Received by DEC Pesticide Control
Program 4-17-26

# Part One: Contact Information

**APPLICANT** (Person, organization, or business applying for this permit)

Organization/business: Alaska Department of Natural Resources, Division of Agriculture

Contact person: Cody Jacobson

Mailing address: 5310 S. Bodenburg Spur Road

City, State, Zip: Palmer, AK 99645

Telephone Number: 907-745-8127

Email Address: cody.jacobson@alaska.gov

Is the applicant a government entity? 18 AAC 90.620

☑ Yes ☐ No

**APPLICATOR** (Person, organization, or business who will be applying the pesticides)
MUST BE A CERTIFIED APPLICATOR

Organization/business: Fairbanks Soil and Water Conservation District

Contact person: William Colin McKenzie

Mailing address: 590 University Ave, Suite 2

City/State/Zip: Fairbanks, AK 99709

Telephone Number: 907-479-1213 Ext 4

Email Address: wcmckenzie907@gmail.com

Pesticide Applicator Certification Number: 10946-2606-1/6/9
18 AAC 90.515(13)

| ✓ | # | Part Two: Treatment Location Information |
|---|---|---|
| | 1 | Treatment site location: 18 AAC 90.515(8)(A)<br><br>Street Address _____<br><br>City _____<br><br>OR<br>For remote areas, fill in an informal location description such as mileposts, landmarks, distance and direction from nearest community, latitude and longitude, UTM coordinates, etc.<br><br>**Chena Slough**: The treatment area extends from 64.726078, -147.269845 at the upstream end to 64.841609, -147.490810 at the downstream end, and encompasses AKT2SR2E Sections 3,4,9,10,14,15,23, and 24; AKT1SR2E Sections 18,19, 20, 29, 32, and 33; AKT1SR1E Sections 11,13, and 14.<br>**Piledriver Slough**: The treatment area encompasses AKT3SR3E Sections 4,9,10,14,15,23,26,35, and AKT2SR3E Sections 28,33,34, and extend from 64.60808, -147.08716 at the upstream end to 64.71122, -147.17617 at the downstream end. The treatment area lies on Eielson Airforce Base lands.<br>**Manley Hot Springs Slough**: The treatment area extends from 65.00156, -150.63440 at the upstream end to 64.97898, -150.81442 at the downstream end. It can be accessed at the end of the Elliot Highway, in the town of Manley Hot Springs is approximately 160 miles west of Fairbanks. It encompasses T2NR15W Sections 15,16,17,19, and 20, and T2NR16W Sections 21, 22, 23, 24, 25, 26, and 27. |
| | 2 | Describe treatment site (lake, stream, river, wetland, etc.), including inflow and outflow characteristics, stream flow, etc.:<br>**Chena Slough**: is in the city of North Pole, approximately 4 miles east of Fairbanks. Prior to 1945, both the Chena River and the Tanana River contributed water to the Chena Slough. All headwaters to the Chena Slough are now blocked by the Moose Creek Dam, and recharge occurs from upwelling groundwater (pers. communication, Army Corps of Engineers). Stream gauge flow measured periodically from June-August 2025 averaged ~32 cubic ft/sec (CFS). The treatment area extends from 64.726078, -147.269845 at the upstream end (near the Chena Lakes Flood Control Project) to 64.841609, -147.490810 at the downstream end where the slough flows into the Chena River.<br>**Piledriver Slough**: is a roughly 16-mile-long groundwater-fed slough that flows northwest to the Tanana River, about 15 miles southeast of Fairbanks. Stream discharge measured in the treatment area over the course of 2025 averaged approx. 43 cubic ft/ sec (CFS).<br>**Manley Hot Springs Slough** is an 8-mile long, shallow waterway which drains into the Tanana River near the community of Manley Hot Springs at the end of the Elliot Highway. The average depth of the slough is approximately 5 ft. Stream discharge rate measured near the upstream end of the treatment area in 2019 was ~8.0 cubic ft/sec (CFS). |

| ✓ | # | Part Two: Treatment Location Information |
|---|---|---|
| | 3 | List each public or private drinking water system within 200 feet of the treatment area. 18 AAC 90.515(8)(D) |

**Chena Slough**: According to the Alaska DNR's WELTS (Well Log Tracking System) and Alaska DNR's Water Estate Map (subsurface water rights) there are 65 wells within 200ft of Chena Slough (PAN numbers are listed below). However, there are 622 residences located along Chena Slough, and some of these may have wells (that are not captured in these databases) or may use water directly from the slough for irrigation. All residents will be notified of the treatment plans and any irrigation restrictions prior to the start of treatment in each year of the project.

| Parcel Account Number | | | |
|---|---|---|---|
| 325082 | 348449 | 279064 | 285200 |
| 324698 | 348023 | 276669 | 278891 |
| 309982 | 347728 | 276618 | 290068 |
| 319414 | 674931 | 303682 | 184136 |
| 294641 | 285846 | 303640 | 303780 |
| 319252 | 306754 | 303666 | 9999999 |
| 446149 | 285790 | 303674 | 9999999 |
| 652551 | 285242 | 9999999 | 183695 |
| 384062 | 279048 | 285226 | 183903 |
| 443204 | 458040 | 347884 | 347850 |
| 443191 | 9999999 | 347906 | 306037 |
| 525171 | 384038 | 347990 | |
| 294713 | 375730 | 348309 | |
| 325082 | 375705 | 9999999 | |
| 432075 | 375713 | 9999999 | |
| 9999999 | 303844 | 9999999 | |
| 9999999 | 303828 | 9999999 | |
| 432041 | 298590 | 289094 | |

Note: 9999999 indicates a roadway or waterway.

**Piledriver Slough:** There are no drinking water wells within 200 ft of the treatment area.
**Manley Hot Springs Slough:** There are no drinking water wells within 200 ft of the treatment area.

| | | |
|---|---|---|
| | 4 | Approximate size of the treatment area. Please specify units (acre feet, flow rate, etc. The units should match units on the pesticide label): |

18 AAC 90.515(8)(B)

**Chena Slough**: The treatment site has an approximate size of 209 surface acres and 836 acre-ft in volume.
**Piledriver Slough**: The treatment area has an approximate size of 225 surface acres, and 900 acre-feet.
**Manley Hot Springs Slough**: The treatment area is approximately 305 surface acres in area, and 1,295 acre-ft in volume.

| ✓ | # | Part Two: Treatment Location Information |
|---|---|---|
| | 5 | If the treatment location has been identified as habitat for an endangered or threatened species, list each species and category (threatened, endangered). 50 CFR 17.11-12<br>None of the treatment locations have been identified as habitat for an endangered or threatened species. |

| ✓ | # | Part Three: Treatment Information |
|---|---|---|
| | 1 | List the dates & times (or range of dates and times) that pesticide is proposed to be applied: 18 AAC 90.515(9)<br>As the goal is eradication of elodea, treatments are planned over the course of 4 years for all three waterbodies. However, not all treatments may be needed depending on the results of post-treatment assessments. Aquatic herbicide will be applied to the waters of the three treatment areas during the following time periods:<br><br>**Chena Slough**: Liquid herbicide will be applied by continuous drip injection from June – September 2026, 2027, 2028, and 2029.<br><br>**Piledriver Slough**: Liquid herbicide will be applied by continuous drip injection from June – September 2026, 2027, 2028, and 2029.<br><br>**Manley Hot Springs Slough**: Pelleted and liquid herbicide will be applied by boat over the course of 2 days in June and 2 days in August 2026, 2027, 2028, and 2029.<br>The goal is to maintain a lethal dose for elodea in the treatment zone, or eradication zone for 45-90 days. To ensure that concentrations are maintained, water samples will be collected from test sites, distributed spatially to cover the full acreage and range of depths. Samples will be taken at approximately 2, 4, 8-, 12-, and 16-week intervals over the course of the treatment period each season. All water samples will be collected using protocols established by and sent by overnight delivery to SePRO Corporation's analytical laboratory. If mean fluridone concentrations fall below 75% of the target amount for two consecutive samples, then supplemental fluridone will be added (but not to exceed 150 ppb in one year). |

| ✓ | # | Part Three: Treatment Information |
|---|---|---|
| | 2 | Target pest of pesticide project: 18 AAC 90.515(2) |

| ✓ | Category | List specific targets |
|---|---|---|
| | Fungus | |
| ✓ | Vegetation | Elodea spp. |
| | Insects | |
| | Fish | |
| | Rodents | |
| | Other | |

| | | |
|---|---|---|
| | 3 | Provide a description of the method of pesticide application, including details about any equipment that will be used. 18 AAC 90.515(10) |

Materials and pesticide application equipment will be transported to the site by truck in each case. Pesticide dispersal will be made directly into the slough by DEC-certified pesticide applicators from outboard motorboats or by direct injection system. Boats will be equipped with delivery systems for liquid (Sonar Genesis) or pellet (SonarOne) herbicide.

Liquid Application: Liquid herbicide in Hot Springs Slough will be applied using a pump connected to weighted hoses mounted to a motorboat. Liquid herbicide will be mixed with lake water in two 25-gallon tanks with pump attachments. The herbicide will be dispersed through the hose evenly throughout the treatment area. Application routes will be determined based on swath width (width of application dispersal) and then programmed into onboard GPS equipment to be followed by the operator of the application vessel. The speed of the boat will be set to cover the given route in the amount of time calculated to deliver the prescribed volume of herbicide.

Liquid herbicide in Chena Slough and Piledriver Slough will be applied using a continuous drip system placed at a metered pump station up stream of the infestation. The drip system will be continuous through a 12-week program by a metered pump operated by a DEC certified applicator via phone based on current discharge readings and locked to prevent tampering. Drip lines will be placed at the bottom of the slough to minimize hindrance to recreation.

Pellet Application: Pellets will be applied using a forced air blower system mounted to a motorboat. The blower system will be calibrated using clay pellets of the same size and weight as the herbicide pellets. A set weight of training pellets will be passed through the blower to measure the time required to deliver, and this will be repeated several times to obtain an average. That information will be used to determine how many minutes are required to deliver the full prescription to the treatment area. Application routes will be determined based on swath width of the blower and programmed into onboard GPS equipment to be followed by the operator of the application vessel. The speed will be determined by the amount of time required to deliver the prescribed weight of pellets to the treatment area.

| ✓ | # | Part Four: Pesticide List |
|---|---|---|
| | 1 | List the common or brand name of **EACH** proposed pesticide and adjuvant. 18 AAC 90.515(1)<br>• Pesticides MUST be registered in the State of Alaska.<br>• Adjuvants MUST be registered in the State of Washington to be considered for use in Alaska.<br>Sonar Genesis (USEPA 67690-54)<br>SonarOne (USEPA 67690-45) |
| | 2 | Total number of pesticides and adjuvants listed: 2 |

*To find pesticide products registered in Alaska, search by EPA registration number here:*
***http://www.kellysolutions.com/ak/pesticideindex.htm***

*To find adjuvants registered in Washington, search here* **http://cru66.cahe.wsu.edu/labels/Labels.php**. *For "Item to search on", select "Crop". For "Common name", select "adjuvant".*

| ✓ | # | **Part Five: Product Information**<br>For **EACH** proposed pesticide and adjuvant, fill out the following information. Copy and attach additional sheets for each product. 18 AAC 90.515(1-6) |
|---|---|---|
| | 1 | Common or brand name of proposed pesticide or adjuvant detailed on this sheet:<br>Sonar Genesis |
| | 2 | EPA Registration Number (not applicable for adjuvants):<br>67690-54 |
| | 3 | Specify the formulation of the pesticide or adjuvant (liquid, granular, aerosol, etc.):<br>Liquid |
| | 4 | Name of the seller or distributor from whom the pesticide will be obtained:<br>SePRO Corporation<br>OR<br>Check here if pesticide is from a previous surplus ☐<br>18 AAC 90.515(1) |
| | 5 | List each active ingredient (or principal functioning agent) in this product AND its percent composition: |
| | 6 | Pesticides: list the adjuvant (if any) it will be mixed with.<br>Adjuvants: list the pesticides it will be mixed with.<br>None |

| Active Ingredient | % composition |
|---|---|
| Fluridone | 6.3% |

| ✓ | # | **Part Five: Product Information**<br>For **EACH** proposed pesticide and adjuvant, fill out the following information. Copy and attach additional sheets for each product. 18 AAC 90.515(1-6) |
|---|---|---|
| | | Product Name: Sonar Genesis<br>Which treatment scenarios are described in questions 6-8?<br>The metered and monitored liquid application from a continuous injection into Chena Slough and Piledriver Slough via drip units. Also, the diluted direct injection liquid application into Manley Hot Springs Slough via boat. |
| | 7 | If this product will be diluted prior to application to the water body, specify the rate of dilution as it will be applied for this project: 18 AAC 90.515(6)<br>Not applicable – product won't be diluted ✓<br>**Product will not be diluted for Chena Slough and Piledriver Slough applications.**<br>**UNITS MUST MATCH LABEL INSTRUCTIONS**<br>**Product will be diluted for Manley Hot Springs Slough applications.**<br>Amount of product (list units): 5 gallons<br>Amount of diluent (list units): 45 gallons of water<br>Example: 3 oz product / 1 gallon water |

| ✓ | # | **Part Five: Product Information**<br>For **EACH** proposed pesticide and adjuvant, fill out the following information. Copy and attach additional sheets for each product. 18 AAC 90.515(1-6) |
|---|---|---|
| | 8 | Rate of application that will be used for this project: 18 AAC 90.515(6)<br><br>**UNITS MUST MATCH LABEL INSTRUCTIONS** |

| | | | | |
|---|---|---|---|---|
| Amount of product (list units)<br>Chena Slough | 13.7 gallons | per | day |
| Amount of product (list units)<br>Piledriver Slough | 17.1 gallons | per | day |
| Amount of product (list units)<br>Manley Hot Springs Slough | 0.53 gallons | per | acre |

On which page of the label is this application rate found? Pg 15

**Application rate is calculated as follows for a desired concentration of 40 ppb:**

Chena Slough:
Average stream flow rate = 32 CFS
32 CFS x 1.98 = 63.36-acre feet per day
63.4-acre feet per day x 40 ppb x 0.0054 = 13.69 gallons per day

Piledriver Slough:
Average stream flow rate = 40 CFS
40 CFS x 1.98 = 79.2-acre feet per day
79.2-acre feet per day x 40 ppb x 0.0054 = 17.11 gallons per day

Manley Hot Springs Slough:
Average stream flow rate = 8.31 CFS
8.31 CFS x 1.98 x 40ppb x 0.0054 = 3.55 gallons per day
(3.6 gallons/day x 45 days)/ 305 acres = 0.53 gallons per acre

| | | | |
|---|---|---|---|
| Examples: | 15 gallons | per | acre/foot |
| | 6 lbs | per | 1000 gallon |
| | Spray to wet | | |

| ✓ | # | **Part Five: Product Information**<br>For **EACH** proposed pesticide and adjuvant, fill out the following information. Copy and attach additional sheets for each product. 18 AAC 90.515(1-6) |
|---|---|---|
| | 9 | Total amount of product that will be applied to the treatment site for each application:<br>18 AAC 90.515(6)<br><br>**UNITS MUST MATCH LABEL INSTRUCTIONS** |

| | Application Rate (from Part 5, Question 7) | | Application Area Size (from Part 2, Question 4) | = | Total Volume |
|---|---|---|---|---|---|
| Chena Slough | 13.7 gallons/ day | * | 45 days | = | 617 gallons |
| Piledriver Slough | 17.2 gallons/ day | * | 45 days | = | 774 gallons |
| Manley Hot Springs Slough | 0.53 gallons/ acre | * | 305 acres | = | 162 gallons |

| Example: | | | | | |
|---|---|---|---|---|---|
| | 15 gallons/acre-foot | * | 100 acre-feet | = | 1500 gallons |
| | 6 lbs/1,000 gallons | * | 2,000 gallons | = | 12 lbs |

| ✓ | # | **Part Five: Product Information**<br>For **EACH** proposed pesticide and adjuvant, fill out the following information. Copy and attach additional sheets for each product. 18 AAC 90.515(1-6) |
|---|---|---|
| | 1 | Common or brand name of proposed pesticide or adjuvant detailed on this sheet:<br><br>SonarOne |
| | 2 | EPA Registration Number (not applicable for adjuvants):<br><br>67690-45 |

| ✓ | # | **Part Five: Product Information**<br>For **EACH** proposed pesticide and adjuvant, fill out the following information. Copy and attach additional sheets for each product. 18 AAC 90.515(1-6) |
|---|---|---|
| | 3 | Specify the formulation of the pesticide or adjuvant (liquid, granular, aerosol, etc.):<br>Pellet |
| | 4 | Name of the seller or distributor from whom the pesticide will be obtained:<br>SePRO Corporation<br>OR<br>Check here if pesticide is from a previous surplus ☐<br>18 AAC 90.515(1) |
| | 5 | List each active ingredient (or principal functioning agent) in this product AND its percent composition: |

| Active Ingredient | % composition |
|---|---|
| Fluridone | 5% |

| | | |
|---|---|---|
| | 6 | Pesticides: list the adjuvant (if any) it will be mixed with.<br>Adjuvants: list the pesticides it will be mixed with.<br>None |
| | | Product Name SonarOne<br>Which treatment scenarios are described in questions 6-8?<br>The pelleted application of Manley Hot Springs Slough via a broadcast spreader and small boat. |

| ✓ | # | **Part Five: Product Information**<br>For **EACH** proposed pesticide and adjuvant, fill out the following information. Copy and attach additional sheets for each product. 18 AAC 90.515(1-6) |
|---|---|---|
| | 7 | If this product will be diluted prior to application to the water body, specify the rate of dilution as it will be applied for this project: 18 AAC 90.515(6)<br><br>Not applicable – product won't be diluted ✓<br><br>**UNITS MUST MATCH LABEL INSTRUCTIONS**<br><br>Amount of product (list units): Not applicable<br>Amount of diluent (list units): Not applicable<br><br>Example: 3 oz product / 1 gallon water |
| | 8 | Rate of application that will be used for this project: 18 AAC 90.515(6)<br><br>**UNITS MUST MATCH LABEL INSTRUCTIONS**<br><br>Amount of product (list units): 5.25 lbs. per acre<br><br>On which page of the label is this application rate found? Pg 11<br><br>Application Rate Calculation:<br>The application rate is calculated as follows for a desired concentration of 40ppb for a period of 45 days:<br>8.31 CFS x 1.98 x 40ppb x 0.054 = 35.55 lbs. per day<br>(35.55 lbs./day x 45 days)/ 305 acres = 5.245 lbs. per acre<br><br>Examples: 15 gallons per acre/foot; 6 lbs per 1000 gallon; Spray to wet |

| ✓ | # | **Part Five: Product Information**<br>For **EACH** proposed pesticide and adjuvant, fill out the following information. Copy and attach additional sheets for each product. 18 AAC 90.515(1-6) |
|---|---|---|
| | 9 | Total amount of product that will be applied to the treatment site for each application:<br>18 AAC 90.515(6)<br><br>**UNITS MUST MATCH LABEL INSTRUCTIONS** |

| | Application Rate (from Part 5, Question 7) | | Application Area Size (from Part 2, Question 4) | = | Total Volume |
|---|---|---|---|---|---|
| Hot Springs Slough | 5.25 lbs./ acre | * | 305 acres | = | 1,601 lbs. |

| Example: | | | | | |
|---|---|---|---|---|---|
| | 15 gallons/acre-foot | * | 100 acre-feet | = | 1500 gallons |
| | 6 lbs/1,000 gallons | * | 2,000 gallons | = | 12 lbs |

| ✓ | # | **Part Six: Storage and Disposal** 18 AAC 90.615 |
|---|---|---|
| | 1 | List the location where pesticide will be stored prior to final disposal.<br>Physical Address: Chena Lakes Recreation Area, 3780 Laurance Rd<br>City, State, Zip: North Pole, AK 99705 |
| | 2 | Describe how and where excess mixed pesticides and adjuvants will be disposed:<br>There will be no excess mixed product since the product will not be mixed and stored in advance. The liquid concentrate will be metered and mixed with slough water during the pumping application Process in Hot Springs Slough and applied in the undiluted form in Chena Slough and Piledriver Slough. SonarOne will not be mixed. |
| | 3 | Describe how and where empty pesticide and adjuvant containers will be disposed:<br>Empty pesticide containers will be triple-rinsed, punctured, and crushed on-site. These containers will later be disposed of in the landfill. |
| | 4 | If excess material or empty containers will be disposed in a landfill, provide the following information:<br>Facility Name: Fairbanks Landfill, 455 Sanduri St<br>City, State, Zip: Fairbanks, AK 99701<br>Date when disposal site was contacted to confirm acceptance of materials: 3/24/26 |

**Please provide EACH required item in a separate, stand-alone document.**
**Check off each item that is attached.** Some items may not be applicable; if so, check the N/A column.

## Part Seven: Supporting Documentation

| ✓ | # | N/A | Item |
|---|---|---|---|
| ✓ | **1.** | Required | Justification for the pesticide application - why you need to apply a pesticide and the benefits you expect to achieve from the treatment. |
| ✓ | **2.** | Required | Map that shows the location of the treatment area within the state of Alaska. Map must be issued by the United States (e.g USGS), the State, or the Municipality. |
| ✓ | **3.** | Required | Maps and/or aerial photos that show details within the treatment area, included areas where pesticides will be applied. Map/photo must include a scale to show distances. |
| ✓ | **4.** | | Map and/or aerial photo that shows the treatment area and the location of all sources of drinking water within 200 feet of the treatment area. Map/photo must include a scale to show distances. |
| ✓ | **5.** | Required | EPA approved label for each proposed pesticide and adjuvant to be used. |
| ✓ | **6.** | Required | Material Safety Data Sheet for each proposed pesticide and adjuvant to be used. |
| ✓ | **7.** | Required | Description of potential impacts to the environment and non-target plants and animals including invertebrates. Should address any potential impacts to biodiversity and distribution of species, potential for anoxia due to plant decomposition, impact to the overall ecological health of the water body, and any other expected impacts. |
| ✓ | **8.** | Required | Description of precautions planned to protect human health, safety, welfare, animals, and the environment. |
| | **9.** | ✓ | Proof of liability insurance (for non-government applicants) |
| | **10.** | ✓ | Information about how the proposed pesticide application might affect any threatened or endangered species that may be found in or near treatment area, and any proposed measures to prevent or reduce impacts. |
| ✓ | **11.** | Required | Documentation of compliance with APDES permit requirements (see instructions on page 1). |

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## Part Eight: Signatures

All applications must be signed as follows, per 18 AAC 15.030:

- **Corporations**: A principal executive officer, an officer that is no lower than the level of vice president, or a duly authorized representative who is responsible for the overall management of the project or operation
- **Partnerships**: A general partner
- **Sole proprietorship**: The proprietor
- **Municipal, state, federal, or other public entity**: A principal executive officer, ranking elected official, or duly authorized employee

**I,** Cody Jacobson certify under penalty of perjury, that all of the information

And exhibits in this application and attached documentation are true, accurate, and complete.

Cody Jacobson

Applicant's Signature

April - 17 - 2026

Month Day Year

DNR Div. of Ag Invasive Program Coordinator

Applicant's Title

## Supporting Document 1: Justification for pesticide application

Elodea is Alaska's first known submerged freshwater invasive plant and is considered a threat to Alaska's freshwater resources with wide-ranging ecological and economic consequences (Morton et al., 2014; Schwoerer, 2017). Elodea can dramatically change freshwater habitats by altering nutrient availability and displacing native plants (James et al. 2006). Elodea changes invertebrate communities and alters breeding and foraging habitat for fish and insects (Spicer & Catling 1988). Because elodea reproduces vegetatively, it can spread quickly through fragments carried on floatplanes, boats, and fishing equipment, or by water movement (Barrat-Segretain & Elger 2004). It forms dense mats, reducing resource availability to native aquatic plant species (Rorslett et al. 1986, Spicer & Catling 1988) thereby reducing species diversity. Dense elodea populations slow stream velocities, increase sedimentation rates, and alter nutrient and DO levels (Gollasch 2006). These alterations make streams unsuitable for spawning, rearing, and migration of anadromous fish species like salmon. Increasing elodea density has been shown to displace salmonids from spawning habitat and increase the energy cost for spawning Chinook salmon (Merz et al. 2008). The results of a field experiment conducted in Alaska have shown that dense stands of elodea alter the flow of energy to juvenile salmon by restructuring the spatial environment and affect prey resources for rearing fish (Carey et al. 2023). The widespread establishment of elodea would degrade habitat for juvenile salmon, and by negatively impacting juvenile fish growth could impact salmon returns, thereby imperiling the long-term health and sustainability of Pacific salmon populations in Alaska (Schwoerer 2019).

Schwoerer (2017) estimated that the economic effects of elodea on Alaska's commercial sockeye fisheries are likely to approach $97 million a year if elodea remains unmanaged. Schwoerer (2017) conducted a statewide survey with floatplane pilots that showed that floatplanes could spread elodea to far flung locations in the state. Research illustrated that if eradication is not achieved, between 200 and 300 floatplane lakes could be invaded by 2030 (Schwoerer et al. 2022). Dense elodea growth interferes with safe boat and floatplane operation, thereby impeding transportation and restricting access to traditional subsistence resources. If elodea is allowed to spread, there is the potential to cause irreparable harm to the aquatic resources that people in Interior Alaska depend on for food, water, and transportation. Piledriver Slough, Chena Slough, and Manley Hot Springs Slough all lie within the Tanana River watershed, home to about 20 Chinook salmon spawning areas (Brown 2017), and to two of the largest Chinook salmon spawning populations in the Yukon River Basin. All three sloughs flow into the Tanana River, which joins the Yukon River further downstream. If the elodea in this slough is allowed to spread, it would have direct negative impacts on and threaten the integrity of salmon habitat in the Yukon River Basin.

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 as elodea reproduces readily from small fragments. Any physical disturbance of the plant easily breaks the stems into pieces that can reproduce in new locations. Elodea is difficult and expensive to eradicate, requiring multiple herbicide treatments over 2-4 growing seasons or more. In the case of moving water bodies like the three sloughs addressed in this permit application, fluridone is the safest and most effective herbicide for eradication. Fluridone is selective in

killing elodea at relatively low application rates that have limited impacts on many other native aquatic plants, as observed in other elodea eradication projects in Alaska. Moreover, fluridone has low toxicity to fish and other non-target species. Over the past decade, we have been in the process of implementing an integrated pest management strategy to eradicate elodea from all known infestations in interior Alaska, conduct surveys to detect any new elodea infestations, and provide information on this and other potential invasive aquatic plants to the public to help prevent further introduction into Alaska's waters.

Chena Slough, Piledriver Slough, and Manley Hot Springs Slough have all been treated with fluridone for 3-6 years, and elodea populations in all three sloughs have been reduced drastically. A few persistent patches of elodea remain in these sloughs that require systemic treatment to completely eradicate them. If these elodea patches are left unmanaged, they would recolonize these aquatic habitats that are close to being completely restored.

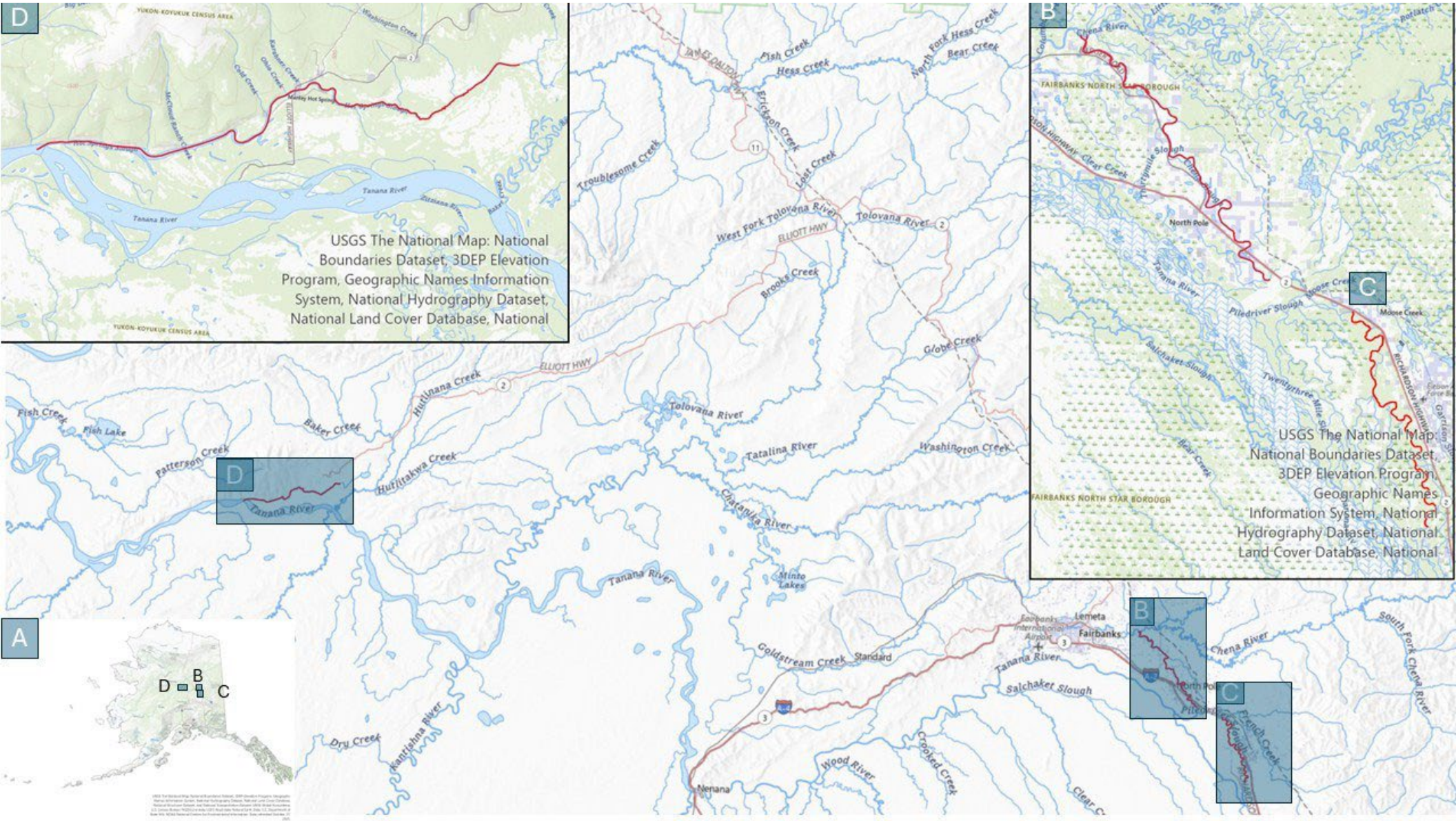
Literature cited


- Barrat-Segretain, M. and A. Elger. 2004. Experiments on growth interactions between two invasive macrophyte species. Journal of Vegetation Science 15.1: 109-114.
- Brown, R.J., A.V. Finster, J.H. Eiler 2017. Catalog of Chinook Salmon Spawning Areas in Yukon River Basin in Canada and United States. Journal of Fish and Wildlife Management 8 (2): 558-587.
- Carey, M.P. et al. 2023. Elodea mediates juvenile salmon growth by altering physical structure in freshwater habitats. Biological Invasions 25, 1509 – 1525.
- Gollasch, S. 2006. Overview on introduced aquatic species in European navigational and adjacent waters. Helgoland Marine Research 60(2):84-89.
- James, Cassandra S., John W. Eaton, and Keith Hardwick. 2006. "Responses of Three Invasive Aquatic Macrophytes to Nutrient Enrichment Do Not Explain Their Observed Field Displacements." *Aquatic Botany* 84 (4): 347–53. doi:10.1016/j.aquabot.2006.01.002.
- Merz, J.E., J.R. Smith, M.L. Workman, J.D. Setka, and B. Mulchaey. 2008. Aquatic macrophyte encroachment in Chinook salmon spawning beds: Lessons learned from gravel enhancement monitoring in the Lower Mokelumne River, California. North American Journal of Fisheries Management 28 (5): 1568-1577.
- Morton, John M., et al. 2014. Integrated Pest Management Plan for Eradication Elodea from the Kenai Peninsula. Elodea Subcommittee of the Kenai Peninsula Cooperative Weed Management Area.
- Rorslett, B., D. Berge, and S. W. Johansen. 1986. Lake enrichment by submersed macrophytes: A Norwegian whole-lake experience with Elodea canadensis. Aquatic Botany 26: 325-340.
- Schwoerer, T. 2017. Invasive Elodea Threatens Remote Ecosystem Services in Alaska: A Spatially-Explicit Bioeconomic Risk Analysis. University of Alaska Fairbanks.
- Schwoerer, T., J.M. Little, and M.D. Adkison. 2019. Aquatic Invasive Species Change

Ecosystem Services from the World's Largest Wild Sockeye Salmon Fisheries in Alaska. Journal of Ocean and Coastal Economics: Vol 6: Iss.1, Article 2.

- Schwoerer, T., R.J. Dial, J.M. Little, A.E. Martin, J.M. Morton, J.I. Smith, and E.J. Ward. 2022. Flightplan for the future: floatplane pilots and researchers team up to predict invasive species dispersal in Alaska. Biological Invasions: Vol. 24, pp 1229-1245
- Spicer, K. W. and P. M. Catling. 1988. The biology of Canadian weeds: 88 Elodea canadensis Michx. Canadian Journal of Plant Science 68(4): 1035-1051.

**Supporting Document 2: Location of treatment areas within the state of Alaska**

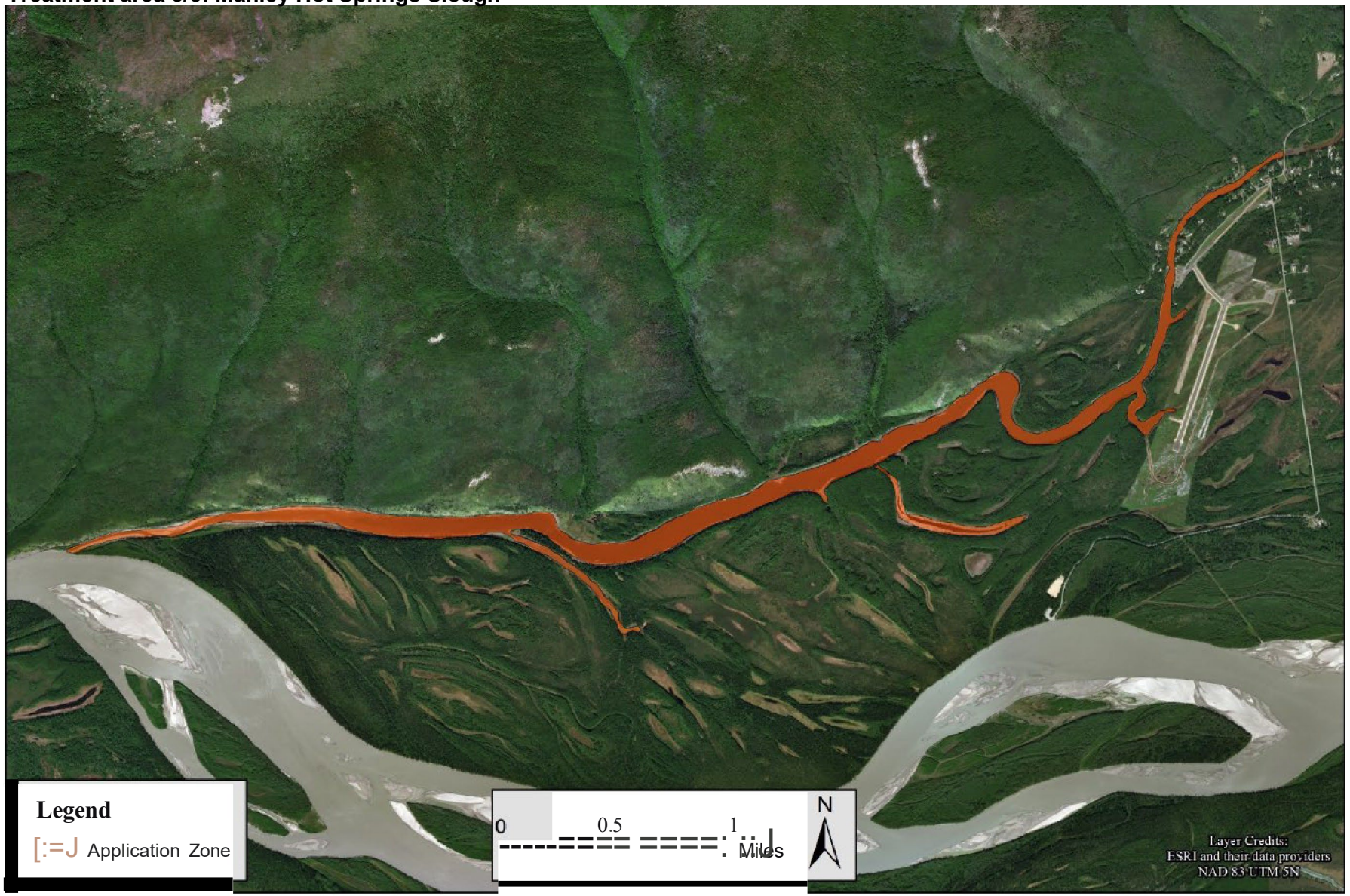


## Supporting Document 3: Maps of treatment areas

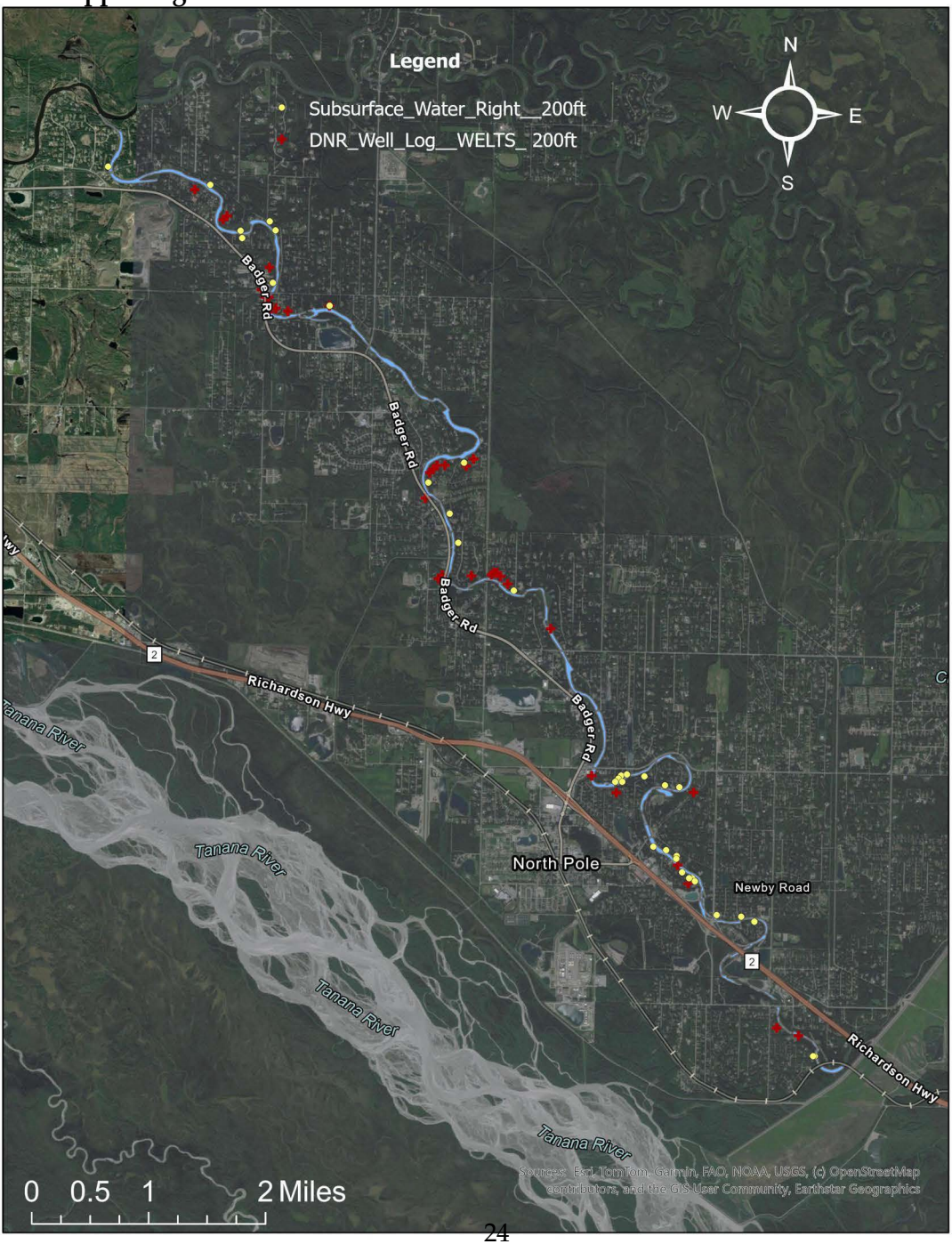
**Treatment area 1/3: Chena Slough**

**Treatment area 2/3: Piledriver Slough**

**Treatment area 3/3: Manley Hot Springs Slough**



**Supporting document 4: Location of wells within 200ft of treatment area**



# Sonar® Genesis

1077.464.C

## Aquatic Herbicide

**An herbicide for management of freshwater aquatic vegetation in ponds, lakes, reservoirs, potable water sources, drainage canals and irrigation canals.**

| | |
|---|---|
| **Active Ingredient** | |
| fluridone: 1-methyl-3-phenyl-5-[3-(trifluoromethyl)phenyl] -4(1*H*)-pyridinone | 6.3% |
| **Other Ingredients** | 93.7% |
| **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 including 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 Risks of Use* and *Limitation of Remedies* inside label booklet.**

Sonar is a registered trademark of SePRO Corporation.

**SePRO Corporation** 11550 North Meridian Street, Suite 600
Carmel, IN 46032 U.S.A.

| FIRST AID | |
|---|---|
| **If in eyes** | • Hold eye open and rinse slowly and gently with water for 15 to 20 minutes.<br>• Remove contact lenses, if present, after the first 5 minutes; then continue rinsing eye.<br>• Call a poison control center or doctor for treatment advice. |
| **If swallowed** | • Call a poison control center or doctor immediately for treatment advice.<br>• Have person sip a glass of water if able to swallow.<br>• Do not induce vomiting unless told to do so by a poison control center or doctor.<br>• Do not give anything by mouth to an unconscious person. |
| **If on skin or clothing** | • Take off contaminated clothing.<br>• Rinse skin immediately with plenty of water for 15 to 20 minutes.<br>• Call a poison control center or doctor for treatment advice. |
| **NOTE TO PHYSICIAN:** Probable mucosal damage may contraindicate the use of gastric lavage. | |
| **HOTLINE NUMBER** | |
| 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 life or property involving this product, call **INFOTRAC** at **1-800-535-5053**. | |

EPA Reg. No. 67690-54
FPL20121219

EPA Est. No. 067690-NC-001
167710

**Concentrated Formulation**



**Net contents 64 fluid ounces (Non-refillable)**

## PRECAUTIONARY STATEMENTS

### Hazards to Humans and Domestic Animals

## 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.)

Corrosive. Causes irreversible eye damage. Harmful if swallowed. Avoid contact with skin. Do not get in eyes or on clothing. Wear protective eyewear (goggles, face shield, or safety glasses). Wear long-sleeved shirt and long pants, socks, shoes, and chemical resistant gloves. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

| FIRST AID | |
|---|---|
| **If in eyes** | • Hold eye open and rinse slowly and gently with water for 15 to 20 minutes.<br>• Remove contact lenses, if present, after the first 5 minutes; then continue rinsing eye.<br>• Call a poison control center or doctor for treatment advice. |
| **If swallowed** | • Call a poison control center or doctor immediately for treatment advice.<br>• Have person sip a glass of water if able to swallow.<br>• Do not induce vomiting unless told to do so by a poison control center or doctor.<br>• Do not give anything by mouth to an unconscious person. |
| **If on skin or clothing** | • Take off contaminated clothing.<br>• Rinse skin immediately with plenty of water for 15 to 20 minutes.<br>• Call a poison control center or doctor for treatment advice. |
| **NOTE TO PHYSICIAN**: Probable mucosal damage may contraindicate the use of gastric lavage. | |
| **HOTLINE NUMBER** | |
| 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**. | |

# Sonar® Genesis

## Aquatic Herbicide

FPL20121219 167708

**Net contents 64 fluid ounces (Non-refillable)**

**Concentrated Formulation**

8 11055 01138 1

## PRECAUTIONARY STATEMENTS

### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

Corrosive. Causes irreversible eye damage. Harmful if swallowed. Avoid contact with skin. Do not get in eyes or on clothing. Wear protective eyewear (goggles, face shield, or safety glasses). Wear long-sleeved shirt and long pants, socks, shoes, and chemical resistant gloves. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

# 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.)

## ENVIRONMENTAL HAZARDS

Do not apply to water except as specified on the label. Do not contaminate water by disposal of equipment washwaters. 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 Sonar Genesis aquatic 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.

**DO NOT** apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your state or tribe, consult the agency responsible for pesticide regulation.

Ensure spray drift to nontarget susceptible species does not occur.

**DO NOT** apply Sonar Genesis Aquatic Herbicide in any manner not specifically described in this label.

Observe all cautions and limitations on this label and on the labels of products used in combination with Sonar Genesis. **DO NOT** use Sonar Genesis other than in accordance with the instructions set forth on this label. Keep containers closed to avoid spills and contamination.

## IN CASE OF EMERGENCY

In case of large-scale spillage regarding this product, call INFOTRAC at 1-800-535-5053.
In case of medical emergency regarding this product, call:

- Your local doctor for immediate treatment
- Your local poison control center (hospital)
- INFOTRAC: 1-800-535-5053

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

- Dike and contain the spill with inert material (sand, earth, etc.) and transfer liquid and solid diking 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 sites. Sonar Genesis is absorbed from water by plant shoots and from hydrosoil 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 90 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.

Sonar Genesis is not corrosive to application equipment.

This label provides recommendations on the use of a laboratory analysis for the active ingredient. SePRO Corporation recommends the use of high-performance liquid chromatography (HPLC) for the determination of fluridone concentrations in water. It is recommended to contact SePRO Corporation for the incorporation of this test, known as a FasTEST, in a treatment program. FasTEST is referenced in this label as the preferred method for the rapid determination of the active ingredient in water. Other proven chemical analyses for the active ingredient may also be used.

Application rates and calculations of Sonar Genesis are provided to achieve a desired concentration of fluridone in parts per billion (ppb). **The maximum application rate or sum of all application rates is 90 ppb in ponds and 150 ppb in lakes, reservoirs and static canals per annual growth cycle.** For purposes of Sonar Genesis labeling, a pond is defined as a body of water 10 acres or less in size. A lake or reservoir is greater than 10 acres. This maximum concentration is the amount of product calculated as the target application rate, NOT determined by testing the concentration of fluridone in the treated water.

## Use Restrictions and Precautions

- **Obtain Required Permits:** Consult with appropriate state or local pesticide and/or water authorities before applying this product in or around public waters. Permits and posting or treatment notification may be required by state or local public agencies.
- **Chemigation:** Do not apply Sonar Genesis through any type of irrigation system.
- **Hydroponic Farming:** Do not use Sonar Genesis treated water for hydroponic farming unless a FasTEST 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 Sonar Genesis treated water for irrigating greenhouse or nursery plants. Without site-specific guidance from SePRO, do not use Sonar Genesis treated water for irrigating greenhouse or nursery plants unless a FasTEST has been run and confirmed that concentrations are less than 1 ppb.
- **Water Use Restrictions Following Applications With Sonar Genesis (Days)**

| Application Rate | Drinking† | Fishing | Swimming | Livestock/Pet Consumption | Irrigation†† |
|---|---|---|---|---|---|
| Maximum Rate (150 ppb) or less | 0 | 0 | 0 | 0 | See irrigation instructions below |

† Note below, under *Potable Water Intakes*, the information for application of Sonar Genesis within ¼ mile (1,320 feet) of a functioning potable water intake.

†† Note below, under *Irrigation*, specific time frames or fluridone concentrations that provide the widest safety margin for irrigating with treated water.

- **Potable Water Intakes:** In lakes and reservoirs or other sources of potable water, do not apply Sonar Genesis at application rates greater than 20 ppb within one-fourth mile (1,320 feet) of any functioning potable water intake. At application rates of 4 to 20 ppb, Sonar Genesis may be applied where functioning potable water intakes are present. **NOTE: Existing potable water intakes which are no longer in use, such as those replaced by potable water wells or connections to a municipal water system, are not considered to be functioning potable water intakes.**

- **Irrigation:** Irrigation from a Sonar Genesis treated area may result in injury to the irrigated vegetation. Follow these precautions and inform those who irrigate from areas treated with Sonar Genesis of the irrigation time frames or FasTEST requirements presented in the table below. Follow the following time frames and assay directions to reduce the potential for injury to vegetation irrigated with water treated with Sonar Genesis. Greater potential for crop injury occurs where Sonar Genesis treated water is applied to crops grown on low organic and sandy soils.

| Application Site | DAYS AFTER APPLICATION | | |
|---|---|---|---|
| | Established Tree Crops | Established Row Crops/ Turf/Plants | Newly Seeded Crops/Seedbeds or Areas to be Planted Including Overseeded Golf Course Greens |
| Ponds and Static Canals † | 7 | 30 | Assay required |
| Canals | 7 | 14 | Assay required |
| Lakes and Reservoirs †† | 7 | 14 | Assay required |
| Dry or De-watered Canals ††† | 0 | 0 | ††† |

† For purposes of Sonar Genesis labeling, a pond is defined as a body of water 10 acres or less in size. A lake or reservoir is greater than 10 acres.

†† In lakes and reservoirs where one-half or greater of the body of water is treated, use

the pond and static canal irrigation precautions. When applying Sonar Genesis to exposed sediments of aquatic sites such as lakes and reservoirs, follow these time frames prior to using water for irrigation once sites are reflooded.

††† When Sonar Genesis is applied to exposed sediments of dry or de-watered irrigation canals, treatments must be made at least 2 weeks prior to when the canals are to be refilled, and allow canals to refill for a minimum of 24 hours before using water for irrigaiton.

Where the use of Sonar Genesis treated water is desired for irrigating crops prior to the time frames established above, the use of FasTEST analysis is recommended to measure the concentration of fluridone in the treated water. Where a FasTEST has determined that the fluridone concentrations are less than 10 parts per billion, there are no irrigation precautions for irrigating established tree crops, plants, row crops or turf. **For tobacco, tomatoes, peppers or other plants within the Solanaceae Family and newly seeded crops or newly seeded grasses such as overseeded golf course greens, do not use Sonar Genesis treated water if measured fluridone concentrations are greater than 5 ppb. Furthermore, when rotating crops, do not plant members of the Solanaceae family in land that has been previously irrigated with fluridone concentrations in excess of 5 ppb in the previous year without direct consultation with a SePRO Aquatic Specialist. It is recommended that a SePRO Aquatic Specialist be consulted prior to commencing irrigation of these sites.**

## PLANT CONTROL INFORMATION

Sonar Genesis selectivity is dependent upon dosage, time of year, stage of growth, method of application and water movement. The following categories, controlled and partially controlled are provided to describe expected efficacy under ideal treatment conditions using higher to maximum label rates. Use of lower rates will increase selectivity of some species listed as controlled or partially controlled. Additional aquatic plants may be controlled, partially controlled, or tolerant to Sonar Genesis. It is recommended to consult a SePRO Aquatic Specialist prior to application of Sonar Genesis to determine a plant's susceptibility to the planned treatment.

## Vascular Aquatic Plants Controlled by Sonar Genesis:

### Submersed Plants:

bladderwort (*Utricularia* spp.)
common coontail (*Ceratophyllum demersum*)
common elodea (*Elodea canadensis*)
egeria, Brazilian elodea (*Egeria densa*)
fanwort, cabomba (*Cabomba caroliniana*)
hydrilla (*Hydrilla verticillata*)
naiad (*Najas* spp.)
pondweed (*Potamogeton* spp., except Illinois pondweed)
watermilfoil (*Myriophyllum* spp., including *M. spicatum* x *sibiricum hybrids*)
widgeon grass (*Ruppia maritima*)

### Emersed Plants:

spatterdock (*Nuphar luteum*)
water-lily (*Nymphaea* spp.)
watershield (*Brasenia schreberi*)

### Floating Plants:

common duckweed (*Lemna minor*)
Salvinia (*Salvinia* spp.)

## Vascular Aquatic Plants Partially Controlled by Sonar Genesis:

### Submersed Plants:

Illinois pondweed (*Potamogeton illinoensis*)
limnophila (*Limnophila sessiliflora*)
tapegrass, American eelgrass (*Vallisneria americana*)

### Emersed Plants:

alligatorweed (*Alternanthera philoxeroides*)
American lotus (*Nelumbo lutea*)
cattail (*Typha* spp.)
creeping waterprimrose (*Ludwigia peploides*)
parrotfeather (*Myriophyllum aquaticum*)
smartweed (*Polygonum* spp.)
spikerush (*Eleocharis* spp.)
waterpurslane (*Ludwigia palustris*)

## Floating Plants:

common watermeal (*Wolffia columbiana)*†

## Shoreline Grasses:

barnyardgrass (*Echinochloa crusgalli*)
giant cutgrass (*Zizaniopsis miliacea*)
reed canarygrass (*Philaris arundinaceae*)
southern watergrass (*Hydrochloa caroliniensis*)
torpedograss (*Panicum repens*)

† Consult with a SePRO Aquatic Specialist about techniques to enhance efficacy of watermeal, including incorporation of Galleon S.C. Aquatic Herbicide into a Sonar Genesis treatment program, in difficult to control sites.

## MIXING AND APPLICATION DIRECTIONS

The aquatic plants present in the treatment site should be identified prior to application to determine their susceptibility to Sonar Genesis. It is important to determine the area (acres) to be treated and the average depth in order to select the proper application rate. Do not exceed the maximum labeled rate for a given treatment site per annual growth cycle.

Sonar Genesis may be applied or metered directly into the treated area or diluted with water prior to application. Add the specified amount of Sonar Genesis to water in the spray tank during the filling operation. Surface and subsurface application of the spray can be made with conventional spray equipment. Sonar Genesis can also be applied near the surface of the hydrosoil using weighted trailing hoses. A minimum spray volume of 5 to 100 gallons per acre may be used. Sonar Genesis may also be directly metered into the pumping system where it is diluted with water.

### Tank Mix Directions

Sonar Genesis may be tank mixed with other aquatic herbicides and algaecides to enhance efficacy and plant selectivity provided that this label does not prohibit such mixing. When tank mixing, read and follow the labeled precautionary statements, directions for use, weeds controlled, and other restrictions for each tank mix product. **Use in accordance with the most restrictive label limitations and precautions of the products used in the tank-mix.** No labeled rate or dose should be exceeded. To ensure compatibility, a jar test is recommended before field application of any tank mix combination. It is recommended to consult with SePRO Corporation for latest tank mix recommendations.

**NOTE**: Tank mixing or use of Sonar Genesis with any other product which is not specifically and expressly authorized by the label shall be at the exclusive risk of the user, applicator and/or application adviser, to the extent allowed by applicable law.

## Application Rate Calculation

The amount of Sonar Genesis to be applied to provide the desired ppb concentration of active ingredient in treated water may be calculated as follows:

**Sonar Genesis gallons required per treated surface acre =**
surfaces acres **x** average water depth of treatment site (feet)
**x** desired ppb concentration of active ingredient **x** 0.0054.

For example, the amount per acre of Sonar Genesis required to provide a concentration of 30 ppb of active ingredient in a 1 acre pond with an average depth of 5 feet is calculated as follows:

1 acre **x** 5 feet **x** 30 ppb **x** 0.0054 **=** 0.81 gallons per treated surface acre
*or*
0.81 gallons **x** 4 quarts/gallon **=** 3.2 quarts per treated surface acres
*or*
0.81 gallons **x** 128 ounces/gallon **=** 104 ounces per treated surface acre

## Application to Ponds

Sonar Genesis may be applied to the entire surface area of a pond. For single applications, rates may be selected to provide 30 to 90 ppb to the treated water. Use the higher rate within the rate range where there is a dense weed mass, when treating more difficult to control species, and for ponds less than 5 acres in size with an average depth less than 4 feet. Application rates necessary to obtain these concentrations are shown in the following table. For additional application rate calculations, refer to the *Application Rate Calculation* section of this label. Split or multiple applications may be used to control more difficult target plants and/or where dilution of treated water is anticipated; however, the sum of all applications must not exceed a total of 90 ppb per annual growth cycle.

| Average Water Depth of Treatment Site (feet) | Gallons of Sonar Genesis per Treated Surface Acre† | |
|---|---|---|
| | 30 ppb | 90 ppb |
| 1 | 0.16 | 0.48 |
| 2 | 0.32 | 0.97 |
| 3 | 0.48 | 1.45 |
| 4 | 0.64 | 1.94 |
| 5 | 0.81 | 2.43 |
| 6 | 0.97 | 2.91 |
| 7 | 1.13 | 3.40 |
| 8 | 1.29 | 3.88 |
| 9 | 1.45 | 4.37 |
| 10 | 1.62 | 4.86 |

† To calculate the number of quarts of Sonar Genesis required, use the calculation as follows:

gallons per surface acre **x** 4 quarts/gallon **=** quarts per surface acre

For example: targeting a concentration of 30 ppb in a one acre pond with average depth of 5 feet

would require 0.81 gallons or 3.2 quarts.

## Application to Lakes and Reservoirs

The following treatments may be used for treating both whole lakes or reservoirs and partial areas of lakes or reservoirs (bays, etc.). For best results in treating partial lakes and reservoirs, Sonar Genesis treatment areas should be a minimum of 5 acres in size. Treatment of areas smaller than 5 acres or treatment of narrow strips such as boat lanes or shorelines may not produce satisfactory results due to dilution by untreated water. Rate ranges are provided as a guide to include a wide range of environmental factors, such as, target species, plant susceptibility, selectivity and other aquatic plant management objectives. Application rates and methods should be selected to meet the specific lake/reservoir aquatic plant management goals.

**A. Whole Lake or Reservoir Treatments (Limited or No Water Discharge)**

Single Application to Whole Lakes or Reservoirs

Where single applications to whole lakes or reservoirs are desired, apply Sonar Genesis at an application rate of 10 to 90 ppb. Application rates necessary to obtain these concentrations in treated water are shown in the following table. For additional rate calculations, refer to the *Application Rate Calculation* section of this label. Choose an application rate from the table below to meet the aquatic plant management objective. **Where greater plant selectivity is desired such as when controlling Eurasian watermilfoil and curlyleaf pondweed, choose an application rate lower in the rate range.** For other plant species, it is recommended to contact a SePRO Aquatic Specialist for determining when to choose application rates lower in the rate range to meet specific plant management goals. Use the higher rate within the rate range where there is a dense weed mass or when treating more difficult to control plant species. Retreatments may be required to control more difficult to control species or in the event of a heavy rainfall event where dilution of the treatment concentration has occurred. In these cases, a second application or more may be required; however, the sum of all applications cannot exceed 150 ppb per annual growth cycle. Refer to the section of this label entitled, *Split or Multiple Applications to Whole Lakes or Reservoirs*, for guidelines and maximum rate allowed.

| SINGLE APPLICATION OF Sonar Genesis | | |
|---|---|---|
| **Average Water Depth of Treatment Site (feet)** | **Gallons of Sonar Genesis per Treated Surface Acre to Achieve†** | |
| | **10 ppb** | **90 ppb** |
| 1 | 0.05 | 0.48 |
| 2 | 0.10 | 0.97 |
| 3 | 0.16 | 1.45 |
| 4 | 0.21 | 1.94 |
| 5 | 0.27 | 2.43 |
| 6 | 0.32 | 2.91 |
| 7 | 0.37 | 3.40 |
| 8 | 0.43 | 3.88 |
| 9 | 0.48 | 4.37 |
| 10 | 0.54 | 4.86 |

† To calculate the number of quarts of Sonar Genesis required, use the calculation as follows:

gallons per surface acre **x** 4 quarts/gallon **=** quarts per surface acre

For example: targeting a dose of 10 ppb in a 20 acre lake with average depth of 5 feet would require 0.27 gallons per surface acre or 1.0 quarts.

Split or Multiple Applications to Whole Lakes or Reservoirs

To meet certain plant management objectives, split or multiple applications may be desired in making whole lake treatments. Split or multiple application programs are desirable when the objective is to use the minimum effective dose and, through the use of a water analysis, e.g. FasTEST, add additional Sonar Genesis to maintain this lower dose for the sufficient time to ensure efficacy and enhance selectivity. Water may be treated at an initial application concentration of 4 to 50 ppb. Additional split applications should be conducted to maintain a sufficient concentration for a minimum of 45 days or longer. I**n controlling Eurasian watermilfoil and curlyleaf pondweed and where**

**greater plant selectivity is desired, choose an application rate lower in the rate range.** For other plant species, it is recommended to contact a SePRO Aquatic Specialist for assistance in selecting the appropriate concentrations and timing of application to meet specific plant management goals. When utilizing split or multiple applications of Sonar Genesis, the utilization of FasTEST is strongly recommended to determine the actual concentration in the water over time. For split or multiple applications, the sum of all applications must not exceed 150 ppb per annual growth cycle.

**NOTE:** In treating lakes or reservoirs that contain functioning potable water intakes and the application requires treating within ¼ mile of a potable water intake, no single application can exceed 20 ppb. Additionally, the sum of all applications cannot exceed 150 ppb per annual growth cycle.

## B. Partial Lake or Reservoir Treatments

Where dilution of Sonar Genesis with untreated water is anticipated, such as in partial lake or reservoir treatments, split or multiple applications may be used to extend the contact time to the target plants. The application rate and use frequency of Sonar Genesis in a partial lake is highly dependent upon the treatment area. An application rate at the higher end of the specified rate range may be required and frequency of applications will vary depending upon the potential of untreated water diluting the Sonar Genesis concentration in the treatment area. Use a rate at the higher end of the rate range where greater dilution with untreated water is anticipated.

<u>Treatment Areas Greater Than ¼ Mile from a Functioning Potable Water Intake</u>
For single applications, apply Sonar Genesis at application rates from 30 to 150 ppb. Split or multiple applications may be made; however, the sum of all applications cannot exceed 150 ppb per annual growth cycle. Split applications should be conducted to maintain a sufficient concentration in the target area for a period of 45 days or longer. The use of a FasTEST is recommended to maintain the desired concentration in the target area over time.

<u>Treatment Areas within ¼ Mile of a Functioning Potable Water Intake</u>
In treatment areas that are within ¼ mile of a potable water intake, no single application can exceed 20 ppb. When utilizing split or multiple applications of Sonar Genesis for sites which contain a potable water intake, a FasTEST is required to determine the actual concentration in the water. Additionally, the sum of all applications cannot exceed 150 ppb per annual growth cycle.

## Application to Sediments of Dry or De-Watered Aquatic Sites

For application of Sonar Genesis to sediments of dry or de-watered aquatic sites, including exposed sediments of lakes or reservoirs, irrigation canals, non-irrigation canals and drainage canals, apply a maximum of 4 gallons of Sonar Genesis per surface acre per annual growth cycle. Apply Sonar Genesis evenly to the sediment surface, with a minimum spray solution of 30 to 100 gallons per surface acre. High levels of organic matter in treated sediments may reduce efficacy. Sonar Genesis may be applied with other aquatic herbicides labeled for this use. It is recommended that a SePRO Aquatic Specialist be consulted for further use recommendations.

**Direct foliar application to floating, topped-out and emerged aquatic vegetation**

For application of Sonar Genesis to floating, topped-out and emerged aquatic vegetation in ponds, lakes, reservoirs, drainage canals and irrigation canals, including dry or de-watered areas of these sites, apply a maximum of 4 gallons of Sonar Genesis per surface acre per annual growth cycle. Apply Sonar Genesis evenly to the treatment area using properly calibrated broadcast equipment in a minimum spray solution of 20 to 100 gallons per surface acre. For treatment of vegetation in or on water, do not exceed a water concentration of 150 ppb. Spot treatments can be made with up to 5% Sonar Genesis by volume when application rate does not exceed 4 gallons Sonar Genesis per surface acre. It is recommended that a SePRO Aquatic Specialist be consulted for site specific recommendations.

## Application to Drainage Canals and Irrigation Canals

Static Canals:

In static drainage and irrigation canals, apply Sonar Genesis at the rate of 30 to 150 ppb per treated surface acre. The maximum application rate or sum of all application rates cannot exceed 150 ppb per annual growth cycle.

Moving Water Canals:

In slow moving bodies of water use an application technique that maintains a concentration of 10 to 40 ppb in the target area for a minimum of 45 days. Sonar Genesis can be applied by split or multiple broadcast applications or by metering in the product to provide a uniform concentration of the herbicide based upon the flow pattern. The use of a FasTEST is recommended to maintain the desired concentration in the target area over time.

Static or Moving Water Canals Containing a Functioning Potable Water Intake

In treating a static or moving water canal which contains a functioning potable water intake, applications of Sonar Genesis greater than 20 ppb must be made more than ¼ mile from a

functioning potable water intake. Applications less than 20 ppb may be applied within ¼ mile from a functioning potable water intake; however, if applications of Sonar Genesis are made within ¼ mile of a functioning potable water intake, a FasTEST analysis must utilized to demonstrate that concentrations do not exceed 150 ppb at the functioning potable water intake.

## Application Rate Calculation — Moving Water Drainage and Irrigation Canals

The amount of Sonar Genesis to be applied through a metering system to provide the desired ppb concentration of active ingredient in treated water may be calculated as follows:

1. Average flow rate (feet per second) **x** average canal width (ft.) **x** average canal depth (ft.) **=** CFS (cubic feet per second).
2. CFS **x** 1.98 **=** acre feet per day (water movement)
3. Acre feet per day **x** desired ppb **x** 0.0054 **=** Gallons Sonar Genesis required per day

# STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

**Pesticide Storage:** Keep from freezing. Store in original container only. Do not store near feed or foodstuffs. In case of leak or spill, use absorbent materials to contain liquids and dispose as waste.

**Pesticide Disposal:** Wastes resulting from use of this product may be used according to label directions or disposed of at an approved waste disposal facility.

**Container Handling**

**Nonrefillable Container. DO NOT reuse or refill this container.** Triple rinse or pressure rinse container (or equivalent) promptly after emptying; then offer for recycling, if available, or reconditioning, if appropriate, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

**Triple rinse containers small enough to shake (capacity ≤ 5 gallons) as follows:** Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank, or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

**Triple rinse containers too large to shake (capacity > 5 gallons) as follows:** Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with

# STORAGE AND DISPOSAL *(continued)*

water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank, or store rinsate for later use or disposal. Repeat this procedure two more times.

**Pressure rinse as follows:** Empty the remaining contents into application equipment or mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank, or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

**Refillable Container.** Refill this container with pesticide only. **DO NOT** reuse this container for any other purpose. Triple rinsing the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. Triple rinse as follows: To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10% full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

When this container is empty, replace the cap and seal all openings that have been opened during use; return the container to the point of purchase or to a designated location. This container must only be refilled with a pesticide product. Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, worn-out threads and closure devices. Check for leaks after refilling and before transport. **DO NOT** transport if this container is damaged or leaking. If the container is damaged, or leaking, or obsolete and not returned to the point of purchase or to a designated location, triple rinse emptied container and offer for recycling, if available, or dispose of container in compliance with state and local regulations.

## TERMS AND CONDITIONS OF USE

If terms of the following *Warranty Disclaimer, Inherent Risks of Use* and *Limitation of Remedies* are not acceptable, return unopened package at once to the seller for a full refund of purchase price paid. Otherwise, to the extent consistent with applicable law, use by the buyer or any other user constitutes acceptance of the terms under *Warranty Disclaimer, Inherent Risks of Use*, and *Limitation of Remedies*.

## WARRANTY DISCLAIMER

SePRO Corporation warrants that the product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in strict accordance with the directions, subject to the inherent risks set forth below. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, SEPRO CORPORATION MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

## INHERENT RISKS OF USE

It is impossible to eliminate all risks associated with use of this product. Plant injury, lack of performance, or other unintended consequences may result because of such factors as use of the product contrary to label instructions (including conditions noted on the label such as unfavorable temperatures, soil conditions, etc.), abnormal conditions (such as excessive rainfall, drought, tornadoes, hurricanes), presence of other materials, the manner of application, or other factors, all of which are beyond the control of SePRO Corporation or the seller. To the extent consistent with applicable law, all such risks shall be assumed by buyer.

## LIMITATION OF REMEDIES

To the extent consistent with applicable law, the exclusive remedy for losses or damages resulting from this product (including claims based on contract, negligence, strict liability, or other legal theories) shall be limited to, at SePRO Corporation's election, one of the following:

(1) Refund of purchase price paid by buyer or user for product bought, or
(2) Replacement of amount of product used.

To the extent consistent with applicable law, SePRO Corporation shall not be liable for losses or damages resulting from handling or use of this product unless SePRO Corporation is promptly notified of such losses or damages in writing. In no case shall SePRO Corporation be liable for consequential or incidental damages or losses. The terms of the *Warranty Disclaimer, Inherent Risks of Use* and this *Limitation of Remedies* cannot be varied by any written or verbal statements or agreements. No employee or sales agent of SePRO Corporation or the seller is authorized to vary or exceed the terms of the *Warranty Disclaimer* or this *Limitation of Remedies* in any manner.



SePRO Corporation
11550 North Meridian Street, Suite 600
Carmel, IN 46032

## PRECAUTIONARY STATEMENTS

### Hazards to Humans and Domestic Animals

## 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.)

Corrosive. Causes irreversible eye damage. Harmful if swallowed. Avoid contact with skin. Do not get in eyes or on clothing. Wear protective eyewear (goggles, face shield, or safety glasses). Wear long-sleeved shirt and long pants, socks, shoes, and chemical resistant gloves. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

| FIRST AID | |
|---|---|
| **If in eyes** | • Hold eye open and rinse slowly and gently with water for 15 to 20 minutes.<br>• Remove contact lenses, if present, after the first 5 minutes; then continue rinsing eye.<br>• Call a poison control center or doctor for treatment advice. |
| **If swallowed** | • Call a poison control center or doctor immediately for treatment advice.<br>• Have person sip a glass of water if able to swallow.<br>• Do not induce vomiting unless told to do so by a poison control center or doctor.<br>• Do not give anything by mouth to an unconscious person. |
| **If on skin or clothing** | • Take off contaminated clothing.<br>• Rinse skin immediately with plenty of water for 15 to 20 minutes.<br>• Call a poison control center or doctor for treatment advice. |
| **NOTE TO PHYSICIAN**: Probable mucosal damage may contraindicate the use of gastric lavage. | |
| **HOTLINE NUMBER** | |
| 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**. | |

# Sonar® Genesis

## Aquatic Herbicide

FPL20121219 167708

**Net contents 64 fluid ounces (Non-refillable)**

**Concentrated Formulation**

8 11055 01138 1

PEEL FILM HERE▶

# SonarOne®

1173.20

SePRO

| FLURIDONE | GROUP 12 | HERBICIDE |
|---|---|---|

**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: 1-methyl-3-phenyl-5-[3-(trifluoromethyl) phenyl]-4(1*H*)-pyridinone..... 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

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 label booklet for additional Precautionary Statements 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 *Warranty Disclaimer* and *Misuse* statements inside label booklet. If terms are unacceptable, return at once unopened.**

EPA Reg. No. 67690-45 FPL20221003

EPA Est. No. 067690-NC-002 177302

**SePRO Corporation**
11550 N. Meridian Street, Suite 600 • Carmel, IN 46032, U.S.A.

| FIRST AID | |
|---|---|
| **If swallowed** | • Call a poison control center or doctor immediately for treatment advice.<br>• Have person sip a glass of water if able to swallow.<br>• Do not induce vomiting unless told to do so by a poison control center or doctor.<br>• Do not give anything by mouth to an unconscious person. |
| **If in eyes** | • Hold eye open and rinse slowly and gently with water for 15 to 20 minutes.<br>• Remove contact lenses, if present, after the first 5 minutes; then continue rinsing eye.<br>• Call a poison control center or doctor for treatment advice. |
| **If on skin or clothing** | • Take off contaminated clothing.<br>• Rinse skin immediately with plenty of water for 15 to 20 minutes.<br>• Call a poison control center or doctor for treatment advice. |
| **If inhaled** | • Move person to fresh air.<br>• If person is not breathing, call 911 or an ambulance; then give artificial respiration, preferably mouth-to-mouth, if possible.<br>• Call a poison control center or doctor for further treatment advice. |

**HOTLINE NUMBER**

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.**

**Aquatic Herbicide**

**Net contents 20 pounds (Non-refillable)**

| FIRST AID | |
|---|---|
| **If swallowed** | • Call a poison control center or doctor immediately for treatment advice.<br>• Have person sip a glass of water if able to swallow.<br>• Do not induce vomiting unless told to do so by a poison control center or doctor.<br>• Do not give anything by mouth to an unconscious person. |
| **If in eyes** | • Hold eye open and rinse slowly and gently with water for 15 to 20 minutes.<br>• Remove contact lenses, if present, after the first 5 minutes; then continue rinsing eye.<br>• Call a poison control center or doctor for treatment advice. |
| **If on skin or clothing** | • Take off contaminated clothing.<br>• Rinse skin immediately with plenty of water for 15 to 20 minutes.<br>• Call a poison control center or doctor for treatment advice. |
| **If inhaled** | • Move person to fresh air.<br>• If person is not breathing, call 911 or an ambulance; then give artificial respiration, preferably mouth-to-mouth, if possible.<br>• Call a poison control center or doctor for further treatment advice. |
| **HOTLINE NUMBER** | |
| 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.** | |

## 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.**

### ENGINEERING CONTROLS (AIRCRAFT)

Aircraft pilots must use an enclosed cab that meets the definition listed in the WPS for agricultural pesticides 40 CFR 170.305.*
*Not for use in California

### 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 tidal saltwater. 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 this product may occasionally develop chlorosis. Follow use directions carefully so as to minimize adverse effects on non-target organisms.

### Non-Target Organisms Advisory Statement

This product is toxic to plants and may adversely impact the forage and habitat of non-target organisms, including pollinators, in areas adjacent to the treated site. Protect the forage and habitat of non-target organisms by following label directions intended to minimize drift.

## 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. This product is a pelleted formulation containing 5% fluridone. It is absorbed from water by plant shoots and from hydrosoil by the roots of aquatic vascular plants. It is important to maintain this product in contact with the target plants for as long as possible. Rapid water movement or any condition which results in rapid dilution of this product in treated water will reduce its effectiveness. In susceptible plants, this product 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. Species susceptibility to this product may vary depending on time of year, stage of growth and water movement. For best results, apply this product 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.

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 FasTEST, into your treatment program. Other proven chemical analyses for the active ingredient may also be used. The FasTEST 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.

### Weed Resistance Management

For resistance management, SonarOne is a Group 12 herbicide. Any weed population may contain or develop plants naturally resistant to SonarOne and other Group 12 herbicides. The resistant biotypes may dominate the weed population if these herbicides are used repeatedly in the same area. Appropriate resistance management strategies should be followed.

To delay herbicide resistance take one or more of the following steps:

- Rotate the use of SonarOne or other Group 12 herbicides within a growing season or among growing seasons with different herbicide groups that control the same weeds.

- Use tank mixtures with herbicides from a different group if such use is permitted; where information on resistance in target weed species is available, use the less resistance-prone partner at a rate that will control the target weed(s) equally as well as the more resistance-prone partner. Consult your local extension service or pest control advisor if you are unsure as to which active ingredient is currently less prone to resistance.
- Adopt an integrated weed-management program for herbicide use that includes scouting and uses historical information related to herbicide use and that considers mechanical control methods, cultural (e.g., timing to favor the desirable plants and not the weeds), biological (weed-competitive varieties) and other management practices.
- Scout after herbicide application to monitor weed populations for early signs of resistance development. Indicators of possible herbicide resistance include: (1) failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds; (2) a spreading patch of non-controlled plants of a particular weed species; (3) surviving plants mixed with controlled individuals of the same species. If resistance is suspected, prevent weed seed production in the affected area by an alternative herbicide from a different group or by a mechanical method. Prevent movement of resistant weed seeds to other areas by cleaning equipment.
- If a weed pest population continues to progress after treatment with this product, discontinue use of this product, and switch to another management strategy or herbicide with a different mode of action, if available.
- Contact your sales representative, pest control advisors, or local extension specialist for additional pesticide resistance-management and/or integrated weed-management recommendations for specific types of plants and weed biotypes.

## Use 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 water from a Sonar-treated area for hydroponic farming unless one of the following has been verified for the relevant active water intake and its withdrawal of surface water:
  - o A FasTEST has been run and the concentration in water at the intake is less than 1 ppb; or
  - o A filtration or water treatment process following water intake has been verified analytically to reduce the concentration in potential irrigation water below 1 ppb.
- **Greenhouse and Nursery Plants:** Do not use water from a Sonar-treated area for greenhouse and nursery irrigation unless one of the following has been verified for the relevant active water intake and its withdrawal of surface water:
  - o For the irrigation of woody ornamental plants, a FasTEST has been run and the concentration at the intake is less than 5 ppb; or
  - o For the irrigation of other greenhouse or nursery plants, the concentration is confirmed less than 1 ppb; or
  - o A filtration or water treatment process following water intake has been verified analytically to reduce the concentration in potential irrigation water below either the 1 or 5 ppb levels cited above.

- **Water Use Restrictions Following Application with SonarOne (Days)**

| Application Rate | Drinking† | Fishing | Swimming | Livestock/Pet Consumption | Irrigation†† |
|---|---|---|---|---|---|
| Maximum Rate (150 ppb) or less | 0 | 0 | 0 | 0 | See irrigation instructions below |

† Note below, under *Potable Water Intakes,* the information for application of this product within ¼ miles (1,320) feet of a functioning potable water intake.

†† Note below, under *Irrigation*, specific time frames or fluridone concentrations that provide the widest safety margin for irrigating with fluridone treated water.

- **Potable Water Intakes:** Concentrations of the active ingredient fluridone up to 150 ppb are allowed in potable water sources; however, in lakes and reservoirs or other sources of potable water, do not apply this product at application rates greater than 20 ppb within one-fourth (1/4) mile (1,320 feet) of any functioning potable water intake. At application rates of 8 - 20 ppb, this product may be applied within ¼ mile where functioning potable water intakes are present. **NOTE: Existing potable water intakes which are no longer in use, such as those replaced by connections to potable water wells or a municipal water system, are not considered to be functioning potable water intakes.**
- Aircraft pilots must use an enclosed cab that meets the definition listed in the WPS for agricultural pesticides 40 CFR 170.30.*
  *Not for use in California

## Use Precautions

- **Irrigation:** Irrigation with treated water may result in injury to the irrigated vegetation. Follow these precautions and inform those who irrigate from areas treated with SonarOne of the irrigation time frames or water FasTEST requirements presented in the table below. Follow the following time frames and FasTEST directions to reduce the potential for injury to vegetation irrigated with treated water. Greater potential for crop injury occurs where treated water is applied to crops grown on low organic and sandy soils.

| | Days After Application | | |
|---|---|---|---|
| **Application Site** | **Established Tree Crops** | **Established Row Crops/ Turf/Plants** | **Newly Seeded Crops/Seedbeds or Areas to be Planted Including Overseeded Golf Course Greens** |
| Ponds and Static Canals† | 7 | 30 | FasTEST required |
| Canals | 7 | 7 | FasTEST required |
| Rivers | 7 | 7 | FasTEST required |
| Lakes and Reservoirs†† | 7 | 7 | FasTEST required |

† For purposes of SonarOne labeling, a pond is defined as a body of water 10 acres or less in size. A lake or reservoir is greater than 10 acres.

†† In lakes and reservoirs where one-half or greater of the body of water is treated, use the pond and static canal irrigation precautions.

Where the use of SonarOne treated water is desired for irrigating crops prior to the time frames established above, use the FasTEST to measure the concentration in the treated water. Where a FasTEST has determined that concentrations are less than 10 parts per billion, there are no irrigation precautions for irrigating established tree crops, established row crops or turf. **For tobacco, tomatoes, peppers or other plants within the Solanaceae Family and newly seeded crops or newly seeded grasses such as overseeded golf course greens, do not use treated water if concentrations are greater than 5 ppb; furthermore, when rotating crops, do not plant members of the Solanaceae family in land that has been previously irrigated with fluridone concentrations in excess of 5 ppb. It is recommended that a SePRO Aquatic Specialist be consulted prior to commencing irrigation of these sites.**

## PLANT CONTROL INFORMATION

SonarOne selectivity is dependent upon dosage, time of year, stage of growth, method of application, and water movement. The following categories: controlled, partially controlled, and not controlled, are provided to describe expected efficacy under ideal treatment conditions using higher to maximum label rates. Use of lower rates will increase selectivity of some species listed as controlled or partially controlled. Additional aquatic plants may be controlled, partially controlled, or tolerant to this product. It is recommended to consult a SePRO Aquatic Specialist prior to application of this product to determine a plant's susceptibility to SonarOne. **NOTE: algae (chara, nitella, and filamentous species) are not controlled by SonarOne.**

**Vascular Aquatic Plants Controlled**

***Submersed Plants:***
bladderwort (*Utricularia* spp.)
common coontail *(Ceratophyllum demersum)*†
common Elodea *(Elodea canadensis)*†
egeria, Brazilian Elodea *(Egeria densa)*
fanwort, Cabomba *(Cabomba caroliniana)*
hydrilla *(Hydrilla verticillata)*
naiad (*Najas* spp.)
pondweed (*Potamogeton* spp., except Illinois pondweed)†
watermilfoil (*Myriophyllum* spp. except variable-leaf milfoil)

***Floating Plants:***
salvinia (*Salvinia* spp.)
duckweed (*Lemna*†, *Spirodela*†, and *Landoltia* spp.)
mosquito fern (*Azolla caroliniana*)†

***Shoreline Grasses:***
paragrass (*Urochloa mutica)*

† Native plants that are often tolerant to fluridone at lower use rates. Please consult a SePRO Aquatic Specialist for recommended SonarOne use rates (not to exceed maximum labeled rates) when selective control of exotic species is desired.

**Vascular Aquatic Plants Partially Controlled**

***Submersed Plants***
Illinois pondweed (*Potamogeton illinoensis)*
limnophila *(Limnophila sessiliflora)*
tapegrass, American eelgrass *(Vallisneria americana)*
watermilfoil--variable-leaf *(Myriophyllum heterophyllum)*

**Emersed Plants**
alligatorweed (*Alternanthera philoxeroides)*
American lotus *(Nelumbo lutea)*
cattail (*Typha* spp.)
creeping waterprimrose *(Ludwigia peploides)*
parrotfeather (*Myriophyllum aquaticum)*
smartweed (*Polygonum* spp.)
spatterdock *(Nuphar luteum)*
spikerush (*Eleocharis* spp.)
waterlily (*Nymphaea* spp.)
waterpurslane *(Ludwigia palustris)*
watershield *(Brasenia schreberi)*

***Shoreline Grasses***
barnyardgrass *(Echinochloa crusgalli)*
giant cutgrass *(Zizaniopsis miliacea)*
reed canarygrass *(Philaris arundinaceae)*
southern watergrass *(Hydrochloa caroliniensis)*
torpedograss (*Panicum repens)*

**Vascular Aquatic Plants Not Controlled**

***Emersed Plants:***
American frogbit (*Limnobium spongia)*
arrowhead (*Sagittaria* spp.)
bacopa (*Bacopa* spp.)
big floatingheart, banana lily *(Nymphoides aquatica)*
bulrush (*Scirpus* spp.)
pickerelweed, lanceleaf (*Pontederia* spp.)
rush (*Juncus* spp.)
water pennywort (*Hydrocotyle* spp.)

***Floating Plants:***
floating waterhyacinth *(Eichhornia crassipes)*
waterlettuce *(Pistia stratiotes)*

***Shoreline Grasses:***
maidencane *(Panicum hemitomon)*

**NOTE:** Algae (chara, nitella, and filamentous species) are not controlled by SonarOne.

## APPLICATION DIRECTIONS

The aquatic plants present in the treatment site should be identified prior to application to determine their susceptibility to SonarOne. It is important to determine the area (acres) to be treated and the average depth in order to select the proper application rate. Do not exceed the maximum labeled rate for a given treatment site per annual growth cycle.

**Application to Ponds**

SonarOne may be applied to the entire surface area of a pond. For single applications, rates may be selected to provide 30 - 90 ppb to the treated water, although actual concentrations in treated water may be substantially lower at any point in time due to the slow-release formulation of this product. When treating for optimum selective control, lower rates may be applied for sensitive target species. Use the higher rate within the rate range where there is a dense weed mass, when treating more difficult to control species, and for ponds less than 5 acres in size with an average depth less than 4 feet. Application rates necessary to obtain these concentrations in treated water are shown in the following table. For additional application rate calculations, refer to the *Application Rate Calculation—Ponds, Lakes and Reservoirs* section of this label. Split or multiple applications may be used where dilution of treated water is anticipated; however, the sum of all applications should total 30 - 90 ppb and must not exceed a total of 90 ppb per annual growth cycle.

| Average Water Depth of Treatment Site (feet) | Pounds of SonarOne per Treated Surface Acre | |
|---|---|---|
| | 45 ppb | 90 ppb |
| 1 | 2.5 | 5.0 |
| 2 | 5.0 | 10.0 |
| 3 | 7.5 | 15.0 |
| 4 | 10.0 | 20.0 |
| 5 | 12.5 | 25.0 |
| 6 | 15.0 | 30.0 |
| 7 | 17.0 | 34.0 |
| 8 | 19.5 | 39.0 |
| 9 | 22.0 | 44.0 |
| 10 | 24.5 | 49.0 |

**Application to Lakes and Reservoirs**

The following treatments may be used for treating both whole lakes or reservoirs and partial areas of lakes or reservoirs (bays, etc.). For best results in treating partial lakes and reservoirs, SonarOne treatment areas should be a minimum of 5 acres in size. Treatment of areas smaller than 5 acres or treatment of narrow strips such as boat lanes or shorelines may not produce satisfactory results due to dilution by untreated water. Rate ranges are provided as a guide to include a wide range of environmental factors, such as target species, plant

susceptibility, selectivity and other aquatic plant management objectives. Application rates and methods should be selected to meet the specific lake/reservoir aquatic plant management goals.

**NOTE:** In treating lakes or reservoirs that contain potable water intakes and where the application requires treating within one-fourth (¼) mile of a potable water intake, no single application can exceed 20 ppb. Additionally, the sum of all applications must not exceed 150 ppb per annual growth cycle.

***Whole Lake or Reservoir Treatments (Limited or No Water Discharge)***

***Single Application to Whole Lakes or Reservoirs***

Where single applications to whole lakes or reservoirs are desired, SonarOne may be applied at an application rate of 16 - 90 ppb. Application rates necessary to obtain these concentrations in treated water are shown in the following table. For additional application rate calculations, refer to the *Application Rate Calculation—Ponds, Lakes and Reservoirs* section of this label. Choose an application rate from the table below to meet the aquatic plant management objective. **Where greater plant selectivity is desired such as when controlling Eurasian watermilfoil and curlyleaf pondweed, an application rate lower in the rate range may be chosen.** For other plant species, SePRO recommends contacting a SePRO Aquatic Specialist in determining when to choose application rates lower in the rate range to meet specific plant management goals. Use the higher rate within the rate range where there is a dense weed mass or when treating more difficult to control plant species or in the event of a heavy rainfall event where dilution has occurred. In these cases, a second application or more may be required; however, the sum of all applications must not exceed 150 ppb per annual growth cycle. Refer to the section of this label entitled, *Split or Multiple Applications to Whole Lakes or Reservoirs,* for guidelines and maximum rate allowed.

| Average Water Depth of Treatment Site (feet) | Pounds of SonarOne Per Treated Surface Acre | |
|---|---|---|
| | 16 ppb | 90 ppb |
| 1 | 0.9 | 5.0 |
| 2 | 1.7 | 10.0 |
| 3 | 2.6 | 15.0 |
| 4 | 3.5 | 20.0 |
| 5 | 4.3 | 25.0 |
| 6 | 5.2 | 30.0 |
| 7 | 6.0 | 34.0 |
| 8 | 6.9 | 39.0 |
| 9 | 7.8 | 44.0 |
| 10 | 8.6 | 49.0 |
| 11 | 9.5 | 54.0 |
| 12 | 10.4 | 59.0 |
| 13 | 11.2 | 64.0 |

*continued*

| Average Water Depth of Treatment Site (feet) | Pounds of SonarOne Per Treated Surface Acre | |
|---|---|---|
| | 16 ppb | 90 ppb |
| 14 | 12.1 | 68.0 |
| 15 | 13.0 | 73.0 |
| 16 | 13.8 | 78.0 |
| 17 | 14.7 | 83.0 |
| 18 | 15.6 | 88.0 |
| 19 | 16.4 | 93.0 |
| 20 | 17.3 | 98.0 |

***Split or Multiple Applications to Whole Lakes or Reservoirs***

To meet certain plant management objectives, split or multiple applications may be desired in making whole lake treatments. Split or multiple application programs are desirable when the objective is to use the minimum effective dose and to maintain this lower dose for the sufficient time to ensure efficacy and enhance selectivity. Under these situations, the lower rates (16 - 75 ppb) within the rate range may be used. **In controlling Eurasian watermilfoil and curlyleaf pondweed and where greater plant selectivity is desired, an application rate lower in the rate range may be chosen.** For other plant species, SePRO recommends contacting a SePRO Aquatic Specialist in determining when to choose application rates lower in the rate range to meet specific plant management goals. For split or repeated applications, the sum of all applications must not exceed 150 ppb per annual growth cycle.

***Partial Lake or Reservoir Treatments***

Where dilution of SonarOne with untreated water is anticipated, such as in partial lake or reservoir treatments, split or multiple applications may be used to extend the contact time to the target plants. The application rate and use frequency of this product in a partial lake is highly dependent upon the treatment area. An application rate at the higher end of the specified rate range may be required and frequency of applications will vary depending upon the potential of untreated water diluting the product concentration in the treatment area. Use a rate at the higher end of the rate range where greater dilution with untreated water is anticipated.

***Application Sites Greater Than ¼ Mile from a Functioning Potable Water Intake***

For single applications, SonarOne may be applied at application rates from 45 - 150 ppb. Split or multiple applications may be made; however, the sum of all applications must not exceed 150 ppb per annual growth cycle. Split applications should be conducted to maintain a sufficient concentration in the target area for a period of 45 days or longer. The use of a FasTEST is recommended to maintain the desired concentration in the target area over time.

***Application Sites within ¼ Mile of a Functioning Potable Water Intake***

In treatment areas that are within ¼ mile of a potable water intake, no single application can exceed 20 ppb. When utilizing split or repeated applications of SonarOne for sites which contain a potable water intake, a FasTEST is required to determine the actual concentration in the water. Additionally, the sum of all applications must not exceed 150 ppb per annual growth cycle.

### *Application Rate Calculation — Ponds, Lakes and Reservoirs*

The amount of SonarOne to be applied to provide the desired ppb concentration of active ingredient equivalents in treated water may be calculated as follows:

**Pounds of SonarOne required per treated acre** = Average water depth of treatment site **x** Desired ppb concentration of active ingredient equivalents **x** 0.054

For example, the pounds per acre of SonarOne required to provide a concentration of 25 ppb of active ingredient equivalents in water with an average depth of 5 feet is calculated as follows:

5 **x** 25 **x** 0.054 = 6.75 pounds per treated surface acre.

**NOTE:** Calculated rates may not exceed the maximum allowable rate in pounds per treated surface acre for the water depth listed in the application rate table for the site to be treated.

**Application to Drainage Canals, Irrigation Canals and Rivers**

***Static Canals***

In static drainage and irrigation canals, apply SonarOne at the rate of 20 - 40 pounds per surface acre.

***Moving Water Canals and Rivers***

The performance of SonarOne will be enhanced by restricting or reducing water flow. In slow moving bodies of water use an application technique that maintains a concentration of 10 - 40 ppb in the applied area for a minimum of 45 days. This product can be applied by split or multiple broadcast applications or by metering in the product to provide a uniform concentration of the herbicide based upon the flow pattern. The use of a FasTEST is recommended to maintain the desired concentration in the target area over time.

***Static or Moving Water Canals or Rivers Containing a Functioning Potable Water Intake***

In treating a static or moving water canal or river which contains a functioning potable water intake, applications of SonarOne greater than 20 ppb must be made more than ¼ mile from a functioning potable water intake. Applications less than 20 ppb may be applied within ¼ mile from a functioning potable water intake; however, if applications of this product are made within ¼ mile from a functioning water intake, a FasTEST must be utilized to demonstrate that concentrations do not exceed 150 ppb at the potable water intake.

***Application Rate Calculation — Drainage Canals, Irrigation Canals and Rivers***

The amount of SonarOne to be applied through a metering system to provide the desired ppb concentration of active ingredient in treated water may be calculated as follows:

1. Average flow rate (ft. per second) **x** average width (ft.) **x** average depth (ft.) **x** 0.9 = CFS (cubic feet per second)
2. CFS **x** 1.98 = acre feet per day (water movement)
3. Acre feet **per day x desired ppb x 0.054 = pounds SonarOne required per day.**

## STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal.

**Pesticide Storage:** Store in original container only. Do not store near feed or foodstuffs. In case of leak or spill, contain material and dispose as waste.

**Pesticide Disposal:** Wastes resulting from use of this product may be used according to label directions or disposed of at an approved waste disposal facility.

**Container Handling:**

**Non-refillable, rigid container. DO NOT reuse or refill this container.** Triple rinse or pressure rinse container (or equivalent) promptly after emptying; then offer for recycling, if available, or reconditioning, if appropriate, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

**Triple rinse containers small enough to shake as follows:** Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank, or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

**Pressure rinse as follows:** Empty the remaining contents into application equipment or mix tank. Hold container upside down over application equipment or mix tank, or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

**Non-refillable, non-rigid container. DO NOT reuse or refill this container.** Completely empty liner into application equipment by shaking and tapping sides and bottom to loosen clinging particles. If not emptied in this manner, the bag may be considered an acute hazardous waste and must be disposed of in accordance with local, state and federal regulations. When completely empty, offer for recycling if available or dispose of in a sanitary landfill or by incineration or by other procedures approved by state and local authorities. If outer packaging is contaminated and cannot be reused, dispose of it in the manner required for its liner.

**Non-refillable container. DO NOT reuse or refill this container.** Completely empty bag into application equipment, then offer for recycling if available or dispose of empty bag in a sanitary landfill or by incineration or by other procedures approved by state and local authorities.

**Warranty Disclaimer:** SePRO Corporation warrants that this product conforms to the chemical description on the product label. Testing and research have also determined that this product is reasonably fit for the uses described on the product label. To the extent consistent with applicable law, SePRO Corporation makes no other express or implied warranty of fitness or merchantability nor any other express or implied warranty and any such warranties are expressly disclaimed.

**Misuse:** Federal law prohibits the use of this product in a manner inconsistent with its label directions. To the extent consistent with applicable law, the buyer assumes responsibility for any adverse consequences if this product is not used according to its label directions. In no case shall SePRO Corporation be liable for any losses or damages resulting from the use, handling or application of this product in a manner inconsistent with its label.

For additional important labeling information regarding SePRO Corporation's Terms and Conditions of Use, Inherent Risks of Use and Limitation of Remedies, please visit *http://www.seprolabels.com/terms/* or scan the image to the left.

SePRO

# SonarOne®

1173.20

PEEL FILM HERE

| FLURIDONE | GROUP 12 | HERBICIDE |
|---|---|---|

**Active Ingredient**

Fluridone: 1-methyl-3-phenyl-5-[3-(trifluoromethyl) phenyl]-4(1*H*)-pyridinone ..... 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

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, ind someone to explain it to you in detail).

## 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.**

**Refer to the inside of the label booklet for additional Precautionary Statements and Directions for Use.**

**NOTICE:** Read the entire label before using. Use only according to label directions. **Before buying or using this product, read *Warranty Disclaimer* and *Misuse* statements inside label booklet. If terms are unacceptable, return at once unopened.**

EPA Reg. No. 67690-45 FPL20221003
EPA Est. No. 067690-NC-002 177302

**SePRO Corporation**
11550 N. Meridian Street, Suite 600, Carmel, IN 46032, U.S.A.

| FIRST AID | |
|---|---|
| **If swallowed** | • Call a poison control center or doctor immediately for treatment advice.<br>• Have person sip a glass of water if able to swallow.<br>• Do not induce vomiting unless told to do so by a poison control center or doctor.<br>• Do not give anything by mouth to an unconscious person. |
| **If in eyes** | • Hold eye open and rinse slowly and gently with water for 15 to 20 minutes.<br>• Remove contact lenses, if present, after the first 5 minutes; then continue rinsing eye.<br>• Call a poison control center or doctor for treatment advice. |
| **If on skin or clothing** | • Take off contaminated clothing.<br>• Rinse skin immediately with plenty of water for 15 to 20 minutes.<br>• Call a poison control center or doctor for treatment advice. |
| **If inhaled** | • Move person to fresh air.<br>• If person is not breathing, call 911 or an ambulance; then give artificial respiration, preferably mouth-to-mouth, if possible.<br>• Call a poison control center or doctor for further treatment advice. |

**HOTLINE NUMBER**

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.**

## STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

**Pesticide Storage:** Store in original container only. Do not store near feed or foodstuffs. In case of leak or spill, contain material and dispose as waste.

**Pesticide Disposal:** Wastes resulting from use of this product may be used according to label directions or disposed of at an approved waste disposal facility.

**Container Handling**

**Non-refillable Container. DO NOT reuse or refill this container.** Triple rinse or pressure rinse container (or equivalent) promptly after emptying; then offer for recycling, if available, or reconditioning, if appropriate, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

**See attached booklet for complete container disposal directions including triple rinsing and pressure rinsing instructions.**

8 11055 01092 6

**Aquatic Herbicide**

**Net weight 20 pounds (Non-refillable)**

Conforms to HCS 2012 - United States

# SAFETY DATA SHEET

# Sonar® Genesis

# Aquatic Herbicide

## Section 1. Identification

**GHS product identifier** : Sonar® Genesis
Aquatic Herbicide

**Other means of identification** : Not available.

**EPA Registration No.** : 67690-54

**Relevant identified uses of the substance or mixture**

Aquatic herbicide.

**Supplier's details** : SePRO Corporation
11550 North Meridian Street
Suite 600
Carmel, IN 46032 U.S.A.
Tel: 317-580-8282
Toll free: 1-800-419-7779
Fax: 317-580-8290
Monday - Friday, 8am to 5pm E.S.T.
www.sepro.com

**Emergency telephone number (with hours of operation)** : **INFOTRAC - 24-hour service 1-800-535-5053**

**The following recommendations for exposure controls and personal protection are intended for the manufacture, formulation and packaging of this product. For applications and/or use, consult the product label. The label directions supersede the text of this Safety Data Sheet for application and/or use.**

## Section 2. Hazards identification

**OSHA/HCS status** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**Classification of the substance or mixture** : ACUTE TOXICITY (inhalation) - Category 4
SKIN IRRITATION - Category 2
SERIOUS EYE DAMAGE - Category 1
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
AQUATIC HAZARD (ACUTE) - Category 2
AQUATIC HAZARD (LONG-TERM) - Category 3

**GHS label elements**

**Hazard pictograms** :

**Signal word** : Danger

## Section 2. Hazards identification

**Hazard statements** : H332 - Harmful if inhaled.
H318 - Causes serious eye damage.
H315 - Causes skin irritation.
H335 - May cause respiratory irritation.
H401 - Toxic to aquatic life.
H412 - Harmful to aquatic life with long lasting effects.

**Precautionary statements**

**Prevention** : P280 - Wear protective gloves. Wear eye or face protection.
P271 - Use only outdoors or in a well-ventilated area.
P273 - Avoid accidental release to the environment.
P261 - Avoid breathing vapor.
P264 - Wash hands thoroughly after handling.

**Response** : P304 + P340 + P312 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell.
P302 + P352 + P362+P364 - IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse.
P332 + P313 - If skin irritation occurs: Get medical attention.
P305 + P351 + P338 + P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.

**Storage** : P405 - Store locked up.

**Disposal** : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

**Hazards not otherwise classified** : None known.

## Section 3. Composition/information on ingredients

**Substance/mixture** : Mixture

**Other means of identification** : Not available.

| Ingredient name | % | CAS number |
|---|---|---|
| Proprietary ingredient 1 | 30 - 40 | - |
| Proprietary ingredient 2 | 40 - 50 | - |
| Proprietary ingredient 3 | 40 - 50 | - |
| Proprietary ingredient 4 | 5 - 10 | - |
| Fluridone | 6.3 | 59756-60-4 |
| Proprietary ingredient 5 | 1 - 10 | - |
| Proprietary ingredient 6 | 1 - 10 | - |
| Proprietary ingredient 7 | 0.1 - 1 | - |
| Proprietary ingredient 8 | 0.1 - 1 | - |

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

**There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.**

**Occupational exposure limits, if available, are listed in Section 8.**

# Section 4. First aid measures

**Description of necessary first aid measures**

**Eye contact** : Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 20 minutes. Chemical burns must be treated promptly by a physician.

**Inhalation** : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

**Skin contact** : Get medical attention immediately. Call a poison center or physician. Flush contaminated skin with plenty of water. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 20 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.

**Ingestion** : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

**Most important symptoms/effects, acute and delayed**

**Potential acute health effects**

**Eye contact** : Causes serious eye damage.

**Inhalation** : Harmful if inhaled. May cause respiratory irritation.

**Skin contact** : Causes skin irritation.

**Ingestion** : No known significant effects or critical hazards.

**Over-exposure signs/symptoms**

**Eye contact** : Adverse symptoms may include the following:
pain
watering
redness

**Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing

**Skin contact** : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur

## Section 4. First aid measures

**Ingestion** : Adverse symptoms may include the following:
stomach pains

**Indication of immediate medical attention and special treatment needed, if necessary**

**Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

**Specific treatments** : No specific treatment.

**Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

**See toxicological information (Section 11)**

## Section 5. Fire-fighting measures

**Extinguishing media**

**Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.

**Unsuitable extinguishing media** : None known.

**Specific hazards arising from the chemical** : In a fire or if heated, a pressure increase will occur and the container may burst. This material is toxic to aquatic life. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

**Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
halogenated compounds

**Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

**For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

# Section 6. Accidental release measures

**Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). May be harmful to the environment if accidentally released in large quantities.

**Methods and materials for containment and cleaning up**

**Spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

# Section 7. Handling and storage

**Precautions for safe handling**

**Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid accidental release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

**Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. See also Section 8 for additional information on hygiene measures.

**Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

# Section 8. Exposure controls/personal protection

**Control parameters**

**Occupational exposure limits**

| Ingredient name | Exposure limits |
|---|---|
| Proprietary ingredient 1 | **AIHA WEEL (United States, 10/2011).**<br>TWA: 10 mg/m³ 8 hours. |
| Proprietary ingredient 2 | None. |
| Proprietary ingredient 3 | None. |
| Fluridone | None. |
| Proprietary ingredient 5 | None. |
| Proprietary ingredient 6 | None. |

**Appropriate engineering controls** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

## Section 8. Exposure controls/personal protection

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

**Individual protection measures**

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

**Skin protection**

**Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

**Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

## Section 9. Physical and chemical properties

**Appearance**

**Physical state** : Liquid. [Clear.]

**Color** : Golden yellow.

**Odor** : Sweet, non-pungent. [Slight]

**Odor threshold** : Not available.

**pH** : 4.6 [Conc. (% w/w): 1%]

**Melting point** : Not available.

**Boiling point** : Not available.

**Flash point** : Open cup: >93.3°C (>200°F)

**Evaporation rate** : Not available.

**Flammability (solid, gas)** : Not available.

**Lower and upper explosive (flammable) limits** : Not available.

**Vapor pressure** : Not available.

## Section 9. Physical and chemical properties

**Vapor density** : Not available.

**Relative density** : 0.97

**Solubility** : Not available.

**Solubility in water** : Dispersible in water.

**Partition coefficient: n-octanol/water** : Not available.

**Auto-ignition temperature** : Not available.

**Decomposition temperature** : Not available.

**Viscosity** : Kinematic (room temperature): 0.303 $cm^2/s$ (30.3 cSt)

**Flow time (ISO 2431)** : Not available.

## Section 10. Stability and reactivity

**Reactivity** : No specific test data related to reactivity available for this product or its ingredients.

**Chemical stability** : The product is stable.

**Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.

**Conditions to avoid** : No specific data.

**Incompatible materials** : Reactive or incompatible with the following materials: oxidizing materials.

**Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

**Information on toxicological effects**

**Acute toxicity**

| Product/ingredient name | Result | Species | Dose | Exposure |
|---|---|---|---|---|
| Sonar® Genesis | LC50 Inhalation Dusts and mists<br>LD50 Dermal<br>LD50 Oral | Rat<br>Rat<br>Rat | >2.04 mg/L<br>>5000 mg/kg<br>5000 mg/kg | 4 hours<br>-<br>- |

**Irritation/Corrosion**

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|---|---|---|---|---|---|
| Sonar® Genesis | Skin - Primary dermal irritation index (PDII)<br>Eyes - Cornea opacity | Rabbit<br>Rabbit | 4.9<br>43 | -<br>- | 60 minutes<br>24 hours |

There is no data available.

**Sensitization**

| Product/ingredient name | Route of exposure | Species | Result |
|---|---|---|---|
| Sonar® Genesis | skin | Guinea pig | Not sensitizing |

# Section 11. Toxicological information

**Mutagenicity**

**Conclusion/Summary** : Based on active ingredients: no known evidence.

**Carcinogenicity**

**Conclusion/Summary** : Based on active ingredients: no known evidence.

**Reproductive toxicity**

**Conclusion/Summary** : Based on active ingredients: no known evidence.

**Teratogenicity**

There is no data available.

**Neurotoxicity**

**Conclusion/Summary** : Based on active ingredients: no known evidence.

**Immunotoxicity**

**Conclusion/Summary** : Based on active ingredients: no known evidence.

**Specific target organ toxicity (single exposure)**

| Name | Category | Route of exposure | Target organs |
|---|---|---|---|
| Proprietary ingredient 3<br>Proprietary ingredient 6 | Category 3<br>Category 3 | Not applicable.<br>Not applicable. | Respiratory tract irritation<br>Respiratory tract irritation |

**Specific target organ toxicity (repeated exposure)**

There is no data available.

**Aspiration hazard**

There is no data available.

**Information on the likely routes of exposure** : Dermal contact. Eye contact. Inhalation. Ingestion.

**Potential acute health effects**

**Eye contact** : Causes serious eye damage.

**Inhalation** : Harmful if inhaled. May cause respiratory irritation.

**Skin contact** : Causes skin irritation.

**Ingestion** : No known significant effects or critical hazards.

**Symptoms related to the physical, chemical and toxicological characteristics**

**Eye contact** : Adverse symptoms may include the following:
pain
watering
redness

**Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing

**Skin contact** : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur

**Ingestion** : Adverse symptoms may include the following:
stomach pains

# Section 11. Toxicological information

**Delayed and immediate effects and also chronic effects from short and long term exposure**

**Short term exposure**

**Potential immediate effects** : No known significant effects or critical hazards.

**Potential delayed effects** : No known significant effects or critical hazards.

**Long term exposure**

**Potential immediate effects** : No known significant effects or critical hazards.

**Potential delayed effects** : No known significant effects or critical hazards.

**Potential chronic health effects**

**General** : No known significant effects or critical hazards.

**Carcinogenicity** : No known significant effects or critical hazards.

**Mutagenicity** : No known significant effects or critical hazards.

**Teratogenicity** : No known significant effects or critical hazards.

**Developmental effects** : No known significant effects or critical hazards.

**Fertility effects** : No known significant effects or critical hazards.

**Numerical measures of toxicity**

**Acute toxicity estimates**

| Route | ATE value |
|---|---|
| Inhalation (vapors) | 1100 mg/L |

# Section 12. Ecological information

**Toxicity**

| Product/ingredient name | Result | Species | Exposure |
|---|---|---|---|
| Proprietary ingredient 1 | Acute EC50 >110 mg/L Fresh water | Daphnia - *Daphnia magna* | 48 hours |
| | Acute LC50 1020 mg/L Fresh water | Crustaceans - *Ceriodaphnia dubia* | 48 hours |
| | Acute LC50 710 mg/L Fresh water | Fish - *Pimephales promelas* | 96 hours |
| Proprietary ingredient 3 | Acute EC50 5 mg/L Fresh water | Algae - *Pseudokirchneriella subcapitata* | 72 hours |
| | Acute LC50 21 mg/L Fresh water | Fish - *Oncorhynchus mykiss* | 96 hours |
| Fluridone | EC50 3 mg/L | Daphnia - *Daphnia magna* | 48 hours |
| | LC50 8 mg/L | Crustaceans - *Eucyclops sp.* | 48 hours |
| | LC50 >5.2 mg/L | Fish - *Cyprinodon variegatus* | 96 hours |
| | LC50 >6.5 mg/L | Fish - *Pimephales promelas* | 96 hours |
| | Chronic NOEC 0.84 mg/L | Daphnia - *Daphnia magna* | 21 days |
| | Chronic NOEC 0.43 mg/L | Fish - *Oncorhynchus tshawytscha* | 75 days |

**Persistence and degradability**

There is no data available.

**Bioaccumulative potential**

| Product/ingredient name | $LogP_{ow}$ | BCF | Potential |
|---|---|---|---|
| Proprietary ingredient 1 | -1.07 | - | low |
| Proprietary ingredient 3 | 3.44 | - | low |
| Fluridone | 3.16 | - | low |
| Proprietary ingredient 6 | 2.9 | 25.33 | low |

## Section 12. Ecological information

**Mobility in soil**

**Soil/water partition coefficient ($K_{OC}$)** : Not available.

**Other adverse effects** : No known significant effects or critical hazards.

## Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling empty containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## Section 14. Transport information

| | DOT Classification | IMDG | IATA |
|---|---|---|---|
| **UN number** | Not regulated. | Not regulated. | Not regulated. |
| **UN proper shipping name** | - | - | - |
| **Transport hazard class(es)** | - | - | - |
| **Packing group** | - | - | - |
| **Environmental hazards** | No. | No. | No. |

**AERG** : Not applicable.

**Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

## Section 15. Regulatory information

**U.S. Federal regulations** : **TSCA 8(a) PAIR**: Proprietary ingredient 8

**TSCA 8(a) CDR Exempt/Partial exemption**: Not determined

**United States inventory (TSCA 8b)**: All components are listed or exempted.

**Commerce control list precursor**: Proprietary ingredient 7

# Section 15. Regulatory information

**Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)** : Not listed

**Clean Air Act Section 602 Class I Substances** : Not listed

**Clean Air Act Section 602 Class II Substances** : Not listed

**DEA List I Chemicals (Precursor Chemicals)** : Not listed

**DEA List II Chemicals (Essential Chemicals)** : Not listed

**SARA 302/304**

**Composition/information on ingredients**

No products were found.

**SARA 304 RQ** : Not applicable.

**SARA 311/312**

**Classification** : Immediate (acute) health hazard

**Composition/information on ingredients**

| Name | Fire hazard | Sudden release of pressure | Reactive | Immediate (acute) health hazard | Delayed (chronic) health hazard |
|---|---|---|---|---|---|
| Proprietary ingredient 2 | No. | No. | No. | Yes. | No. |
| Proprietary ingredient 3 | No. | No. | No. | Yes. | No. |
| Fluridone | No. | No. | No. | Yes. | No. |
| Proprietary ingredient 4 | No. | No. | No. | Yes. | No. |
| Proprietary ingredient 5 | Yes. | No. | No. | Yes. | No. |

**SARA 313**

There is no data available.

**State regulations**

**Massachusetts** : The following components are listed: Proprietary ingredient 6

**New York** : None of the components are listed.

**New Jersey** : The following components are listed: Proprietary ingredient 1

**Pennsylvania** : The following components are listed: Proprietary ingredient 1; Proprietary ingredient 6

**California Prop. 65**

No products were found.

# Section 16. Other information

**Procedure used to derive the classification**

| Classification | Justification |
|---|---|
| ACUTE TOXICITY (inhalation) - Category 4 | On basis of test data |
| SKIN IRRITATION - Category 2 | Calculation method |
| SERIOUS EYE DAMAGE - Category 1 | On basis of test data |
| SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 | Calculation method |
| AQUATIC HAZARD (ACUTE) - Category 2 | Calculation method |
| AQUATIC HAZARD (LONG-TERM) - Category 3 | Calculation method |

**History**

**Date of issue mm/dd/yyyy** : 06/30/2017

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**Version** : 3

**Prepared by** : KMK Regulatory Services Inc.

**Notice to reader**

**To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.**
**Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.**

# SAFETY DATA SHEET

# Aquatic Herbicide

## Section 1. Identification

**GHS product identifier** : SonarOne® Aquatic Herbicide

**Other means of identification** : Not available.

**EPA Registration No.** : 67690-45

**Relevant identified uses of the substance or mixture**

Aquatic herbicide.

**Supplier's details** : SePRO Corporation
11550 North Meridian Street
Suite 600
Carmel, IN 46032 U.S.A.
Tel: 317-580-8282
Toll free: 1-800-419-7779
Fax: 317-580-8290
Monday - Friday, 8am to 5pm E.S.T.
www.sepro.com

**Emergency telephone number (with hours of operation)** : **INFOTRAC - 24-hour service 1-800-535-5053**

**The following recommendations for exposure controls and personal protection are intended for the manufacture, formulation and packaging of this product. For applications and/or use, consult the product label. The label directions supersede the text of this Safety Data Sheet for application and/or use.**

## Section 2. Hazards identification

**OSHA/HCS status** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**Classification of the substance or mixture** : EYE IRRITATION - Category 2B
AQUATIC HAZARD (ACUTE) - Category 3
AQUATIC HAZARD (LONG-TERM) - Category 3

**GHS label elements**

**Signal word** : Warning

**Hazard statements** : H320 - Causes eye irritation.
H412 - Harmful to aquatic life with long lasting effects.

**Precautionary statements**

**Prevention** : P273 - Avoid accidental release to the environment.
P264 - Wash hands thoroughly after handling.

**Response** : P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 - If eye irritation persists: Get medical attention.

**Storage** : Not applicable.

**Disposal** : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

## Section 2. Hazards identification

**Hazards not otherwise classified** : None known.

## Section 3. Composition/information on ingredients

**Substance/mixture** : Mixture

**Other means of identification** : Not available.

| Ingredient name | % | CAS number |
|---|---|---|
| Proprietary ingredient 3 | 40 - 60 | - |
| Proprietary ingredient 4 | 20 - 40 | - |
| Proprietary ingredient 1 | 10 - 20 | - |
| Fluridone | 5 | 59756-60-4 |
| Proprietary ingredient 2 | 1 - 5 | - |

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.**

**Occupational exposure limits, if available, are listed in Section 8.**

## Section 4. First aid measures

### Description of necessary first aid measures

**Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 20 minutes. If irritation persists, get medical attention.

**Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

**Skin contact** : Flush contaminated skin with plenty of water. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

**Ingestion** : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

**Eye contact** : Causes eye irritation.

**Inhalation** : No known significant effects or critical hazards.

**Skin contact** : No known significant effects or critical hazards.

## Section 4. First aid measures

**Ingestion** : No known significant effects or critical hazards.

**Over-exposure signs/symptoms**

**Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness

**Inhalation** : No known significant effects or critical hazards.

**Skin contact** : No known significant effects or critical hazards.

**Ingestion** : No known significant effects or critical hazards.

**Indication of immediate medical attention and special treatment needed, if necessary**

**Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

**Specific treatments** : No specific treatment.

**Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

**See toxicological information (Section 11)**

## Section 5. Fire-fighting measures

**Extinguishing media**

**Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.

**Unsuitable extinguishing media** : None known.

**Specific hazards arising from the chemical** : This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

**Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
halogenated compounds

**Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

**For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

## Section 6. Accidental release measures

**For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). May be harmful to the environment if accidentally released in large quantities.

**Methods and materials for containment and cleaning up**

**Spill** : Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## Section 7. Handling and storage

**Precautions for safe handling**

**Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid accidental release to the environment. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

**Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. See also Section 8 for additional information on hygiene measures.

**Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

## Section 8. Exposure controls/personal protection

**Control parameters**

**Occupational exposure limits**

| Ingredient name | Exposure limits |
|---|---|
| Fluridone | None. |

**Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

## Section 8. Exposure controls/personal protection

**Individual protection measures**

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

**Skin protection**

**Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

**Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

## Section 9. Physical and chemical properties

**Appearance**

**Physical state** : Solid. [Pellets.]

**Color** : Brown to gray.

**Odor** : Faint earthy/musty.

**Odor threshold** : Not available.

**pH** : 7.8 [Conc. (% w/w): 31%]

**Melting point** : Not available.

**Boiling point** : Not available.

**Flash point** : Not applicable.

**Evaporation rate** : Not available.

**Flammability (solid, gas)** : Not available.

**Lower and upper explosive (flammable) limits** : Not available.

**Vapor pressure** : Not available.

**Vapor density** : Not available.

**Relative density** : 1.02 at 20°C

**Solubility** : Not available.

**Solubility in water** : Insoluble. Pellet disintegrates in water.

**Partition coefficient: n-octanol/water** : Not available.

## Section 9. Physical and chemical properties

**Auto-ignition temperature** : Not available.

**Decomposition temperature** : Not available.

**Viscosity** : Not available.

**Flow time (ISO 2431)** : Not available.

## Section 10. Stability and reactivity

**Reactivity** : No specific test data related to reactivity available for this product or its ingredients.

**Chemical stability** : The product is stable.

**Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.

**Conditions to avoid** : No specific data.

**Incompatible materials** : Reactive or incompatible with the following materials: oxidizing materials.

**Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

**Information on toxicological effects**

**Acute toxicity**

| Product/ingredient name | Result | Species | Dose | Exposure |
|---|---|---|---|---|
| SonarOne® Aquatic Herbicide | LD50 Dermal<br>LD50 Oral | Rabbit<br>Rat | >2000 mg/kg<br>>5000 mg/kg | -<br>- |

**Irritation/Corrosion**

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|---|---|---|---|---|---|
| SonarOne® Aquatic Herbicide | Eyes - Mild irritant | Rabbit | - | - | - |

There is no data available.

**Sensitization**

| Product/ingredient name | Route of exposure | Species | Result |
|---|---|---|---|
| SonarOne® Aquatic Herbicide | skin | Guinea pig | Not sensitizing |

**Mutagenicity**

**Conclusion/Summary** : Based on active ingredients: no known evidence.

**Carcinogenicity**

**Conclusion/Summary** : Based on active ingredients: no known evidence.

**Reproductive toxicity**

**Conclusion/Summary** : Based on active ingredients: no known evidence.

**Teratogenicity**

There is no data available.

# Section 11. Toxicological information

**Neurotoxicity**

**Conclusion/Summary** : Based on active ingredients: no known evidence.

**Immunotoxicity**

**Conclusion/Summary** : Based on active ingredients: no known evidence.

**Specific target organ toxicity (single exposure)**

There is no data available.

**Specific target organ toxicity (repeated exposure)**

There is no data available.

**Aspiration hazard**

There is no data available.

**Information on the likely routes of exposure** : Dermal contact. Eye contact. Inhalation. Ingestion.

**Potential acute health effects**

**Eye contact** : Causes eye irritation.

**Inhalation** : No known significant effects or critical hazards.

**Skin contact** : No known significant effects or critical hazards.

**Ingestion** : No known significant effects or critical hazards.

**Symptoms related to the physical, chemical and toxicological characteristics**

**Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness

**Inhalation** : No known significant effects or critical hazards.

**Skin contact** : No known significant effects or critical hazards.

**Ingestion** : No known significant effects or critical hazards.

**Delayed and immediate effects and also chronic effects from short and long term exposure**

**Short term exposure**

**Potential immediate effects** : No known significant effects or critical hazards.

**Potential delayed effects** : No known significant effects or critical hazards.

**Long term exposure**

**Potential immediate effects** : No known significant effects or critical hazards.

**Potential delayed effects** : No known significant effects or critical hazards.

**Potential chronic health effects**

**General** : No known significant effects or critical hazards.

**Carcinogenicity** : No known significant effects or critical hazards.

**Mutagenicity** : No known significant effects or critical hazards.

**Teratogenicity** : No known significant effects or critical hazards.

**Developmental effects** : No known significant effects or critical hazards.

**Fertility effects** : No known significant effects or critical hazards.

# Section 11. Toxicological information

**Numerical measures of toxicity**

**Acute toxicity estimates**

There is no data available.

# Section 12. Ecological information

**Toxicity**

| Product/ingredient name | Result | Species | Exposure |
|---|---|---|---|
| Fluridone | EC50 3 mg/L<br>LC50 8 mg/L<br>LC50 >5.2 mg/L<br>LC50 >6.5 mg/L<br>Chronic NOEC 0.84 mg/L<br>Chronic NOEC 0.43 mg/L | Daphnia - *Daphnia magna*<br>Crustaceans - *Eucyclops sp.*<br>Fish - *Cyprinodon variegatus*<br>Fish - *Pimephales promelas*<br>Daphnia - *Daphnia magna*<br>Fish - *Oncorhynchus tshawytscha* | 48 hours<br>48 hours<br>96 hours<br>96 hours<br>21 days<br>75 days |

**Persistence and degradability**

There is no data available.

**Bioaccumulative potential**

| Product/ingredient name | $LogP_{ow}$ | BCF | Potential |
|---|---|---|---|
| Fluridone | 3.16 | - | low |

**Mobility in soil**

**Soil/water partition coefficient ($K_{OC}$)** : Not available.

**Other adverse effects** : No known significant effects or critical hazards.

# Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling empty containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## Section 14. Transport information

| | DOT Classification | IMDG | IATA |
|---|---|---|---|
| **UN number** | Not regulated. | Not regulated. | Not regulated. |
| **UN proper shipping name** | - | - | - |
| **Transport hazard class(es)** | - | - | - |
| **Packing group** | - | - | - |
| **Environmental hazards** | No. | No. | No. |

**AERG :** Not applicable.

**Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

## Section 15. Regulatory information

**U.S. Federal regulations** : **TSCA 8(a) CDR Exempt/Partial exemption**: Not determined

**United States inventory (TSCA 8b)**: All components are listed or exempted.

**Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)** : Not listed

**Clean Air Act Section 602 Class I Substances** : Not listed

**Clean Air Act Section 602 Class II Substances** : Not listed

**DEA List I Chemicals (Precursor Chemicals)** : Not listed

**DEA List II Chemicals (Essential Chemicals)** : Not listed

**SARA 302/304**

**Composition/information on ingredients**

No products were found.

**SARA 304 RQ** : Not applicable.

**SARA 311/312**

**Classification** : Immediate (acute) health hazard

# Section 15. Regulatory information

**Composition/information on ingredients**

| Name | Fire hazard | Sudden release of pressure | Reactive | Immediate (acute) health hazard | Delayed (chronic) health hazard |
|---|---|---|---|---|---|
| Fluridone | No. | No. | No. | Yes. | No. |

**SARA 313**

There is no data available.

**State regulations**

**Massachusetts** : None of the components are listed.

**New York** : None of the components are listed.

**New Jersey** : The following components are listed: Proprietary ingredient 3

**Pennsylvania** : The following components are listed: Proprietary ingredient 3

**California Prop. 65**

No products were found.

# Section 16. Other information

**Procedure used to derive the classification**

| Classification | Justification |
|---|---|
| EYE IRRITATION - Category 2B<br>AQUATIC HAZARD (ACUTE) - Category 3<br>AQUATIC HAZARD (LONG-TERM) - Category 3 | On basis of test data<br>Calculation method<br>Calculation method |

**History**

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**Version** : 5

**Prepared by** : KMK Regulatory Services Inc.

**Notice to reader**

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## Supporting Document 7: Potential Environmental Impacts

Fluridone effects on non-target animals (including humans)

Any pesticide approved by the U.S. Environmental Protection Agency (USEPA) has undergone extensive testing to determine toxicity level through acute (high doses for short periods of time) and chronic (long term exposure) studies on animals (USEPA 1986). Sonar has been tested in both acute and chronic studies, as well as studies to examine genetic, cancer, and reproductive effects. Sonar was not shown to result in the development of tumors, adverse reproductive effects or offspring development, or genetic damage. Sonar has been tested extensively on target aquatic invasive plants, as well as in long-term residue monitoring studies in treated waters. Sonar is labeled with the signal word "caution" by the USEPA, indicating a level of toxicity lesser than those labeled with either "danger" (more toxic) or "poison" (most toxic).

The USEPA has approved Sonar's application in water used for drinking as long as residue levels do not exceed 0.15 parts per million (ppm) or 150 parts per billion (ppb). One ppm can be considered equivalent to approximately one second in twelve days or one foot in two hundred miles. Sonar applications can be made within one-fourth miles (1,320 ft.) of a potable water intake. This treatment concentration is well below the 0.15ppm (150ppb) allowable limit in water used for drinking (USEPA 1986). Human contact to fluridone may be through swimming in treated waters, drinking water from treated waters, by consuming fish from treated waters, or by consuming meat, poultry, eggs, or milk from livestock that were provided water from treated waters. Piledriver Slough is used mainly for fishing and boating, and does not have any commercial agricultural use, so exposure through livestock is unlikely. There are no USEPA restrictions on the use of fluridone-treated water for swimming or fishing when used according to label directions (USEPA 1986).

The maximum non-toxic dose is characterized by the "no-observable-effect-level" or NOEL for pesticides. The dietary NOEL for fluridone (the highest dose at which no adverse effects were observed in laboratory test animals fed Sonar) is approximately 8 milligrams of Sonar per kilogram of body weight per day (8mg/kg/day). A 70-kg (150lb) adult would have to drink over 1,000 gallons of water containing the maximum legal allowable concentrations in potable water (0.15 ppm) for a significant portion of their lifetime to receive an equivalent dose. A 20 kg
(40lb) child would have to drink approximately 285 gallons of Sonar treated water every day to receive a NOEL-equivalent dose. The risk therefore is negligible even if a human were to accidentally ingest water directly after Sonar treatment. As Sonar is only applied intermittently throughout the year and in limited areas, and because it disappears from the environment, continuous exposure over a lifetime for humans, mammals, and other animals is improbable. Fluridone has been tested for acute and chronic toxicity, as well as reproductive effects, on mammals (rats, mice, guinea pigs, rabbits, dogs), birds (bobwhite quail, mallard duck), insects (honey bee, amphibods, daphnids, midge, chironomid), earthworms, fish (fathead minnows, catfish, mosquitofish, rainbow trout), and other aquatic animals (Hamelink et al. 2009, Kamarianos et al. 1989, Muir et al. 1982, McCowen et al. 1979).

Exposure of test animals dermally (skin contact) has shown minimal toxicity to mammals by acute, concentrated contact. Chronic dermal exposure in mammals showed no signs of toxicity and slight skin irritation. Mammals were shown to excrete fluridone metabolites within 72 hours of varying doses of up to 1400 ppm/day (McCowen et al. 1979). A dietary NOEL was established for birds that may feed on aquatic plants or insects in treated waters. The risk to birds via diet was considered negligible. The acute median lethal concentrations of fluridone were 4.3+/-3.7mg/L for invertebrates and 10.4 +/- 3.0 mg/L for fish. Fish in treated ponds have shown no fluridone metabolites after treatment (Kamarianos et. al. 1989). Chronic studies showed no effects on daphnids, midge larvae, fathead minnows, or channel catfish and rapid rates of metabolic excretion (Hamelink et al. 2009, Muir et al. 1982). Insects that fed on bottom sediment had higher rates of fluridone intake and persistence than others (Muir et al. 1982). Honeybees and earthworms were not considered particularly sensitive to fluridone, even when directly dusted or placed in treated soil.

Fluridone has low bioaccumulation potential in fish, bird, or mammal tissues. Irrigation of crops using water treated with fluridone lead to only trace amounts detected in forage crops. Livestock consumption of Sonar-treated water resulted in negligible levels of Sonar in lean meat and milk. Sonar manufacturer recommendations indicate the livestock can be watered immediately from Sonar-treated water. The tolerance for milk is the same as for water (0.15 ppm).

Fluridone effects on non-target vegetation

The desired outcome is the eradication of elodea, but native submerged aquatic plants will be impacted as well. Madsen et al. (2002) evaluated effects on nontarget plants in three lakes in southern Michigan that were treated with low-dosages of fluridone (Sonar AS) to control Eurasion watermilfoil. Despite achieving >93% reduction in the frequency of watermilfoil, native plant cover (composed mostly of *Ceratophyllum demersum*, *Chara* spp., *Heteranthera dui*, *Potamogeton* spp., and *Vallisneria americana*) was maintained at >70% in the year of treatment and 1-year post treatment. Floating leaf plants (such as yellow pond lily) exhibiting chlorosis (due to lack of chlorophyll) usually recover within the year of treatment or become re-established within the following year (Kenaga 1992). In Chena Slough, Piledriver Slough, and Hot Springs Slough, elodea grows in mixed assemblages with varying amounts of native aquatic species. At the low concentrations applied (≤150 ppb) fluridone is expected to be lethal only to elodea. The aquatic plant community is expected to shift back to one comprised entirely of native species. There may be a time period when elodea is decaying that light and dissolved oxygen may be temporarily reduced. As the plant continues to decay, water clarity and dissolved oxygen as well as nutrient levels are expected to return to normal water quality levels.

**Literature cited**


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- Kamarianos, A., J. Altiparmakis, X. Karamanlis, D. Kufidis, T. Kousouris, G. Fotis, and S. Kilikidis. 1989. Experimental evaluation of fluridone effectiveness on fish productive aquatic ecosystems. *Journal of Aquatic Plant Management* 27: 24-26.
- Kenaga, D. 1992. *The impact of the herbicide Sonar on the aquatic plant community in 21 Michigan lakes: 1992.* Inland Lakes Management Unit, Land and Water Management Division, Michigan Department of Natural Resources.
- Madsen, J. D., K. D. Getsinger, R. M. Stewart and C. S. Owens. 2002. Whole lake fluridone treatments for selective control of Eurasian watermilfoil: II. Impacts on submersed plant communities. *Lake and Reservoir Management* 18(3): 191-200.
- McCowen, M., C. Young, S. West, S. Parka and W. Arnold. 1979. Fluridone, a new herbicide for aquatic plant management. *Journal of Aquatic Plant Management* 17: 27-30.
- Muir, D.C.G. and N.P. Grift. 1982. Fate of fluridone in sediment and water in laboratory and field experiments. *Journal of Agricultural and Food Chemistry* 30 (2): 238-244.
- U. S. Environmental Protection Agency (USEPA). 1986. *Pesticide Fact Sheet: Fluridone.* No. 81, 5 pp.

## Supporting Document 8: Precautions

All personal and environmental use precautions listed in the MSDS sheets and product labels will be followed strictly. Transportation, storage, and application of aquatic pesticides will follow all manufacturer guidelines. All applications will be done by certified DEC Pesticide Applicators with Category 6 Aquatic Pest control endorsements.

Appropriate signage will be placed in the application areas to inform the public of the potential safety concerns. Landowners and other stakeholders will be kept informed of the application procedure, interaction concerns, and follow-up monitoring results.

Public notification of pesticide applications in public places will be posted at public access points of entry and exit. Signs will stay posted at least 24 hours after the application with contact names, phone numbers, time of application, and any appropriate restrictions.

Application of the pesticides will adhere to custom prescriptions formulated for Chena Slough, Piledriver Slough, and Hot Springs Slough and followed accordingly. This will minimize any potential for adverse effects on all non-target environmental elements.

**Supporting Document 11**
Documentation of compliance with APDES permit requirements
pages 85 - 88

THE STATE of ALASKA
GOVERNOR MICHAEL J. DUNLEAVY

Department of Environmental Conservation
DIVISION OF WATER
Wastewater Discharge Authorization Program

555 Cordova Street
Anchorage, Alaska 99501-2617
Main: 907.269.6285
Fax: 907.334.2415
www.dec.alaska.gov/water/wwdp

March 31, 2026

Fairbanks Soil and Water Conservation District
Attention: Aditi Shcnoy
590 University Ave., Suite 2
Fairbanks, AK 99709

Re: **AKG870009 v4.2: ADNR, Fairbanks Soil & Water Conservation District (FSWCD)**

The Alaska Department of Environmental Conservation (DEC) has completed its review of your AKG870000 Pesticide General Permit (PGP) Notice of Intent (NOI) modification and is reissuing the following authorization number: **AKG870009 v4.2 with additional pest management area 23 (Rainbow Lake), and modified area 1 (Chena Slough)**. The permittee is authorized under the terms and conditions of this permit effective March 23, 2026 and expires July 31, 2027 as per Permit Part 1.2 and Permit Part 1.2.5 Continuation. Permit documents will be posted to the Alaska DEC EDMS Map Explorer at https://dec.alaska.gov/Applications/Water/EDMS/nsite.

The authorization to discharge expires upon submittal of a Notice of Termination (NOT), see Permit Part 1.2.6. To terminate permit coverage, submit a complete and accurate NOT using the online system – Environmental Data Management System (EDMS) and Customer Service Portal (https://dec.alaska.gov/Applications/Water/EDMS/). As a reminder, submit an NOT within 30 days after one or more of the following conditions have been met:

- A new Decision-maker (Organization) has taken over responsibility of the pest control activities covered under an existing NOI; or
- The Decision-maker has ceased all discharges from the application of pesticides for which permit coverage was obtained and does not expect to discharge during the remainder of the permit term for any of the use patterns as identified in Part 1.1.1.

The pest management areas identified in the authorization are as follows:

**Pest Management Area**: 1 of 23, Chena Slough
**Pesticide Use Patterns**:

☐ Mosquito and Other Flying Insect Pest Control ☐ Animal Pest Control
☒ Weed and Algae Pest Control ☐ Forest Canopy Pest Control

| Pest(s) to be controlled: | Pesticide Products | |
|---|---|---|
| | Product Name: | EPA Registration Number: |
| Elodea spp. | Sonar 1 | 67690-45 |

**Pest Management Area**: 2 of 23, Chena Lake
**Pesticide Use Patterns**:

☐ Mosquito and Other Flying Insect Pest Control ☐ Animal Pest Control
☒ Weed and Algae Pest Control ☐ Forest Canopy Pest Control

| Pest(s) to be controlled: | Pesticide Products | |
|---|---|---|
| | Product Name: | EPA Registration Number: |
| Elodea spp. | SonarONE | 67690-45 |
| Elodea spp. | Solar Genesis | 67690-54 |

**Pest Management Area**: 3 of 23, Totchaket Slough
**Pesticide Use Patterns**:

☐ Mosquito and Other Flying Insect Pest Control ☐ Animal Pest Control
☒ Weed and Algae Pest Control ☐ Forest Canopy Pest Control

| Pest(s) to be controlled: | Pesticide Products | |
|---|---|---|
| | Product Name: | EPA Registration Number: |
| Elodea spp. | Littora | 67690-53 |
| Elodea spp. | Solar Genesis | 67690-54 |
| Elodea spp. | Sonar H4C | 67690-61 |

**Pest Management Area**: 4 of 23, Linder Lakes Complex
**Pesticide Use Patterns**:

☐ Mosquito and Other Flying Insect Pest Control ☐ Animal Pest Control
☒ Weed and Algae Pest Control ☐ Forest Canopy Pest Control

| Pest(s) to be controlled: | Pesticide Products | |
|---|---|---|
| | Product Name: | EPA Registration Number: |
| Elodea spp. | SonarONE | 67690-45 |
| Elodea spp. | Littora | 67690-53 |
| Elodea spp. | Solar Genesis | 67690-54 |

**Pest Management Area**: 5 of 23, Small Arms Complex Pond, Ft. Wainwright
**Pesticide Use Patterns**:

☐ Mosquito and Other Flying Insect Pest Control ☐ Animal Pest Control
☒ Weed and Algae Pest Control ☐ Forest Canopy Pest Control

| Pest(s) to be controlled: | Pesticide Products | |
|---|---|---|
| | Product Name: | EPA Registration Number: |
| Elodea spp. | Littora | 67690-53 |
| Elodea spp. | SonarOne | 67690-45 |
| Elodea spp. | Sonar Genesis | 67690-54 |

**Pest Management Area**: 6 of 23, Bathing Beauty Pond
**Pesticide Use Patterns**:

☐ Mosquito and Other Flying Insect Pest Control ☐ Animal Pest Control
☒ Weed and Algae Pest Control ☐ Forest Canopy Pest Control

| Pest(s) to be controlled: | Pesticide Products | |
|---|---|---|
| | Product Name: | EPA Registration Number: |
| Elodea spp. | SonarOne | 67690-45 |
| Elodea spp. | Sonar Genesis | 67690-54 |

**Pest Management Area**: 7 of 23, Manley Hot Springs Slough
**Pesticide Use Patterns**:

☐ Mosquito and Other Flying Insect Pest Control ☐ Animal Pest Control
☒ Weed and Algae Pest Control ☐ Forest Canopy Pest Control

| Pest(s) to be controlled: | Pesticide Products | |
|---|---|---|
| | Product Name: | EPA Registration Number: |
| Elodea spp. | Littora | 67690-53 |
| Elodea spp. | SonarOne | 67690-45 |
| Elodea spp. | Sonar Genesis | 67690-54 |

**Pest Management Area**: 8 of 23, Birch Lake
**Pesticide Use Patterns**:

☐ Mosquito and Other Flying Insect Pest Control ☐ Animal Pest Control
☒ Weed and Algae Pest Control ☐ Forest Canopy Pest Control

| Pest(s) to be controlled: | Pesticide Products | |
|---|---|---|
| | Product Name: | EPA Registration Number: |
| Elodea spp. | Littora | 67690-53 |
| Elodea spp. | SonarOne | 67690-45 |
| Elodea spp. | Sonar Genesis | 67690-54 |

4/27/2021 modification:

**Pest Management Area**: 9 of 23, Piledriver Slough
**Pesticide Use Patterns**:

☐ Mosquito and Other Flying Insect Pest Control ☐ Animal Pest Control
☒ Weed and Algae Pest Control ☐ Forest Canopy Pest Control

| Pest(s) to be controlled: | Pesticide Products | |
|---|---|---|
| | Product Name: | EPA Registration Number: |
| Elodea spp. | Sonar Genesis | 67690-54 |

**Pest Management Area**: 10 of 23, Harding Lake
**Pesticide Use Patterns**:

☐ Mosquito and Other Flying Insect Pest Control ☐ Animal Pest Control
☒ Weed and Algae Pest Control ☐ Forest Canopy Pest Control

| Pest(s) to be controlled: | Pesticide Products | |
|---|---|---|
| | Product Name: | EPA Registration Number: |
| Elodea spp. | SonarOne | 67690-45 |
| Elodea spp. | Littora | 67690-53 |

**Pest Management Area**: 11 of 23, Chisholm/Lost Lake
**Pesticide Use Patterns**:

☐ Mosquito and Other Flying Insect Pest Control ☐ Animal Pest Control
☒ Weed and Algae Pest Control ☐ Forest Canopy Pest Control

| Pest(s) to be controlled: | Pesticide Products | |
|---|---|---|
| | Product Name: | EPA Registration Number: |
| Elodea spp. | SonarOne | 67690-45 |
| Elodea spp. | Littora | 67690-53 |

**Pest Management Area(s)**: 12. Lady of the Lake, 13. 28-Mile Pit, 14. Grayling Lake, 15. Hidden Lake, 16. Pike Lake, 17. Scout Lake, 18. Moose Lake, 19. Polaris Lake, 20. Mullins Pit, 21. Chena Cove, 22. Piledriver Slough (upper section)
**Pesticide Use Patterns**:

☐ Mosquito and Other Flying Insect Pest Control ☐ Animal Pest Control
☒ Weed and Algae Pest Control ☐ Forest Canopy Pest Control

| Pest(s) to be controlled: | Pesticide Products | |
|---|---|---|
| | Product Name: | EPA Registration Number: |
| Elodea spp. | SonarOne | 67690-45 |
| Elodea spp. | Littora | 67690-53 |

**Pest Management Area**: 23 of 23, Rainbow Lake
**Pesticide Use Patterns**:

☐ Mosquito and Other Flying Insect Pest Control ☐ Animal Pest Control
☒ Weed and Algae Pest Control ☐ Forest Canopy Pest Control

| Pest(s) to be controlled: | Pesticide Products | |
|---|---|---|
| | Product Name: | EPA Registration Number: |
| Elodea spp. | Sonar 1 | 67690-45 |

The permittee is reminded of the following permit requirements:

- Technology-Based Effluent Limitations, Part 2.2, Decision-makers' Responsibilities for All Decision-makers
- Technology-Based Effluent Limitations, Part 2.2, Decision-makers' Responsibilities for Decision-makers Required to Submit NOIs
- Water Quality, Part 3
- Monitoring, Part 4
- Pesticide Discharge Management Plan, Part 5

- Corrective Action, Part 6
- Recordkeeping, Parts 7.1, 7.4, and 7.5
- Annual Report, Part 7.6
- Standard Permit Conditions, Permit Appendix A

If you are self-applying a pesticide, your requirements also include:

- Technology-Based Effluent Limitations, Part 2.1 Applicators' Responsibilities

Information regarding the APDES Pesticide General Permit (PGP) may be found at the DEC website https://dec.alaska.gov/water/wastewater/stormwater/permits-approvals/pesticide/. A copy of the Pesticide General Permit (PGP) and this authorization must be kept at the address provided in the NOI.

This authorization does not relieve the permittee from other local, state, or federal government permitting requirements.

If you have any questions regarding this letter or the storm water program, please call 907-269-6285.

If you have any questions regarding the above, please contact me at +1 907-465-5270 or via email at Nick.Waldo@alaska.gov.

Sincerely,

N Waldo

Nick Waldo
Program Manager, Storm Water and Wetlands