Alaska Department of
Environmental Conservation
Division of Environmental Health
Pesticide Control Program

Pesticide-Use Permit Application Packet To Apply Pesticides to Water

Instructions

- Pesticide-use permits are required under the following circumstances:
  - **Aerial:** Application of pesticide from any type of aircraft or hovercraft, regardless of who owns the land being treated.
  - **Aquatic:** Application of pesticide to a pest located in a water body, including creeks, rivers, streams, ponds, wetlands, and swamps, regardless of who owns the surrounding lands. For vegetation, if the roots are in the water, this is considered an aquatic application even if only the emergent vegetation is treated.
  - **Public Project On Multiple Properties:** Pesticide program or project by a government entity (state, borough, or city) that applies pesticide to more than one property.
- This packet contains instructions and application forms for obtaining a permit to apply pesticides to waters of the state, including both fresh and marine waters.
- **Each** item must be completed and included in your application. Please address each item. If the required information is not applicable please include a brief explanation.
- An Alaska Pollution Discharge Elimination System (APDES) Permit from the DEC Division of Water is required before a pesticide may be applied to surface water. The APDES permit must be obtained **prior** to applying for an ADEC Pesticide Use Permit. For more information, contact Jim Rypkema at **james.rypkema@alaska.gov**, or (907) 334-2288.
- Check off each item as you complete it, and submit the entire packet and required information to the DEC Pesticide Program, at the address shown below.
- A notice of application is required for ALL permits. Once your application is complete, ADEC will provide the required text for you to post in local newspapers. You must also submit an affidavit of publication once publication is complete. 18 AAC 15.020, 18 AAC 15.050, 18 AAC 90.520
- The requested information in this form represents the minimum that is required under 18 AAC 90, 18 AAC 15.020, and 18 AAC 15.050; additional information can and should be provided as necessary or applicable.
- Please do not staple items, renumber required attachments, or alter the form in any way.
- You may submit all items EXCEPT the signature page electronically. The original signed signature page must be mailed or delivered to the address below.

Alaska Department of Environmental Conservation
Pesticide Control Program
1700 E. Bogard Road, #B103
Wasilla, Alaska 99654
907-376-1870
www.dec.state.ak.us/eh/pest/

June 2018

Alaska Department of
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Part One: Contact Information

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

Organization/business: Alaska Department of Fish and Game, Division of Sport Fish

Contact person: Parker Bradley

Mailing address: 1801 S. Margaret Dr. Suite 2

City, State, Zip: Palmer, AK 99645

Telephone Number: 907-746-6328

Email Address: Parker.bradley@alaska.gov

Is the applicant a government entity? 18 AAC 90.620

[x] Yes [ ] No

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

Organization/business: Alaska Department of Fish and Game Division of Sport Fish

Contact person: Parker Bradley

Mailing address: 1801 S. Margaret Dr. Suite 2

City/State/Zip: Palmer, AK 99645

Telephone Number: 907-746-6328

Email Address: Parker.bradley@alaska.gov

Pesticide Applicator Certification Number: 11055-2705-6
18 AAC 90.515(13)

Alaska Department of
Environmental Conservation
Division of Environmental Health
Pesticide Control Program

Pesticide-Use Permit Application Packet To Apply Pesticides to Water

✓	#	Part Two: Treatment Location Information
	1	Treatment site location: 18 AAC 90.515(6)(A) Street Address: See Description Below City: Wasilla, AK OR 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. Memory Lake is located in Wasilla, just north of E. Schrock Rd. The public access is located at 1251 E. Inverness Dr.
	2	Describe treatment site (lake, stream, river, wetland, etc.), including inflow and outflow characteristics, stream flow, etc.: The treatment site includes Memory Lake. This lake is landlocked with no inlet or outlet.
	3	List each public or private drinking water system within 200 feet of the treatment area. 18 AAC 90.515(6)(D) No public drinking water systems are known to exist within 200 feet of the lake proposed for treatment. Private subsurface wells are common throughout the area. Private drinking water wells existing within 200 feet of the treatment area waters were identified on the DNR Well Log Tracking System (WELTS).
	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(6)(B) Memory Lake is 807 acre-feet.
	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 N/A

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)

The treatment will take one day to complete. The treatment will occur during the month of October throughout the duration of the permit. Only one treatment is anticipated, but additional treatments are possible if necessary. The treatments would occur during daylight hours, and only on weekdays.

The pesticide that is proposed to be applied is Prentox Rotenone Fish Toxicant Powder

2 Target pest of pesticide project: 18 AAC 90.515(2)

✓	Category	List specific targets
	Fungus	
	Vegetation	
	Insects	
x	Fish	Northern pike
	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)

Prentox Rotenone Fish Toxicant Powder will be applied to treat 100% of all the lake water volume in Memory Lake. The pesticide will be applied using two outboard powered boats equipped with gas-powered pump systems for applying the pesticide. The pumps will premix the lake water with the pesticide and deliver the mixture below the waterline. Boats will also be equipped with electronic charts/sounders that will allow the boat applicators to visually monitor their application paths and adjust boat speed to accommodate for varying water depts and subsequent pesticide application rates.

Alaska Department of
Environmental Conservation
Division of Environmental Health
Pesticide Control Program

Pesticide-Use Permit Application Packet To Apply Pesticides to Water

✓	#	Part Four: Pesticide List
	1	List the common or brand name of EACH proposed pesticide and adjuvant. 18 AAC 90.515(1) • Pesticides MUST be registered in the State of Alaska. • Adjuvants MUST be registered in the State of Washington to be considered for use in Alaska. Prentox Rotenone Fish Toxicant Powder
	2	Total number of pesticides and adjuvants listed: 1

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** 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: Prentox Rotenone Fish Toxicant Powder (Rotenone)
	2	EPA Registration Number (not applicable for adjuvants): 89459-32
	3	Specify the formulation of the pesticide or adjuvant (liquid, granular, aerosol, etc.): Powder
	4	Name of the seller or distributor from whom the pesticide will be obtained: Red River Specialties LLC OR Check here if pesticide is from a previous surplus ☐ 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. Adjuvants: list the pesticides it will be mixed with. N/A

Active Ingredient	% composition
Rotenone	5.56%
Rotenoid cube resins other than rotenone	13.11%

Alaska Department of
Environmental Conservation
Division of Environmental Health
Pesticide Control Program

Pesticide-Use Permit Application Packet To Apply Pesticides to Water

✓	#	**Part Five: Product Information** 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: Prentox Rotenone Fish Toxicant Powder (Rotenone) Which treatment scenarios are described in questions 6-8? Lake - Boat Application
	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) Not applicable – product won't be diluted [X] **UNITS MUST MATCH LABEL INSTRUCTIONS** Amount of product (list units): Amount of diluent (list units): Example: 3 oz product / 1 gallon water
	8	Rate of application that will be used for this project: 18 AAC 90.515(6) **UNITS MUST MATCH LABEL INSTRUCTIONS** Amount of product (list units): 1.96 lbs. per Acre-foot On which page of the label is this application rate found? P. 7 Examples: 15 gallons per acre/foot; 6 lbs per 1000 gallon; Spray to wet

✓	#	**Part Five: Product Information** 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: 18 AAC 90.515(6) **UNITS MUST MATCH LABEL INSTRUCTIONS**

Application Rate (from Part 5, Question 7)		Application Area Size (from Part 2, Question 4)	=	Total Volume
Memory L.: 1.96 lbs./AF	*	807acre-feet	=	1,581 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. Physical Address: 1407 S. Industrial Way City, State, Zip: Palmer, AK 99645
	2	Describe how and where excess mixed pesticides and adjuvants will be disposed: Because all pesticide used will be mixed with lake water on site as it is applied, no excess mixed pesticides and/or adjuvants will result. Unmixed and unused pesticide will remain in the original container for storage.
	3	Describe how and where empty pesticide and adjuvant containers will be disposed: Empty pesticide containers will be triple rinsed by hand or with a power washer so that all rinse water returns to the treated lake. Cleaned and empty pesticide containers will be punctured and crushed and transported to the Mat-Su Borough Central Landfill site for disposal.
	4	If excess material or empty containers will be disposed in a landfill, provide the following information: Facility Name: Mat-Su Borough Central Landfill City, State, Zip: Palmer, AK 99645 Date when disposal site was contacted to confirm acceptance of materials: 8/6/24

Alaska Department of
Environmental Conservation
Division of Environmental Health
Pesticide Control Program

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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, Parker Bradley certify under penalty of perjury, that all of the information And exhibits in this application and attached documentation are true, accurate, and complete.

Applicant's Signature

8 - 7 - 2024
Month Day Year

Invasive Species Research Biologist
Applicant's Title

Supporting document #1. Justification for treating Memory Lake with a fish pesticide.

The illegally introduced population of invasive northern pike in Memory Lake is in Wasilla, Alaska. Throughout Southcentral Alaska, northern pike have caused the complete loss of many native resident and salmon populations. Over the last 20 years, ADF&G has spent millions of dollars trying to eradicate and suppress invasive northern pike populations and restore native fish populations that have been impacted. Preventing northern pike from spreading further in Southcentral Alaska is now a primary goal. Memory Lake is on the road system and is an easily accessible source population for continued illegal introductions.

The objective of this treatment is to completely remove the northern pike population from Memory Lake using a fish pesticide (rotenone) and reestablish quality fisheries (hatchery rainbow trout and coho salmon) and native fish (threespine stickleback) populations. This project would restore angling opportunities for the public and help protect critical wild fish habitat throughout the Matanuska-Susitna Valley.

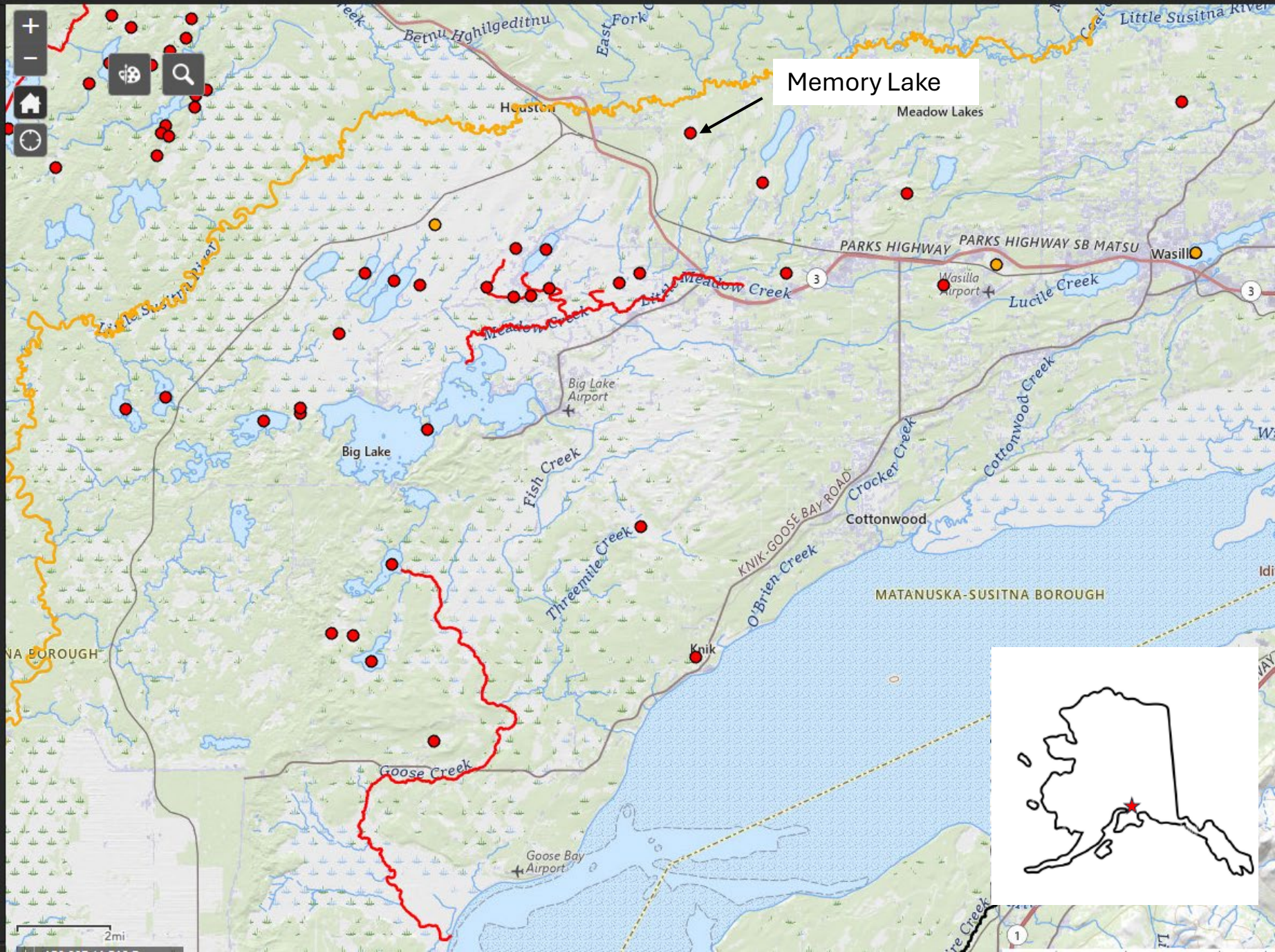
Other alternatives considered to address the northern pike issue in Memory Lake include:

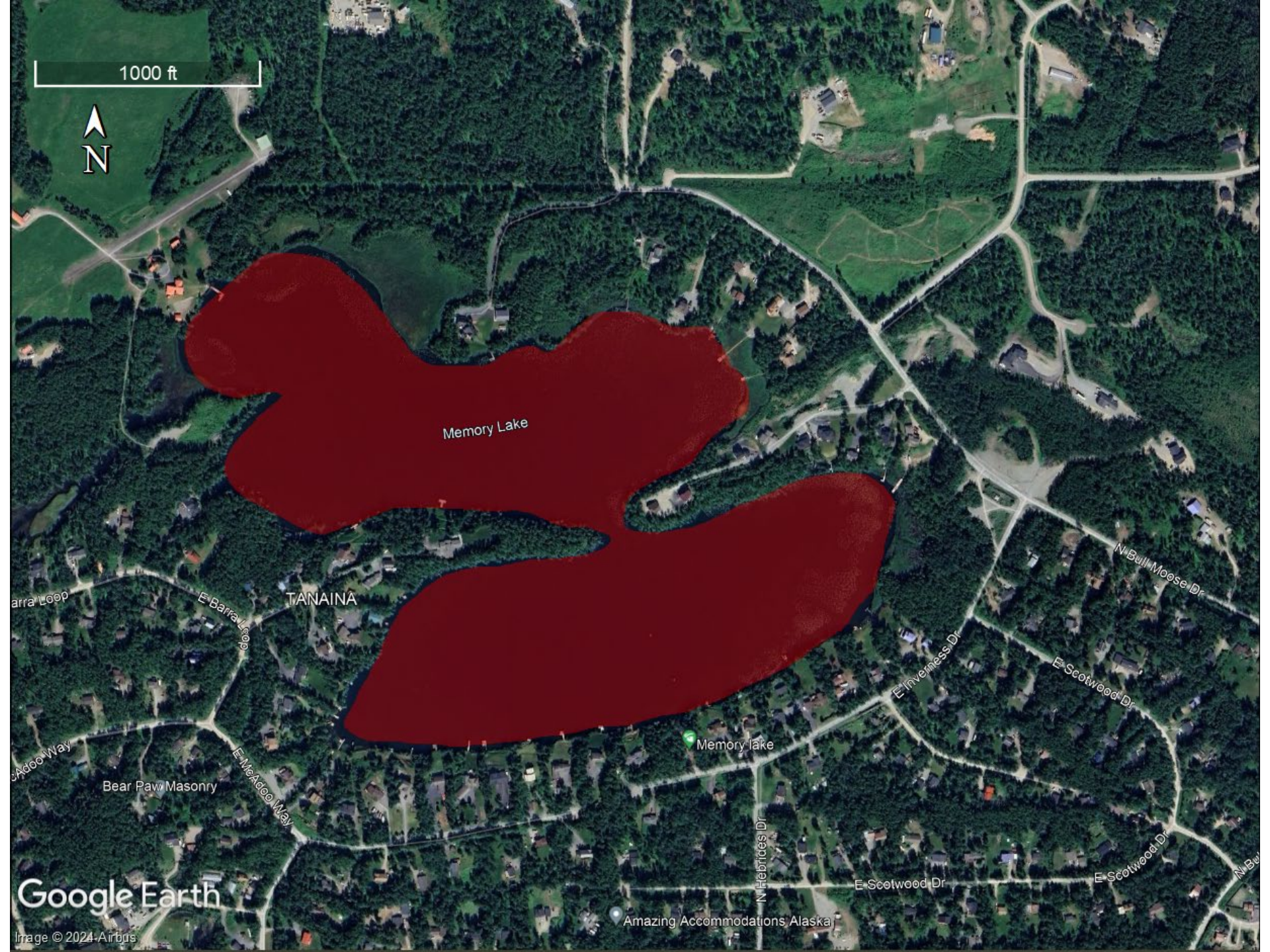
A) Long-term control gillnetting or other mechanical removal methods

B) No action

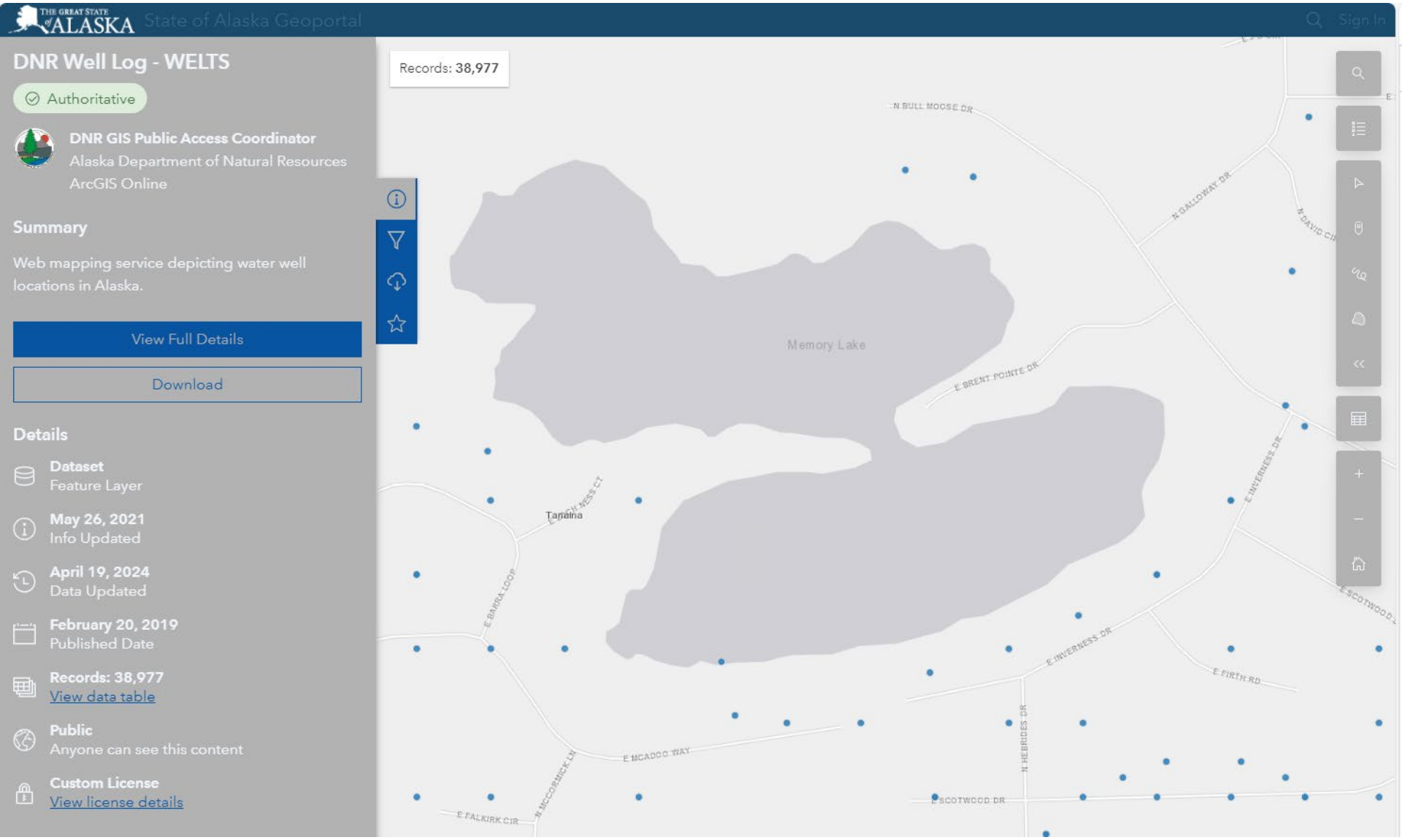
The mechanical removal option was rejected due to ongoing high manpower and funding costs and the low likelihood of success in completely removing the northern pike populations. In addition, the high likelihood of waterfowl bycatch mortality is counter to the goals of restoring fisheries and healthy ecosystems in this lake. The no action option has an unacceptable risk that these northern pike could be used for illegal introduction elsewhere and perpetuate the problem with invasive northern pike in Southcentral Alaska.

Invasive Northern Pike in Southcentral Alaska




1000 ft
N
Memory Lake
TANAINA
E Barra Loop
E McAdoo Way
Bear Paw Masonry
Memory lake
E Inverness Dr
E Scotwood Dr
N Bull Moose Dr
N Hebrides Dr
Amazing Accommodations Alaska
Google Earth
Image © 2024 Airbus

Memory Lake Well Locations



Source: DNR WELTS Database

Accessible: [DNR Well Log - WELTS | DNR Well Log - WELTS | State of Alaska Geoportal]

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

March 2, 2016

Kristin Hood
Central Garden & Pet Company
1501 East Woodfield Road, Suite 200W
Schaumburg, IL 60173

Subject: Label Amendment – Amendment to add an Alternate brand name, update the labeling with RED mitigation language, and to revise other minor text
Product Name: Prentox Rotenone Fish Toxicant Powder
EPA Registration Number: 89459-32
Application Date: February 23, 2016
Decision Number: 514136

Dear Ms. Hood:

The amended label referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act, as amended, is acceptable. This approval does not affect any conditions that were previously imposed on this registration. You continue to be subject to existing conditions on your registration and any deadlines connected with them.

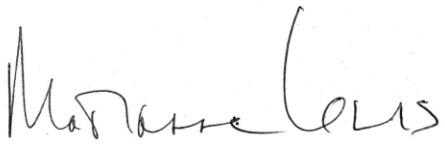
A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. You must submit one copy of the final printed labeling before you release the product for shipment with the new labeling. In accordance with 40 CFR 152.130(c), you may distribute or sell this product under the previously approved labeling for 18 months from the date of this letter. After 18 months, you may only distribute or sell this product if it bears this new revised labeling or subsequently approved labeling. "To distribute or sell" is defined under FIFRA section 2(gg) and its implementing regulation at 40 CFR 152.3.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance.

Your release for shipment of the product constitutes acceptance of these conditions. If these conditions are not complied with, the registration will be subject to cancellation in accordance

with FIFRA section 6. If you have any questions, please contact Gene Benbow by phone at 703-347-0235, or via email at Benbow.Gene@epa.gov.

Sincerely,



Marianne Lewis,
Acting Product Manager 07
Invertebrate & Vertebrate Branch 3
Registration Division (7505P)
Office of Pesticide Programs

Enclosure

RESTRICTED USE PESTICIDE
Due to acute inhalation and acute oral toxicity and due to toxicity to fish and other aquatic organisms. For retail sale to, and use only by, Certified Applicators or persons under their direct supervision and only for those uses covered by the Certified Applicator's certification.

THE APPLICATOR IS RESPONSIBLE FOR CONFORMING TO THE LABEL. IMPORTANT GUIDANCE ON THE SAFE AND EFFECTIVE USE OF THIS PRODUCT IS PROVIDED IN THE *ROTENONE SOP MANUAL*, AVAILABLE FROM THE REGISTRANT OR THE AMERICAN FISHERIES SOCIETY AT www.fisheries.org/units/rotenone.

ACCEPTED
Mar 02, 2016
Under the Federal Insecticide, Fungicide and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 89459-32

Rotenone Fish Toxicant Powder

For Control of Fish in Lakes, Ponds, and Reservoirs

Alternate brand name: Rotenone Fish Toxicant Powder

ACTIVE INGREDIENTS:

Rotenone	8.74%	w/w
Cube Resins Other than Rotenone	13.11%	
OTHER INGREDIENTS	78.15%	
Total	100%	

ROTENONE ASSAY_____% ROTENONE

KEEP OUT OF REACH OF CHILDREN

DANGER – POISON

See back panels for additional Precautionary Statements

FIRST AID	
If swallowed	• Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to by a poison control center or doctor. • Do not give anything by mouth to an unconscious person.
If inhaled	• Move person to fresh air. • If person is not breathing, call an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. • Call a poison control center or doctor for further treatment advice.
If in eyes	• Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
If on skin or clothing	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may contact 1-800-248-7763 for information on this pesticide product (including health concerns, medical emergencies or pesticide incidents).	
NOTE TO PHYSICIAN: Symptoms of exposure include numbness, lethargy and in-coordination. Decontamination, symptomatic and supportive treatment is recommended.	

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

DANGER - POISON

Fatal if swallowed. Fatal if inhaled. Do not breathe dust powder or the vapors or spray mists resulting from mixing/loading/applying this product. Harmful if absorbed through skin. Causes moderate eye irritation. Avoid contact with skin, eyes or clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

Personal Protective Equipment (PPE)

All mixers, loaders, applicators, and other handlers (except pilots) must wear at a minimum, the following PPE: (1) coveralls, over long-sleeved shirt and long pants; (2) chemical-resistant gloves made out of: barrier laminate, nitrile rubber $\geq$ 14 mils, nitrile rubber $\geq$ 14 mils, neoprene rubber $\geq$ 14 mils, or viton $\geq$ 14 mils; (3) chemical-resistant footwear plus socks; (4) protective eyewear; and (5) A NIOSH approved particulate respirator with any N, R or P filter with NIOSH approval prefix TC84A; or a NIOSH approved powered air purifying respirator with HE filter with NIOSH approval prefix TC-21C.

In addition, mixers, loaders, and others exposed to the concentrate through cleaning equipment of spills must wear a chemical-resistant apron. Exception: waterproof waders may be worn in place of coveralls, chemical-resistant apron and chemical-resistant footwear.

Exception: a NIOSH approved particulate respirator with an R or P filter with NIOSH approval number prefix TC-84A may be worn when applying moist rotenone powder/gelatin/sand mixture. This exception is not applicable to preparing the rotenone powder/gelatin/and mixture.

See Engineering Controls for additional requirements and exceptions.

User Safety Requirements

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot waters. Keep and wash PPE separately from other laundry. Discard clothing and other absorbent materials that have been heavily contaminated with this product's concentrate; do not reuse them. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using toilet.

Engineering Controls for Mixing/Loading for Wettable Powder Formulations
Mixers/loaders/applicators must either:
(1) Use a closed system that meets the requirements listed in Worker Protection Standard (WPS) for dermal protection of agricultural pesticides [40 CFR 170.240(d)(4)],
(2) Use the powder/sand/gelatin mixture as described in the For Use in Springs, Seeps, and Areas With Poor Water Exchange section of this labeling, or
(3) Use the Semi-Closed Aspirator Mixing/Loading System described below.

Before applying this product, roll the sealed drum on the ground to loosen the rotenone powder that may have settled during shipping and storage. Remove top of the drum containing this product and insert the aspirator probe into the bung opening in the plastic liner until the foam ring/gasket on the aspirator probe fits snuggly around the bung opening in the plastic liner to minimize rotenone powder dispersing into the air. The bung opening is specifically designed for a snug fit around the aspirator probe and incorporates a soft plastic flange to remove excess powder rotenone when the aspirator probe is removed. Do not pour this product from its drum. Transfer the product from the plastic-lined drum to the mixing tank by use of a suction hose connected to one end of the suction pump (aspirator) on the mixing tank and connected at the other end to the aspirator probe that is inserted into the bung opening in the plastic liner. Handle the aspirator probe in a manner that minimizes the dispersing of rotenone powder onto you, any other person or into the air. Once the application is complete, remove the aspirator probe and triple rinse it and all parts of the aspirator in site water. See Rotenone SOP Manual (SOP 9) for further information on the operation of the semi-closed aspirator system.

After the application is complete and the aspirator probe is removed from the drum, shake residual powder into the bottom of the plastic liner, fold the plastic liner into the drum, and reseal the drum. The liners are triple rinsed by removing from the drum, submerging the liner before cutting open, and wetting the liner under water. See Rotenone SOP Manual (SOP 9) for further information on cleaning aspirator and rinsing liners.

Mixers and loaders using all systems must wear PPE as required in the PPE section of the labeling for mixers and loaders. All systems must be capable of removing the pesticide from the shipping container and transferring it into mixing tanks and/or application equipment.

Applications using a boom or other mechanized equipment must release this product below the water's surface. Applications made with hand-held or hand-directed nozzle may release this product above the water's surface. Applications with an aircraft, backpack sprayer and drip can are prohibited.

Engineering Controls for Boat Applications
When boat pilots or others on the application boat are located within an enclosed area that has a non-porous barrier that totally surrounds the occupants and prevents contact with pesticides outside the enclosed area, they: (1) may wear long-sleeved shirt, long pants, shoes, and socks, instead of the PPE required for applicators in the PPE section of this labeling; (2) must be provided and have immediately available in the use of an emergency when they must exit the enclosed area while the application is taking place, the PPE required for applicators of the PPE section of this labeling; (3) must take off any PPE that is worn while outside the enclosed area before reentering the enclosed area; and (4) store all such used PPE in a chemical resistant container, such as a plastic bag, to prevent contamination of the enclosed area.

User Safety Recommendations
Certified Applicators applying or supervising any aspect of the application of this product should attend a training program for the *Rotenone SOP Manual*. American Fisheries Society offers this training: go to www.fisheries.org/units/rotenone for current schedule of training.

Users should remove clothing/PPE if pesticide gets inside. Then wash thoroughly and put on clean clothing. Users should remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

ENVIRONMENTAL HAZARDS
This product is extremely toxic to fish and other aquatic organisms. Fish kills are expected at recommended rates. Consult your State Fish and Game Agency and other agencies before applying this product to public waters to determine if a permit is needed for such an application. Do not contaminate water outside of the treatment area by cleaning of equipment or disposal of equipment washwaters. Do not contaminate water outside of the treatment area, food or feed by storage or disposal. Do not discharge effluent containing this pesticide into sewage systems without notifying the sewage treatment plant authority (POTW).

DIRECTIONS FOR USE

RESTRICTED USE PESTICIDE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling, including both the container label and the Rotenone Standard Operation Procedures Manual (SOP) available from the registrant or the American Fisheries Society at www.fisheries.org/units/rotenone. This product must be accompanied by an EPA-Approved Rotenone SOP Manual. Read the container label and Rotenone SOP Manual prior to use. The applicator is responsible for following the directions for use contained within both the container label and the SOP Manual.

This product is registered for use by or under permit from, and after consultation with State and Federal Fish and Wildlife and/or Natural Resource Agencies.

General Information
This product is a specially formulated product containing rotenone to be used in fisheries management for the eradication of fish from lakes, ponds, reservoirs.
Precautions and Restrictions: The Certified Applicator supervising the treatment must remain on site for the duration of the application. Do not allow recreational access (e.g., wading, swimming, boating and fishing) within the treatment area while rotenone is being applied (see Placarding of Treatment Areas). Do not apply this product in a way that will result in active rotenone concentrations > 200 parts per billion/0.2 ppm (>4.0 ppm 5% rotenone formulation). 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 (see Placarding of Treatment Areas and Re-entering of Treatment Area sections of this labeling). This product must not be applied to estuarine or marine environments. Where practical, users should collect and bury dead fish. Properly dispose of unused product. Do not use dead fish for food or feed. Do not use water treated with rotenone to irrigate crops or release within ½ mile upstream of an irrigation water intake in a standing body of water such as a lake, pond or reservoir.

Applications using a boom or other mechanized equipment must release this product below the water surface. Applications made with hand-held or hand-directed nozzle may release this product above the water surface. Applications made with aircraft, backpack sprayer, drip can are prohibited.

Re-entering the Treatment Area: For applications that result in concentrations greater than 0.09 ppm active rotenone (when applying at a rate of > 1.8 ppm of 5% rotenone formulation), handlers re-entering treated water, must wear, at a minimum, the following PPE: (1) coveralls over long-sleeved shirt and long pants; (2) chemical-resistant gloves; (3) chemical-resistant footwear plus socks; and (4) chemical-resistant apron. Duration of PPE requirements for handlers re-entering treated water exactly correspond to duration of placarding requirements (e.g., PPE requirements end when placards are removed; see Placarding of Treatment Areas section of this labeling). Exception: waterproof waders may be worn in place of coveralls, chemical resistant apron and chemical-resistant footwear.

Placarding of Treatment Areas: The Certified Applicator in charge of the application (or someone under his/her supervision) must placard all access areas to the treatment area. Detailed instructions for placarding are presented in the Rotenone SOP Manual. Placards must be placed every 250 feet along the shore line of the treated area, OR, at public access points (e.g., trailheads, roads and trails). Placards must contain the following information: (1) DANGER/PELIGRO; (2) DO NOT ENTER WATER/NO ENTRE AGUA; Pesticide Application; (3) Rotenone Fish Toxicant Powder; (4) the purpose of the application; (5) the start date and time of application; (6) end date and time of application; (7) “Recreational access (e.g., wading, swimming, boating, fishing etc) within the treatment area is prohibited while rotenone is being applied”; (8) Do not swim or wade in treated water while placard is displayed”; (9) :Do not consume dead fish from treated water”; and (10) the name, address, and telephone number of the responsible agency or entity performing the application.

Signs must remain legible during the entire posting period. For applications of $\leq$ 0.09 ppm active rotenone ($\leq$ 1.8 ppm 5% formulation), signs can be removed once

application is complete. For applications > 0.09 ppm active rotenone (>1.8 ppm 5% rotenone formulation), signs can be removed following 24-hour bioassay demonstrating survival of bioassay sentinel fish or 14 days, whichever is less.

Monitoring and Notification Requirements for Water

Aquaculture: For treated water bodies used for aquaculture, the Certified Applicator or designee under his/her direct supervision must prohibit the restocking of fish unless monitoring samples confirm rotenone concentrations are below the level of detection for 3 consecutive samples taken no less than 4 hours apart. Detailed guidance for monitoring levels of rotenone in water is presented the Rotenone SOP Manual (SOP 16).

Drinking Water: For applications > 40 ppb or 0.04 ppm active rotenone (> 0.8 ppm 5% rotenone formulation) in waters with drinking water intakes or hydrologic connections to wells, 7 to 14 days prior to application, the Certified Applicator of designee under his/her direct supervision must provide notification to the party responsible for the public water supply or individual private water users against the consumption of treated water until: (1) active rotenone < 0.04 ppm as determined by analytical chemistry, or (2) fish of the Salmonidae or Centrichidae families can survive for 24 hours, or (3) dilution with untreated water yields a calculation that active rotenone is < 0.04 ppm, or (4) distance or travel time from the application sites demonstrates that active rotenone is < 0.04 ppm. See Rotenone SOP Manual (SOP 16) for guidance on notification, bioassay and chemical analysis techniques and dilution, distance, and travel-time criteria.

Determining Treatment Rate

Use this product only at locations, rates, and times authorized and approved by appropriate State and Federal Fish and Wildlife and/or Natural Resource Agencies. The actual treatment rate and rotenone concentration needed to control fish varies widely, depending on the type of water and environmental factors including pH, temperature, depth, turbidity, and the target species. The tables below are a general guide for the proper rates and concentrations for complete kills of target species. The Certified Applicator must conduct bioassay using site water (or water of similar quality) and target species (or surrogate species of similar sensitivity) to refine the treatment rate with the maximum limit allowed. Detailed guidance bioassays and designing treatment for complete kills of target species are presented in the Rotenone SOP Manual (SOP 5). Rates must be within the range specified on the label.

For Use In Ponds, Lakes, Reservoirs and Slow Moving Rivers

The tables below are a general guide for the proper rates and concentrations. This product disperses readily laterally and vertically, but may not penetrate the thermocline. The product is best applied when the water body is not thermally stratified or pumped below the thermocline if thermally stratified.

Computation of Water Body Volume: To determine volume of any given body of water, make a series of transects across the body of water taking depths at regular intervals. Add the depths and divide by the number of measurements made to determine the average depth. Multiply this average depth by total surface area in order to determine the volume to be treated. Volume is expressed as acre-feet (AF) or cubic meters (m^3). Surface area can be determined by Global Positioning System (GPS) instrumentation and topographic maps. See Rotenone SOP Manual for further guidance.

Amount of Rotenone Fish Toxicant Powder Needed for Specific Uses: To determine the approximate number of pounds (or kilograms) needed, find your "Type of Use" in the first column of the tables below and then divide the corresponding numbers in the fourth column "AF (or m^3) Per Pound (or Kilogram) Powder" into the number of AF (or m^3) in the body of water. For example if you have a normal use at 0.05 ppm active rotenone, then 270 pounds of 5% rotenone powder is required to treat 100 AF.

Table – Recommended rotenone treatment concentrations and number of acre-feet (AF) of standing water covered by one pound of (5% A.I.) product. Adjust amount of product according to the actual rotenone content on Ingredient Statement on label.

Type of Use	Parts per Million (ppm)		AF Per Pound Powder
	Product (5% A.I.)	Active Rotenone	
Normal	0.5 – 1.0	0.025 – 0.05	0.74 to 0.37
Tolerant Species	1.0 – 3.0	0.05 – 0.15	0.37 to 0.123
Tolerant Species in Organic Ponds	2.0 – 4.0	0.1 – 0.2	0.185 to 0.093

Table – Recommended rotenone treatment concentrations and number of cubic meters (m^3) standing water covered by one kilogram of (5% A.I.) product. Adjust amount of product according to the actual rotenone content on Ingredient Statement on label.

Type of Use	Parts per Million (ppm)		m^3 per Kilogram Powder
	Product (5% A.I.)	Active Rotenone	
Normal	0.5 – 1.0	0.025 – 0.05	2000 to 1000
Tolerant Species	1.0 – 3.0	0.05 – 0.15	1000 to 333
Tolerant Species in Organic Ponds	2.0 – 4.0	0.1 – 0.2	500 to 250

Note to User: Adjust pounds or kilograms of powder according to the actual rotenone assay as noted under the Ingredient Statement on this label. For example, if the required amount of 5% rotenone is 21 pounds and the rotenone assay is 7%, use 5/7 of 21 pounds or 15 pound of this product to yield the proper amount of active rotenone.

Recommended Pre-Mixing and Method of Application: Using the semi-closed aspirator system, pre-mix at approximately 1 to 5% w/w powder to water. Uniformly apply over water surface or through underwater lines. Divide water body into manageable sections, delineated by marker buoys or flags or GPS coordinates, and treat within 48 hours to avoid deactivation (detoxification). See Rotenone SOP Manual (SOP 9) for additional guidance.

Deactivation: Water treated with this product will deactivate under natural conditions within one week to one month depending upon temperatures, alkalinity, etc. Rapid deactivation can be accomplished by adding or potassium permanganate to the water at the same rate as Rotenone Fish Toxicant Powder in parts per million, plus enough additional to meet the organic demand of the untreated water. See Rotenone SOP Manual (SOP 6 and 7) for guidance.

Restocking after Treatment: Typically, wait 2 to 4 weeks after treatment prior to restocking. Place a sample of fish to be stocked in wire cages in the coolest part of the treated waters. If the fish are not killed within 24 hours, the water may be restocked.

Method of Application
The unique nature of every application site could require minor adjustments to the method and rate of application. Should these unique conditions require major deviation from the use directions, a Special Local Need 24(c) registration should be obtained from the state. Before application, authorization must be obtained from state or federal Fish and Wildlife and/or Natural Resource agencies. Since local environmental conditions will vary, consult with the state Fish and Wildlife and/or Natural Resource agency to ensure the method and rate of application are appropriate for that site.

Contact the local water department to determine if any water intakes are within one mile downstream of the section of stream, river, or canal to be treated. If so, coordinate the application with the water department to make sure the intakes are closed during treatment and detoxification.

For Use In Springs, Seeps and Areas With Poor Water Exchange
Rotenone powder/gelatin/sand mixture can be used in conditions where other means of application (drips, backpack sprayers etc) will not yield a steady concentration of rotenone necessary to eradicate target from treatment area. Mixture formula is one pound (0.454 kg) of powdered rotenone to one pound (0.454 kg) of fine to medium washed sand to 2 ounces (0.0567 kg) of unflavored gelatin (1:1:0.0125), and add sufficient water to create a dough-like consistency. Keep mixture moist by storing in a sealed container. Only use when in a dough like consistency to insure efficacy. See Rotenone SOP Manual (SOP 13) for detailed guidance on preparation and use of rotenone powder/gelatin/sand mixture.

Deactivation
Flow in a stream and outflow from a treated lake beyond the treatment area must be deactivated with potassium permanganate to minimize exposure beyond the treatment area unless unnecessary. (See Rotenone SOP Manual [SOP 6] for the definition of treatment area, examples when deactivation with potassium permanganate is unnecessary, and detailed guidance for deactivating with potassium permanganate [SOP 7].)

Within 1 to 2 hours travel time from the furthest downstream rotenone application site, the rotenone can be deactivated with a potassium permanganate solution or granules at a resultant stream concentration of 2 to 4 parts per million, depending on rotenone concentration and organic demand of the water. A 2.5% (10 pounds potassium permanganate to 50 gallons of water) permanganate solution is dripped in at a continuous rate using the equation:

X = Y(70 F1) or X = Y(2,472 F2)

X = ml of 2.5% permanganate solution per minute, Y = ppm of desired permanganate concentration, F1 = stream flow (ft^3/s) or F2 = stream flow (m^3/s) or, granular potassium permanganate is applied at a continuous rate using the equations:

Z = Y(1.7 F1) or Z = Y(60.02 F2)

Z = grams of granular potassium permanganate per minute, Y = ppm of desired permanganate concentration, F1 = stream flow (ft^3/s) or F2 = stream flow (m^3/s).

Flow of permanganate should be checked at least hourly. Live fish in cages placed immediately above the permanganate application site will show signs of stress signaling the need for beginning deactivation. Deactivation can be terminated when replenished fish survive and show no signs of stress for at least four hours.

Deactivation of rotenone by permanganate requires between 15 to 30 minutes contact time (travel time). Cages containing live fish can be placed at these downstream intervals to judge the effectiveness of deactivation. At water temperatures less than 50°F, deactivation may be retarded, requiring a longer contact time.

STORAGE AND DISPOSAL
Do not contaminate water, food or feed by storage or disposal.
PESTICIDE STORAGE: Store only in original containers, in a dry place inaccessible to children and pets. If spilled, sweep up and dispose of as below.
PESTICIDE DISPOSAL: Pesticide wastes may be hazardous. Improper disposal of excess pesticide, spray mixture or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.
CONTAINER HANDLING: Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment. Then dispose of in a sanitary landfill.

WARRANTY STATEMENT

Our recommendations for the use of this product are based upon tests believed to be reliable. The use of this product being beyond the control of the manufacturer, no guarantee, expressed or implied, is made as to the effects of such or the results to be obtained if not used in accordance with directions or established safe practice. To the extent consistent with applicable law, the buyer must assume all responsibility, including injury or damage, resulting from its misuse as such, or in combination with other materials.

EPA Reg. No. 89459-32
EPA Est. No.

Manufactured for:
Central Garden & Pet Company
1501 East Woodfield Road 200W
Schaumburg, Illinois 60173

Safety Data Sheet

Section 1: Identification

Product identifier

Product Name • **Prentox Rotenone Fish Toxicant Powder**

Synonyms • 100209044; 100209045; EPA Reg. No.: 89459-32

Product Description • Tan to dark amber powder.

Relevant identified uses of the substance or mixture and uses advised against

Recommended use • Piscicide.

Restrictions on use • Avoid contact with eyes, skin or clothing. Do not inhale. Do not take internally.

Details of the supplier of the safety data sheet

Manufacturer • Central Garden & Pet Company

1501 E. Woodfield Road, Suite 200W
Schaumburg, IL 60173
United States

www.zoecon.com

Emergency telephone number

Manufacturer • 1-800-424-9300 - CHEMTREC

Manufacturer (Transportation) • 1-703-527-3887 - Chemtrec - Outside US collect calls accepted

Manufacturer • 1-800-248-7763

Section 2: Hazard Identification

United States (US)

According to: OSHA 29 CFR 1910.1200 HCS

Classification of the substance or mixture

OSHA HCS 2012 • Acute Toxicity Inhalation 1
Combustible Dust
Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation
Eye Mild Irritation 2B
Skin Sensitization 1
Acute Toxicity Oral 3

Label elements

OSHA HCS 2012

DANGER

Hazard statements •
Fatal if swallowed
Fatal if inhaled
May cause an allergic skin reaction
Causes eye irritation
May cause respiratory irritation
May form combustible dust concentrations in air.

Precautionary statements

Prevention •
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Do not breathe dust, fume, gas, mist, vapors and/or spray.
In case of inadequate ventilation wear respiratory protection.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing should not be allowed out of the workplace.
Wear protective gloves.

Response •
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
Rinse mouth.
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a poison control center or doctor if you feel unwell.
Immediately call a POISON CENTER or doctor/physician.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical advice/attention.
Wash contaminated clothing before reuse.

Storage/Disposal •
Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.

Other hazards

OSHA HCS 2012 •
This product is extremely toxic to fish. Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is considered hazardous.

Section 3 - Composition/Information on Ingredients

Substances

•
Material does not meet the criteria of a substance according to United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

Mixtures

Composition		
Chemical Name	**Identifiers**	**%**
Rotenone	**CAS:**83-79-4	8.74%
Cube Resins other than rotenone	NDA	13.11%
Other ingredients	NDA	Balance

Section 4: First-Aid Measures

Description of first aid measures

Inhalation

- IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CONTROL center or doctor.

Skin

- IF ON SKIN: Wash skin with soap and water. If irritation develops and persists, get medical attention.

Eye

- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison control center or doctor for treatment advice.

Ingestion

- IF SWALLOWED: Immediately call a poison control center or doctor. Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger. Do not induce vomiting or give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed

- Fatal if inhaled, toxic if ingested, causes respiratory irritation if sub-lethal doses are inhaled, causes an allergic skin reaction in individuals with a sensitivity to rotenone, causes skin irritation. Refer to Section 11 - Toxicological Information.

Indication of any immediate medical attention and special treatment needed

Notes to Physician

- If a small amount is ingested (or if treatment is delayed), oral administration of large amounts of activated charcoal and a cathartic is probably sufficient therapy. Do not administer milk, cream or other substances containing vegetable or animal fats, which enhance the absorption of lipophilic substances. Treat symptomatically and supportively.

Section 5: Fire-Fighting Measures

Extinguishing media

Suitable Extinguishing Media

- Use water fog, foam, carbon dioxide, or dry chemical.

Unsuitable Extinguishing Media

- Avoid heavy hose streams.

Firefighting Procedures

- Do not allow fire fighting water to escape into waterways or sewers.
  Isolate fire area and evacuate downwind. Do not breathe gases, smoke or vapors generated.
  Ventilate closed spaces before entering.
  Wear appropriate protective clothing.

Special hazards arising from the substance or mixture

Unusual Fire and Explosion Hazards

- Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

Hazardous Combustion Products

- Combustible dust. Irritating or toxic substances may be emitted upon burning, combustion or decomposition.

Advice for firefighters

- Wear positive pressure self-contained breathing apparatus (SCBA).

Section 6 - Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Personal Precautions

- Avoid contact with skin, eyes, and clothing. Wear appropriate personal protective equipment, avoid direct contact. Ventilate enclosed areas.

Emergency Procedures

- Avoid release into the environment. Avoid unnecessary personnel and equipment traffic in the spill area. Wear appropriate personal protective equipment (PPE). Stay upwind. Stop leak if you can do it without risk. Ventilate closed spaces before entering. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Contain spill and monitor for excessive dust accumulation.

Environmental precautions

- Avoid run off to waterways and sewers.

Methods and material for containment and cleaning up

Containment/Clean-up Measures

- Sweep or scoop up spills, dispose of any unusable material in approved landfill.
  Use appropriate Personal Protective Equipment (PPE.)
  Avoid generating dust.
  Use clean nonsparking tools to collect material.
  Dust Deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration.

Section 7 - Handling and Storage

Precautions for safe handling

Handling

- Do not use in areas without adequate ventilation. Avoid breathing dust. All equipment used when handling the product must be grounded. Avoid contact with skin, eyes, and clothing. Take precautionary measures against static charges. Wash hands thoroughly with soap and water after handling. Wear appropriate personal protective equipment including long-sleeved shirt, long pants, chemical resistant gloves, shoes and socks. Avoid direct contact. The grounding of personnel is generally recommended when they may be exposed to a flammable or combustible atmosphere having a Minimum Ignition Energy (MIE) of 50 mJ or less.

Conditions for safe storage, including any incompatibilities

Storage

- Store in cool, dry area, inaccessible to children. Store in a well-ventilated place. Keep container tightly closed. Store locked up. Avoid direct sunlight. Avoid extreme temperatures.

Incompatible Materials or Ignition Sources

- Heat, sparks, open flame. Strong acids, strong bases, and oxidizing agents.

Section 8 - Exposure Controls/Personal Protection

Control parameters

Exposure Limits/Guidelines				
	Result	ACGIH	NIOSH	OSHA
Rotenone (83-79-4)	TWAs	5 mg/m3 TWA (commercial)	5 mg/m3 TWA	5 mg/m3 TWA

Exposure Limits Supplemental
ACGIH
•Rotenone (83-79-4): **TLV Basis - Critical Effects:** (CNS impairment; eye and upper respiratory tract irritation)

Exposure controls

Engineering Measures/Controls
- Adequate ventilation systems as needed to control concentrations of airborne contaminants below applicable threshold limit values.

Personal Protective Equipment

Pictograms
- 

Respiratory
- When handling undiluted product, wear either a respirator with an organic-vapor-removing cartridge with a prefilter approved for pesticides (MSHA/NIOSH approval number prefix TC- 23C), or a canister approved for pesticides (MSHA/NIOSH approval number prefix 14G), or a NIOSH approved respirator with an organic vapor (OV) cartridge or canister with any R, P, or HE prefilter.

Eye/Face
- Wear safety glasses.

Hands
- Wear chemical resistant gloves (Neoprene, Nitrile rubber or PVC.)

Skin/Body
- Wear long-sleeved shirt, long pants, shoes, and socks.

General Industrial Hygiene Considerations
- Handle in accordance with good industrial hygiene and safety practice.

Environmental Exposure Controls
- Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and accidental release to waterways.

Section 9 - Physical and Chemical Properties

Information on Physical and Chemical Properties

Material Description			
Physical Form	Solid	Appearance/Description	Tan to dark amber powder.
Color	Tan to dark amber.	Odor	Wet chalk or dirt-like.
Odor Threshold	No data available		
General Properties			
Boiling Point	No data available	Melting Point/Freezing Point	165 to 166 °C(329 to 330.8 °F)
Decomposition Temperature	No data available	pH	Not relevant
Specific Gravity/Relative Density	= 1.27 Water=1	Bulk Density	Tapped: 0.45 g/cc (28.1 lb/ft3) Loose: 0.24 g/cc (28.1 lb/ft3)
Water Solubility	Insoluble	Viscosity	Not relevant
Explosive Properties	Minimum Ignition Energy – Dust Cloud (mJ): 3-5 (5% Rotenone		

	Powder)		
Volatility			
Vapor Pressure	No data available	Vapor Density	No data available
Evaporation Rate	No data available		
Flammability			
Flash Point	Not relevant	UEL	No data available
LEL	No data available	Autoignition	No data available
Flammability (solid, gas)	No data available		
Environmental			
Octanol/Water Partition coefficient	No data available		

Section 10: Stability and Reactivity

Reactivity

- Non-reactive under normal handling and storage conditions.

Chemical stability

- Stable

Possibility of hazardous reactions

- Hazardous polymerization will not occur. May form combustible dust concentrations in the air. This material is extremely sensitive to ignition.

Conditions to avoid

- High temperatures and constant exposure to sunlight. Heat, sparks, open flame, other ignition sources, and oxidizing conditions.

Incompatible materials

- Heat, sparks, open flame, strong oxidizing agents, strong reducing agents.

Hazardous decomposition products

- Thermal decomposition may produce toxic vapors and/or gases.

Section 11 - Toxicological Information

Information on toxicological effects

	CAS	
Prentox Rotenone Fish Toxicant Powder	NDA	**Acute Toxicity:** Ingestion/Oral-Rat, adult female LD50 • 99.2 mg/kg; Ingestion/Oral-Rat, adult male LD50 • 874 mg/kg; Inhalation-Rat, adult female LC50 • 0.045 mg/L 4 Hour(s); Inhalation-Rat, adult male LC50 • 0.087 mg/L 4 Hour(s); Skin-Rabbit LD50 • >2020 mg/kg; **Irritation:** Eye-Rabbit • Mild irritation; Skin-Rabbit • Essentially non-irritating

GHS Properties	Classification
Acute toxicity	**OSHA HCS 2012** • Acute Toxicity - Dermal - Classification criteria not met; Acute Toxicity - Inhalation 1; Acute Toxicity - Oral 3
Skin corrosion/Irritation	**OSHA HCS 2012** • Classification criteria not met
Serious eye damage/Irritation	**OSHA HCS 2012** • Eye Mild Irritation 2B

Skin sensitization	**OSHA HCS 2012** • Skin Sensitizer 1
Respiratory sensitization	**OSHA HCS 2012** • Classification criteria not met
Aspiration Hazard	**OSHA HCS 2012** • Classification criteria not met
Carcinogenicity	**OSHA HCS 2012** • Classification criteria not met
Germ Cell Mutagenicity	**OSHA HCS 2012** • Classification criteria not met
Toxicity for Reproduction	**OSHA HCS 2012** • Classification criteria not met
STOT-SE	**OSHA HCS 2012** • Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation
STOT-RE	**OSHA HCS 2012** • Classification criteria not met

Potential Health Effects

Inhalation

Acute (Immediate)
- Fatal if inhaled. Contact can produce pharyngitis and rhinitis.

Chronic (Delayed)
- No data available

Skin

Acute (Immediate)
- Under normal conditions of use, no health effects are expected.

Chronic (Delayed)
- No data available.

Eye

Acute (Immediate)
- May cause mild irritation. Contact can produce conjunctivitis.

Chronic (Delayed)
- No data available

Ingestion

Acute (Immediate)
- Toxic if swallowed.

Chronic (Delayed)
- No data available

Other

Chronic (Delayed)
- No data available.

Mutagenic Effects
- Rotenone is not mutagenic.

Carcinogenic Effects
- No component in this product present at 0.1% or greater is listed by IARC, OSHA or NTP.

Reproductive Effects
- Rotenone has been tested and does not cause birth defects. Rotenone does not have adverse effects on reproduction.

Section 12 - Ecological Information

Toxicity

Components		
Rotenone (8.74%)	83-79-4	**Aquatic Toxicity-Fish:** 96 Hour(s) LC50 *Rainbow Trout* 0.00194 mg/L [Acute] NOEC *Rainbow Trout* 0.00101 mg/L [Chronic] **Aquatic Toxicity-Crustacea:** NOEC *Daphnia magna* 0.00125 mg/L [Chronic] 96 Hour(s) EC50 *Daphnia magna* 0.0037 mg/L [Acute]

Persistence and degradability

- Rotenone - soil half life: 3 days.

Bioaccumulative potential

- No data available

Mobility in Soil

- Rotenone: non-mobile.

Other adverse effects

- No data available.

Potential Environmental Effects

- This material is extremely toxic to fish.

Section 13 - Disposal Considerations

Waste treatment methods

Product waste

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations. Do not allow entry into lakes, streams, ponds, estuaries or oceans.

Packaging waste

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14 - Transport Information

	UN number	UN proper shipping name	Transport hazard class (es)	Packing group	Environmental hazards
DOT	UN 2588	Pesticides, solid, toxic, n.o.s. (Rotenone)	6.1	III	Marine Pollutant
IMO/IMDG	UN 2588	Pesticides, solid, toxic, n.o.s. (Rotenone)	6.1	III	Marine Pollutant
IATA/ICAO	UN 2588	Pesticides, solid, toxic, n.o.s. (Rotenone)	6.1	III	Not Applicable

Special precautions for user

- None specified.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

- No data available

Other information

- The calculated 1-hour acute toxicity for inhalation LC50 = 2.06 mg/L.

IMO/IMDG

- No data available

IATA/ICAO

- No data available

Section 15 - Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA Hazard Classifications

- Acute

FIFRA – Pesticide Labeling

DANGER

POISON

Hazard Statements • KEEP OUT OF REACH OF CHILDREN

Precautionary Statements •

Hazards to Humans and Domestic Animals •

Fatal if inhaled or swallowed. Harmful if absorbed through the skin. Causes moderate eye irritation. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Do not breathe dust. Use a dust/mist filtering respirator (MSHA/NIOSH approval number prefix TC-21C) or a NIOSH approved respirator with any N, R, P or HE filter. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking or using tobacco. Remove contaminated clothing and wash clothing before reuse.

First Aid •

Have the product container or label with you when calling a poison control center or physician, or going for treatment. If swallowed: Call a Poison Control Center, physician, or PROSAR at 866-257-4118 immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the Poison Control Center or physician. Do not give anything by mouth to an unconscious or convulsing person. If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a Poison Control Center, physician, or PROSAR at 866-257-4118 immediately for treatment advice. If in eyes: Hold eye open and rinse slowly and gently for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a Poison Control Center, physician, or PROSAR at 866-257-4118 for treatment advice. If inhaled: Move person to fresh air If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a Poison Control Center, physician, or PROSAR at 866-257-4118 for treatment advice.

Environmental Hazards •

This pesticide is extremely toxic to fish, Fish kills are expected at recommended rates. Consult your State Fish and Game Agency before applying this product to public waters to determine if a permit is needed for such an application. Do not contaminate untreated water when disposing of equipment washwaters.

Inventory		
Component	**CAS**	**TSCA**
Rotenone	83-79-4	No

Section 16 - Other Information

Revision Date • 29/March/2016

Last Revision Date • 29/March/2016

Preparation Date • 29/March/2016

Disclaimer/Statement of Liability •

The information and statements herein are believed to be reliable but are not to be construed as a warranty or representation for which we assume legal responsibility. Users should undertake sufficient verification and testing to determine the suitability for their own particular purpose of any information or products referred to herein. NO WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE IS MADE.

Supporting Document #7. Description of potential impacts to the environment and non-target plant and animals including invertebrates.

This project will intentionally introduce rotenone, a natural botanical piscicide, to surface waters to kill invasive northern pike, but the anticipated impacts to other species will be short-term. Prentox Rotenone Fish Toxicant Powder (8.74% rotenone) is registered by both the Environmental Protection Agency (EPA) and the Alaska Department of Environmental Conservation and is deemed safe to use to eradicate invasive fish when applied according to label instructions. The proposed treatment will result in a peak rotenone concentration of <0.04 ppm active ingredient (rotenone). According to the EPA's re-registration of rotenone, there are no adverse environmental or human health effects from rotenone when used at this concentration (USEPA 2007) and is below the drinking water level of concern.

There are three ways in which rotenone can be detoxified once applied. The first detoxification method involves dilution by other water sources. This may be accomplished by groundwater or surface water mixing with treated water and diluting the rotenone below 2.0 parts per billion (ppb) which is considered non-detectable by product labeling thus requiring no active deactivation if the rotenone travels outside the treatment area.

The most common method of rotenone detoxification is to allow the rotenone to naturally breakdown. Rotenone is susceptible to natural detoxification through a variety of mechanisms, but warm water temperatures and exposure to sunlight are the two factors with the greatest influence on degradation rate (Ware 2002; ODFW 2008; Loeb and Engstrom-Heg 1970; Engstrom-Heg 1972; Gilderhus et al. 1986). Rotenone released into relatively warm water (~15°C) is expected to fully detoxify within two to four weeks (Dawson et al. 1991; Brian Finlayson retired California DFG pesticide specialist, personal communication). Colder water < 15°C is expected to delay rotenone degradation for months. For example, between 2000 and 2022, rotenone applied to other Southcentral Alaska lakes during September and October, when water temperatures ranged from 3.5ºC to 12ºC at the time of application persisted from three to nine months. Natural detoxification of rotenone will be the method of rotenone detoxification during the Memory Lake treatment.

The third method of detoxification involves the application of potassium permanganate, an oxidizing agent. This dry crystalline substance is mixed with water to detoxify the rotenone. Detoxification is typically accomplished after about 30 minutes of mixing between the two compounds at a (1.5-2.0):1 ratio of potassium permanganate and rotenone, respectively. Detoxification by this method is not planned for these treatments.

Private drinking water wells exist throughout the Memory Lake area and representative wells will be monitored for rotenone as part of this project. Similar well monitoring was done by ADF&G for a recent project (Kings and Anderson Lakes Restoration: pike eradication). Well water samples were collected periodically posttreatment until the rotenone fully degraded in the treated lakes

based on analytic testing. No rotenone or rotenolone (degradation product) was detected in any well. Also, well monitoring efforts for other rotenone treatments in California, Oregon (Finlayson et al. 2001; Finlayson et al. 2014) or Montana (Don Skaar, MFWP, unpublished data) have never detected rotenone. Nonetheless, water samples from a private ground water well near Memory Lake will be analyzed for rotenone content periodically to ensure that well water is not affected by the treatment. Rotenone penetrates approximately one inch in most soil types; the only exception is sandy soil where movement is about three inches (Hisata 2002). Additionally, national rotenone experts are unaware of any instance in which ground water has been affected by rotenone traveling though soils (Turner et al. 2007). Also, the EPA stated in their 2007 decision to reregister rotenone that "Acute exposure estimates for drinking water considered surface water only because rotenone is only applied directly to surface water and is not expected to reach groundwater" (USEPA 2007).

There are no known public drinking water wells within 200 feet of the treatment area, however there are at least 12 private drinking water wells withing 200 feet according to the DNR WELTS database (DNR Well Log - WELTS | DNR Well Log - WELTS | State of Alaska Geoportal). Well data for Memory Lake show that wells in the area are between 40 and 405 feet below the surface. In several cases, depths of the hardpan or confining layer are not given, so underground hydrologic connections in several cases are unknown. However, given that mobility of rotenone in soil is less than 3", well water will not be affected by these rotenone treatments because surface waters must travel through sediments, soils, and gravels to reach ground aquifers, and rotenone is known to bind readily with these materials. Therefore, contamination of ground water should not occur. If rotenone did somehow enter an underground aquifer, it would be further diluted and subject to natural degradation processes that would render it far below the EPA Drinking Water Level of Concern (DWLOC) of 40ppb.

Following any rotenone treatment, there may be a substantial number of fish carcasses present. Bradbury (1986) reported that approximately 70% of rotenone-killed fish in Washington lakes immediately sink. Parker (1970) reported that at water temperatures of 5° C and cooler, dead fish required 20-41 days to surface. The most important factors inhibiting dead fish from surfacing are cooler water (<10°C) and deep water (> 15 feet). Memory Lake has an average depth of 16.6 feet. However, each lake has one small area with deeper water (> 20 feet). By October, the water temperatures of the lakes should be cooling to <10°C. Because of the relatively coldwater temperatures expected during the treatment, few dead fish are expected to be present following the treatment and odor from decaying fish should be lessened.

Bradbury (1986) reported that nine of eleven water bodies in Washington treated with rotenone experienced an algae bloom shortly after treatment. This occurred from the input of phosphorus to the water as fish decayed. Bradbury further noted that approximately 70% of the phosphorus content in the dead fish will be released into the lake through bacterial decay. This stimulates phytoplankton production which in turn increases zooplankton production, providing prey for macroinvertebrates and fish. This change in water chemistry is viewed as a benefit to stimulate

plankton growth (UDWR 2007). Any changes or impacts to water quality resulting from decaying fish are expected to be short-term and minor.

Rotenone, at treatment concentrations, is not known to affect vegetation. Locations with inundated wetlands adjacent to northern pike infested waters will require rotenone treatment. This can be accomplished with a variety of equipment depending on water conditions and could include either the use of outboard boat(s) or backpack applicators. Lakeside-submerged wetlands and dense emergent lake weed beds will be treated using a surface drive outboard boat equipped with a pumping/application system.

Large game such as grizzly bears, black bears, and wolves are not known to occur in the treatment area but if they were, they would not be exclusively dependent on fish from these lakes. The removal of visible dead fish, where feasible, should reduce the potential for these species, should they happen to be in the area, to consume rotenone-killed fish in great quantity. Even if rotenone-killed fish were consumed by mammals, there will be no adverse effects because rotenone at trace dosages is expected to be degraded by enzymes in the animals' digestive tracts (Finlayson et al. 2000; USEPA 2007). The LC50 to female rats from oral ingestion is 320 mg/Kg (Lowe 2006). No definitive evidence for carcinogenicity has been documented in mice/rat studies (National Toxicology Program 1986). Following rotenone treatment, frequent monitoring of the waterbodies, particularly those close to residences, to collect dead fish should limit fish carcasses from becoming an attractant to bears.

There is a year-round presence of moose in the treatment area and it is possible that some may ingest treated water or feed on aquatic vegetation exposed to rotenone. EPA-approved bioassays indicate that, at the proposed concentrations, rotenone will have no effect on mammals that drink the treated water (Schnick 1974a, 1974b; Herr et al. 1967). Ingestion of treated waters by any terrestrial wildlife will have no adverse effects because of the low rotenone concentration found in the lake water and the enzymatic action in the animals' digestive tracts. Particularly, the gastrointestinal absorption of rotenone is inefficient (Finlayson et al. 2000).

Finally, rotenone has a low acute toxicity via the dermal route of exposure and receives a toxicity category IV (safest) rating in rabbits, the LD50 is >5000 mg/kg (USEPA 2007). Risk of inhalation exposure to rotenone from the liquid CFT Legumine™ to wildlife is nonexistent because the vapors rapidly dissipate. In conclusion, this project will have no significant impact on game mammals.

Small game such as coyote, lynx, muskrat, beaver, mink, otter, weasel, snowshoe hare, red squirrel, porcupine, flying squirrel, shrew, vole and domesticated dogs and cats are present in the area. Some of these mammals could scavenge on rotenone killed fish or drink treated lake water. The effects of rotenone on non-target organisms have been studied extensively. Again mammals, in general, are not affected by rotenone in fisheries treatment concentrations because they neutralize rotenone by enzymatic action in their stomach and intestines (Finlayson et al. 2000: AFS 2002;

USEPA 2007). Laboratory tests have been conducted in which rats and dogs have been fed forms of rotenone as part of their diet for periods of six months to two years (Marking 1988). Observed effects included diarrhea, decreased food consumption, and weight loss. Researchers reported that despite the unusually high treatment concentrations of rotenone fed to rats and dogs, the chemical did not cause tumors or reproductive problems in these mammals.

CDFG (1994) studies of potential risks to terrestrial animals found that a 22-pound dog will have to drink thousands of gallons of lake water or eat thousands of pounds of rotenone killed fish in 24 hours to receive a lethal dose. The State of Washington reported that a half-pound mammal (red squirrel size) will need to consume 12.5 mg of pure rotenone to receive a lethal dose (Bradbury 1986). It is important to note that nearly all of the aforementioned examples were based upon subjecting laboratory specimens to unusually high concentrations of rotenone that are far above concentrations used in fisheries management uses. Assuming the primary way an animal may consume the compound under field conditions is by drinking lake water, a half-pound animal will need to drink 66 gallons of treated water at 0.05 ppm rotenone to receive a lethal dose. Based on this information, we expect the impacts to non-target organisms to range from non-existent to short-term.

Birds common to the treatment area that could potentially consume dead fish following treatment include bald eagles, herring gull, Bonaparte's gull, parasitic jaeger, common loon, horned grebe, red-necked grebe, raven, magpie, stellar jay, gray jay and osprey. Additionally, non-piscivorous birds such as passerines, woodpeckers, geese, ducks, plovers, owls, etc. are present in the area. During the proposed treatment period (October), many piscivorous waterfowl will have migrated from the drainage. Following the treatment, it is likely that some birds will be present and forage on rotenone-killed fish, however research has indicated it is not physiologically possible for birds to consume sufficient quantities of rotenone-killed fish to result in a lethal dose (Finlayson et al. 2000: USEPA 2007).

Rotenone residues in dead fish are generally very low (<0.1 ppm), unstable, and not readily absorbed through the gut of the animal eating the fish (Finlayson et al. 2000). A bird weighing ¼ pound will have to consume 100 quarts of treated water or more than 40 pounds of fish and invertebrates within 24 hours to receive a lethal dose. This same size bird will normally consume 0.2 ounces of water and 0.32 ounces of food daily, thus a safety factor of 1,000 to 10,000 fold exists under normal conditions for birds and mammals. The LD50 values for mallard ducks and ring-necked pheasants were 2200 mg/kg and 1680 mg/kg, respectively, as reported online at:

http://pmep.cce.cornell.edu/profiles/extoxnet/pyrethrins-ziram/rotenone-ext.html. Regardless, ADF&G efforts to remove rotenone-killed fish that surface following treatment will minimize risks to these birds; thus, impacts should be negligible.

This project is designed to eradicate invasive northern pike using rotenone. It is anticipated that all fish exposed to the rotenone will be killed. The primary sport fishery in these two lakes is

currently for northern pike and hatchery-reared rainbow trout and coho salmon. Removing northern pike will result in a loss of fishing opportunity for this invasive species. After the treatment and complete natural neutralization of rotenone in both lakes, catchable-sized hatchery rainbow trout and coho salmon will be stocked in Memory Lake. In addition, native species such as threespine sticklebacks will be reintroduced.

Generally, zooplankton species are more vulnerable to rotenone than fish or macroinvertebrates (Bradbury 1986, Melaas et al. 2001, Vinson et al. 2010). However, many zooplankton species have life stages (eggs, resting stages) that are very rotenone-resistant so complete eradication is unlikely (Kiser et al. 1963, Melass et al. 2001). Zooplankton populations have been observed to fully recover to pre-treatment levels in Southcentral Alaska within one to three years after a rotenone treatment with no observed loss of species (Chlupach 1977). Recent rotenone treatments on the Kenai Peninsula indicate macroinvertebrate diversity remained comparable to pretreatment levels less than one year post treatment, but zooplankton abundance was temporarily reduced (Massengill 2014a; Massengill 2014b). Chandler and Marking (1982) found that clams and snails were between 50 and 150 times more tolerant than fish to rotenone. Because of their short life cycles (Anderson and Wallace 1984), good dispersal ability (Pennack 1989) and generally high reproductive potential (Anderson and Wallace 1984), many species of aquatic invertebrates are capable of rapid recovery from disturbance (Jacobi and Deegan 1977; Boulton et al. 1992; Matthaei et al. 1996). Recolonization will include aerial dispersal of adult invertebrates from adjacent areas to the project area (e.g., mayflies and caddis flies).

Wood frogs are the only amphibians in the area and are presumed to be common to Memory Lake. Wood frogs mate in the spring, and their offspring quickly develop from egg to tadpole to frog. This northern adaptation helps ensure complete metamorphosis before fall freeze-up (ADF&G Wildlife Notebook Series: Frogs and Toads http://www.adfg.alaska.gov/static/education/wns/frogs_and_toads.pdf). Adult frogs are generally more resistant to the effects of rotenone than fish. Grisak et al. (2007) conducted laboratory studies on long-toed salamanders, Rocky Mountain tailed frogs, and Columbia spotted frogs and concluded that the adult life stages of these species will not suffer an acute response to rotenone, but larval and tadpole stages could be affected by rotenone at fish killing concentrations. It is anticipated that surrounding ponds and wetlands that are not treated will help restore any potential depletion of wood frog populations in the Memory Lake area. It is noteworthy that wood frog tadpoles were observed in Scout Lake (Sterling, Alaska) the spring following a fall rotenone treatment (Massengill 2014b).

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Supporting Document #8. Description of precautions to protect human health, safety, welfare, animals and the environment.

The greatest health threat posed to humans by this project is to the applicators who will be working with a concentrated rotenone product. Safety training will be provided to all personnel associated with this project to include how to safely apply and handle pesticide and emergency incidents protocols. All pesticide will be stored in a spill containment system.

During the treatment, signage will be posted at access locations within the treatment area warning the public to not contact treated waters until ADF&G announces that all the rotenone has deactivated. Neighboring landowners will also be directly notified about the treatment. These precautions are beyond EPA and label guidelines that indicate contact and/or drinking of treated waters with <40ppb rotenone content is allowable. The concentration of the rotenone in the treatment area will be periodically monitored through analysis of water samples sent to an approved laboratory at the University of Alaska Anchorage. The target rotenone concentration for all treatments is <40ppb which will degrade over time through natural mechanisms. The treatments will have all DEC-certified aquatic pesticide applicators directly conducting the applications.

Treatment timing will play a large role in minimizing impacts to humans and the environment. For instance, the desired fall application timing produces the benefit of prolonging the persistence of the rotenone via colder temperatures (and prolonging rotenone exposure to the target species) while reducing the impact to the public that might otherwise be recreating in lakes when temperatures are warmer. The desired October treatment timing will also occur when many local migratory birds have left the area. During late fall and winter ice cover will serve to limit terrestrial animal exposure to the treated waters.

Post-treatment, ADF&G will closely monitor the rotenone concentrations in all treated waterbodies including the monitoring of representative drinking water wells adjacent to the treatment area to document that well water is not impacted and safe.

At the very low rotenone concentration needed for this treatment (<40 ppb rotenone) no impacts to birds or mammals are expected; however, we expect a temporary reduction of some invertebrate populations, particularly zooplankton. Rotenone is not known to affect plants.

Studies conducted in Alaska indicate that within 1-3 years, all zooplankton species fully recover after rotenone exposure in lakes. Other invertebrate species are either more resistant to rotenone or have life stages (eggs/cysts or dormant phases) that allow representatives to survive the treatment.

Some native fish assemblage of the area (threespine stickleback) will be reintroduced and hatchery fish (rainbow trout and coho salmon) will also be stocked into Memory Lake to provide for quality fisheries.

Liability Insurance for Non-Government Entities

N/A

Threatened and Endangered Species Impacts

N/A

(For Agency Use) Permit Authorization #: _____

Notice of Intent (NOI) of Coverage Under the Pesticide General Permit (PGP) for Discharges from the Application of Pesticides

Submission of this completed Notice of Intent (NOI) constitutes notice that the operator identified in Section B of this form intends to be authorized to discharge pollutants to waters of the United States (U.S.) within the pest management identified in Section C under DEC's Pesticide General Permit (AKG870000). Submission of this NOI constitutes notice that the party identified in Section B of this form has read, understands, and meets the eligibility conditions of Part 1 of the permit; agrees to comply with all applicable terms and conditions of the permit; and understands that continued authorization under the permit is contingent on maintaining eligibility for coverage. To be granted coverage, all information required on this form must be completed. Please read and make sure you comply with all permit requirements, including the requirement for large entities to prepare a Pesticide Discharge Management Plan (PDMP) prior to NOI submittal. Refer to the instructions at the end of this form to complete your NOI.

A. Notice of Intent Status

Mark whether this is the first time you are requesting coverage under the Pesticide General Permit or if this is a change of information for a discharge already covered under the Pesticide General Permit. If this is a change of information, supply the APDES permit tracking number for the discharge.

☐ Original NOI Submission

☑ NOI Change of information, APDES Permit Tracking Number: AKG870004

(Please fill out Section B and the fields of the NOI that need to be modified.)

B. Operator Information

Operator Contact Name:	Organization:	Title:
Parker Bradley	ADF&G	Fishery Biologist

Phone:	Fax (optional):	Email:
907-746-6328		parker.bradley@alaska.gov

Mailing Address:	Street (PO Box):		
	1801 S. Margaret Dr. Suite 2		
	City:	State:	Zip:
	Palmer	AK	99645

1. Operator Type *(Check one)*:

a. ☐ Federal government
b. ☑ State government
c. ☐ Local government
d. ☐ Mosquito control district (or similar)
e. ☐ Irrigation control district (or similar)
f. ☐ Weed control district (or similar)
g. ☐ Other: If other, provide a brief description of type of operator:

2. Are you a large entity as defined in Appendix C of the permit? ☐ Yes ☐ No

Please note: If you answer "Yes" to question 3, you are required to develop a Pesticide Discharge Management Plan (PDMP) and submit an Annual Report reflecting all pesticide uses for which you are requesting permit coverage under this NOI.

Billing Contact Information

Billing Contact Name:	Organization:	Title:

Phone:	Fax (optional):	Email:

Mailing Address: ☑ Check if same as Operator Information	Street (PO Box):		
	City:	State:	Zip:

C. Pest Management Areas: Complete Section C for each Pest Management Area for which coverage under the APDES Pesticide General permit is desired. *Copy this section for non-electronic submissions.*

Pest Management Area #: ____ ***of ##*:** ____

1. Name: Memory Lake

Provide a map of the location of the Pest Management Area (attach map) or describe the location of the Pest Management Area in detail.

2. Pesticide Applicator Contact Information:

Pesticide Applicator Contact Name:	Organization:	Title:
Parker Bradley	ADF&G	Fishery Biologist

Phone:	Fax (optional):	Email:
907-746-6328		parker.bradley@alaska.gov

Mailing Address: ☐ Check if same as Section B	Street (PO Box):		
	1801 S. Margaret Dr. Suite 2		
	City:	State:	Zip:
	Palmer	AK	99645

3. Pesticide Use Patterns to be included in this Pest Management Area *(check all that apply)*:

a. ☐ Mosquito and Other Flying Insect Pest Control
b. ☐ Weed and Algae Pest Control
c. ☐ Animal Pest Control
d. ☐ Forest Canopy Pest Control

Pest(s) to be controlled:	Pesticide Products	
	Product Name:	EPA Registration Number:
Northern Pike	Prentox Rotenone Fish Toxicant Powder	89459-32

4. Receiving Waters *(check one)*:

a. ☐ Coverage requested for all waters of the U.S. within the Pest Management Area identified above.
b. ☑ Coverage requested specifically for the following waters of the U.S. within the Pest Management Area identified above.
c. ☐ Coverage requested for all waters of the U.S within the Pest Management Area identified above except for:

5. Tier 3 Waters

Is coverage requested for discharge to a Tier 3 (Outstanding National Resource Water) water of the U.S.? ☐ Yes ☑ No

a. Name of Tier 3 water(s):
b. Provide rationale for determination that pesticide discharge is necessary to protect water quality, the environment, and/or public health and that any such discharge will not degrade water quality or will degrade water quality only on a short-term or temporary basis:

6. Water Quality Impaired Waters

Operators are not eligible for coverage under this permit for any discharges from a pesticide application to Waters of the United States if the waters are identified as impaired by a substance which is either an active ingredient of the pesticide designated for use or is a degradate of such an active ingredient. See Part 1.1.2.1 of the permit. *Check one:*

a. ☑ Waters are NOT impaired by any substance which is either an active ingredient of a pesticide to be discharged or a degradate of such an active ingredient
b. ☐ Waters are on a current state list as being impaired by a substance which is either an active ingredient of a pesticide to be discharged or a degradate of such an active ingredient; however, evidence is attached documenting that the waters are no longer impaired.

IX. Certification Information

An Alaska Pollutant Discharge Elimination System (APDES) permit application or report must be signed by an individual with the appropriate authority per 18 AAC 83.385. For additional information, please refer to 18 AAC 83.385 at the following link: http://www.legis.state.ak.us/basis/aac.asp#18.83.385.

Corporate Executive Officer 18 AAC 83.385 (a)(1)(A)	For a corporation, a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation.
Corporate Operations Manager 18 AAC 83.385 (a)(1)(B)	For a corporation, the manager of one or more manufacturing, production, or operating facilities, if (i) the manager is authorized to make management decisions that govern the operation of the regulated facility, including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental statutes and regulations; (ii) the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and (iii) authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.
Sole Proprietor or General Partner 18 AAC 83.385 (a)(2)	For a partnership or sole proprietorship, the general partner or the proprietor respectively.
Public Agency, Chief Executive Officer 18 AAC 83.385 (a)(3)(A)	For a municipality, state, or other public agency, the chief executive officer of the agency.
Public Agency, Senior Executive Officer 18 AAC 83.385 (a)(3)(B)	For a municipality, state, or other public agency, a senior executive officer having responsibility for the overall operations of a principal geographic unit or division of the agency.

Any report required by an APDES permit, and a submittal with any other information requested by the department, must be signed by a person described in above, or by a duly authorized representative of that person.
**For Delegated Authority: the delegation must be made in writing and submitted to the DEC.*
Your signature will not be approved until DEC receives the written delegation.
An Example of written authorization delegating authority can be found on the Division of Water website:
http://dec.alaska.gov/Water/OASysHelp/attachments/Delegation_Authorization_Form.pdf

Operations Manager *(Delegated Authority)** 18 AAC 83.385 (b)(2)(A)	For a duly authorized representative, an individual or a position having responsibility for the overall operation of the regulated facility or activity, including the position of plant manager, operator of a well or a well field, superintendent or position of equivalent responsibility.
Environmental Manager *(Delegated Authority)** 18 AAC 83.385 (b)(2)(B)	For a duly authorized representative, an individual or position having overall responsibility for environmental matters for the company.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Organization:	Name:	Title:
Alaska Dept. of Fish and Game	Parker Bradley	Fishery Biologist

Phone:	Fax (optional):	Email:

Mailing Address: ☑ Check if same as Operator Information	Street (PO Box):		
	City:	State:	Zip:

Signature/Responsible Official _____ Date _____

F. NOI Preparer *(Complete if NOI was prepared by someone other than the certifier.)*

Organization:	Name:	Title:

Phone:	Fax (optional):	Email:

Mailing Address: ☑ Check if same as Operator Information	Street (PO Box):		
	City:	State:	Zip:

G. Document Attachments and Supplemental Information

☑ Pest Management Area Map(s) See attachment: 1. Memory Lake Treatment Area

☐ Delegation of Signatory Authority.

Instructions for Completing a Notice of Intent (NOI) Form for Coverage Under the Pesticide General Permit (PGP) for Discharges from the Application of Pesticides

Who Must File an NOI Form:

Any Operator, as described in the Part 1.2.2 of the permit and meeting the eligibility requirements identified in Part 1.1 of the permit and Table 1 below must submit a complete and accurate NOI. As required in the permit, only certain Operators that are also Decision-makers must submit NOIs.

Table 1-1: Decision-makers Required to Submit NOIs and Annual Treatment Area Thresholds

PGP Part/ Pesticide Use	Decision-maker	Annual Treatment Area Threshold[1]	NOI Submittal Required
1.1.1.1 - Mosquito and Other Flying Insect Pest Control	Federal and State agencies for which pest management for land resource stewardship is an integral part of the organization's operations.	No annual threshold.	Required.
	Mosquito control districts, or similar pest control districts.	No annual threshold.	Required.
	Local governments or other entities that exceed the *annual treatment area threshold* identified here.	Adulticide treatment if more than 6,400 acres during a calendar year.	NOI required when total treatment area in a calendar year exceeds the annual treatment area threshold.
1.1.1.2 - Weed and Algae Pest Control	Federal and State agencies for which pest management for land resource stewardship is an integral part of the organization's operations.	No annual threshold.	Required.
	Weed control districts, or similar pest control districts.	No annual threshold.	Required.
	Local governments or other entities that exceed the *annual treatment area threshold* identified here	Treatment during a calendar year if more than either: 20 linear mile of treatment area at water's edge OR 80 acres of water (i.e., surface area).	NOI required when total treatment area in a calendar year exceeds the annual treatment area threshold.
1.1.1.3 - Animal Pest Control	Federal and State agencies for which pest management for land resource stewardship is an integral part of the organization's operations.	No annual threshold.	Required.
	Local governments or other entities that exceed the *annual treatment area threshold* identified here.	Treatment during a calendar year if more than either: 20 linear mile of treatment area at water's edge OR 80 acres of water (i.e., surface area).	NOI required when total treatment area in a calendar year exceeds the annual treatment area threshold.
1.1.1.4 - Forest Canopy Pest Control	Federal and State agencies for which pest management for land resource stewardship is an integral part of the organization's operations.	No annual threshold.	Required.
	Local governments or other entities that exceed the *annual treatment area threshold* identified here.	Treatment if more than 6,400 acres during a calendar year	NOI required when total treatment area in a calendar year exceeds the annual treatment area threshold.
All four use patterns identified in Part 1.1.1	Any Decision-maker with an eligible discharge to a Tier 3 water (Outstanding National Resource Water) consistent with Part 1.1.2.2.	Activities resulting in a discharge to a Tier 3 water.	Required.
All four use patterns identified in Part 1.1.1	Any Decision-maker with an eligible discharge containing a Federally Listed Endangered and Threatened Species and Designated Critical Habitat, Part 1.6	Activities resulting in a discharge to waters of the United States containing a Federally Listed Endangered and Threatened Species and Designated Critical Habitat, Part 1.6	Required.

Table 1-1: Decision-makers Required to Submit NOIs and Annual Treatment Area Thresholds

PGP Part/ Pesticide Use	Decision-maker	Annual Treatment Area Threshold[1]	NOI Submittal Required

Notes:

1. For calculating annual treatment area totals for purposes of determining if an NOI must be submitted, see the definition for "annual treatment area threshold" in Appendix C of the permit.

One NOI can be submitted for multiple pest management areas within for which you are seeking permit coverage. If you have questions about whether you need to file an NOI or questions about completing the form, see http://dec.alaska.gov/water/wnpspc/stormwater/PesticideGP.html or contact the Storm Water section at 907-269-6285.

When to File the NOI Form?

Do not file your NOI until you have obtained and thoroughly read a copy of the permit. A copy of the permit is on DEC's website (http://dec.alaska.gov/water/wnpspc/stormwater/PesticideGP.html). The permit describes procedures to ensure your eligibility, prepare your Pesticide Discharge Management Plan (PDMP), and complete the NOI form questions—all of which must be done before you sign the NOI certification statement attesting to the accuracy and completeness of your NOI. You will also need a copy of the permit once you have obtained coverage so that you can comply with the implementation requirements of the permit. Note: PDMP is not required for 1) any application made in response to a Declared Pest Emergency Situation, as defined in Appendix C of the permit; and 2) any Decision-maker that is required to submit an NOI solely because their application results in a point source discharge to waters of the United States containing NMFS Listed Resources of Concern, as defined in Appendix C of the permit.

Where to File NOI form

Select one of two options:

(1) If you file by mail please submit the original form with a signature in ink. Remember to retain a copy for your records.

NOIs sent by mail:

Alaska Dept. of Environmental Conservation
Division of Water, Wastewater Discharge Authorization
Storm Water Program
555 Cordova Street
Anchorage, AK 99501
Phone: (907) 269-6285

(2) Submit all pages of scanned original form via Email: DEC.Water.WQPermit@alaska.gov. *(Note, 20MB limit).*

Completing the NOI Form

To complete this form, type or print in uppercase letters in the appropriate areas only. Please make sure you complete all questions. Make sure you make a photocopy for your records before you send the completed original form to the address above.

Section A. NOI Status

1. Indicate if this is the first time you are requesting coverage under the permit or if this is a change of information.
   a. Check this box if this is the first time you are requesting coverage under the permit for these discharges. If this is the first time you are requesting coverage, refer to Table 1-2 for NOI submittal deadlines and discharge authorization dates.
   b. Check this box if this is a change of information for a discharge already covered under the permit. If this is a change of information, supply the APDES permit tracking number that you received in your confirmation letter or e-mail from DEC's Wastewater Discharge Authorization Program. You can find the tracking number assigned to your previous NOI using DEC's Water Permit Search (http://dec.alaska.gov/Applications/Water/

WaterPermitSearch/Search.aspx). For additional details regarding a change of information, see Table 1-3. Also fill out Section B of this form (Operator Name and Mailing Address) and the associated fields of information that need to be modified on the NOI.

Section B. Operator Information

1. Provide the legal name of the person, firm, public organization or any other public entity that is the Decision-maker for the pesticides applications described in this notice. A Decision-maker is an Operator who has control over the decision to perform pesticide applications including the ability to modify those decisions that result in a discharge to waters of the United States.
2. Provide the Employer Identification Number (EIN from the Internal Revenue Service (IRS)), commonly referred to as your tax payer ID number. If the operator does not have an EIN, enter "N/A" in the space provided.
3. Indicate the type of Operator: federal government, state government, local government, mosquito control district (or similar), irrigation control district (or similar), weed control district (or similar), or other. If other, provide brief description of type of Operator in the space provided.
4. Indicate whether or not you are a "large entity" as defined in Appendix C of the permit. Note that if you are a large entity, you are required to develop a Pesticide Discharge Management Plan (PDMP) and submit future Annual Reports reflecting all pesticide uses for which you are requesting permit coverage under this NOI.
5. Provide the Decision-maker's mailing address, telephone number, fax number (optional), name, and e-mail address. Correspondence will be sent to this address.
6. Provide the Billing Contact mailing address, telephone number fax number (optional), name, and e-mail address. Billing correspondence will be sent to this address.

Section C. Pest Management Area: Information for each Pest Management Area for which coverage under DEC's Pesticide General Permit is desired.

1. Indicate whether you are submitting an NOI for multiple pest management areas. A pest management area is the area of land, including any water, for which you have responsibility and are authorized to conduct pest management activities as covered by this permit (e.g., if you are a mosquito control district, your pest management area is the total area of the district). You must complete Section C for each pest management area. If you are submitting an NOI for only one area, enter "1" of "1." If you are submitting NOIs for multiple pest management areas, enter the number for the NOI for which you are requesting coverage followed by the total number of pest management areas for which you are requesting coverage. Enter the name of the pest management area. Attach a map of the pest management area or describe the location of the pest management area in the space provided.
2. Indicate whether pesticide application will occur on a Federal Facility, as defined in Appendix C of the permit.
3. Enter the mailing address of the contact person for the pest management area. If this address is the same as the Decision-maker's mailing address, indicate that by checking the box. If it is a different address, enter the mailing address, telephone number, fax number (optional), contact name, and e-mail address.
4. Indicate the pesticide use patterns for the pest management area for which the NOI is required. For additional information regarding pesticide use patterns, see Part 1.1.1 of the permit. Check all the use patterns that apply to the pest management area. Include the pest(s) to be controlled and the pesticide product(s) that will be used.
5. Indicate if permit coverage is being requested for all waters of the United States within the pest management area or if permit coverage is being requested to specific waters of the United States within the pest management area. If specific waters are being requested, write the names of the waterbodies. If permit coverage is being requested for all waters of the United States within the pest management area except for specific waterbodies, name those specific waterbodies in the space provided. Alaska DEC Impaired Waters interactive map can be used to locate nearest water body, and includes layers for Anadromous, Impaired Waters, National Hydrology Dataset, see http://dec.alaska.gov/das/gis/apps.htm.
6. Indicate if permit coverage is being requested to discharge to a Tier 3 (Outstanding National Resource Water) Water of the United States. If yes, write the name(s) of the Tier 3 water(s) in the space provided. Describe and demonstrate why it is necessary to apply the pesticide discharge to protect the water quality, environment, and/or public health and that any such discharge will not degrade water quality or will degrade water quality only on a short-term or temporary basis.
1. Verify that waters within the pest management area are either not impaired by substances which are either active ingredients in the pesticide planned for use or degradates of such active ingredients, OR that evidence shows that the target waters in question are no longer impaired. See Part 1.1.2.1 of the permit for more information on discharges to Water Quality Impaired Waters.

Section D. Certification

Include the certifiers name, title, organization, address, telephone number, and email address of the person signing the form and the date of signing. An unsigned or undated NOI form will not be considered valid application for permit coverage.

For more information about the certification statement and signature, see Appendix A of the permit. (CAUTION: An unsigned or undated form will not be accepted.) There are severe penalties for submitting false information. Alaska regulation 18 AAC 83.385 requires this application to be signed as follows:

(a) The NOI must be signed by a responsible official as follows:

(1) For a corporation, a responsible corporate officer shall sign the Annual Report. A responsible corporate officer means:

(A) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy - or decision-making functions for the corporation; or

(B) the manager of one or more manufacturing, production, or operating facilities, if

(i) the manager is authorized to make management decisions that govern the operation of the regulated facility, including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental statutes and regulations;

(ii) the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and

(iii) authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

(2) For a partnership or sole proprietorship, the general partner or the proprietor, respectively; or

(3) for a municipality, state, or other public agency, either a principal executive officer or ranking elected official shall sign the application; in this subsection, a principal executive officer of an agency means

(A) the chief executive officer of the agency; or

(B) a senior executive officer having responsibility for the overall operations of a principal geographic unit or division of the agency.

(4) Include the name, title, organization, address, telephone number, and email address of the person signing the form and the date of signing.

An unsigned or undated NOI form will not be considered valid application for permit coverage.

(b) Any report required by an APDES permit, and a submittal with any other information requested by the department, must be signed by a person described in above, or by a duly authorized representative of that person. A person is a duly authorized representative only if

(1) the authorization is made in writing by a person described in (a) of this section;

(2) the authorization specifies either

(A) an individual or a position having responsibility for the overall operation of the regulated facility or activity, including the position of plant manager, operator of a well or a well field, superintendent, or position of equivalent responsibility; or

(B) an individual or position having overall responsibility for environmental matters for the company; and

Section F. NOI Preparer Information.

If the NOI was prepared by someone other than the certifier (for example, if the NOI was prepared by a consultant for the certifier's signature), include the name, title, organization, address, telephone number, and email address of the NOI preparer.

Section G. Document Attachments and Supplemental Information

List any attachments.

If you are required to develop a PDMP, that document does not need to be submitted for review unless specifically requested by DEC. You must keep a copy of your PDMP on-site or otherwise make it available to facility personnel responsible for implementing provisions of the permit.