How Does Your Garden Grow?

Tuesday, April 14, 2015
Rachel Lord
Tonight’s Agenda!

• Inletkeeper overview
• Food security
• Watershed-friendly gardens
• Water quality & irrigation
• G.A.P. (not the store)
• Head to the lab for soil testing!
Cook Inletkeeper

Cook Inlet Watershed
Southcentral Alaska
Cook Inletkeeper

Clean water
Healthy salmon
Engaged Alaskans
Clean energy
Strong communities
Gardening?
Food Security

95% of our food is imported!

=$1.9 billion spent on food from Outside
Direct farmer sales rose 32% in Alaska between 2007-2012!

Over $4 million in high tunnel grants from USDA to Alaskans.
Your Garden

- Food!
- Seeds
- Care
- Weather
- Planning
- Soil
- Water
- Storage
Revolution!
Watersheds

A Watershed

www.hawp.org
Watersheds

Watershed Water Quality

You

Upstream

Downstream
Septic Systems

Diagram showing a septic system with a house, septic tank, and drainfield. The diagram also illustrates soil layers, soil absorption, and purification processes. 

Legend:
- Well
- Septic tank
- Drainfield
- Soil layers
- Soil absorption
- Purification
- Ground water

- 50 ft. Septic Tanks
- 50 ft. Livestock Yards
- Silos Septic Leach Fields
- 100 ft. Petroleum Tanks
- Liquid-Tight Manure Storage
- Pesticide and Fertilizer Storage and Handling
- 250 ft. Manure Stacks
Fuel Tanks
Fertilizers/Pesticides

10-30% Efficiency increases can be achieved from the precise management of fertilizer use
Riparian Zones

50’ Habitat Protection District in the KPB

ADF&G Anadromous Waters Catalog
www.adfg.alaska.gov/sf/SARR/AWC
Water Quality Testing

- Water source
- Treatment?
- Parameters
- Cost & Quality
Good Agricultural Practices

Table of Contents:

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>2</td>
</tr>
<tr>
<td>Water</td>
<td>8</td>
</tr>
<tr>
<td>Soil Amendments</td>
<td>17</td>
</tr>
<tr>
<td>Physical Location</td>
<td>10</td>
</tr>
<tr>
<td>Personnel</td>
<td>21</td>
</tr>
<tr>
<td>Sanitary Facilities</td>
<td>24</td>
</tr>
<tr>
<td>Field Sanitation</td>
<td>27</td>
</tr>
<tr>
<td>Packing Shed Sanitation</td>
<td>29</td>
</tr>
<tr>
<td>Cleansers and Sanitizers</td>
<td>36</td>
</tr>
<tr>
<td>Documentation</td>
<td>38</td>
</tr>
<tr>
<td>Appendix</td>
<td>40</td>
</tr>
</tbody>
</table>

Audit questions designated by * are the most vital GAP considerations. Compliance with these issues is absolutely essential in controlling microbial risk, or to comply with Federal, State and local laws and codes.
Irrigation
Irrigation
Water Rights

Alaska DNR

Water is a **common property resource** in Alaska

The legal right to use surface or ground water

Stays with the land!

“Significant” amount of water
Invasive Species

Plant Alternatives for Alaskan Gardens

Avoid Planting These Invasive Plants

- Purple Loosestrife
- Garlic Mustard
- Orange Hawkweed
- Common Tansy
- Ornamental Japanese knotweed
- European Buckthorn
- European Ribwort
- Common Teasel
- Japanese Knotweed
- Oyster Daisy
- European Bellflower
- Red Vein
- White Sweetclover
- Creeping Charlie
- Invasive plants have the ability to thrive and spread aggressively outside their natural range, without insects, diseases, and feeding animals that naturally keep in growth in check. Invasive plants can alter ecosystems processes and ultimately impact natural and agricultural resources. It is important to know what you’re planting!

Replace With These Plant Alternatives

- Lupine
- Smooth Calla Lily
- Queen of the Prairie
- Bitterroot
- Redbud
- Wild Hyacinth
- Fireweed
- Fireweed
- Russian Sage
- Native plant species are best identified by a professional, so it is important to know what you’re planting!

For more information on invasive plants visit
http://plants.alaskaextension.org/ or locally: identifying plants in your garden, contact UAF Cooperative Extension Service.

Published by the University of Alaska. Produced in cooperation with the Alaska Cooperative Extension Service.

Photo Credits: Molter, Bampa, Gajda, Dandy, Friedl, O'Keefe, Green, Peebles, Dressler, Anvik, Dufette, Janacek, Harbuck, Day, McDonald, Crockett, and graphic design by S. Melick.


Published for the University of Alaska, Cooperative Extension Service.

Printed in the USA. January 2014.
Invasive Species

Prevention & Education Training
FREE!

April 24, 2015
1-4:30PM

Kenai Peninsula Cooperative Weed Management Area, Homer SWCD, Kachemak Bay Research Reserve

www.kenaiweeds.org or call 235-8711 x5
Soil Testing: Overview

- Timing matters
- Sampling methods matter
- Sending off samples
- Cooperative Extension guidance!
- Hanna Meter Overview
Soil pH influences plant growth in three major ways:

- affects the availability of plant nutrients
- affects the activity of soil microbes
- affects the availability of soil metals that can be toxic to plants in high concentrations
### Conductance

Hanna meters read in uS/cm. To convert, divide by 1000.

**EXAMPLE:** 589 uS/cm = .586 mmhos/cm or .586 dS/m

<table>
<thead>
<tr>
<th>Saturation extract (mmhos/cm)</th>
<th>Salt Rank</th>
<th>Interpretation and possible effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-2</td>
<td>Low</td>
<td>Very little chance of injury on all plants</td>
</tr>
<tr>
<td>2-4</td>
<td>Moderate</td>
<td>Sensitive plants and seedlings of others may show injury</td>
</tr>
<tr>
<td>4-8</td>
<td>High</td>
<td>Most non-salt tolerant plants will show injury; salt sensitive plants like carrots, beans and seedlings will show severe injury</td>
</tr>
<tr>
<td>8-16</td>
<td>Excessive</td>
<td>Salt-tolerant plants will grow; most others show severe injury</td>
</tr>
<tr>
<td>16+</td>
<td>Very Excessive</td>
<td>Very few plants will tolerate and grow</td>
</tr>
</tbody>
</table>
Resources

Brookside Laboratories (www.blinc.com-soils.htm, 419.977.2766)

Alaska Cooperative Extension (Janice Chumley) (www.uaf.edu/ces/districts/kenai/, 907.262.5824)

Homer Soil & Water Conservation District (www.homerswcd.org, 235.8177 x5)

Natural Resources Conservation Service (NRCS Homer Office) 235.8177 x107

NRCS Web Soil Survey (websoilsurvey.sc.egov.usda.gov/)

KPB GIS Parcel Viewer (mapserver.borough.kenai.ak.us/kpbmapviewer)

ADFG Anadromous Waters Catalog (www.adfg.alaska.gov/sf/SARR/AWC)

ADNR Water Rights in Alaska (dnr.alaska.gov/mlw/water/wrfact.cfm)

Water Testing (inletkeeper.org/clean-water/safe-drinking-water/get-your-water-tested)

Cook Inletkeeper (www.inletkeeper.org)

Homer Farmers Market (www.homerfarmersmarket.org)

Sustainable Homer (www.sustainablehomer.org)

Alaska Marine Conservation Council (www.akmarine.org)