

# Elodea in Lake Hood:

*the stars align in an emergency*



**Heather A.M. Stewart**

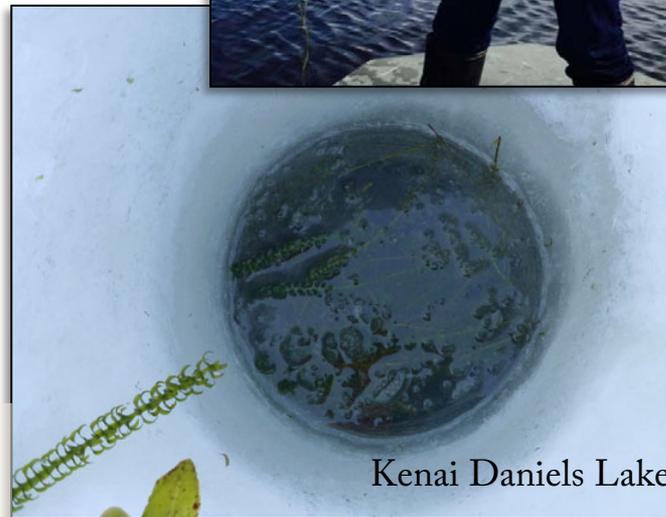
Invasive Plant and Agricultural Pest Coordinator  
DNR, Division of Agriculture

October 22, 2015



# *Elodea*: Alaska's first submerged aquatic invasive plant

- Reproduces asexually by fragmentation
- Survives in water columns up to 30' deep
- Continues photosynthesis under Alaskan ice conditions when native plants have senesced
- Creates monocultures, lowering biodiversity



# Why should we care?

- Impedes recreation and can impair safety
  - Fouls boat propellers
  - Can affect floatplane launching
  - Swimming
- Lowers lakeshore property values
  - Launch sites
  - Shore habitats
- Potentially degrades salmon spawning habitat
  - Slows stream velocities
  - Increases sedimentation rates
  - Increases dissolved oxygen
  - Prime invasive pike habitat

Anchorage Sand Lake



Fairbanks Chena Slough



Mat-Su Alexander Lake

# Why should we care?

- Float planes are a vector!
- Lake Hood:
  - Recognized as the busiest seaplane base in the world
  - In 2012: 67,000 flight operations (take-offs and landings)
  - June 2012: 13,159 operations
    - Average 439 operations a day



| Sunday           | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|------------------|--------|---------|-----------|----------|--------|----------|
| <b>June 2015</b> |        |         |           |          |        |          |
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- June 10<sup>th</sup>: NPS Amy Larson finds Elodea in Lake Hood at Department of Interior slips
- June 12<sup>th</sup>: USFWS and DNR are informed
- June 16<sup>th</sup>: Other Federal and local agencies are informed
  - Working with airport management: DOT on next steps
- June 24<sup>th</sup>: DNR, DOT, and ADF&G survey Lake Hood

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# LAKE HOOD

## Elodea Survey

June 24th, 2015

Heather Stewart, DNR  
Kristine Dunker, ADF&G

### Elodea

- Present
- Not Detected



# Alaska Dispatch News



NEWS POLITICS VOICES ARCTIC CULTURE SPORTS ADVENTURE MULTIMEDIA  
 Obituaries Nation-World Anchorage Fairbanks Mat-Su Crime Business Energy Science Cannabis News

### Environment

## Invasive weed makes its way into world's largest floatplane base

Yereth Rosen | Alaska Dispatch News | June 24, 2015

Email Print Tweet + 0 - + Text Size

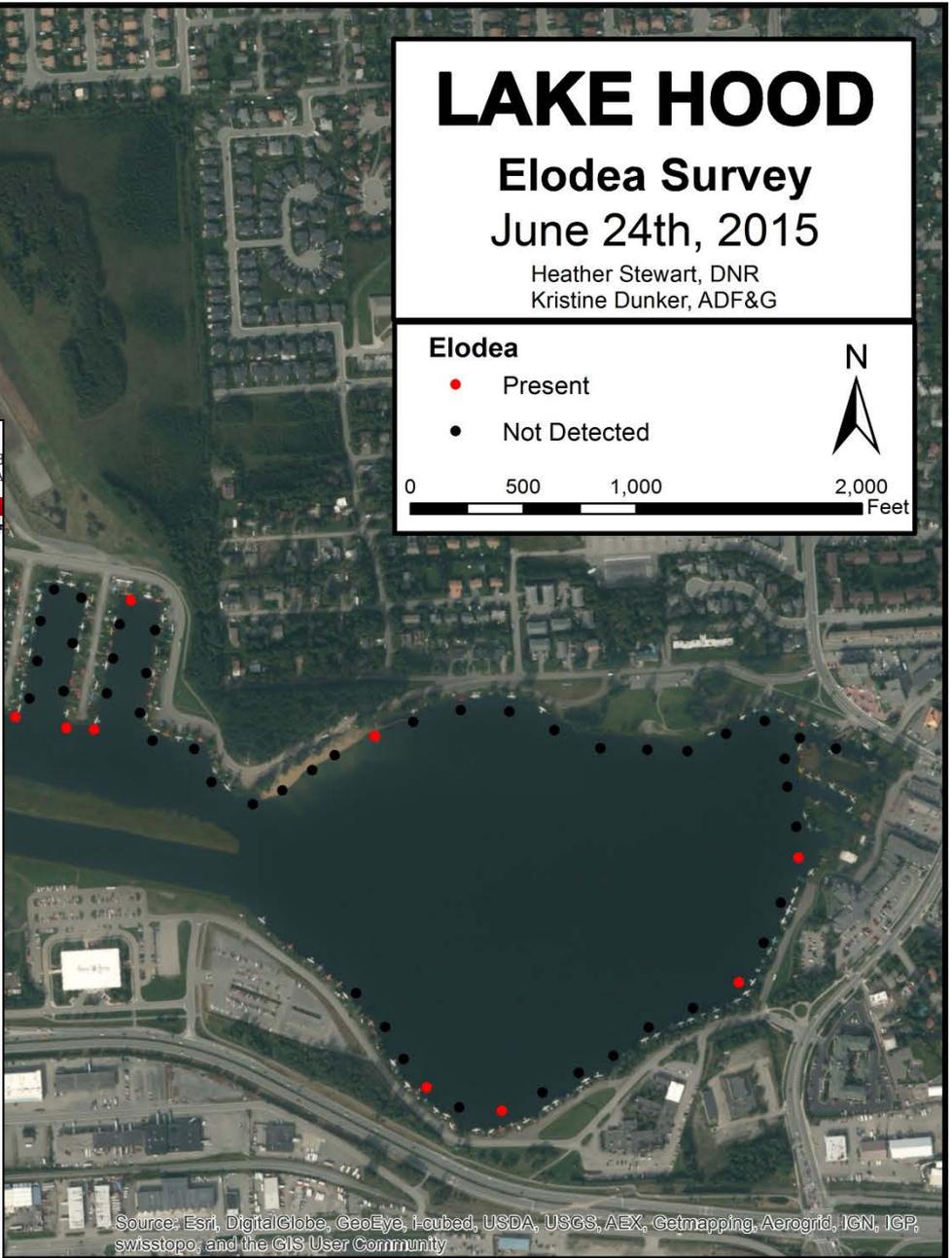
### Photos: Lake Hood floatplane base weed survey

PLAY



Heather Stewart, with the Alaska Department of Natural Resources, and Kristine Dunker, a research biologist with the Alaska Department of Fish and Game, survey the weeds in Lake Hood Float Plane Base on Wednesday, June 24, 2015. The invasive species, Elodea, has been found in a small area of Lake Hood.

Bob Hillinen / ADN



Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

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  - Diquat is purchased by Kenai Borough
  - DNR has DEC's Pesticide Use Permit Emergency Exemption form



### Justification for managing Elodea in Lakes Hood/Spennard:

Lakes Hood/Spennard receives an average of 190 flights per day, making it the world's busiest float plane airport. Elodea, Alaska's first submersed aquatic invasive plant species, was discovered in Lakes Hood/Spennard on June 10<sup>th</sup>, 2015. Elodea is particularly problematic because of its ability to propagate through vegetative growth via fragmentation, and float planes, making Lakes Hood/Spennard a high risk area for allowing Elodea to spread in Alaska.

The Airport's goal is to provide slip owners, visiting pilots, and passengers who fly into Lakes Hood/Spennard with a safe flying and maneuvering environment. The Airport aims to maintain the environment and water quality of the lakes while providing safe passage when taxiing and landing (Ted Stevens Anchorage International Airport, 2005). The Department of Environmental Health's goal is statewide eradication of Elodea because of the potential environmental, economic, and safety impacts Elodea can cause in Alaska.

#### Human Health and Safety:

If Elodea is unmanaged and allowed to establish into thick, dense stands, it could pose a safety hazard for float plane pilots and lake management operators on Lakes Hood/Spennard. At the lake's surface, Elodea can hinder the pilot's control over rudder direction and taxiing direction. Loss of control of where the plane is travelling can potentially endanger the pilot's safety and the safety of those nearby. Unlike landplanes, taxicabs, and seaplanes, float planes are always in motion, and make collisions nearly unpreventable when controlling Elodea and the excessive vegetation in a timely manner can prevent accidents on Lakes Hood/Spennard.

According to the FAA Seaplane Operations Handbook (2004), safe landing area obstructions lying below the surface that could foul the water rudders. The handbook lists safety inspection protocols before take-off include the removal of any vegetation from the water rudder assembly. In order to comply with the safety standards of the handbook, Elodea and other vegetation should be properly managed in Lakes Hood/Spennard.

#### Environmental harm:

Freshwater ecosystems are often severely impacted by Elodea invasion, and it is a high priority management issue. Elodea can form dense stands and canopies in the water (water surface) altering water chemistry, displacing native vegetation, and making the water unsuitable for wildlife, resident fish populations, amphibians, and invertebrates. The Mat-Su Basin Salmon Habitat Partnership identified Elodea as a potential barrier to Chinook salmon spawning by reducing spawning habitat in a structured habitat. The 2013 Strategic Action Plan alongside other aquatic invasive species. Establishing Elodea lowers the biodiversity of waterbodies, which can diminish the productivity of the water. In Alaska, it is well documented that float planes can easily transport fragments of Elodea in both remote and populated areas. If Elodea is not managed in the busiest areas as a fast response to its discovery, our remote natural resources, including fisheries, are impacted.



#### Economic Impact:

The costs of controlling invasive and nuisance aquatic vegetation which include mechanical harvesting, underwater cultivation, diver hand-pulling, water level manipulation, biological control, and aquatic herbicide application, exceeds many millions of dollars annually (Eiswerth et al. 2000). Elodea and other aquatic invasive species can reduce property values on infested lakes. Thus, policies and opportunities for rapid response management to prevent future invasions can provide significant benefits to lakefront properties, community members, and specifically float plane pilot slip owners on Lakes Hood/Spennard.

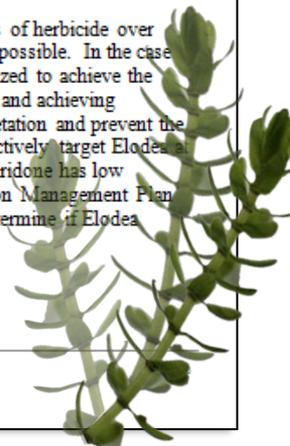
A study in New Hampshire found a 21-43% decline in property values associated with an infestation of variable milfoil, which also reproduces vegetatively, can clog water bodies, crowd out native aquatic plant species, and reduce recreational activities like boating and swimming (Halstead et al. 2003). In a Wisconsin study of 170 lakes infested with Eurasian watermilfoil, property values were reduced by an average of 13% (Horsch and Lewis 2009). A similar study in Washington also with Eurasian watermilfoil showed a 19% decline in property values (Olden and Tamayo, 2014).

Quantified impact on Alaska's freshwater resources is not yet known for Elodea. However, rapid timeliness for management of Elodea is worth preserving our profitable freshwater resources at the present state. If we give Elodea an opportunity to spread to other waterbodies, our costs of management will most certainly increase and valuable, profitable resources will be lost indefinitely. Economic impacts to Alaska due to Elodea are preventable with rapid management action in Lakes Hood/Spennard.

#### Justification for the use of herbicides:

Herbicide control of Elodea is the most effective method to achieve eradication and prevent further spread. Physical or mechanical controls for this plant are limited because Elodea reproduces readily from small fragments. Any physical disturbance of the plant easily breaks the stems into pieces that are capable of reproducing in new locations. In Lakes Hood/Spennard, it is speculated that the operation of the DOT vegetation harvester is only a temporary fix to excessive vegetation, and leaves plant fragments in the water, potentially distributing Elodea to establish in different areas around the lake. Anderson (2015) has quantified up to 14% increase in fragments of Eurasian watermilfoil after a vegetation harvester was operated in Lake Tahoe.

Elodea is difficult and expensive to eradicate, sometimes requiring multiple treatments of herbicide over two or three growing seasons. Therefore, it is important to begin treatment as soon as possible. In the case of Lakes Hood/Spennard, both a contact herbicide and a systemic herbicide will be utilized to achieve the goals of maintaining safe standards for float plane pilots, lake management operators, and achieving eradication. Diquat, a contact herbicide, will reduce the current amount of unsafe vegetation and prevent the immediate spread of Elodea by float planes. Fluridone, a systemic herbicide, will selectively target Elodea at low application rates that have limited impacts on many other aquatic plants. Also fluridone has low toxicity to fish and other non-target species. We will use the DOT's Aquatic Vegetation Management Plan to eradicate Elodea from Lakes Hood/Spennard, and continually conduct surveys to determine if Elodea exists in presently unknown Anchorage waters.





- Diquat
  - Contact herbicide
  - *Goal:* immediately reduce biomass and prevent the spread of Elodea by floatplanes, and reduce the possibility of safety being compromised by vegetation
  - Application: littoral zone at 2 gallons per acre

**Littora®**  
Landscape and  
Aquatic Herbicide

**SPECIMEN**

To prevent accidental poisoning, never put this product into food, drink, or other containers. Do not use measuring utensils for subsequent food use. Use steadily in accordance with entire label.

**Active Ingredient**  
Diquat dibromide [6,7-dihydro-2H-pyridin[1,2-a]2',1'-c]pyrimidin-6(1H)-one 37.3%  
Other ingredients 62.7%  
**Total** 100.0%

Contains 2 pounds diquat cation per one (1) U.S. gallon (3.75 pounds diquat dibromide per gallon).

**Keep Out of Reach of Children**  
**CAUTION / PRECAUCIÓN**

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

Refer to inside of label booklet for additional precautionary information and Directions for Use, including First Aid and Storage and Disposal.

**NOTICE:** Read the entire label before using. Use only according to label directions. Before buying or using this product, read Terms and Conditions of Use, Warranty Disclaimer, Inherent Risk of Use and Limitation of Remedies inside label booklet. If terms are unacceptable, return at once unopened.

Manufactured for: SePRO Corporation  
11550 North Meridian Street, Suite 600  
Carmel, IN 46032, U.S.A. EPA Reg. No. 67890-53  
FFL20130321

**PRECAUTIONARY STATEMENTS**

**Hazards to Humans and Domestic Animals**

**Keep Out of Reach of Children**  
**CAUTION / PRECAUCIÓN**

Harmful if inhaled. Harmful if swallowed. Causes moderate eye irritation. Avoid breathing spray mist and contact with eyes or clothing.

FIRST AID

|                     |   |
|---------------------|---|
| <b>If inhaled</b>   | <ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible.</li> <li>• Call a poison control center or doctor for further treatment advice.</li> </ul>  |
| <b>If swallowed</b> | <ul style="list-style-type: none"> <li>• Call a poison control center or doctor immediately for treatment advice.</li> <li>• Have person sip a glass of water if able to swallow.</li> <li>• Do not induce vomiting unless told to do so by the poison control center or doctor.</li> <li>• Do not give anything to an unconscious person.</li> </ul> |
| <b>If in eyes</b>   | <ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15 - 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>  |

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. In case of emergency endangering health or the environment involving this product, call **INFOTRAC** at 1-800-535-5053.

**Note to Physicians:** To be effective, treatment for diquat poisoning must begin **IMMEDIATELY**. Treatment consists of binding diquat in the gut with suspensions of activated charcoal or bentonite clay, administration of cathartics to enhance elimination, and removal of diquat from the blood by charcoal hemoperfusion or continuous hemodialysis.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

Some materials that are chemical-resistant to this product are: barrier laminate, butyl rubber ≥14 mils, nitrile rubber ≥14 mils. If you wear more options, follow the instructions for Category A on an EPA Chemical Resistance Category Selection Chart.

**Mixers, Loaders, Applicators and Other Handlers Must Wear:**

- Coveralls over long-sleeved shirt and long pants;
- Chemical-resistant gloves;
- Chemical-resistant footwear plus socks;
- Protective eyewear;
- Chemical-resistant headgear for overhead exposure;
- Chemical-resistant apron when cleaning equipment, mixing, or loading; and
- Face shield when mixing or loading.

**Exception:** After this product has been diluted to 0.50% Littora or less in water (i.e., the labeled rate for some spot applications), applicators for **AQUATIC SURFACE APPLICATIONS** must, at a minimum, wear the PPE as described in the above section.):

- Long-sleeved shirt and long pants;
- Shoes plus socks;
- Waterproof gloves; and
- Protective eyewear.

**Exception:** At a minimum, applicators for **AQUATIC SUBSURFACE APPLICATIONS** must wear (Note: Mixers and loaders for this application must still wear the PPE as described in the above section.):

- Short-sleeved shirt and short pants;
- Waterproof gloves; and
- Chemical-resistant footwear plus socks.

**USER SAFETY REQUIREMENT**

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

ENGINEERING CONTROLS

Mixers and loaders supporting aerial applications are required to use closed systems that provide dermal protection. The closed system must be used in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4)]. When using the closed system, mixers and loaders' PPE requirements may be reduced or modified as specified in the WPS.

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

USER SAFETY RECOMMENDATIONS

**Users should:**

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

**ENVIRONMENTAL HAZARDS**

This pesticide is toxic to aquatic invertebrates. **For Terrestrial Uses** do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment wash waters. **For Aquatic Uses** do not apply directly to water except as specified on this label.

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- July 1<sup>st</sup>: Plan of attack is organized and agreed on
  - Diquat is purchased by Kenai Borough
  - DNR has DEC's Pesticide Use Permit Emergency Exemption form
- July 10<sup>th</sup>: DNR submits PUP to DEC
- July 14<sup>th</sup>: DNR receives Emergency Exemption approval by DEC
  - Receive MOU and ADF&G permit
- July 24<sup>th</sup>: First herbicide application with Diquat
  - **44 days after discovery!**



# July 24<sup>th</sup>:

## Diquat application







| Sunday             | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
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| <b>August 2015</b> |        |         |           |          |        | 1        |
| 2                  | 3      | 4       | 5         | 6        | 7      | 8        |
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- August:
  - Monitoring effects of Diquat
  - Reporting to DEC
  - DNR purchased Fluridone (procurement process)
- August 4<sup>th</sup> – 5<sup>th</sup>: Applied Fluridone in other Anchorage lakes
- August 17<sup>th</sup>: APDES Permit acquired

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- September 22<sup>nd</sup> – 23<sup>rd</sup>: Fluridone applications in Lake Hood
  - 22<sup>nd</sup>: Sonar One liquid
  - 23<sup>rd</sup>: Sonar Genesis pellets



- **Fluridone**
  - *Goal:* Eradicate Elodea
  - Whole lake treatment
  - Liquid application at 1 gallon per 23 acre-ft
  - Pelleted application at 1 lb per 2 acre-ft
  - Targeted concentration: ~8 ppb

# Sonar<sup>®</sup> Genesis

## Aquatic Herbicide

**SPECIMEN** SePRO

AN HERBICIDE FOR MANAGEMENT OF FRESHWATER AQUATIC VEGETATION IN PONDS, LAKES, RESERVOIRS, POTABLE WATER SOURCES, DRAINAGE CANALS AND IRRIGATION CANALS.  
 For use in New York State, comply with Section 24 (C) Special Local Need labeling for Sonar Genesis, SLN NY12006.

Active Ingredient: Fluridone (5-methyl-5-phenyl-3-(2,4,6-trifluoromethylphenyl)-4,1H-pyridin-2-one) 4.3%  
 Other Ingredients 57.7%  
**TOTAL 100.0%**  
 Contains 0.5 pounds active ingredient per gallon

**Keep Out of Reach of Children  
 DANGER / PELIGRO**

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

Refer to the inside of the label booklet for additional precautionary information and Directions for Use.

**NOTICE:** Fluridone is a selective systemic aquatic herbicide for management of freshwater aquatic vegetation in ponds, lakes, reservoirs, drainage canals, irrigation canals and rivers. Sonar Genesis is a pelleted formulation containing 5% fluridone. Sonar Genesis is absorbed from water by plant shoots and from hydroxyl by the roots of aquatic vascular plants. For in-water treatments, it is important to maintain the specified concentration of Sonar Genesis in contact with the target plants for a minimum of 45 days. Rapid water movement or any condition which results in rapid dilution of Sonar Genesis in treated water will reduce its effectiveness. In susceptible plants, Sonar Genesis inhibits the formation of carotene. In the absence of carotene, chlorophyll is rapidly degraded by sunlight. Herbicidal symptoms of Sonar Genesis appear in seven to ten days and appear as white (chlorotic) or pink growing points in many susceptible plant species. Under optimum conditions, a minimum of 30 to 30 days may be required before the desired level of aquatic plant management is achieved. Plant species susceptibility to Sonar Genesis may vary depending on time of year, stage of growth, and water movement. For best results, apply Sonar Genesis prior to initiation of weed growth or when weeds begin active growth. Application to mature target plants may require an application rate at the higher end of the specified rate range and may take longer to control.

**IN CASE OF EMERGENCY**  
 In case of large-scale spillage regarding this product, call INFOTRAC at 1-800-335-5053.  
 In case of medical emergency regarding this product, call:

- Your local doctor for immediate treatment
- Your local poison control center (hospital)
- INFOTRAC: 1-800-335-5053

Steps to be taken in case material is released or spilled:

- Use and contain the spill with inert material (sand, earth, etc.) and transfer liquid and solid (slurry) material to separate containers for disposal.
- Remove contaminated clothing, and wash affected skin areas with soap and water.
- Wash clothing before reuse.
- Keep the spill out of all sewers and open bodies of water.

**PRODUCT INFORMATION**  
 Sonar Genesis is a selective systemic aquatic herbicide for management of freshwater aquatic vegetation in ponds, lakes, reservoirs, drainage canals and irrigation canals, including dry or de-watered areas of these areas. Sonar Genesis is absorbed from water by plant shoots and from hydroxyl by the roots of aquatic vascular plants. For in-water treatments, it is important to maintain the specified concentration of Sonar Genesis in contact with the target plants for a minimum of 45 days. Rapid water movement or any condition which results in rapid dilution of Sonar Genesis in treated water will reduce its effectiveness. In susceptible plants, Sonar Genesis inhibits the formation of carotene. In the absence of carotene, chlorophyll is rapidly degraded by sunlight. Herbicidal symptoms of Sonar Genesis appear in seven to ten days and appear as white (chlorotic) or pink growing points in many susceptible plant species. Under optimum conditions, a minimum of 30 to 30 days may be required before the desired level of aquatic plant management is achieved. Plant species susceptibility to Sonar Genesis may vary depending on time of year, stage of growth, and water movement. For best results, apply Sonar Genesis prior to initiation of weed growth or when weeds begin active growth. Application to mature target plants may require an application rate at the higher end of the specified rate range and may take longer to control.

**SonarOne<sup>®</sup>**  
 Aquatic Herbicide

**SPECIMEN** SePRO

AN HERBICIDE FOR MANAGEMENT OF AQUATIC VEGETATION IN FRESH WATER PONDS, LAKES, RESERVOIRS, POTABLE WATER SOURCES, DRAINAGE CANALS, IRRIGATION CANALS AND RIVERS.

Active Ingredient: Fluridone (5-methyl-5-phenyl-3-(2,4,6-trifluoromethylphenyl)-4,1H-pyridin-2-one) 5.0%  
 Other Ingredients 95.0%  
**TOTAL 100.0%**  
 Contains 0.05 pound active ingredient per pound of product

**Keep Out of Reach of Children  
 CAUTION / PRECAUCIÓN**

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SonarOne is a registered trademark of SePRO Corporation.  
 SePRO Corporation 11500 North Meridian Street, Suite 600, Carmel, IN 46032, U.S.A. EPA Reg. No. 67590-01 PPL20120028

**ENVIRONMENTAL HAZARDS**  
 Do not apply to water except as specified on the label. Do not contaminate water outside the intended treatment area by disposal of equipment washwaters. Do not apply in shallow water areas. Lowest rates should be used in shallow areas where the water depth is considerably less than the average depth of the entire treatment site, for example, shallow shoreline areas. Trees and shrubs growing in water treated with SonarOne herbicide may occasionally develop chlorosis. Follow use directions carefully so as to minimize adverse effects on non-target organisms.

**DIRECTIONS FOR USE**  
 It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.  
 Read all Directions for Use carefully before applying.

**PRODUCT INFORMATION**  
 SonarOne herbicide is a selective systemic aquatic herbicide for management of aquatic vegetation in fresh water ponds, lakes, reservoirs, drainage canals, irrigation canals, and rivers. SonarOne is a pelleted formulation containing 5% fluridone. SonarOne is absorbed from water by plant shoots and from hydroxyl by the roots of aquatic vascular plants. It is important to maintain SonarOne in contact with the target plants for as long as possible. Rapid water movement or any condition which results in rapid dilution of SonarOne in treated water will reduce its effectiveness. In susceptible plants, SonarOne inhibits the formation of carotene. In the absence of carotene, chlorophyll is rapidly degraded by sunlight. Herbicidal symptoms of SonarOne appear in 7 - 10 days and appear as white (chlorotic) or pink growing points. Under optimum conditions 30 - 90 days are required before the desired level of aquatic weed management is achieved with SonarOne. Species susceptibility to SonarOne may vary depending on time of year, stage of growth and water movement. For best results, apply SonarOne prior to initiation of weed growth or when weeds begin active growth. Application to mature target plants may require an application rate at the higher end of the specified rate range and may take longer to control. SonarOne is not corrosive to application equipment.

**PRECAUTIONARY STATEMENTS**  
**HAZARDS TO HUMANS AND DOMESTIC ANIMALS**  
 CAUTION. Harmful if Swallowed. Causes moderate eye irritation. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco. Avoid contact with eyes or clothing. Wear protective eyewear.

**KEEP OUT OF REACH OF CHILDREN  
 CAUTION/PRECAUCIÓN**

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

| FIRST AID  |  |
|--|--|
| <b>If swallowed</b>  | <ul style="list-style-type: none"> <li>• Call a poison control center or doctor immediately for treatment advice.</li> <li>• Have person sip a glass of water if able to swallow.</li> <li>• Do not induce vomiting unless told to do so by a poison control center or doctor.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul> |
| <b>If in eyes</b>  | <ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15 to 20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes; then continue rinsing eye.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>   |
| <b>If on skin or clothing</b>  | <ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15 to 20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>   |
| <b>If inhaled</b>  | <ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 911 or an ambulance; then give artificial respiration, preferably mouth-to-mouth, if possible.</li> <li>• Call a poison control center or doctor for further treatment advice.</li> </ul>   |
| <b>HOTLINE NUMBER</b>  |  |
| Have the product container or label with you when calling a poison control center or doctor, or going for treatment. In case of emergency endangering health or the environment involving this product, call INFOTRAC at 1-800-335-5053. |  |

This label provides recommendations on the use of a chemical analysis for the active ingredient. SePRO Corporation recommends the use of High-Performance Liquid Chromatography (HPLC) for the determination of the active ingredient concentration in the water. Contact SePRO Corporation to incorporate this test, known as a FastTEST, into your treatment program. Other proven chemical analyses for the active ingredient may also be used. The FastTEST is referenced in this label as the preferred method for the rapid determination of the concentration of the active ingredient in the water.

Application rates are provided in pounds of SonarOne to achieve a desired concentration of the active ingredient in part per billion (ppb). The maximum application rate or sum of all application rates is 90 ppb in ponds and 150 ppb in lakes and reservoirs per annual growth cycle. This maximum concentration is the amount of product calculated as the target application rate. NOT determined by testing the concentrations of the active ingredient in the treated water.

- Use Precautions and Restrictions**
- Obtain Required Permits: Consult with appropriate state or local water authorities before applying this product to public waters. Permits and/or posting treatment notification may be required by state or local public agencies.
  - New York State: Application of SonarOne is not permitted in waters less than two (2) feet deep, except as permitted under FIFRA Section 24(c), Special Local Need registration.
  - Hydroponic Farming: Do not use SonarOne treated water for hydroponic farming unless a FastTEST has been run and confirmed that concentrations are less than 1 ppb.
  - Greenhouse and Nursery Plants: Consult with SePRO Corporation for site-specific recommendations prior to any use of SonarOne treated water for irrigating greenhouse or nursery plants. Without site-specific guidance from SePRO Corporation, do not use SonarOne treated water for irrigating greenhouse or nursery plants. FastTEST has been run and confirmed that concentrations are less than 1 ppb.



*September 24<sup>th</sup>:  
Liquid Fluridone application*





*September 25<sup>th</sup>:  
Pelleted Fluridone application*



# *The Stars Align!*



- 2005 DOT Lake Hood VMP
- Communications/Awareness
  - Public meetings for other Anchorage infestations
  - Float plane pilot's perception on safety
  - Wasn't too much of a surprise
  - The media was on our side
- Kenai Borough's willingness to participate
- Non-federal funding
  - Airport Maintenance Funds
  - NEPA process not required

# *The Stars Align!*



- Permits and permissions
  - Most already established
- Supportive and available resources
  - DOT staff
  - Equipment staged for other Anchorage treatments
  - Krissy Dunker: ADF&G
  - Matt Steffy: Homer SWCD
  - Andrew Skibo: SePRO
- **44 DAYS!**

# What's Next?

## Waterbody Information

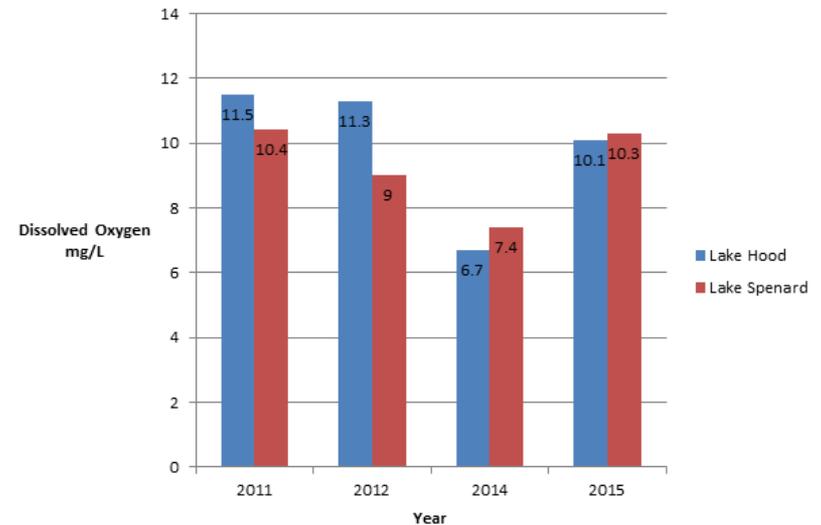
Waterbody: Lakes Hood/Spenard - AK

## Sample Information

| Lab ID | Sample Location | Test Method                            | Results | Sampling Date | Sampling Time | Temp at Receipt (C) |
|--------|-----------------|--|---------|---------------|---------------|---------------------|
| 42313  | FT 1            | Sonar/Fluridone (µg/L)<br>SOP: FAST 10 | 7.9     | 10/13/2015    |               |                     |
| 42314  | FT 2            | Sonar/Fluridone (µg/L)<br>SOP: FAST 10 | 8.8     | 10/13/2015    |               |                     |
| 42315  | FT 3            | Sonar/Fluridone (µg/L)<br>SOP: FAST 10 | 8.3     | 10/13/2015    |               |                     |

- Monitor Fluridone concentrations
- Additional Fluridone applications:
  - Spring of 2016, Fall of 2016, Spring 2017
- Compile and quantify efficacy results of Fluridone
- Continue to make observations and monitor for Elodea
- Continue outreach around the State
- Make long-term management goals to maintain vegetation for safety issues

Lake Hood & Spenard Dissolved Oxygen Averages May - October



# Management Decisions and Coordination:

- Eradication is the goal...
- DOT long-term goals
- ***Statewide Elodea Management Plan:***
  - *Partners include:* DNR, USFWS, Kenai National Wildlife Refuge, USFS, Anchorage Park Foundation, Homer Soil and Water Conservation District, Fairbanks SWCD, Copper River Watershed Project, Cook Inlet Aquaculture Association, DOT



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# Thank you