources to ensure that a response action will protect human health and the environment.*
- 3. Mechanisms and resources to provide meaningful opportunities for public participation.*
- 4. Mechanisms for approval of a cleanup plan and verification and certification that cleanup is complete.*

The funding can also be used for limited site assessments or cleanups at brownfields sites; for other activities that increase the number of response actions conducted or overseen by a state or tribal response program; to capitalize

revolving loan funds for cleanup; to purchase environmental insurance; or to develop other insurance mechanisms for brownfields cleanup activities.

Since the passage of the Brownfields Amendments, EPA has distributed over \$32 million in Section 128(a) funding to tribes nationwide. Examples of activities that tribes are conducting with their Section 128(a) funding include:

- The **Native Village of Port Heiden** used Section 128(a) funding to initiate the development of a tribal response program. They focused their funding on developing an inventory of properties and a public record, obtaining technical training for staff members, and conducting outreach and education to engage the community in environmental and brownfield issues.
- The **Mille Lacs Band of Ojibwe Tribe** assessed contamination on the former St. Croix Girls Camp that had for years been used as dump site. Using its Section 128(a) funds, the tribe cleaned up the property and will return it to reuse as a school.
- The **Absentee Shawnee Tribe's** Executive Committee passed three codes—Brownfields Voluntary Redevelopment, Solid Waste, and Environmental Management—to create the Office of Environmental Health (OEH) and Office of Environmental Protection (OEP).
- The **Seminole Tribe of Florida** utilized its funds to provide oversight of limited soil removal at a property on the Big Cypress Seminole Indian Reservation. The property, once used for illegal dumping and vehicle storage in a rural section of the reservation, has been reopened and the tribe plans to develop a recreational resort.

Assessment, Revolving Loan Fund, and Cleanup Grants (ARC Grants)

The 104(k) competitive grants are awarded through an annual competition. Most federally recognized tribes are eligible to apply for this funding.³ ARC grants may be used to address sites contaminated by petroleum and hazardous substances, pollutants or contaminants (including hazardous substances co-mingled with petroleum). Opportunities for funding are as follows: Brownfields Assessment Grants (each funded up to \$200,000 over three years); Brownfields Revolving Loan Fund (RLF) Grants (each funded up to \$1,000,000 over five years); and Brownfields Cleanup Grants (each funded up to \$200,000 over three years).

Job Training Grants

Job Training grants—competitively awarded on an annual basis—are also available to most federally recognized tribes.³ To help residents located in areas affected by brownfields take advantage of jobs created by the assessment and cleanup of these properties, EPA initiated the Brownfields Job Training grants. Among other things, the grant funds may be used for:

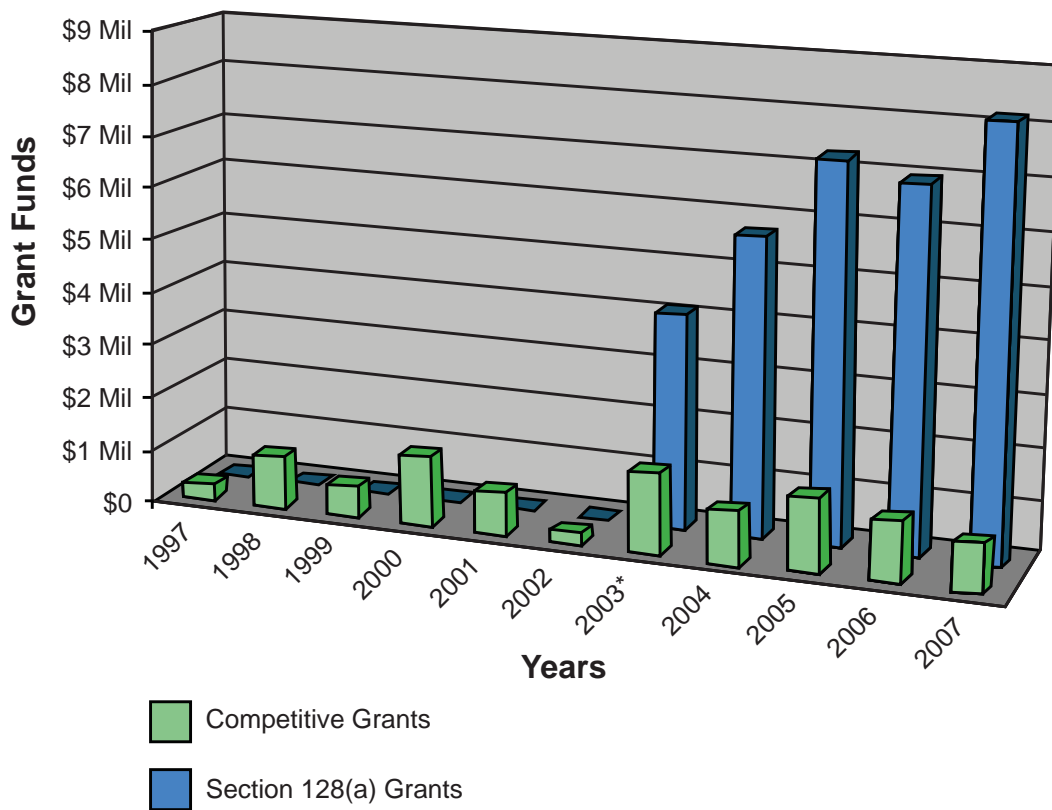
- Training residents in the handling and removal of hazardous substances, including training for jobs in sampling, analysis and site remediation;
- Training in the management of facilities at which hazardous substances, pollutants, contaminants or petroleum contamination are located;
- Training for response activities often associated with cleanups such as landscaping, demolition and ground water extraction;
- Development/refinement of existing curriculum for the training described in this section;
- Training participants in the techniques and methods for cleanup of leaking underground storage tanks and other sites contaminated by petroleum products, asbestos abatement, or lead abatement where these topics are a component of a more comprehensive hazardous waste management training course or environmental technology training course.

³In Alaska, only an Alaska Native Regional Corporation and an Alaska Native Village Corporation, as those terms are defined in the Alaska Native Claims Settlement Act, and the Metlakatla Indian Community are eligible. CERCLA § 104(k)(1).

To leverage success, tribes use combined funding sources to build upon the success of established programs. Below are a few examples:

- The **Gila River Indian Community** used Section 128(a) funding to assess a 160-acre property found to have soil and ground water contamination. With assistance from an EPA Brownfields Cleanup grant, contamination was removed and the property is now home to a Diabetes Education and Research Center.
- The **Spirit Lake Nation** used EPA Brownfields grants to assess and clean up four idle properties, using the environmental expertise of tribal graduates from an EPA funded Brownfields Job Training program.
- The **Rosebud Sioux Tribe** leveraged additional grants to supplement their Section 128(a) funding and complete several brownfields projects. They developed a brownfields inventory of 63 properties with Section 128(a) funding and cleaned up 32 of those properties with an Open Dump grant from the Bureau of Indian Affairs (BIA).

BROWNFIELDS FUNDING AWARDS TO TRIBES



* Passage of Brownfields Amendments to CERCLA

Brownfields Tribal Highlights and Results

Developing and Enhancing Programs for Tribal Needs

Tribes use Section 128(a) Tribal Response Program funding for a variety of activities. Tribal response programs conduct assessments and provide oversight at properties, create codes and ordinances, develop inventories of properties, and educate their communities about the value of protecting and restoring tribal natural resources and community health.

This section highlights how Section 128(a) and other funding has been applied in tribal environments, as well as the obstacles encountered and lessons learned. These highlights serve as a reference for tribes to learn from what other tribes have accomplished with brownfields funding.



MENOMINEE INDIAN TRIBE OF WISCONSIN (EPA Region 5)

Building Capacity: Policy Development for Clandestine Drug Lab Sites (Meth Labs)

Location: Central and Mideastern Wisconsin

Size: Approximately 236,000 acres

Population: Approximately 4,000

Website: <http://www.menominee-nsn.gov>

The Menominee Indian Tribe of Wisconsin is one of the first tribes in the country to develop and adopt their own clandestine drug lab cleanup ordinance and guidance. In July 2007, the Menominee Indian Tribe used Section 128(a) funds to complete and adopt an ordinance entitled “Cleanup of Clandestine Drug Lab Sites.” The ordinance provides regulation on notifications, responsibility to act,

and responsibility for costs and recovery for any structure (including mobile structures) with contamination from a drug lab within the external boundaries of the tribal lands. Drafting the ordinance was a labor intensive effort and the tribe’s Environmental Services Department teamed with many levels within the tribe to finalize the regulation. The Environmental Services Department worked with the tribal legislature and Enforcement Committee to define property owner rights and develop cost recovery options before the ordinance was adopted.

In addition, the tribe developed a “Clandestine Drug Lab General Cleanup Guidance” to accompany the ordinance. The guidance assists property owners, remediation contractors, and tribal authorities with their efforts to reduce exposure to contamination from former clandestine drug labs. The ordinance and guidance focus on innocent landowners’ ability to clean up their properties and recover costs.

For more information regarding the Menominee Tribe’s clandestine drug lab cleanup ordinance and guidance or Environmental Services Department, please contact Gary Schuettpelz at gschuettpelz@mitw.org or (715) 799-6152.

The *mission* of the Menominee Environmental Service Department is to defend the environmental integrity of the land, air, and water which makes up the cultural and earth resources of the Menominee People. The clandestine drug lab cleanup ordinance will assure that the health needs are maintained for future generations of Menominee.



KEWEENAW BAY INDIAN COMMUNITY (EPA Region 5)

Brownfields Reuse: Using Multiple Funding Sources and Partnerships

Location: Upper Peninsula of Michigan

Size: Approximately 56,700 acres

Population: Approximately 3,200

Website: <http://www.kbic-nsn.gov>

The Keweenaw Bay Indian Community (KBIC) is using Section 128(a) funding to actively locate and identify brownfield properties, and build an inventory of properties within the L'Anse Reservation boundaries. They are developing an inventory by talking to tribal elders, using historical society resources, and talking with tribal members about former uses of abandoned or under utilized properties on the reservation. Visual surveys

are also being completed. In addition, KBIC brownfields staff reviews historical property documents and aerial photographs of the reservation. KBIC's Natural Resources Department (NRD) is developing protocols and cleanup standards that will establish a process for moving properties through the assessment and cleanup phases of brownfields reuse.

KBIC completed the assessment and cleanup of the Sand Point brownfield site using EPA Brownfields Assessment and Cleanup funds, funding from the Great Lakes Commission Soil Erosion and Sediment Control program, and tribal funds. KBIC also used a portion of its Section 128(a) funding for cleanup. The property on the west side of Keweenaw Bay on the south shore of Lake Superior was covered with stamp sand impacted by copper ore processing waste containing low concentrations of heavy metals. The stamp sands entered Keweenaw Bay from a copper stamping mill in the early 1900s and were carried southward by lake currents and deposited on Sand Point. KBIC partnered with the United States Department of Agriculture's (USDA) National Resource Conservation Service (NRCS) and the Upper Peninsula Resource Conservation and Development Council (UPRCDC) to conduct environmental assessment activities at the property and examine potential corrective actions for the property. An analysis of brownfields cleanup alternatives led to the selection of constructing a soil cover over the stamp sands to reduce exposure to and erosion of stamp sands from the property into Keweenaw Bay. As part of the cleanup, a soil and vegetation cap was constructed over more than 33 acres of impacted land. KBIC transformed the property into a recreational area for use by tribal members and the general public. KBIC's long-term plan is to incorporate attractive greenspace and landscape architectural design to provide hiking trails, wildlife viewing, and areas for personal reflection.

KBIC will focus on increasing community awareness and developing assessment and cleanup protocols in the coming years. The tribe plans to conduct outreach to develop the vision for the cleanup and reuse of brownfield properties and visit area schools to teach children about the importance of land stewardship. Increasing the community's knowledge of brownfields and defining their tribal environmental program will provide better protection of human and environmental health, making the reservation a healthier and safer place to live.

For more information regarding KBIC's Sand Point project or their Environmental Response Program, please contact Katie Kruse at kkruse@kbic-nsn.gov or (906) 524-5757, ext. 20.

“Brownfields funding enabled us to create and define our program, identify brownfields properties, create an inventory, and start the process of getting properties assessed and cleaned up.”

– Katie Kruse, KBIC Environmental Response Program Specialist



ABSENTEE SHAWNEE TRIBE (EPA Region 6)

Providing Environmental Training by Coordinating EPA Brownfields Resources

Location: Central Oklahoma
Size: More than 12,000 acres in parts of Pottawatomie, Oklahoma and Cleveland Counties
Population: Approximately 3,000
Website: <http://www.astribe.com/OEP.htm>

The Absentee Shawnee Tribe provided environmental job training to 65 students to date, with 91% obtaining employment and an average post-training hourly wage of \$13.50. Before graduating, students are trained in: asbestos remediation, HAZWOPER, emergency confined space training, first aid and CPR, National Incident Management System (NIMS), and an inspector contractor supervisor class. The Absentee Shawnee job training

program, in partnership with the Gordon Cooper Technology Center and East Central University of Oklahoma, is one of three accredited asbestos training programs in Oklahoma and the only one that provides free training.

A \$200,000 EPA Brownfields Job Training grant awarded in 2006 provided the main funding source. Students then developed skills on actual assessment and cleanup projects. This coordinated effort gave students real life experience and supports site specific efforts of the tribes' Section 128(a) funded brownfields program.

The tribe's brownfields office and job training classroom is located on a 21-acre property that was the focus of an EPA Brownfields Assessment grant awarded in 2004. The property is a former pipe supply business with hazardous substances and petroleum contamination on portions of the site. Students use this and other nearby brownfields with illegal dumping, asbestos and mold issues to learn a range of skills, including how to: conduct site screenings; conduct mold assessment and inspections; use a global positioning system (GPS) to mark properties; and use equipment such as underground survey instruments. The students' practice provides information to the brownfields office and supports assessment and cleanup activities.

The tribe's Office of Environmental Protection hired some graduates to work within its brownfields program. For example, one student is now an asbestos trainer and another entry level staff member has been promoted to help with assessment and cleanup activities after going through the program. Other graduates have obtained employment in the asbestos and solid waste field, with some working for the United States Geological Survey (USGS) and the Federal Emergency Management Agency (FEMA).

For more information regarding the Absentee Shawnee's environmental job training and brownfields efforts, please contact Renee Hood at reneeh@astribe.com or (405) 273-9966.

“Many companies have been impressed with our graduates because due to their extensive training beyond just asbestos remediation, they are able to recognize additional issues such as emergency confined space problems.”

– Renee Hood, Absentee Shawnee Environmental Director



CHEROKEE NATION/INTER-TRIBAL ENVIRONMENTAL COUNCIL (ITEC) (EPA Region 6)

Technical Assistance: Providing Services and Training Other Tribes

Location: Northeastern Oklahoma
Size: 14 County Tribal Jurisdictional Service Area
Population: 40 ITEC member Tribes in Oklahoma, New Mexico and Texas
Website: <http://www.itecmembers.org>



A creek located on one of the brownfields properties on the Cherokee Nation brownfields inventory.

The Cherokee Nation Environmental Programs/Inter-Tribal Environmental Council (ITEC) provides environmental compliance and capacity building services for the Cherokee Nation, as well as to 40 additional member tribes in Oklahoma, Texas and New Mexico for EPA-related programs, including brownfields. The Cherokee Nation received Section 128(a) Tribal Response Program funding in 2003 to build upon its strong environmental program. Since 2003, the Cherokee Nation has made great strides in enhancing its program, as well as providing technical assistance and training to ITEC member tribes. With a staff of 30 full time employees in their Environmental Program, the Cherokee Nation conducts site visits, Phase I and II assessments, and is in the process of redeveloping several key properties in the Tahlequah area, the capital of the Cherokee Nation.

The tribe is focusing on cleanup and redevelopment efforts in the Cherokee Nation to increase tourism to the area. There are approximately 15-20 properties on the Cherokee Nation Brownfields inventory with more expected to be added as communication occurs with additional property owners and group leaders. The largest brownfield property is the Old Markoma Bible Academy—a 19 acre tract with five buildings that have lead and asbestos contamination. The property is slated to be redeveloped for office space, a school and an elder care facility. A Phase I assessment was performed in August 2005 and a Phase II is planned for 2008.

Another significant accomplishment is the Cherokee Nation's leadership role in providing Meth Lab Hazard Assessment training. The tribe presented its Meth Lab Hazard Assessment course to staff from over 20 different tribes within EPA Region 6 and participated in several national and regional meetings, including the National Forum on Tribal Environmental Science and the National Brownfields Conference. The training covers three parts: 1) how to identify illegal manufacturing processes; 2) how to assess former meth lab sites; 3) and how to remediate these properties. The Cherokee Nation is currently working on a "Train the Trainer" course funded by an EPA Brownfields Technical Assistance Grant.

For more information regarding the ITEC technical assistance program or the Cherokee Nation's Environmental Department or Meth Lab Assessment Training, please contact Bobby Short at bshort@cherokee.org or (918) 453-5089.

The Meth Lab Assessment Training has empowered tribal participants with the information and tools necessary to safely and effectively address the residual contamination generated by illegal production of meth.



CONFEDERATED SALISH AND KOOTENAI TRIBES (EPA Region 8)

Increasing Capacity to Work on a Variety of Brownfields Types

Location: Northwestern Montana
Size: Approximately 1.3 million acres
Population: Approximately 7,000
Website: <http://www.cskt.org>

Housing is a significant problem on the Confederated Salish and Kootenai Tribes (CSKT) Reservation with approximately 400 people awaiting homes. Many people could be housed on properties that currently sit idle due to contamination. CSKT's Tribal Brownfields Response Program was created in 2003 and focuses on assessing and cleaning up a portion of its 127 inventoried brownfields and reusing them for housing. CKST completed several assessments with its Section 128(a) Tribal Response Program funding and recently received its first EPA Brownfields Cleanup grant.



CKST staff removing refuse from an illegal dump site.

CSKT staff addressed a wide range of the reservation's contaminated land issues, from dump sites, to lead issues, to gas stations. In the future, they plan on taking on the unique challenges associated with meth labs, asbestos and contamination near waterways. CSKT staff developed their broad expertise through numerous trainings, including courses on Phase I and Phase II assessments and asbestos, meth labs, lead, underground storage tanks (USTs) and Resource Conservation and Recovery Act (RCRA) issues. While CSKT does utilize consultants, this training enables staff to analyze assessment results and provide project oversight.

For more information regarding the CSKT Tribal Brownfields Response Program, please contact Marlene McDanal at mmcdanal@cskt.org or (406) 883-2888 ext 7215.

“Brownfields funding has had an impact on the CSKT Tribe by cleaning up land for much needed housing for tribal members.”

– Marlene McDanal, CSKT Tribal Brownfields Response Program Coordinator



FORT BELKNAP RESERVATION, GROS VENTRE AND THE ASSINIBOINE TRIBES (EPA Region 8)

Community Involvement: Restoring Valuable Tribal Resources

Location: Montana
Size: 675,147 Acres
Population: Approximately 5,000
Website: <http://www.fortbelknapnations-nsn.gov>

Home to the Gros Ventre and Assiniboine tribes, the Fort Belknap Indian Community (FBIC) uses EPA Brownfields grants to assist community groups' efforts to restore a valuable, community landmark. In 2004, the Fort Belknap community received a Brownfields Section 128(a) Tribal Response grant to further their capabilities to address contaminated properties within

the reservation. Using the grant funds, the community identified numerous properties as potential brownfields. Once identified, the properties are inventoried and scored according to recently developed ranking criteria to establish priority for cleanup.

One of the properties identified, the Lodge Pole Hall, has been of interest to the community due to its historical significance. Built in 1930, the Lodge Pole Hall originally functioned as a community building and has been closed and abandoned since 1970. Through a community led effort, the Fort Belknap Planning Department put the site on the National Registry of Historic Places. Their goal is to renovate the hall as a community cultural center and museum and revitalize it for community functions, such as dances and meetings. To move forward with renovation, the property first needed an environmental assessment. In cooperation with Fort Belknap Brownfields Program, the community used Section 128(a) funds to complete Phase I and Phase II assessments on the property and a Phase III is now in progress. The community hopes to have cleanup completed by next year and have the property revitalized as a valuable community meeting place.

For more information regarding the Fort Belknap Brownfields Program, please contact Sherry Bishop at (406) 353-8465 or visit <http://www.ftbelknap-nsn.gov/brownfields>.

"It has always been said, that a community driven brownfields project is essential for a successful brownfields program. The Gros Ventre and Assiniboine Tribes of the Fort Belknap Indian Community, recognize the importance of "communities" working together to promote a healthier and safer environment, while at the same time maintaining honor for the traditional and cultural values of its people."

– Sherry Bishop, Brownfields Coordinator



GILA RIVER INDIAN COMMUNITY (EPA Region 9)

Leveraging Resources: Building on Successful Program Development

Location: Central Arizona
Size: Approximately 372,000 acres
Population: Approximately 16,000
Website: <http://www.gric.nsn.us>

Since 1995, the Gila River Indian Community (GRIC) utilized a range of EPA funding sources to develop a successful brownfields program. These EPA funding sources include: Superfund Preliminary Assessment/Site Inspection (PA/SI) funding; Targeted Brownfields Assessment (TBA) funding; a Brownfields Showcase Community grant; two Brownfields Assessment grants; a Brownfields Cleanup grant; and Section 128(a) Tribal Response Program funding. Each

resource enabled GRIC to leverage additional funding. For example, an inventory conducted with PA/SI funding helped GRIC leverage TBA funds by identifying specific environmental assessment needs. Through their TBA experience, GRIC exhibited that they had built the capacity to manage a brownfields grant, thereby increasing their competitiveness for the Brownfields Showcase Community grant.

These resources enabled GRIC to develop a comprehensive inventory of approximately 60 to 70 brownfield properties, assess approximately 20 properties, clean up several priority properties, and develop key partnerships. All of these activities directly impact tribal members. The Section 128(a) Tribal Response Program grant and Brownfields Cleanup grant allowed GRIC to assess and clean up petroleum contamination from leaking underground storage tanks on the St. John Mission property. The property was redeveloped into a Diabetes Education and Resource Center, which is widely used by the GRIC community members for treatment and research.

By working with a range of partners through the Brownfields Showcase Community grant, GRIC leveraged resources to support other tribal programs, including an environmental health grant from the Agency for Toxic Substances and Disease Registry (ATSDR) to investigate the human health risks of workers and residents who are in close proximity to contaminated properties and a grant to the tribe's Fire Department to address hazardous waste.

GRIC uses its Section 128(a) Tribal Response Program funding to complement other grants, build on the success of its established program, and continue its commitment to sustainable development that preserves the environment for future generations.

For more information regarding the Gila River's brownfields efforts or their Department of Environmental Quality, please contact Dan Marsin at dan.marsin@gric.nsn.us or (520) 562-2234.

The cleanup and redevelopment of the St. John Mission property into a Diabetes and Education Resource Center significantly impact the community. The Center provides treatment and research for more than 50 percent of tribal adults.



YUKON RIVER INTER-TRIBAL WATERSHED COUNCIL (EPA Region 10)

Community Outreach: Educating the Community Spurs Environmental Stewardship

Location: Central Alaska and Northwestern Canada

Size: Approximately 1.1 million acres

Population: Consists of 66 First Nations and Tribes

Website: <http://www.yritwc.com>

The Yukon River Inter-Tribal Watershed Council (YRITWC) is a coalition of 66 tribes and First Nations that was established in 1997 by a group of tribal leaders and elders. They were concerned about the increase in cancer among communities and other health issues caused by the possible contamination of the Fortymile watershed, a tributary of the Yukon

River. Since receiving Section 128(a) Tribal Response Program funding in 2005, the YRITWC Brownfields Program has partnered with 36 tribes, working with them to identify, prioritize and assess potential brownfields.

In the early stages of the program, YRITWC provided general brownfields overview trainings for communities that supported the goal of addressing brownfields throughout the watershed. During these sessions, partners such as the Alaska Department of Conservation (DEC) and other brownfields grantees were often involved to share their experiences and success stories. As the program developed, tribal members and elders played a key role in developing a watershed-wide inventory, which includes 229 sites, by identifying potential brownfields and sharing historical property information. After YRITWC staff conducts site visits and adds properties to the inventory, each tribe selects their priority brownfields site. Community input and partnerships have been critical in identifying brownfields and enabling YRITWC to more easily prioritize assessment activities across the watershed. Educating the community and involving them in the inventory process has also improved environmental awareness and spurred environmental stewardship.

YRITWC training and outreach efforts have evolved over time. The Brownfields Program now provides an annual workshop to inform tribal environmental workers about the program so they can lead local brownfields efforts. Interactive youth training has also been incorporated in classrooms, camps and at YRITWC bi-annual summits to teach children about the importance of long-term land preservation, pollution prevention and environmental stewardship. In early 2008, the Brownfields Program partnered with other tribal programs to provide a ten-day Hazardous Waste Response Training to 30 participants. The training provided a series of environmental certifications such as HAZWOPER, Emergency Response Training and Hazardous Materials Transportation.

For more information regarding the YRITWC Brownfields Program, please contact Sonta Hamilton at shamilton@yritwc.com or (907) 451-2549.

“For tribes in Alaska, brownfields is a new buzz word, but it is not a new area of concern. Contaminated site issues have always been a priority for rural communities because of impacts of mining, military and other industries. Although these remote communities are not accessible by road and have other limitations, many tribes have already received brownfields funding to begin addressing sites through assessment, cleanup, and reuse.”

– Sonta Hamilton, YRITWC Brownfields Program

Building for the Future

As described in this report, tribes use many different approaches to protect and restore natural resources and community health. A number of tribes developed ordinances or passed codes to increase their authority and better define their tribal environmental programs. Many tribes developed outreach programs to educate the community about brownfields issues. This led to increased awareness that engages the community, enriches its health, and preserves its cultural history. Additionally, other tribes use multiple grants and funding sources to build on their tribal brownfields and response programs.

As tribes develop their programs to meet the environmental needs of their community, several challenges remain. For example, tribes may:

- Lack dedicated funding for tribal environmental program capacity building, making it difficult to develop expertise and technical skills.
- Be challenged by the environmental damage from illegal activity (random dumping or meth labs) by non-tribal persons or entities.
- Face jurisdictional issues that can make managing and resolving environmental issues difficult.
- Experience a lack of development opportunity because of complex property ownership issues in Indian country.



Sand Point, a formerly contaminated property, is now a recreational area on the Keweenaw Bay Indian Community reservation.

The approaches highlighted in this report demonstrate how tribal response programs continue to evolve and address these challenges. Tribes are using Section 128(a) Tribal Response Program funds to build their programs and develop expertise and technical skills. Tribes are dealing directly with the effect of meth labs in Indian country and reaching out to their state environmental counterparts to work collaboratively on environmental issues.

Tribes indicate that they will focus resources on the following activities in the coming years:

- *Leveraging additional funding and resources to meet gaps in funding and technical assistance* – Many tribes are considering applying for additional EPA Brownfields grants and leveraging other resources to build on their existing programs.
- *Developing the capacity to conduct Phase I and oversee Phase II assessments* – More tribes are attending training with the long-term plans of enabling staff to become “Qualified Environmental Professionals” to conduct Phase I assessments and to gain the expertise to better oversee consultants as they conduct Phase II site assessments. The goal is to streamline the assessment process and reduce the costs associated with characterizing a property.
- *Increasing community education and ensuring cultural sensitivity in outreach efforts* – Tribes will continue to work closely with their tribal and surrounding communities to increase awareness of brownfields issues, environmental stewardship and cultural history.
- *Increasing Meth Lab Assessment and Cleanup ordinance development and training* – With the growing number of illegal meth lab production sites and meth use sites across the country, tribes are creating ordinances to clean up meth lab sites and attending trainings to determine how to identify illegal manufacturing processes, assess former meth lab sites and remediate these properties.

EPA Regional Tribal Response Program Coordinators

EPA Region 1

Diane Kelley
(617) 918-1424
kelley.diane@epa.gov

EPA Region 2

Alison Devine
(212) 637-4158
devine.alison@epa.gov

EPA Region 4

Brian Holtzclaw
(404) 562-8684
holtzclaw.brian@epa.gov

EPA Region 5

Kelley Moore
(312) 886-3598
moore.kelley@epa.gov

EPA Region 6

Diana Hinds
(214) 665-7561
hinds.diana@epa.gov

EPA Region 7

Susan Klein
(913) 551-7786
klein.susan@epa.gov

EPA Region 8

Bernadette Gonzalez
(303) 312-6072
gonzalez.bernadette@epa.gov

Stephanie Wallace

(406) 457-5018
wallace.stephanie@epa.gov

EPA Region 9

Nuria Muniz
(415) 972-3811
muniz.nuria@epa.gov

EPA Region 10

Susan Morales
(360) 753-9079
morales.susan@epa.gov

For more information on EPA's
State and Tribal Response Program, please visit:
http://www.epa.gov/brownfields/state_tribal.htm



For additional information regarding EPA's
American Indian Environmental Office (AIEO) efforts to
strengthen public health and environmental protection
in Indian country, please visit:
<http://www.epa.gov/indian>



For more information on the Indian
Environmental General Assistance Program (GAP)
grants, please visit:
<http://www.epa.gov/indian/gap.htm>



For additional information on
the Bureau of Indian Affairs (BIA)
programs, services and grants, please visit:
<http://www.doi.gov/bureau-indian-affairs.html>

EPA Brownfields Tribal Grantees (Through FY2007)

EPA Region 1

Passamaquoddy Tribe - Sibayik Environmental Dept. – *Section 128(a) Tribal Response Grant*

EPA Region 2

Seneca Nation of Indians – *Assessment Pilot, Cleanup Grant, and Section 128(a) Tribal Response Grant*

EPA Region 4

Seminole Tribe of Florida – *Section 128(a) Tribal Response Grant*

EPA Region 5

Fond du Lac Band of Lake Superior Chippewa – *Section 128(a) Tribal Response Grant*

Forest County Potawatomi – *Section 128(a) Tribal Response Grant*

Keweenaw Bay Indian Community – *Assessment Pilot, Assessment Grant, Cleanup Grant, and Section 128(a) Tribal Response Grant*

Lac du Flambeau Band of Lake Superior Chippewa – *Section 128(a) Tribal Response Grant*

Leech Lake Band of Ojibwe – *Section 128(a) Tribal Response Grant*

Lower Sioux Indian Community – *Section 128(a) Tribal Response Grant*

Little River Band of Ottawa Indians – *Assessment Pilot, Cleanup Grant, and Section 128(a) Tribal Response Grant*

Menominee Indian Tribe of Wisconsin – *Section 128(a) Tribal Response Grant*

Mille Lacs Band of Ojibwe – *Section 128(a) Tribal Response Grant*

Nottawaseppi Huron Band of Potawatomi – *Section 128(a) Tribal Response Grant*

Oneida Nation of Wisconsin – *Section 128(a) Tribal Response Grant*

Red Lake Band of Chippewa – *Assessment Pilot*

St. Croix Chippewa Indians – *Assessment Grant, Cleanup Grant, and Section 128(a) Tribal Response Grant*

EPA Region 6

Absentee Shawnee Tribe of Oklahoma – *Assessment Grant, Job Training Grant, and Section 128(a) Tribal Response Grant*

Cherokee Nation/ Inter-Tribal Environmental Council (ITEC) – *Assessment Pilot and Section 128(a) Tribal Response Grant*

Cheyenne and Arapaho Tribes of Oklahoma – *Assessment Pilot*

Comanche Nation – *Assessment Pilot*

Picuris Pueblo Indian Reservation – *Cleanup Grant*

Pueblo of Acoma – *Assessment Pilot*

Ysleta del Sur Pueblo – *Assessment Grant*

EPA Region 7

Omaha Tribe of Nebraska and Iowa – *Section 128(a) Tribal Response Grant*

Sac and Fox Nation of Missouri – *Section 128(a) Tribal Response Grant*

Winnebago Tribe of Nebraska – *Section 128(a) Tribal Response Grant*

EPA Region 8

Blackfeet Nation – *Assessment Grant, Job Training Grant, and Section 128(a) Tribal Response Grant*

Cheyenne River Sioux Tribe – *Section 128(a) Tribal Response Grant*

Chippewa Cree Tribe – *Section 128(a) Tribal Response Grant*

Confederated Salish and Kootenai Tribes – *Cleanup Grant and Section 128(a) Tribal Response Grant*

Crow Creek Sioux Tribe – *Section 128(a) Tribal Response Grant*

Crow Nation – *Assessment Pilot*

Flandreau Santee Sioux Tribe – *Section 128(a) Tribal Response Grant*

Fort Peck Tribes – *Section 128(a) Tribal Response Grant*

Fort Belknap Gros Ventre and Assiniboine Tribes – *Assessment Pilot, Job Training Grant, and Section 128(a) Tribal Response Grant*

Lower Brule Sioux Tribe – *Assessment Grant and Section 128(a) Tribal Response Grant*
Ogalala Sioux – *Section 128(a) Tribal Response Grant*
Rosebud Sioux Tribe – *Section 128(a) Tribal Response Grant*
Shoshone & Arapahoe Tribes – *Section 128(a) Tribal Response Grant*
Sisseton-Wahpeton Sioux Tribe – *Section 128(a) Tribal Response Grant*
Southern Ute Indian Tribe – *Section 128(a) Tribal Response Grant*
Spirit Lake Nation – *Assessment Pilot, Cleanup Grant, Job Training Pilot, and Section 128(a) Tribal Response Grant*
Standing Rock Sioux Tribe – *Cleanup Grant and Section 128(a) Tribal Response Grant*
Three Affiliated Tribes (MHA Nation) – *Section 128(a) Tribal Response Grant*
Turtle Mountain Band of Chippewa Indians – *Assessment Pilot and Grant, Job Training Pilot, and Section 128(a) Tribal Response Grant*
Ute Indian Tribe – *Section 128(a) Tribal Response Grant*
Ute Mountain Ute Tribe – *Section 128(a) Tribal Response Grant*
Yankton Sioux Tribe – *Assessment Pilot and Section 128(a) Tribal Response Grant*

EPA Region 9

Ely Shoshone Tribe – *Assessment Pilot*
Gila River Indian Community – *Assessment Pilot and Grant, Cleanup Grant, and Section 128(a) Tribal Response Grant*
Hoopa Valley Tribe – *Assessment Pilot*
Hopland Band of Pomo Indians – *Assessment Grant and Cleanup Grant*
Navajo Nation – *Assessment Pilot and Section 128(a) Tribal Response Grant*
Salt River Pima-Maricopa Indian Community – *Assessment Pilot, Assessment Grant, and Cleanup Grant*
Tohono O’odham Nation – *Assessment Pilot and Section 128(a) Tribal Response Grant*
White Mountain Apache Tribe – *Assessment Pilot*
Wiyot Tribe – *Cleanup Grant*
Yurok Tribe – *Section 128(a) Tribal Response Grant*

Region 10

Anvik Tribal Council – *Section 128(a) Tribal Response Grant*
Confederated Tribes of the Colville Reservation – *Assessment Pilot and Grant, Job Training Grant and Section 128(a) Tribal Response Grant*
Confederated Tribes of Coos, Lower Umpqua and Siuslaw Indians – *Section 128(a) Tribal Response Grant*
Jamestown S’Klallam Tribe – *Cleanup Grant and Section 128(a) Tribal Response Grant*
Lesnoi Village (Woody Island) Indian Tribe – *Section 128(a) Tribal Response Grant*
Lower Elwha Klallam Tribe – *Section 128(a) Tribal Response Grant*
Makah Tribe – *Section 128(a) Tribal Response Grant*
Metlakatla Indian Community – *Section 128(a) Tribal Response Grant*
Native Village of Port Heiden – *Section 128(a) Tribal Response Grant*
Native Village of Selawik – *Section 128(a) Tribal Response Grant*
Native Village of Tunanak – *Section 128(a) Tribal Response Grant*
Nez Perce Tribe – *Section 128(a) Tribal Response Grant*
Puyallup Tribe of Tacoma – *Assessment Pilot and Section 128(a) Tribal Response Grant*
Skokomish Indian Tribe – *Assessment Grant*
Swinomish Indian Tribal Community – *Assessment Grant and Section 128(a) Tribal Response Grant*
Shoshone-Bannock Tribes – *Section 128(a) Tribal Response Grant*
Yukon River Inter-Tribal Watershed Council – *Section 128(a) Tribal Response Grant*



State & Tribal Response Programs

The Four Elements at a Glance

A State or Tribe must demonstrate that their response program includes, or is taking reasonable steps to include, the following *four elements* of a response program:

1. Timely survey and inventory of brownfields sites in the state or tribal lands:

EPA's goal in funding activities under this element is to enable the State or Tribe to establish or enhance a system or process that will provide a reasonable estimate of the number, likely locations, and the general characteristics of brownfields in their State or Tribal lands. EPA recognizes the varied scope of State and Tribal programs and may not necessarily require a Tribe to develop a “list” of brownfields. Many STRP grant recipients conduct inventories of brownfields sites in their areas.

2. Oversight and enforcement authorities, or other mechanisms and resources:

EPA's goal in funding activities under this element is to have response programs include oversight and enforcement authorities to ensure that cleanup actions will protect human health and the environment, and that they are completed in accordance with federal and state (in Alaska) law. It is also important that the State or Tribe is able to take the necessary actions in the event that a cleanup action is not appropriate. On Tribal land throughout the Lower 48 states, environmental oversight and enforcement capacity often rests with the Tribes. In Alaska, with the exception of Metlakatla, the enforcement capacity rests with the State of Alaska and the Department of Environmental Conservation (DEC). A critical component of this element is understanding DEC's environmental regulations and the responsibility of the individual in the regulatory process. However, some Alaska communities have reportedly developed environmental ordinances for pollution prevention, such as fines for illegal dumping.

3. Mechanisms and resources to provide meaningful opportunities for public participation:

The intent of this element is to ensure that the public has access to any documents and related materials affiliated with assessment or cleanup

decisions made by the State or Tribe. There must also be a mechanism by which an individual can request a site assessment if they believe that they may be affected by contamination at a brownfield site. The appropriate State or Tribal official must respond to these requests. In Alaska, DEC has an established process for the public to report spills or environmental concerns, and a process to request an assessment at potential brownfield sites. Additionally, other Alaska Tribes have developed the capacity to respond to requests for assessments from the communities they serve. DEC encourages Tribes to communicate their environmental concerns to the department so that a proper and coordinated response can be initiated.

4. Mechanisms for approval of a cleanup plan and verification and certification that cleanup is complete:

EPA intends that States and Tribes be able to provide legitimate approval of cleanup plans and verify that response actions are adequate and completed by appropriate individuals or companies. In Alaska, DEC has the statutory authority to make these determinations at this time. DEC has an established process for assessment and cleanup work. It also reviews and approves assessment plans, cleanup plans and provides a written determination when cleanup is complete. Many Tribes in the Lower 48 have this authority on their lands as well. DEC also identifies whether or not the site, on completion of the response action, will be suitable for unrestricted use. If not, the closure requirements may identify land-use or activity controls that must be met.

It is important for all participating Tribes to understand where they should best devote their efforts to ensure that they are not diverted to tasks for which DEC already has statutory authority. To maximize their effectiveness, Tribal response programs may choose to focus on inventories, community outreach, documenting site conditions, reviewing existing data, identifying need, or sponsoring training, rather than working on enforcement. These are topics worth discussing with your EPA project officer.



Funding Guidance for State and Tribal Response Programs Fiscal Year 2009

Section 128(a) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended, authorizes a noncompetitive \$50 million grant program to establish and enhance state¹ and tribal² response programs. Generally, these response programs address the assessment, cleanup, and redevelopment of brownfields sites and other sites with actual or perceived contamination. Section 128(a) cooperative agreements are awarded and administered by the U.S. Environmental Protection Agency (EPA) regional offices. This document provides guidance that will enable states and tribes to apply for and use Fiscal Year 2009 Section 128(a) funds.

Requests for funding will be accepted from December 1, 2008 through January 31, 2009. Information required to be submitted with the funding request is on pages 13 - 15. States or tribes that fail to submit the request in the appropriate manner may forfeit their ability to request funds. First time requestors are strongly encouraged to contact their Regional Brownfields Coordinator (see page 19) prior to submitting their funding request.

Requests submitted by the January 31, 2009 request deadline are preliminary; final cooperative agreement work plans and budgets will be negotiated with the regional offices once final allocation determinations are made. As in prior years, EPA will place special emphasis on reviewing a cooperative agreement recipients' use of prior 128(a) funding in making allocation decisions.

States and tribes requesting funds are required to provide a Dun and Bradstreet Data Universal Numbering System (DUNS) number with their final cooperative agreement package. For more information, please go to www.grants.gov.

The Catalogue of Federal Domestic Assistance entry for the Section 128(a) State and Tribal Response Program cooperative agreements is 66.817. This grant program is eligible to be included in state and tribal Performance Partnership Grants.

BACKGROUND

State and tribal response programs oversee assessment and cleanup activities at the majority of

¹The term "state" is defined in this document as defined in CERCLA Section 101(27).

²The term "Indian tribe" is defined in this document as it is defined in CERCLA Section 101(36). Intertribal consortia, as defined in the Federal Register Notice at 67 FR 67181, Nov. 4, 2002, are also eligible for funding under CERCLA 128(a).

State & Tribal Response Program for Capacity Building

Instructions:

The following document is an example template for both requesting funds and submitting a work plan under the State & Tribal Response Program.

There may be a few changes to this template, but they will be noted once applicants are invited to submit final work plans this Spring.

The goal is to use this template to request funding so that it can then be used as the base work plan requiring only minimal changes once the funding decisions are made and the full application packets need to be submitted. The changes to the document would include reflecting the actual amount of funding allocated by EPA, and other tasks as negotiated with the EPA Project Officer-- rather than drafting a completely new format. It is understood that the information submitted at the time of the request will likely contain fewer details than when the work plan needs to be finalized. Although it is to your advantage to use the template and provide as much detail as possible, as there are only a few weeks available to prepare final work plans once email notification of the funding decisions.

Requested amounts apply to the period in which you are seeking funds. Allocated amounts are the amounts EPA will offer to you at the time you initiate the final application packet, which will include this template adjusted to the allocated amount. Funding amounts or allocation amounts are not guaranteed until the full application packets are submitted and processed by EPA (usually in the Summer). For example, you submit a request for funding of \$200,000 to establish your first year of the response program, but nationally all the requests exceed the amount available. You could then be allocated \$190,000 and offered to submit a final work plan and application packet (federal forms) for the \$190,000.

Remember:

- EPA tracks progress based on the usage of a particular federal fiscal year of the funding. For example, the current solicitation is to use up fiscal year funding from 2009, but many of you will be implementing the work from Summer 2009 to Summer 2010.
- Parts of the document will remain as a stand alone background piece, such as the “Goal 4”. In this particular case, having you submit a request/work plan with the Goal language indicates you are aware of how this program ties to our strategic plan and protection of the environment.
- Presently there are no State & Tribal or Voluntary Cleanup Agreement Memorandum of Agreements (MOA) in R10.
- Established Baseline for Measurement is the reference point that we would look at to see the enhancement. Be as specific as possible. Add dates where applicable, such as dates for progress reports.
- Refer to the current guidelines for details on the application timeframe and process, and always feel free to contact us with questions.
- Final work plans will be negotiated and approved with a designated EPA Project Officer, prior to submittal of an application to the Grants Office (likely no later than mid-June). Failure to contact EPA and submit the requested documents by the key dates outlined in the notification of funding email sent out later this Spring may result in no funding for the year. Please be prepared to submit to finalize applications this Spring.

(Insert Agency Name)
**Funding Request & Workplan Template
for Section 128(a) State & Tribal Response Program
Federal Fiscal Year Funding 2008
XXX, 2008 thru XXX, 2008**

Date last revised/submitted: *(please update each time you make any changes and re-submit)*

Point of Contact: *(provide the name and contact information for the designee working on this document)*

Total Amount Requested:

1. GOAL 4: Healthy Communities and Ecosystems

Objective 4.2 Communities – Sustain, Clean Up, and Restore Communities and the Ecological Systems that Support Them
Subobjective 4.2.3 - Assess, Clean Up and Redevelop Brownfields

Program Results Code: 402D24E

CFDA: 66.817 State and Tribal Response Program Grants

OBJECTIVE:

The Small Business Liability Relief and Brownfields Revitalization Act (SBLRBRA) was signed into law on January 11, 2002. The Act amends the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), as amended, by adding Section 128(a). Section 128(a) authorizes a grant program awarded and administered by the United States Environmental Protection Agency (USEPA) to establish and enhance state response programs that address the assessment, cleanup and redevelopment of brownfields sites and other contaminated sites as defined by the law. One goal of the funding as defined by the guidance is, “to provide funding for other activities that increase the number of response actions conducted or overseen, by a state or tribal response program. This funding is not intended to supplant current state or tribal funding for their response programs. Instead, it is to supplement their funding to increase their cleanup capacity.”

On November 25, 2003, the USEPA published in the Federal Register, Document number EPA 500-F-04-002, the Notice of Grants Funding Guidance for State and Tribal Response Programs. To be eligible for funding under Section 128(a) and as described in the guidance, a state must demonstrate that their response program includes, or is taking reasonable steps to include, the following four elements of a response program:

1. Timely survey and inventory of brownfields sites in the state;
2. Oversight and enforcement authorities;
3. Mechanisms and resources to provide meaningful opportunities for public participation;
4. Mechanisms for approval of a cleanup plan and verification and certification that cleanup is complete.
5. Maintain and make available to the public a record of sites addressed and proposed to be addressed by the state cleanup program.

3. Alaska State Response Program

3.1. R&R Goals and Objectives

3.2. R&R Fact Sheet

3.3. Alaska Regional Framework

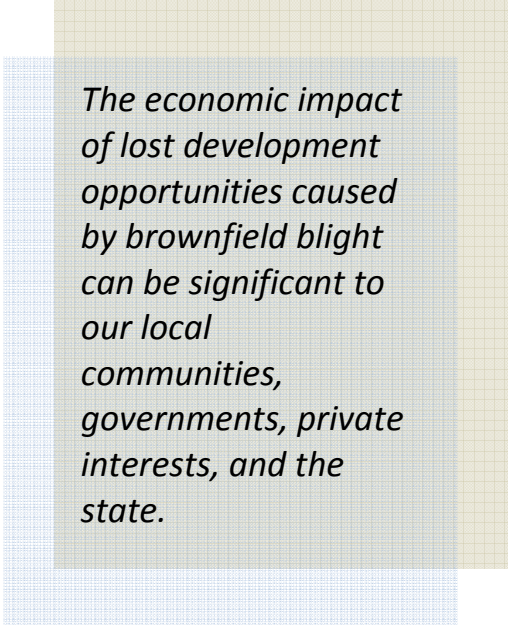
3.4. Example Alaska Projects (site summaries—RESERVED)

Alaska's Reuse and Redevelopment Initiative

Goals and Objectives

In an effort to better support the revitalization of contaminated sites in Alaskan communities, the Alaska Department of Environmental Conservation (DEC) established the “*Reuse and Redevelopment Initiative*” (R&R) in 2004. Through R&R, DEC realizes its mission of protecting human health and the environment while also prioritizing project oversight that fosters necessary economic growth and development.

The goal of R&R is to better coordinate with community economic development interests to identify, assess, and ensure adequate cleanup at contaminated sites so that those properties may once again realize their full economic potential. These sites are generally referred to as “brownfields,” where real or perceived environmental hindrances directly and adversely affect their redevelopment or reuse. In urban areas, economic factors (as opposed to risk factors) often drive the initial concern over remedial action at these sites, although sites posing a high risk may also be managed as brownfields. In rural areas, the concern over the unknown environmental impacts often cause a community to ignore a site. Either way, without financial resources, knowledge about the site, a clear reuse or redevelopment vision, and appropriate liability protections, the incentives to revitalize brownfield sites are often insufficient. DEC's R&R coordination with interested parties includes identifying unknowns, scheduling site work, assisting with exploring financing options, and, with the involvement of the state's attorney general's office, liability protections.



The economic impact of lost development opportunities caused by brownfield blight can be significant to our local communities, governments, private interests, and the state.

The key reasons for this *R&R Initiative* are:

- ✓ Contaminated properties affect private property owners, neighborhoods, and entire communities by increasing the public's risk of exposure to hazardous substances, decreasing property values, reducing the local tax

base, causing blight, increasing crime, and are an ongoing source of contamination that can affect other important infrastructure or resources.

- ✓ Environmental hindrances and regulatory determinations can strongly influence the success or failure of a proposed development project associated with a brownfield site.
- ✓ The economic impact of lost development opportunities caused by brownfield blight can be significant

In order to facilitate the reuse and redevelopment of contaminated properties, or properties suspected of having environmental impediments, DEC has been working toward the following objectives:

1. Establishing a point of contact (and support staff as appropriate) for brownfield assessment and redevelopment projects to ensure proper coordination with local governments, other state agencies, federal agencies, and the public, and to provide education and assistance in seeking brownfield grants and other assistance.
2. Establishing the *DEC Brownfield Assessment Program*, providing Phase I and Phase II Environmental Site Assessment services at eligible brownfield sites, and seeking additional sources of funding to maintain and expand this service.
3. Use available State *capital improvement project* (CIP) funding to prioritize and initiate assessments and cleanup actions on state-owned properties that are not realizing their economic potential, and for which a strong reuse interest exists on the part of the state, a local government, nonprofit entity, or the public.
4. Evaluating the use of CIP funds to initiate assessments and cleanup actions at abandoned or “orphaned” brownfield properties, or properties for which there is *no viable responsible party*, that are not realizing their economic potential, and for which there is a strong reuse interest.
5. Ensuring that site assessment and cleanup requirements for an environmental project under the authority of DEC are commensurate with the complexity and potential risk associated with the site.
6. Allowing flexibility (rather than rigidity) in setting site-specific requirements throughout the cleanup process while still ensuring that protective cleanup levels are safely achieved.

7. Providing timely review and project coordination by DEC technical staff for brownfield projects that have properly requested oversight.
8. Applying appropriate land-use controls to manage potential environmental exposure and other concerns during and following the cleanup and redevelopment process.
9. Providing clarification of a purchaser's future liability to the state resulting from the purchase of contaminated properties with pre-established environmental conditions.

The achievement of these nine objectives will lead directly to more successful and sustainable redevelopment projects at brownfield sites, with a definable environmental and economic benefit that would otherwise not be realized. The net result is more contamination identified, investigated, and cleaned up, and an overall increase in protection of human health and the environment.

In addition to the above efforts, the R&R Initiative is also focused on the expansion of brownfield interests through communication and coordination beyond DEC agency boundaries, which may include:

- ✓ Promoting the need for financial incentives to increase the viability of brownfield projects.
- ✓ Promoting the need for a *State of Alaska* brownfield financial assistance program, to include low-interest loans (and possibly grants) for assessment and cleanup to foster sustainable brownfield redevelopment.
- ✓ Coordinating and leveraging financial resources that would increase the brownfield redevelopment opportunities in Alaska.

With these objectives in mind, the R&R Initiative supports the *future* development of an *Alaska Brownfield Task Force*, to include state agency representatives, local government, economic development organizations, and the private sector. This proposed task force would focus on defining the brownfield problem as it is perceived across Alaska, summarizing the known hindrances to brownfield redevelopment and the possible benefit of proposed incentives, and coordinating financial support such as leveraging various federal grant opportunities across agency lines. DEC will continue to refine the State's role in supporting brownfield redevelopment opportunities.



Reuse & Redevelopment Initiative

Nearly every city and small town or village in Alaska has vacant, underused, and potentially contaminated properties. Real or perceived contamination can complicate the reuse of property and detract from the economic well-being of Alaskans. Contaminated properties affect private property owners, neighborhoods, and entire communities by increasing the risk of exposure to hazardous substances, decreasing property values, reducing the local tax base, causing community blight, and increasing crime. These sites are generally referred to as “brownfields,” where real or perceived environmental hindrances directly and adversely affect their capacity for redevelopment or reuse.

The Alaska Department of Environmental Conservation’s (DEC) Contaminated Sites Program facilitates the reuse and redevelopment of contaminated land. In an effort to better support the revitalization of contaminated sites in Alaskan communities, DEC established the “*Reuse and Redevelopment Initiative*” (R&R) in 2004. Through R&R, DEC realizes its mission of protecting human health and the environment while also providing project oversight and various forms of assistance for projects that promote economic growth and development.

The goal of R&R is to coordinate with economic development interests to identify, assess, and ensure adequate cleanup at brownfields so that these properties may once again realize their full economic potential. Economic factors (as opposed to *risk* factors) often drive initial cleanup action at these sites, although sites posing a high risk may also be managed as brownfields. Without a clear redevelopment vision, financial resources, and liability protections, the incentives to revitalize brownfields are often insufficient. R&R is working to clarify the environmental unknowns, develop new sources of financial assistance, and offer liability protections to prospective developers of brownfield sites in Alaska.

DEC’s Brownfield effort

DEC’s R&R work focuses on:

- Outreach and coordination with inter-governmental and community interests in brownfield revitalization.
- Education on identifying and assessing brownfields in Alaskan communities.
- Brownfield site assessment services.
- Technical assistance and grant development for recipients of federal grants.

Our staff works closely with grant applicants to navigate the eligibility and other requirements for state and federal brownfield assistance to maximize their chances of receiving funding.

Seeing a project through to cleanup may take multiple grants, since the process often involves several steps over extended periods of time.

DEC’s Brownfield Assessments (DBAs) are a big first step toward clarifying environmental uncertainties that may hinder the reuse or redevelopment of potentially contaminated property. The goals of these assessments are to:

- Determine if an environmental problem exists;
- Identify the nature and extent of contamination and its potential impact on the reuse of the property;
- Make recommendations for any additional assessment; and
- Identify cleanup options and estimate cleanup costs.

DEC’s assessments are offered through an annual *State and Tribal Response Program* grant from the U.S. Environmental Protection Agency (EPA).

Selected DEC Brownfield Assessments

Fairbanks area

- **Former Universal Recycling, Fairbanks, 2004:** This site is also known as Interior Services, Bartlett Industries, or the Sanduri Property. Cleanup of this contaminated property commenced following an initial DBA provided by DEC, and subsequent EPA competitive assessment and cleanup grants. The Fairbanks North Star Borough, which acquired the property through tax foreclosure in 2003, plans to market this property for light-industrial development once cleanup is complete.
- **SKS Texaco property, Sani-Klean, Moose Creek, 2004:** This site is also known as the H.E. Dennison or Richard Talley Property. A brownfield site assessment and limited cleanup was completed by DEC on this foreclosed, abandoned gas station. Even though residual contamination is known to remain, reuse of the site coupled with land-use restrictions is likely possible at this time. The site remains available for purchase through the Fairbanks North Star Borough's foreclosed-property process.
- **Noyes Slough Revitalization, Fairbanks, 2007:** DEC is compiling previous data associated with Noyes Slough and has collected new surface water samples. DEC worked with the Tanana Valley Watershed Association in seeking an EPA Targeted Brownfield Assessment, which was awarded in 2007. Future services will involve an EPA contractor developing a comprehensive assessment strategy for the revitalization of this prized Fairbanks waterway.
- **Weeks Field Development/Former Fairview Manor, 2007:** DEC worked closely with the City of Fairbanks and the Weeks Field Development Group to identify needed assessment services to help determine the extent of potential petroleum and solvent contamination associated with the old housing complex. They were



awarded a TBA and the assessment is currently underway. In addition, DEC is carrying out an areawide assessment of the historic Weeks Field airstrip, the first Fairbanks area airport, which closed in 1950.

- **Fairbanks Chena Riverbend, 2006 - 2007:** The site of the old City of Fairbanks dump has received two successive EPA assessment grants, and an EPA cleanup grant. A preliminary assessment has been completed, and a more detailed site investigation is planned for summer 2007.

Anchorage area

- **Peacock Cleaners, Anchorage, 2006:** Until recently this property was home to a dry cleaning business. Future plans for the property include conversion to a public road right-of-way, with landscaping and buffer areas to incorporate trails and park area.
- **Mountain View Subdivision, Anchorage, 2005 - 2006:** DEC conducted an areawide assessment in 2005 of the Mountain View neighborhood. Individual DBAs were conducted in 2005 and 2006, at the following locations:
 - **Former Gas Station (Color Creek Fiber Art Studios):** This former gas station and auto shop was found to have no significant environmental concerns, allowing its “new life” as an artists’ studio.

- **John’s Motel and RV Park:** Former heavy automotive use indicated potential contamination at this strategic location. This DBA turned up no major environmental concerns, allowing the Anchorage Community Land Trust (ACLT) to proceed with a complex



property transaction.

- **The Carey Property:** At this former lumberyard, store, and warehouse, environmental assessment was a prerequisite for a Community Development Block Grant award to the Municipality of Anchorage. The property now houses several offices.
- **Wilhour Trust Property:** Despite historic uses of the property as an auto and machine shop and a film processor, no significant evidence of contamination was found in initial investigation, but future soil tests are warranted. The ACLT was able to sell this property on the basis of the DBA findings.
- **Warner Trust Property:** This DBA, conducted in concert with the assessment at the Wilhour Trust site, will help smooth the sale of this property. Plans are in progress to develop these two properties together.

Around Alaska

- **Millennium Square, Kenai, 2006:** This City of Kenai development project is a 30-acre site used by the Federal Aviation Administration since 1941. Previous assessment and cleanup work left questions

about residual problems. A DBA confirmed no residual contaminated soil or groundwater that would preclude future development. The city is seeking proposals, which may include a convention center, hotel, tourism-related businesses, senior housing, and a cultural site for Native Alaskan history.

- **West Cook Construction Yard, Beluga, 2006:** This site of an abandoned former equipment storage yard was a concern for the Kenai Peninsula Borough as well as the local neighborhood. After foreclosure, the site sat vacant for many years because of concerns about the potential contamination. The comprehensive DBA completed by DEC determined that there were in fact no significant releases associated with historical use of the site. The borough now has plans to market and resell the site to a local business.
- **Former North Tank Farm, Delta Junction, 2007:** A DBA and resulting cleanup will enable a transfer of this valuable property from the state to the City of Delta Junction. This property has been sought by the City for decades, as it plans to construct an “End of the Alaska Highway Arch” at this location, which now houses the Sullivan Roadhouse museum and the Delta Farmer’s Market.



- **Historic Buildings, St. George Island, 2006:** DEC conducted an assessment of five historic buildings on this remote island in the Pribilofs. The St. George Tanaq Corporation is currently seeking to restore and preserve the buildings and the historic seal-industry infrastructure through a grant provided by the Alaska State Historic Preservation Office.

- **Former BIA school, Kwigillingok, 2007:** DEC is completing an assessment of an abandoned Bureau of Indian Affairs school. Of concern are lead paint, asbestos, and petroleum releases from the former onsite tank farm. The Native Village of Kwigillingok is working with the Alaska Department of Education and Early Development to resolve obstacles to reuse of the property on which the building sits.
- **Former Utica Mine Site, Deering, 2005:** DEC conducted an assessment of the former Utica Mine, located about 14 miles south of Deering. The site was under consideration for redevelopment as a tourist destination, but is now also being evaluated for future mining operations.
- **Alaska Packers Cannery, Pilot Point, 2007:** This deteriorating structure, built in 1891, is one of the only original cannery sites still possible to save. Contamination must be cleaned up before the City and the Tribe can continue with plans to convert some of the buildings into a hostel for a summer youth camp, a museum and visitor center, and a community metalsmithing and woodworking shop.
- **Former Dump Site, Fort Yukon, 2007:** At the request of the Gwichyaa Zhee Gwich'in Tribal Government, DEC evaluated potential contamination that may impede the redevelopment of this site into a rifle range or new bulk-fuel tank farm for the community.
- **Head of Passage Canal/Small Boat Harbor, Whittier, 2007:** The City of Whittier requested a DBA to focus on two areas that are prime for community revitalization. Known contamination in the area is perceived to be a hindrance to redevelopment. The assessment is focused on identifying offsite problems that may require further evaluation. The DBA is part of the first phase of a comprehensive community redevelopment plan for Whittier.
- **Former Airstrip, St. Michael, 2007:** DEC has completed a Phase I environmental site assessment of a former airstrip where the community is building a new school. The land, now owned by the City of St. Michael, is slated for additional development projects as well, and this DBA focused on identifying potential environmental hindrances that may impede these plans.
- **Former Cannery Support Buildings, Chignik Lagoon, 2007:** The Chignik Lagoon Native Corporation seeks to redevelop an abandoned cannery site to revive fish processing or other seasonal and recreational use in their community. This DBA focused on clarifying environmental concerns that must be addressed as part of the community redevelopment plan. It will also assist the current owner of the abandoned cannery property to better understand their responsibility in working toward a potential future land transfer.



Old Alaska Packers Cannery, Pilot Point

DEC's Brownfield Resources

Website: www.dec.state.ak.us/spar/csp/brownfields.htm

DEC's Brownfield Bulletin: www.dec.state.ak.us/spar/csp/docs/brownfields/bf_bull_02_07.htm

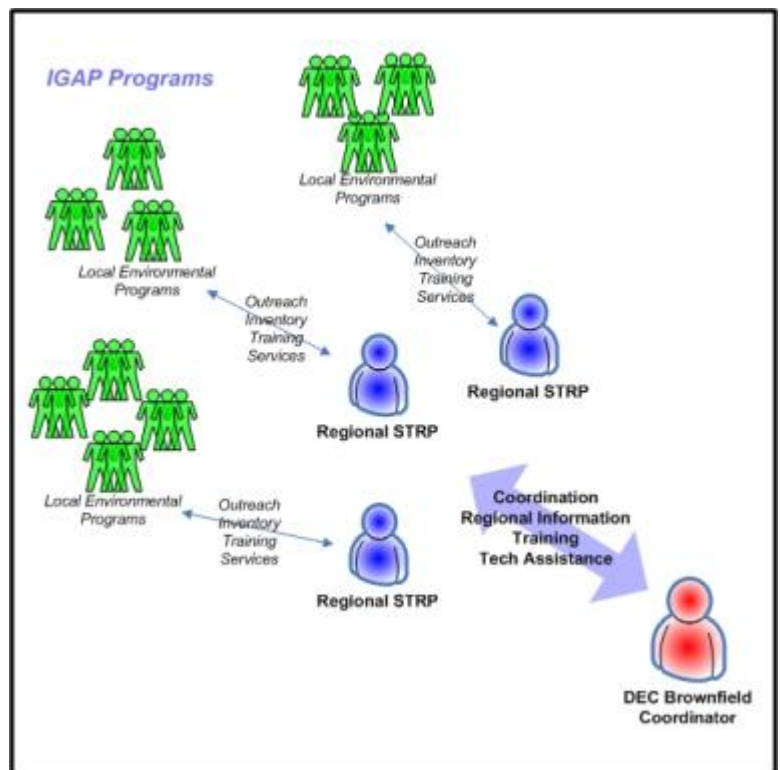
E-mailing list, for updates: www.dec.state.ak.us/spar/csp/brownfieldsnews.htm#List

Alaska Regional Framework

DEC encourages tribes to consider working together with their neighbors to establish sub-regional consortia when seeking State & Tribal Response Program (STRP) funding. STRP grants are available to individual states, tribes, and tribal consortia as capacity-building grants to help establish brownfield programs. More Alaska communities will be able to reap the benefits of these grants when working together to identify sites, educate their residents, review their reuse and redevelopment goals, and provide training through this unique funding opportunity. Our hope is that STRP grant managers are able to coordinate with the recipients of the Indian General Assistance Program (IGAP) grants, which are also capacity building grants for environmental programs.

A well designed regional brownfield grant can complement tribal environmental programs and assist communities otherwise unable to apply for and manage this funding.

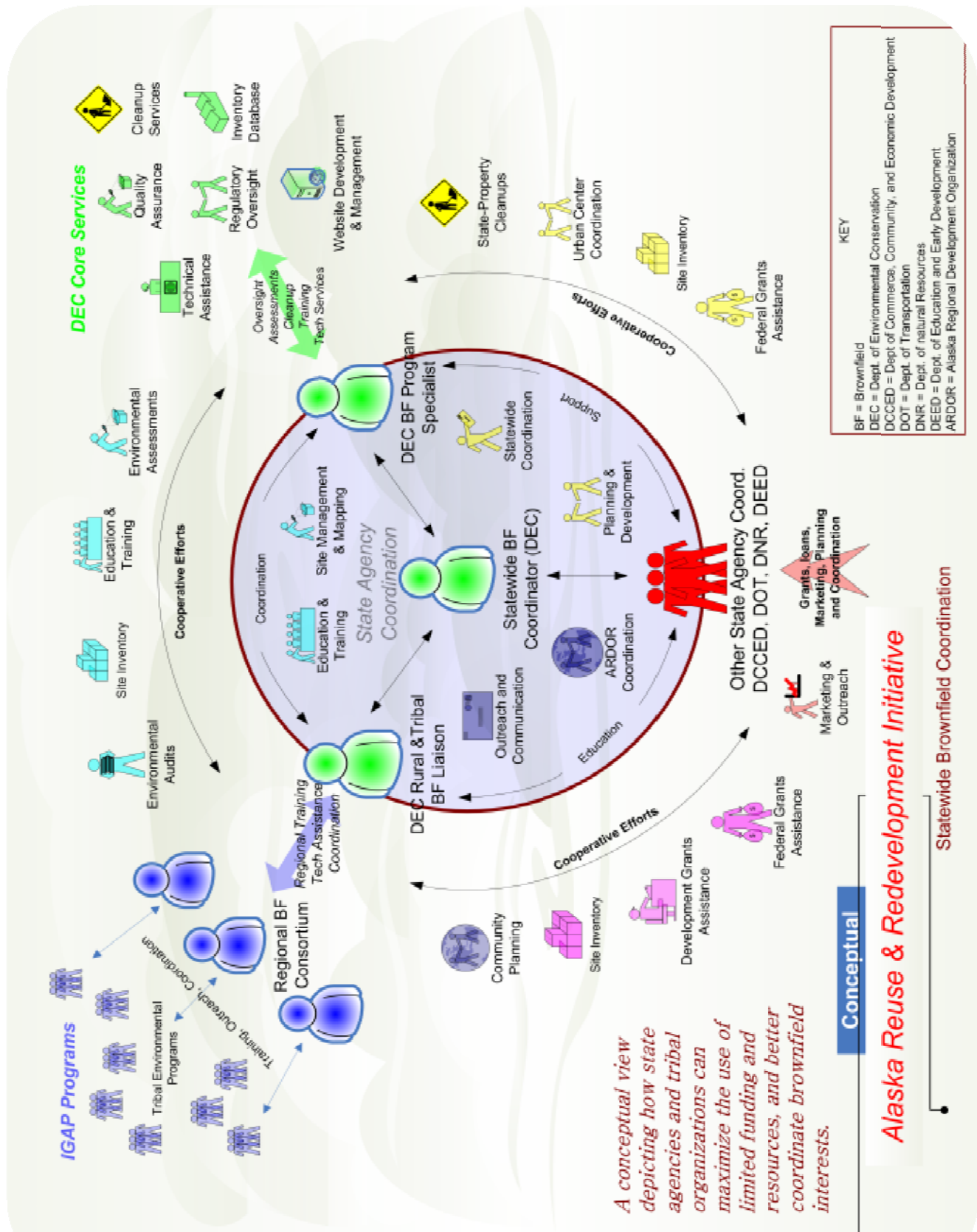
Brownfield funding allows communities to focus on specific revitalization efforts, whereas the EPA IGAP funding does not. IGAP provides a strong foundation for environmental improvements and increased awareness in more than 150 Alaskan villages. With a strong IGAP program in place, and supplementary brownfield services and training through regional brownfield programs, tribes will be better situated to independently manage spill prevention and environmental assessment, cleanup, and redevelopment projects.



DEC would like to see a strong tribally led coordinated brownfield program that can clarify rural village needs across Alaska. We encourage tribes to capitalize on existing consortia or other regional relationships to develop response programs that encompass multiple communities.

As an example, the Yukon River Inter-Tribal Watershed Council (YRITWC), in its fourth year of STRP funding, has used its grant to survey environmental conditions in 39 watershed communities; YRITWC has identified and mapped more than 230 potential brownfield sites. Training is also a focus of the YRITWC grant, and they have brought together representatives from more than 30 villages, in three separate training workshops, to discuss the brownfield program, how to identify and document sites, and how to work together on establishing a brownfield inventory. YRITWC (www.yritwc.com) has used their brownfield funding to complement their own backhaul and water-quality programs, and the watershed communities' IGAP grants, extending services to areas that otherwise may not have brownfield funding.

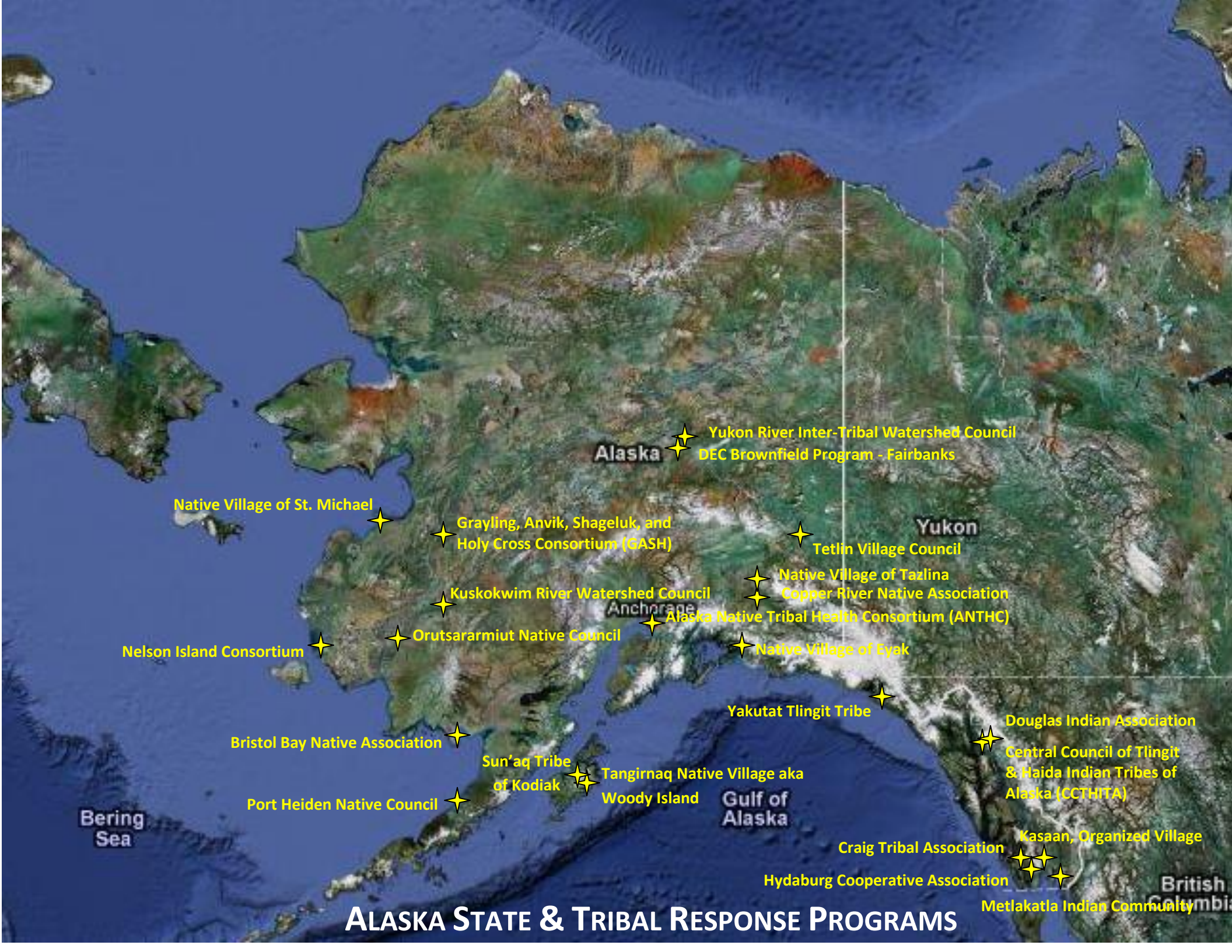
We invite you to coordinate your interests and ask questions of both DEC and other STRP recipients, who may be facing similar questions and obstacles. Additionally, our EPA Region 10, which includes Washington, Oregon, and Idaho, also has many tribes that have received STRP grants. They are often very helpful and informative. More information on STRP recipients and their programs is available through the web or your EPA contact.



A conceptual view depicting how state agencies and tribal organizations can maximize the use of limited funding and better coordinate brownfield interests.

4. Alaska Tribal Response Programs

- 4.1. Anvik Tribal Council (*Now part of GASH, see 4.19*)**
- 4.2. Bristol Bay Native Association**
- 4.3. Kasaan, Organized Village**
- 4.4. Maniilaq Association (*Inactive*)**
- 4.5. Metlakatla Indian Community**
- 4.6. Middle Kuskokwim Consortium (*Inactive*)**
- 4.7. Nelson Island Consortium – Native Village of Tununak**
- 4.8. Port Heiden Native Council**
- 4.9. Tangirnaq Native Village aka Woody Island**
- 4.10. Yakutat Tlingit Tribe**
- 4.11. Yukon River Inter-Tribal Watershed Council**
New in 2009:
- 4.12. Kuskokwim River Watershed Council**
- 4.13. Point Hope, Native Village (*Inactive*)**
- 4.14. Saint Michael, Native Village**
- 4.15. Tetlin Village Council**
New in 2010:
- 4.16. Alaska Native Tribal Health Consortium**
- 4.17. Central Council of Tlingit Haida Indian Tribes of Alaska**
- 4.18. Eyak, Native Village**
- 4.19. Grayling, Anvik, Shageluk and Holy Cross Consortium**
New in 2011:
- 4.20. Copper River Native Association**
- 4.21. Craig Tribal Association**
- 4.22. Douglas Indian Association**
- 4.23. Hydaburg Cooperative Association**
- 4.24. Orutsararmiut Native Council**
New in 2012:
- 4.25. Sun'aq Tribe of Kodiak**
- 4.26. Tazlina, Native Village**



Alaska

Yukon River Inter-Tribal Watershed Council
DEC Brownfield Program - Fairbanks

Native Village of St. Michael

Grayling, Anvik, Shageluk, and
Holy Cross Consortium (GASH)

Tetlin Village Council

Yukon

Native Village of Tazlina
Copper River Native Association

Anchorage

Kuskokwim River Watershed Council

Alaska Native Tribal Health Consortium (ANTHC)

Nelson Island Consortium

Orutsararmiut Native Council

Native Village of Eyak

Bristol Bay Native Association

Yakutat Tlingit Tribe

Douglas Indian Association
Central Council of Tlingit
& Haida Indian Tribes of
Alaska (CCTHITA)

Sun'aq Tribe
of Kodiak

Tangirnaq Native Village aka
Woody Island

Gulf of
Alaska

Port Heiden Native Council

Craig Tribal Association

Kasaan, Organized Village

Hydaburg Cooperative Association

Metlakatla Indian Community

Bering
Sea

British
Columbia

ALASKA STATE & TRIBAL RESPONSE PROGRAMS



Alaska

Yukon

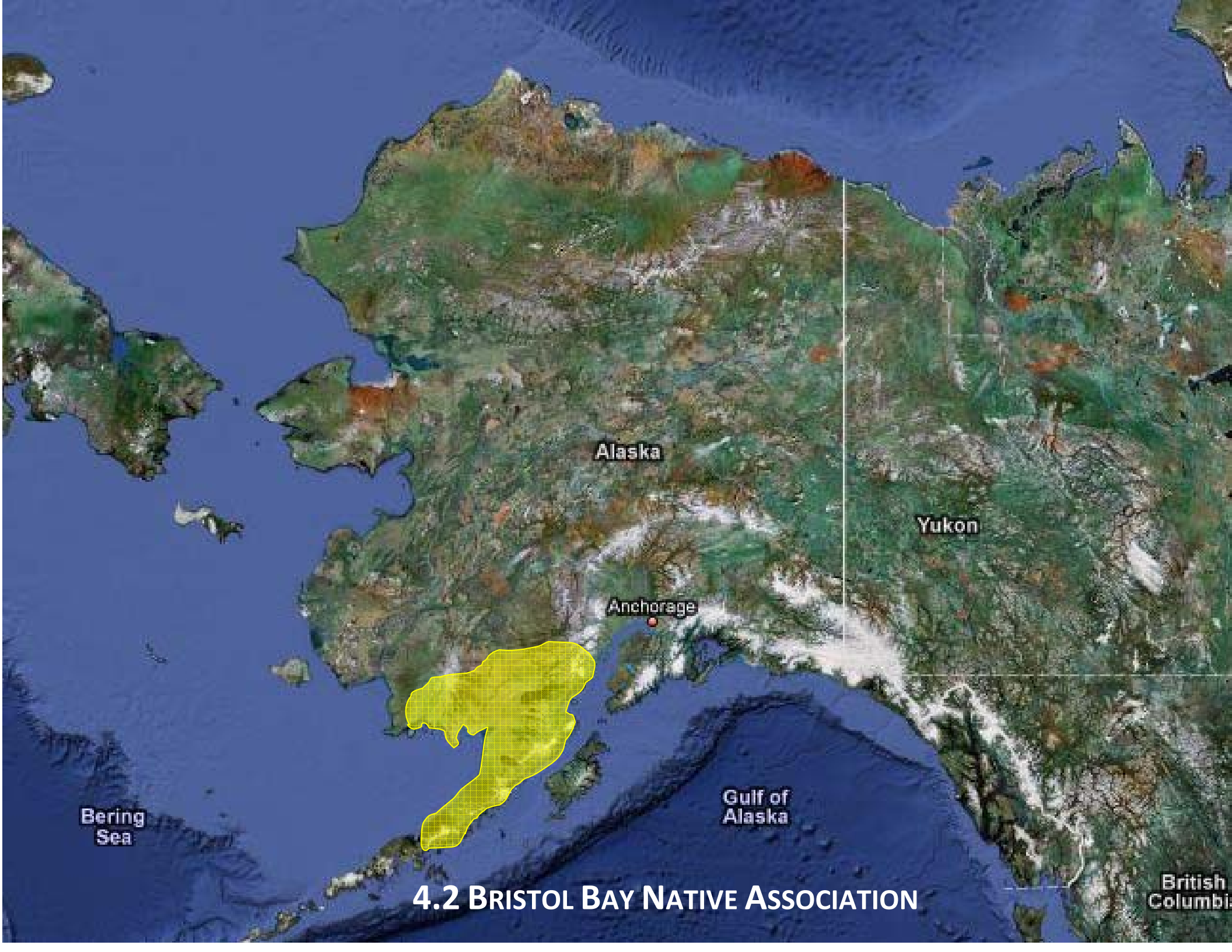
Anchorage

Bering
Sea

Gulf of
Alaska

British
Columbia

4.1 ANVIK TRIBAL COUNCIL (SEE GASH, 4.19)



Alaska

Yukon

Anchorage

Bering
Sea

Gulf of
Alaska

British
Columbia

4.2 BRISTOL BAY NATIVE ASSOCIATION

Bristol Bay Native Association, Inc. (BBNA), is a Tribal Consortium made up of 31 Tribes, and is organized as a non-profit corporation to provide a variety of educational, social, economic, and related services to the Native people of Bristol Bay region of Alaska.

The Mission of BBNA is to maintain and promote a strong regional organization supported by the Tribes of Bristol Bay to serve as a unified voice to provide social, economic, cultural, educational opportunities and initiatives for the benefit of the Tribes and the Native people of Bristol Bay.

History of BBNA

Bristol Bay Natives, like others throughout Alaska, were involved in the land claims struggle for years prior to passage of ANCSA. 37 years ago the Alaska Native Claims Settlement Act (ANCSA) formally recognized the struggles of Native people for economic and social justice. Our elders worked aggressively for ANCSA's passage, which settled Native Land Claims, created the Native corporations, and set the stage for participation by our people in the modern economy.

The land claims movement brought together leaders from 15 villages scattered throughout Bristol Bay who organized the region's first Native Association in 1966 to negotiate the land claims settlement. The association's membership would double before the Bristol Bay Native Association was formally incorporated in 1973. After ANCSA, BBNA turned its attention to addressing the social and economic problems facing Native people in the region. The change was partly in response to increasing requests for social and economic services directed to BBNC, the for-profit corporation formed pursuant to ANCSA, but largely in response to the need for increased social services traditionally delivered by distant state and federal agencies with no knowledge of the people, culture and living conditions in the most politically and culturally diverse region in Alaska.

Although BBNA's roots predated ANCSA, the association we know today as BBNA was formally incorporated as a non-profit in 1973, the same year as the Bristol Bay Area Health Corporation.

BBNA's early work focused on Head Start, and on jobs and on training funded through the Comprehensive Employment Training Act (CETA). Later reforms allowing tribes to compact directly with the Department of Interior-rather than waiting for services to "trickle down" through the Bureau of Indian Affairs' bureaucracy-accelerated tribal self-determination. In 1975, the Indian Self-Determination and Education Assistance Act opened the door for tribal organizations to assume responsibility for delivering federally funded services to Native people.

BBNA and our member tribes have been on the expanding and improving their services ever since. Job placement and training remains an important part of our work, and the Head Start program is expanded to three communities. Today we also offer Land Management Services, Indian Child Welfare, Natural Resources, Economic and

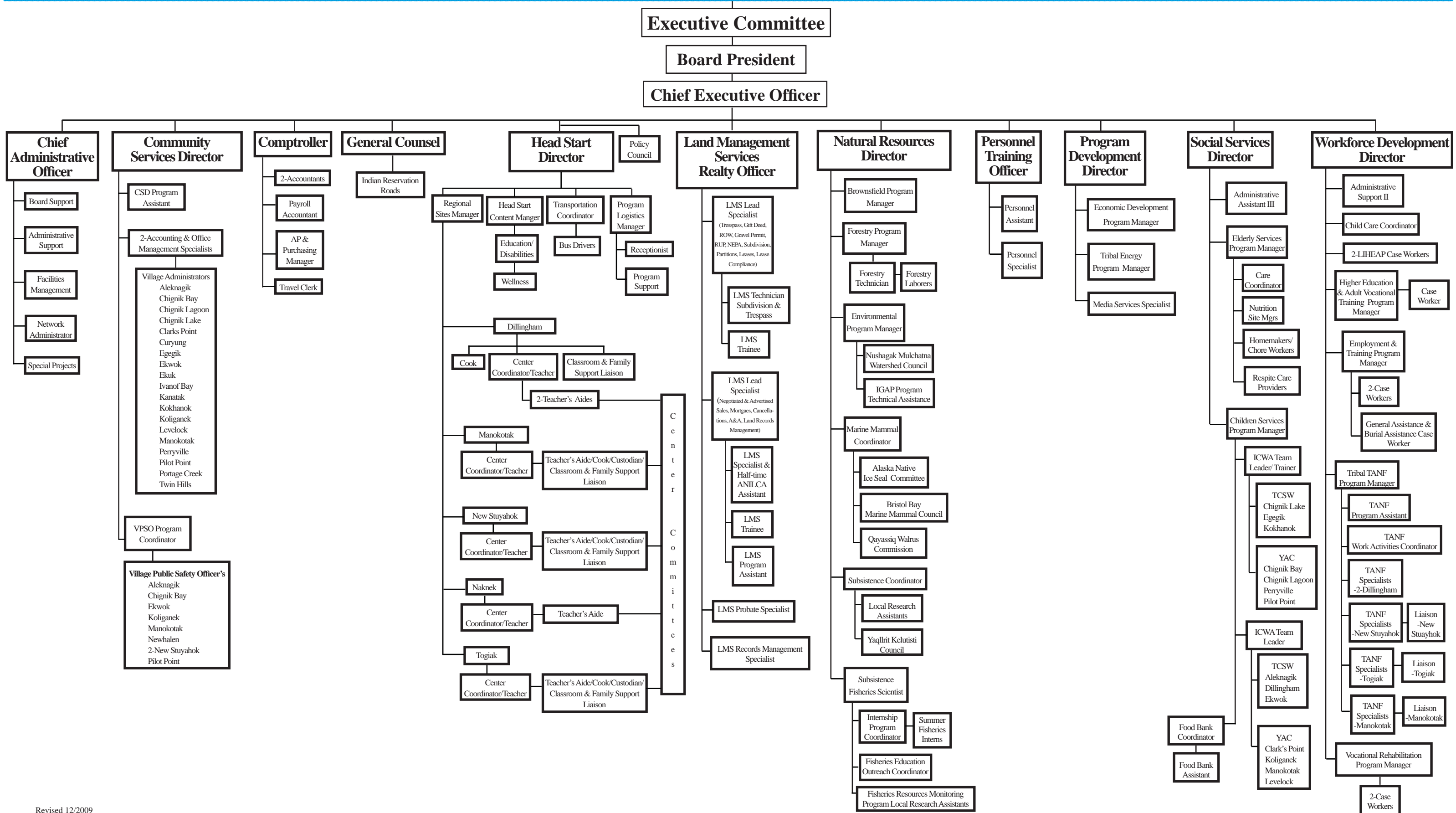
Workforce development, Vocational rehabilitation, Higher Education, Temporary Assistance for Needy Families (TANF) and Tribal Energy programs. Our budget has grown 10-fold in the last 16 years, and collectively employment at BBNA and other tribal entities is the region's largest employer and fastest growing segment of the Bristol Bay economy, according to the Alaska Department of Labor statistics.

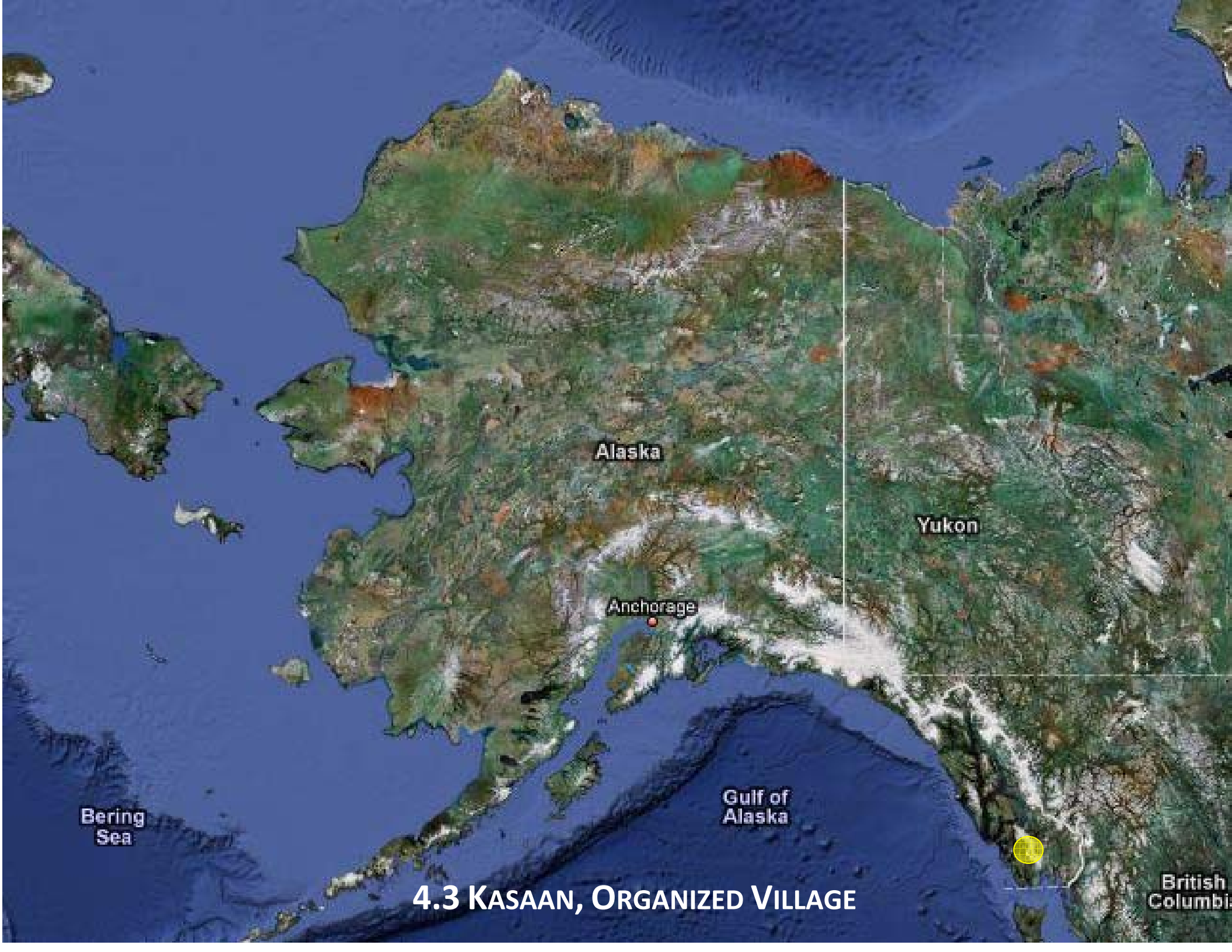
The BBNA Tribal Response Program 128(a) was granted funding beginning FY2008 and is now starting the second year of the program. The program has approximately 40 sites currently in its inventory and 4 in its public record. The potential brownfields in BBNA's area include abandoned dumpsites, old canneries, fuel storage tank farms, old BIA schools, and abandoned buildings. Brownfield partners for BBNA include the area's local Tribal Councils, the Alaska DEC, the area's EPA IGAPs, and the Bristol Bay Economic Development Corporation.

Arla Johnson was hired October 20, 2008, as BBNA's Natural Resource Department's Brownfields Program Manager after receiving a B.A. in Rural Development in May 2008. She is Alaska Native (Aleut), native to the Bristol Bay Region, a commercial salmon fisherman, and enjoys all traditional use and subsistence activities. Arla can be reached at (907) 842-5257, ext. 328, and by email at ajohnson@bbna.com.

Bristol Bay Native Association

Aleknagik ~ Chignik Bay ~ Chignik Lagoon ~ Chignik Lake ~ Clarks Point ~ Curyung ~ Egegik ~ Ekwok ~ Ekuk ~ Kanatak ~ King Salmon ~ Kokhanok ~ Koliganek ~ Igiugig ~ Iliamna ~ Ivanof Bay ~ Levelock ~ Manokotak ~ Naknek ~ Newhalen ~ New Stuyahok ~ Nondalton ~ Pedro Bay ~ Perryville ~ Pilot Point ~ Portage Creek ~ Port Heiden ~ South Naknek ~ Togiak ~ Twin Hills ~ Ugashik





4.3 KASAAN, ORGANIZED VILLAGE

Organized Village of Kasaan Information Sheet

Contact Information

<p>Cathy Needham Organized Village of Kasaan Director of Natural Resources</p> <p>(907) 321-3668 Work cathy@kasaan.org</p>	<p>Paula K. Peterson OVK Tribal Administrator</p> <p>(907) 542-2230 Work (907) 542-0958 Mobile</p>
<p>Neli Nelson Organized Village of Kasaan Environmental Scientist</p> <p>(907) 209-5389 Work neli@kasaan.org</p>	

Summary of Brownfield Workplan

Timely survey and inventory of brownfield sites:

During the first year of funding, the OVK will develop an advisory group for their Tribal Response program, which include an EPA brownfield representative, a State of Alaska contaminated sites representative and the council members of the KBWC. The advisory group will help steer the direction of the Tribes towards identifying potential brownfield sites within the traditional territory of the Kasaan Tribe. An initial survey and inventory of all identified potential brownfield sites will be completed with in the first year. The OVK will develop, maintain and update the inventory on an annual basis in a GIS database that will be accessible to the public through the OVK website. Once inventoried, sites can then be prioritized for assessment and the Tribe can work as a liaison for finding and securing funds for assessments and future site clean-ups.

Oversight and enforcement authorities or other mechanisms and resources:

Land ownership within the traditional territory of the Kasaan Tribe is a mix between federal, state and private entities. Private landowners adhere to the State of Alaska laws, and these landowners include the local governments, ANSCA regional and village corporations and individuals. Because of the diverse ownership and regulatory and enforcement authorities,

OVK will utilize the aforementioned advisory group to develop written procedures for oversight and enforcement authorities to ensure that all response actions protect human and environmental health in accordance to applicable federal and state laws. These procedures will be developed in the first year of funding, and will be revisited in subsequent years on an as needed basis.

Mechanisms and resources to provide meaningful opportunities for public participation:

Public participation in the project will be through two venues. The first will be through regular updates during KBWC public meetings (which includes all landowners and stakeholders in the Kasaan traditional territory). Meetings and agendas are announced ahead of time, through local community postings and an email distribution list. Information about OVK's Tribal Response program will be updated at these meetings, which occur on a quarterly basis, beginning in the first year and continuing through future years of funding. In addition, the OVK will house all information collected in the inventories, future assessments and clean-ups in a GIS database that will be accessible to the public through the OVK website. The GIS database will be developed and linked to the OVK website in the first year of funding and the website link will be sent to all OVK partners, and it will be mentioned in the quarterly environmental newsletters that OVK publishes.

Mechanisms for approval of a cleanup plan and verification and certification that cleanup is complete:

The OVK will work together with appropriate representatives of the Environmental Protection Agency and the State of Alaska to develop a mechanism for approval of clean up plans. Other than preliminary discussions during advisory group meetings, this element will not be addressed in the first year.. In addition, verification and certification that clean up is complete will be addressed in future years of the program, however a place holder for these items will be integrated and eventually tracked in the GIS database.

General Information and Community Development Goals

The Organized Village of Kasaan (OVK) is a federally recognized Tribe located on Prince of Wales Island, and the Tribe has an environmental program that has been funded by the Environmental Protection Agency (EPA) Indian General Assistance Program (IGAP) since 1998. In 2004, the Tribe organized the Kasaan Bay Watershed Council (KBWC), consisting of landowners and stakeholders in the defined the working boundaries, which is the traditional territory of the Kasaan Tribe. Through the KBWC, the Tribe followed EPA

guidance to develop a Unified Watershed Assessment (UWA). This process identified all the water bodies in the KBWC boundaries, reviewed the existing information available for those water bodies and then classified each water body into one of the following classification: watersheds in need of restoration, watersheds in need of preventative action, watersheds requiring no immediate action, or watersheds with insufficient data to make an assessment. The UWA identified one CERCLA site (Salt Chuck Mine), two U.S. Forest Service inventoried abandoned mines, and 33 old mine sites and prospects along the Kasaan Peninsula. There is a potential for other brownfields related sites to exist within the watershed boundaries.

The OVK has been administering an EPA Indian General Assistance Program (IGAP). Under this program, the major objectives are to build capacity in working on local environmental issues, education and outreach on local environmental issues, develop a GIS database that houses traditional and current natural resource information pertinent to the Tribe, and organize and facilitate the KBWC. The GIS database for the IGAP has begun collecting information and GPS locations on culturally sensitive areas within the watershed boundaries, as well as historic and current subsistence use areas. The current GIS database, allows for restricted access to information that might be culturally sensitive. The IGAP and Tribal Response Program will work cooperatively to facilitate KBWC meetings and on outreach and education on endeavors involving environmental issues.

Within the KBWC working boundaries, OVK owns 7 lots with a total of 7 acres. However the land is not ANSCA conveyed or trust lands. Landownership in the boundaries is: U.S. Forest Service (Tongass National Forest), State Mental Health Trust, Sealaska, Inc. (Regional ANSCA Corporation), Kavilco, Inc. (Village ANSCA Corporation), the City of Kasaan and private landowners. OVK does not have any existing authority for hazardous waste sites and/or site clean-up.

OVK has been working steadily on developing economic opportunities within Kasaan. The Tribe has significantly increased its infrastructure, programs and employment. Three years ago, OVK employed 3 full-time and 1 part-time employees. Today, OVK employs 8 full-time permanent employees and 9 seasonal positions. There is no dedicated staff person for economic development, however the Tribes is funded to begin developing an Ecolodge, and is seeking funding to improve facilities in the village (i.e. a new health clinic).

The goals of OVK's proposed Tribal Response Program will be to begin an inventory all brownfields sites in our traditional territory and develop a public record that will be maintained by the Tribe and include information on all potentially contaminated sites. The public record will be accessible on OVK's website, and will contain information on the sites and status of work in the current year, and the planned site work for the following year. The inventory of sites will be an on-going process that involves identifying all potentially

contaminated sites, determining if the sites meet the definition of brownfields, prioritizing the qualified sites for action and then potentially conducting needed site specific work. OVK, with assistance from an advisory group will develop a protocol for conducting an inventory at eligible brownfields sites. If a site is in close proximity to a culturally sensitive site, OVK will engage the EPA in a government to government meeting to determine how to best protect the site information. The OVK and EPA have a signed Tribal Environmental Agreement that will help facilitate this process.

The long term vision for OVK's Tribal Response Program is to assure that there are no environmental health risks to our people or degradation to the land in our traditional territory. To accomplish this, OVK would continue to implement a Tribal Response Plan until all contaminated sites are properly assessed and cleaned-up. To do this, OVK will continue to build their relationship with responsible parties for potential site clean-up, continue to identify and assess all potentially contaminated sites, facilitate seeking funding for cleaning up sites in need of restoration and help to oversee clean-up activities. We expect that clean-up activities will be contracted to a firm which specializes in hazardous waste clean-up, however OVK would build capacity to provide project oversight.



Alaska

Yukon

Anchorage

Bering
Sea

Gulf of
Alaska

British
Columbia

4.4 MANILAQ ASSOCIATION

Maniilaq Association Tribal Response Programs Information Requested

Tribal Environmental Program Contact:

Millie Hawley, Manager
Maniilaq Association
Environmental Program
Kivalina, AK 99750
(907) 645-2227 ph
(907) 645-2228 fax

Maniilaq Association has a quarterly newsletter called Sivutmuuluta which can be obtained at: <http://www.maniilaq.org/news.html>

Newsletter Contact Person:

Robyn K. Westlake
Maniilaq Association
P.O. Box 256
Kotzebue, AK 99752
robyn.westlake@gmail.com

Summary of Maniilaq Associations' Brownfield Program

Maniilaq TEP has a new grant from EPA's Brownfield Program, which will help bring awareness of:

1. Brownfield and what it means
2. Training to the Environmental Coordinators and Tribal Stakeholders who live in the Northwest Arctic Borough on Brownfield activities.
3. Education on Federal and State resources to address possible Brownfield projects in the communities Maniilaq serves.
4. Surveys and Brownfield Assessments in all eleven villages that Maniilaq serves.

Maniilaq Association has a Planning Dept.

Planning Department Contact:

Ed Ward, Planning Director

Maniilaq Association

P.O. Box 256

Kotzebue, AK 99752

(907) 442-7632 ph

eward@maniilaq.org

Maniilaq Association Planning Dept would know which villages in the Northwest Arctic Borough have Comprehensive plans. Since I am from Kivalina, I know the City of Kivalina has developed a comprehensive plan. As for the other villages, you would have to contact Ed Ward of Maniilaq.

Understanding our organization, region and goals

VISION

Maniilaq Association is seen as the premier model for creating successful, healthy communities through the planning, development and strengthening of village-based services supported by strong, accountable tribal self-governance.

DESCRIPTION

As the premier model for success in a constantly changing world, our customers are delighted with our services, continuous improvement is a way of life and Maniilaq's foundation is rooted in financial security. We have the highest rate of native professionals delivering services in a healthy environment and our employees are happy, well-trained, innovative and productive. As a result of the strong, active, effective and accountable leadership of our Tribal governments and the Maniilaq Board our services are established and easily accessible at the village level, and our communities are thriving, in control and confident of their destiny. Our people are physically, spiritually, and mentally healthy, and through the preservation of language, tradition and Iñupiat Ilitqusiatic values we have ensured the survival of our culture.

Questions and Answers: Maniilaq Service Area Planning and Development

Purpose/Goal: *Provides planning, grant writing, program development, economic development and special project services to both Maniilaq and the Tribes. Planning also provides technical assistance for special projects and is called upon to develop special projects such as program evaluation.*

Q. When was your program created? *Planning has been a part of Maniilaq for a long time. Most of the time it was a program under what had been Native Services. It was established as a Department in Administration in 2004.*

Q. How many employees make up your department? *There are a total of 10 positions in Planning and Development they are: Director, Assistant Director, Lead Planner/Grantwriter, Planning Assistant, and six planner/grant writers.*

Q. Do employee's need or receive specialized training? *Everyone receives basic grant writing training. At the present time, the training is provided by Research Associates. Other specialized training is provided for process management, facilitation, process mapping, and various planning courses. Planning, as a support organization accepts assignments in support of a wide variety of projects and programs. Specialized training in many areas is utilized as need arise.*

Q. How does the department help people in the community? *The department provides planning, grant writing, technical support in management of grants and projects to both the Association and the Tribes. This support enables both the Association and Tribes to provide essential health and tribal services to the people of the region.*

Q. Explain current or future improvement projects. *Since this is a continuous improvement organization, improvement in all areas is built into all operational areas.*

Q. How is your program funded? *Planning and Development is funded by Maniilaq's general fund. Much of this fund is provided by administrative fees charged to grants obtained by Planning and Development.*

Q. Explain organizational structure of department. *Planning and Development is a department in Administration. The Planning Director answers to the Office of the President. The Assistant Director of Planning and Development works under the Director and responsible for day-to-day operations, maintenance of the Long Range Plan and Special Projects. The Lead Planner/grant Writer is the main point of contact for technical assistance in planning and grant writing. He also assumes supervisory authority over work product dissemination. The Planning Assistant provides a wide range of support for all of our activities, both technical and logistical. The Planner/Grant Writers work with the tribes and the Association on a wide range of grants, planning activities and special projects.*



Alaska

Yukon

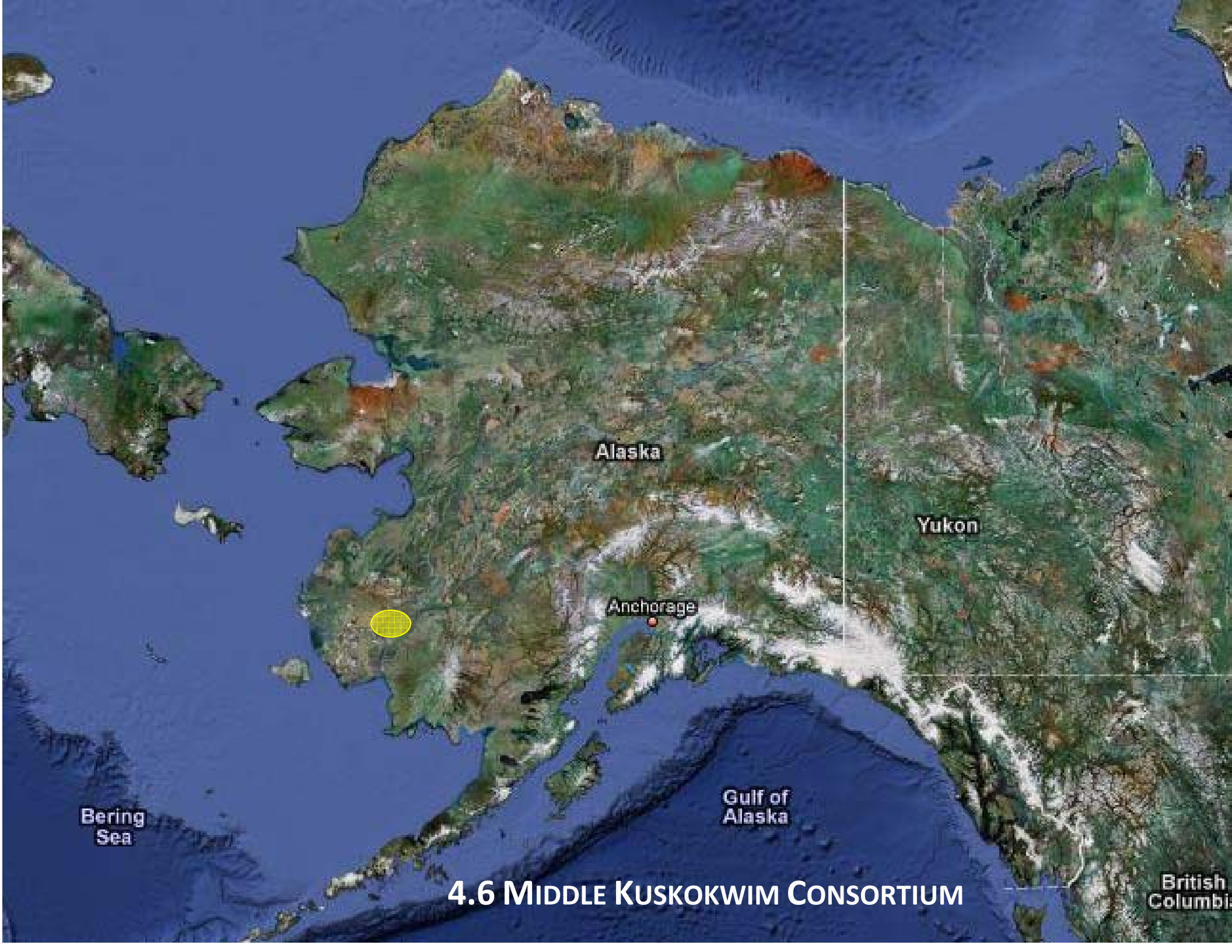
Anchorage

Bering
Sea

Gulf of
Alaska

British
Columbia

4.5 METLAKATLA INDIAN COMMUNITY



Alaska

Yukon

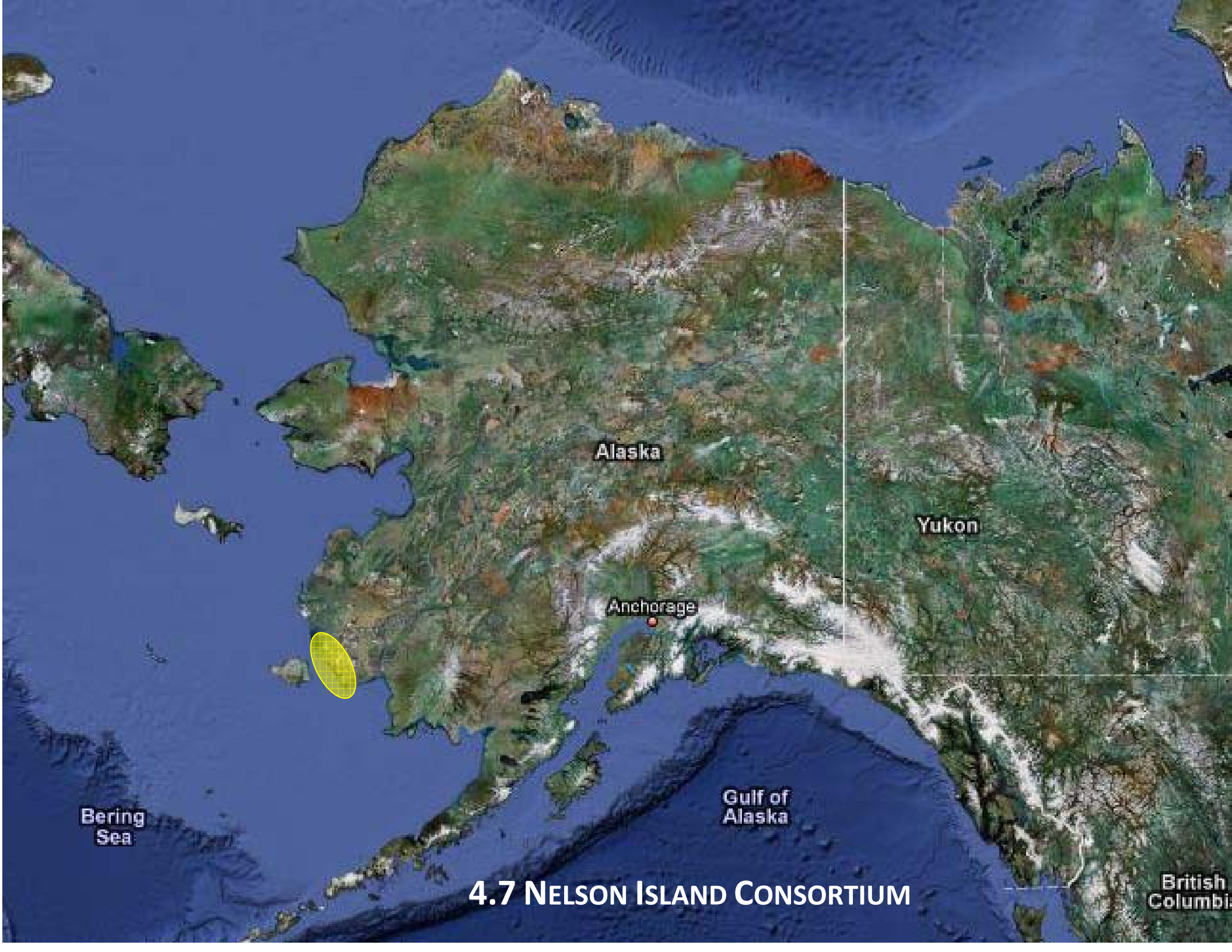
Anchorage

Bering
Sea

Gulf of
Alaska

British
Columbia

4.6 MIDDLE KUSKOKWIM CONSORTIUM



Alaska

Yukon

Anchorage

Bering
Sea

Gulf of
Alaska

British
Columbia

4.7 NELSON ISLAND CONSORTIUM

Nelson Island Consortium

Native Village of Tununeg

The following information was extracted from previous STRP submittals by the Nelson Island Consortium, and updated for 2010.

Tununeg (“Tununak”) is located in a small bay on the northeast coast of Nelson Island, 115 miles northwest of Bethel and 519 miles northwest of Anchorage. The area encompasses 60.5 sq. miles of land and 0.2 sq. miles of water. Like all the Consortium villages, Tununeg relies heavily on air transportation for passengers, mail and cargo service. A State-owned 2,010-



foot-long by 40-foot-wide gravel airstrip is available. A new airstrip is to be built in 2012. Barges deliver goods two to three times each summer, and goods are lightered to shore. Boats, snow machines and ATVs are used extensively for local travel. Tununeg Environmental Program (IGAP) includes one full-time coordinator, one part-time assistant and one part-time landfill operator with on-call Assistant, one part-time Nelson Island Consortium Representative. We also employ a support staff of an administrative assistant, and accountant/bookkeeper who is well-trained in QuickBooks and EPA grant financial procedures.

Tununeg is one of the seven tribes in *CANINERMIUT/ QALUYAAT-LLU NUNAMTAMENUITENGNAQLERKAANUNNUNAM CALIARAT* known in English as the “Nelson Island Consortium”, an inter-tribal Consortium that has shared traditional subsistence grounds on Qayluuaq (“Nelson Island”) for at thousands of years. Partly to our greater isolation from the outside, and much more recent significant outside contact (primarily in the 1950’s during the Tuberculosis outbreak), the villages here have retained our subsistence lifestyle and knowledge; as much or more so than any other part of Alaska. It is the dedicated desire to retain this lifestyle that formed the consortium and motivates us to write this proposal. The member Tribes include Cevva’arneq, Qipneq, Niugtaq, Negtemiut, Nunakauyaq, and Umkumiut (Chefornak, Kipnuk, Newtok, Nightmute, Toksook Bay, and Umkumiut). Chefornak and Kipnuk are located in the adjacent Caninermiut area.

Our Villages share the common subsistence grounds and similar Yup'ik cultures, although we each are different. Yup'ik is spoken as the first language in each Village (we each have our own accents), and English is used only in interactions with the Outside world and in school, where English is taught beginning in Grade 4. We all live a “subsistence lifestyle” and depend on



“traditional” foods on average for more than 82% of our diet intake. Most communities in the Nelson Island Consortium have stores that are operated by Corporations, ANICA or privately owned businesses. Our six villages and seven tribes range in size from 232 to 650 people. The total population served by this grant is about 2,500 people, over 97% being Alaska Native. The Umkumiut Tribe now mostly has its permanent homes in Nightmute where there is a school. They then use the trail to the former village location which is a much-used “camp” for hunting and fishing. They are responsible for the land there. Additional statistics can be found at:

http://www.commerce.state.ak.us/dca/commdb/CF_CIS.htm.

Brownfield Grant Goals for 2012-2013

The goal of the program is to conduct the assessment and cleanup of sites of concern to the Nelson Island Area communities and facilitate their reuse and/or redevelopment. The goal also is to develop a working model for other Alaska Native Villages in cooperating for a Brownfield Response program using traditional communities and relationships to build partnerships and assist the cleanup of shared subsistence sites. This goal will be accomplished by program enhancement and one site-specific activity in FY 2008.

We have a full and dedicated staff – a coordinator based in Tununeq, with three (3) part-time staff working from three (3) of four (4) villages. Two (2) that have oversight of the following village of Umkumiut/Nightmute and Kipnuk, to include a Part-time Bookkeeper to Assist the Coordinator. In the first two years of the program, much of the time was necessarily devoted to training and education of staff in learning many new western-oriented concepts and Brownfield terms that are essential for us to carry out a program on our own and protect our communities.

This development process was necessary for our program as our communities are all Yup'ik as first language communities, and much of our population, including our leaders – the Elders in our community- do not speak or understand English at a level that would allow public participation or awareness of our program. In instituting a successful cleanup and redevelopment/revitalization program, we will only be as successful as the extent of community involvement and consent, such that the sites that are of greatest priority to cleanup for reuse are focused on, and concerns relating to the cleanup that may impact that reuse/redevelopment are fully communicated.

Thus, understanding and translating that program to Yup'ik concepts was paramount for program success in preparing for site cleanup and reuse with meaningful public participation. This year we will finally be able to build on an established staff capacity that is continually to develop specifically for our communities' brownfield response needs.

We will concentrate on Brownfield skills training and coordination with State and other Tribal Brownfield programs, completing an inventory, and preparing for a site assessment and cleanup. We will develop a list of community job skills/training needed in site cleanup. And we will present our plan to the Consortium during an all-community meeting. To educate our community members of hazardous and contaminated sites, be it from the past up to the present day, and how we contribute to the contaminate that enters to our communities. The program has developed a power point presentation that points out to major concern in most of Nelson Island Consortium Villages, and from that we have learned how to properly record and address the issue using the modern day technology and regulations



Bering
Sea

Alaska

Anchorage

Yukon

Gulf of
Alaska

British
Columbia

4.8 PORT HEIDEN NATIVE COUNCIL

Port Heiden Tribal Response Program

Submitted by the Port Heiden TRP

Here are the contacts for Port Heiden:

1. Lavada O'Domin TRP, Brownfield 907-837-2441, fax 907-837-2440, email: pthenviro@gmail.com.
2. Scott Anderson Environmental Director (IGAP). Email: meshik@starband.net.
3. Tianna Carlson Environmental Assistant, email tkcarlson@starband.net.

The main number for the Native Council of Port Heiden is 907-837-2296. Contacts are Gerda Kosbruk, village administrator and Annie Christensen, finance.

Summary of Work Plan

- The program is currently in the sixth year of funding and continues to seek other mechanisms and resources to help address contaminated sites within Port Heiden.
- Program staff has identified and utilized resources to address contaminated sites. Some of the resources have been the U.S. Coast Guard, U.S. Army Corps of Engineers, IGAP, U.S. Air Force, Marine Conservation Alliance Foundation & Alaska Department of Environmental Conservation.
- a GIS based site inventory of known and potential contaminated sites was created.
- A public record of sites that are being addressed or will be addressed in the next year was created and continually updated to keep the public informed. The public record meets the requirements of CERCLA section 128 (b)(1)(c).
- Program staff conducts (2) public meetings annually to inform the community on the progress of the TRP and utilizes the meetings to update prioritization of the site inventory.
- Program staff produces (2) newsletters annually.

Alaska State & Tribal Response Program - Brownfield Handbook

- The Native Village of Port Heiden, with the use of 128(a) funding, hired a contractor to do a phase I environmental site assessment at the Old Meshik Town Site on 11 properties. Phase I was completed May 30, 2008.
- The NVPH Environmental Department has conducted soil sampling training at the Old Meshik Town Site.
- Received Phase I with a limited phase II DEC Brownfields Assessment (DBA) on former Above Ground Bulk Tank Farm. The assessment came back clean and the City of Port Heiden plans for redeveloping the tanks into a shop/storage facility were cleared to proceed.
- Staff is working with the City of Port Heiden and ADEC on a community Spill Response Agreement. The agreement was finalized April 15, 2010.
- Staff will continue to work with Weston Solutions Inc., Iliaska LLC, ADEC, U.S. Air Force, and Aniakchak LLC on issues involved in the Port Heiden Radio Relay Site Soil Remediation Project.
- Program staff has attended conferences and workshops such as, National Brownfields Conferences, Alaska Forum on the Environment, EPA Region 10 workshops and Alaska STRP Workshop. These workshops and conferences have helped in the understanding of Brownfield and environmental issues within Alaska and the United States.
- All reporting, closeout, and pre-cooperative agreements have been completed and successfully turned into EPA in a timely manner.
- Coordinator will continue to work with the Midwest Assistance Program as one of the ten pilot tribes selected to serve in their train-the-trainer program.
- Program staff has worked accordingly with IGAP staff to help build tribal capacity for emergency responses.
- A Spill Response trailer was purchased with 128(a) funds to enhance response capabilities.
- Program staff will continue to work with IGAP staff and the community to develop and refine an Emergency Operations Plan.
- Program staff will coordinate and provide outreach to other STRP grantee recipients in Alaska.
- Program staff has done property profiles on 18 individual sites in the Old Meshik Town Site including research and history on each property and entered them into the public record.

Pot Heiden History

The Village of Port Heiden is located in southwest Alaska, on the north side of the Alaska Peninsula. We are approximately 424 miles southwest of Anchorage. Our village sits at the mouth of the Meshik River on the shores of the Bering Sea. We have a year-round population of just over 80 residents.

The influenza epidemic of 1918-1919 forced the residents of the original village site, known as Meshik, to move to other villages. During World War II an army air base called Fort Morrow was built just north of the village. The War Department applied for over a million acres but only 8,000 acres were actually used for the air base and buildings. The base had as many as 6,000 military personnel, a heavy bomber and fighter support squadron stationed there. Around 1948 Fort Morrow was closed. In the late 1950s a DEW line station was built by the air force and was operated until 1979.

After the territory school was put in place by the local residents in the early 1950's, many of the dislocated families returned and resettled at Meshik, the community that was to become Port Heiden. Other families also moved in from neighboring villages to be near the school. In the early 1980's the community started relocating inland, closer to the airbase, because of the erosion at the village of Meshik. Currently there is only one resident left living in the old village.

In Port Heiden we fish, hunt, and gather berries and tundra plants to put food on our tables. We also buy processed foods at our village store or from Anchorage, but those foods are expensive due to air freight costs. In recent years our commercial fishermen have suffered from low salmon returns and many of us are more reliant than ever on a subsistence diet. It is increasingly important that our subsistence foods be healthy and free of environmental contaminants.

Statutory Authority

The Port Heiden Village Council is the federally recognized tribal government for the Alaska Native residents of Port Heiden. Our tribal council consists of seven elected members. The community also incorporated as a second-class city in 1972. The seven-member city council is elected to terms of office.

The City of Port Heiden is the primary provider of basic services such as electric utilities, landfill and road maintenance, sewer and septic, and fuel

purchases and sales at our bulk fuel tank farm. The Village Council and City Council work closely and have sponsored joint projects to the benefit of our community.

In 2000 the Native Council of Port Heiden applied for and received a grant through IGAP to start an environmental department. Scott Anderson was hired as the Environmental Director. NCPTH then started to work on acquiring a 128A STRP grant and were approved for FY 2006.

Environmental Issues

The residue left by the Army and Air Force has been the source of concern for our community and consequently the majority of the environmental offices' workload. The local population has been plagued by higher than normal cancer rates, dermatological problems, and other health problems that have been presumed to be from contamination left by the military. Our mission has been to find the "smoking gun". Common sense tells us that there must be a link to the contaminants, but proving it has been difficult.

For years we have watched as the bay has slowly taken back our original village site and in late 2003 erosion exposed part of our old cemetery, old military barrels and other suspicious objects. The abandoned homes and buildings have been falling into the bay. When the army closed the air base they just walked away from everything and consequently the local villagers used the abandoned materials to build homes, meat caches, smokers, and storage sheds. Reports by the DoD tell of chemical shells stored at Fort Morrow and were used in training exercises. Unused ordinance was buried or dumped in the bay. UXO's have been found over the years including anti-aircraft shells, small arms and machine gun ammunition. Through research, local knowledge, and documentation by the military we are finding that there are sites that the army had buried equipment and supplies in the area that the village had relocated to.

The contaminants present in these materials and ammunition along with the chemicals left by the Air Force are a major concern for us. A Phase I assessment of the old village of Meshik showed a variety of contaminants. We have been working with the military and other organizations to clean up the contamination and that has been fairly successful. The military, after years of

red tape and lack of funding, is making a good faith effort to help us in our efforts.

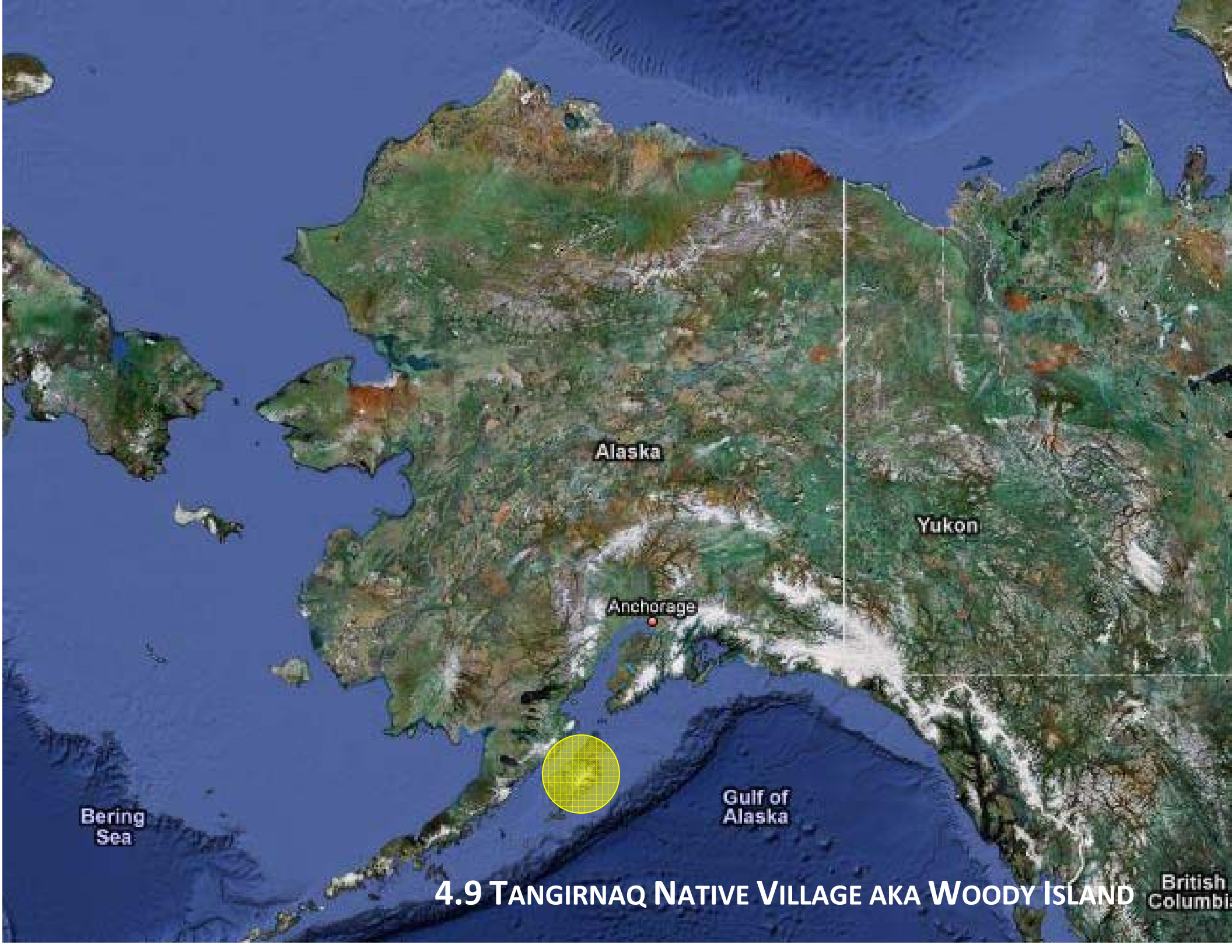
In a 2001 household survey of the main concern was contamination in the drinking water. Erosion in front of the village has exposed thousands of fuel drums that were buried by the Army during the war. Previous cleanups had picked up 24,000 drums and the leakage from the Air Forces' two 250,000 gallon tanks situated right in the middle of town led many to believe that fuel had leached in the drinking water. The Air Force had also stored drums of antifreeze, isopropyl alcohol, carbon tetrachloride, ammonia, and other chemicals next to the fuel tanks. Water testing was done on all the wells in Port Heiden in 2003 but only one well in the old town site of Meshik was tested due to the relocation of the village and there was only one resident left in the old village. The Environmental office is working with Ric Robinson and Charles Grosse of the Agency for Toxic Substances and Disease Registry to determine the sources of the health problems. Some of the main contaminants that have been identified in past assessments, cleanups and testing were PCB's, benzene, asbestos, lead and mold.

Our Office has been helping to coordinate emergency responses by state and federal authorities. Many times the need is immediate but the response is not. We want our office to be able to focus more effort on this issue immediately so that opportunities to avoid pollution are not lost. We have an emergency response team made up of this office and several of the local residents that are properly trained. The Environmental office also has a response trailer supplied with materials for quick action in case of a spill or release. We are currently working on an agreement between ADEC and the City of Port Heiden / the Native Council of Port Heiden.

To date 20 community members and 3 from neighboring villages, have successfully completed the 40 hour HAZWOPER training in accordance with OSHA 29CFR1910.120. While working with the local HAZWOPER team, the environmental staff has successfully removed hazards from in and around the city limits of Port Heiden. A previous cleanup in the old village and beach front area included the removal of abandoned vehicles and draining all of the fluids from them, i.e. engine oil, transmission oil, gear oil, etc. The HAZWOPER team has also built a storage area for the purpose of storing old used lead acid batteries. The first backhaul of batteries removed over 22,000 lbs. from the community. The second backhaul of batteries consisted in the

removal of over 2,000 lbs. A used oil burner has also been installed in the City of Port Heiden shop building, which burns the city and state's used oil for heating the shop.

Our community has welcomed the education and capacity-building we have achieved so far. They have come to understand the environmental issues and priorities. At the same time they become very anxious to see more tangible activity taking place. We now have local people trained in handling hazardous materials and we are putting this training to use. There are many areas identified that we want to take action on and to use our skills where we can.



Alaska

Yukon

Anchorage

Bering
Sea

Gulf of
Alaska

British
Columbia

4.9 TANGIRNAQ NATIVE VILLAGE AKA WOODY ISLAND

Tangirnaq Native Village aka Woody Island Tribal Council's Brownfields Tribal Response Program

Our Program:

The role of our program is to gather information about contaminated sites, conduct public outreach, inventory and survey potential sites, and assist with possible assessment.

The Kodiak Regional Brownfields Response Program

Since 2004, the Woody Island Tribal Council has received assistance to establish a Brownfields Response Program. The program has successfully inventoried several areas of concern in 4 main Formerly Used Defense Sites located on Leisnoi, Inc. property. Through the Native American Lands Environmental Mitigation Program (NALEMP) and the Native American Environmental Tracking System (NAETS), Woody Island Tribal Council has managed information about these sites and listed them as potential brownfields.

Beginning in 2008, we have offered the experience of our Department of Environment and Natural Resources as a regional resource for the Kodiak Archipelago. Regional programs benefit all who participate by consolidating information, sharing resources, and painting a more comprehensive picture of lands that have been impacted by contamination and that may be eligible for assistance in cleanup and redevelopment activities. We seek to be a truly collaborative response program, and welcome any interest from local tribal governments. Specifically, we can assist in gathering GIS data to be used as a planning and management tool, in preliminary site assessment through site visits, in the development and publication of a Public Record and brownfields inventory, and in the development of response action plans.

The Four Elements

The Four Elements of a Brownfields Response Program are:

- Timely survey and inventory of brownfields sites in the state
- Oversight and enforcement authorities
- Mechanisms and resources to provide meaningful opportunities for public participation
- Mechanisms for approval of a cleanup plan and verification and certification that cleanup is complete.

Additionally, a response program maintains and makes available to the public a record of sites addressed and proposed to be addressed by the cleanup program.

Woody Island Tribal Council's Brownfields Tribal Response Program

Contact



Heather Patterson is the current Brownfields Program Manager; she has worked with the Brownfields Tribal Response Program grant since she arrived at Woody Island Tribal Council in August 2012.

Contact Heather:

Phone: 907-486-2821

Fax: 907-486-2738

Email: brownfields@woodyisland.com

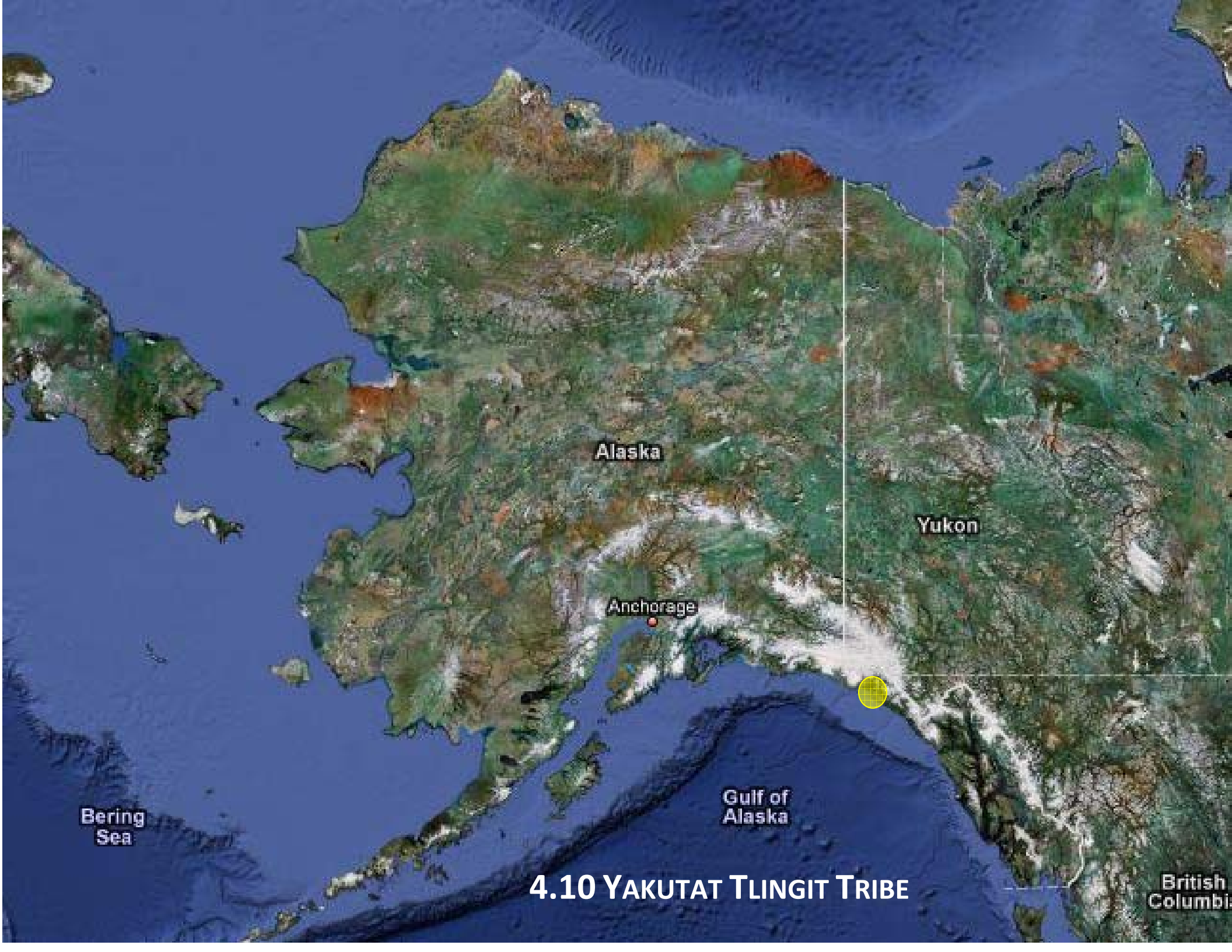
Woody Island Tribal Council

Located in the city of Kodiak on Kodiak, Island, Alaska, the Woody Island Tribal Council (WITC) is the governing body for Tangirnaq Native Village, a federally recognized Tribe.

The WITC Environmental and Natural Resource Department has received funding through the EPA Indian General Assistance Program along with the EPA Brownfields Tribal Response Program since 2004; resulting program development and capacity building has allowed the Department to serve our membership and the Kodiak community as a whole by promoting increased environmental awareness, appreciation, and wise stewardship of our land and resources.

Please visit the Woody Island Tribal Council website for more information.

Woody Island Tribal Council* 3248 Mill Bay Rd * Kodiak, AK 99615 * 907-486-2821



4.10 YAKUTAT TLINGIT TRIBE

YAKUTAT TLINGIT TRIBE

P.O. Box 418, Yakutat, Alaska 99689
Phone 907-784-3238 Fax 907-784-3595



The Yakutat Tlingit Tribe and the U.S. Department of Defense (DoD) have entered into Cooperative Agreements that allow the Tribe to mitigate impacts from former military sites. This DoD program is known as the Native American Lands Environmental Mitigation Program (NALEMP).

This program enables the Tribe to conduct environmental investigations; prepare work plans; remove buildings, structures, and debris; and clean up contaminated sites that potentially impact the land, water, and subsistence resources of the Yakutat Tlingit Tribe.

Military sites that are eligible for mitigation under NALEMP are sites located on Native-owned and **traditional and customary** use lands, those that impact Tribal resources in and around Yakutat.

Cooperative Agreements ?

The Department of Defense American Indian & Alaska Native Policy was developed as a direct result of the Executive Memorandum of April 29, 1994 Titled “**Government to Government** relations with Native American Tribal Governments,” signed by President Clinton

Cooperative Agreements is a tool used by local Tribal governments and the Department of Defense for activity or cleanup that has potentially affected tribal rights, or resources, Indian or customary & traditional use Land. This is not a contract, but an Agreement Between Governments, a **Cooperative Agreement.**

2006 Cooperative Agreement - Work Completed

Developed **Strategic Project Implementation Plan (SPIP)**.

- SPIP identifies four main areas of concern that include over 70 sites.
- Identifies suspected environmental impacts and status of each site.
- The SPIP is used by DoD for identifying future NALEMP eligible tasks.
- ❖ Criteria used by YTT to prioritize site were:
 - ✓ Former DoD sites that impact tribal resources
 - ✓ Impact is not currently addressed by other DoD program (FUDS)

Conducted site investigation at Ocean Cape Radio Relay Station (OCRRS). Under FY06 Cooperative Agreement

- Conducted Asbestos & lead-paint inspections of structures
 - Lead paint on all structures
 - Asbestos in the Garage Building exterior siding
- Sampled soils surrounding 130,000-gallon above ground storage tank (AST)
- Diesel-contaminated soil surrounds the AST
- Sampled fuel/water product in the AST
 - Over 5,500 gallons of diesel-water mix
- Sampled drains in the Garage Building
 - Drains contaminated with PCBs and heavy metals
- Sampled soils surrounding gasoline UST by Water Pumphouse
- Gasoline contamination appears to be limited to the UST cradle

2007 Cooperative Agreement – Work in Progress

❖ First phase of removals at OCRRS

- Upgrade the access road to the OCRRS, from the Ankau Bridge to the OCRRS
- Empty and dispose of the diesel-water mix
- Prepare the 130,000-gallon fuel AST for removal
- Budget accepted under original scope of work

Road work from Ankau Bridge to OCRRS 1.862 MILES (9833 FEET)



OCRRS site and location of work areas and sites of concern.



Timely survey and inventory of brownfields sites:

This task involves developing an inventory of hazardous waste sites within the usual and accustom lands of the Yakutat Tlingit Tribe. The inventory will build on the list of sites identified as impacted by former federal military activities. The types of sites in the inventory will include dump locations, old hunting or logging camps, fuel storage areas, and any site where there is real or perceived contamination. Public outreach is an essential part of developing the inventory. Input from the public will be requested to compile the list of potential locations. Information on each site will be collected including site location, use history, potential contaminates of concern, and an estimate of the extent of impacted area.

The inventory will be used as a mechanism by which the Yakutat Tlingit Tribe can consider and respond to a request to conduct a site assessment from a person that is or may be affected by a release or threatened release of a hazardous substance, pollutant, or contaminant at a brownfield site located in the community in which the person works or resides. The list will also serve as an inventory of sites from which assessments or cleanups can be selected as part of our site-specific activities.

Oversight and enforcement authorities or other mechanisms and resources:

A key component of oversight mechanisms that will be initiated will be the development of a Quality Assurance Project Plan (QAPP). The QAPP will be developed to ensure that environmental data collected during assessment and cleanup activities are of the type and quality needed for decision-making, and will be provided to the USEPA for approval. Sampling that may be conducted in accordance with the QAPP includes environmental sampling to characterize the nature and extent of contaminants at identified sites, verification of cleanup following an emergency response, and confirmation of cleanup following work performed by others.

Initially the Tribe is interested in performing sampling for dioxins. Dioxins have been found but the source and extent are unknown. The QAPP will be used to guide future sampling for dioxins; no sampling is planned under this current funding request. The need for the samples and possible locations will be determined by the results of the analysis conducted under Task 2, Activity 5. In the future the QAPP will also be applied to sampling eligible sites identified in the inventory.

Mechanisms and resources to provide meaningful opportunities for public participation:

Activities performed under this key element will be related to the Public Record, and site inventory. A process will be developed for the most efficient way to disseminate information on the public records system for the Yakutat Tlingit Tribe Tribal Response Program. This may include utilizing existing mechanisms or developing new ones. The purpose of the public outreach will be to introduce the Yakutat community to the program, obtain input from the community on sites to include in the inventory, provide a venue for discussing and developing criteria for identifying the community's priority sites.

The Tribe's Tribal Response Program may host informational meetings for community members to explain the purpose of the Tribal Response Program, highlight goals and objectives of the program, and educate the community on use of the public record system. The Public Record, which will be maintained and updated annually, as well as the outreach presentation may be posted on an Internet website.

The Tribe anticipates several outreach events. There will definitely be one at the start of the program to gather information and one at the end to present the findings, especially the dioxin sample map. Yakutat Tlingit Tribe anticipates providing an article, about the program, in the Tribal newsletter on a regular basis. How many additional events and how the interim findings will be presented to the community and reviewed is a topic that will be discussed in the initial outreach event.

Mechanisms for approval of a cleanup plan and verification and certification that cleanup is complete:

Activities planned under this task include conducting a technical review of available information and assessing environmental concerns at the former military sites. The technical review will include recalculating toxic equivalent (TEQ) values for previously detected dioxins at sites and developing a map that shows the location of all dioxin samples that have been analyzed to date and the TEQ at each location.

In addition, the method detection limits and screening levels used in past investigations will be examined for their appropriateness and protectiveness of the Tribe's use of natural resources. The Tribe needs to participate in the USACE's Remedial Investigation/Feasibility Study (RI/FS) work under FUDS to ensure that Tribal priorities and concerns are being addressed. The USACE has conducted cleanup and restoration activities of former military sites in Yakutat since the 1980s, and the Tribe does not have the resources to fully participate in these cleanup efforts. The Tribe requires funding to conduct technical reviews of the USACE's work plans, site investigation reports, and project correspondence related to the USACE efforts under FUDS. The output for this task will be a report on the status of the sites. The Tribe proposes to break this task down into the following subtasks:

- Identify reports and data to include in technical review
- Conduct technical reviews of documents
- Compile review comments by sites
- Identify sites and sample locations with dioxin data
- Recalculate TEQ values for all dioxin samples(The use level of seafood in Yakutat is much higher than the national average)
- Develop map with dioxin sample locations and TEQ results
- Develop report on the status of cleanup of sites

Contractors will assist Tribal members in coordinating project activities including, developing a survey/inventory of Brownfields sites, setting up the public record system in a web-based GIS format, developing public outreach/educational materials, identifying data reports and conducting technical reviews, identifying available dioxin data and recalculating

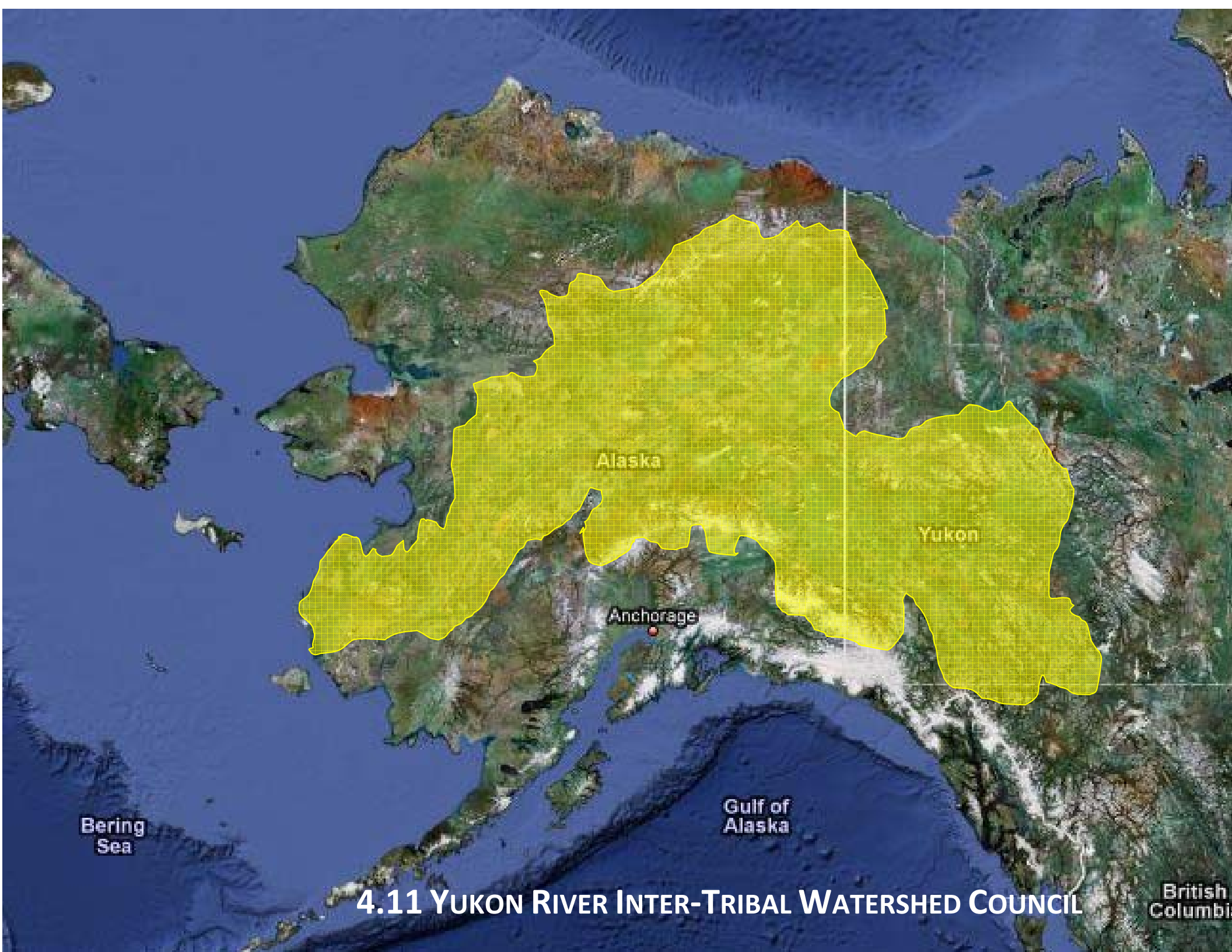
TEQ values, mapping TEQ results, and developing status reports on cleanup activities (see Section 8 for budget narrative).

I plan for the Tribe to eventually train and to do most of the work on the website with the ability to enter data from the GIS acrvie and autocad as information becomes available.

List of favorite movies (just seeing if you are paying attention ...!) [Recently, IRON MAN](#)

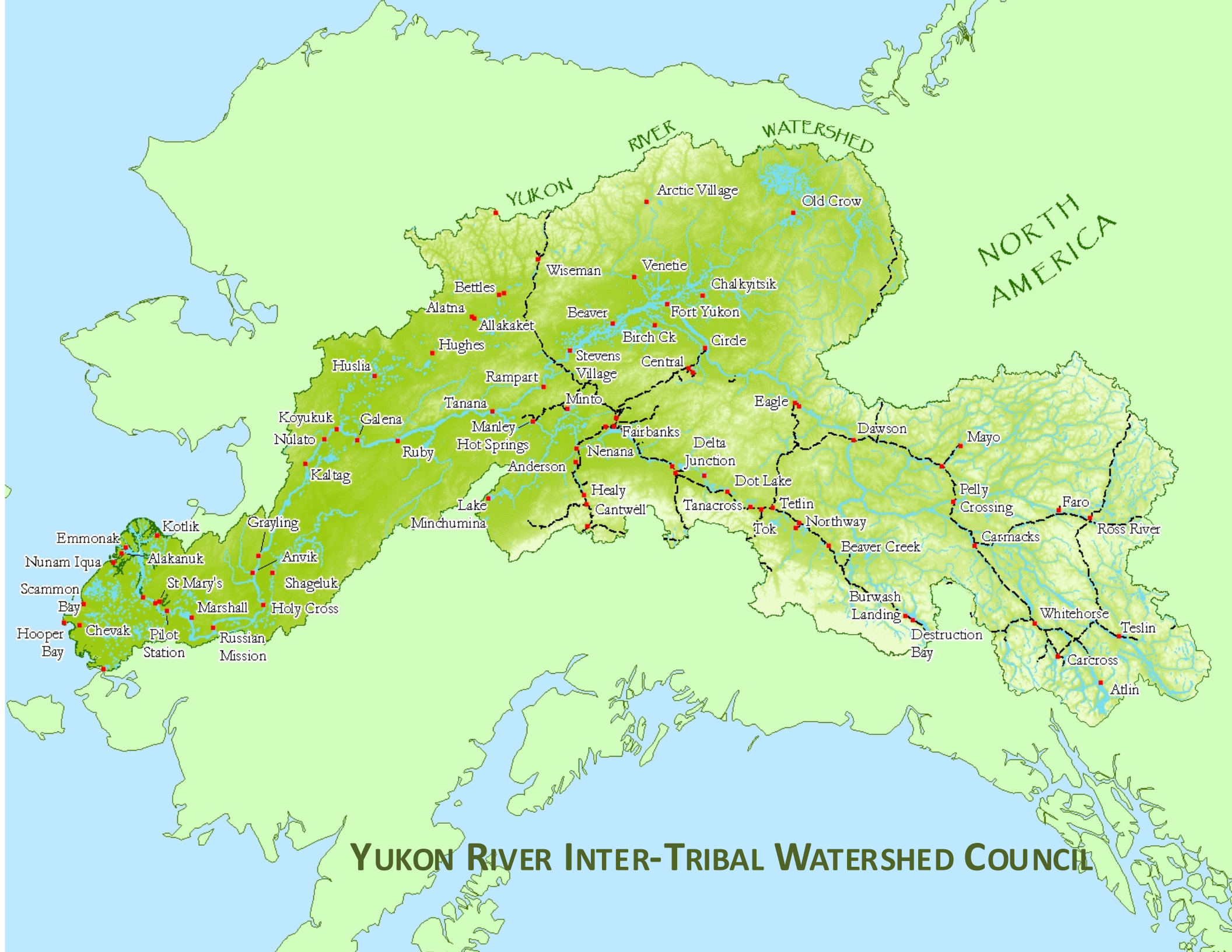
Primary program goals

To establish a certain comfort level of the Yakutat forelands and certainly let the Public know the food they gather from the lands and estuaries are acceptable to eat.



4.11 YUKON RIVER INTER-TRIBAL WATERSHED COUNCIL

British Columbia



YUKON RIVER INTER-TRIBAL WATERSHED COUNCIL

redevelopment or reuse is inhibited by known or suspected pollution or contamination.

brown-field:

(n) a piece of land lying idle, where



Participating Tribes:

(as of June 2011)

Alakanuk
Allakaket
Alatna
Anaktuvuk Pass
Anvik
Arctic Village
Beaver
Birch Creek
Chalkyitsik
Chevak
Dot Lake
Emmonak
Evansville
Graying
Gwichyaa Zhee
Holy Cross
Hooper Bay
Hughes
Huslia
Kaltag
Kotlik

Koyukuk
Louden
Manley Village
Marshall
Mentasta Village
Mountain Village
Nenana
Nulato
Pilot Station
Pitka's Point
Ruby
Russian Mission
Scammon Bay
Shageluk
Shaktoolik
St. Mary's
St. Michael
Stebbins
Tanacross
Tetlin
Venetie

Contact Information:

Caleb Aronson
Program Manager
caronson@yritwc.org

Erin Peters
Environmental Technician
erinpeters@yritwc.org

Yukon River Inter-Tribal Watershed Council
323 Second St., Unit A
Fairbanks, AK 99701
(907) 451-2530 phone
(907) 451-2534 fax
www.yritwc.org

Yukon River Inter-Tribal Watershed Council Brownfield Tribal Response Program

Working to improve the watershed one site at a time.



ONE PEOPLE • ONE RIVER



BROWNFIELDS: What do they mean for you and your community?

Purpose:

As part of the YRITWC's ongoing commitment to **address concerns of contaminated lands**, the Brownfield Tribal Response Program was established in 2005, thanks to Environmental Protection Agency funding.

Do you have a brownfield?

The most commonly seen brownfields on the Yukon River Watershed are:

- old or illegal dumps
- mine-scarred land
- structures containing lead paint, asbestos, PCBs, or other hazardous materials
- old fuel storage areas
- petroleum spills



In rural Alaska, brownfields are cause for concern, not only because of the risks the pose to human health, but also for their potential threat to subsistence resources. The YRITWC Brownfield Response Program works with the Yukon River watershed communities to mitigate these risks through the brownfield cleanup and reuse process.



Yukon River Inter-Tribal Watershed Council

What can you do?

- **JOIN** the Brownfields Tribal Response Program.
- **PREVENT** future brownfields through safe and responsible use and disposal of hazardous materials.
- **ATTEND** training sessions.
- **APPLY** for inventory, assessment, and cleanup.



How can we help?

- **Be a resource:** inventory potential brownfield sites and maintain a publicly-accessible watershed-wide record of contaminated sites.
- **Inspire:** foster public participation in cleanup, planning, and reuse.
- **Educate:** provide relevant training.
- **Assist:** help obtain environmental assessments for top priority sites.

Community benefits of

brownfield redevelopment:

Do you know of a contaminated site in your community that could be cleaned and reused for housing or returned to subsistence use? Is there land that is unusable due to contamination from petroleum or other hazardous or other hazardous materials.



Your brownfield could be redeveloped into:

- Rehabilitated subsistence area**
- Community Center**
- Green (open) space**
- Park**
- Staging area**
- Transfer site**
- Housing**
- Boat Launch**





Alaska

Yukon

Anchorage

Bering
Sea

Gulf of
Alaska

British
Columbia

4.12 KUSKOKWIM RIVER WATERSHED COUNCIL

**EPA Region 10 Annual Meeting
September 9-10, 2009
Grantee Information Sheet
[Submitted by KRWC and updated by DEC February 2010]**

Agency Name: Kuskokwim River Watershed Council

Organizational Chart (attached)

Agency Jurisdiction

The Kuskokwim River Watershed, with its 58,000 square miles, represents more than 10 percent of the Alaskan territory. Situated south of the Yukon watershed, the Kuskokwim is the longest free-flowing river of the USA. (See <http://www.kuskokwimcouncil.org/map.html>.) KRWC services an area that includes 39 villages, of which 22 are formal members of the Council.

Brief description of what programs your Response Program covers.

"The KRWC is dedicated to maintaining and promoting traditional subsistence life for the residents of the KRW."

Agency Contact: Joey Billy

Phone: 907-543-2608

Fax: 907-543-2639

Title: Brownfield Coordinator

In State: 800-478-2654; **Toll-free fax:** 866-586-5423

Email: krwc.brownfield@kuskokwimcouncil.org

KRWC Brownfield Program Office Location:

Orutsararmiut Native Council

117 Alex Hatley Drive

PO Box 927

Bethel, AK 99559-0927

<http://www.kuskokwimcouncil.org/brownfields.html>

Year Funding from EPA: 2009/2010 first year

Size of Staff? Two, but planning to hire additional staff:

Joey Billy, Brownfield Coordinator, and David Griso, KRWC Executive Director

Location of public record? The current public record is available here:

http://www.kuskokwimcouncil.org/documents/public_record..pdf

Number of sites on public record? Approximately 115.

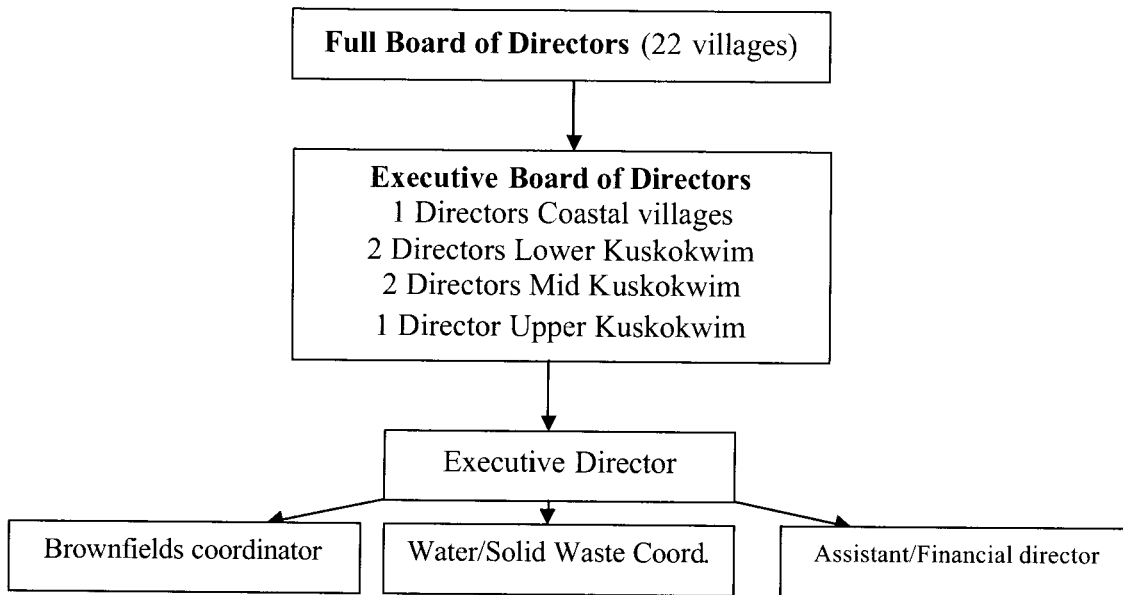
Oversight and Enforcement status and tools: Not developed yet

Estimated number of Brownfields in your inventory? As yet undetermined

General description of sites? Most of the sites that will be inventories include: fuel tank farms, illegal dumpsites, abandoned mines, old BIA schools, and old military sites.

Resources you have used, partnerships leveraged? Before starting our program we have initiated working relationships with the Alaska Department of Environmental Conservation, the Association of Village Council Presidents, and the Bureau of Land Management.

Organizational Chart, Kuskokwim River Watershed Council





Alaska

Yukon

Anchorage

Bering
Sea

Gulf of
Alaska

British
Columbia

4.13 NATIVE VILLAGE OF POINT HOPE



Alaska

Yukon

Anchorage

Bering
Sea

Gulf of
Alaska

British
Columbia

4.14 NATIVE VILLAGE OF ST. MICHAEL

Native Village of Saint Michael

Brownfields Tribal Response Program

P.O. Box 59050

St. Michael, Alaska 99659

<http://www.kawerak.org/tribalHomePages/stMichael/index.html>

Contact(s): Jeff Long, *Brownfields Tribal Response Program Coordinator*

jlong5096@yahoo.com

907-923-2304

Scott Lockwood, *Brownfields Tribal Response Program Assistant*

muskadoo4@ymail.com

(907)-923-2304

Program

The Native Village of Saint Michael (NVSM) provides comprehensive natural resources management and environmental protection services for the tribe's 13,952 acres of land. The addition of the Section 128(a) Tribal Response Program funding expanded the tribe's scope of work to include management and restoration of contaminated sites within tribal lands. Accomplishments achieved using Section 128(a) Tribal Response Program funding include:

- Complete a property inventory

- Create a Public Record

- Coordinated with the Department of Defense to conduct Phase I assessments

Program Highlight

The Native Village of St. Michael is using Section 128(a) Tribal Response Program (TRP) funding to assist the Native American Land Environmental Mitigation Program (NALEMP) in oversight for the project at Dredge Point (site 22). The TRP is helping the NALEMP to be a success to the tribe. Also we have used the funding to attend meetings in Seattle, WA, and the Alaska Tribal Conference on Environmental Management in Anchorage, AK. TRP funding will also be used to attend the workshop in Fairbanks, AK. So far the TRP has been a success to the tribe.



Alaska

Yukon

Anchorage

Bering
Sea

Gulf of
Alaska

British
Columbia

4.15 TETLIN VILLAGE COUNCIL

Tetlin Village Council

Tetlin Tribal Response Program

P.O. Box 797

Tok, Alaska 99780

Fax: (907) 883-1267

Overview

- **Location:** Eastern Interior Alaska
- **Land Area:** 743,000 acres
- **Population:** Approximately 140
- **EPA Grants:** Section 128(a) Tribal Response Grant
- **Environmental Ordinances that Cover 128(a) Work:** No
- **IC/EC Tracking and Public Record Website:** No

Contact(s): Doreen Mark, *Tetlin TRP Coordinator* Caroline Sam, *Tetlin TRP Assistant*

tetlintrpcoordinator@gmail.com

caroline.sam.2010@gmail.com

907-324-2307

907-324-2307

Alternate Contact: Patricia Young, Tetlin Environmental Director

pyoungak@gmail.com

907-883-1268

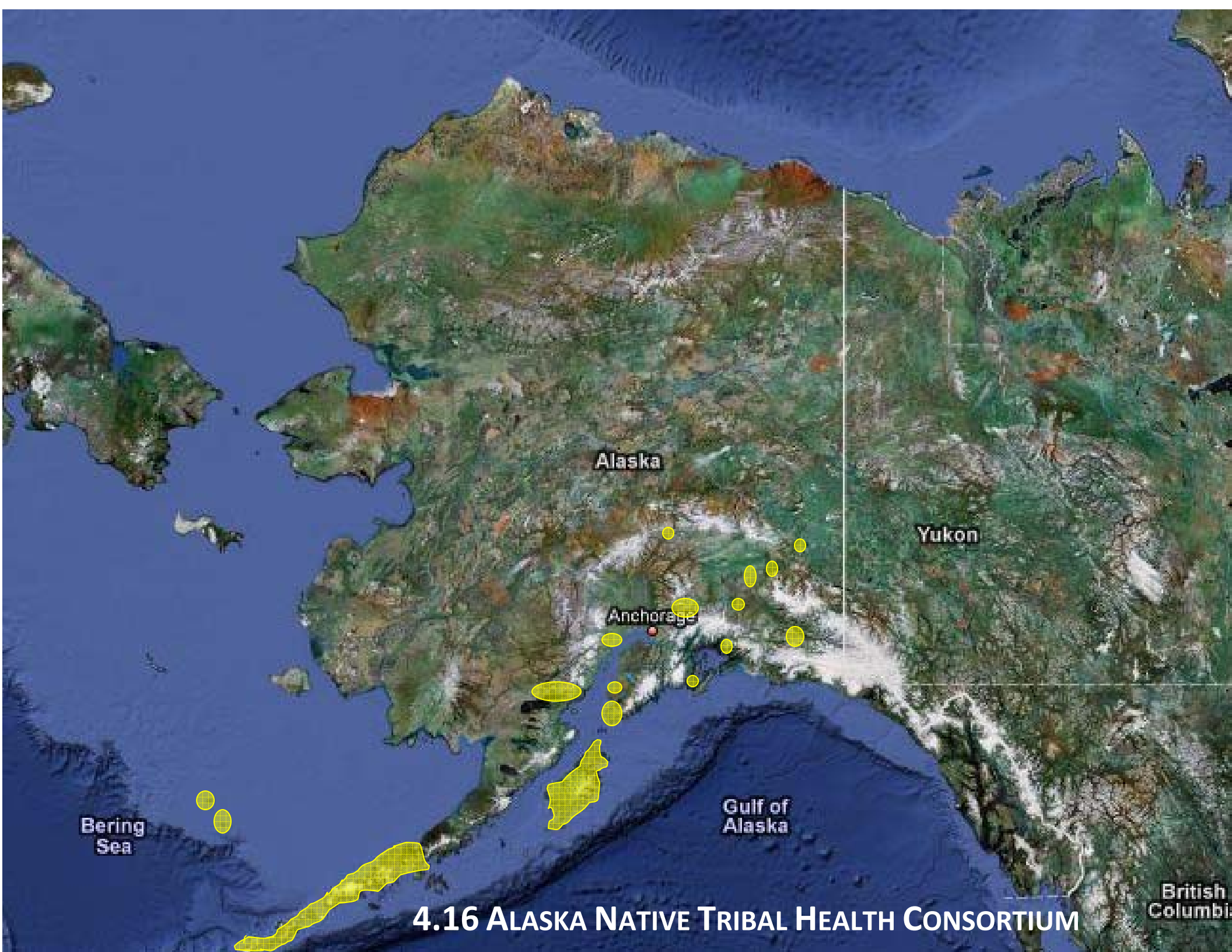
Program

The Tetlin Village Council provides environmental management services for the tribe's land. The addition of the Section 128(a) Tribal Response Program funding expanded the tribe's scope of work to include management and restoration of contaminated sites within tribal lands. Accomplishments achieved using Section 128(a) Tribal Response Program funding include:

- Complete a property inventory
- Create a Public Record
- Provide opportunities for meaningful public participation
- EPA Targeted Brownfields Site Assessment: Tetlin Rock Hill Warehouse
- Organize and host community outreaches to all ages; especially youth as they are at risk when playing in or around sites in a small community
- Establish a Tetlin Tribal Response Team
- Host trainings in the village for Tribal Members and residents of the Native Village of Tetlin

Program Highlight

The Tetlin Village Council is using Section 128(a) Tribal Response Program funding to initiate the development of a tribal response program. The tribe is continues to focus on the development of an inventory of properties and a Public Record, obtaining technical training for staff members, and conducting outreach and education to engage the community in environmental and brownfield issues. The Tetlin Village Council continues to research funding opportunities to address and clean up potential brownfield sites within the community, as federally recognized tribes are not eligible for almost all of the available brownfields funding, especially competitive grants. Tetlin Village Council is currently working with the E.P.A. Targeted Brownfields Assessment for the Tetlin Rock Hill Warehouse.



Alaska

Yukon

Anchorage

Gulf of Alaska

Bering Sea

British Columbia

4.16 ALASKA NATIVE TRIBAL HEALTH CONSORTIUM

Alaska Native Tribal Health Consortium

Brownfields Tribal Response Program

3900 Ambassador Drive, 301
Anchorage, AK 99508

<http://www.anthctoday.org/dehe/index.html>

Contact(s): Kimberly Smith, *Brownfields Coordinator*
kjsmith@anthc.org
907-729-3498

Overview

- **Location:** Central Alaska
- **EPA Grants:** Section 128(a) Tribal Response Grant
- **Environmental Ordinances that Cover 128(a) Work:** No
- **IC/EC Tracking and Public Record Website:**
<http://www.anthc.org/cs/dehe/envhth/ehc/index.cfm>

Program

The Alaska Native Tribal Health Consortium (ANTHC) Tribal Response Program provides environmental health services for Alaska Native communities, advanced technical support and training for Alaska's regional tribal environmental health programs, and conducts environmental public health research of importance to Alaska Natives. ANTHC builds tribal capacity to identify and respond to brownfields through outreach and community education. The ANTHC tribal health partners have shown remarkable innovation, providing relevant outreach and program support with very limited resources.

Program Highlights

The ANTHC Tribal Response Program uses Section 128(a) Response Program funding to foster public participation through outreach and education in our communities. ANTHC collaborates with communities to facilitate community meetings; one of these meetings led to the successful completion of a Targeted Brownfield Assessment (TBA) in the Native Village of Tazlina. ANTHC produced a documentary about the Tazlina Old Copper Valley School site (<http://youtu.be/RFlz64eRfEo>) and worked with the Alaska Department of Environmental Conservation to complete the TBA and initiate planning for cleanup. In the years to come, ANTHC will focus on training opportunities led by ANTHC staff. The training and expertise the program staff offer was used to respond to an inquiry about bat guano contamination in the Eklutna clinic, and community members were trained to assist with cleanup of the property. ANTHC outreach materials used to educate the community about brownfields issues includes posters, flyers, brochures, artwork, videos, and PowerPoint presentations. ANTHC is also diversifying its methods to reach a broader audience. The dedicated team of village councils, community leaders, ADEC Reuse & Redevelopment Program, IGAP workers, EPA, and other entities has been pivotal to ANTHC's success and addressing brownfields in Native Alaska.



ANTHC & ADEC facilitate a community meeting in Tazlina.



4.17 CENTRAL COUNCIL OF TLINGIT & HAIDA INDIAN TRIBES OF ALASKA

Central Council of Tlingit & Haida Indian Tribes of Alaska

Native Lands & Resources Department
9097 Glacier Highway
Juneau, AK 99801

General Tribal Website: <http://www.ccthita.org/>

Overview

- **Location:** Southeast Alaska
- **Land Area:** 35,138 sq. miles
- **Population:** 72,954
- **EPA Grants:** Section 128(a) Tribal Response Grant

Contact(s): Desiree Duncan, *Program Manager*
dduncan@ccthita.org
907-463-7183

Helene Bennett, *Brownfields Coordinator*
hbennett@ccthita.org
907-463-7141

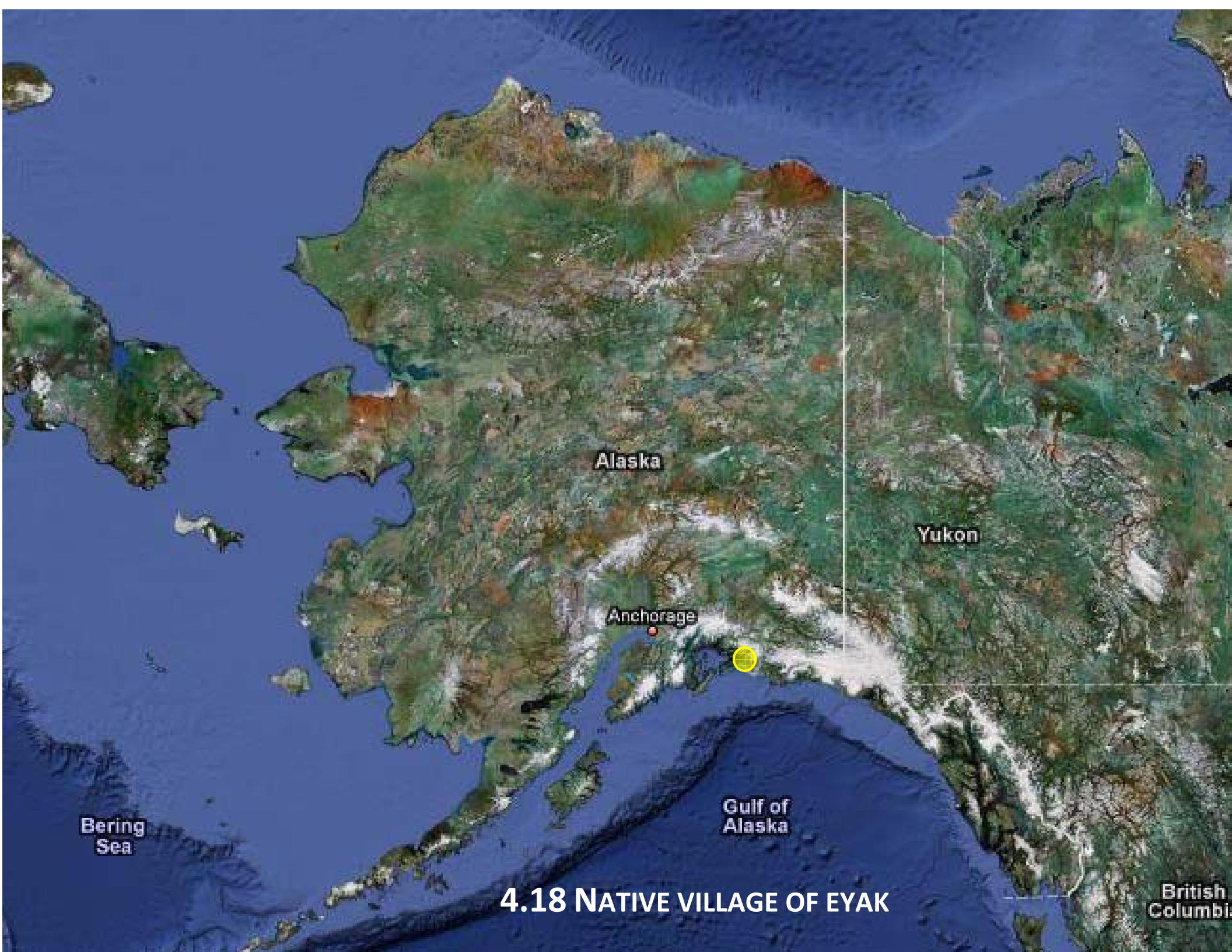
Program

The Central Council of Tlingit & Haida Indian Tribes of Alaska's (CCTHITA) State & Tribal Response Program is developing capacity and understanding of tribal responsibilities as they relate to the health and environmental conditions on lands with tribal interests. The addition of the Section 128(a) Tribal Response Program funding has allowed the tribe to indentify sites and establish various collaborative efforts that make Alaska Brownfields work unique and dependent to situational and geographical area. Accomplishments achieved using Section 128(a) Tribal Response Program funding include:

- Developed a property inventory
- Created a Public Record
- Developed awareness of Brownfields
- Established a foundation for youth involvement in Brownfields work

Program Highlight

CCTHITA is using Section 128(a) Tribal Response Program funding for a tribal response program. The tribe is focusing its funding on developing an inventory of properties and a Public Record, obtaining technical training for staff members, and conducting outreach and education to engage the community in environmental and Brownfields awareness and issues. The tribe created and developed an Environmental Youth Leadership Team with a focus on gathering traditional, historical knowledge, and western science.



Alaska

Yukon

Anchorage

Bering
Sea

Gulf of
Alaska

British
Columbia

4.18 NATIVE VILLAGE OF EYAK



NATIVE VILLAGE OF EYAK'S

Brownfield Tribal Response Program



What is a Brownfield?

Brownfields are properties with known or suspected contamination that could be targeted for assessment, cleanup and reuse. They can range from a single lot to a multiacre postindustrial site. Examples in Cordova include:

- Old or illegal dumps
- Abandoned canneries or idle structures with hazardous materials
- Petroleum spills and old fuel storage areas
- Former military lands



What is the Tribal Response Program (TRP)?

Funded by the Environmental Protection Agency, the Native Village of Eyak's TRP was created to identify harmful, contaminated sites and to promote sustainable land use practices throughout the greater Cordova region. Our goal is to increase tribal capacity for oil spill response by having a trained and prepared response team. We are doing this by offering training and becoming a local resource to help with reporting and responding to hazardous spills. We want to educate, inspire, and assist you with turning an environmental hazard into a community asset.



What can you do?

You can share your knowledge!

- Join our Tribal Response Team
- Help build our Contaminated Sites Public Database by reporting any lands or buildings that may have real or perceived contamination
- Participate in all upcoming workshops and trainings
- Report any hazardous spills and petroleum spills for response action
- Please see our webpage for more information on how you can help!



Contact Information:

Ivy Patton, Brownfield/CARE Coordinator

ivy@eyak-nsn.gov

The Native Village of Eyak

Po Box 1388

Cordova, AK 99574

(907) 424-7738 phone * (907) 424-7739 fax

www.nveyak.com/pages/strp.html

Photos from top to bottom: An abandoned drum dump in Katalla, Group photo from NVE's oil spill response training, Shipwrecked SS Coldbrook on Middleton Island, and NVE's recycling conexes in Cordova.

Public Record for the Greater Cordova Region (updated 11/2011)										NVE Tribal Response Plan		
Site No.	Site Name	Address	City/State/Zip	Latitude	Longitude	Size (acres)	Nature of Contamination	Status	Response Action	Dates of Response Action	Action Proposed for 2012	
1	Cordova Electric Coop - Eyak Lake	West End of Eyak Lake	Cordova, AK 99574	60.541389	-145.7386	Undefined	Waste oil and diesel spills from 1960's to date	Open				
2	Middleton Island	Middleton Island	Cordova, AK 99574	59.436110	-146.3289	Undefined	Fuel oil and transformer oil, extent of contamination unknown	Open	SV, SI	8/30/11-9/2/11	SI	
3	ADOT&PF Cordova Maintenance Station	Mile 13 Copper River Hwy	Cordova, AK 99574	60.542780	-145.7575	Undefined	Oil, solvents, and unknown contaminants dumped into shop sump	Open				
4	Orca Camery	2.5 Miles N of Cordova	Cordova, AK 99574	60.579184	-145.7197	Undefined	Spillage/leakage since 1940s	Cleanup Complete - Institutional Controls				
5	FAA Strawberry Point	Strawberry Hill	Cordova, AK 99574	60.396694	-146.1085	Undefined	Soil contamination from 1992 tank decommissioning	Open				
6	FAA Middleton Island	Middleton Island	Cordova, AK 99574	59.436111	-146.3289	Undefined	Extensive petroleum contamination	Open	SV, SI	8/30/11-9/2/11	SI	
7	FAA Cordova MARLS Facility	Cordova Airport	Cordova, AK 99574	60.543460	-145.7309	Undefined	diesel spill	Cleanup Complete - Institutional Controls				
8	FAA Cordova FLO Bldg 104	Cordova Airport	Cordova, AK 99574	60.493439	-145.4682	Undefined	Soil contamination from UST	Cleanup Complete - Institutional Controls				
9	FAA Cordova COMSERFAC Lot	Cordova Airport	Cordova, AK 99574	60.494463	-145.4640	Undefined	soil contamination from AST	Cleanup Complete - Institutional Controls				
10	Cabin Lake Shop Site	Mile 1.3 Cabin Lake Road	Cordova, AK 99574	60.511778	-145.4563	Undefined	Petroleum, metals and chlorinated solvent contamination	Cleanup Complete - Institutional Controls				
11	USCG Cape Saint Elias Lighthouse	Keyak Island	Cordova, AK 99574	60.542214	-145.7594	Undefined	soil contamination from AST (diesel fuel)	Open				
12	AHFC Properties - Eyak Manor	700 Chase Avenue	Cordova, AK 99574	60.540556	-145.7483	Undefined	Soil contamination from UST and former roundhouse	Cleanup Complete - Institutional Controls				
13	FAA Cordova Station NDB	~Mile 15 Copper River Hwy	Cordova, AK 99574	60.479444	-145.4172	Undefined	200 gallon diesel spill from river flooding	Cleanup Complete				
14	USCG Cape Hinchinbrook Lighthouse	Cape Hinchinbrook	Cordova, AK 99574	60.381382	-146.4589	Undefined	numerous fuel spills and leaks and improper disposal of batteries, liquid	Open				
15	City of Cordova High School	100 Fisherman Avenue	Cordova, AK 99574	60.539750	-145.7611	Undefined	soil contamination from AST	Cleanup Complete - Institutional Controls				
16	USCG Sycamore Mooring Boat House	317 Sealfood Lane	Cordova, AK 99574	60.548889	-145.7661	Undefined	Soil contamination from UST	Cleanup Complete - Institutional Controls				
17	FAA - ND Beacon Strawberry Point	Hinchinbrook Island, PWS	Cordova, AK 99574	60.393453	-146.0941	Undefined	contaminated soil from unspecified spill	Open				
18	USCG Cordova AVSUFFAC	USCG Aviation Support Facility	Cordova, AK 99574	60.493330	-145.4685	Undefined	Soil contamination from UST	Cleanup Complete - Institutional Controls				
19	FAA - Middleton Island Facility Gulf of Alaska	Middleton Island	Cordova, AK 99574	59.261000	-146.1944	Undefined	Soil contamination from UST	Open	SV, SI	8/30/11-9/2/11	SI	
20	FAA - Cordova - Former Vehicle Fuel Pump Area	Cordova Airport	Cordova, AK 99574	60.323900	-145.4536	Undefined	leaking UST	Open				
21	FAA - Johnstone Point VOR	Hinchinbrook Island	Cordova, AK 99574	60.482052	-146.6138	Undefined	leaking UST	Open				
22	Eyak NALEMP Point Whittshed Naval Radio Station	Point Whittshed	Cordova, AK 99574	60.466667	-145.9575	Undefined	residual contamination from military use	Open				
23	Eyak NALEMP Mile 14 Naval Radio Station	Mile 14 Copper River Highway	Cordova, AK 99574	60.470278	-145.3703	Undefined	various contamination from military use	Open	*SV	5/10/11-5/11/11	SI	
24	Katalla	Abandoned Oil Derricks	Cordova, AK 99574	60.107200	-144.3327	Undefined	various contamination from abandoned oil wells	Open	SV	7/21/11-7/22/11	SI	
25	FAA - Katalla	Abandoned FAA Facility	Cordova, AK 99574	60.112400	-144.2949	Undefined	various contamination from military use	Open	SV, SI	7/21/11-7/22/11	SI	
26	Hollis Henrichs Park	Chase St and Copper River	Cordova, AK 99574	60.322500	-145.4510	Undefined	covered up unlined landfill	Open	SV	10/14/11	SI	
27	Shepard Point	Shepard Point	Cordova, AK 99574	60.375500	-145.0865	Undefined	Abandoned Camery	Open	SI	7/24/11	SI	
28	Odiak Pond	Cordova	Cordova, AK 99574	60.322300	-145.4503	Undefined	leaking petroleum (diesel) since 1920's and possible contamination from Hollis	Open	SV	10/14/11	SI	

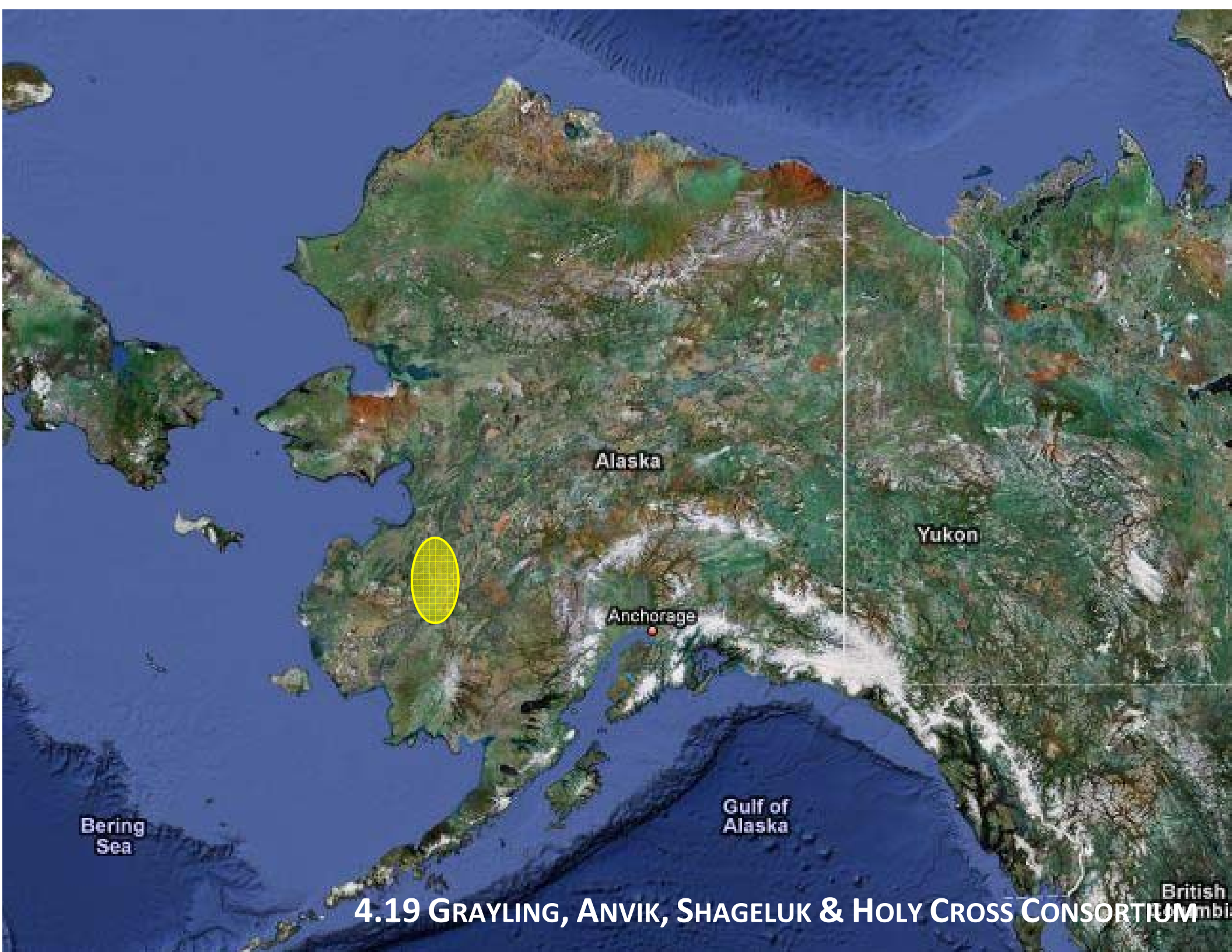
Site No. corresponds to NVE Tribal Response Program Site Inventory Only

SI Site Investigation

SV Site Visit

RA Removal and/or Remediation Actions

* Denotes site visit from air only



Grayling, Anvik, Shageluk, and Holy Cross (GASH)

Brownfields Tribal Response Program

P.O. Box 8

Anvik, AK 99558

<http://www.anviktribalcouncil.com/brownfields.html>

Contact(s): Nathan Elswick, Environmental Manager

atc.environmental@gmail.com
907-663-6323

Overview

- **Location:** Western Alaska
- **Land Area:** 11.9 square miles
- **Population:** Approximately 600 within the GASH region
- **EPA Grants:** Section 128(a) Tribal Response Grant
- **Environmental Ordinances that Cover 128(a) Work:** Yes
- **IC/EC Tracking and Public Record Website:** Yes
<http://anviktribalcouncil.com/brownfields.html>

Program

Formerly the Anvik Tribal Brownfields Program, the project now encompasses three neighboring communities: Grayling, Shageluk and Holy Cross. The Grayling, Anvik, Shageluk, and Holy Cross (GASH) Brownfields Program provides natural resources management and environmental protection services for the tribe's 11.9 square miles of land. These villages face similar brownfields issues including tank farms, abandoned dump sites and contaminated properties. Accomplishments achieved using Section 128(a) Tribal Response Program funding include:

- Complete a property inventory
- Create a Public Record
- Conduct Phase I/II assessments on properties
- Develop a public outreach plan
- Foster public participation through outreach and education

Program Highlight

The GASH Brownfields Response Program used Section 128(a) Tribal Response Program funding to complete a phase I Assessment at a The Grayling Native Store former tank farm. The data collected will be used to begin the process of documenting the extent of the contamination at the site. We are also working with the Yukon River Inter-Tribal Watershed to update our QAPP so more sampling can be conducted at more sites in each community.



View of the Abandoned AVEC Property



Alaska

Yukon

Anchorage

Bering
Sea

Gulf of
Alaska

British
Columbia

4.20 COPPER RIVER NATIVE ASSOCIATION

Tribal Response Program



*“From Protection to Restoration
Helping to Preserve Our Environment”*



Jimmy Anderson

Tribal Response Program Coordinator

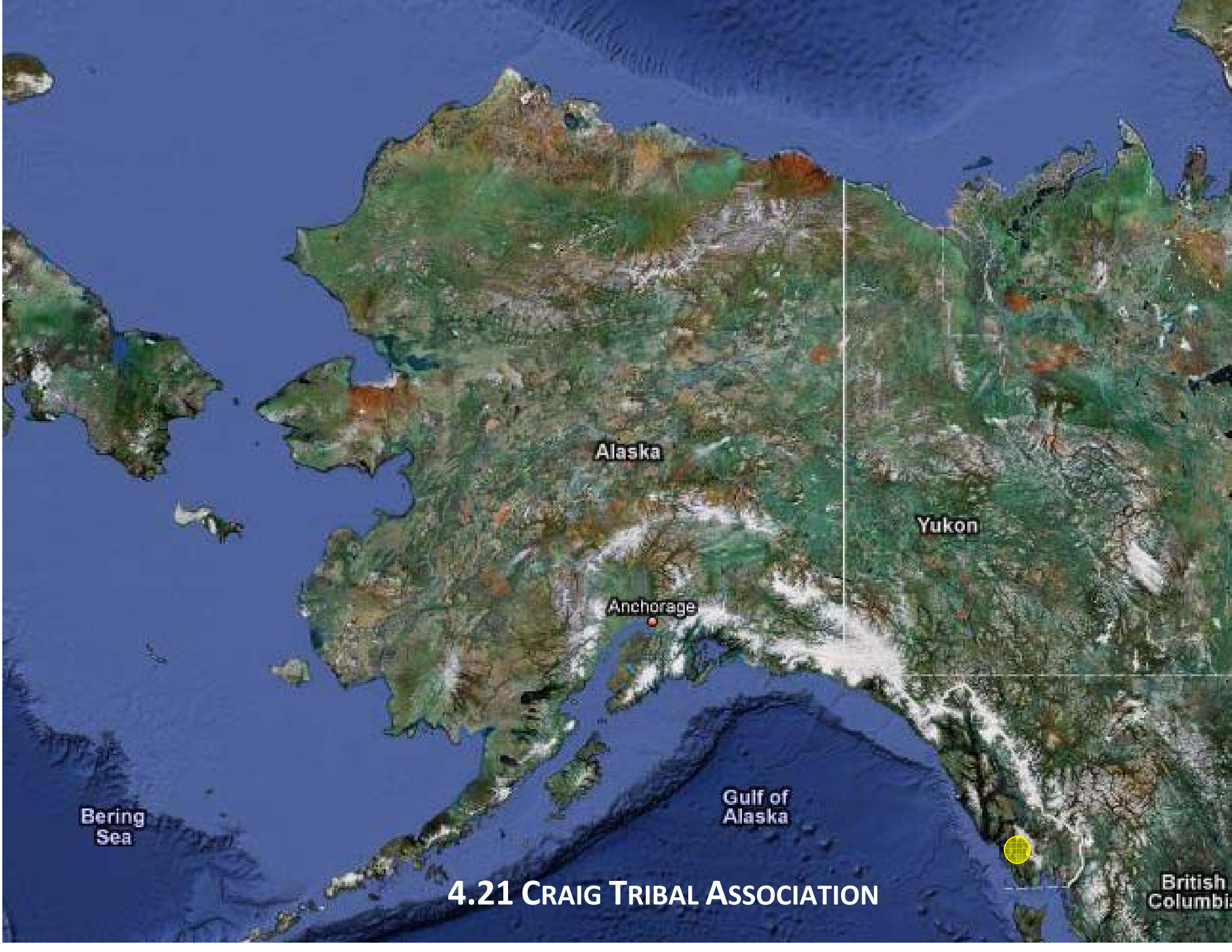
Copper River Native Association

P.O. Box H

Copper Center, AK. 99573

907-822-5241 ext. 244





Alaska

Yukon

Anchorage

Bering
Sea

Gulf of
Alaska

British
Columbia

4.21 CRAIG TRIBAL ASSOCIATION

Craig Tribal Association

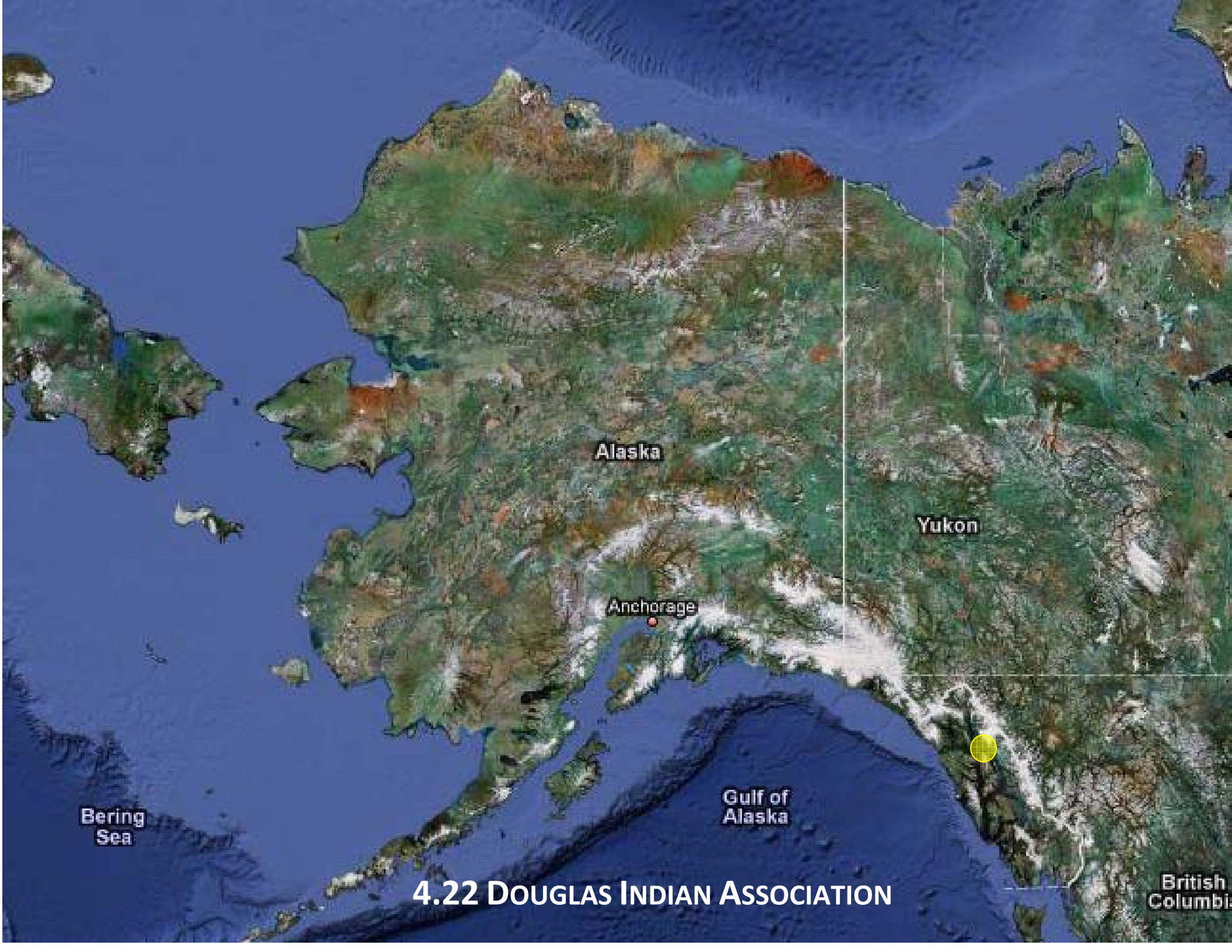
Brownfields Tribal Response Program
Brownfields Coordinator- Daniel Edenshaw
dedenshaw@craigtribe.org
GIS/Web Technician- Clinton Cook Jr.
gisweb@craigtribe.org
Phone- 907-826-3996 Fax- 907-826-2427

The Craig Tribal Association (Tribe) is a federally recognized Tribe located on Prince of Wales Island in Southeast Alaska. Prince of Wales Island is the third largest island in North America.

The Tribe has an environmental program that has been funded by the Environmental Protection Agency (EPA) Indian General Assistance Program (IGAP) since 1998 and is in its second year of their Tribal Response Program (TRP). The Tribe plans to survey and inventory Brownfields sites in and around the community of Craig. Within the response plan, The Tribe will establish a public record for these sites, which will include a GIS mapping component.

The TRP will ensure the protection of the Tribe's natural resources by monitoring their customary and traditional use areas for sites that may be contaminated with hazardous substances. These materials may have the probability to contaminate the natural resources of the Tribe, and may cause severe health risks to the public. These sites may include but are not limited to, abandoned warehouses, abandoned industrial buildings, old buildings, gas stations, landfills, illegal dumps (particularly those involving hazardous wastes like gas, oil, pesticides, paints, etc), methamphetamine labs, above ground and underground fuel storage tanks that are abandoned or suspected to be leaking.

An initial survey and inventory of all potential Brownfields sites has been established and is updated as new information becomes available. The Tribe works together with the appropriate representatives of the Environmental Protection Agency, Alaska Department of Environmental Conservation, and local agencies to develop mechanisms for approval of cleanup plans.



4.22 DOUGLAS INDIAN ASSOCIATION

Douglas Indian Association

The Douglas Indian Association (DIA) Brownfield Program will involve the development of an inventory that includes potential Brownfields sites and sites identified through community outreach activities. DIA has 5 years of water sampling on the Taku (1998-2003) and all trace elements due to mining that could be expected were found: arsenic, chromium, copper, iron, lead, cadmium, aluminum and were found to be within acceptable limits. Some levels of elements such as aluminum exceeded the aquatic habitat safe level. Generally elevated findings occurred during flooding stages of the river. Understand too that these findings occurred when the mine was not operating. The analysis occurred at one location and further analysis is needed to measure impacts at commercial, sports and subsistence locations. DIA will gather and review information already researched on the impacts of mining on the Taku from such agencies as the State of Alaska Department of Environmental Conservation and the University of Alaska Southeast. DIA will interpret the records of these organizations and develop a database of where analysis occurred and what information was gathered. If possible we will hold meeting with these researchers to clarify any issues or questions that may exist and to solicit ideas or plans for future sampling and analysis on the Taku utilizing traditional knowledge. Gathering of research materials will begin in August and a database based on that information will occur in November. Beginning in November this information will be shared with our environmental committee. Our environmental committee will compare what has been learned and this will be the beginning point for developing a plan of analysis on the Taku based on what knowledge the Tribe has of the Traditional and current uses of the Taku and what research is useful for developing our priorities of analysis. DIA and Tlingit and Haida Central Council have both been negotiating with the Forest Service to recover some traditional sites on the Taku for subsistence traditional practices. At least one trip on the Taku will be needed to verify traditional sites and the potential sites in relation to those traditional sites for measuring toxicity of the river and its sediments. This initial work will only determine which sites we will need to identify to ensure environmentally safe traditional practices of gathering and fishing.



Alaska

Yukon

Anchorage

Bering
Sea

Gulf of
Alaska

British
Columbia

4.23 HYDABURG COOPERATIVE ASSOCIATION

Hydaburg Cooperative Association

Contact information:

Anthony Christianson
Environmental Planner
907-285-3666 Work
907-617-7220 Mobile
Lil_hagoo@yahoo.com

Doreen Witwer
Tribal Administrator
907-285-3666 Work
907-617-7805 Mobile
d_witwer@hotmail.com

Dorinda Sanderson
Brownfields Coordinator
907-285-3666 Work
907-209-0718 Mobile
Dorinda.s@hotmail.com

Brownfields Program Summary:

Timely Survey and Inventory of Brownfields Sites:

The Hydaburg Cooperative Association Brownfields Coordinator will be responsible for developing a community survey to utilize when surveying and developing an inventory of sites in our area that may be listed as potential brownfield sites. By surveying the local knowledge base for areas of concern we will begin building our inventory list.

Oversight and enforcement authorities or other mechanisms and resources:

We will work to engage all the proper agencies within the brownfields program in a meaningful dialogue and work with them to gather as much relevant information to assist in the development of our brownfields program. The coordinator will network with the agencies as the program grows, and when needed, will consult the agencies on what is needed to fulfill our obligation to form a public record of each site we encounter.

Mechanisms and resources to provide meaning full opportunities for public participation?

Hydaburg Cooperative Association will establish a public record process for our area. If one exists, our organization will follow the procedures for listing any potential sites to meet the public record requirement. The coordinator will be responsible for maintaining the public record, and will create a web-site for public record, as well as disseminate public information on how to access the public record. The coordinator will also be responsible for developing a process that maximizes community involvement, which will include newsletters, publicly posting contact information for the local brownfields coordinator, email or facebook page will be established for public input, as well as any other means that we find through our outreach networking efforts.

Mechanisms for approval of a cleanup plan and verification and certification that cleanup is complete:

Our program will ultimately be working towards cleanup projects. Trainings and workshops for our coordinator will ensure proper processes are learned for establishing the public records, and how to maintain it. Networking with other agencies and tries will also benefit the program in regards to gaining knowledge on the overall process.

General Information and Organization Goals:

The Hydaburg Cooperative Association is a federally recognized Tribe. The HCA provides tribal services to a tribal enrollment of 450 members. Services include an Environmental Department, Human Service Department, Education Department, Housing Assistance, roads inventory, resource monitoring, and Drug and Alcohol Awareness program. The Hydaburg Cooperative Association is located in an area with a rich resource extraction history. Old mine sites litter the landscape, old dumpsites are a common thing, and areas that were once utilized for industry are left abandoned. Our Tribe will identify these areas that have potential to be cleaned up. It is in the best interest of our future generations that we start the process to develop a program that can address these issues and sites. We have a heavy reliance on the natural resources for food and shelter, so protecting the environment is a top Tribal Priority.



Alaska

Yukon

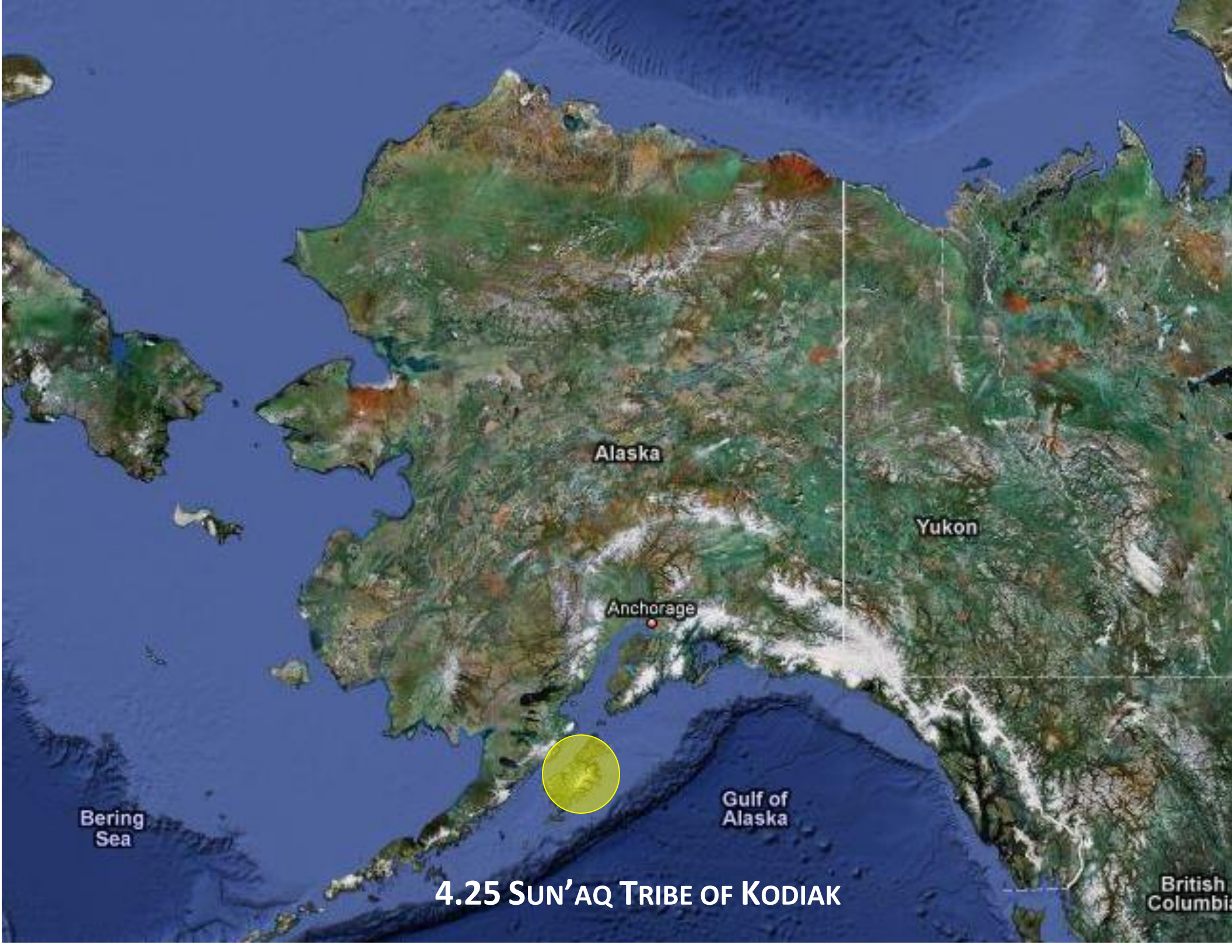
Anchorage

Bering
Sea

Gulf of
Alaska

British
Columbia

4.24 ORUTSARARMIUT NATIVE COUNCIL



Alaska

Yukon

Anchorage

Bering
Sea

Gulf of
Alaska

British
Columbia

4.25 SUN' AQ TRIBE OF KODIAK



Alaska

Yukon

Anchorage

Bering Sea

Gulf of Alaska

British Columbia

4.26 NATIVE VILLAGE OF TAZLINA

Native Village of Tazlina

P.O. Box 87
Glennallen, Alaska 99588

Phone: 907-822-4375
Fax: 907-822-5865
tazlina@cvinternet.net

Rick Young, Tribal Administrator, prog.mang.tazlina@cvinternet.net
Tana Mae Pete, Tribal Response Program Coordinator, trp.tazlina@cvinternet.net

The area around Tazlina reportedly was a fishing camp of Ahtna Indian tribes who historically moved up and down the Copper River and its tributaries. Tezlude is Athabascan for swift water. By 1900, two permanent villages had been established on the north and south banks of the Tazlina River near its confluence with the Copper River, where the villages sang back and forth to each other during potlatches over the long winter months and short summer months.

The community of Tazlina developed around the old Copper Valley School, built by the Catholic Church in 1954 to board students from all over the state. The school closed in 1971, when local high schools were constructed in the remote areas of the state and boarding schools were discontinued.



History

Community Concerns

Residential housing exists near the site and the school is easily accessible by the community. Children regularly use the site as a play area, although the location is presumed to be hazardous because of asbestos and maybe other contaminants.



Community Concerns



The site is physically dangerous, due to the presence of building debris from a fire in 1976 and the dilapidated conditions of the structures that survived the fire. The community is concerned that uncontrolled access to the site may lead to the possibility of acute or chronic illness/injury without an understanding of potential environmental contaminants and hazards. A road passes through the area to access fishing areas used by local Natives.

Community Concerns

Contaminates Leaching into Tazlina and Copper Rivers



Two rivers the Copper River and the Tazlina River meet near the old school site. The Copper River is where local people use fish wheels to get their supply of fish for the winter.

Community Concerns

Asbestos



Community Concerns

Lead Based Paint



These cans of white powder are suspicious of being lead based paint and sits in a wooded area of the school where children play and cars drive by everyday.

Community Concerns

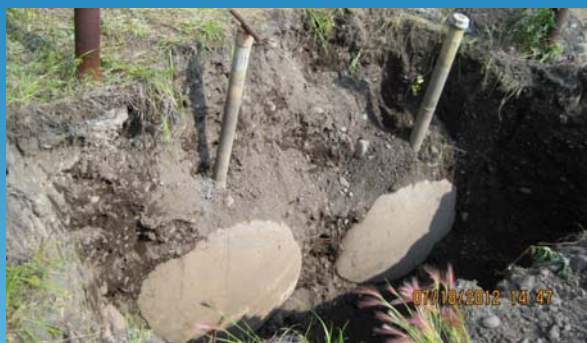
Boxes of White powder



Boxes of white powder in a wooded area of the school. No one is sure what the powder substance is but people concerned that it could be hazardous.

Community Concerns

Underground Storage tanks



Community Concerns

Septic and waste Systems



Community Concerns

Buried Dumpsites



Community Concerns

Open Dump Sites



Testing Through Brownfield Grant



Proposed Community Development and Land Reuse



5. Brownfield Assistance and Funding

5.1. DEC Brownfield Assessments:

DBA Fact Sheet and DBA Request Form

5.2. EPA Targeted Brownfield Assessments:

EPA TBA Fact Sheet and EPA TBA Request Form

5.3. EPA Guidance for Assessment Grants FY09--Page 1

(Full version on CD)

5.4. EPA Guidance for Cleanup Grants FY09--Page 1

(Full version on CD)

5.5. EPA Guidance for Revolving Loan Fund Grants FY09--Page 1

(Full version on CD)

5.6. EPA Guidance for Job Training Grants FY09--Page 1

(Full version on CD)

5.7. EPA Guidance for Training, Research, and Technical

Assistance Grants FY09--Page 1

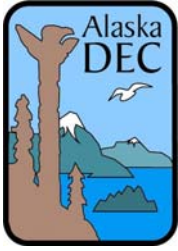
(Full version on CD)

5.8. EPA Guidance for Tribal Solid Waste Management

Assistance Project Grants FY09--Page 1

(Full version on CD)

5.9. Other Opportunities (HUD, ICDBGs, USDA, etc.—RESERVED)



BROWNFIELD ASSESSMENTS FACT SHEET

February 2008

What is a DEC Brownfield Assessment? The Alaska Department of Environmental Conservation (DEC) assists Alaskan communities by conducting environmental site assessments at potential brownfield sites. This service is provided through the Contaminated Sites Program's Reuse and Redevelopment Initiative. A brownfield site is a property where real or perceived environmental problems complicate the reuse or redevelopment of the site. The intent of DEC Brownfield Assessments (DBAs) is to help reduce the environmental uncertainties at these sites so that they can be put back into productive use. All work is done by DEC and its contractors. The objectives of a DBA are the following:

- Help determine whether an environmental hindrance exists at a site
- Help identify the nature and extent of contamination and its potential impact on the reuse of the property
- Make recommendations for additional assessment, if indicated
- Identify cleanup options and provide an estimation of cleanup costs for the site, if needed

How are projects selected? The selection process uses a set of brownfield-specific criteria to rank and prioritize the proposed properties. These criteria include the following:

1. How the reuse or redevelopment of the property is hindered by actual or perceived environmental conditions.
2. Ownership of the site (sites held by public entities, for which there is no viable or responsible party, receive a higher preference).
3. Plans for reuse or redevelopment and community support for revitalization of the property.
4. How the planned reuse has a clear and sustainable economic or social benefit.
5. The level of commitment on the part of the community to provide or leverage a monetary or in-kind contribution to help with the overall project.
6. Whether the potential cost of the assessment is within our funding capacity.
7. Whether the assessment is likely to further the reuse objectives of the applicant.

Who is eligible to apply? DBAs are available to public, quasi-public, and non-profit entities (such as municipalities, tribal governments, and community development organizations) interested in reusing or redeveloping abandoned or underutilized properties. The applicant must not have caused or contributed to the contamination at the site. The applicant does not have to own the site to request an assessment; however, they must be able to ensure access to the site.

What sites are eligible? Any brownfield site is eligible for a DBA. DEC places a preference on property that is publicly owned, with community-supported reuse or redevelopment plans in place. A brownfield site that is privately held may be considered, but only if the project can be shown to offer significant public benefit. A brownfield site that is owned by the state is also eligible.

How do I apply? You must fill out and submit a *DEC Brownfield Assessment Request Form*. Annual application periods and deadlines for submittal will be posted on DEC's brownfield website. DEC recommends that you work with our brownfield staff when completing your form. Email your completed form to Sonja Benson at Sonja.Benson@alaska.gov, or fax it to Sonja at (907) 451-2155. When reviewing your request, DEC staff may contact you for additional information.

Additional information and assistance: The selection of a site for a DBA in no way implies that DEC is accepting liability for any contamination that may exist at the site, nor is DEC responsible for any necessary cleanup of hazardous substances that may be found at the site. If you have any questions regarding this program or the application process, please call John Carnahan at (907) 451-2166 (John.Carnahan@alaska.gov), or call Sonja Benson at (907) 451-2156 (Sonja.Benson@alaska.gov). Please see our website for additional information:

<http://www.dec.state.ak.us/spar/csp/brownfields.htm>

DEC BROWNFIELDS ASSESSMENT REQUEST FORM – 2008

Please check the appropriate box for each question at the top of this page, and then answer questions 1–5 by inserting text in the blank area under each question, using as much space as you need. The deadline for receipt of requests is April 30, 2008.

Eligibility Determination—General Questions:

Is the applicant in any way responsible for the potential contamination at the site, or related to those who may be responsible?

Yes No

Is the site federally owned?

Yes No

Has the site or facility received funding for remediation from the Leaking Underground Storage Tank (LUST) Trust Fund?

Yes No Unknown

If you answered “yes” to any of the above questions, we recommend that you please call DEC to discuss the specifics of your eligibility determination.

To the best of your knowledge, is the *owner* of the property in question:

Private City/Public State Native Corp Tribal Unknown

Known or suspected contaminant(s) (check one):

Hazardous Substances Petroleum Only Hazardous Substances and Petroleum

Is this site currently listed on DEC’s *contaminated sites* database?

Yes No Unknown

If yes, please list the project name, if known:

1. Applicant/Owner

a) *Applicant* - Provide the name and address of the organization applying for a DBA, the name of the contact person, email, telephone, and fax numbers.

b) *Project Team* - Because no one person can be responsible for all aspects of a brownfield project, we request that you form a *project team* to ensure continued action beyond this DBA. Attach a letter from each team member acknowledging their support and willingness to participate. (Team members may include: city or village government representatives, tribal council representatives, environmental managers, elders or other community leaders, and other interested parties.)

- c) ***Property Owner*** - The owner of the property must allow DEC access to the site. If the applicant is different from the owner, include written consent for access from the owner. (*Note: the applicant must be able to secure access for DEC and its contractors to conduct the assessment.*)

2. **Site Information**

- a) ***Historical Site Use*** - Describe, to the best of your ability, the previous known uses of the site, when the different activities occurred, and any historic or cultural significance of the property. Identify when and how the site became or may have become contaminated, with what substance(s), and where the contamination is likely to be found.

- b) ***Current Site Condition and Use*** - Provide the common name of the site, address, approximate acreage, zoning, and types of buildings. Please attach a site map or aerial photograph showing the site's location in the community, adjacent land use, and areas of known or suspected contamination. Identify approximate property boundaries.

- c) ***Prior Environmental Assessment Activities*** - Please describe any prior site assessment or cleanup activities at the site and briefly state what you know about the findings of that work. Attach the summary or conclusion sections of the reports if available. If reports are not available, provide the consultant, client, approximate date of the study, and any other pertinent information.

3. **Environmental Concerns**

- a) ***Reason for Concern*** - What is the reason for concern by the community, and what do you hope to gain by our involvement? Is there specific information that you are seeking? Please discuss community concerns in general, and identify any specific problems if possible.

- b) **Proposed Project Need** - Describe to the best of your ability what your project team believes are the needed assessment activities, and what result you would like to see from this project. Indicate any constraints as to when this work must be completed (e.g., to meet construction timeline, property transaction pending, etc.).

4. **Community Planning and Reuse Goals**

- a) **Other Community Plans or Projects** - It is helpful to know if other state or federal agencies are planning work in your community. List any community *plans* that may exist or are in development, such as: economic development plans, hazard mitigation plans, or erosion studies. Describe any other community *projects* that may be scheduled or pending, such as: water and sewer construction, a new landfill, road or airport construction, a new school or addition, fuel-storage tank farms, new housing, or other facilities.

- b) **Reuse or Redevelopment Plans** - Does the community have well defined plans for how they would like to reuse this site if it were not for the real or perceived environmental problems? Is this site affecting the use of adjacent properties, subsistence habitat, or other resources? Do reuse plans include the incorporation of greenspace or sustainable, green building practices? If so, please describe.

5. **Public Involvement**

- a) **Public Benefit** - Briefly discuss how your proposed reuse or redevelopment plans for the property will provide a benefit to the public. Why is this important to your community? (Things to consider: creation of jobs, preservation of historically or culturally significant property, preservation of subsistence habitat, reuse or recycling of materials, cost savings to the community, or increased property values.)

- b) **Community Support** - Is the community strongly supportive of this project? Please identify other organizations in your community with whom you are coordinating on this reuse or redevelopment project. (Providing names and phone numbers of contacts is helpful here, and include resolutions or letters of support as applicable.)

- c) Community Resources** - Our assessment often requires local assistance with site visits, lodging, excavation equipment, and transportation. Describe local resources that are available for this project. Does the community have financial or other resources to supplement this DBA or for other phases of the project, such as equipment, in-kind services, or funding for cleanup or new construction? Can this DBA be used to leverage other funding or services for the project?

The selection of a site for a DBA in no way implies that DEC is accepting liability for any contamination that may exist at the site, nor is DEC responsible for any necessary cleanup of hazardous substances that may be found at the site. Liability for contamination on a property is specifically addressed in Alaska Statute (AS) 46.03.822, which outlines those who are liable for the release of a hazardous substance. The general liability categories include: (1) those with an ownership interest in the property; (2) those in control of the substance at the time of the release; or (3) those who arrange for disposal or transport of the substance.

Submit Completed Forms by April 30, 2008, to:

By email: Sonja.Benson@alaska.gov or

John.Carnahan@alaska.gov

By fax: (907) 451-2155 c/o Sonja Benson or John Carnahan

Or by regular mail:

DEC Brownfield Assessments

c/o Sonja Benson or John Carnahan

Department of Environmental Conservation

610 University Avenue

Fairbanks, Alaska 99709

If you have questions, call Sonja Benson at (907) 451-2156 or John Carnahan at (907) 451-2166.



Targeted Brownfields Assessments

EPA's Brownfields Program is designed to empower states, communities, and other stakeholders in economic redevelopment to work together in a timely manner to prevent, assess, safely clean up, and sustainably reuse brownfields. A brownfield is a property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. EPA's Brownfields Program provides financial and technical assistance for brownfields revitalization, including grants for environmental assessment, cleanup, and job training.

WHAT IS A TARGETED BROWNFIELDS ASSESSMENT?

EPA's Targeted Brownfields Assessment (TBA) program is designed to help states, tribes, and municipalities—especially those without EPA Brownfields Assessment pilots/grants—minimize the uncertainties of contamination often associated with brownfields. Targeted Brownfields Assessments supplement and work with other efforts under EPA's Brownfields Program to promote cleanup and redevelopment of brownfields.

Under the TBA program, EPA provides funding and/or technical assistance for environmental assessments at brownfields sites throughout the country. Under the Small Business Liability Relief and Brownfields Revitalization Act, EPA's TBA assistance is available through two sources: directly from EPA through EPA Regional Brownfields offices under Subtitle A of the law, and from state or tribal voluntary response program offices receiving funding under Subtitle C of the law. A TBA may encompass one or more of the following activities:

- A screening or "all appropriate inquiry" (Phase I) assessment, including a background and historical investigation and a preliminary site inspection;
- A full (Phase II) environmental assessment, including sampling activities to identify the types and concentrations of contaminants and the areas of contamination to be cleaned; and
- Establishment of cleanup options and cost estimates based on future uses and redevelopment plans.

Targeted Brownfields Assessment funding may only be used at properties eligible for EPA Brownfields funding. The property must be "a real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant." The Brownfields Law offered amendments that made additional

properties eligible for TBA funding, including mine-scarred land; properties contaminated by a controlled substance (as defined in section 102 of the Controlled Substances Act (21 U.S.C. 802)); and petroleum-contaminated properties of relatively low risk.

EPA generally will not fund TBAs at properties where the owner is responsible for the contamination unless there is a clear means of recouping EPA expenditures. Further, the TBA program does not provide resources to conduct cleanup or building demolition activities. Cleanup assistance is available, however, under EPA's cleanup or RLF grants.

TARGETED BROWNFIELDS ASSESSMENT ASSISTANCE

EPA may use TBA funds for federally-led environmental assessment activities or for environmental assessments conducted by states or tribes under Subtitle C cooperative agreements with EPA. When EPA takes the lead for a TBA, it works in consultation with the state or tribe. Whether the environmental assessment is EPA-, state-, or tribal-led, early and meaningful opportunities for community involvement are generally part of a TBA.

Under Subtitle A of the Brownfields Law, TBA assistance is allocated by each of EPA's ten Regional offices. The Regions have discretion in selecting areas to target for environmental assessment assistance and typically prefer to target properties that: are abandoned or publicly owned; have low to moderate contamination; include issues of environmental justice; suffer from the stigma of liability; or have a prospective purchaser willing to buy and pay for the cleanup of the property, if needed. The selection process is guided by criteria used to help establish relative priorities among the properties within a Region. The criteria include the following:

- Property control and ownership transfer is not an impediment—preference will be given to sites

which are publicly owned, either directly by a municipality or through a quasi-public entity such as a community development corporation. If a property is privately owned, there generally must be a clear means of recouping EPA expenditures.

- There is a strong municipal commitment—either financially, or through commitment of municipal resources for other components of the project.
- There is a clear municipal/community vision and support for property revitalization.
- There are adequate leveraged funds available for cleanup and redevelopment, and/or the property has strong development potential (perhaps demonstrated by past or present developer interest).
- EPA assessment assistance is crucial to the property's redevelopment; lack of an assessment has proven to be an obstacle at the property.
- Existing information supports redevelopment—the property will likely have low to moderate contamination levels, and redevelopment will provide tangible benefits for the community.
- The project area has a clear need for revitalization evidenced by significant deterioration and/or significant environmental justice issues.
- There is clear coordination between the EPA Region and the state or tribe.
- The TBA is consistent with other EPA/federal agency initiatives—the property has an important link to other EPA/state or EPA/tribal initiatives; a direct health/environmental threat will be mitigated or property revitalization will serve to spur further beneficial activity in the surrounding area.

Under Subtitle C of the Brownfields Law, TBA assistance can also be allocated by each state and tribe receiving Subtitle C funding. The selection criteria and amount of assistance available varies with each state and tribe.

SOME TARGETED BROWNFIELDS ASSESSMENT SUCCESSES

Old Town, Maine—As a result of EPA's TBA program, four acres of formerly contaminated property on the banks of the Penobscot River in Old Town, Maine is now a recreational area with a playground and paths for running and biking. The property's building had been used as a warehouse until the city foreclosed on the property for unpaid taxes. For 17 years the property stood abandoned, as fears regarding suspected contamination and responsibility for expensive cleanup kept potential purchasers at bay.

Old Town contacted EPA seeking assistance with the property, and EPA determined the extent of the

property's contamination under its TBA program. Following a \$20,000 assessment, the property's abandoned structures were demolished and the contamination cleaned up. While the city funded this extensive cleanup, EPA pursued the former owners for reimbursement of cleanup costs.

Honolulu, Hawaii—In Honolulu's Kaka'ako district, waterfront property that has long been home to fish canneries, ship yards, city industrial yards, and office buildings is being transformed into such varied enterprises as a children's museum, parks, and several private commercial and retail projects. EPA provided a critical piece of this redevelopment puzzle by awarding \$90,000 in TBA funding to the Hawaii Department of Health. The Department of Health retained oversight authority for both assessment and subsequent cleanup, but worked closely with the Hawaii Community Development Authority (HCDA), which was working to redevelop this area. The eventual redevelopment of the Kaka'ako district will create new jobs for surrounding communities and increased tax revenues for the city.

Smithville, Texas—Due in large part to the cooperation of two federal agencies, a former metal fabrication plant in Smithville, Texas is now home to a furniture manufacturing company. In 1990 the previous owner filed for bankruptcy on this contaminated, three-acre property. Due to its prime location as a possible industrial district, the city marshaled its resources to clean up and redevelop the property. In addition to environmental assessment work, EPA assisted Smithville in acquiring aid from the U.S. Department of Commerce and its technical assistance program. The city completed property cleanup and the property was ready for reuse by the furniture manufacturer.

HOW CAN YOU APPLY FOR TARGETED BROWNFIELDS ASSESSMENT ASSISTANCE?

TBAs supplement other efforts under EPA's Brownfields Program to promote cleanup and redevelopment of brownfields.

The TBA selection process varies with each EPA Region and by state Voluntary Response Programs. Each Region is given an annual budget to spend on TBAs. State Voluntary Response Programs allocate TBA funding on a case-by-case basis. If you are interested in receiving TBA assistance, please contact the EPA Brownfields staff in your Region or staff in your state or tribal Voluntary Response Program. You can obtain current contact information under the "Tools and Contacts" section of EPA's Brownfields web site, at: <http://www.epa.gov/brownfields/>. You can also call EPA's Office of Brownfields Cleanup and Redevelopment at (202) 566-2777.

EPA TARGETED BROWNFIELDS SITE ASSESSMENT QUESTIONNAIRE

ORGANIZATION: *Name and address. Also provide the name of the contact person along with their telephone and fax numbers.*

SITE: *Name, address and site acreage. Please attach a site map that indicates the site's location in the community, adjacent land uses and areas of known or suspected contamination.*

CURRENT SITE OWNERSHIP: *Name, address and telephone number (if known). If the property is owned by the applicant, was it acquired by foreclosure or other means? If by other means, please explain.*

If the property is not owned by the applicant, does the applicant envision difficulty in obtaining legal permission to enter the property to conduct site assessment activities? Please explain.

SITE HISTORY: *Provide a brief summary of the site's history, including past uses, ownership and potential or known contamination issues.*

REGULATORY HISTORY: *Is the applicant or any other party under order from EPA or State agency to conduct site assessment and/or cleanup? If the answer to this question is yes, please describe.*

Briefly describe the involvement of the state environmental agency (e.g., WDOE, ODEQ, ADEC, IDEQ) in enforcement and/or oversight of assessment and cleanup activities at the candidate site. Please provide the name of a site contact and their telephone number.

REDEVELOPMENT POTENTIAL: *Provide a brief discussion of the redevelopment potential of the property and the importance of the property to the community. How will the public benefit from this assessment?*

MUNICIPAL COMMITMENT: *Is there a strong municipal commitment—either financially, or through commitment of municipal resources, for other components of the project?*

PRIOR SITE ASSESSMENT ACTIVITIES: *If prior site assessments have been conducted, please describe the conclusions (or attach “conclusion” section of report(s)). If reports are unavailable, identify consultant, client and the approximate date of the study. If no prior site assessments have been conducted, or if it is not known, please indicate.*

SITE ASSESSMENT NEEDS: *Specify site assessment activities being requested and why is EPA assistance necessary for the site’s redevelopment. Also, please indicate the time frame in which this work is needed.*

- *A screening (Phase I) assessment, including a background and historical investigation and a preliminary site assessment*
- *A full (Phase II) site assessment, including sampling activities to identify the types and concentrations of contaminants and the areas of contamination to be cleaned up*
- *Establishment of cleanup options and cost estimates based on future uses and redevelopment plans*

SITE CLEANUP: *Are there mechanisms available for adequate site cleanup? Please note, that EPA cannot provide funds for cleanup.*

FOR PRIVATELY OWNED SITES: *Did the current owner conduct or allow activities that may have resulted in its contamination?*

Is the current owner unwilling or unable to conduct an assessment?

What cost-sharing reimbursement mechanisms may be feasible for this site? For example, provision of in-kind services; reduction in the purchase price of the property; commitment to pay for, or conduct, or contribute to cleanup activities.

**SUBMIT COMPLETED FORMS TO :
BROWNFIELDS TARGETED SITE ASSESSMENTS**

c/o Joanne LaBaw
U.S. Environmental Protection Agency - Region I0
1200 Sixth Ave. (ECL-115)
Seattle, WA 98101

FY09 Guidelines for Brownfields Assessment Grants

OVERVIEW

AGENCY: ENVIRONMENTAL PROTECTION AGENCY (EPA)

TITLE: Proposal Guidelines for Brownfields Assessment Grants

ACTION: Request for Proposals

RFP NO: EPA-OSWER-OBLR-08-07

CATALOG OF FEDERAL DOMESTIC ASSISTANCE (CFDA) NO.: 66.818

DATES: Proposals are due November 14, 2008. Proposals may be sent through the U.S. Postal Service, commercial delivery service, or electronically through www.grants.gov. Only one method should be used for the submission of the original, complete proposal. Proposals sent through the U.S. Postal Service or sent via a commercial delivery service must be postmarked by November 14, 2008. Proposals sent electronically through grants.gov must be received by grants.gov by 11:59 p.m. Eastern Time on November 14, 2008. Please refer to Section IV.B., *Due Date and Mailing Instructions*, for further instructions.

SUMMARY: The Small Business Liability Relief and Brownfields Revitalization Act (“Brownfields Law”, P.L. 107-118) requires the U.S. Environmental Protection Agency (EPA) to publish guidance to assist applicants in preparing proposals for grants to assess and clean up brownfield sites. EPA’s Brownfields Program provides funds to empower states, communities, tribes, and nonprofits to prevent, inventory, assess, clean up, and reuse brownfield sites. EPA provides brownfields funding for three types of grants:

1. Brownfields Assessment Grants - provides funds to inventory, characterize, assess, and conduct planning (including cleanup planning) and community involvement related to brownfield sites.
2. Brownfields Revolving Loan Fund (RLF) Grants – provides funds for a grant recipient to capitalize a revolving fund and to make loans and provide subgrants to carry out cleanup activities at brownfield sites
3. Brownfields Cleanup Grants - provides funds to carry out cleanup activities at a specific brownfield site owned by the applicant.

Under these guidelines, EPA is seeking proposals for **Assessment Grants only**. If you are interested in requesting funding for RLF and/or Cleanup Grants, please refer to announcement EPA-OSWER-OBLR-08-09 (RLF Grant guidelines) and

FY09 Guidelines for Brownfields Cleanup Grants

OVERVIEW

AGENCY: ENVIRONMENTAL PROTECTION AGENCY (EPA)

TITLE: Proposal Guidelines for Brownfields Cleanup Grants

ACTION: Request for Proposals

RFP NO: EPA-OSWER-OBLR-08-08

CATALOG OF FEDERAL DOMESTIC ASSISTANCE (CFDA) NO.: 66.818

DATES: Proposals are due November 14, 2008. Proposals may be sent through the U.S. Postal Service, commercial delivery service, or electronically through www.grants.gov. Only one method should be used for the submission of the original, complete proposal. Proposals sent through the U.S. Postal Service or sent via a commercial delivery service must be postmarked by November 14, 2008. Proposals sent electronically through grants.gov must be received by grants.gov by 11:59 p.m. Eastern Time on November 14, 2008. Please refer to Section IV.B., *Due Date and Mailing Instructions*, for further instructions.

SUMMARY: The Small Business Liability Relief and Brownfields Revitalization Act (“Brownfields Law”, P.L. 107-118) requires the U.S. Environmental Protection Agency (EPA) to publish guidance to assist applicants in preparing proposals for grants to assess and clean up brownfield sites. EPA’s Brownfields Program provides funds to empower states, communities, tribes, and nonprofits to prevent, inventory, assess, clean up, and reuse brownfield sites. EPA provides brownfields funding for three types of grants:

1. Brownfields Assessment Grants - provides funds to inventory, characterize, assess, and conduct planning (including cleanup planning) and community involvement related to brownfield sites.
2. Brownfields Revolving Loan Fund (RLF) Grants – provides funding for a grant recipient to capitalize a revolving fund and to make loans and provide subgrants to carry out cleanup activities at brownfield sites.
3. Brownfields Cleanup Grants - provides funds to carry out cleanup activities at a specific brownfield site owned by the applicant.

Under these guidelines, EPA is seeking proposals for **Cleanup Grants only**. If you are interested in requesting funding for Assessment or RLF funding, please

FY09 Guidelines for Brownfields Revolving Loan Fund (RLF) Grants

OVERVIEW

AGENCY: ENVIRONMENTAL PROTECTION AGENCY (EPA)

TITLE: Proposal Guidelines for Brownfields Revolving Loan Fund Grants

ACTION: Request for Proposals

RFP NO: EPA-OSWER-OBLR-08-09

CATALOG OF FEDERAL DOMESTIC ASSISTANCE (CFDA) NO.: 66.818

DATES: Proposals are due November 14, 2008. Proposals may be sent through the U.S. Postal Service, commercial delivery service, or electronically through www.grants.gov. Only one method should be used for the submission of the original, complete proposal. Proposals sent through the U.S. Postal Service or sent via a commercial delivery service must be postmarked by November 14, 2008. Proposals sent electronically through grants.gov must be received by grants.gov by 11:59 p.m. Eastern Time on November 14, 2008. Please refer to Section IV.B., *Due Date and Mailing Instructions*, for further instructions.

SUMMARY: The Small Business Liability Relief and Brownfields Revitalization Act (“Brownfields Law”, P.L. 107-118) requires the U.S. Environmental Protection Agency (EPA) to publish guidance to assist applicants in preparing proposals for grants to assess and clean up brownfield sites. EPA’s Brownfields Program provides funds to empower states, communities, tribes, and nonprofits to prevent, inventory, assess, clean up, and reuse brownfield sites. EPA provides brownfields funding for three types of grants:

1. Brownfields Assessment Grants - provides funds to inventory, characterize, assess, and conduct planning (including cleanup planning) and community involvement related to brownfield sites.
2. Brownfields Revolving Loan Fund (RLF) Grants – provides funding for a grant recipient to capitalize a revolving fund and to make loans and provide subgrants to carry out cleanup activities at brownfield sites.
3. Brownfields Cleanup Grants - provides funds to carry out cleanup activities at a specific brownfield site owned by the applicant.

Under these guidelines, EPA is seeking proposals for **RLF Grants only**. If you are interested in requesting funding for Assessment and/or Cleanup Grants, please

OVERVIEW SECTION

AGENCY: ENVIRONMENTAL PROTECTION AGENCY (EPA)

TITLE: “BROWNFIELDS JOB TRAINING GRANTS”

ACTION: Request for Applications (RFA) – Initial Announcement

RFA NO: EPA-OSWER-OBLR-08-10

CATALOG OF FEDERAL DOMESTIC ASSISTANCE (CFDA) NO.: 66.815

DATES: The closing date and time for receipt of applications is October 15, 2008, 5:00 p.m. Applications submitted in hard copy, as described in Section 4(C) of this announcement, must be postmarked by the closing date and time to receive consideration. Applicants submitting hard copy applications must submit two complete packages including all of the documents identified in Section 4(B) of this announcement. One complete package must be sent each to **Environmental Management Support, Inc. (contractor to EPA)** and the appropriate **EPA Regional Job Training Coordinator** listed in *Section 7, Agency Contacts*. The application submission to **Environmental Management Support, Inc.** must be postmarked by the closing date and time for receipt of application packages. Applications submitted through <http://www.grants.gov> must be received by <http://www.grants.gov> no later than October 15, 2008, 5:00 p.m.

SUMMARY: This notice announces the availability of funds and solicits applications from eligible entities and nonprofit organizations to provide environmental job training projects that will facilitate the assessment, remediation, or preparation of brownfield sites. Eligible applicants must identify and propose to serve a community that currently receives, or has received, financial assistance (federal, state, or tribal) for brownfields assessment, revolving loan fund, cleanup, site-specific response program work, and/or EPA-funded targeted brownfields assessments.

FUNDING/AWARDS: The total estimated funding available under this competitive opportunity is \$2,500,000. EPA anticipates award of 12-13 cooperative agreements, whose maximum value each shall not exceed \$200,000, resulting from this competitive opportunity. (Refer to Section 2(B).)

Contents by Section

1. Funding Opportunity Description	2
2. Award Information.....	6
3. Eligibility Information	9
4. Application and Submission Information	11
5. Application Review Information	23
6. Award Administration Information	31
7. Agency Contacts	33

OVERVIEW SECTION

AGENCY: ENVIRONMENTAL PROTECTION AGENCY (EPA)

TITLE: “BROWNFIELDS TRAINING, RESEARCH, AND TECHNICAL ASSISTANCE GRANTS”

ACTION: Request for Applications (RFA) - Initial Announcement

RFA NO: EPA-OSWER-OBLR-08-02

CATALOG OF FEDERAL DOMESTIC ASSISTANCE (CFDA) NO.: 66.814

DATES: The closing date and time for receipt of proposals is May 1, 2008, 5:00 p.m. EST. Proposals submitted through <http://www.Grants.gov> must be received by May 1, 2008, 5:00 p.m. EST. Proposals submitted in hard copy must be postmarked by the U.S. Postal Service or received in the EPA program office via hand delivery or express mail by May 1, 2008, 5:00 pm EST to receive consideration. Because of the unique situation involving U.S. mail screening, EPA highly recommends that applicants submitting a proposal in hard copy use a courier service or express mail option to transmit their proposal.

SUMMARY: This notice announces the availability of funds and solicits applications from eligible entities and non-profit organizations to provide training, research, and technical assistance to communities facing brownfields cleanup and revitalization challenges. EPA is particularly interested in funding brownfields training, research and technical assistance projects in the subject areas of protection of human health and the environment, sustainable development, and equitable development.

FUNDING/AWARDS: The total estimated funding available under this competitive opportunity is approximately \$10,000,000, subject to the availability of funds and quality of proposals received. EPA anticipates award of 5-10 cooperative agreements. The maximum amount of funding available per applicant shall not exceed \$1,500,000. Applicants may propose performance periods of up to 5 years, with the maximum annual funding not to exceed \$300,000. Cooperative agreements awarded under this competition may be funded incrementally on an annual basis. Additional funds may be added in each subsequent year of the agreement, subject to satisfactory performance and the availability of funds.

CONTENTS BY SECTION:

1. Funding Opportunity Description
2. Award Information
3. Eligibility Information
4. Application and Submission Information
5. Application Review Information
6. Award Administration Information
7. Agency Contact
8. Other Information

OVERVIEW SECTION

AGENCY: ENVIRONMENTAL PROTECTION AGENCY (EPA)
TITLE: FY 2008 TRIBAL SOLID WASTE MANAGEMENT ASSISTANCE PROJECT
ACTION: Request for Proposals (RFP) - Initial Announcement
RFA NO: EPA-OSWER-OSW-08-03

CATALOG OF FEDERAL DOMESTIC ASSISTANCE (CFDA) NO.: For EPA assistance under the Office of Solid Waste, 66.808 - Solid Waste Management Assistance; for Bureau of Indian Affairs assistance under the Division of Environmental and Cultural Resources Management, 15.041 - Environmental Management Indian Programs; for Department of Agriculture assistance under the Rural Utility Services, 10.760 - Water and Waste Disposal Systems for Rural Communities; for Indian Health Service projects, and Department of Defense assistance under the Native American Land Environmental Mitigation Program, CFDA is not applicable.

DATES: The closing date and time for receipt of proposals is June 9, 2008, 5:00 p.m. EDT. Applications submitted through <http://www.grants.gov> must be received by June 9, 2008, 5:00 p.m. EDT. Proposals submitted in hard copy, as described in *Section 4(C)* of this announcement, must be received in the EPA Headquarters Program Office via hand delivery, U.S. Postal Service, or express mail service by June 9, 2008, 5:00 p.m. EDT to be considered. Proposals received after the closing date and time of this announcement will be returned to sender without further consideration. Because of the unique situation involving U.S. mail screening, EPA highly recommends that applicants submitting a proposal in hard copy use a commercial delivery service or express mail option to transmit their applications.

SUMMARY: This notice announces the availability of funds and solicits proposals from eligible entities for the Tribal Solid Waste Management Assistance Project. The Project helps tribes close or cleanup open dumps, develop alternative disposal options, and establish integrated solid waste management programs. Eligible entities may apply for funding under one of four categories: (1) proposals to characterize/assess open dumps; (2) proposals to develop integrated solid waste management (ISWM) plans and tribal codes and regulations; (3) proposals to develop and implement alternative solid waste management activities/facilities (including equipment acquisition); and (4) proposals to develop and implement cleanup, closure, and post-closure programs for open dumps in Indian Country.

FUNDING/AWARDS: The estimated funding available under this competitive opportunity is \$2,000,000, subject to the availability of funds and quality of proposals received. The Tribal Solid Waste Interagency Workgroup (Workgroup) anticipates selection of approximately 20 proposals for further development. Estimated award values shall range from a minimum of \$10,000 to a maximum of \$500,000. (*Refer to Section 2(B).*)

CONTENTS BY SECTION:

1. Funding Opportunity Description
2. Award Information
3. Eligibility Information
4. Application and Submission Information
5. Application Review Information
6. Award Administration Information
7. Agency Contact

6. The Cleanup Process

6.1. Cleanup Process Fact Sheet

6.2. The Conceptual Site Model

6.3. The Risk Assessment

**6.4. Phase 1 - Environmental Site Assessment
(as per ASTM Standard E1527-05)**

**6.5. Phase 2 - Site Characterization Process
(as per 18 AAC 75-78)**

**6.6. Phase 3 - Cleanup and Corrective Action
(RESERVED)**

**6.7. Basic Analytical Testing Requirements
(RESERVED)**



Cleanup Process

Cleanup of contaminated sites in Alaska

March 2009

The Alaska Department of Environmental Conservation's Contaminated Sites program oversees or conducts cleanup of contaminated sites based on their danger to public health and the environment. DEC stresses prevention as the best way to protect people and the environment. When spills and leaks do occur, cleaning up soil and groundwater can be quite difficult, time-consuming and expensive, but foremost in the process is protecting the health and safety of people and the environment.

The following process describes careful investigation and cleanup of what remains after an initial spill response or upon discovery of a leak or discharge underground. The process can range from a large, formal cleanup with extensive public involvement and lasting several years to a simple one taking a few months. It all depends on the source and extent of contamination and the threat to humans and the environment. This fact sheet briefly summarizes the cleanup process. For complete information, see Alaska's Statutes Title 46, and Alaska's Administrative Code of regulations 18 AAC 75. If the contamination comes from a leaking underground fuel tank, the process is slightly different: see 18 AAC 78. Cleanup overseen by a federal agency, military sites for example, may also use other terms and the steps may vary somewhat.

Site characterization workplan

18AAC 75.335(b)*

The person who caused the contamination or who owns the land is typically the one legally responsible for cleaning it up. That person must arrange for a "qualified person" (typically a contractor or consultant) to prepare a site characterization workplan for DEC approval. Preparation usually involves these steps:

Scoping, to find all available information about the site, how much and what kind of contamination exists, and what harm there could be to people, animals and plants.

A **Conceptual Site Model**, or a first estimate of what and where the contaminants are, how they behave under site conditions, and what threat they may pose. This may be in a separate report or included in the next step.

A **Workplan**, to guide a more detailed investigation, designing field work to confirm or correct the first estimates of the conceptual site model.

Site characterization report

18AAC 75.335(c)

Field investigation: Guided by the workplan, the contractor (qualified person) takes samples and gathers more information at the site, and DEC oversees this work. The contractor then recommends cleanup techniques and levels in the report.

Cleanup levels: One of the most important parts of the cleanup process is determining cleanup levels - the concentration of a hazardous substance that may be left in soil or water without posing a threat to human health, safety or welfare, or to the environment. Different levels are chosen depending on the contaminant, the soil, and whether or not the hazardous substance would be taken in through breath, skin, or eating/drinking. When little is known about a site, strict default cleanup levels set in state and federal law are used to be most protective. Less strict levels can

*Title 18 of Alaska's Administrative Code of regulations, Chapter 75, section 335, paragraph (b)

**See tips on selecting an environmental consultant at www.dec.state.ak.us/spar/csp/consultant.htm. Also see glossary for the definition of qualified person at www.dec.state.ak.us/spar/glossary.htm#qp

sometimes be set when specific information is known about the site.

A **Risk Assessment** is sometimes conducted to gather detailed information about the site and how people would be exposed to contamination. Risk assessments can also be used to justify protective cleanup levels which are more or less strict than default levels. An important part of a risk assessment is to gather information from residents and other people on how they use the land and its resources.

Site Characterization Report: This report draws conclusions about the contamination and the risk to people and the environment, and it proposes cleanup levels for DEC to approve. A formal risk assessment, if conducted, would also be included. Removal of 100% of the contamination may not be possible, practical or affordable. Cleanup techniques are analyzed, and one or more is recommended based on their protectiveness, as well as practicality, effectiveness, conformity with state regulations, and consideration of any public comment.

DEC's Cleanup decision

18AAC 75.335 - 370, cleanup and reporting requirements

DEC's decision is made in writing, defining soil and groundwater cleanup levels and cleanup techniques. The decision takes into account current and future use of the site, the degree of treatment, and protection of human health and safety and the environment if contamination will remain on site. Minimizing spread of contamination and monitoring plans are also part of it. In a formal cleanup, the decision involves first issuing a Proposed Plan, inviting public comment, and a final Record of Decision.

Cleanup and report

18AAC 75.360, cleanup and reporting requirements

Before work begins, the responsible person submits a cleanup plan to DEC. After a plan is approved, the work must be performed by a qualified person, with DEC oversight to document and inspect the effort. A final report is completed for DEC review when cleanup is complete.

Site closure

18AAC 75.375, institutional controls

Institutional Controls: DEC will give "Cleanup Complete" status when efforts to reduce contamination have met approved cleanup levels, or the possibility of human exposure to any residual contamination is highly unlikely.

18AAC 75.380, site closure

Complete cleanup is not always practical or affordable. DEC may allow residual contamination to remain at a site if it does not pose a risk to human health or the environment, but there may be conditions or restrictions on land use that require compliance by current or future owners/operators. Those conditions require follow-up reporting. DEC would then grant "Cleanup Complete – Institutional Controls" status. The conditions allow the land to be put back to use.

DEC recovers the cost of its oversight and/or damages from responsible persons, if this hasn't already happened.

Follow-up ...

The Contaminated Sites Program protects human safety, human health and the environment by overseeing and conducting cleanups at contaminated sites in Alaska and by preventing releases from underground storage tanks and unregulated aboveground storage tanks. For follow-up questions, please contact our staff at the Contaminated Site program closest to you:

Juneau: 907-465-5390 / Anchorage: 907-269-7503 / Fairbanks: 907-451-2153 / Kenai: 907-262-5210

www.state.ak.us/dec/spar/csp

The Conceptual Site Model

This is a brief introduction to the use of the conceptual site model (CSM). DEC has a guidance document for development of a CSM that can be obtained through our website at:

<http://www.dec.state.ak.us/spar/guidance.htm#csp>

*A copy of the most recent **DEC CSM Guidance** is included on the compact disk with this handbook.*

A *conceptual site model (CSM)* is a way to describe and evaluate how people, animals, and plants might come in contact with contaminants at a location. It is intended to illustrate how the current and possible future spread of contamination in the environment might occur.

A CSM is designed to show real or possible “exposure pathways,” not quantify the exposure or health risks presented by that exposure—this is done in a complete risk assessment. A CSM should be prepared as part of most assessments and for every site cleanup. The preparation of a CSM does not need to be a complicated process.

In general, a CSM can be developed with only the most basic information about the site. The less information available, the more the preparer needs to err on the side of assuming that a person, plant, or animal could be exposed to the contamination. The CSM is used to assist project managers in properly evaluating a site, but should be continually revised as new site information becomes available. Developing a CSM is a critical step in evaluating a contaminated site, and must be prepared during the initial stage of site characterization.

In general, the CSM will identify the following:

- Present and future ways people or animals may be exposed (*exposure pathways*),
- Routes the contaminants may take as they move through soil, groundwater, or surface water, (*migration routes*), and
- Types of *receptors* (people or animals) that could be exposed

Timing of CSM Development

CSMs are completed at the following stages of a project:

- Sometimes before the first characterization as a means to discuss what is known about a site;
- As part of the site characterization workplan;

- If a risk assessment is being conducted; and
- Whenever new information is discovered that significantly changes the initial CSM.

There may also be multiple routes of exposure through the soil, water, air, food, and the potential for exposure through each of these pathways must be evaluated and added together to fully understand the total potential impact from the exposure of concern.

Preliminary CSM

A *preliminary CSM* depicts the knowledge of complete or potentially complete exposure pathways at a site *at the time it is developed*. Unless sufficient evidence makes it possible to eliminate a pathway, it should be considered potentially complete at this stage of the CSM.

Designating a pathway as complete *may* simply mean that the pathway needs to be further investigated. Preliminary CSMs should be updated as additional information becomes available, such as through further site investigation. As additional information eliminates the possibility of a pathway being complete, that information is documented. Later versions of a site's CSM incorporate all additional information or results of site investigation that were not available at the time the preliminary CSM was developed.

Exposure Pathways

Contamination spreads from the source area to receptors through *pathways*. The route a substance takes from its source (where it was released) to its end point (where it ends), is the pathway. An exposure pathway has five parts:

1. A source of contamination (such as a leaking tank);
2. The environmental media and transport mechanism (such as movement through groundwater);
3. A point of exposure (such as a private well);
4. A route of exposure (eating, drinking, breathing, or touching), and
5. Receptors (people, plants, or animals potentially or actually exposed).

When all five parts are present at a site, the exposure pathway is termed a *complete* exposure pathway. If any of these parts is not present, perhaps no point of exposure (such as a well), then the pathway is considered *incomplete*.

The CSM identifies all the ways in which exposure *could* take place. This means that complete exposure pathways should also include those that may be complete in the future based on contaminant migration or changes in land use. It is important to remember that identifying a pathway as complete *does not* automatically indicate that there is actual harm or risk to people or the environment. It does mean that exposure across that pathway does require further analysis to determine if it presents a risk.

Contaminant Transport

Contaminants at a site may move through the environment from the source through various processes, such as:

- Volatilization of chemicals from the soil or surface;
- Degradation of chemicals into soil or groundwater;
- Erosion of particulate-bound chemicals from soil;
- Leaching from soil with infiltrating water;
- Movement downstream in water or on suspended sediment;
- Transport of chemicals with groundwater flow;
- Migration from groundwater to surface water; or
- Movement through the atmosphere.

Contaminants may also change their form and be altered or transformed *chemically* through processes such as photolysis, hydrolysis, oxidation, reduction, or biologically through biodegradation.

Routes of Exposure

The primary routes of exposure are through:

- Eating or drinking (*Ingestion*)
- Breathing (*Inhalation*)
- Direct contact with the skin (*Dermal contact*)

Not all of the routes are expected to be identified at every site, while some unique site-specific conditions may require additional exposure route analyses. Remember that complete pathways include currently complete pathways and any that may be complete in the future based on contaminant migration or changes in land use. Also, identifying a pathway as complete does not necessarily indicate that a negative health outcome is anticipated, but rather the route of exposure needs evaluation.

Often the available information is not sufficient to determine whether a pathway is complete. Take for example a family living on a site with known soil and groundwater contamination. If contamination was measured in a drinking-water well, then ingestion of the groundwater would be a *complete* pathway. However, if it's not clear whether the contaminants could evaporate from soil into outdoor air (for example, the source may be small, the contamination deep, or frozen ground limits volatilization of certain compounds), breathing in (inhalation) of volatile contaminants in the outdoor-air pathway still *has the potential* to be complete and should be treated as such, until further assessment indicates whether an exposure is occurring, or not.

Conceptual Site Model Guidance

DEC has developed the *Policy Guidance on Developing Conceptual Site Models* to provide detailed information on developing CSMs. Please refer to this guidance as you review, develop, or consider the use of CSMs in your work. The first figure at the end of this document is the first page of the CSM checklist or scoping form that is used by project managers to develop a CSM. The second figure is a graphic flow-chart view of a CSM, and the third figure shows a graphical cartoon CSM . These figures illustrate tools for developing a CSM. The full guidance, and an *interactive* electronic copy of the entire scoping form and the graphic flow chart are provided on the compact disk with this handbook, and are also available online through DEC's website.

References

Alaska Department of Environmental Conservation. *Policy Guidance on Developing Conceptual Site Models*. November 30, 2005.

Website: Triad Resource Center. <http://www.triadcentral.org/mgmt/splan/sitemodel/>

First page only—the full, interactive CSM Scoping Form is on the compact disk with this handbook.

Human Health Conceptual Site Model Scoping Form

Site Name:

File Number:

Completed by:

Introduction

The form should be used to reach agreement with the Alaska Department of Environmental Conservation (DEC) about which exposure pathways should be further investigated during site characterization. From this information, a CSM graphic and text must be submitted with the site characterization work plan.

General Instructions: Follow the italicized instructions in each section below.

1. General Information:

Sources *(check potential sources at the site)*

- | | |
|--------------------------------------------------------|----------------------------------------------------------------------------|
| <input type="checkbox"/> USTs | <input type="checkbox"/> Vehicles |
| <input type="checkbox"/> ASTs | <input type="checkbox"/> Landfills |
| <input type="checkbox"/> Dispensers/fuel loading racks | <input type="checkbox"/> Transformers |
| <input type="checkbox"/> Drums | <input type="checkbox"/> Other: <input style="width: 120px;" type="text"/> |

Release Mechanisms *(check potential release mechanisms at the site)*

- | | |
|---------------------------------|----------------------------------------------------------------------------|
| <input type="checkbox"/> Spills | <input type="checkbox"/> Direct discharge |
| <input type="checkbox"/> Leaks | <input type="checkbox"/> Burning |
| | <input type="checkbox"/> Other: <input style="width: 120px;" type="text"/> |

Impacted Media *(check potentially-impacted media at the site)*

- | | |
|--------------------------------------------------------|----------------------------------------------------------------------------|
| <input type="checkbox"/> Surface soil (0-2 feet bgs*) | <input type="checkbox"/> Groundwater |
| <input type="checkbox"/> Subsurface Soil (>2 feet bgs) | <input type="checkbox"/> Surface water |
| | <input type="checkbox"/> Other: <input style="width: 120px;" type="text"/> |

Receptors *(check receptors that could be affected by contamination at the site)*

- | | |
|---------------------------------------------------------------------------|----------------------------------------------------------------------------|
| <input type="checkbox"/> Residents (adult or child) | <input type="checkbox"/> Site Visitor |
| <input type="checkbox"/> Commercial or industrial worker | <input type="checkbox"/> Trespasser |
| <input type="checkbox"/> Construction worker | <input type="checkbox"/> Recreational User |
| <input type="checkbox"/> Subsistence harvester (i.e., gathers wild foods) | <input type="checkbox"/> Farmer |
| <input type="checkbox"/> Subsistence consumer (i.e., eats wild foods) | <input type="checkbox"/> Other: <input style="width: 120px;" type="text"/> |

* bgs – below ground surface

CSM Graphic Form (blank) – See e-copy on CD for interactive form.

HUMAN HEALTH CONCEPTUAL SITE MODEL

Site: _____

Completed By: _____
 Date Completed: _____

(1)
 Check the media that could be directly affected by the release.

(2)
 For each medium identified in (1), follow the top arrow and check possible transport mechanisms. Briefly list other mechanisms or reference the report for details.

(3)
 Check exposure media identified in (2).

(4)
 Check exposure pathways that are complete or need further evaluation. The pathways identified must agree with sections 2 and 3 of the CSM Scoping Form.

(5)
 Identify the receptors potentially affected by each exposure pathway. Enter "C" for current receptors, "F" for future receptors, or "C/F" for both current and future receptors.

Current & Future Receptors

Receptors (adults or children)									
Industrial workers									
Site visitors, trespassers, or recreational users									
Construction workers									
Neighbors or stakeholders									
Substance consumers									
Other									

Exposure Pathways

Exposure Media

Media	Transport Mechanisms	Exposure Media	Exposure Pathways	Receptors
<input type="checkbox"/> Direct release to surface soil <input type="checkbox"/> Migration of leaching to subsurface <input type="checkbox"/> Migration of leaching to groundwater <input type="checkbox"/> Volatilization <input type="checkbox"/> Runoff or erosion <input type="checkbox"/> Uptake by plants or animals <input type="checkbox"/> Other (list): _____	<input type="checkbox"/> Direct release to surface soil <input type="checkbox"/> Migration of leaching to subsurface <input type="checkbox"/> Migration of leaching to groundwater <input type="checkbox"/> Volatilization <input type="checkbox"/> Runoff or erosion <input type="checkbox"/> Uptake by plants or animals <input type="checkbox"/> Other (list): _____	<input type="checkbox"/> soil	<input type="checkbox"/> Incidental Soil Ingestion <input type="checkbox"/> Dermal Absorption of Contaminants from Soil	<input type="checkbox"/> Parents (adults or children) <input type="checkbox"/> Industrial workers <input type="checkbox"/> Site visitors, trespassers, or recreational users <input type="checkbox"/> Construction workers <input type="checkbox"/> Neighbors or stakeholders <input type="checkbox"/> Substance consumers <input type="checkbox"/> Other
<input type="checkbox"/> Direct release to subsurface soil <input type="checkbox"/> Migration to groundwater <input type="checkbox"/> Volatilization <input type="checkbox"/> Other (list): _____	<input type="checkbox"/> Direct release to subsurface soil <input type="checkbox"/> Migration to groundwater <input type="checkbox"/> Volatilization <input type="checkbox"/> Other (list): _____	<input type="checkbox"/> groundwater	<input type="checkbox"/> Ingestion of Groundwater <input type="checkbox"/> Dermal Absorption of Contaminants in Groundwater <input type="checkbox"/> Inhalation of Volatile Compounds in Tap Water	
<input type="checkbox"/> Direct release to groundwater <input type="checkbox"/> Volatilization <input type="checkbox"/> Flow to surface water body <input type="checkbox"/> Flow to sediment <input type="checkbox"/> Uptake by plants or animals <input type="checkbox"/> Other (list): _____	<input type="checkbox"/> Direct release to groundwater <input type="checkbox"/> Volatilization <input type="checkbox"/> Flow to surface water body <input type="checkbox"/> Flow to sediment <input type="checkbox"/> Uptake by plants or animals <input type="checkbox"/> Other (list): _____	<input type="checkbox"/> air	<input type="checkbox"/> Inhalation of Outdoor Air <input type="checkbox"/> Inhalation of Indoor Air <input type="checkbox"/> Inhalation of Fugitive Dust	
<input type="checkbox"/> Direct release to surface water <input type="checkbox"/> Volatilization <input type="checkbox"/> Sedimentation <input type="checkbox"/> Uptake by plants or animals <input type="checkbox"/> Other (list): _____	<input type="checkbox"/> Direct release to surface water <input type="checkbox"/> Volatilization <input type="checkbox"/> Sedimentation <input type="checkbox"/> Uptake by plants or animals <input type="checkbox"/> Other (list): _____	<input type="checkbox"/> surface water	<input type="checkbox"/> Ingestion of Surface Water <input type="checkbox"/> Dermal Absorption of Contaminants in Surface Water <input type="checkbox"/> Inhalation of Volatile Compounds in Tap Water	
<input type="checkbox"/> Direct release to sediment <input type="checkbox"/> Resuspension, runoff, or erosion <input type="checkbox"/> Uptake by plants or animals <input type="checkbox"/> Other (list): _____	<input type="checkbox"/> Direct release to sediment <input type="checkbox"/> Resuspension, runoff, or erosion <input type="checkbox"/> Uptake by plants or animals <input type="checkbox"/> Other (list): _____	<input type="checkbox"/> sediment	<input type="checkbox"/> Direct Contact with Sediment	
<input type="checkbox"/> Resuspension, runoff, or erosion <input type="checkbox"/> Uptake by plants or animals <input type="checkbox"/> Other (list): _____	<input type="checkbox"/> Resuspension, runoff, or erosion <input type="checkbox"/> Uptake by plants or animals <input type="checkbox"/> Other (list): _____	<input type="checkbox"/> biota	<input type="checkbox"/> Ingestion of Wild Foods	

The Risk Assessment

*This is a brief introduction to risk assessments. DEC has a guidance document for risk assessments titled *Draft Risk Assessment Procedures Manual*, November 2005, that can be obtained through our website at:*

http://www.dec.state.ak.us/spar/csp/guidance/rapm11_05.pdf

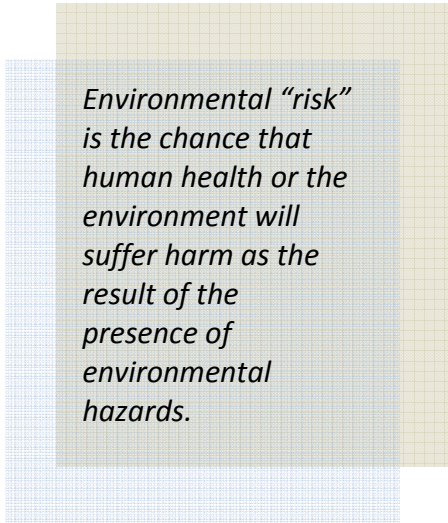
*A copy of the most recent **DEC Risk Assessment Procedures Manual** is included on the compact disk with this manual.*

The Alaska Department of Environmental Conservation (DEC) developed a draft *Risk Assessment Procedures Manual* (RAPM) in June 2000; the RAPM was updated in November 2005. This manual provides risk assessment procedures for use during the assessment and remediation of contaminated sites in Alaska.

A risk assessment is essentially a tool used to determine if current or future exposure will pose a health risk to a community. It is also the process of gathering information for estimating short- and long-term effects on human health or the environment resulting from exposure to hazards associated with a particular product or technology.

Regulatory actions require an integration of two distinct processes: *risk assessment* and *risk management*.

Risk assessments organize and interpret technical information for use by those making decisions. Risk assessment is the scientific process of evaluating the toxic properties of compounds and the conditions of human and ecological exposure, to determine the likelihood that an exposed population or ecosystem will be adversely affected. The DEC RAPM provides instruction in preparing a site-specific risk assessment. The process relies on available, reputable scientific information and conservative judgments in the case of uncertainty.



Environmental “risk” is the chance that human health or the environment will suffer harm as the result of the presence of environmental hazards.

Risk management is the process by which risk assessment results are combined with other site information to make decisions about *risk reduction*. In addition to considering the human health and ecological risk assessment

data, risk management takes into consideration the technical feasibility for action, the costs involved, political and social acceptability, and the impact of proposed alternative remedial actions. The DEC RAPM does not provide guidance on the risk management decisions that must be made by DEC.

The Risk Assessment Process

Risk assessments are developed to assess risk to current and future receptors at or near a contaminated site based on current conditions. It does not consider the conditions that may be present after remediation or after the establishment of institutional controls (these are physical, engineered, or legal controls that limit the use of a property in order to prevent exposure). Risk assessment may also be used as a tool in determining alternate cleanup levels for the site based on site-specific factors.

A risk assessment may be necessary if additional complete pathways are identified other than those protected by the cleanup levels in the 18 AAC 75 tables (ingestion and inhalation of contaminated soil or groundwater). For instance, inhalation of volatile contaminants in indoor air, ingestion of wild foods, or exposure to aquatic or terrestrial ecological receptors are not protected under the cleanup levels in the 18 AAC 75 tables. Therefore, if one of these pathways is complete at a site, a risk assessment may be warranted.

Route of exposure

The way people come into contact with a hazardous substance. Three routes of exposure are breathing (inhalation), eating or drinking (ingestion), and direct contact with the skin (dermal contact).

Risk Assessment Requirements

A risk assessment must be conducted by an experienced individual in consultation with DEC.

The following documents must be submitted to DEC for review and approval during the risk assessment process:

- Human Health Preliminary Conceptual Site Model (CSM)
- Risk Assessment Work Plan
- Risk Assessment

For ecological risk assessments, a scoping evaluation must be submitted initially.

Public Participation

Public participation is required in certain circumstances during the risk assessment process. For instance, public comment is required by DEC:

- When alternate cleanup levels are proposed for soil and groundwater based on a site-specific risk assessment;
- When making a commercial or industrial land-use designation for developing alternate cleanup levels; and
- When alternative points of compliance are established for groundwater that is hydrologically connected to surface water.

Planning for a Risk Assessment

The planning stage of a risk assessment includes the creation of a conceptual site model (CSM – see Section 6.2). A CSM characterizes the distribution of contaminant concentrations across the site and identifies all potential exposure pathways, migration routes, and potential receptors at a site.

Steps of the risk assessment planning process include:

- Scoping Meeting: During this meeting the purpose and limitations of the risk assessment are discussed as well as the work plan requirements, among other topics. This meeting also establishes the lines of communication and document deliverable schedule.
- Risk Assessment Work Plan: Describes the tasks and methods that will be used to assess risk to human health and the environment. It should consider soil, groundwater, sediments, surface water, air, and biota if each of these is applicable, and describe how risk from exposure to each medium will be assessed.
- Submittal: for a human health risk assessment the deliverables required include:
 - CSM
 - Risk Assessment Work Plan
 - Risk Assessment

For an ecological risk assessment the deliverables may include:

- Scoping evaluation with preliminary screening

- A screening-level ecological risk assessment (if warranted)
- Baseline Risk Assessment Work Plan
- And Baseline Risk Assessment.

Human Health Risk Assessment Methodology

The methodology included in the RAPM integrates federal, state, and regional requirements with site-specific information to provide a framework for performing a Human Health Risk Assessment at an Alaska contaminated site.

The main steps of a Human Health Risk Assessment are described in detail in the RAPM and illustrated on Figure 1 . Briefly, these steps include:

- Data Evaluation - During this step the adequacy of the available data is evaluated, the existing data gaps identified, the contaminants of potential concern (COPCs) selected, and the available information evaluated for consistency with the CSM.
- Exposure Assessment - The process of determining magnitude, frequency, duration, and route of exposure to a chemical or physical agent. The results of the exposure assessment are detailed CSMs and a set of exposure assumptions that, combined with chemical-specific toxicity information, characterize potential risks at the site. DEC requires that current as well as future exposure scenarios are considered during the exposure assessment.
- Toxicity Assessment - This step identifies the potential adverse effects associated with COPCs and estimates, using numerical toxicity values, and the likelihood that these adverse effects will occur based on the extent of the exposure. The preparation of a toxicity assessment relies primarily on existing toxicity information and does not usually involve development of toxicity values or dose-response relationships.

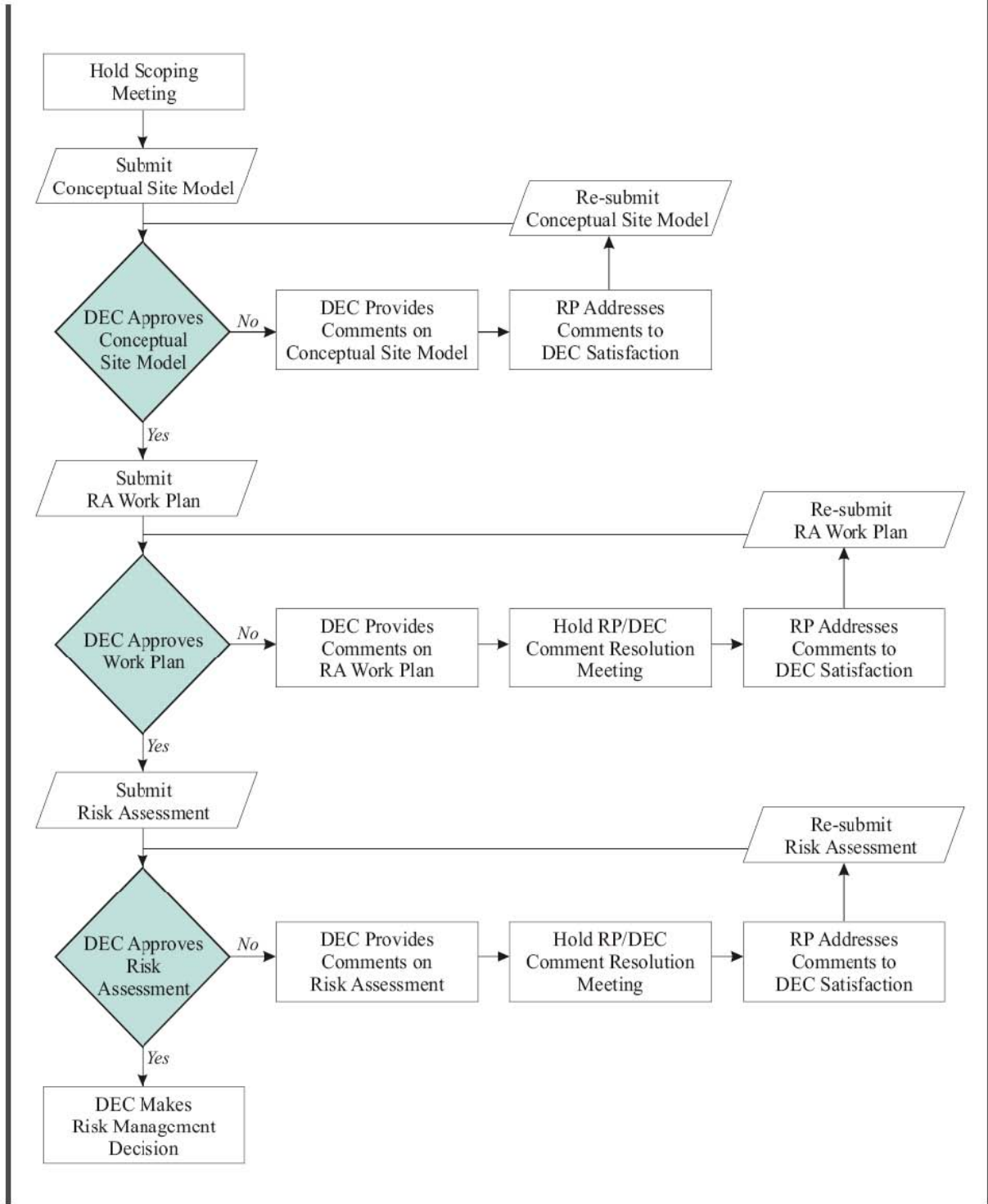
Important elements of this step include:

- *Toxicity Hierarchy* - each chemical is identified as a carcinogen (cancer causing) or non-carcinogen (non-cancer causing). Reference doses are then derived for non-carcinogens.
- *Toxicity Value Conversions* - toxicity values are provided for the three main routes of exposure: ingestion, inhalation, and dermal contact.
- *Types of exposures* - carcinogenic and non-carcinogenic effects of chronic and subchronic exposures are considered. Chronic exposures are defined as seven years or more; subchronic are

considered from two weeks to seven years. Acute exposures (less than two weeks) should be addressed immediately and in conjunction with the state or federal health department.

- Toxicity Profiles- The final human health risk assessment should provide toxicity information for each COPC.
- Risk Characterization - This section integrates the information from the exposure assessment and the toxicity assessment to form the basis for the characterization of human health risks. A qualitative as well as quantitative description of the risks is presented including:
 - Carcinogenic risk
 - Non-carcinogenic risk
 - Cumulative risk
 - Risk from lead exposure
 - Risk from bulk hydrocarbons
- Uncertainty assessment - This section is a qualitative discussion of the uncertainties within a human health assessment. These may include natural variability, measurement error, sampling error, human error, extrapolation mandated by incomplete knowledge or incorrect assumptions, and oversimplification.

FIGURE 1
HUMAN HEALTH RISK ASSESSMENT PROCESS



Ecological Risk Assessment Methodology

Ecological risk assessment is a process that evaluates the likelihood that adverse ecological effects may occur or are occurring as a result of exposure to one or more stressors. Because Brownfield site characterization activities usually occur in areas that were previously developed, ecological risk assessments are rarely required.

The main steps of an ecological risk assessment are summarized in the following flowchart. For detailed description of each step please refer to the *DEC Risk Assessment Procedures Manual*, and to *DEC's Ecoscoping Guidance*, both of which are provided on the compact disk with this handbook.

FIGURE 2
ECOLOGICAL RISK ASSESSMENT PROCESS IN ALASKA*

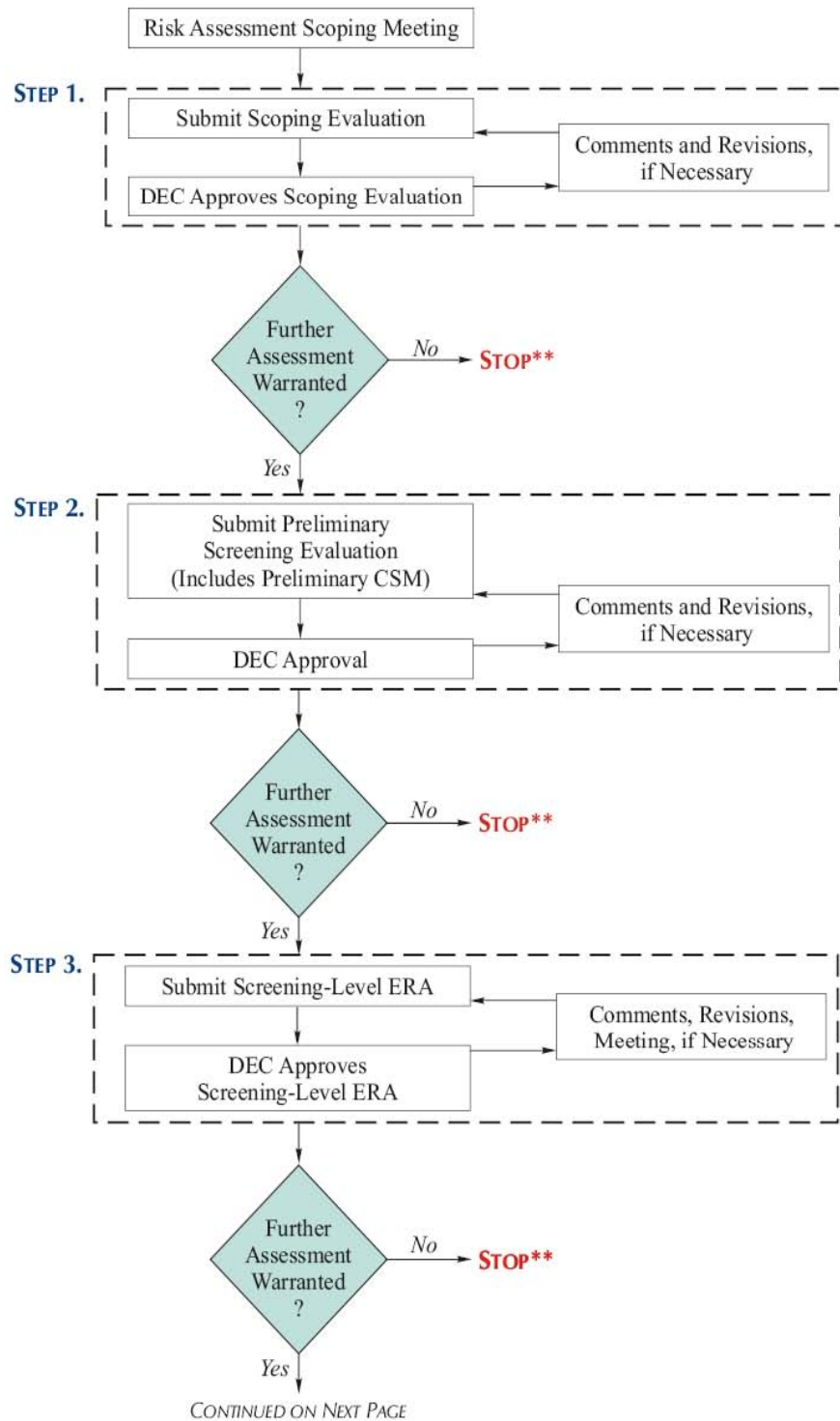
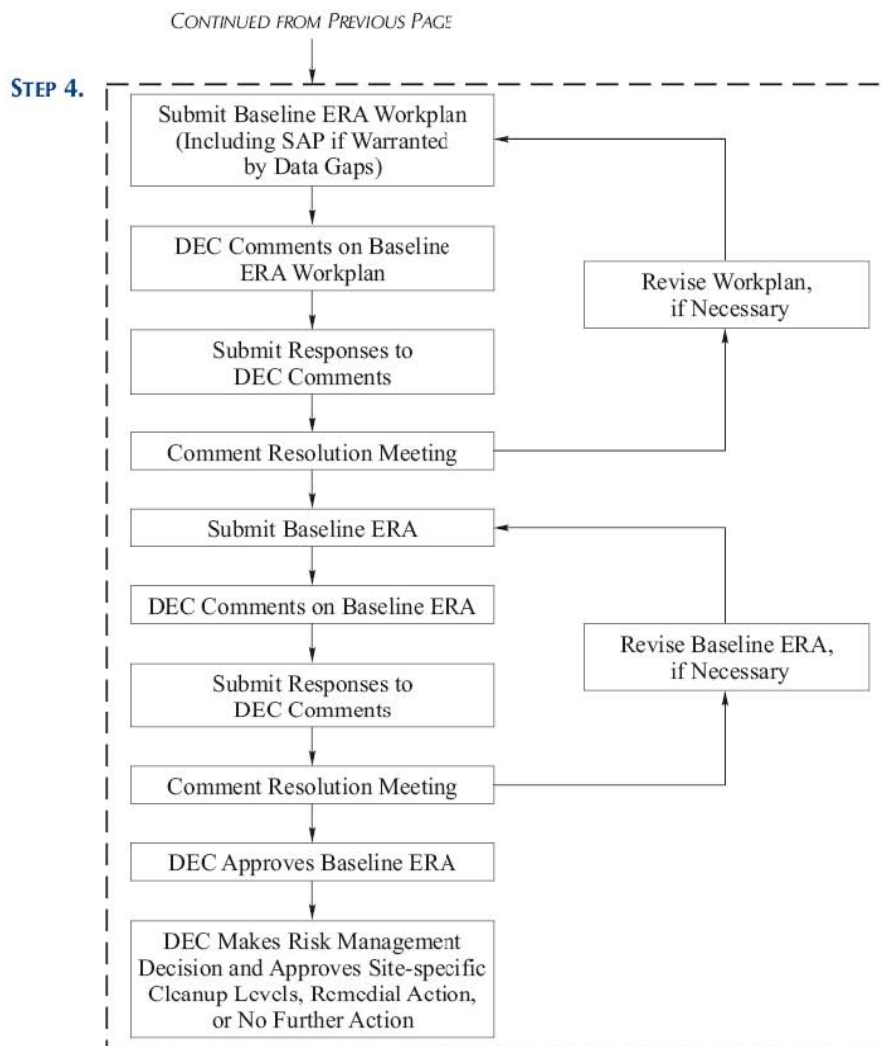


FIGURE 2
ECOLOGICAL RISK ASSESSMENT PROCESS IN ALASKA* (CONT.)



Key:

- DEC Alaska Department of Environmental Conservation
- ERA Ecological Risk Assessment
- SAP Sampling and Analysis Plan

Notes:

- * Some tasks may occur concurrently.
- ** DEC makes risk-management decision regarding need for remedial action.

Phase I – Environmental Site Assessment

The Phase I Environmental Site Assessment guideline is generally accepted to be ASTM International's E1527-05, "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process." This copyrighted standard is available at ASTM International's website for a charge of \$49 at: <http://www.astm.org/Standards/E1527.htm>

A copy of the first page of the standard is shown at the end of this section.

Phase I Definition and Purpose

The Phase I Environmental Site Assessment (ESA) is designed to evaluate the environmental conditions of a parcel of commercial real estate during the process of a property transaction. The Phase I ESA may be carried out by the interested party to qualify for the innocent landowner, contiguous property owner, or bona fide prospective purchaser limitations on CERCLA¹ liability. The ASTM Standard (E1527-05) for conducting a Phase I ESA is generally accepted as constituting *all appropriate inquiry* into the previous ownership and uses of a property. Although the standard for carrying out a Phase I ESA is generally intended for liability protection in the context of real estate transactions, the standard is an excellent reference for environmental professionals to use in their own investigations of potential brownfield sites.

The Phase I ESA procedure is generally intended to be a systematic evaluation of a property to determine contamination or other conditions that can create liability, remedial obligations, development restrictions, and unanticipated costs and delays.

Phase I Historical and Statutory Context

The original CERCLA (1980) defenses included the following:

- Act of God
- Act of War
- Act/Omission of a Third Party

New protections from CERCLA liability were introduced with the Superfund Amendments and Reauthorization Act (SARA) of 1986, which created the "Innocent Landowner Defense" in which the purchaser:

- Had no knowledge of contamination, and

¹ The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 USC 9605), also known as the "Superfund Law."

- Had conducted “all appropriate inquiry” (or due diligence) into the property’s environmental condition.

In 2002, the Small Business Liability Relief and Brownfields Revitalization Act (also known as the “Brownfields Law”) required that EPA develop federal standards and practices for all appropriate inquiry. This led to the development of ASTM E1527-05, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*, which satisfies the All Appropriate Inquiry requirement for establishing the innocent landowner defense under CERCLA and SARA, and the Brownfields law.

ASTM E1527-05² outlines the process for evaluating a property for potential environmental concerns and assessing potential liability for any contamination present at the property. ASTM-equivalent Phase I ESAs are routinely required by lenders, insurers, buyers, and others, and they are required of parties receiving Brownfields assessment grants. This standard is also used by the Alaska Department of Environmental Conservation (DEC) term contractors in conducting DEC Brownfield Assessments. However, it is important to note that the Phase I ESA is not part of the State of Alaska’s regulatory process for contaminated site characterization and cleanup.

Why do a Phase I ESA?

A Phase I ESA is typically done before a property transaction, but can also be used in other instances. The various reasons one might conduct a Phase I ESA are listed below:

- Required if seeking protection from CERCLA liability
- Lender or insurer requirements
- Brownfields funding requirements
- Seller evaluation of sale potential
- Protect buyer’s interests
- Avoid delays and restrictions (later on)
- Gain information that will help property owner comply with “continuing obligations” after purchase

² See also: ASTM E1528-06, *Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process*.

Continuing obligations for someone purchasing a known contaminated property may include one or more of the following:

- Comply with land use restrictions;
- Do not impede effectiveness or integrity of institutional controls;
- Take “reasonable steps”;
- Provide cooperation, assistance and access; and
- Comply with CERCLA information requests and subpoenas.

Components of a Phase I ESA

The key components of a Phase I ESA to satisfy the requirements of all appropriate inquiry, or due diligence, are summarized below:

- Phase I inquiry has to be done by an environmental professional;
- Interviews have to be conducted with current and past owners, operators, and occupants of the subject property;
- Reviews of historical sources, such as aerial photographs, fire insurance maps, building department records, chain of title documents, and land use records;
- Search for environmental cleanup liens;
- Reviews of federal, state, tribal, and local government records, such as environmental databases and public health records³;
- Visual walk-through (site visit) inspection of the property;
- Specialized knowledge on the part of the entity having the Phase I done;
- Consideration of whether the property is underpriced because of contamination; and
- Commonly known or reasonably ascertainable information about the property, from sources such as neighbors, government officials, newspapers, websites, libraries, historical societies, or community organizations .

A copy of the first page of ASTM E1527-05 is shown on the next page. The full standard is available only from ASTM International at www.astm.org.

³ These are often ordered as a package from private data vendors; typically include properties within a specified “search radius” of the subject property.



Designation: E 1527 – 05

Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process¹

This standard is issued under the fixed designation E 1527; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 *Purpose*—The purpose of this practice is to define good commercial and customary practice in the United States of America for conducting an *environmental site assessment*² of a parcel of *commercial real estate* with respect to the range of contaminants within the scope of Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (42 U.S.C. §9601) and *petroleum products*. As such, this practice is intended to permit a *user* to satisfy one of the requirements to qualify for the *innocent landowner, contiguous property owner, or bona fide prospective purchaser* limitations on CERCLA liability (hereinafter, the “*landowner liability protections*,” or “*LLPs*”); that is, the practice that constitutes “*all appropriate inquiry* into the previous ownership and uses of the *property* consistent with good commercial or customary practice” as defined at 42 U.S.C. §9601(35)(B). (See Appendix X1 for an outline of CERCLA’s liability and defense provisions.) Controlled substances are not included within the scope of this standard. Persons conducting an *environmental site assessment* as part of an EPA Brownfields Assessment and Characterization Grant awarded under CERCLA 42 U.S.C. §9604(k)(2)(B) must include controlled substances as defined in the Controlled Substances Act (21 U.S.C. §802) within the scope of the assessment investigations to the extent directed in the terms and conditions of the specific grant or cooperative agreement. Additionally, an evaluation of *business environmental risk* associated with a parcel of *commercial real estate* may necessitate investigation beyond that identified in this practice (see Sections 1.3 and 1.3).

1.1.1 *Recognized Environmental Conditions*—In defining a standard of good commercial and customary practice for conducting an *environmental site assessment* of a parcel of *property*, the goal of the processes established by this practice is to identify *recognized environmental conditions*. The term

recognized environmental conditions means the presence or likely presence of any *hazardous substances* or *petroleum products* on a *property* under conditions that indicate an existing release, a past release, or a *material threat* of a release of any *hazardous substances* or *petroleum products* into structures on the *property* or into the ground, ground water, or surface water of the *property*. The term includes *hazardous substances* or *petroleum products* even under conditions in compliance with laws. The term is not intended to include *de minimis* conditions that generally do not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be *de minimis* are not *recognized environmental conditions*.

1.1.2 *Petroleum Products*—*Petroleum products* are included within the scope of this practice because they are of concern with respect to many parcels of *commercial real estate* and current custom and usage is to include an inquiry into the presence of *petroleum products* when doing an *environmental site assessment of commercial real estate*. Inclusion of *petroleum products* within the scope of this practice is not based upon the applicability, if any, of CERCLA to *petroleum products*. (See X1.7 for discussion of *petroleum exclusion to CERCLA liability*.)

1.1.3 *CERCLA Requirements Other Than Appropriate Inquiry*—This practice does not address whether requirements in addition to *all appropriate inquiry* have been met in order to qualify for the *LLPs* (for example, the duties specified in 42 U.S.C. §9607(b)(3)(a) and (b) and cited in Appendix X1, including the continuing obligation not to impede the integrity and effectiveness of *activity and use limitations* (AULs), or the duty to take reasonable steps to prevent releases, or the duty to comply with legally required release reporting obligations).

1.1.4 *Other Federal, State, and Local Environmental Laws*—This practice does not address requirements of any state or local laws or of any federal laws other than the *all appropriate inquiry* provisions of the *LLPs*. *Users* are cautioned that federal, state, and local laws may impose environmental assessment obligations that are beyond the scope of this practice. *Users* should also be aware that there are likely to be other legal obligations with regard to *hazardous substances* or

¹ This practice is under the jurisdiction of ASTM Committee E50 on Environmental Assessment and is the direct responsibility of Subcommittee E50.02 on Commercial Real Estate Transactions.

Current edition approved Nov. 1, 2005. Published November 2005. Originally approved in 1993. Last previous edition approved in 2000 as E 1527 – 00.

² All definitions, descriptions of terms, and acronyms are defined in Section 3. Whenever terms defined in 3.2 are used in this practice, they are in *italics*.

Site Characterization Process (Phase II)

DEC has specific requirements associated with conducting site characterization on contaminated sites. The most important element is the requirement for having a site characterization workplan approved by your DEC project manager. Review and approval by DEC is only required for sites that have been identified as “contaminated sites” and sites that are involved in the cleanup process. For example, a Phase I environmental site assessment, or other investigation conducted to determine if a site is contaminated, may not require DEC review and approval. However, if you think you will need to use the information or data collected as part of an investigation as evidence to demonstrate that your site is not a contaminated site, you should involve DEC early in the planning process to ensure that you collect all the information necessary the first time, so that DEC can make an appropriate and defensible decision.

What Do We Want to Know?

As environmental program managers, one of the things we will eventually have to do is make a determination of whether a site is contaminated or not. We might ask ourselves the question, “how contaminated is it?” which is not always an easy question to answer. Depending on the type of information you are looking for, the way you go about seeking that answer may differ.

For example, if you ask the question “is this site contaminated?” are you asking if a release occurred, or if there is any detectable concentration of contamination above a certain level at the site? Are you interested in whether the groundwater is contaminated, or if the contamination can be cleaned up with available resources? Do you want to know everywhere it is contaminated or just whether there is contamination in a certain area that is impeding the use of the site? Do you want to know if people are at risk, or if this is going to cost you money? The process for answering some of these questions, as well as characterizing a site, can sometimes be confusing. Collecting various types of samples and analyzing them are significant elements of the characterization process; however, we need to be certain when taking samples, that we are actually taking the samples that we need.

Collecting the Right Samples

More often than we care to admit, we find ourselves simply taking samples that do no more than verify something we already knew. This may happen when consultants are directed to determine “if a site is contaminated.” They may just go out, grab some samples from beneath the leaking tank, and tell you that it is contaminated. However, this doesn’t really give you the

information you truly want. There should always be a good reason for taking a sample.

For example, if you see that there is a leak from an above ground tank, and the ground is obviously contaminated with diesel fuel, does taking a sample from the center of that spill tell you anything about the release that you didn't already know? *Maybe*, but for the most part, the sample will tell you that there is a lot of diesel fuel in that sample – something you knew before you spent several hundred dollars analyzing the sample. The results do not:

- represent the average or greatest concentration of contaminant (well, maybe it does, but you can't be certain);
- tell you how deep the contamination goes;
- tell you the lateral extent of the contamination;
- tell you the volume of contamination;
- tell you how much contaminated soil needs to be cleaned up.

It is possible that the sample not only didn't tell you much more than you already knew, it might also add to the confusion. Sometimes the samples come back cleaner than you thought they should – now what do you do?

Asking the Right Questions

You need to ask yourself some simple questions before you spend significant money on characterization and sampling:

1. What do I need or want to know?
2. What is the question(s) I am trying to answer?
3. What type of information or data will help me answer this question?
4. What is the proper way to collect these data?
5. Do I know where and how to collect representative data?
6. Will the resulting information be representative of the true nature of the problem?
7. What will I do with this information?

Answers to some of these questions can come in varying ways, and laboratory data, while often very necessary, is not always the way to answer your questions. (Personal knowledge of a release and an understanding of the background can sometimes be more useful than collecting a few samples.) Analytical data also may not answer your question if you have collected the samples from the wrong area, didn't collect enough samples, didn't take the samples properly, or didn't analyze the samples with the proper tests.

Working with your consultant and/or the DEC, will help you figure out the way to approach these questions. Sometimes you may not be able to afford to answer every question at once, so you step back and prioritize the way you want to approach your characterization. Sometimes you simply need to determine if the magnitude of the problem is within your capacity to clean it up right away – there may be a better way to focus your work with this objective than to simply send someone out to collect samples. These are the types of things to think about when you approach a site characterization plan. Whatever your decision might be, it is important to maintain communication with your DEC project manager.

DEC Site Characterization Requirements

There is some assistance available. The DEC provides specific steps to address the *Site Characterization Process* at its website. It is a good place to start in getting a background to the entire *DEC Cleanup Process*, and how it relates to the regulatory requirements. This webpage may be found at:

<http://www.dec.state.ak.us/spar/csp/process.htm>

A copy of the *CS Cleanup Process Webpage* follows this document. At the website each phase of the process is explained and appropriate guidance is hyperlinked on the side bar for easy access to the documents. Under the *Site Characterization* tab (on the website) there are links to two guidance documents which are currently the best information of the overall procedures necessary during investigation of a contaminated site. Although they lack specific information for non-petroleum contaminants, the documents are useful to all characterization and cleanup efforts. (These documents contain many similarities and DEC plans to combine these two documents in the future.)

We understand that site characterization is often an iterative process. Planning, investigating, and reporting may occur more than once. Work with your DEC project manager to determine what should be the proper format for a workplan and report that adapts to your site needs.

Remember that collecting samples and analytical data are important, but you need to be sure to collect the right samples, from the right places, for the right reasons. Really thinking through the site characterization program *before* you start helps to ensure the results of the investigation will answer some or all of your questions about a site. This planning is really the most important part of

the site characterization process, and is *much* less expensive than actual field work!

18 AAC 75.335. Site Characterization

This is the official location of the site characterization requirements in the Alaska regulations for contaminated site cleanup. (The latest version of the regulations is included on the disk with this handbook and is labeled 18 AAC 75 Article 3.) If the cleanup is the result of a regulated underground storage tank (UST) release (heating oil tanks are *not* considered regulated tanks and are cleaned up under the contaminated site regulations), then you would adhere to 18 AAC 75 regulations. USTs are addressed under 18 AAC 78; however, DEC is in the process of combining these regulations since the site characterization process is nearly identical.

The general requirements for a site characterization are listed below:

1. Develop a site characterization workplan and provide to DEC for approval – it must be prepared by a *qualified person*;
2. It must include pertinent information about the site, the problem, potential receptors, what you want to find out, and specifically what you intend to do. There are a lot of potential factors that need to be addressed in a workplan, but the level of effort necessary should be equal to the potential problem you are dealing with. The DEC can help you determine what is necessary in your workplan, so work with them in the beginning;
3. After completing your site characterization, you will submit a copy to the DEC for comment and approval. Depending on the objectives of this investigation, the report should: explain what the investigation involved; review all the analytical data and findings; provide adequate diagrams and pictures to help the DEC understand what took place and where; state the magnitude of the problem that was identified; and ensure that the data are useable by evaluating the quality control requirements for the project.
4. Ultimately, the report should explain to the reader what the next steps in the project will include. DEC can help you determine these, particularly because there are often many ways to approach a cleanup that are directly dependent on the magnitude of the

problem, whether there is an immediate concern or not, funding limitations, the availability of equipment, etc.

The regulatory section specific to *site characterization* is listed below for your reference and can be found on p. 59 of the e-copy of 18 AAC 75. The Article 3 regulations (consisting of 75.300 through 75.396) should be reviewed to better understand the context of the site characterization requirements, and the other requirements associated with environmental work. Cleanup levels, reporting requirements, and when to communicate with the DEC are all covered in the regulations, but you may also find the cleanup process sheets a good place to narrow down a search for information.

Excerpt from 18 AAC 75 Oil and Other Hazardous Substances Pollution Control (Regulations) Article 3 – for reference on Site Characterization Requirements:

18 AAC 75.335. Site characterization. (a) Before proceeding with site cleanup under the site cleanup rules, a responsible person shall characterize the extent of hazardous substance contamination at the site.

(b) A responsible person shall submit a site characterization workplan to the department for approval before beginning site characterization work. The department will approve the site characterization workplan if the workplan is

- (1) prepared by a qualified person; and
- (2) designed, to the maximum extent practicable, to
 - (A) determine if a discharge or release of a hazardous substance has occurred;
 - (B) identify each hazardous substance at the site, including the concentration and extent of contamination; this information must be sufficient to determine cleanup options;
 - (C) identify site characteristics or conditions that could result in ongoing site contamination, including the potential for leaching of in-situ contamination and the presence of leaking barrels, drums, tanks, or other containers;
 - (D) evaluate the potential threat to human health, safety, and welfare, and to the environment from site contamination;
 - (E) identify any interim removal action necessary under 18 AAC 75.330;
 - (F) locate sources of known site contamination, including a description of potential releases into soil, sediment, groundwater, or surface water;
 - (G) evaluate the size of the contaminated area, including the concentrations and extent of any soil, sediment, groundwater, or surface water contamination;

(H) identify the vertical depth to groundwater and the horizontal distance to nearby wells, surface water, and water supply intakes;

(I) evaluate the potential for surface water run-off from the site and the potential for surface water or sediment contamination; and

(J) identify the soil type and determine if the soil is a continuing source for groundwater contamination.

(c) After completing site characterization work, the responsible person shall submit to the department for approval a site characterization report that

(1) is prepared by a qualified person;

(2) sets out the information obtained from activities performed in accordance with a site characterization workplan;

(3) sets out the results of sampling and analysis;

(4) demonstrates that the inspections, sampling, and analysis performed adequately characterize the extent of hazardous substance contamination; and

(5) proposes cleanup techniques for the site.

(d) The department will approve the report submitted under (c) of this section if the department determines that the work described in the report and the cleanup techniques proposed are protective of human health, safety, and welfare, and of the environment. The department will, as part of its approval, modify proposed cleanup techniques or require additional cleanup techniques for the site as the department determines to be necessary to protect human health, safety, and welfare, and the environment. (Eff. 1/22/99, Register 149; am 8/27/2000, Register 155)

7. Resources

- 7.1. Brownfield Resources: Web Page Listings and Selected Pages**
- 7.2. DEC Contaminated Sites Database Search**
- 7.3. Newsletters (RESERVED)**
- 7.4. Training and Conference Information**
- 7.5. Mapping – Google Earth User’s Guide**
- 7.6. Contact Information**

BROWNFIELD RESOURCES

For more information about Brownfields and Contaminated Sites, please visit the following websites:

Alaska Department of Environmental Conservation, Contaminated Sites Program:

<http://www.dec.state.ak.us/spar/csp/index.htm>

Alaska Department of Environmental Conservation, Brownfields:

<http://www.dec.state.ak.us/spar/csp/brownfields.htm>

DEC's Reuse and Redevelopment Initiative:

<http://www.dec.state.ak.us/spar/csp/reuse.htm>

The Cleanup Process (simplified pdf version):

http://www.dec.state.ak.us/spar/csp/guidance/cleanup_process.pdf

The Cleanup Process, with details on related regulations and guidance:

<http://www.dec.state.ak.us/spar/csp/process.htm>

U.S. Environmental Protection Agency, Brownfield Home Page:

<http://www.epa.gov/brownfields/>

U.S. Environmental Protection Agency, State & Tribal Response Program Grants:

http://www.epa.gov/swerosps/bf/state_tribal.htm

Yukon River Inter-Tribal Watershed Council's Home Page:

<http://www.yritwc.org/>

Kodiak Regional Brownfields Tribal Response Program Home Page:

<http://kodiakbrownfields.com/index.php>

Anvik Tribal Council's Brownfield Tribal Response Program Home Page:

<http://www.anviktribalcouncil.com/>

Northeast Midwest Institute, Brownfield Home Page:

<http://www.nemw.org/brownfields.htm>

Technical Assistance to Brownfields Communities, Kansas State University:

<http://www.engg.ksu.edu/CHSR/outreach/tab/>

Institute for Tribal Environmental Professionals

<http://www4.nau.edu/itep/index.asp>

EPA Brownfield Websites

The EPA websites offer a substantial amount of information, from the national website to the Region 10 website. Here are some of the specific links:

National EPA Brownfield website:

<http://www.itrcweb.org/gd.asp>

Region 120 Brownfield page:

<http://yosemite.epa.gov/R10/CLEANUP.NSF/sites/bf>

Region 10 STRP Grant page:

<http://yosemite.epa.gov/R10/CLEANUP.NSF/9db02a9508a0b0c688256aaf0075241f/6cf7a831c95decf988256f560074c85f!OpenDocument>

You can get there pretty easy from the previous links that are a little more user friendly.

The EPA websites are very important since they are the sites that provide you the most recent information on grant information, templates, and updates. You should locate these sites and keep them in your shortcuts for future reference. One more good site is the Targeted Brownfield Assessment (TBA) link, which you can reach easily from the Region 10 home page. All Tribes are eligible to apply for TBA's, which is a free assessment service from EPA. There have been many successful TBA's in Alaska, that have helped communities determine the extent of contamination, and additionally helped many to go on and obtain cleanup funding.

CLU-IN Website – Technology Innovation Program

This is by far one of the best free training websites there is. The Hazardous Waste Clean-Up Information (CLU-IN) Web Site provides information about innovative treatment and site characterization technologies to the hazardous waste remediation community. It describes programs, organizations, publications, and other tools for federal and state personnel, consulting engineers, technology developers and vendors, remediation contractors, researchers, community groups, and individual citizens. The site was developed by the U.S. Environmental Protection Agency (EPA) but is intended as a forum for all waste remediation stakeholders.

This is one of the absolute best resources for articles and live training that you will find.

The **Clu-In** website can be reached at:

<http://www.clu-in.org/about/>

You can find Brownfield specific information under the left tab “Remediation” and then “Brownfields.”

<http://www.clu-in.org/remed1.cfm#brow>

We strongly recommend that you sign up for emails on the upcoming trainings. You can *subscribe* at the following link:

<http://www.clu-in.org/techdrct/>

Not only are there live national and **FREE** training sessions online and through teleconference, there is also an extensive archive of 228 seminars online that you can download in Power Point and MP3, or even Podcast. Check out what they have at:

<http://www.clu-in.org/live/archive.cfm>



About CLU-IN

- [What's Hot? What's New?](#)
- [Remediation](#)
- [Characterization and Monitoring](#)
- [Training](#)
- [Initiatives and Partnerships](#)
- [Publications and Studio](#)
- [Databases](#)
- [Software and Tools](#)
- [TechDirect and Newsletters](#)
- [Vendor and Developer Support](#)
- [About CLU-IN](#)

- [➤ Mission Statement](#)
- [➤ CLU-IN History](#)
- [➤ CLU-IN Site Tour](#)
- [➤ Relation to the U.S. Environmental Protection Agency \(EPA\) Web Site](#)
- [➤ About the Technology Innovation Program](#)
 - > Mission Statement
 - > Technology Innovation and Field Services Division Staff Directory
 - > Subject Matter Overview
 - > Coming to Visit Us
- [➤ Other Web Sites Supported by the Technology Innovation Program](#)
- [➤ Privacy and Security Notice](#)
- [➤ News Feed \(RSS\)](#)
- [➤ Awards and Certifications](#)

> [Mission Statement](#)

The Hazardous Waste Clean-Up Information (CLU-IN) Web Site provides information about innovative treatment and site characterization technologies to the hazardous waste remediation community. It describes programs, organizations, publications, and other tools for federal and state personnel, consulting engineers, technology developers and vendors, remediation contractors, researchers, community groups, and individual citizens. The site was developed by the U.S. Environmental Protection Agency (EPA) but is intended as a forum for all waste remediation stakeholders.

> [CLU-IN History](#)

CLU-IN has been serving the hazardous waste remediation community since 1987. The CLU-IN Bulletin Board System (BBS) was developed by the U.S. EPA Office of Solid Waste and Emergency Response (OSWER) and began operation in 1987. This precursor to the modern form of the World Wide Web offered electronic messaging, bulletins that could be read online, descriptions and listings of EPA documents, a calendar of EPA training courses, notices of upcoming meetings, the text of EPA newsletters, files for download, and special interest group areas (SIGs) limited to particular groups or subject areas. A 1989 video entitled "The Technology Transfer Electronic Bulletin Board System" is available in Windows Media Player format.

[View Original 1989 Video](#)
(19:26)

[Technical Support](#)

The CLU-IN web site was launched in 1996, and was operated in parallel with the CLU-IN BBS between 1996 and 1999. In 1999, The CLU-IN BBS was discontinued to better serve the growing CLU-IN web site user community. Since 1996, CLU-IN has evolved to offer new information, features, and services to its user community, such as:

- Bulletin Board System (1987)
- [CLU-IN Web Site Launched](#) (1996)

- [TechDirect Information Service Launched](#) (1997)
- [Streaming Videos](#) (1998)
- [Vendor and Developer Support](#) (1998)
- [Internet Seminars](#) (1999)
- [Online Databases](#) (1999)
- [Technology Focus](#) (1999)
- [Conference Webcasts](#) (2000)
- [Field Analytic Technologies Encyclopedia](#) (2001)
- [Technology Innovation News Survey Archives](#) (2002)
- [Contaminant Focus](#) (2003)
- [Upgraded CLU-IN Search Engine](#) (2004)
- [Project Profile Databases Search](#) (2005)
- [RSS Feed](#) (2005)
- [Internet Seminar Archive Podcasts](#) (2005)
- [Issue Areas](#) (2006)

> **Relation to the U.S. Environmental Protection Agency (EPA) Web Site**

The CLU-IN web site functions through the www.clu-in.org address as a public service of the [Technology Innovation Program \(TIP\)](#), out of EPA's Office of Superfund Remediation and Technology Innovation (OSRTI). EPA Order 2190.4 reiterates the "requirement that EPA data and information provided to the public on the World Wide Web be stored, protected, catalogued, and maintained on computer servers that form the EPA Public Access Web site (www.epa.gov)."

CLU-IN operates within the following guidelines for web sites sponsored and operated by EPA, but external to EPA's web site as outlined in Order 2190.4:

1. All EPA material on CLU-IN is "mirrored" on the EPA web site. Most of this material is available through the [TIP area](#) of EPA's web site. However, CLU-IN also contains information produced by other EPA offices that is available through other sections of the EPA web site. CLU-IN content is commingled with non-EPA content relevant to all groups served by the site, and produced by other Federal Agencies, States, non-profit organizations, research centers, international organizations, etc.
2. The Technology Innovation Program's outreach efforts require technologies beyond those available on the EPA's public access web servers and hence unavailable through the EPA web site. One example of these services is the various streaming videos available through the [CLU-IN Studio](#). EPA guidance on web hosting allows for the use of external servers to supply such needs.

> **Other Web Sites Supported by the Technology Innovation Program**

[Federal Remediation Technologies Roundtable](#)

The mission of the Roundtable is to exchange information and provide a forum for joint activity regarding the development and demonstration of innovative technologies for hazardous waste site remediation. The exchange synthesizes the technical knowledge that Federal Agencies have compiled and provides a more comprehensive record of performance and cost. Members include major developers and users of these technologies: Department of Defense: U.S. Army, U.S. Army Corps of Engineers, U.S. Navy, U.S. Air Force, U.S. Department of Energy, Department of the Interior, and the U.S. Environmental Protection Agency.

[The Training Exchange \(Trainex\)](#)

The Training Exchange website (Trainex) is designed to provide a wide range of training

information to EPA, other federal agency, state, tribal, and local staff involved in hazardous waste management and remediation. Trainex focuses on free training directed to federal and state staff. This site includes training schedules for deliveries of many courses, both classroom and Internet-based.

EPA works in partnership with organizations, such as the Interstate Technology Regulatory Council (ITRC), and other agencies, such as the Agency for Toxic Substances and Disease Registry (ATSDR), to offer training relevant to hazardous waste remediation, site characterization, risk assessment, emergency response, site/incident management, counter-terrorism, and the community's role in site management and cleanup.

Scribe: Environmental Field Data Capture

Scribe is a software tool developed by the USEPA's Environmental Response Team (ERT) to assist in the process of managing environmental data. Scribe captures sampling, observational, and monitoring field data. Examples of Scribe field tasks include Soil Sampling, Water Sampling, Air Sampling and Biota Sampling. Scribe can import electronic data including Analytical Lab Result data (EDD) and Sampling Location data such as GPS. Scribe supports handheld extensions, Scriplets, to capture and import sampling and monitoring data collected on handheld PDAs.

EPA Brownfields and Land Revitalization Technology Support Center

Coordinated through EPA's Technology Innovation Program, the Brownfields and Land Revitalization Technology Support Center ensures that Brownfields decision makers are aware of the full range of technologies available to make informed or "smart" technology decisions for their sites. The Brownfields Center provides a readily accessible resource for unbiased assessments and supporting information on options relevant to specific sites. The Center also provides a technology-oriented review process for investigation and clean-up plans for these sites. The project also provides information about other available support activities, such as those conducted by the Technical Assistance to Brownfields (TAB) Program located at the five regional Hazardous Substance Research Centers. Direct support is available to EPA regional staff, state staff, and local governments.

For more information, please contact Carlos Pachon, Technology Integration and Information Branch, (703) 603-9904, pachon.carlos@epa.gov.

Remediation Technologies Development Forum (RTDF)

The U.S. Environmental Protection Agency (EPA) established the Remediation Technologies Development Forum (RTDF) in 1992 to enhance the development and application of innovative hazardous waste characterization and treatment technologies. Eight self-managed RTDF Action Teams have formed over the years. The last Action Team was established in 2001 and several teams have completed, or are no longer actively involved, in field demonstrations of new technologies. Therefore, as of the end of June 2006, active maintenance of the RTDF web site will no longer be conducted. However, the web site, including all RTDF products, will be available until at least 2010 and minor updates will be made on an as needed basis.

Triad Resource Center Web Site

This web site serves as the official web site for the Triad approach. EPA and a multiagency partnership developed this web site to provide one-stop-shopping for Triad information, case studies, training opportunities, and news.

U.S. EPA Technical Support Project

Provides technical assistance to Regional Remedial Project Managers, Corrective Action Staff, and On-Scene Coordinators. The Project consists of a network of Regional Forums and specialized Technical Support Centers located in ORD and the Office of Radiation Programs (ORP) laboratories, and OSWER's Environmental Response Team.

For more information, please contact Linda Fiedler, Technology Assessment Branch, (703) 603-7194, fiedler.linda@epa.gov.

State Coalition for Remediation of Drycleaners

The State Coalition for Remediation of Drycleaners is made up of representatives of state governments with a formal program to address remediation of dry cleaner sites. The Coalition, supported by EPA's Technology Innovation Program, serves as a roundtable for discussion of issues related to cleanup of dry cleaner sites, with particular emphasis on the use of innovative technologies. Coalition members are developing and making available a variety of information to assist states in addressing the cleanup of drycleaner sites more efficiently and effectively.

Technology Innovation Program Home Page on EPA's Web Site

The Technology Innovation Program's Web Site provides information about characterization and treatment technologies for the hazardous waste remediation community. It offers technology selection tools and describes programs, organizations, publications for federal and state personnel, consulting engineers, technology developers and vendors, remediation contractors, researchers, community groups, and individual citizens. Our goal is to create an information support net for all technology decision makers who address contamination of soil or groundwater.

Superfund Analytical Services/Contract Laboratory Program (CLP)

The Analytical Services Branch (ASB), formerly the Analytical Operations/Data Quality Center, has broadened its mission and is responsible for managing the Contract Laboratory Program (CLP) for routine analytical services; developing new analytical services for other analyses such as dioxin and asbestos; providing quality assurance services for CLP and non-CLP data; developing and maintaining information technology (IT) tools for CLP and non-CLP data; and promoting field analytics and direct push technologies for sampling.

EPA On-Scene Coordinators

This site is intended to be a tool to help streamline the work of OSCs and provide them a forum to share information and lessons learned with OSCs around the country.

Other About CLU-IN Topics:

-  **About the Technology Innovation Program**
 - > Mission Statement
 - > Staff Directory
 - > Subject Matter Overview
 - > Coming to Visit Us
-  **Privacy and Security Notice**
-  **Awards and Certifications**

<http://www.clu-in.org/about/default.cfm>
Page Last Modified: February 15, 2008

Interstate Technology & Regulatory Council

The DEC is currently a member of the ITRC, and participates on national workgroups that develop guidance and policies that affect Alaska and other states. The Contaminated Sites program increased its participation with ITRC in just this past year.

ITRC is a state-led coalition working together with industry and stakeholders to achieve regulatory acceptance of environmental technologies. ITRC consists of 50 states, the District of Columbia, multiple federal partners, industry participants, and other stakeholders, cooperating to break down barriers and reduce compliance costs, making it easier to use new technologies, and helping states maximize resources. ITRC brings together a diverse mix of environmental experts and stakeholders from both the public and private sectors to broaden and deepen technical knowledge and streamline the regulation of new environmental technologies.

ITRC accomplishes its mission in two ways: it develops guidance documents and training courses to meet the needs of both regulators and environmental consultants, and it works with state representatives to ensure that ITRC products and services have maximum impact among state environmental agencies and technology users. ITRC originated in 1995 from a previous initiative by the [Western Governors' Association](#) (WGA).

One of the more applicable references to many is the “Guidance Documents” page, located at:

<http://www.itrcweb.org/gd.asp>

There is a specific location for brownfield-related issues, but this is limited in content. However, look through many of the other sections, from landfill strategies, to vapor intrusion, to ecological land use. There is a lot there!


[Internet-Based Training](#)
[Classroom Training](#)
[Guidance Documents](#)
[Quarterly Updates](#)
[Conferences](#)
[Success Stories](#)
[Planning](#)
[Industry Affiliates Program](#)
[Links](#)
[Feedback](#)

Guidance Documents



Guidance documents are categorized by authoring team. To view documents authored by any team, click the appropriate gray button in the group below.

ITRC documents are provided free of charge, as long as quantities last. To order hard copies, choose a team below, then check the table to verify document availability and make requests. Use the View Shopping Cart link (at right) to see the items in your cart.

[View Shopping Cart](#)

Newest Documents

Quality Considerations for Munitions Response Projects

(October 2008)

A limited number of hard copies will be available in mid-November 2008.

Use of Risk Assessment in Management of Contaminated Sites

(August 2008)

A limited number of hard copies are available.



Accelerated Site Characterization	Alternative Landfill Technologies	Bioremediation of DNAPLs	Brownfields
Constructed Wetlands	Dense Nonaqueous Phase Liquids	Diffusion/Passive Samplers	Ecological Land Reuse
Enhanced Attenuation: Chlorinated Organics	Enhanced In Situ Bionitrification	In Situ Bioremediation	In Situ Chemical Oxidation
Metals in Soils	Mitigation Wetlands	MTBE and Other Fuel Oxygenates	Perchlorate
Permeable Reactive Barriers	Phytotechnologies	Plasma Technologies	Policy
Radionuclides	Remediation Process Optimization	Risk Assessment Resources	Sampling, Characterization and Monitoring
Small Arms Firing Range	Thermal Desorption	Unexploded Ordnance	Vapor Intrusion
Verification			

[View the ITRC Product List](#)

This Web site is owned by ITRC.

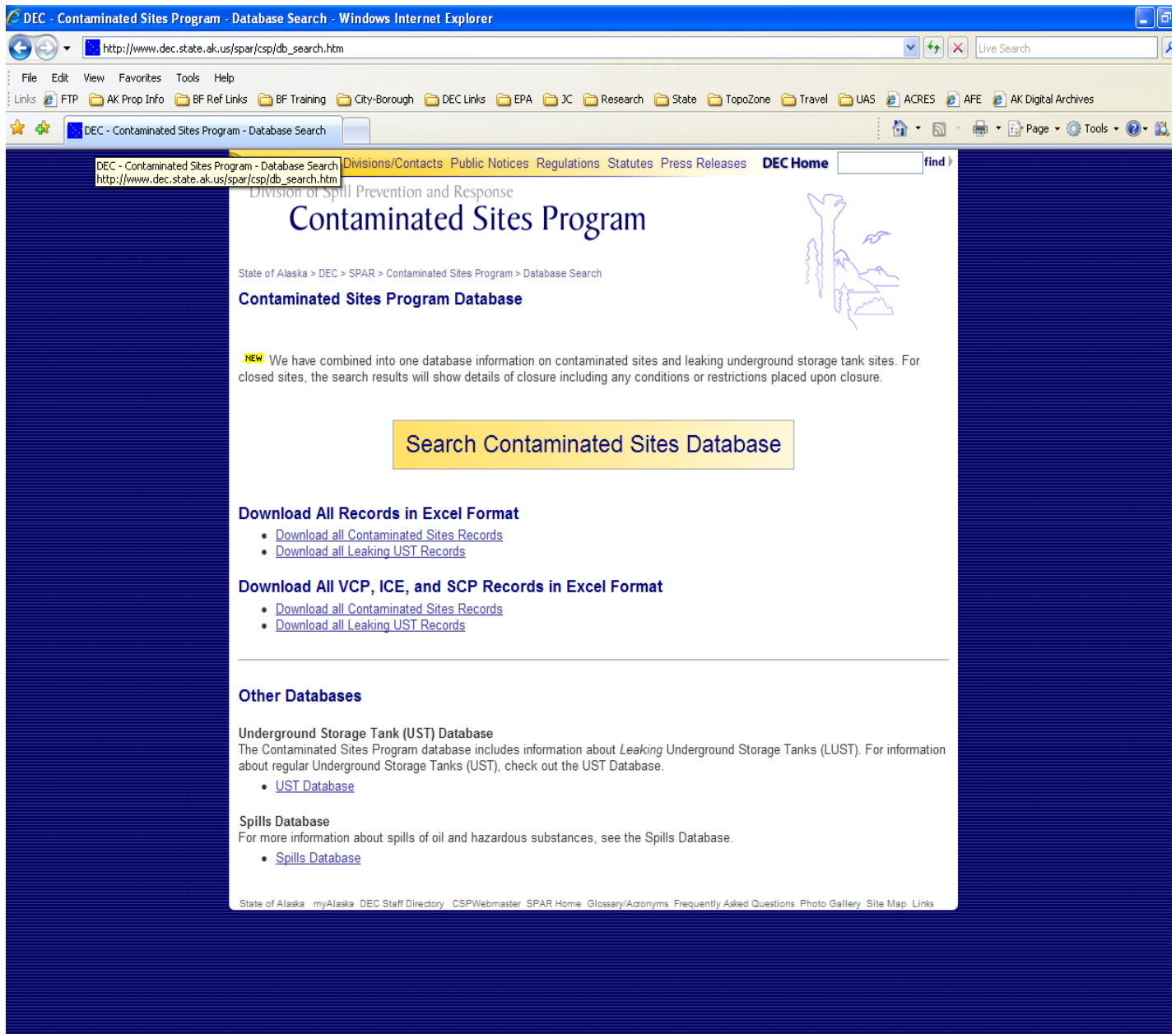
[Disclaimer, Privacy, and Usage Policies](#)

DEC Contaminated Sites Database Search

Anyone can search the DEC records online at the following website:

http://www.dec.state.ak.us/spar/csp/db_search.htm

You are able to download all records into an Excel format, which makes organizing and searching the records a bit easier.



Training and Conference Information

This is not an exhaustive list of trainings and conference information by any means, but it describes some of the training (including online training) and conferences that we are familiar with.

Region 10 Annual STRP Meeting with EPA:

EPA holds an annual 2-day meeting in their Seattle offices for all STRP Managers and staff for Region 10. This is an important meeting to discuss project activities and go over grant requirements. The next meeting will likely be held early in 2009, but EPA will provide more information about the scheduling and agenda.

Alaska Forum on the Environment: <http://www.akforum.com/>

The Alaska Forum is pleased to announce that the Alaska Forum on the Environment, 2009 will be held February 2-6, 2009 using both the Anchorage Egan Convention Center and the new Dena'ina Center for the event! There are always several brownfield sessions and it is another excellent opportunity to meet with others and discuss all aspects of brownfield and environmental management. Early registration is through December 15, 2008 for \$325. It will be \$375 through January 28.



Alaska Tribal Conference on Environmental Management:

We could not find the specific web link to this conference, but it was held October 27 - 29, 2008 at the Sheraton Anchorage Hotel, Anchorage, AK. This is another excellent venue that is focused on Tribal issues unique to rural Alaska. Brownfields has been included in the agenda in 2007 and 2008, and DEC would like to continue to increase the roll of brownfield in the discussion at this conference. DEC will look to the TRPs to help us determine appropriate topics for the conference.

Western Brownfield Workshop:

<http://www.epa.gov/region09/waste/brown/pdf/2008-brownfield-workshop-save-the-date.pdf>

This workshop is focused on both the old and new grantees and was held in the fall this past year, and in the spring previously. The workshop is open to

Regions 8, 9, and 10, the western EPA regions as well as Guam, the Trust Territories, American Samoa, and the Northern Mariana Islands (all part of Region 9). It is an excellent opportunity to meet with other grant managers (new and experienced) and discuss issues of brownfield importance. While the website only shows the flyer, much of the 2008 materials and presentations at this excellent workshop can still be obtained at:

<ftp://ftp.epa.gov/r8/brownfields/WBW2008>

National Brownfield Conference:

<http://www.brownfields2008.org/en/index.aspx>

The Environmental Protection Agency announced the 13th National Brownfields Conference to be held on November 16 - 18, 2009 in New Orleans, Louisiana. The conference will provide a forum for training, research and technical assistance to communities to facilitate the inventory, assessment, remediation, and redevelopment of brownfields sites, community involvement, and the green and sustainable revitalization of brownfields and contaminated sites. This is a large venue, with more information than you can cover in a month! Highly recommended, but be prepared for information overload! You really need to plan your trip to this conference *before* you go to ensure you see what you want or need to.

Clu-in: <http://clu-in.org/>

This website provides information about innovated site characterization and cleanup technologies and is highly recommended. The website includes a forum, internet seminars, and reference information most of which have been recorded for review at any time. All are free!

Online 'ACRES' Training:

<http://www.epa.gov/swerosps/bf/pubs/acres/trainingschedule.htm>

Online training for EPA's ACRES users is provided on a regular basis via WebEx and conference call. There is no need to pre-register for training; however we recommend that you test your computer to ensure that it will work correctly prior to the training. For those new to ACRES, it is a way EPA tracks on site information that is funded by their grant monies. EPA will provide direction on the type of information necessary for inclusion in ACRES.

Google Earth User's Guide

Enclosed are excerpts from the Google Earth User's Guide which may be found online in its entirety. We have printed only a part of it here to get you started in Google Earth.

We believe that Google Earth or the more simple Google Maps, may provide your community with the mapping requirements necessary to locate and map your sites of concern. The best part of Google Earth is that it is free, and it has been made simple to use.

We invite you to explore the potential of these free types of software rather than investing in costly software that requires significant training. Many GIS products are excellent, but keep in mind your needs, and how much time you really want to spend on it.

Introduction



This user guide describes Google Earth Version 4 and later.

Welcome to Google Earth! Once you [download](#) and [install](#) Google Earth, your computer becomes a window to anywhere on the planet, allowing you to view high-resolution aerial and satellite imagery, elevation terrain, road and street labels, business listings, and more. See [Five Cool, Easy Things You Can Do in Google Earth](#).

Use the following topics to learn Google Earth basics - navigating the globe, searching, printing, and more:

- [Getting to know Google Earth](#)
- [New features in Version 4.0](#)
- [Navigating in Google Earth](#)
- [Finding places and directions](#)
- [Marking places on the earth](#)
- [Showing or hiding points of interest](#)
- [Tilting and viewing hilly terrain](#)
- [Sight seeing](#)

For other topics in this documentation, see the table of contents (left) or check out these important topics:

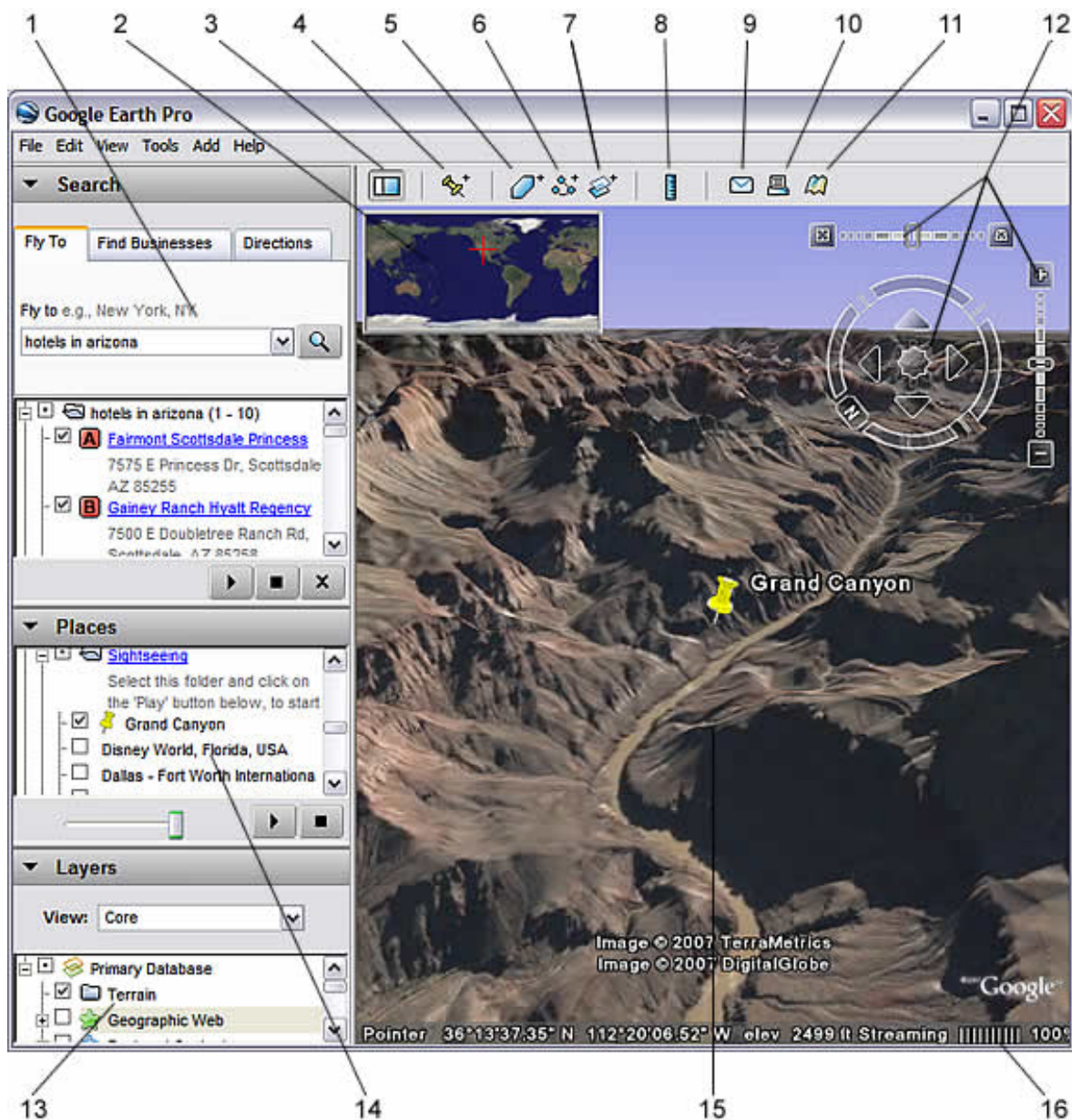
- [Making movies with Google Earth](#)
- [Using layers](#)
- [Using places](#)
- [Managing search results](#)
- [Measuring distances and areas](#)
- [Drawing paths and polygons](#)
- [Using image overlays](#)
- [Using GPS devices with Google Earth](#)

Getting to Know Google Earth

The following diagram describes some of the features available in the main window of Google Earth:

- [Table of Contents](#)
- [Introduction](#)
 - [Getting to Know Google Earth](#)
 - [Five Cool, Easy Things You Can Do in Google Earth](#)
 - [New Features in Version 4.0](#)
 - [Installing Google Earth](#)
 - [System Requirements](#)
 - [Changing Languages](#)
 - [Additional Support](#)
 - [Selecting a Server](#)
 - [Deactivating Google Earth Plus, Pro or EC](#)
 - [Navigating in Google Earth](#)
 - [Using a Mouse](#)
 - [Using the Navigation Controls](#)
 - [Tilting and Viewing Hilly Terrain](#)
 - [Resetting the Default View](#)
 - [Setting the Start Location](#)
- [Finding Places and Directions](#)
- [Marking Places](#)
- [Using Layers](#)
- [Using Map Features](#)
- [Using Places](#)
- [About KML](#)
- [Sharing Places Information](#)
- [Touring Places](#)
- [Editing Places and Folders](#)

- [Managing Search Results](#)
- [Measuring Distances and Areas](#)
- [Drawing Paths and Polygons](#)
- [Using Image Overlays and 3D Models](#)
- [Importing Your Data Into Google Earth](#)
- [Using Style Templates](#)
- [Using GPS Devices with Google Earth](#)
- [Making Movies with Google Earth](#)
- [Keyboard Controls](#)
- [3D Viewer Options](#)



1. **Search panel** - Use this to [find places and directions](#) and [manage search results](#). [Google Earth EC](#) may display additional tabs here.
2. **Overview map** - Use this for an [additional perspective](#) of the Earth.
3. **Hide/Show sidebar** - Click this to conceal or the display the side bar (Search, Places and Layers panels).
4. **Placemark** - Click this to add a [placemark for a location](#).
5. **Polygon** - Click this to [add a polygon](#).
6. **Path** - Click this to [add a path \(line or lines\)](#).
7. **Image Overlay** - Click this to add an [image overlay on the Earth](#).
8. **Measure** - Click this to [measure a distance or area size](#).
9. **Email** - Click this to email a [view](#) or [image](#).
10. **Print** - Click this to print the current view of the Earth.
11. **Show in Google Maps** - Click this to show the current view in Google Maps in your web browser
12. **Navigation controls** - Use these to tilt, zoom and move around your viewpoint ([see below](#)).
13. **Layers panel** - [Use this to display points of interest](#).
14. **Places panel** - Use this to [locate, save, organize and revisit placemarks](#).

15. **3D Viewer** - View the globe and its terrain in this window.
16. **Status bar** - View coordinate, elevation and imagery streaming status here.

Five Cool, Easy Things You Can Do in Google Earth

Want to jump in and start having fun with Google Earth? Try any of the the following:

1. **View an image of your home, school or any place on Earth** - Click *Fly To*. [Enter the location in the input box](#) and click the *Search* button. In the search results (Places panel), double click the location. Google Earth flies you to this location.



Search button

2. **Go on a tour of the world** - In the Places panel, check the *Sightseeing* folder and click the *Play Tour* button:



3. **Get driving directions from one place to another and fly (follow) the route** - See [Getting Directions](#) and [Touring the Route](#).
4. **View other cool locations and features created by other Google Earth users** - In the Layers panel, check *Community Showcase*. Interesting placemarks and other features appear in the 3D viewer. Double click these points of interest to view and explore. See [Using Points of Interest \(POIs\)](#) for more information.
5. **View 3D terrain of a place** - This is more fun with hilly or mountainous terrain, such as the Grand Canyon. Go to a location (see number 1 above). When the view shows the location, use the tilt slider to tilt the terrain. See [Using the Navigational Controls](#) and [Tilting and Viewing Hilly Terrain](#) for more information.



Tilt slider

[View samples of other things you can see and do in Google Earth.](#)

New Features in Version 4.1

This version of Google Earth has a number of exciting new features, including:

- Support for many new language versions
- Default view shows your location
- [Ability to deactivate Plus and Pro versions](#)
- Support for Microsoft Vista
- [Display current view in Google Maps](#)
- Improved rendering performance
- Start up tips
- MSI installer for enterprises

Installing Google Earth

For information about installing Google Earth, visit the [Google Earth Support Center](#).

System Requirements

To use Google Earth on a Windows PC, you must have at least the following:

- Operating System: Windows 2000, Windows XP, Windows Vista
- CPU: 500Mhz, Pentium 3
- System Memory (RAM): 128MB RAM
- Hard Disk: 400MB free space

- Network Speed: 128 Kbits/sec
- Graphics Card: 3D-capable with 16MB of VRAM
- Screen: 1024x768, "16-bit High Color" screen
- For better performance, see [Recommended Configuration](#).

To use Google Earth on a Mac, you must have at least the following:

- Operating System: Mac OS X 10.4 or later
- CPU: G3 500Mhz
- System Memory (RAM): 256MB RAM
- Hard Disk: 400MB free space
- Network Speed: 128 Kbits/sec
- Graphics Card: 3D-capable with 16MB of VRAM
- Screen: 1024x768, "Thousands of Colors"
- For better performance, see [Recommended Configuration](#)

To use Google Earth on a Linux computer, you must have at least the following:

- Kernel 2.4 or later
- glibc 2.3.2 w/ NPTL or later
- XFree86-4.0 or x.org R6.7 or later
- CPU: 500Mhz, Pentium 3
- System Memory (RAM): 128MB RAM
- Hard Disk: 400MB free space
- Network Speed: 128 Kbits/sec
- Graphics Card: 3D-capable with 16MB of VRAM
- Screen: 1024x768, "16-bit High Color" screen

Note that Google Earth may work on other configurations not explicitly listed here. The recommended configuration for Linux computers:

- Kernel 2.6 or later
- glibc 2.3.5 w/ NPTL or later
- x.org R6.7 or later

Google Earth has been tested on the following GNU/Linux distributions, but certainly works on others:

- Ubuntu 5.10
- Suse 10.1
- Fedora Core 5
- Linspire 5.1
- Gentoo 2006.0
- Debian 3.1
- Red Hat 9

Please make sure your system has properly-configured OpenGL drivers. If Google Earth appears to be slow and unresponsive, it is likely that your system needs different video drivers.

Changing Languages

You can change the language displayed in Google Earth. To do this:

1. Click *Tools > Options* (Mac: *Google Earth > Preferences*). Click the *General* tab.
2. Under Language settings, choose the appropriate language of your choice. *System Default* corresponds to the language used by the operating system of your computer.

At this time, Google Earth supports the following languages:

- English
- French
- German
- Italian
- Japanese
- Spanish

Additional Support

In addition to this user guide, Google offers a number of resources that can help you use and enjoy Google Earth. These include:

- [Tutorials](#): These provide hands-on lessons using the Google Earth.
- [FAQs](#): View a list answers to frequently asked questions (FAQs) about Google Earth.
- [Google Earth Help Center](#): Use the Help Center at any time to find additional information.
- [Troubleshooting](#): View information that specifically pertains to troubleshooting issues with Google Earth.
- [Google Earth Community](#): Learn from other Google Earth users by asking questions and sharing answers on the Google Earth Community forums.
- [Using Google Earth](#): This blog describes how you can use some of the interesting features of Google Earth.

Selecting a Server

Note: This section is relevant to [Google Earth Pro](#) and [EC](#) users.

When you first start Google Earth EC, the *Select Server* dialog box appears. This enables you to choose the appropriate server settings. Settings in this dialog box include:

- *Server*: Choose or enter the address for the appropriate server. For more information, contact your administrator.
- *Port*: The appropriate port for this server. For more information, contact your administrator.
- *Always login to this server*: Check this to automatically login in this server when you start Google Earth. Subsequently, this dialog box does not appear. To make it appear again when you start Google Earth, click *File > Disable auto-login*.
- *Enable secure login*: Check this if your work environment requires a secure login to this server. For more information, contact your administrator.

To add a database (server) that you can log into in Google Earth EC, click *File > Add Database*. To log out of a server in Google Earth Pro or EC, choose *File > Server Log Out*. To log in to a server, choose *File > Server Login* and choose the settings described above.

Tip - When you add another database (click *File > Add Database*), Google Earth logs into new database and maintains a connection to the existing database. Using this method, you can view data from up to eight databases simultaneously.

Deactivating Google Earth Plus, Pro or EC

If you have Google Earth Plus, Pro or EC installed, you can deactivate this software. When you deactivate Google Earth Plus, the free version of the product replaces Google Earth Plus. When you deactivate Google Earth Pro or EC, the license is removed so you can use the Pro or EC license on another computer.

To deactivate Google Earth Plus, Pro or EC, click *Help > Deactivate Google Earth Plus/Pro/EC license*.

Tip: When the Google Earth Pro/EC login and password appear, write these down so you can use them later to activate the software on this or another computer.

Navigating in Google Earth

Tip: Follow a tutorial on this subject: [Navigating on the Earth](#)

In Google Earth, you see the Earth and its terrain in the *3D viewer*. You can navigate through this 3D view of the globe in several ways:

- [Using a mouse](#)
- [Using the navigation controls](#)



You can also manipulate your view of the earth by [tilting the terrain](#) for perspectives other than a top-down view. Finally, you can [reset the default view](#) for a north-up, top-down view wherever you are.

Using a Mouse

To get started navigating with your mouse, simply position the cursor in the middle of the 3D viewer (image of the earth), click one of the buttons (right or left), move the mouse and note what happens in the viewer. Depending upon which mouse button you press, the cursor changes shape to indicate a change in behavior. By moving the mouse while pressing one of the buttons, you can:

- Drag the view in any direction
- Zoom in or out
- Tilt the view (requires middle button or scroll wheel)
- Rotate the view (requires middle button or scroll wheel)

The following list describes all the actions you can accomplish using the mouse.

- **Move the view in any direction (north, south, east, or west)** - To move the view, position the mouse cursor on the viewer and press the LEFT/main mouse button. Notice that the cursor icon changes from an open hand  to a closed hand . Pull the viewer as if the hand cursor is like a hand on an actual globe, and you want to drag a new part of the earth into view.



You can drag in any direction to reveal new parts of the globe, and you can even drag in circular motions.

- **Drift continuously across the earth** - If you want to drift continuously in any direction, hold the left/main mouse button down. Then, briefly move the mouse and release the button, as if you are "throwing" the scene. Click once in the 3D viewer to stop motion.
- **Zoom in** - There are a number of ways to zoom in with the mouse.
 - You can double-click anywhere in the 3D viewer to zoom in to that point. Single-click to stop, or double-click to zoom in more.
 - If your mouse has a scroll wheel, use it to zoom in by scrolling towards you. Use the ALT (alt/option on the Mac) key in combination with the scroll wheel to zoom in by smaller increments. [More settings](#).
 - You can also position the cursor on the screen and press the RIGHT mouse button (CTRL click on

the Mac). Once the cursor changes to a double arrow, move the mouse backward or pull toward you, releasing the button when you reach the desired elevation.

If you want to zoom continuously in, hold the button down and briefly pull the mouse down and release the button, as if you are "throwing" the scene. Click once in the viewer to stop the motion.

- On some Macintosh laptops, you can drag two fingers across the trackpad to zoom in and out.
- **Zoom out** - There are a number of ways to zoom out with the mouse.
 - Using the RIGHT mouse button (CTRL click on the Mac), double-click anywhere in the 3D viewer to zoom out from that point. The viewer will zoom out by a certain amount. Single-click to stop, or right double-click (CTRL click on the Mac) to zoom out more.
 - If your mouse has a scroll wheel, you can use the scroll wheel to zoom out by scrolling away from you (forward motion). Use the ALT (alt/option on the Mac) key in combination with the scroll wheel to zoom out by smaller increments. [More settings](#).
 - You can also position the mouse cursor on the screen and press the RIGHT mouse button (CTRL click on the Mac). Once the cursor changes to a double arrow, move the mouse forward or push away from you, releasing the button when you reach the desired elevation. If you want to zoom continuously out, hold the right button (CTRL click on the Mac) down and briefly push the mouse forward and release the button, as if you are "throwing" the scene. Click once in the viewer to stop motion.
- **Tilt the view** - If your mouse has a either middle button or a depressible scroll wheel, you can tilt the view by depressing the button and moving the mouse forward or backward. If your mouse has a scroll wheel, you can tilt the view by pressing the SHIFT key and scrolling DOWN to tilt the earth to "top down" view, or scrolling UP to tilt the earth for horizon view. See [Tilting and Viewing Hilly Terrain](#) for more information.
- **Rotate the view** - If your mouse has either a middle button or a depressible scroll wheel, you rotate the view to the left by clicking on the middle button and moving the mouse to the left. To rotate the view right, click on the middle button and move the mouse to the right. You can also use the CTRL (⌘ on the Mac) key in combination with the scroll wheel to rotate the view. Press CTRL (⌘ on the Mac) and scroll UP to rotate clockwise, CTRL (⌘ on the Mac) + scroll DOWN to rotate counter-clockwise. See [Tilting and Viewing Hilly Terrain](#) for more information.
- **Mouse Wheel** - [See above](#). To change these settings, click *Tools > Options > Navigation > Navigation Mode > Mouse Wheel Settings* (on the Mac: *Google Earth > Preferences > Navigation > Navigation Mode > Mouse Wheel Settings*). Move the slider to set how fast or slow your viewpoint of the earth zooms in or out. Check *Invert Mouse Wheel Zoom Direction* to reverse the direction of zooming when you use the mouse wheel.
- **Pan and Zoom navigation** - This mode is on by default when you start Google Earth. You can return to this mode from other modes by doing one of the following:
 - Type Ctrl (⌘ on the Mac) +T. When this mode is activated, the cursor changes to a hand symbol.
 - (Windows and Linux) *Tools > Options > Navigation > Navigation Mode > Pan and Zoom* . (Mac) *Google Earth > Preferences > Navigation > Navigation Mode > Pan and Zoom*. If you use a joystick or other non-mouse controller, you can also change how perspective moves in the 3D viewer under *Non-mouse controller settings*. Note that these options are not available (greyed out) until you connect a non-mouse controller to your computer and check *Enable Controller*. Choose *User-Based* to move your particular vantage point or *Earth Based* to move the globe. Check *Reverse Controls* to reverse the actions of the joystick.
- **GForce navigation (advanced)** - To change to this navigation mode, do one of the following:
 - Type Ctrl (⌘ on the Mac) + G to change when window focus is in the 3D viewer
 - (Windows and Linux) *Tools > Options > Navigation > Navigation Mode > Flight Control*. (Mac) *Google Earth > Preferences > Navigation > Navigation Mode > Flight Control*.

This mode is in effect when the navigation cursor changes to an airplane. In addition, the effects of G-Force mode are most noticeable the closer you are to the terrain, and become less exaggerated the higher your eye elevation. The behavior of this navigation mode simulates that of a joystick, where the direction your mouse moves indicates specific joystick moves. If you are familiar with using a joystick, you'll be able to use this mode easily.

To pan left or right, or to tilt the horizon left or right, left-click and move the mouse right/left of center. To tilt to top-down view, left-click and move the mouse forward (away from you). To tilt to

horizon view, left click and move the mouse back (toward you). To accelerate, right-click (CTRL click on the Mac) and move the mouse forward. To decelerate, right-click (CTRL click on the Mac) and move the mouse backward.

The response in the 3D viewer to your mouse movements is related to the vigorousness of your mouse movements, so you can test this mode out slowly using movements.

To return to standard trackball navigation mode, type Ctrl (⌘ on the Mac) + T. To stop motion in the viewer at any time, press the spacebar.

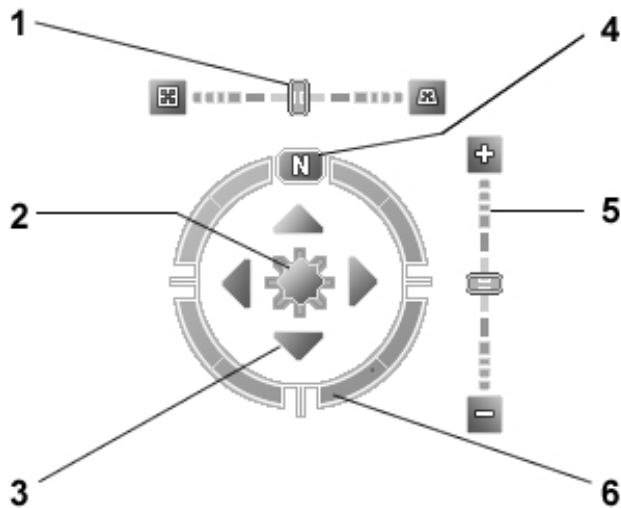
- **Click-and-Zoom navigation** - To change to this navigation mode, choose:
 - (Windows and Linux) *Tools > Options > Navigation > Navigation Mode > Click-and-Zoom*
 - (Mac) *Google Earth > Preferences > Navigation > Navigation Mode > Click-and-Zoom*

When the 3D viewer enters this navigation mode, the cursor changes to a cross-hair mark. Here, navigation with the mouse is limited: left-click to zoom in a set distance, and right-click (CTRL click on the Mac) to zoom out a set distance. Use the navigation controls to pan and rotate. Return to the standard trackball mode by typing Ctrl (⌘ on the Mac) +T.

Using the Navigation Controls

To view and use the navigation controls, move the cursor over right corner of the 3D viewer. After you start Google Earth and move the cursor over this area, the navigation controls fade from sight when you move the cursor elsewhere. To view these controls again, simply move the cursor over the right corner of the 3D viewer. To hide or show the compass icon in the 3D viewer, click *View > Compass*. See also [Showing or Hiding Items in the 3D Viewer](#).

The Google Earth navigation controls offer the same type of navigation action that you can achieve with mouse navigation. In addition, you can use the controls to tilt the view (perhaps for a perspective on terrain) or to rotate the viewer around the center. The following diagram shows the controls and explains their functions.



1. Use the tilt slider to tilt the terrain toward a horizon view. Move the slider to the left for a top-down view or to the right for a horizon view. Double click the icons at the end of the slider to reset the tilt all the way to a top-down view or to a horizon view.
2. Use the joystick to move the center point of the view down, up, right or left. Click the center, hold the mouse button, and move in any direction.
3. Click the direction arrows to move the view in the direction you wish.
4. Click the north up button to reset the view so that north is at the top of the screen.
5. Use the zoom slider to zoom in or out (+ to zoom in, - to zoom out). Double click the icons at the end of the slider to reset the zoom all the in or out.
6. Click and drag the navigation ring to rotate the view.

You can also use the keyboard to control navigation, see [3D Viewer Navigation](#) in Keyboard Controls for more information.

Tilting and Viewing Hilly Terrain

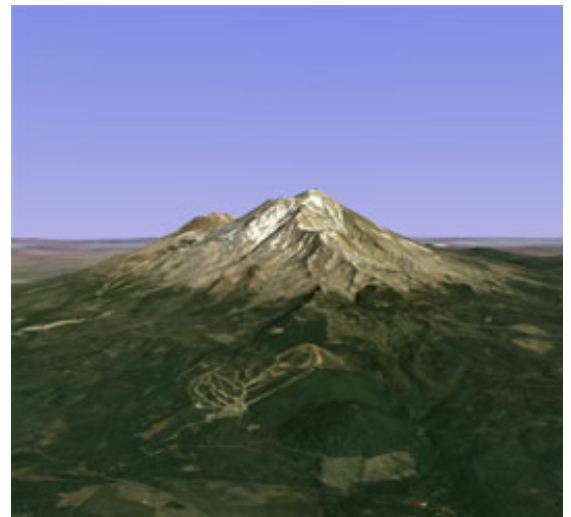
When you first start Google Earth, the default view of the earth is a "top-down" view, which looks like the view straight down out of an airplane window when you are sufficiently zoomed in.

- **Tilt the terrain from 0 - 90 degrees** - You can use the mouse or the navigation controls to tilt the view in order to see a different perspective of the area you're exploring. You can tilt to a maximum of 90 degrees, which provides a view of the object as well as the horizon, in some cases.
- **Turn on terrain** - Using the tilt feature is particularly interesting when you are looking at a part of the earth where the terrain is hilly, so be sure to also have the terrain check box selected in the Layers panel when tilting the view.
- **Rotate the view for a new perspective** - Once you have tilted the view so that you are looking at a particular object, such as a hill, you can also rotate around that object. When you do this, the object remains in the center of the view, but you look at it from different perspectives (i.e., north, south, east, west) as you rotate around it.
- **Use the middle mouse button (if available) for seamless movement** - If your mouse has a middle button or a depressible scroll wheel, you can depress the button to both tilt and rotate the view. Movements up or down tilt the view, and movements left or right rotate the view. See [Using a Mouse](#) for more information.

The following figures show a comparison view of Mount Shasta in California with and without tilt enabled.



Top down view





Tilted view

You can adjust the appearance of the terrain if you would like the elevation to appear more pronounced. To do this, click *Tools > Options > 3D View* from the *Tools* menu (for the Mac, choose *Google Earth > Preferences > 3D View*) and change the *Elevation Exaggeration* figure. You can set it to any value from 1 to 3, including decimal points. A common setting is 1.5, which achieves an obvious yet natural elevation appearance. See [Viewing Preferences](#) for more information.

Resetting the Default View

After tilting and rotating the 3D view in Google Earth, you can always quickly reset to the default north-up and top-down view by clicking on the appropriate buttons in the navigation controls.

- Click the North-up button  to reset the view so that north is at the top of the viewer.
- Click the Reset Tilt button  to reset tilt to the default "top-down" view.
- (Windows and Linux only) Click in the 3D viewer and type r on the keyboard to reset the view (see [Keyboard Controls](#) for more).

Note: To quickly return to a known, familiar spot if you get lost, click on the *default* placemark in the *My Places* folder. This returns you to the center of your country (or a country that speaks your language). You can also edit the location and name for that *Default* placemark if you want to. See [Editing Places and Folders](#) for more information.

Consider also using the [Overview Map Window](#) as a way to provide an additional perspective on your location, especially when you are zoomed in to unfamiliar places.

Setting the Start Location

You can set the starting (default) location that appears each time you launch Google Earth. To do this, navigate to the appropriate location and perspective and click *View > Make this my starting location*.



- [Table of Contents](#)
- [Introduction](#)
- [Finding Places and Directions](#)
 - [Finding Addresses and Locations](#)
 - [About Search Terms](#)
 - [Searching for Listings](#)
 - [Search Methods](#)
 - [Getting and Printing Directions](#)
 - [Getting Directions](#)
 - [Printing Directions](#)
 - [Touring and Saving Directions](#)
 - [Touring the Route](#)
 - [Saving Directions](#)
 - [Showing and Hiding Points of Interest](#)
 - [Sightseeing](#)
 - [Viewing a Location in Google Maps](#)
- [Marking Places](#)
- [Using Layers](#)
- [Using Map Features](#)
- [Using Places](#)
- [About KML](#)
- [Sharing Places Information](#)
- [Touring Places](#)
- [Editing Places and](#)

Finding Places and Directions

Note - Not all language versions of Google Earth support all the features described on this page. [Learn more here](#).

You can use the Google Earth Search panel to find places on the globe in the following ways:

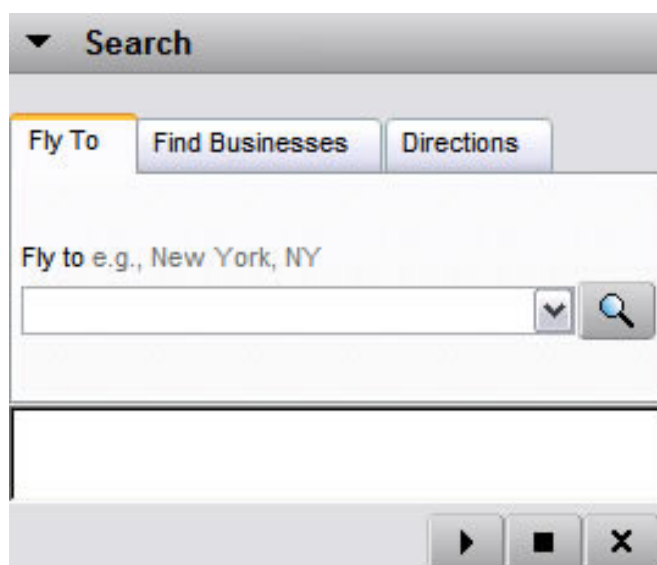
- [Fly to or search for addresses and locations](#)
- [Getting and printing directions](#)
- [Touring and saving directions](#)
- [Showing and hiding points of interest](#)
- [Sight seeing](#)

This section covers basic search techniques using Google Earth. For more information on searches, see [Managing Search Results](#).

Finding Addresses and Locations

Tip - Follow a tutorial on this subject: [Searching for Locations and Businesses](#)

You can search for specific locations using the *Fly To* tab in Google Earth. To do this, enter the location in the input box and click on the *Search* button.



Search button

Each tab of the *Search* panel displays an example of a search term (see above).

Folders

- [Managing Search Results](#)
- [Measuring Distances and Areas](#)
- [Drawing Paths and Polygons](#)
- [Using Image Overlays and 3D Models](#)
- [Importing Your Data Into Google Earth](#)
- [Using Style Templates](#)
- [Using GPS Devices with Google Earth](#)
- [Making Movies with Google Earth](#)
- [Keyboard Controls](#)
- [3D Viewer Options](#)

Google Earth recognizes the following types of search terms, which you can enter with or without commas.

Format	Example
City, State	Buffalo, NY
City Country	London England
Number Street City State	1600 Pennsylvania Ave Washington DC
Zipcode or Postal Code	90210
Latitude, Longitude in decimal format	37.7, -122.2
	Note that such coordinates must appear in this order (latitude, longitude).
Latitude, Longitude in DMS format	37 25'19.07"N, 122 05'06.24"W or 37 25 19.07 N, 122 05 06.24 W
	Note that format 37d25'19.07"N, 122d05'06.24"W does not work with Google Earth. Such coordinates must appear in this order (latitude, longitude).

Note: Currently, street-level searching is limited to certain countries. [Learn more here.](#)

The most recent search terms are saved in the search entry history (indicated by the small black triangle on the right of the search input).

See [Managing Search Results](#) for more information.

About Search Terms

Certain search terms are not currently recognized as locations in the *Fly To* tab. These include:

- **Minor city names in many countries**
- **State or province names alone**
- **Search terms that are not a recognizable *location search* are treated as a *business listing search over the current view*.** For more information on how listing searches work, see [Searching for Listings](#).

Tip: If you want to find a particular street in a city, you can enter the name of the street alone, and the search engine will display the top 10 matches for that street entry. For example, if you want to find *Sunset Boulevard* in *Hollywood, CA*, you can enter the phrase *Sunset Blvd Hollywood CA* in the search field and the beginning of *Sunset Boulevard* will be displayed in the 3D viewer, along with the top 10 results for streets that contain the string *Sunset* in their name.

Searching for Listings

You can search for directory listings using the *Find Businesses* tab in Google Earth. To do this, enter your search term in the *What* input box and click on the *Search* button. The top 10 matching results are displayed in the current view. To target your search over a specific city, enter the name and state of the city in the *Where* input box. This returns the first 10 results from the center of that city outwards, searching web page information in that region.

Search Methods

You can use a number of search methods, including:

- **Exact names** (for example "*Cost Plus World Market*") - If you know the exact name of the listing you want, try entering that name within quotation marks to limit the number of results to those that match the entire string. This is the most specific type of entry, so if you receive unexpected results, you might be matching a web page entry for that exact term. Try removing the quotation marks for broader results or using one of the other methods described here.
- **Partial name** (i.e., *Disneyland*) - If you know part of the name (one word or more) in the listing you are searching for, you can use that. This type of search typically returns a greater number of matches than an exact name search. For example, if you search for *Disneyland* in Anaheim, CA, you will see results for *Disneyland Hotel* and other similar listings. If you have more than one word in your partial search, enter them with quotations to return only results that contain both of those terms in the order you have entered them (i.e., "*Greenwood Publishing*")
- **Keyword** (i.e., *colleges*, *salon*) - A keyword search returns business listings whose type matches the keyword search, even if the keyword itself is not in the title of the business. For example, the keyword *salon* can return results for *Supercuts* or *Hair By Jodi* and other businesses that are classified as a salon.

When you use the *Find Businesses* feature, you are using Google Maps search to search a combination of Yellow Page listings along with web page information for that region. For example, you might search *Shell Oil* and see a result for an investment company with holdings in Shell Oil Co. and whose web site also references the term *Shell Oil*.

Your search terms for both *What* and *Where* are saved in the entry history (indicated by the small black triangle on the right of the search input). When you log out of Google Earth, the last 10 search entries are saved for the next session. This location search history is independent of the location search history for the *Fly To* search panel.

A Find Businesses search starts in a radius either from the center of the current view, or from the center of the location indicated in the *Where* input box. So, if you want to search for a movie theater close to a restaurant where you are having dinner, try entering the address of the restaurant in the *Where* input box when searching the term *movie theater*.

See [Finding Addresses and Locations](#) for example location searches and [Managing Search Results](#) for details on results.

Getting and Printing Directions

You can [get](#) and [print](#) directions to and from any placemark in the 3D viewer, or any place listed in the search results or available in the *Places* panel.

Getting Directions

Directions are available for a place or listing in the following ways:

- **Right-click (CTRL click on the Mac) on an icon or listing result** - In the pop-up menu, select either *Directions from here* or *Directions to here*. When you do this, the *Search* panel automatically transfers the information to the *Directions* tab. The route and turn-by-turn directions appear in the search listings window.



Search button

- **To Here/From Here** - To do this, click once on any search result listing or placemark to view the information balloon in the 3D viewer. Click *To Here* or *From Here*. Location information appears in the appropriate field (*From* or *To*) in the *Directions* tab. Repeat this action for either the starting location or the final destination and click the *Search* button. The route and turn-by-turn directions appear in the Search panel.
- **Enter start and ending points in the Directions tab.** You can manually enter valid location searches in each input box. After clicking the *Search* button, the route and turn-by-turn directions appear in the search listing window below the search input.

The direction route is mapped in the the 3D view with a line indicating the route. See [Getting and Printing Directions](#) and [Saving Directions](#) for more information on how you can use the results of your directions search.

Note - Direction are not always available for locations that are far from roads.

Printing Directions

1. Make sure that the [driving directions you created](#) are selected in the Directions tab.
2. Click *File > Print*. The Print dialog box appears.
3. Choose *Driving Directions* and click *Print*. Another Print dialog box appears.
4. Choose the appropriate printing options and click *Print*. Google Earth prints driving directions that include images of intersections that require turns.

You can remove the directions from the 3D viewer by clearing the check box next to your directions summary, or by clearing the search results entirely. See [Managing Search Results](#) for more details.

Touring and Saving Directions

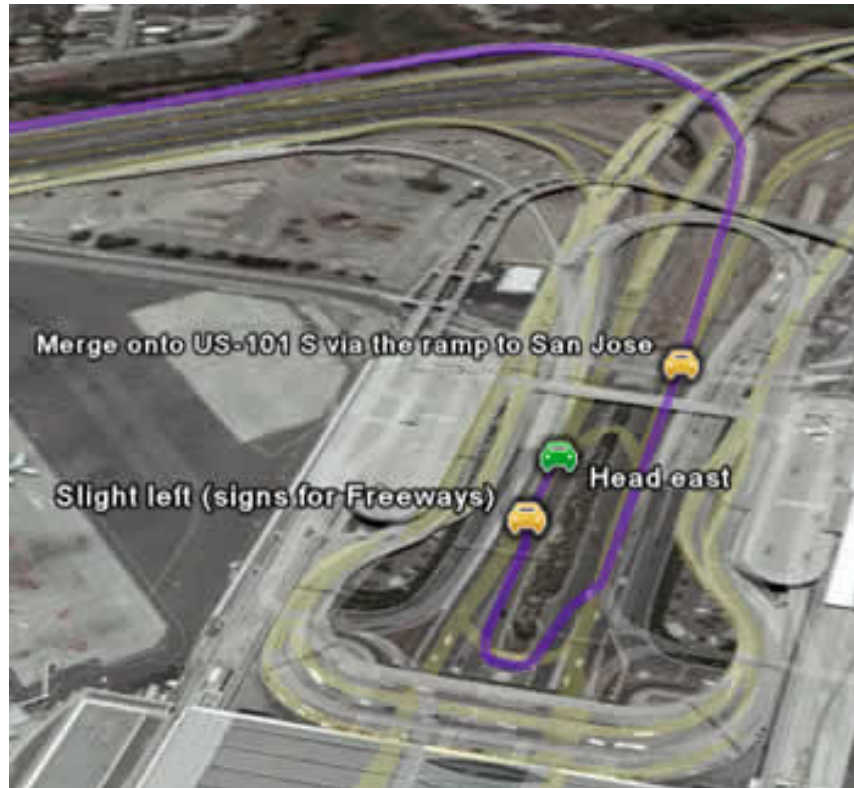
Once you have a route displayed in the 3D viewer, you can [use the tour feature](#) to "fly" the route in the 3D viewer, and you can [save the directions](#) to your *My Places* folder for later reference.

Touring the Route

Select the *Route* item at the end of the directions listing. Click the *Play Tour* button:



The 3D viewer automatically starts the tour from the departure point, oriented in the correct direction as if you were flying over the route you have marked. The tour follows the route, stops at the end, and zooms out to encompass the entire route in the 3D viewer. See [Touring Places](#) for more information.



Note - You can also display driving directions in an animated time sequence. To learn more, see [Viewing a Timeline](#).

Saving Directions

When you get driving directions between two points, those directions are listed beneath the *Search* button in a folder that is expanded to show all the turning points along the route. You can save those directions to your *My Places* folder as follows:

1. **Scroll up on the results listing until you see the top folder that contains your directions.** The folder is labeled with the *To* and *From* search words you entered.
2. **Collapse the folder by clicking on the minus icon.** This helps provide a less cluttered appearance in your *My Places* listing, but is not necessary.
3. **Right-click (CTRL click on the Mac) on the folder and select *Save to My Places* from the pop-up menu.** The folder is moved from the search listing window to your *My Places* folder. Because its appearance is collapsed before you save it, it also appears collapsed in your *My Places* folder. If you wish, you can save only individual route points to your *My Places* folder instead of the entire route.

Once you save the directions to your *My Places* folder, you can edit the folder and its placemarks in the same way you would any place data. See [Editing Places and Folders](#) for more information.

Showing and Hiding Points of Interest

The *Layers* panel holds an extensive list of points of interest (POIs) that you can turn on to display in the 3D viewer wherever you are. This listing includes:

- Businesses, such as banks, restaurants and gas stations
- Restaurants of a variety of styles
- Parks and recreation areas
- Airports, hospitals, and schools
- Postal, city, and school boundaries

Turn on a POI by checking it in the *Layers* panel. Turn off a POI by clearing the check box.

Note - To view all available POIs or layers, at the top of the *Layers* panel, beside *View*, be sure to choose *All Layers*.

You can interact with points of interest in the following ways:

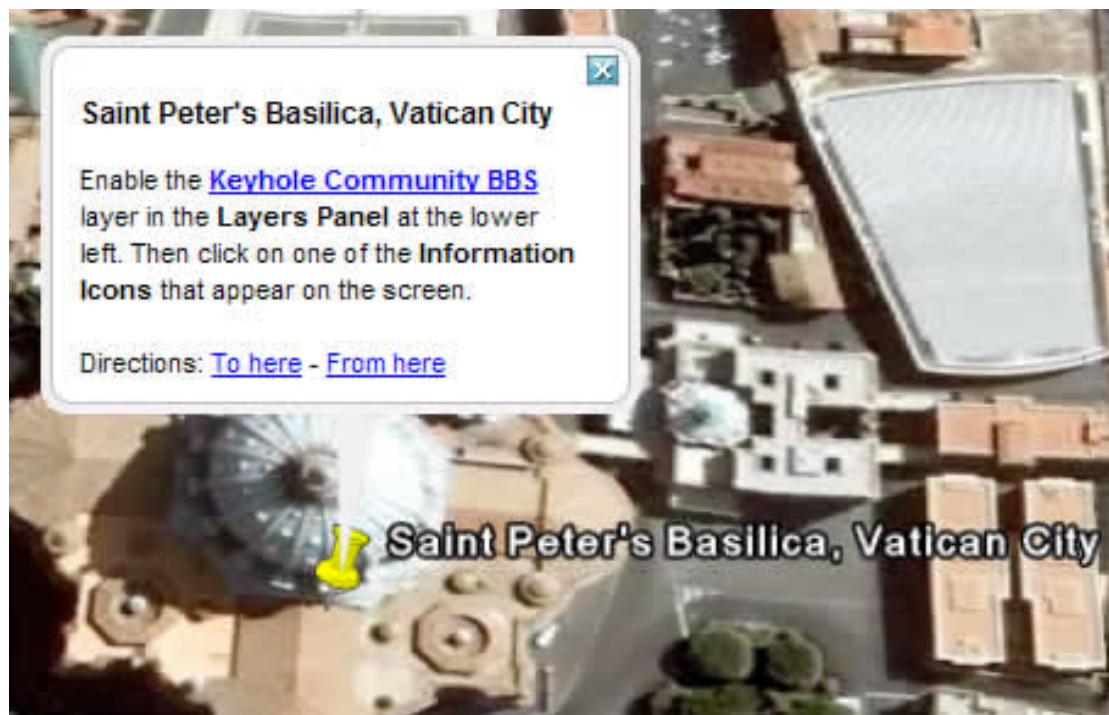
- Find Directions to or from the POIs - See [Getting and Printing Directions](#)
- Search the web for information on the POI - Click on the icon, and in the info balloon, click on the link that says *Google Search*. The web window appears below the 3D viewer or in a new browser window with the Google search results for that POI.
- Save the POI to your *My Places* folder
- Right-click (CTRL click on the Mac) on the POI icon and select *Save to My Places* from the pop-up menu. See [Using Places](#) for more information.

Tip: You can deselect a parent POI category and thereby hide data for that category, including sub-categories. This is faster than turning off multiple sub-categories one-by-one.

For more information on points of interest and layers, see [Using Layers](#).

Sightseeing

If you are using Google Earth for the first time, this feature is a great introduction. A *Sightseeing* folder inside the *My Places* folder contains a number of points of interest already marked on the earth for you to explore. To view them, expand the folder and double-click on one of the entries. The 3D viewer flies to that location.





Tip - If you are upgrading to Google Earth from a previous version, you can access the *Sightseeing* folder by opening the *default_myplaces.kml* file located in the Google Earth installation folder, as follows:

1. Click *File > Open*. A dialog box appears. Use the dialog box to navigate to the folder where Google Earth is installed. If you installed Google Earth using the default method, look in *Program Files > Google > Google Earth* for the application.
2. Select the *default_myplaces.kml* file and click *Open*. A second *My Places* folder appears in the *Temporary Places* folder.
3. Expand this second *My Places* folder to view the *Sightseeing* folder within. If you wish, you can drag the sightseeing items to your original *My Places* folder if you want them to appear the next time you start Google Earth. Or, simply right-click (CTRL click on the Mac) on any place you want to save and select *Save to My Places* from the pop-up menu.

You can also tour places in the *Sightseeing* folder as you would any placemark. See [Touring Places](#).

Viewing a Location in Google Maps

To display the current view in [Google Maps](#) in your web browser, do one of the following:

- Click  in the toolbar
- Click Ctrl + Alt + M ( + Option + M on the Mac)



- [Table of Contents](#)
- [Introduction](#)
- [Finding Places and Directions](#)
- **Marking Places**
 - [Creating a New Placemark](#)
 - [Saving a Point of Interest](#)
 - [Sharing a Placemark](#)
 - [Saving Search Results](#)
 - [Saving Images](#)
 - [Printing](#)
- [Using Layers](#)
- [Using Map Features](#)
- [Using Places](#)
- [About KML](#)
- [Sharing Places Information](#)
- [Touring Places](#)
- [Editing Places and Folders](#)
- [Managing Search Results](#)
- [Measuring Distances and Areas](#)

Marking Places

When you first start Google Earth, the *Places* panel contains an empty *My Places* folder to hold places that you want to save. (If you are upgrading from a previous version of Google Earth, Google Earth imports your saved places.) Every item located in the *My Places* folder is saved for subsequent Google Earth sessions. Items located in the *Places* panel but not saved in the *My Places* folder are located in the *Temporary Places* folder and are unavailable in the next Google Earth session if you do not move or save them to your *My Places* folder.

You can use the *Places* panel to save and organize places that you visit, address or listing searches, natural features, and more.

This section covers the basic ways to add a placemark to the *My Places* folder:

- [Create a new placemark](#)
- [Add a point of interest](#)
- [Add search results](#)
- [Saving an image](#)
- [Printing imagery from the 3D viewer](#)

For more information on other things you can do with placemarks, see [Using Places](#).

Tip: If Google Earth takes a long time to load, you might have more places saved than your computer can reasonably handle. Try moving some of the places you don't regularly visit to a folder and saving that folder to your computer. See [Saving and Sharing Places](#).

Creating a New Placemark

Tip - Follow a tutorial on this subject: [Marking Locations](#)

Follow these instructions to add a new placemark to any spot in the viewer.

1. Position the viewer to contain the spot you want to placemark. Consider zooming into the best viewing level for the desired location. Choose any one of the following methods:

- [Drawing Paths and Polygons](#)
- [Using Image Overlays and 3D Models](#)
- [Importing Your Data Into Google Earth](#)
- [Using Style Templates](#)
- [Using GPS Devices with Google Earth](#)
- [Making Movies with Google Earth](#)
- [Keyboard Controls](#)
- [3D Viewer Options](#)

- Select *Placemark* from the *Add* Menu.
- Click the Pushpin icon on the toolbar menu at the top of the screen



The *New Placemark* dialog box appears and a *New Placemark* icon is centered in the viewer inside a flashing yellow square. Position the placemark. To do this, position the cursor on the placemark until the cursor changes to a pointing finger and drag it to the desired location. The cursor changes to a finger pointing icon to indicate that you can move the placemark.



You can also lock the placemark position or set advanced coordinates for its position. Set the following properties for the new placemark:

- **Name** for the placemark
 - **Description**, including HTML text (see [Writing Descriptions](#))
 - **Style, Color** - Choose a color, scale (size) and opacity for the placemark icon
 - **View** - Choose a position for the placemark. For explanation of terms in this tab, mouse over each field.
 - **Altitude** - Choose the height of the placemark as it appears over terrain with a numeric value or the slider. Choose *Extend to ground* to show the placemark attached to a line anchored to the ground.
 - **(Icon)** - Click the icon for the placemark (top right corner of the dialog box) to choose an alternate icon.
2. Click **OK** to apply the information you entered in the placemark dialog box.

Your placemark appears in the 3D viewer and as an entry in the selected folder. Once you save this placemark, you can always change its position and properties. See [Editing Places and Folders](#) for more information.

Saving a Point of Interest

You can save any point of interest (POI) displayed in the 3D viewer to the

My Places folder by right-clicking (CTRL clicking on the Mac) on the placemark in the viewer and selecting *Save to My Places* from the pop-up menu.

You can also use the copy feature as follows:

1. Right-click (CTRL click on the Mac) on a POI and select Copy from the pop-up menu.
2. Open the *My Places* folder to display the destination folder for the POI.
3. Position your cursor over the desired folder or sub-folder.
4. Right-click (CTRL click on the Mac) and select Paste from the pop-up menu. The POI appears in the location you selected.

See [Showing and Hiding Points of Interest](#) for more information on viewing points of interest in the 3D viewer.

You can also move a saved POI to any folder in your *Places* panel. See [Organizing Places](#) for more information.

Sharing a Placemark

After you have created a placemark, you can easily share it with others on the [Google Earth Community BBS](#) website. To do this, right click (CTRL click on the Mac) on the placemark and choose *Share/Post*. The Google Earth Community posting wizard appears in a browser window at the bottom of your screen. Follow the instructions on this web page to post information about this placemark on the Google Earth BBS.

Note - You can also share information that appears in Google Earth via [KML files](#).

Saving Search Results

After you perform a search, a listing results panel also appears below the *Search* button. Each search term you enter is the title for the folder containing the top 10 results within it. You can collapse a particular search folder by clicking on the minus icon next to the search term. While you are logged in, you can revisit your search results just by double-clicking on an item in the search list. You can clear search results from the listing by clicking on the *Clear* button (X).

Once you log out of Google Earth, your search terms are cleared. However, you can save search results for future Google Earth sessions in the following ways:

- Drag and drop a search result item from the search results panel to

any folder within the Places panel. Release the item to place it in the new location.

- Right-click (CTRL click on the Mac) on a search result in either the listing or the 3D viewer and select Save to My Places from the pop-up menu.
- Use the copy feature by right-clicking (CTRL clicking on the Mac) on a result listing in either the viewer or the Search panel and selecting Copy from the pop-up menu. From there, right-click (CTRL click on the Mac) on a folder in the Places panels where you want to save the search result and select Paste from the pop-up menu to paste the search result in your new location.

Tip: You can also save the contents of the entire search result to the *Places* panel by selecting the folder containing your search results and dragging it to the desired location.

Once a search result is saved, you can change its title, location, and description. See [Editing Placemark or Folder](#) for information.

Saving Images

Note - This feature is available to users of the Google Earth Pro and Google Earth EC products. Visit <http://earth.google.com/products.html> for more information.

Use *File > Save > Save Image* to save the current view as an image file to your computer's hard drive. When you save an image, a *Save* dialog box appears and you can locate a folder on your computer to save the image to, just as you would for any document you might save. The image is saved with all visible placemarks, borders, or other Layer information visible in the 3D viewer.

You can save images in the following resolutions:


- Screen capture only (lower resolution)
- 1000 pixels per inch (PPI)

Google Earth PRO/EC users can save images in the following resolutions:

- 1400 PPI
- 2400 PPI
- 4800 PPI

Printing

Use the *Print...* command under the *File* menu to print the current view. You

can also type *Ctrl* ( on the Mac) + *P*. When you print an image, a *Print* dialog box appears that asks you to choose one of the following:

- *Driving Directions* - [Learn more here](#)
- *3D View + Placemark Details* - This is available if you have selected any placemark or folder in the Places folder. This prints the current 3D view plus placemark information and images.
- *3D View* - Choose an appropriate resolution (see below). You can then select available printers, just as you would for any document. The image is printed with all visible placemarks, borders, or other layer information visible in the 3D viewer.

You can print images in the following resolutions:

- Quick print (lower resolution)
- 1000 pixels per inch (PPI)
- 1400 PPI*
- 2400 PPI**
- 4800 PPI**

* Google Earth Plus and PRO/EC users only

**Google Earth PRO/EC users only





- [Table of Contents](#)
- [Introduction](#)
- [Finding Places and Directions](#)
- [Marking Places](#)
- [Using Layers](#)
- [Using Map Features](#)
- **Using Places**
 - [Organizing Places Data](#)
 - [Creating Folders](#)
 - [Reordering Placemarks or Folders](#)
 - [Renaming a Placemark or Folder](#)
 - [Removing a Placemark or Folder](#)
 - [Saving Places Data](#)
 - [Opening Saved Placemarks](#)
 - [Deleting Places Data](#)
 - [Showing and Hiding Places Data](#)
- [About KML](#)
- [Sharing Places Information](#)

Using Places

Once you are familiar with the basics of marking places on the Earth, you can refer to this section to learn all the features available to you in the *Places* panel. This section includes the following topics:

- [Organizing Places Data](#)
- [Saving Places Data](#)
- [Opening Saved Placemarks](#)
- [Deleting Places Data](#)
- [Showing and Hiding Places Data](#)

Organizing Places Data

You can organize your saved data in the *Places* panel in a way similar to how you would organize files and folders on your computer's hard drive. This section covers the following:

- [Creating Folders](#)
- [Reordering Placemarks or Folders](#)
- [Renaming a Placemark or Folder](#)
- [Removing a Placemark or Folder](#)

Creating Folders

You can create folders and move other folders, placemarks, or shapes to them. To create a folder:

1. Right-click on a folder in the *Places* panel.
2. Select *Add > Folder* from the pop-up menu. The folder you right-clicked on is automatically set as the container for the new folder.

Once the *New Folder* dialog box appears, you can set the following fields:

- **Name**
- **Description** - Enter a description for the folder. For example, you might enter text that gives a general description of all the placemarks in the folder. The first few words of the description appear below the folder in the *Places* panel. When you double-click the folder, the

- [Touring Places](#)
- [Editing Places and Folders](#)
- [Managing Search Results](#)
- [Measuring Distances and Areas](#)
- [Drawing Paths and Polygons](#)
- [Using Image Overlays and 3D Models](#)
- [Importing Your Data Into Google Earth](#)
- [Using Style Templates](#)
- [Using GPS Devices with Google Earth](#)
- [Making Movies with Google Earth](#)
- [Keyboard Controls](#)
- [3D Viewer Options](#)

description appears in a balloon in the 3D viewer. In addition, you can use a number of HTML tags to format your description and include images, including ``, `
`, ``, and ``. See [Writing Descriptions](#).

- **Style/Color** - Once you have other icons within the new folder (or its subfolders) the *Style/Color* tab is available. You can use this feature to apply label and icon styles universally across all items within the folder. See [Editing Places and Folders](#) for more information.
- **View** - See [Setting the View](#) for details. Once you set a view for a folder, double-clicking on the folder repositions the 3D viewer to the position you have chosen. Setting a view for a folder is useful when you want to create a viewing angle to encompass all the items contained by the folder. For example, you might have a collection of placemarks in a specific region of the city, each with an independent viewing angle. You can place them all in a folder and set a viewing angle for the folder in order to display all of the placemarks from a consistent viewing angle, if desired.

Reordering Placemarks or Folders

You can reposition a placemark or folder in three ways:

- Drag it to a new position in a list of items.
- Drag and drop it over a folder.
- Right-click (CTRL click on the Mac) the item and select Cut from the pop-up menu, followed by right-clicking on the new position or folder and selecting Paste from the pop-up menu.

In this way, you can put placemarks inside newly created folders, or you can move an entire folder and its contents into another folder to create groups of folders.

Note: If you move a folder so that it is inside the *Temporary Places* main folder, you must save that data if you want it to be available the next time you start Google Earth. If you exit Google Earth without saving the folder, a dialog box prompts you to save the information to your *My Places* folder. See [Saving Places Data](#) for details.

Renaming a Placemark or Folder

To quickly rename an item, right-click (CTRL click on the Mac) on it and select *Rename* from the pop-up menu. You can enter the new name directly in the name field. You can also:

- Choose *Rename* from the *Edit* menu if the item is selected in the list
- (Windows and Linux only) Select the item and press *F2* on the keyboard

Removing a Placemark or Folder

To delete an item, right-click (CTRL click on the Mac) the entry and select *Delete* from the pop-up menu, or select *Delete* from the *Edit* menu when the item is selected in the *Places* panel. A confirmation dialog box asks if you want to delete the placemark or folder. If you delete a folder, you also delete all its contents, including other folders and icons. Click *Yes* to confirm the deletion.

Saving Places Data

You can save placemarks, shapes, and entire folders (and their contents) to your computer's hard drive. The placemark file or folder is saved as a single file in *KMZ* format, which you can open at any time in Google Earth. You might want to do this for the following reasons:

- **You want to share the saved data with other Google Earth users.** You can email any placemark, shape, or folder to another Google Earth user from within Google Earth, but you can also email any *KMZ* file located on your computer to a Google Earth user. In addition, you can post a *KMZ* file to the Google Earth BBS where other Google Earth users can view the information, or you can serve the file on your own web server or from any network location. See [Sharing Places Information](#) for details.
- **You have so many places in your My Places folder that Google Earth startup is slow.** Each time you start Google Earth, all the places data is processed during startup, even if it is not turned on in the 3D viewer. Holding a large amount of data in the *My Places* folder can impact the performance of Google Earth, depending upon your computer. By saving folders to your hard drive, you can improve Google Earth performance by then deleting the data from your *My Places* folder once they are saved to disk. You can always open the data you save at any time.

Save individual placemarks, shapes, or entire folders by right-clicking (CTRL click on the Mac) the item and selecting *Save As...* from the pop-up menu.

Use the *File* dialog box to save the placemark or folder to your computer. Enter the name for the new file, and click *Save* in the dialog box. The placemark or the folder is saved to that location with an extension of *.kmz*.

Important: Placemarks created with Google Earth version 3.0 or higher cannot be viewed in older Google Earth software. As an alternative, you can send an image file. See [Saving Images](#) for details.

Opening Saved Placemarks

You can use the following methods to open placemarks and folders saved to

the file system on your computer's hard drive.

- From the File menu, select Open. Navigate to the folder on your computer that contains the KMZ or KML data you want to open in Google Earth. Select the file and click the *Open* button. The folder or placemark appears beneath the *Temporary Places* folder and the 3D viewer flies to the view set for the folder or placemark (if any).
- Locate the file you want to open. Once you have located the file on your computer, you can simply drag and drop the KMZ file over the *Places* panel or 3D viewer. The 3D viewer load the file and flies to the view set for the folder or placemark (if any).

Tip: When you use the drag-and-drop method of opening a placemark or folder, you can drop the item over a specific folder in the *Places* panel. If the *My Places* folder is closed and you want to drop it there, just hold the item over the *My Places* folder until the folder opens up and you can place the item within subfolders or in the list. Items dropped in the *My Places* folder appear the next time you start Google Earth. Otherwise, you can drop the item in the *Temporary Places* folder. Items opened this way appear only for the current session of Google Earth unless you save them.

Deleting Places Data

There are a number of ways you can remove data from the Places panel:

- **Delete** - Right-click (CTRL click on the Mac) a placemark, folder, or other item in the *Places* panel and select *Delete* from the pop-up menu. You can also delete items in the 3D viewer by right-clicking (CTRL click on the Mac) on the icon and selecting *Delete* from the pop-up menu. This deletes the item from the *Places* panel. If the item is located in your *Temporary Places* folder, it does not appear the next time you use Google Earth. If you have previously saved the item, you can always open the saved data at any time. Otherwise, the item is permanently removed.
- **Delete Key** - With the item selected in the *Places* panel, press the *Delete* key. A dialog box asks to confirm the deletion. Click *OK* to remove the item from the Places panel.
 - **Delete Contents** - Right-click (CTRL click on the Mac) a folder and select *Delete Contents* from the pop-up menu. Click *Yes* on the confirmation dialog box to proceed with deleting the contents. All folder contents are removed, including any subfolders and contained items.
 - **Cut Contents (Ctrl-X)** - Right-click (CTRL click on the Mac) an item in the *Places* panel and select *Cut* from the pop-up menu, or right-click on a placemark in the 3D viewer and select *Cut* there. The item is removed from the listing or view, but copied to the clipboard, so that you can later paste it to a different location.

Showing and Hiding Places Data

Once you begin collecting a fair amount of place data, you can use the show/hide features of Google Earth to quickly manage the amount of content visible in the 3D viewer.

To hide places data, select or de-select the check box next to an item.

To turn off the display for a single placemark or overlay in the 3D viewer, click the item to remove the check mark. To turn on a single item, select the check box. For entire folders, you can turn on all items in the folder by selecting the folder's check box if it is not already selected. In this case, all items in the folder are turned on. A subsequent click turns off all items in the folder.

Note - If a square appears in the check box for a folder, this indicates that some (but not all) of the items within that folder are currently displayed.



DEC Contact Information

Office of the Commissioner	(907) 465-5066 (907) 465-5009
Division of Air Quality Air Non-Point and Mobile Sources Program Air Permits Program Air Monitoring & Quality Assurance Program	(907) 269-7634
Division of Environmental Health Drinking Water Program Food Safety & Sanitation Program Laboratory Services Pesticide Control Program Solid Waste Program State Veterinarian	(907) 269-7644
Division of Information and Administrative Services Administrative & Information Services	(907) 465-5010
Division of Spill Prevention & Response Contaminated Sites Program Industry Preparedness Program Prevention and Emergency Response Program Response Fund Administration	(907) 465-5250
Division of Water Facility Programs Municipal Grants & Loans Operations Assistance Remote Maintenance Worker Operator Training and Certification Village Safe Water Water Quality Programs Compliance Cruise Ship NPDES Primacy Wastewater Discharge Authorization Water Quality Standards Assessment & Restoration	(907) 465-5180
Toll Free & Emergency Number 1-87-SAFE-FOOD	

Detailed contact information

Office of the Commissioner - Larry Hartig, Commissioner
Dan Easton, Deputy Commissioner
Juneau (907) 465-5066
Department of Environmental Conservation
410 Willoughby Ave., Ste 303
P.O. Box 111800
Juneau, AK 99811-1800
Telephone:(907) 465-5066 Fax Number:(907) 465-5070
Email: dec.commissioner@alaska.gov

Division of Air Quality - Alice Edwards, Acting Director

Anchorage (907) 269-7634
Division of Air Quality
Department of Environmental Conservation
619 E. Ship Creek, Ste. 249
Anchorage, AK 99501
Telephone: (907) 269-7634 Fax Number: (907) 269-3098
Email: Alice.Edwards@alaska.gov

Air Non-Point and Mobile Sources Program - Alice Edwards, Program Manager

Anchorage (907) 269-7577; Fairbanks (907) 451-2167; Juneau (907) 465-5105
Air Non-Point and Mobile Sources
Division of Air Quality
Department of Environmental Conservation
410 Willoughby Ave., Ste 303
P.O. Box 111800
Juneau, AK 99811-1800
Telephone: (907) 465-5100 Fax Number: (907) 465-5129
Email: Alice.Edwards@alaska.gov

Air Permits Program - John Kuterbach, Program Manager

Anchorage (907) 269-7577; Fairbanks (907) 451-2139; Juneau (907) 465-5100
Air Permits Program
Division of Air Quality
Department of Environmental Conservation
410 Willoughby Ave., Ste 303
P.O. Box 111800
Juneau, AK 99811-1800
Telephone: (907) 465-5100 Fax Number: (907) 465-5129
Email: John.Kuterbach@alaska.gov

Air Monitoring & Quality Assurance Program - Barbara Trost, Program Manager

Anchorage (907) 269-6249
Ambient Air Monitoring
Division of Air Quality
Department of Environmental Conservation
619 E. Ship Creek, Ste. 249
Anchorage, AK 99501
Telephone: (907) 269-6249 Fax Number: (907) 269-4589
Email: Barbara.Trost@alaska.gov

Division of Environmental Health - Kristin Ryan, Director

Anchorage (907) 269-7644

Drinking Water

Anchorage (907) 269-7656 | Soldotna (907) 262-5210
Fairbanks (907) 451-2108 | Wasilla (907) 376-1850
Juneau (907) 465-5350

Food Safety & Sanitation

Toll Free and Emergency 1-87-SAFE-FOOD

Anchorage (907) 269-7501 | Dutch Harbor (907) 581-4632
Fairbanks (907) 451-2120 | Juneau (907) 465-5350
Kenai/Soldotna (907) 262-5210 | Ketchikan (907) 225-6200
Kodiak (907) 486-3350 | Wasilla (907) 376-1854
Sitka (907) 747-8614 | Valdez (907) 835-8012

Laboratory Services

Seafood and Food Safety Laboratory (907) 375-8200
Contaminated Sites Lab Approval (907) 375-8210
Drinking Water Certification – chemistry (907) 375-8210
Drinking Water Certification – microbiology (907) 375-8209

Pesticide Control

Toll Free In-state 1-800-478-2577

1700 E. Bogard Rd., Bldg. B, Suite 202
Wasilla, AK 99654
(907) 376-1870 FAX (907) 376-2382

State Veterinarian

Dr. Bob Gerlach
5251 Hinkle Road
Anchorage, Alaska 99507
Phone: 907-375-8214 Fax: 907-929-7335

Kenai Office

43335 Kalifornsky Beach Rd. Suite 11
Soldotna, AK 99669-9792
(907) 262-5210 FAX (907) 262-2294

Kodiak Office

P.O. Box 515
Kodiak, AK 99615-0515
(907) 486-3350 FAX (907) 486-5032
(Physical Location: 316 Mission Road, Kodiak, AK)

Sitka Office

901 Halibut Point Road, Suite #3
Sitka, AK 99835-7106
(907) 747-8614 FAX (907) 747-7419

Division of Information and Administrative Services - Michael Maher, Director

(907) 465-5010
Administrative & Information Services
Budget (907) 465-5235
Financial Services (907) 465-5273
Procurement (907) 269-0291
Environmental Crimes Unit (907) 451-2148
Information Services (907) 465-5060

Division of Spill Prevention and Response - Larry Dietrick, Director

Juneau (907) 465-5250; Anchorage (907) 269-7500; Fairbanks (907) 451-2360
Division of Spill Prevention and Response
Department of Environmental Conservation

410 Willoughby Ave., Ste 303
P.O. Box 111800
Juneau, AK 99811-1800
Telephone: (907) 465-5250 Fax Number: (907) 465-5262
Email: Larry.Dietrick@alaska.gov

Contaminated Sites Program - Steve Bainbridge, Program Manager

Contaminated Sites Program
Division of Spill Prevention and Response
Department of Environmental Conservation
610 University Avenue
Fairbanks, AK 99709-3643
Telephone: (907) 451-2143 Fax Number: (907) 451-2155
Email: Steve.Bainbridge@alaska.gov

CS Program Organization

**State/Private Sites (907) 269-7503 / Federal Facilities (907) 269-7503
Program Development & Implementation (907) 465-5390
Anchorage staff (907) 269-7503 / Fairbanks staff (907) 451-2143
Juneau staff (907) 465-5390 / Kenai/Soldotna staff (907) 262-5210 x 221**

Industry Preparedness Program - Betty Schorr, Program Manager

Anchorage (907) 269-3094; Joint Pipeline Office (907) 257-1374
Industry Preparedness Program
Division of Spill Prevention and Response
Department of Environmental Conservation
555 Cordova Street
Anchorage, AK 99501-2617
Telephone: (907) 269-3054 Fax Number: (907) 269-7687
Email: Betty.Schorr@alaska.gov

Prevention & Emergency Response Program - Bob Mattson, Program Manager

Juneau (907) 465-5220; Anchorage (907) 269-7543; Fairbanks (907) 451-2107
Prevention & Emergency Response Program
Division of Spill Prevention and Response
Department of Environmental Conservation
555 Cordova Street
Anchorage, AK 99501-2617
Telephone: (907) 465-5349 Fax Number: (907) 465-2237
Email: Bob.Mattson@alaska.gov

Southeast Alaska Response Team – Scot Tiernan, SOSC

Division of Spill Prevention and Response
Department of Environmental Conservation
410 Willoughby Ave., Ste 303
P.O. Box 111800
Juneau, AK 99811-1800
Telephone: (907) 465-5378 Fax Number: (907) 465-2237
Email: scot.tiernan@alaska.gov

Central Alaska Response Team – Gary Folley, SOSC

Division of Spill Prevention and Response
Department of Environmental Conservation
555 Cordova Street

Anchorage, AK 99501-2617
Telephone: (907) 262-5210 Fax Number: (907) 262-2294
Email: gary.folley@alaska.gov

Northern Alaska Response Team – Tom DeRuyter, SOSC

Division of Spill Prevention and Response
Department of Environmental Conservation
610 University Avenue
Fairbanks, AK 99709-3643
Telephone: (907) 451-2124 Fax Number: (907) 451-2362
Email: ed.meggert@alaska.gov

Response Fund Administration - Gary Cuscia, Program Manager

Juneau (907) 465-5270
Response Fund Administration
Division of Spill Prevention and Response
Department of Environmental Conservation
410 Willoughby Ave., Ste 303
P.O. Box 111800
Juneau, AK 99811-1800
Telephone: (907) 465-5270 Fax Number: (907) 465-5262
Email: Gary.Cuscia@alaska.gov

Division of Water - Lynn Kent, Director

(907) 269-7599

Facility Programs - Bill Griffith, Program Manager

555 Cordova Street
Anchorage, AK 99501-2617
Telephone: (907) 269-7601 Fax Number: (907) 269-7509
Email: Bill.Griffith@alaska.gov

Municipal Grants & Loans - Mike Lewis, Program Manager

555 Cordova St
Anchorage, AK 99501-2617
Telephone: (907) 269-7616 Fax Number: (907) 269-7509
Email: Mike.Lewis@alaska.gov

Operations Assistance - Kerry Lindley, Program Manager

Remote Maintenance Worker Program / Operator Training and Certification Program
410 Willoughby Ave., Ste 303
P.O. Box 111800
Juneau, AK 99811-1800
Telephone: (907) 465-5143 Fax Number: (907) 465-5177
Email: Kerry.Lindley@alaska.gov

Village Safe Water Program - Greg Magee, Program Manager

555 Cordova Street
Anchorage, AK 99501-2617
Telephone: (907) 269-7613 Fax Number: (907) 269-7650
Email: Greg.Magee@alaska.gov

Water Quality Programs

Compliance - Chris Foley, Program Manager

410 Willoughby Ave Ste 303
Juneau, AK 99801-1800
Telephone: (907) 465-5257 Fax Number: (907) 465-5177
Email: Chris.Foley@alaska.gov

Cruise Ship - Denise Koch, Program Manager

410 Willoughby Ave., Ste 303
Juneau, AK 99801-1800
Telephone: (907) 465-5312 Fax Number: (907) 465-5177
Email: Denise.Koch@alaska.gov

NPDES Primacy - Sharon Morgan, Program Manager

410 Willoughby Ave., Ste 303
Juneau, AK 99801-1800
Telephone: (907) 465-5530 Fax Number: (907)465-5274
Email: Sharon.Morgan@alaska.gov

Wastewater Discharge Authorization - Sharmon Stambaugh, Program Manager

555 Cordova St.
Anchorage, AK 99501
Telephone: (907) 269-7565 Fax Number: (907) 269-3487
Email: Sharmon.Stambaugh@alaska.gov

Water Quality Standards Assessment & Restoration - Nancy Sonafrank, Program Manager

610 University Dr.
Fairbanks, AK 99709
Telephone: (907)451-2726 Fax Number: (907) 451-2187
Email: Nancy.Sonafrank@alaska.gov

Oil and hazardous substances spills

During normal business hours, contact the nearest DEC Area Response Team

DEC's Spill Prevention and Response Division

Anchorage: (907) 269-3063
Fairbanks: (907) 451-2121
Juneau: (907) 465-5340

After hours: 800-478-9300

Underground storage tank problems

Contaminated Sites Program, Storage Tank Section **1-800-478-4974**

EPA in Alaska 1-800-781-0983 - Anchorage (907) 271-5083

Questions regarding safe food handling practices

1-87-SAFE-FOOD - Anchorage 907-334-2560

Solid Waste Program Contact Information

Bob Blankenburg, Program Manager - Anchorage Bob.Blankenburg@alaska.gov	269-7690
Kim Jordan, Admin Assistant - Anchorage Kim.Jordan@alaska.gov	269-7581
Rebecca Colvin, Program Coordinator – Anchorage Rebecca.Colvin@alaska.gov	269-7802
Lori Aldrich, Regional Manager – Anchorage Lori.Aldrich@alaska.gov	269-7622
Kit Persson, Solid Waste Specialist - Anchorage Kitrina.Persson@alaska.gov	269-7467
Doug Huntman, Solid Waste Specialist - Anchorage Doug.Huntman@alaska.gov	269-7642
Nathaniel Emery, Industrial Waste Specialist - Anchorage Nathaniel.Emery@alaska.gov	269-7590
Vacant, Municipal Landfill Specialist – Anchorage	269-7626
Marty Brewer, Risk Management Specialist – Anchorage Marlena.Brewer@alaska.gov	269-1099
Doug Buteyn, Regional Manager - Fairbanks Doug.Buteyn@alaska.gov	451-2135
Trisha Bower, Rural Solid Waste Specialist – Fairbanks Trisha.Bower@alaska.gov	451-2174
Ken Spiers, Solid Waste Specialist - Fairbanks James.Spiers@alaska.gov	451-2134

Ed Emswiler, Solid Waste Specialist - Juneau 465-5353
Ed.Emswiler@alaska.gov

Sandra Woods, Solid Waste Specialist - Juneau 465-5318
Sandra.Woods@alaska.gov

All Solid Waste Publications are on the Solid Waste website at www.dec.state.ak.us/eh/sw/index.htm. On the website you can find the solid waste regulations, most of the permitted sites in the state, the guidance documents, permit applications, and the Solid Waste Procedures Manual for Class III Landfills. If you don't have access to a computer and would like hard copies of the documents please contact Trisha Bower. Trisha Bower replaced Linda Demientieff as the rural landfill specialist for the northern part of the state.

Previously, Linda Demientieff stated that:

“It is the policy of the State to conserve, improve and protect its natural resources and environment. To control water, land and air pollution in order to enhance the health, safety and welfare of the people of the state and their overall economic and social well being.” That is the mission statement for the Department of Environmental Health. I am the contact person for the rural communities in the Northern half of the state. I review permits, inspect rural landfills, and provide technical assistance to Class III landfills in the northern region. I also conduct trainings for operators, Tribal council members, and students in the rural area. “

8. Community Gardens

8.1. Brownfields and Urban Agriculture: Interim Guidance for Safe Gardening Practices (EPA 2011)

**8.2 “So You Want to Start a Community Garden in Alaska?”
– Presentation by Heidi Rader of the University of
Alaska Fairbanks Cooperative Extension Service**



BROWNFIELDS AND URBAN AGRICULTURE:

Interim Guidelines for Safe Gardening Practices



Summer 2011



TABLE OF CONTENTS

Introduction.....	1
Overview of the Issue: Brownfields and Urban Agriculture.....	1
Process: Development of these Guidelines.....	3
Recommendations.....	4
Overview of Recommendations.....	4
Complicating Factors.....	4
How clean is clean for gardening activities?.....	5
How clean is clean for plants to be safe for consumption?.....	6
Step-by-step Guidelines.....	7
1. Identify Previous Use.....	7
2. Perform Sampling.....	9
3. Interpret Results.....	11
4. Manage Risks.....	12
5. Begin Farming.....	14
Why Include a Business Plan?.....	15
Summary.....	16
<i>Resources and References.....</i>	17
<i>Participant List.....</i>	19



INTRODUCTION

This document is a condensation of the input of 60 experts from academia, state and local government, and the nonprofit sector who gathered in Chicago on October 21 and 22, 2010 to outline the range of issues which need to be addressed in order to safely grow food on former brownfield sites. A list of the participants in this workshop is available in Appendix A.

In short, there are three major issues:

1. Before deciding whether to garden on a site, it is important to research its history, because a site may have a range of contaminants depending on its past uses;
2. Once the past uses have been determined, there are options for testing, cleanup or exposure-management approaches which prospective urban farmers can utilize in order to garden safely; and
3. Although a wealth of experience has been gained through brownfields cleanup over the last 15 years, the cleanup standards in existence are designed to protect people on the site from ingestion and inhalation of contaminants in the soil, water and air, but do not address consumption of food grown on the site. Over time, we expect that standards will be updated to address this gap. In the interim, existing residential cleanup standards can be used as a benchmark for safe gardening.

Overview of the Issue: Brownfields and Urban Agriculture

Across the country, communities are adopting the use of urban agriculture and community gardens for neighborhood revitalization. Sites ranging from former auto-manufacturing sites, industrial complexes, and whole neighborhoods, down to small individual lots, including commercial and residential areas, are being considered as potential sites for growing food. As an interim (less than five years) or long-term use, greening a parcel by implementing agricultural practices can improve the environment, build amenities, revitalize neighborhoods, and have direct benefits to residents' food access and nutrition.

Redeveloping any potentially contaminated urban property (often referred to as *brownfields*), brings up questions about the site's environmental history and the risks posed by proposed reuse. Current brownfield and contaminated land risk-based cleanup approaches establish cleanup levels based on proposed reuses. For residential, commercial or industrial brownfield redevelopment, individual states have set rules and standards for how to conduct an investigation and clean-up activities through what are known as Voluntary Cleanup Programs. Residential reuse requires the most stringent cleanup as it assumes children and families will live on the property.

The benefits of urban agriculture vary from health and environmental to economic and social. Gardening in urban areas:

- Increases surrounding property values, beautifies vacant properties, increases a sense of community, and provides recreational and cultural uses.
- Increases infiltration of rainwater, reducing stormwater overflows and flooding, decreases erosion and topsoil removal, improves air quality, and reduces waste by the reuse of food and garden wastes as organic material and compost.
- Increases physical activity and educates new gardeners on the many facets of food production from food security to nutrition and preparation of fresh foods.

Kids who garden are more likely to try and like vegetables and eat more of them, and the combination of the social connection of gardening with the increased access to fruit and vegetables creates a new norm in children who continue to make healthier choices (Robinson-O'Brien, 2009, Alaimo, K et al., 2008).

However, the rise of agriculture as infill redevelopment creates new questions about the risks associated with agricultural uses, particularly where food crop or animal forage production is concerned. In many parts of the country, advisory standards and practices for agricultural redevelopment simply do not exist.

U.S. Environmental Protection Agency (EPA) Brownfields and Land Revitalization, in cooperation with programs within the Office of Solid Waste and Emergency Response (OSWER), and our State and Tribal program counterparts from around the country are working with communities on many of these on-the-ground redevelopment projects. In addition, the EPA Region 5 (Illinois, Indiana, Michigan, Minnesota, Ohio, and Wisconsin) Community and Land Revitalization Branch began working with local and regional stakeholders and a national committee in mid-2010 to learn more about implementing urban agriculture and community gardens in the safest way possible. These guidelines are intended to protect public health by informing communities about safe gardening practices when creating gardens on vacant lands or structures that may have an environmental history.

The committee quickly identified a number of policy gaps contributing to the uncertainty around gardening on former brownfield sites. The first is that at this time, there are no definitive standards for soil contaminant levels safe for food production that reflect the soil site conditions and management practices common at agriculture sites. EPA has long-established soil screening levels for contaminated site cleanup but these threshold-screening levels frequently serve as a starting point for further property investigation and do not factor in plant uptake or bioavailability. Nonetheless, the application of these contaminated land analysis and screening approaches can provide support to emerging operations and reassure consumers and markets about food risks from environmental contaminants.

Another policy gap surrounds the connection between soils and food safety issues. US Food and Drug Administration (FDA) and US Department of Agriculture (USDA) regulate certain elements of food safety and material application in food production areas, such as biosolids or sewage sludge application on farmed land. Farms seeking organic certification also have restrictions on materials use and application. USDA also regulates the international import of soils. There are also agreed international standards on levels of contaminants in final food products (FAO, Codex Alimentarius)¹ but neither FDA nor USDA have standards that regulate the quality of soil as a growing medium.

There are also gaps in practice. The extent of contamination on sites and properties that have been selected for urban agriculture isn't clear. Many community gardening and developing farm organizations test for agronomic parameters – nitrogen, phosphorus, and potassium (N-P-K) as well as pH and organic content. A smaller subset of organizations may test for environmental contaminants, although often only for lead. Other organizations and USDA extension agents encourage full metal panel testing which incurs greater costs to the gardener. A recent compendium of urban agriculture practice and planning by the American Planning Association (see Resources and References section) noted few local requirements for soil testing and very few examples of locally driven testing on behalf of community organizations.

This document is designed to fill the identified gaps presented above by presenting a process and set of recommendations for developing agricultural reuse projects on sites with an environmental history. Potential gardeners, state environmental agencies and regulators can use this process to determine how to address the risks inherent to redeveloping brownfields for agricultural reuses while being protective of human health. There is a large body of ongoing research as concern about contamination emerges and urban gardening becomes a common practice, particularly in communities with limited economic activity. This document can be used as an interim

¹ The Codex Alimentarius Commission was created in 1963 by the Food and Agriculture Organization (FAO) and the World Health Organization (WHO) to develop food standards, guidelines and related texts such as codes of practice under the Joint FAO/WHO Food Standards Programme. The main purposes of this Programme are protecting health of the consumers and ensuring fair trade practices in the food trade, and promoting coordination of all food standards work undertaken by international governmental and non-governmental organizations.

guideline until such research can provide more definitive standards and policies for agricultural reuse on these sites. Although the guide was developed in the Midwest, it may be used to benefit tribes and communities throughout the country wishing to utilize urban agriculture on brownfield sites and vacant properties.

Process: Development of these Guidelines

While creating urban agriculture projects, local governments and community non-profits have identified gaps in knowledge and policy that create unintentional roadblocks to completion of agriculture redevelopment projects on brownfield sites, particularly for food production.

To address the identified gaps in a meaningful way, our first task was to inform each other on the current state of knowledge on agricultural redevelopment. Two webinars in Fall 2010 presented a snapshot of the state of science and policy issues in urban agriculture:

1. *The State of Science and Research Needs*, included contaminant exposure routes, bioavailability, and plant uptake; and
2. *Policy Barriers and Incentives to Reusing Brownfields for Community Gardens and Urban Agriculture*, included stability of land tenure and the lack of clear cleanup standards.
3. These webinars were widely attended by practitioners and local governments across the country, and are available for viewing on the U.S. EPA's Urban Agriculture website at:
4. <http://www.epa.gov/brownfields/urbanag>.

The webinars provided the foundation for the Brownfields and Urban Agriculture Midwest Summit October 21 and 22, 2010, which brought together over 60 invited experts from non-profits, community groups, academia, and various forms of government to develop a decision protocol for safe urban agriculture.



RECOMMENDATIONS

Overview of Recommendations

Just as conventional agriculture can pose risks to farmers, neighbors, and the environment, each urban agriculture scenario poses its own risks. The convened experts developed a list of ideas and a process for addressing these risks so that growers can be aware they have selected a brownfield and brownfields can be redeveloped safely and efficiently into agriculture projects. They found that the underlying question in this strategy becomes: How clean is clean? This somewhat simple question becomes complex when considering the scientific data required and policies that need to be in place in order to answer this question fully.

Complicating factors

When focusing on food production, determining the ideal conditions for developing agriculture reuses on brownfields is challenging due to the high number of exposure and risk assessment variables. These include: soil type, likely contaminants, crop type, garden size, climate, who enters the garden, individual gardener/farmer practice, how long they spend in the garden, growing for individual or family use, donation or market, state regulations, etc. Our attention has focused on environmental contaminants likely to be found in soils or soil material brought on site rather than biological risks from urban growing.

Exposure routes and risk assessment

Most states have risk-based cleanup standards, which means the amount of contamination allowed to remain on a remediated site is based upon the planned reuse and possible exposure that a person would encounter while participating in that reuse. An industrial reuse would not need to have the strict standards for cleanup that a residential reuse would, simply because the amount of time a person is on site and the kinds of activities he or she would participate in (exposures) are completely different.

Determining exposure is based on the amount of time spent onsite as well as the three major exposure routes: inhalation (breathing), direct contact (touching), or ingestion (a child's hand-to-mouth play or the accidental ingestion of soil by gardeners while eating, drinking or smoking with unwashed hands). In many cases, the best management practices discussed below can significantly reduce the possibility of exposure to contaminants at urban agriculture sites, therefore reducing risk.

Making health-related determinations about how to implement gardening and farming practices at a site must take into account: specific knowledge about contaminants and human contact with the soil that occurs preparing the site and during gardening/farming work; during the periodic application of soil amendments, pesticides or other materials used in growing; and finally, the uptake of contaminants by plants and any health risks that could be associated with using the plants as a source of food for people or livestock.

Modifying existing policies would require state-by-state assessments of risk criteria, soil cleanup standards, voluntary brownfields programs, and health agency standards, as well as coordination on a level that is easily translatable to neighborhood gardener and emerging small scale urban farms. Ongoing research to advance these efforts is being conducted across many different disciplines, answering questions about amounts of contamination taken up by various crops and working with states as they determine risk-based standards for soil cleanup or stabilization for agriculture. While we don't have the answers to all of these questions yet, following the guidelines included in the

subsequent section will provide a clear process for organizations to identify and reduce risks, reassure gardeners, and yield safer, more efficient growing scenarios.

How clean is clean for gardening activities?

Clean-up and reuse of any brownfield site is based on risk assessment and exposure scenarios – the levels of contamination present and how a person can be exposed to that contaminant, based on the intended reuse. These criteria for residential, commercial and industrial reuse are based on potential exposure: length of time spent on the site, types of activities performed on the site, and potential contamination pathways such as inhalation, ingestion, or possible dermal contact with contamination.

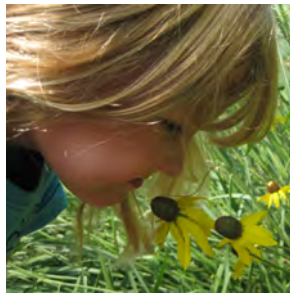
Urban agriculture is a new category of land use with different patterns of exposure – people are in closer contact with the soil than for any other category, for different time periods. While residential use is based on living, sleeping and eating in a dwelling on a property, the overall time and proximity to soil and potential contaminants make gardening and farming somewhat different from residential or commercial use. A commercial-scale urban agriculture scenario would have yet another set of exposure criteria to the workforce and potential neighbors. While these risk scenarios still require refinement based upon additional research and policy discussion, it is clear that a separate category of use should be established.

However, as with all reuse categories, there are potential best management practices (BMPs) that can significantly reduce risk from multiple exposure pathways. Uncertainty about specific cleanup and reuse standards serves as a recognized policy barrier to implementing agriculture projects, but we also must recognize the health benefits from eating locally grown food and balance this with the manageable risk associated with using brownfield sites. While clean up levels were not the focus of the workshop efforts, they are a known policy issue that should be resolved in the future.

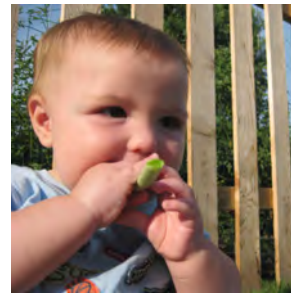
Exposure pathways



Direct exposure to contamination.



Inhalation of contamination.



Uptake by plants and subsequent consumption.

How clean is clean for plants to be safe for consumption?

The high degree of variability in soils, limited control of public spaces and unique characteristics of how crops (species and variety, edible portions of plants) and humans respond (age, precautions taken) makes issuing blanket statements of safety virtually impossible. Plant uptake of contaminants is a concern to urban gardeners and those who would like to include locally grown food on their menus. While many of the uptake risks from urban soils can be controlled by demonstrated BMPs discussed in further detail below, ongoing research on plant uptake and bioavailability continues to bridge knowledge gaps.

Success in brownfield redevelopment across the country, and success in other gardens intuitively tells us that gardening in populated areas is not a new idea, nor is it impossible to do safely. EPA has developed a simple logic model, included below, that is based on the results of our working session and BMPs identified at successful larger scale agriculture projects. This does not answer every question that has been raised; rather it poses the questions you should ask in order to garden safely, and discusses what information you should collect in order to make decisions.

This model describes the process by which a gardener should consider safely implementing a garden of any type (hoop houses or greenhouses, farm stand, vertical, aquaculture, community gardening plots) on a piece of property that has potential contamination.



The process for assessing properties for the presence or potential presence of environmental contamination often is referred to as “environmental due diligence,” or “environmental site assessment.” Phase I Environmental Site Assessments (ASTM 1520) and All Appropriate Inquiry (ASTM 312) are the industry standards for identifying potential environmental concerns according to previous uses of the property. These methods require desktop-based investigation like looking at Sanborn maps, historical aerial photos, city and county records and reviewing environmental databases, as well as conducting interviews of neighbors and previous owners, and visiting the site to assess any visual cues for contamination, such as evidence of storage tanks. Potential property owners have an environmental professional prepare a report containing this type of information prior to most real estate transactions, but historical information is commonly available to anyone wishing to do the research on the internet, at a local library, or county records office.

STEP-BY-STEP GUIDELINES

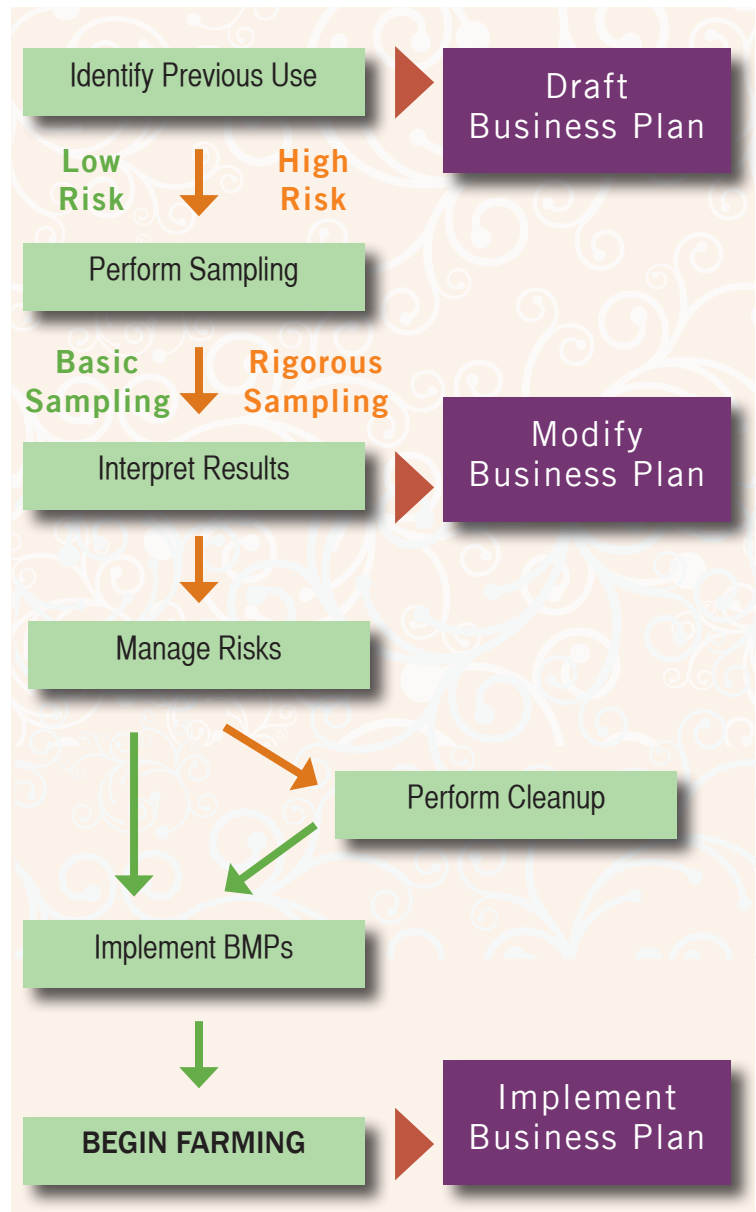
The following logic process proposes a series of questions you need to ask and the information you need to gather in order to make decisions while implementing an urban agriculture project. Each of these steps has multiple sub-steps and issues that you may want to look into further. However, this model may be applied to any urban agriculture project on any brownfield site, and may be of value for other reuses where contact with soil may be higher, such as parks or recreational areas.

1. Identify Previous Use

What is the history of your proposed site?

The previous use of the property and those surrounding it will be the major deciding factor on how cautious you should be before gardening. It is important to gather enough information about the site prior to beginning actual gardening activities so that you may tailor additional site investigation to the likely contamination left behind. Special environmental assessments are commonly required prior to purchasing most commercial and industrial properties, but those simply leasing the land from the owner or local landbank, or those receiving donated land should also plan to do some level of research.

The more historical information learned about a site's previous uses, the more informed decisions can be made during garden development. If you plan to sell produce or value-added products, now is the time to draft a business plan for your garden. Farm design and duration (short or long term use), types of crops planted and expected costs for construction or remediation will all be informed by the site's previous uses and the expected condition of existing soils. The business plan should be revisited throughout this process to ensure the potential for success of your garden. More information on developing a business plan and its ties to the redevelopment process is presented in the final section of this document.



Determine Whether Previous use is High or Low Risk to Site Soil and Water

What does the site history suggest about the likelihood of contamination and potential site risks to food production?

No two vacant parcels are alike. However, we can infer possible types of contamination based on the previous use of the property. For example, residential areas may have unsafe concentrations of lead where the presence of older housing stock or structures indicates lead-based paint was present. Polycyclic aromatic hydrocarbons (PAHs), a group of chemicals formed during the incomplete burning of coal, oil, gas, wood, garbage, or other organic substances, can be found at former residential properties as well as commercial and industrial properties from fires or combustion processes. PAHs stick to soil particles and are found in coal tar, crude oil roofing tar, wood smoke, vehicle exhaust, and asphalt roads. Sites previously used for parking may have high concentrations of petroleum from leaking oils and fuel, and gas stations may have had leaking underground storage tanks that can cause contaminated groundwater and soils, or poor indoor air quality. Even greenspace or agricultural uses may have hotspots from over-fertilized ground, pesticides, or animal feed spills. The table below presents some example contaminants of concern found on brownfield sites.

Land Use	Common Contaminants
Agriculture, green space	Nitrate, pesticides/herbicides
Car wash, parking lots, road and maintenance depot, vehicle services	Metals, PAHs, petroleum products, sodium, solvents, surfactants
Dry cleaning	Solvents
Existing commercial or industrial building structures	Asbestos, petroleum products, lead paint, PCB caulks, solvents
Junkyards	Metals, petroleum products, solvents, sulfate
Machine shops and metal works	Metals, petroleum products, solvents, surfactants
Residential areas, buildings with lead-based paint, where coal, oil, gas or garbage was burned	Metals, including lead, PAHs, petroleum products creosote
Stormwater drains and retention basins	Metals, pathogens, pesticides/herbicides, petroleum products, sodium, solvents
Underground and aboveground storage tanks	Pesticides/herbicides, petroleum products, solvents
Wood preserving	Metals, petroleum products, phenols, solvents, sulfate
Chemical manufacture, clandestine dumping, hazardous material storage and transfer, industrial lagoons and pits, railroad tracks and yards, research labs	Fluoride, metals, nitrate, pathogens, petroleum products, phenols, radioactivity, sodium, solvents, sulfate

(Adapted from Boulding and Ginn, 2004)

Each of the above constituents may be present at levels that pose no risk or, if present in high concentrations, may be harmful to those doing the initial site preparation, to the gardener, or to the quality of the plants that you are hoping to grow.

Once you feel you have an understanding of the previous uses of the site, determine whether that use is high or low risk for agriculture reuses, the likely crops or garden design, and sample the site accordingly. As a rule

of thumb, recreational or residential previous uses are typically lower risk while commercial and industrial uses can be considered higher risk, although you may find information in your research that suggests otherwise for your particular site. Consult with your state environmental agency, local health department, or county's USDA Cooperative Extension office to determine what kinds of samples you should take to accurately represent the conditions at your site.

Finding your ag extension

The USDA National Institute of Food and Agriculture funds the Cooperative Extension System – a nationwide educational network staffed by experts in agriculture working to identify and address current issues and problems. Extension offices are located in each US state and territory at its land-grant university, as well as in local and regional networks often in each county. Find your local Extension office at: <http://www.csrees.usda.gov/Extension>.

2. Perform Sampling

What additional information is needed to determine soil quality? What additional information is needed to identify or rule out potential contamination risks?

Two types of soil quality sampling are recommended for every site: soil as a growing medium, and soil contaminant concentrations for safety. Because each parcel of land is unique, each sampling approach should be considered individually. However, given that not all previous uses are created equal, we can make some assumptions about the relative risk of the previous use, and this will guide our sampling strategy. Low risk previous uses like residential areas, green space, traffic corridors and parking areas generally have a narrow band of likely contamination that allows for a basic sampling strategy. High risk uses, like manufacturing or railyards, open up the possibility of many types of contamination over a wide area of the site, and requires a more rigorous sampling strategy. Some organizations can provide technical assistance for soil testing, including the EPA and state brownfields programs, and USDA Natural Resources Conservation Service (EPA 2009).

Sampling methodology

How do you decide where to sample and how deep to go? Sampling methodologies will vary slightly depending on what you are sampling for or the type of crop you are planning to grow because some plant root systems are deeper and more extensive than others. Refer to the University of Louisville's *Urban Agriculture and Soil Contamination: An Introduction to Urban Gardening* and Purdue University's factsheet entitled, *Collecting Soil Samples for Testing* for more information on sampling frequency, collection, location, and the best time to take your samples. Don't forget to call ahead of time to have utilities marked before digging anywhere on your site. Find your local "Call before you dig" service at <http://www.call811.com>.

Low risk uses – basic sampling

Sampling for soil quality should include a composite sample that represents the on-site soil structure and composition and reflects the preferred growing area. This type of sampling and analysis is simple to perform and relatively inexpensive to do. Sampling for pH, organic matter, nutrients (nitrogen, phosphorus, potassium), soil composition (sandy, clayey, etc) and texture will determine what types of improvements should be made or amendments added so that plants can thrive in your garden.

Sampling for soil safety should include, at a minimum, composite sample(s) which would be tested for a wide range of metals (including heavy metals, iron, and salts, some of which are necessary plant nutrients, such as magnesium, potassium, calcium, sodium), PAHs, and additional constituents based on likely contaminants associated with the site's previous use. Any area that appears out of the ordinary, is suspicious looking (including stained or discolored soils, or the lack of plant growth in soils), or indicates a potential for contamination, should be submitted with additional discrete samples in each area. This will allow you to identify the type and extent of existing contamination and to estimate if cleanup is required or if you only need to have special considerations when designing your garden.

For your records, you may wish to draw, photograph or note soil sample collection locations on a map depicting the site. If you collected five samples to combine into one composite sample, you should note their individual locations. For example, you would identify that sample #3, was taken from the top 2 inches of material at a location 2 feet from the north (left) side of the path and 5 feet east of the entrance. You may also wish to flag or mark sample locations until your results come back; typical lab turnaround time is approximately two weeks.

High risk uses – more rigorous sampling

Any large parcel with multiple historical uses will require more rigorous sampling in addition to the methods mentioned above. This should include multiple composite or discrete samples for any suspected contaminant in each area of the site. Additional discrete samples should be collected where contamination is suspected. If groundwater contamination is likely, or if a spill is suspected, deeper soil sampling and groundwater sampling is strongly suggested.



3. Interpret Results

What do the sampling results mean for risk to growers or healthy plant growth? What contaminant levels are low, frequently seen, easily addressed and can be managed with good practices? What levels are too high and require involvement of environmental experts?

While the EPA prescribes groundwater/drinking water guidelines, no hard and fast rules for agricultural soils exist on the federal level. Most states set guidelines for soil cleanup with risk-based standards based on anticipated reuse of the property. Residential clean-up levels are the most restrictive, so if contaminant levels are below residential use levels, it is safe to assume your site is safe for gardening and will be protective of public health. We recognize, however, some communities may want to seek levels lower than residential reuse levels in the interests of precaution.

Because no agricultural reuse standards exist as discussed above, contamination levels falling within the commercial and industrial reuse categories warrant a site-specific risk determination and mitigation. If you don't have a qualified environmental professional on staff and you are concerned about your sampling results, you should get help interpreting the results of your sampling effort. State and local health agencies, state environmental agencies and USDA Cooperative extension offices, located in most counties, are good places to start for help in determining what safe gardening levels in your soil may be.

Not all types of contamination will have the same effect on you as a gardener or on your crops. Research on soil metal chemistry and plant uptake conducted at the USDA has found that most metals are so insoluble or so strongly attached (i.e. adsorbed) to the actual soil particles or plant roots, that they do not reach the edible portions of most plants in levels which would compromise human health when eating grown crops. Maintaining a neutral soil pH can control much of the risk of exposure via plant uptake. For example, lead is known to be toxic to humans, and can be found in extremely high concentrations in some urban soils where extensive lead-based paint was used or where historical lead industry activity occurred. The risk to the gardener, inhaling dust or ingesting actual soil from dirty hands is much higher than the risk of the consumer eating the properly washed crops grown from this soil. Important exceptions to the strategy of keeping a neutral pH include soils with high concentrations of cadmium and cobalt, which can be toxic to humans, and sometimes molybdenum and selenium, which are more of a concern for livestock (Chaney, 1984).

Other soil metals, such as copper, are phytotoxic and will kill the plant before the metal concentration in the soil would be harmful to a gardener. In these cases, accidental ingestion of the actual soil during initial preparation or as part of ongoing gardening activities would have the greatest negative health effect.

It is important to know which areas of the site are contaminated in levels that are unsafe for in-ground gardening activities and what that means for your garden design. Additional testing may be necessary to determine the extent of contamination if a hotspot is found.

A note on analysis

Most tests for soil contaminants use extraction methods (i.e., the sample is digested in acid and then diluted prior to analysis) yielding a total contaminant concentration. The amount of that contaminant that is bioavailable or bioaccessible (i.e. the ability of ingested contaminants to be absorbed by the body) to plants or people will be less than the resulting total contaminant level – actually a fraction of the total value. Often in the case of lead in urban soils, a small fraction of the total lead concentration is found to be bioavailable, likely due to the historic applications of fertilizers, manures and composts, which change the characteristics of soil and can cause inactivation of lead in soils over time. Because determining bioavailability is costly and because regulating a total concentration is the most protective of human health, test result interpretation frequently focuses on total concentrations.

4. Manage Risks

Perform Clean-Up

When is clean-up necessary? Which remediation techniques are best for agriculture reuses?

If results indicate that the existing soil is not safe for gardening activities and you are planning to plant in-ground, remediation may be necessary. Work with your state environmental agency's Voluntary Cleanup Program to determine which remediation technique would be most effective for your site. Consider cost, accessibility, the timeframe needed, environmental effects, and effectiveness for agriculture before choosing a remediation technique (RUAF 2006). Techniques most applicable for agriculture projects include physical (excavation, installing geotextiles, soil washing or soil vapor extraction) or biological (microbial, phytoremediation, or application of soil amendments).

Will phytoremediation work for my site?

Phytotechnologies are long-term remedial solutions that use plants to remediate soil and water impacted with different types of contaminants. Organic contamination including: oils, solvents, and some pesticides, and inorganic contaminants like salts (salinity), and heavy metals, especially nickel and arsenic are well suited to a long-term phytoremediation or phytoextraction approach. Using plants to stabilize soils, keeping an appropriate pH, and controlling metal mobility, as well as keeping dust down, is a proven strategy for reducing exposure to contaminated soils. However, not all contaminants react the same way to phytoremediation, and some metals like lead, cadmium and zinc, just aren't mobile enough to benefit from phytotechnologies. Get more information on phytoremediation and other phytotechnologies in the Interstate Technology Regulatory Council document, "Phytotechnology Technical and Regulatory Guidance and Decision Trees, Revised," available at: www.itrcweb.org/Documents/PHYTO-3.pdf.

Many non-remedial options exist for sites with low levels of contamination, or sites with contamination exposure risks which can be controlled by planting *above ground*, including installing raised beds, gardening in containers, green walls or rooftop growing, and aquaponics. More information on Best Management Practices and alternative growing techniques is presented on the following page.

Each remediation technique has unique benefits and drawbacks. Digging away the contaminated soil and disposing it in a landfill is the most effective technique for removing contaminants but can discard valuable topsoil. This is also the most expensive method, and replacing the contaminated soil with clean, non-industrial fill (that has been sampled for contaminants or has been certified as safe) can be cost-prohibitive to a non-profit gardener or community group. In-situ or on site remediation techniques or biological strategies may take multiple growing seasons or multiple applications, costly monitoring, and maintenance. Even remediation by amending with compost may be more involved than it sounds since composting needs to have preceded growing to create sufficiently healthy soil. In one EPA pilot project, yard waste compost added to a waste site for agriculture reuse used 20 tons of compost per acre for corn fields and 120 tons of compost per acre for peanut crops (EPA 1997). Not all projects will require this level of remediation, but working closely with your state Voluntary Cleanup Program will ensure that your urban agriculture development achieves the proper cleanup goals.



Implement Best Management Practices (BMPs)

Are there things I can do to garden safely without performing a full remediation? What are everyday practices that will reduce risk?

Regardless of the degree of brownfields contamination or scale, every urban garden should implement BMPs to ensure continued protection from urban soils. In most instances, simply following these BMPs will bypass any potential exposure pathways from existing site contamination. However, projects should still be vetted with the state Voluntary Cleanup Program or local health officials to address any possible environmental and public health concerns. Because research has found that the predominant exposure routes of concern are direct contact with or ingestion of potentially contaminated soils, many of the BMPs presented below focus on separating you as a gardener from existing soils. In many cases, implementing BMPs such as those suggested below will allow safer gardening in a wider range of site conditions. Not every BMP is necessary for every single site, but a combination of BMPs appropriate for your particular site will provide better health outcomes.

Construct physical controls

Risk is based on the extent of hazard or contaminant present and the potential for exposure to the hazard. Actions to remove or reduce hazard (amend soil) and reduce exposure (cover soil), reduce risks. Many good gardening practices, like adding compost and soil amendments, improve the soil while reducing the amount of contaminants and exposure to them.

- Build your garden away from existing roads and rail, or build a hedge or fence to reduce windblown contamination from mobile sources and busy streets.
- Cover existing soil and walkways with mulch, landscape fabric, stones, or bricks.
- Use mulch in your garden beds to reduce dust and soil splash back, reduce weed establishment, regulate soil temperature and moisture, and add organic matter.
- Use soil amendments to maintain neutral pH and add organic matter and improve soil structure.
 - Not all amendments are the same; be sure to choose the right amendments for your soil. For more information on choosing the right soil amendment, refer to the Colorado State University Extension webpage on soil amendments at <http://www.ext.colostate.edu/pubs/garden/07235.html>.
 - Keep in mind that each amendment type will have different application rates and techniques (e.g. rototilling), and may need to be maintained and reapplied annually.
 - Be sure to work with your local or state regulatory agency, and ask if your municipality provides free compost or mulch. Some amendments, such as Class A biosolids from sewage sludge, may be regulated under various regulatory programs.
- Add topsoil or clean fill from 'certified soil sources' to ensure the soil is safe for handling by children or gardeners of all ages and for food production. Your state or local environmental program, extension service, or nursery may be able to direct you to providers of safe certified soils, or to recommended safe sources for gardening soil.



- Build raised beds or container gardens
 - Raised beds help improve water drainage in heavy clay soils or low-lying areas. They also create accessible gardening locations for many users and allow for more precise soil management.
 - Foot traffic should not be necessary in the bed, so the soil does not become compacted and soil preparation in the coming years is minimized.
 - Your state or local city agency may recommend using a water permeable fabric cover or geotextile as the bottom layer of your raised bed to further reduce exposure to soils of concern.
 - Raised beds can be made by simply mounding soil into windrows or by building containers. Sided beds can be made from wood, synthetic wood, stone, concrete block, brick or naturally rot-resistant woods such as cedar and redwood.

Emphasize good habits



Wear gloves and wash hands after gardening and before eating.



Take care not to track dirt from the garden into the house.



Clean produce before storing or eating.



Peel root crops, and remove outer leaves of leafy vegetables.



Teach kids to wash fruits and vegetables before eating.

5. Begin Farming

Whether it is a long-term or an interim use, simply greening a once-blighted or vacant property and improving the soil structure has real effects on the economic and social value of land and community health. It can also reduce the runoff of urban soil, silt and contaminants into stormwater systems by allowing greater infiltration of rain into soils improved with added compost and soil amendments. The ability to grow food or horticultural crops such as flowers or trees on this newly greened area will produce multiple beneficial effects to those who may farm it. Healthy eating, increased physical activity, reduction of blight, improved air quality and improved quality of life are all nearly immediate health benefits from urban agriculture.

WHY INCLUDE A BUSINESS PLAN?

Urban agriculture exists in various forms and scales. From community gardens to commercial enterprises, from edible landscapes to beekeeping, on a residential lot or on a former industrial site, there is no one-size-fits all to urban agriculture. However, most successful and sustainable urban agriculture projects do share one thing in common: a business plan. The urban agriculture business plan provides a road map to the garden's activities, an internal planning tool, and a way to communicate the project to external stakeholders and potential funders. Nearly every section of a business plan has strategic items that may be altered due to the condition of existing soils. Many farmers will find a new site before they make too many changes to their business plan, or will choose a new site based on remediation costs; but contingencies such as these also need to be addressed and communicated with investors and stakeholders via a well-designed business plan.

EPA, HUD and DOT have been working together under the Partnership for Sustainable Communities to ensure that federal investments, policies and actions support development that is efficient and sustainable. In one such brownfield pilot project in Toledo, OH, the EPA provided technical assistance to develop the *Urban Farm Business Plan Handbook*. This handbook provides a complete framework for developing an urban farm business plan and describes what information should be collected, evaluated, and presented in each section of the business plan, once the site is cleaned and ready for growing. The *Urban Farm Business Plan Handbook* is available for download at:

<http://www.epa.gov/brownfields/urbanag>.

The level of cleanup required and the costs for implementing that cleanup, such as transportation and disposal of dirty soils or clean fill, may have huge implications on the viability of your garden as originally planned. The business plan should be modified to address any changes from the original farm design after determining what level of cleanup may be required. The state of existing site soils may require a fresh look at the marketing, operating and financial aspects of your urban agriculture project, depending on whether your urban agriculture site is an interim or long-term use. A simple modification of garden type to save remediation costs, such as moving from in-ground planting to raised beds, may have implications on farm function or crop plans. While the risks of gardening on brownfield sites do exist, the end goal does not change. Gardening safely on sites with an environmental history is possible and economically feasible if planned properly.



SUMMARY

Implementing urban agricultural practices on brownfield sites addresses and mitigates public health concerns, reduces blight and preserves neighborhoods, while directly improving food access and nutrition. Communities wishing to redevelop brownfield sites into urban agriculture projects are faced with a unique problem because no set cleanup standard exists for urban agriculture reuse. In order to understand the issues surrounding urban agriculture redevelopment, EPA convened a group of experts that work on different aspects of urban agriculture and asked how communities should approach the redevelopment process, and what they need to know to develop urban agriculture safely.

What we found is that investigation into historical uses of the property and consideration of how existing contamination changes the gardening strategies available to you improves the likelihood for success of your urban agriculture project. Although urban lands are generally affected by previous activities with impacts on existing soils, using safe gardening practices and BMPs will control a wide range of contamination issues. Working with your state environmental agencies to properly address risk and, where BMPs are not enough, set cleanup goals, will result in a garden that brings benefits to the community for years to come.

Additional work continues to describe relationships between plant uptake and contamination, and to begin setting risk-based criteria for urban agriculture on the state level. ASTSWMO, the Association of State and Tribal Solid Waste Management Officials, has named urban agriculture standards and practices a priority topic for discussion in 2011, and EPA will continue to work with the states, other Federal Agencies, academics, and other partners as they examine possible urban agriculture reuse standards. Until more data is available, these Interim Guidelines can be used to identify types of information needed to make decisions in order to garden safely at a site that has potential contamination.



RESOURCES & REFERENCES

Alaimo K, Packnett E, Miles RA, Kruger DJ. (2008) Fruit and Vegetable Intake Among Gardeners. *Journal of Nutrition Education and Behavior*, 40(2), 94-101

American Planning Association

Creating Community-Based Brownfield Redevelopment Strategies
<http://www.planning.org/research/brownfields/>

Urban Agriculture: Growing Healthy, Sustainable Places (2011),
<http://www.planning.org/apastore/>

American Planning Association, Zoning, Practice for Urban Agriculture, March 2010
<http://www.urbanfarmhub.org/2010/03/american-planning-association-issues-zoning-guide-for-urban-agriculture/>

Agency for Toxic Substances and Disease Registry (ATSDR)

ATSDR Brownfield/Land Reuse Initiative
<http://www.atsdr.cdc.gov/sites/brownfields/>

Boulding, Russell, and Jon S. Ginn. "Figure 11.7 Land Use/public Supply Well Pollution Potential Matrix." *Practical Handbook of Soil, Vadose Zone, and Ground-water Contamination: Assessment, Prevention, and Remediation*. Boca Raton, FL: Lewis, 2004. 456-57. Print.

California Environmental Protection Agency, California Department of Toxic Substances Control

Information Advisory: Clean Imported Fill Material (2001)
http://www.dtsc.ca.gov/Schools/upload/SMP_FS_Cleanfill-Schools.pdf

Colorado State University Extension

Choosing the Right Soil Amendment (2005)
<http://www.ext.colostate.edu/pubs/garden/07235.html>

Cornell Waste Management Institute, Department of Crop and Soil Sciences in the College of Agriculture and Life Sciences at Cornell University.

Sources and Impacts of Contaminants in Soils (April 2009)

Guide to Soil Testing and Interpreting Results (April 2009)
<http://cwmi.css.cornell.edu/soilquality.htm>

Interstate Technology Regulatory Council

Phytotechnology Technical and Regulatory Guidance and Decision Trees, Revised (2009)
<http://www.itrcweb.org/Documents/PHYTO-3.pdf>

Kansas State University

Gardening on Brownfield Sites: Is it safe? (2010)
<http://www.nalgep.org/ewebeditpro/items/O93F22774.pdf>

Ohio Environmental Protection Agency

Ohio Brownfield Redevelopment Toolbox: A guide to assist small and rural communities in redeveloping Ohio's brownfields (2010)
<http://www.epa.ohio.gov/portals/30/SABR/docs/Ohio%20Brownfield%20Toolbox.pdf>

Public Health and Law Policy

Ground Rules: A Legal Toolkit for Community Gardens (2011)
<http://www.nplanonline.org/nplan/products/CommunityGardenToolkit>

Purdue University Cooperative Extension Service, Department of Horticulture

Consumer Horticulture: Container and Raised-bed Gardening (2009)

<http://www.hort.purdue.edu/ext/ho-200.pdf>

Collecting Soil Samples for Testing (2001)

<http://www.hort.purdue.edu/ext/HO-71.pdf>

Resource Centres on Urban Agriculture and Food Security

Soil Contamination and Urban Agriculture: A Practical Guide to Soil Contamination Issues for Individuals and Groups (2006)

<http://www.ruaf.org/index.php?q=node/1003>

Robinson-O'Brien R, Story M, Heim S. (2009). Impact of Garden-Based Youth Nutrition Intervention Programs: A Review. *Journal of the American Dietetic Association*. 109(2). 273-280

U.S. Department of Agriculture Agricultural Research Service

Cooperative Extension System Offices

<http://www.csrees.usda.gov/Extension/>

Chaney RL, et al. (2008) Element Bioavailability and Bioaccessibility in Soils: What is known now, and what are significant data gaps? *Proc. SERDP-ESTCP Bioavailability Workshop, Aug. 20-21, 2008, Annapolis, MD. pp. B36 to B-72 in Workshop Report.*

http://www.serdp.org/content/download/8236/101212/version/1/file/Bioavailability_Wkshp_Nov_2008.pdf

Chaney RL, et al. (1984) The Potential for Heavy Metal Exposure From Urban Gardens and Soils

http://indytilth.org/Links/Chaney_Exposure.pdf

U.S. Environmental Protection Agency

Urban Agriculture website:

<http://www.epa.gov/brownfields/urbanag>.

Urban Farm Business Plan Handbook (2011)

Ecological Revitalization: Turning Contaminated Properties Into Community Assets (2009)

http://www.clu-in.org/download/issues/ecotools/Ecological_Revitalization_Turning_Contaminated_Properties_Into_Community_Assets.pdf

The Use of Soil Amendments for Remediation, Revitalization, and Reuse (2007)

<http://www.clu-in.org/download/remed/epa-542-r-07-013.pdf>

Innovative Uses of Compost: Bioremediation and Pollution Prevention (1997)

<http://www.epa.gov/osw/conserves/rrr/composting/pubs/bioremed.pdf>

Reusing Potentially Contaminated Landscapes: Growing Gardens in Urban Soils (2011)

http://www.clu-in.org/download/misc/urban_gardening_fact_sheet.pdf

University of California Cooperative Extension, Los Angeles Division of Agricultural and Natural Resources

Trace Elements and Urban Gardens (2009)

http://celosangeles.ucdavis.edu/Environmental_Horticulture/Trace_Elements_and_Urban_Gardens.htm

University of Louisville, Kentucky Environmental Finance Center

Urban Agriculture and Soil Contamination: An Introduction to Urban Gardening, Practice Guide #25 (2009)

cepm.louisville.edu/Pubs_WPapers/practiceguides/PG25.pdf

Establishing Urban Agriculture in Your Community: What You Need to Know Before You Get Your Hands Dirty, Practice Guide #27 (2010)

http://cepm.louisville.edu/Pubs_WPapers/practiceguides/PG27.pdf

Redefining Brownfields: Safe Urban Gardening

<http://cepm.louisville.edu/>

PARTICIPANT LIST

Last Name:	First Name:	Organization:	Title:	Email Address:	Phone:	City:	State:
Anderson	Ryan	Delta Redevelopment Institute	Carbon Program Director	randerson@delta-institute.org	312-554-0900 x14		
Auker	Karla			auker.karla@epa.gov	312-353-2112		
Barni	Marie	The Ohio State University Extension, Cuyahoga County	Director	barni.4@osu.edu	216-429-8200	Cleveland	OH
Basta	Nicholas	The Ohio State University	Professor of Soil and Environmental Chemistry	basta.4@osu.edu	614-292-6282	Columbus	OH
Behringer	David	Behr Geo Environmental LLC	Owner	dbehringer@behrgeoenv.com	216-906-7752	Aurora	OH
Belt	Shawn	Cleveland Botanical Garden	Urban Farm Manager	sbelt@cbgarden.org	216-645-7798	Cleveland	OH
Benveniste	Patsy	Chicago Botanic Garden	Vice President, Community Education Programs	pbenveni@chicagobotanic.org	847-835-6945	Glencoe	IL
Berman	Laurel	ATSDR	Brownfields Coordinator	laberman@cdc.gov	312-886-7476	Chicago	IL
Bildersee	Jenn	Portland Brownfield Program	Program Coordinator	jenn.bildersee@portlandoregon.gov	503-823-7764	Portland	OR
Boyd	Martha	Angelic Organics Learning Center	Program Director - Urban Initiative (Chicago)	martha@learnconnect.org	773-344-7198	Chicago	IL
Buchanan	Susan	Great Lakes Center for Children's Env Health, UIC	MD, MPH	sbucha3@uic.edu	312-996-0806	Chicago	IL
Carroll	Ann	US EPA	Senior Policy Analyst	carroll.ann@epa.gov	202 566-2748	Washington	DC
Caton Campbell	Marcia	Center for Resilient Cities	Milwaukee Director	marcia.catoncampbell@resilientcities.org	414-289-7799 x3075	Milwaukee	WI
Chaney	Rufus	USDA-Agricultural Research Service	Senior Research Agronomist	rufus.chaney@ars.usda.gov	301-395-4852	Beltsville	MD
Choi	Chris	U.S. EPA	Community Planner	choi.christopher@epa.gov	312.353.5006	Chicago	IL
Clayton	Zach	Chicago Department of Environment	Env. Engineer III	zachary.clayton@cityofchicago.org	312-744-3161	Chicago	IL
Colsman	Mark	Tetra Tech	Senior Environmental Scientist	mark.colsman@tetratech.com	303-312-8883	Denver	CO
Cooper	Dan	Chicago Park District	Environmental Manager	dan.cooper@chicagoparkdistrict.com	312-742-4287	Chicago	IL
Crause	Tom	Illinois EPA	Manager , Office of Site Evaluation	tom.crause@illinois.gov	217-524-1658	Springfield	IL
Cwik	Stephanie	USEPA Region 5	Environmental Scientist	cwik.stephanie@epa.gov	312 886 0913	Chicago	IL
Didier	Matt	USEPA Region 5		didier.matthew@epa.gov	312-353-2112		
Doetch	Ronald	Urban Ag Design	Founder	rdoetch@aol.com	815-742-3450	Milwaukee	WI
Downing	James	City of Cleveland, Department of Community Development	Development Officer	jdowning@cleveland.oh.us	216-664-4059	Cleveland	OH
Doyle	David	U.S. EPA	Sustainability Coordinator	doyle.david@epa.gov	913-551-7667	Kansas City	KS
Dufficy	Joseph	US EPA Region 5	Brownfields and NPL Reuse	dufficy.joseph@epa.gov	312-886-1960	Chicago	IL
Durnbaugh	Aaron	Chicago Department of Environment	Deputy Commissioner	adurnbaugh@cityofchicago.org	312-744-7468	Chicago	IL
Fisher	Wynecta	E2 Inc	Social and Environmental Equity Project Coordinator	wfisher@e2inc.com	504-390-1707	metairie	LA
Foster	Sabrina	E2 Inc	Associate	sfoster@e2inc.com	434-975-6700 x256	Charlottesville	VA
Furio	Brooke	USEPA	program analyst	furio.brooke@epa.gov	440 250 1705	westlake	OH
Graham	Dave	City of Chicago Department of Environment	Environmental Engineer III	dgraham@cityofchicago.org	312-744-3639	Chicago	IL
Grosshans	Jon	US EPA	Community Planner	grosshans.jon@epa.gov	312-353-5617	Chicago	IL
Harrell	Chris	City of Indianapolis	Brownfield Redevelopment Coordinator	charrrell@indy.gov	317-327-5845	Indianapolis	IN
Heberle	Lauren	University of Louisville, Center for Environmental Policy and Management EFC4	Director	lauren.heberle@louisville.edu	502-852-4749	Louisville	KY
Hettiarachchi	Ganga	Kansas State University	Assistant Professor of Soil and Environ. Chemistry	ganga@ksu.edu	785-313-7024	Manhattan	KS
Hillman	Debbie	Illinois Local Food and Farms Coalition	Coordinator	dhillman@sbcglobal.net	847/328-7175	Evanston	IL
Jones	Edde	Chicago Department of Environment	Program Director	eddejones@cityofchicago.org	312-746-9773	Chicago	IL
King	Gary	Illinois Environmental Protection Agency	Manager, Division of Remediation Management	gary.king@illinois.gov	217/782-0245	Springfield	IL
Koonce	Frances	WI Dept of Natural Resources	Natural Resources Supervisor	franceskoonce@wi.gov	414 263 8697	Milwaukee	WI
Laberge	Kevin	Chicago Department of Environment	Environmental Engineer III	klaberge@cityofchicago.org	312-742-0463	Chicago	IL
Larsen	Kelly	Windy City Harvest Chicago Botanic Garden	Supervisor	klarsen@chicagobotanic.org	847-650-7303	Chicago	IL
Lauterbach	Mary	US EPA, OSWER, OSRTI	Environmental Protection Specialist	lauterbach.mary@epa.gov	703-603-0330	Millersville	MD
Lofton	Kerry	Illinois Department of Agriculture	Office of the Director	kerry.lofton@illinois.gov	312-814-4866	Chicago	IL
Long	P. Wayne	University Of Kentucky, Cooperative Extension Service	ANR Agent/County Coordinator	phillip.long@uky.edu	502-569-2344	Louisville	KY
Mahoney	Michele	US EPA OSWER OSRTI	Environmental Scientist	mahoney.michele@epa.gov	703-603-9057	Washington	DC
Mangrum	Linda	U.S. EPA-Region 5	Brownfields Project Manager	mangrum.linda@epa.gov	312-353-2071	Chicago	IL
Martin	Sabine	Kansas State University	TAB Director	smartin1@ksu.edu	785-313-0136	Manhattan	KS
McElmurry	Shawn	Wayne State University	Assistant Professor	s.mcelmurry@wayne.edu	313-577-3876	Detroit	MI
Miller	Tom	Saginaw County Land Bank	Manager	saginawlandbank@gmail.com	989-980-1336	Saginaw	MI
Morrison-Ibrahim	Deborah	IUPUI Dept of Earth Sciences/Public Health	PhD Student	deemorri@umail.iu.edu	317-670-4658	Indianapolis	IN
Mysz	Amy	U.S. EPA	Environmental Health Scientist	mysz.amy@epa.gov	312-886-0224	Chicago	IL
Newport	Bob	U.S. EPA Region 5	Stormwater Specialist	newport.bob@epa.gov	312-886-1513	Chicago	IL
Reichtell	Bobbi	Neighborhood Progress, Inc	Sr VP for Programs	blr@neighborhoodprogress.org	216-830-2770 ext 207	Cleveland	OH
Rhodes	Harry	Growing Home	Executive Director	hrhodes@growinghomeinc.org	773-546-9122	Chicago	IL
Rock	Steve	USEPA	Env. Engineer	rock.steven@epa.gov	513-569-7149	Cincinnati	OH
Scanlon	Joanne	E2 Inc.	Technical Analyst	jscanlon@e2inc.com	434-975-6700 x 253	Charlottesville	VA
Slattery	Chris	Delta Redevelopment Institute	Senior Director	cslattery@delta-institute.org	312-554-0900 x21	Chicago	IL
Spencer	Diane	U.S. EPA	Environmental Scientist	spencer.diane@epa.gov	312-886-5867	Chicago	IL
Splithoff	Henry	NYS Department of Health	Research Scientist	hms01@health.state.ny.us	518 402 7800	Troy	NY
Sprinkle	Kristin	E2 Inc.	Program Manager	ksprinkle@e2inc.com	434-975-6700	Charlottesville	VA
Thompson	David	Integrated Sustainability Solutions	Principal	dmt@isschicago.org	312.493.4970	Chicago	IL
Valicenti	Lyndon	Chicago Department of Environment	WRD Environmental Project Manager	lyndon.valicenti@cityofchicago.org	312-742-0150	Chicago	IL
Van Der Kloot	James	USEPA	Land Revitalization Coordinator	vanderkloot.james@epa.gov	312-353-3161	Chicago	IL
Weber	Ford	Lucas County Improvement Corporation		FWeber@LCICOH.com	419-213-4510		
Wilkinson	Bruce	US EPA Region 5 Pesticides Section	Environmental Scientist	wilkinson.bruce@epa.gov	312-886-6002	Chicago	IL
Worthington	Kimberly	City of Chicago Dept of Environment	Deputy Commissioner	kworthington@cityofchicago.org	312-744-9139	Chicago	IL
Yersavich	Amy	Ohio EPA-DERR	Manager, SABR	amy.yersavich@epa.state.oh.us	614-644-2285	Columbus	OH
Young	Mickey	US EPA Region 3 - BF/LR	Environmental Protection Specialist	young.mickey@epa.gov	386-451-6688	Philadelphia	PA
Zautner	Lilah	Neighborhood Progress Inc.	Sustainability Manager	lcz@neighborhoodprogress.org	216-702-1423	Cleveland	OH



United States Environmental Protection Agency
Region 5 Superfund Division
77 W Jackson Blvd
Chicago, IL 60604

EPA 560/S-11/001 | Summer 2011 | www.epa.gov/brownfields



Printed on 100% recycled/recyclable paper
with minimum 25% post-consumer fiber.

So you want to start a:

Community Garden in Alaska?

by Heidi Rader

UAF Cooperative Extension Service
& Tanana Chiefs Conference



What is a Community Garden?

“A common garden where members share the labor and rewards.”

“Any piece of land gardened by a group of individuals,” according to the American Community Garden Association, “We . . . have a broad definition of what a community garden entails. It can be urban, suburban, or rural. It can grow flowers, vegetables or community. It can be one community plot, or can be many individual plots. It can be at a school, hospital, or in a neighborhood. It can also be a series of plots dedicated to "urban agriculture" where the produce is grown for a market.”



Why start a Community Garden?

IMPROVE NUTRITION AND FITNESS

Create Something Beautiful

Provide positive work experiences and activities for youth

Relieve stress Grow fresh food

Save \$\$\$\$ on Groceries **IT'S FUN!**

PROMOTE HEALTHY COMMUNITIES & FAMILIES

Did you know that. . .

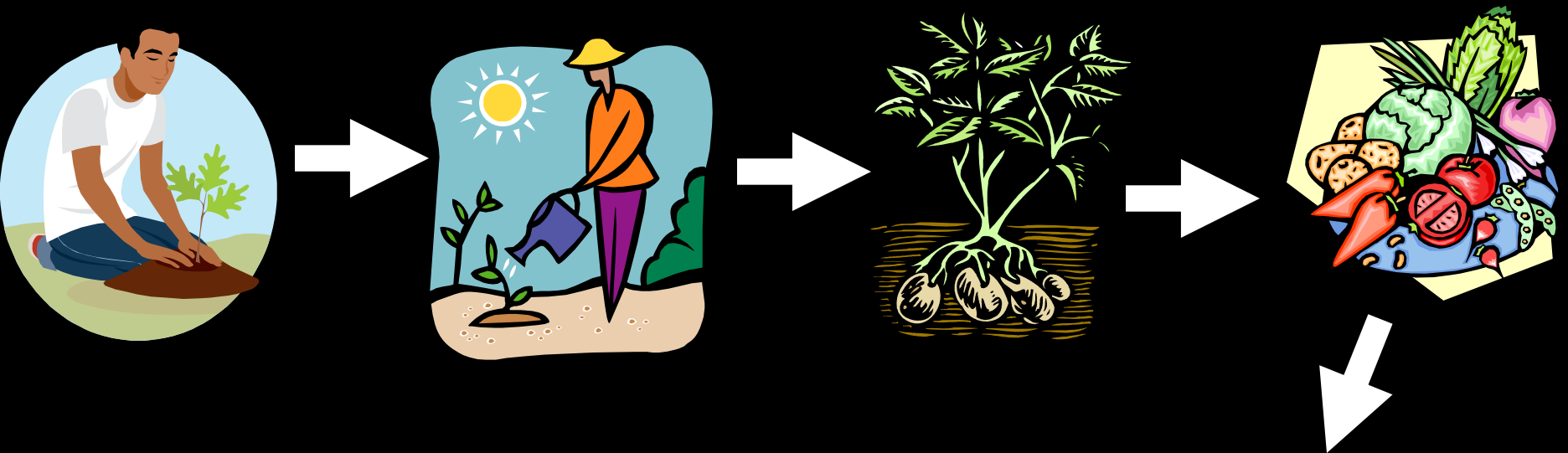
- Families that participated in community garden efforts ate 89% more fresh veggies than usual¹
- 70 to 80% consumed at least five servings of fruit and vegetables daily
- 74% of gardeners preserved produce (freezing, pickling, drying)
- 95% shared produce with neighbors, emergency food service providers, and others

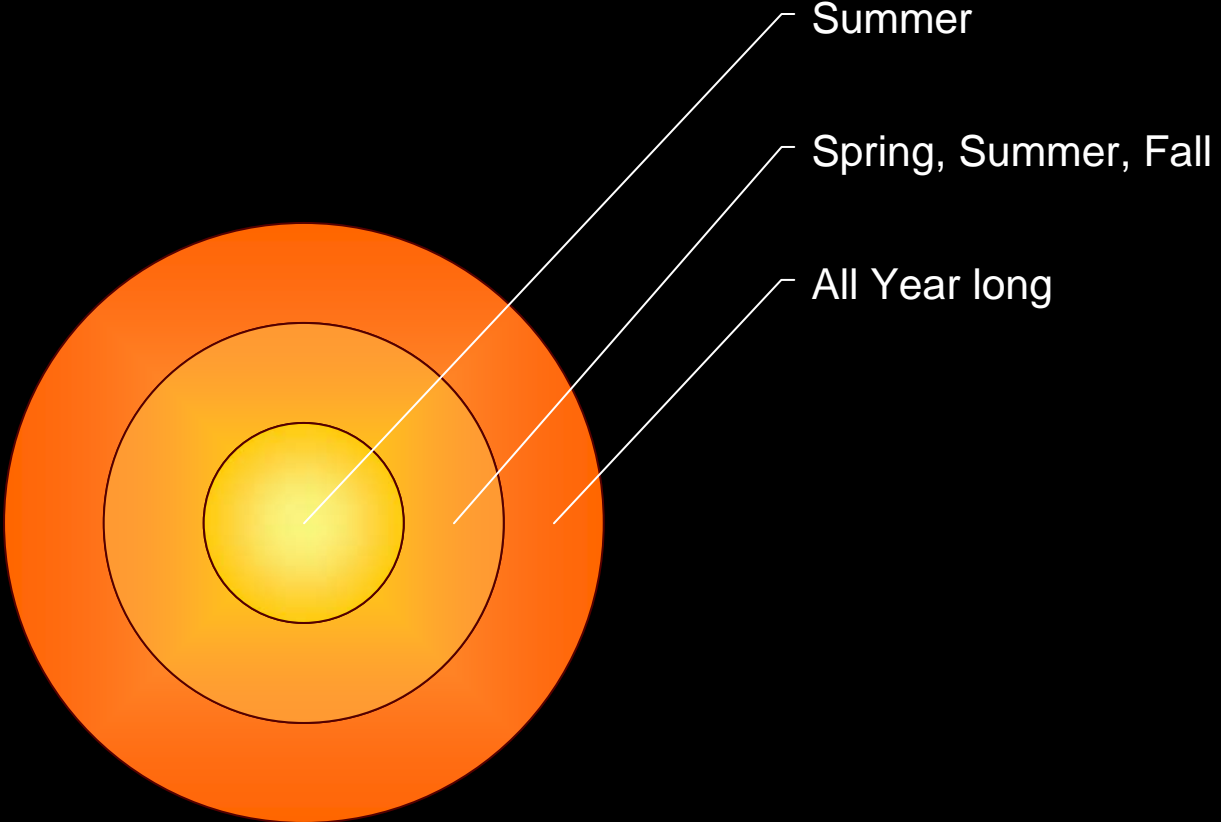
¹Sullivan, A.F. 1999. Community Gardening in Rural Regions: Enhancing Food Security and Nutrition. Center on Hunger and Poverty Tufts University

Types of Community Gardens

1. Community Garden composed of individual plots.
2. Youth/School gardens
3. Entrepreneurial/job training market gardens
4. Communal Plot
5. Food/Pantry gardens
6. Therapy Gardens
7. Demonstration Gardens

Set Reasonable Goals





What can a 10 x 10 ft. Subsistence Garden produce?



- 10 lbs. zucchini
 - 5 lbs. potatoes
 - 1 broccoli
 - 1 cabbage
 - 12 turnips
 - 3 heads of lettuce
 - 12 carrots
 - 5 lbs. of snap beans
- = about 50 lbs. of vegetables worth \$300*

*Estimated



Sample Budget

Item	Amount	Cost/person
Seeds	~10 Various packets	\$0 (provided by TCC)
Seed Potatoes	5 lb.	\$4
Fertilizer	3 cups	\$5
Live plants	15 plants	\$10
Rototiller		\$1200
Greenhouse		\$ 500

Average per tribal member cost: \$20

Community gardening cost: \$1700 (plus gas, parts overtime)

Pros and Cons of Home Gardens Compared with Community Gardens

Garden types:	Pros	Cons
Home	<ol style="list-style-type: none">1. May do more work because of convenience2. Easier to guard against pests and vandals	<ol style="list-style-type: none">1. Need your own tools, greenhouse, water, space, and fence.2. Usually take care of it alone
Community	<ol style="list-style-type: none">1. Share tools, fence, space, greenhouse, water2. Good if people don't have space to garden3. Arrange so you take turns watering garden	<ol style="list-style-type: none">1. How do you keep track of work?2. Easier for vandalism

From Idea to Action--10 Steps to Success*

1. Does the *community* want a community garden?
2. Hold a meeting with interested people—Identify purpose of garden.
3. Find and evaluate potential garden sites.
4. Identify resources needed for starting a garden.
5. Determine how you will fund-raise for this budget.
6. Hold a Second meeting
7. Develop a Garden plan.
8. Establish gardener guidelines and draft the gardener application.
9. Prepare and develop the site.
10. Celebrate your success!

*From the Community Gardening Toolkit—University of Missouri Extension Service

Step 1: Does the *community* want a community garden?

1. Do a survey. . .
 1. By phone
 2. Hand one out at the Tribal Council
 3. Interview individuals and record answers
 4. TCC Extension will help you & is already in the process of doing these surveys.
2. Identify the type of Community garden people want and how many hours per week they envision spending in the garden.

If there is at least 10 people interested in a Community Garden then move on to **Step 2** . . .



Step 2: Hold a Meeting to determine the purpose of the Community Garden.

A community garden can mean many things to different people. A good way to figure this out is by deciding what the purpose of the garden is.

1. Is it to provide a source of fresh, locally produced food?
2. Is it to beautify the village?
3. Is it to provide positive, healthy activities for the community?
4. Is it a combination of these?
5. Have a group brainstorming session where everything is considered; then prioritize.

Individual Plots

- Each person cares for their own plot
- They plant what they like, weed, water, and harvest their own plots
- You can also have individual pots in a greenhouse
- Tools, fence, water, and space is shared.



Photo by Heidi Rader

Communal Plots

- A good manager is more important for a Communal plot.
- Members of the garden could sign-in hours.
- You could say that each member has to work 2 hours/week in the communal plot if they want to receive vegetables.



Photo by Heidi Rader

Step 3: Find and Evaluate potential Garden sites

1. Does the site get at least 6 hours of direct sun-light in the spring summer and fall?
2. Is there water available?
3. Is the site big enough?
4. Is it flattish?
5. How close is the site to the people who plan to use it?
6. Is the site visible?
7. Is it fenced?
8. Was the soil contaminated at any point?
9. Is the soil rocky?
10. Could the land be donated or leased long term?

Step 4: Identify budget needed for supplies and labor

1. Some infrastructure and supplies necessary are for start up costs while others are needed annually.
2. Annually
 1. Seeds
 2. Fertilizer
 3. Seed potatoes
 4. Transplants
 5. Community Garden Coordinator?
3. Start-up
 1. Tools
 2. Greenhouse
 3. Rototiller
 4. Fence
 5. Water pump/Irrigation
4. Garden know-how
 1. Are those interested in a Community Garden knowledgeable about gardening?
 2. Are there Master Gardeners or other knowledgeable gardeners that will volunteer their time?
 3. Do garden workshops need to be scheduled?
 4. Are those interested in the Community Garden willing/able to take the Alaska Master Gardener Online Course?

Step 5: Determine ways to fund-raise for the estimated budget.

1. Membership fees
2. Fund-raising drives
3. Produce sales
4. Sponsorship of local businesses
5. Local agencies may be able to contribute in-kind or financial support (schools, health-clinic, tribal Council, Extension Service)
6. Grants from government agencies or private foundations



Photo by Heidi Rader

TCC Agriculture/Extension currently provides seeds for TCC Gardeners for free!

Step 6: Hold a second meeting

1. As a group, evaluate potential garden sites
2. Look at budget and decide on how group will find funds.
3. Have any goals, values, or vision of garden changed?
4. Do you have a garden leader or leadership team?

Step 7: Develop a Site plan.

1. Individual or Communal plots?
2. Location and size of garden beds
3. Total size of lot
4. How many people want to garden?
5. Paths
6. Compost bins
7. Shed
8. Garden name?
9. Has a long-term lease been drafted?

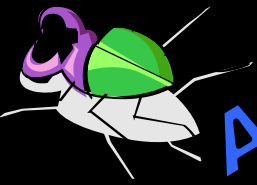
Step 8: Establish gardener guidelines and draft the garden application.

1. Application or membership fee?
2. Plot maintenance?
3. Garden maintenance?
4. End of season?
5. Composting?
6. Use of Materials and tools?
7. Water?
8. Pets and children?
9. Use of Alcohol and drugs?
10. What happens if garden rules are violated?

Step 9: Prepare and Develop the site

1. Now you're ready to prepare the site.
2. Scheduling regular work days with gardeners who have committed to the garden is a good way to go.
3. A Garden coordinator is helpful at this stage.





Alaska Master Gardener Online!

Come learn about:

- *Vegetables*
- *Flowers*
- *Lawns*
- *Landscaping*
- *And much more!*
- *Ways to*

garden longer
(Take home frost cloth!)



**Get Answers to
your Gardening
Questions!**
**Meet other
Gardeners
across
Alaska!**



With Heidi Rader
Agriculture & Horticulture Agent for UAF &
Tanana Chiefs Conference
Contact: ffhbr@uaf.edu 1-800-478-6822

Give back to your community!

Bring your garden questions!





Photo provided by Freda Beasley of Galena



Photo provided by Freda Beasley of Galena



Photo provided by Freda Beasley of Galena



Photo provided by Freda Beasley of Galena

Photo provided by Freda Beasley of Galena



Photo provided by Freda Beasley of Galena





Step 10: Celebrate your success

Potlucks

Garden parties

Show off!



For more information on Community Gardening in Alaska!

1. For more information on gardening in the Tanana Chiefs Conference Region,
CONTACT: Heidi Rader
F.R.T.E.P. Director with
UAF CES & TCC
Tanana Chiefs Conference Agriculture
122 First Avenue, Suite 600
Fairbanks, Alaska 99701
Phone: (907) 452-8251 ext. 3477 or
1-800-478-6822 ext. 3477
Fax: (907) 459-3954
email: Heidi.Rader@alaska.edu
2. Visit TCC Agriculture/Extension's website at:
<http://cals.arizona.edu/myice/tribe/tanana-chiefs-conference> You can also access
this site by going to www.tananachiefs.org, clicking on Tribal Development, and
then Agriculture!
3. Visit the University of Alaska Fairbanks Cooperative Extension Service website at
www.uaf.edu/ces for information on everything from gardening to saving energy to
home food preservation for Alaska!
4. University of Missouri: *Community Gardening Toolkit*:
<http://extension.missouri.edu/publications/DisplayPub.aspx?P=MP906>
5. University of Florida: *Starting a Community Garden* <http://edis.ifas.ufl.edu/EP124>

This material is based upon work supported by the Cooperative State Research, Education, and Extension Service, U.S. Department of Agriculture, under Award No. 2006-41580-03456.

Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the author (s) and do not necessarily reflect the view of the U.S. Department of Agriculture.

The University of Alaska Fairbanks Cooperative Extension Service programs are available to all, without regard to race, color, age, sex, creed, national origin, or disability and in accordance with all applicable federal laws. Provided in furtherance of Cooperative Extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Peter Pinney, Interim Director, Cooperative Extension Service, University of Alaska Fairbanks. The University of Alaska Fairbanks is an affirmative action/equal opportunity employer and educational institution.

To simplify information, trade names of products have been used. No endorsement of named products by the University of Alaska Fairbanks Cooperative Extension Service is intended, nor is criticism implied of similar products that are not mentioned.

All photos by Heidi Rader are:



<http://creativecommons.org/licenses/by-nc/3.0/us>

Heidi.rader@alaska.edu

122 First Avenue, Suite 600

Fairbanks, Alaska 99701

Phone: 1-800-478-6822 ext. 3477

<http://>

<http://cals.arizona.edu/myice/tribe/tanana-chiefs-conference>

Heidi Rader, UAF CES