

# Idaho State Department of Agriculture

Division of Plant Industries

# 2022

**END OF  
YEAR  
SURVEY  
RESULTS**



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## Introduction

*ISDA's Division of Plant Industries derives its statutory authority from multiple sections of Idaho Code, Title 22, which includes:*

- *the Plant Pest Act*
- *the Noxious Weed Law*
- *the Nursery and Florist Law and*
- *the Invasive Species Act.*

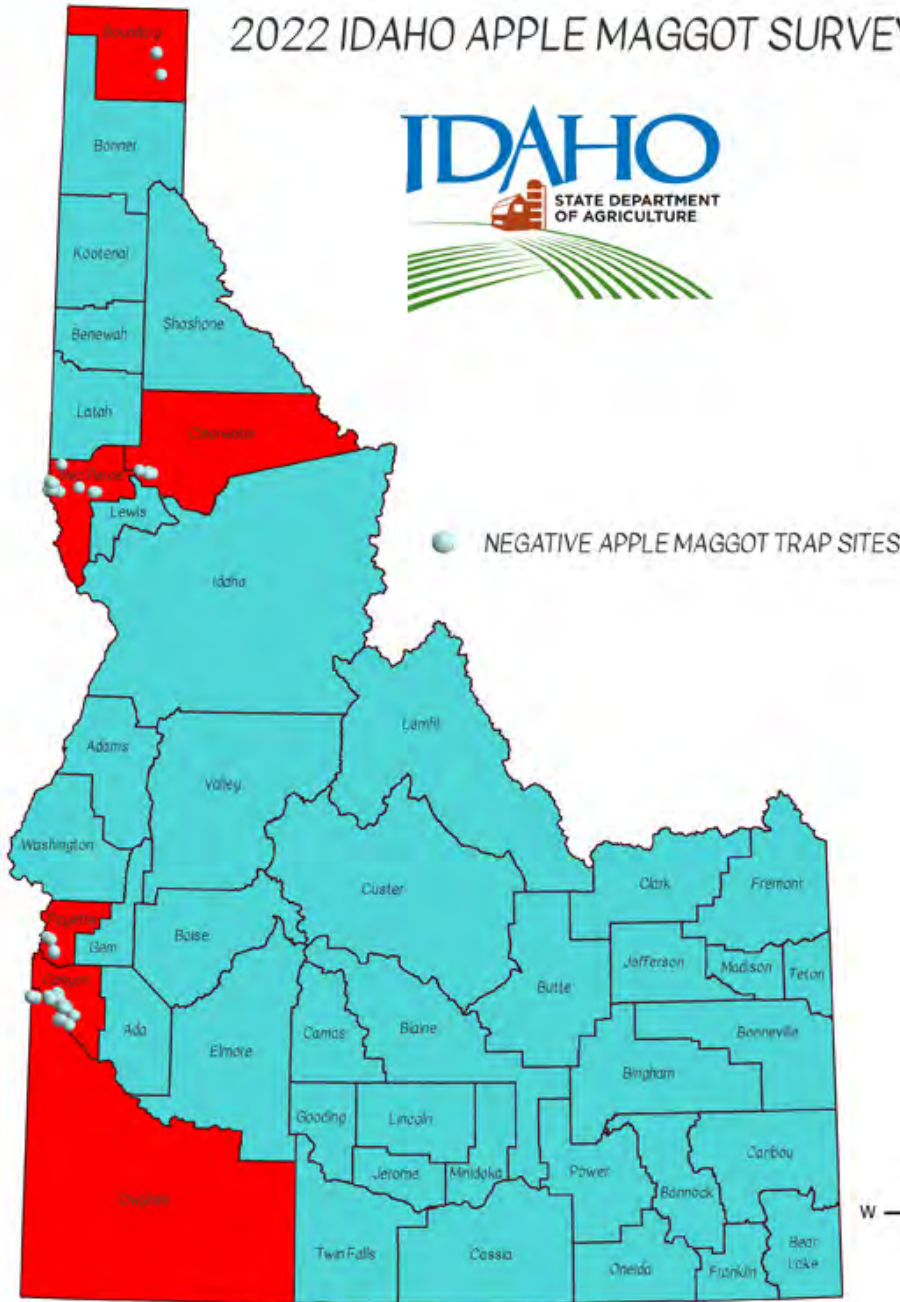
*These laws give the Division of Plant Industries clear directives to conduct pest surveys, manage plant pests, and invasive species for the purpose of protecting Idaho's agricultural industries. These industries are valued at over \$4 billion dollars; which include crops, nurseries, and ranching.*

*The Division of Plant Industries works in cooperation with other agencies including:*

- *Idaho Department of Lands (IDL)*
- *University of Idaho (UI)*
- *United States Forest Service (USFS)*
- *United States Department of Agriculture (USDA), Animal and Plant Health Inspection Services (APHIS), Plant Protection and Quarantine (PPQ)*
- *County governmental agencies*
- *Cooperative Weed Management Areas (CWMA)*
- *Industry groups and other stakeholders to protect Idaho's landscapes and environments from invasive species.*

*The Division of Plant Industries aid in accomplishing the ISDA's broader mission to "serve consumers and agriculture by safeguarding the public, plants, animals, and the environment through education and regulation." This report summarizes the comprehensive and cooperative programs conducted during 2022 to enforce Idaho statutes, and fulfill the mission of the ISDA.*

# 2022 IDAHO APPLE MAGGOT SURVEY



## Apple Maggot Survey (AM)

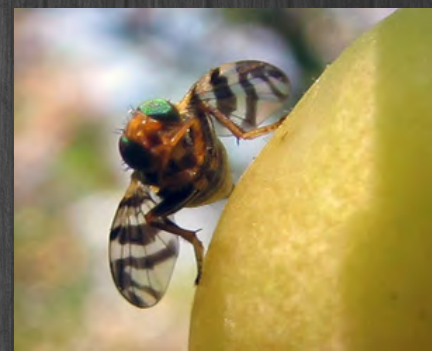
During the 2022 Apple Maggot (AM) trapping season ISDA placed 175 traps at sites located in Boundary, Canyon, Clearwater, Nez Perce, Owyhee, and Payette counties. The target locations that were chosen to place traps were areas in or near commercial apple orchards, and plant nurseries. For 2022 no specimens suspected of being AM were collected in traps.

During the 2023 trapping season, ISDA will continue to conduct these detection surveys in Boundary, Canyon, Clearwater, Owyhee, Payette, and Nez Perce counties; and we plan to concentrate on areas containing commercial orchards and plant nurseries.

## Western Cherry Fruit Fly (WCFF)

ISDA continues to carry out an annual trapping program to detect first emergence of Western Cherry Fruit Fly in the state. During the 2022 WCFF survey, adults were first observed in ISDA sentinel traps in Canyon Co. on June 24th.

The agency also monitors and reports degree day accumulation calculations as required by the California Department of Food and Agriculture (CDFA) to comply with their WCFF quarantine, which is aimed at states wishing to export fresh sweet cherries into or through California.



# Emerald Ash Borer (EAB)

The emerald ash borer—known as EAB—is an invasive insect from Asia that is killing ash trees in North America. EAB was first found in the United States in southeast Michigan in 2002. USDA estimates that EAB had been here since the 1990s based on the size of the infestation. It probably arrived hidden in wood packing material used to ship consumer goods.

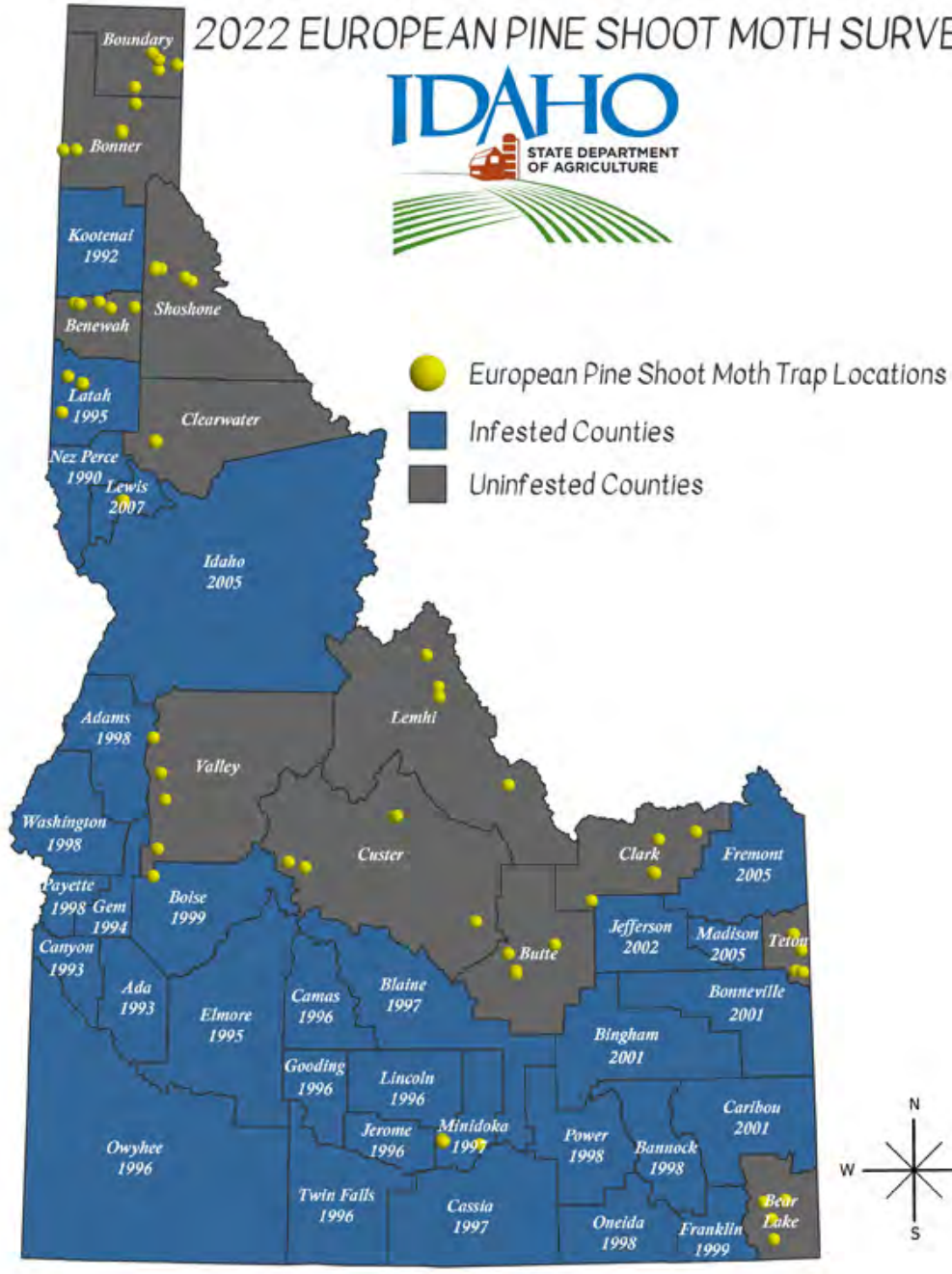
The Idaho Emerald Ash Borer survey was conducted to collect data to comply with Canada and Utah quarantines for moving ash tree nursery stock into their country or state.

In 2022 ISDA staff placed 22 EAB traps in 4 Idaho nurseries known to grow ash trees and in areas adjacent to those nurseries containing ash trees throughout 3 Idaho counties. ISDA plans to conduct this survey again in 2023.

All traps for 2022 were negative for EAB.



# 2022 EUROPEAN PINE SHOOT MOTH SURVEY

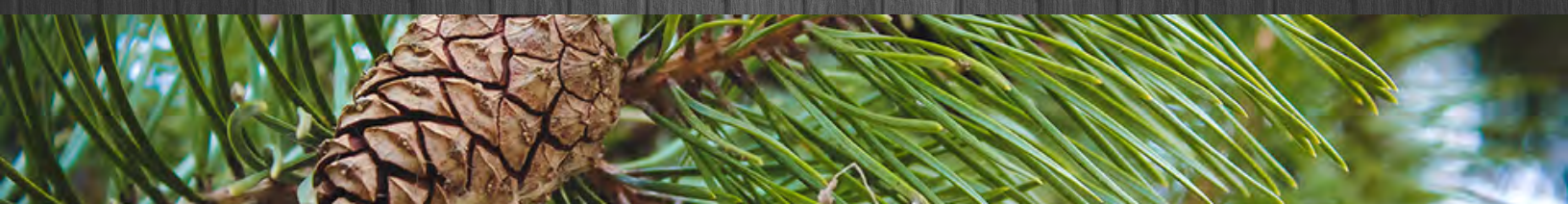


## European Pine Shoot Moth Survey (EPSM)

Idaho conducts a European Pine Shoot Moth survey annually to collect data that is used to comply with California and Montana quarantines on pine nursery stock moving into their states.

In 2022, ISDA staff placed 90 EPSM traps in pine trees that were in parks, cemeteries, golf courses, nurseries and pine tree plantations throughout 12 Idaho counties where EPSM have never been collected to date (currently considered "un-infested").. In addition, traps were placed at the request of nurseries seeking phytosanitary certifications to allow export of nursery stock from three counties where EPSM have been captured in the past.

No new infestations were reported in 2022, and the nurseries that are located in infested counties who requested surveying, showed no evidence of an EPSM presence this year.



# Japanese Beetle Survey (JB)

In 1990 the Idaho State Department of Agriculture (ISDA) began to monitor the state for Japanese beetle (JB), a major invasive insect pest in the eastern US, using pheromone-baited traps. Each summer between 200-300 traps have been routinely set out around high risk sites like plant nurseries, box stores and airports. On rare occasions (1992, 1997 and 2011) ISDA trapped single specimens at nurseries, most likely hitchhikers, on nursery stock obtained from other states.

During 2012, the first ever detection of a JB infestation in Idaho was uncovered when traps in downtown Boise collected 56 JB. The following summer, with trap numbers increased to determine the true extent of beetle establishment, 3,058 were captured. By that time a JB eradication program had been put into place. Through trapping, we were able to identify neighborhoods where JB were active and, based on that data, turf in the infested locations was treated with pesticides demonstrated to be effective at killing young JB larvae living and feeding in soil.

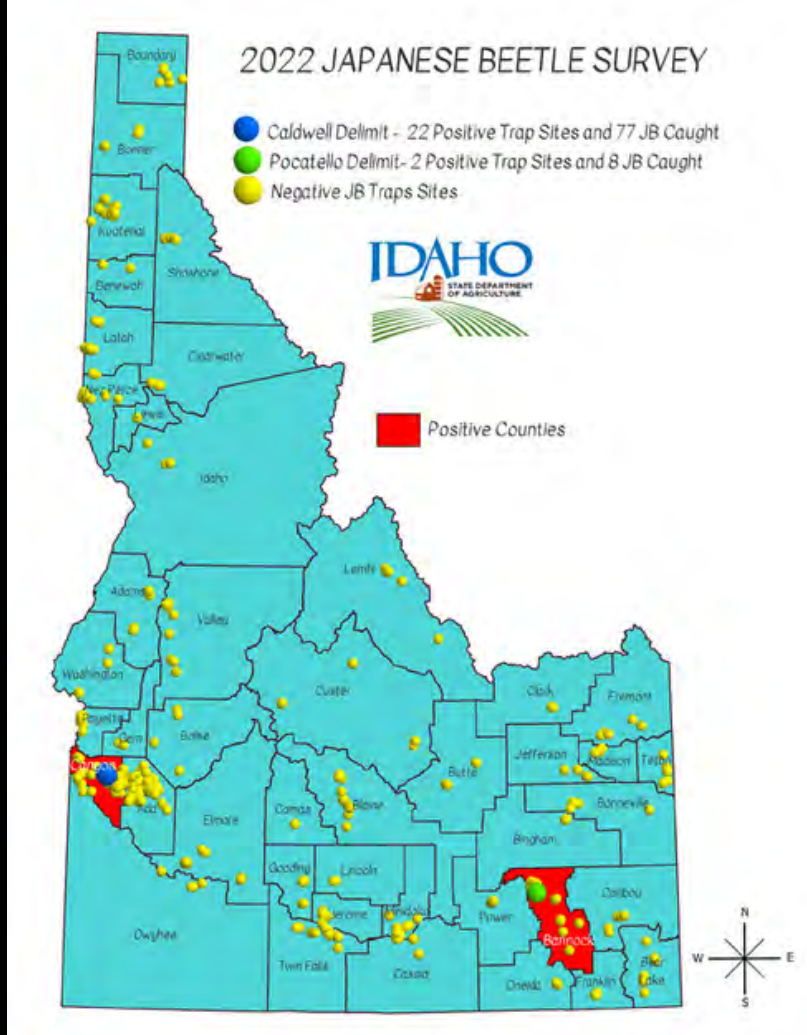
With funding from the Legislature and the help of residents affected by the presence of JB on their properties, ISDA was able to successfully carry out the JB eradication program in Boise. From a high of over 3,000 beetles in 2013, each year the number of JB captured has dramatically decreased until 2018 when only 4 were collected. No JB were found in Boise during 2019-2022 and the pest is officially considered eradicated there.

During 2012 a single JB was collected in one of the 5 traps set up in the city of Pocatello. Follow-up trapping uncovered no JB in Pocatello until 2018 when, again, a single individual was captured at a Pocatello park. Monitoring traps were increased to 35 in Pocatello during the 2019 season, and 4 beetles were collected; with 1 from the park where the initial beetle was found the previous year. In 2020, with trap numbers again increased; now to 104; a total of 7 JB were captured in Pocatello – one in the park where JB was trapped during 2018 and 2019 and 6 more from a park just to the north of that one. Turf in both parks received pesticide treatment in 2021 – the same protocol that was successfully undertaken in Boise. In 2022 49 traps were set out in areas surrounding the beetle catches from 2021 and another treatment was done in one of the parks. This year, 8 beetles were caught in Pocatello, and ISDA plans to follow-up with more trapping and pesticide treatments in the parks in 2023.

One JB trap in Caldwell, Idaho captured a single beetle during the 2021 field season. Delimit trapping, using 82 traps was carried out in 2022 to assess the situation. Unfortunately, 77 JB were collected, indicating an established infestation in Caldwell. Plans are being put in place initiate a JB eradication program in Caldwell, beginning in 2023, similar to that which has proven to be successful in Boise.

## Statewide Japanese Beetle Monitoring using Pheromone-Baited Traps and Results of the JB Eradication Program in Boise and Pocatello 2012-2022

Year	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
# of Detection Traps	365	840	430	297	289	306	295	392	377	375	401
# of Traps in Pocatello Delimit	0	0	0	0	0	0	0	29	104	104	49
# of Traps in Caldwell Delimit	0	0	0	0	0	0	0	0	0	0	82
# of Beetles Caught in Boise	56	3,058	1,283	365	128	19	4	0	0	0	0
# of Beetles Caught in Post Falls	4	0	0	0	0	0	0	0	0	0	0
# of Beetles Caught in Pocatello	1	0	0	0	0	0	1	4	7	11	8
# of Beetles Caught in Caldwell	0	0	0	0	0	0	0	0	0	1	77
Number of Acres Treated	N/A	250	400	550	340	60	40	0	0	45(P)	45(P)



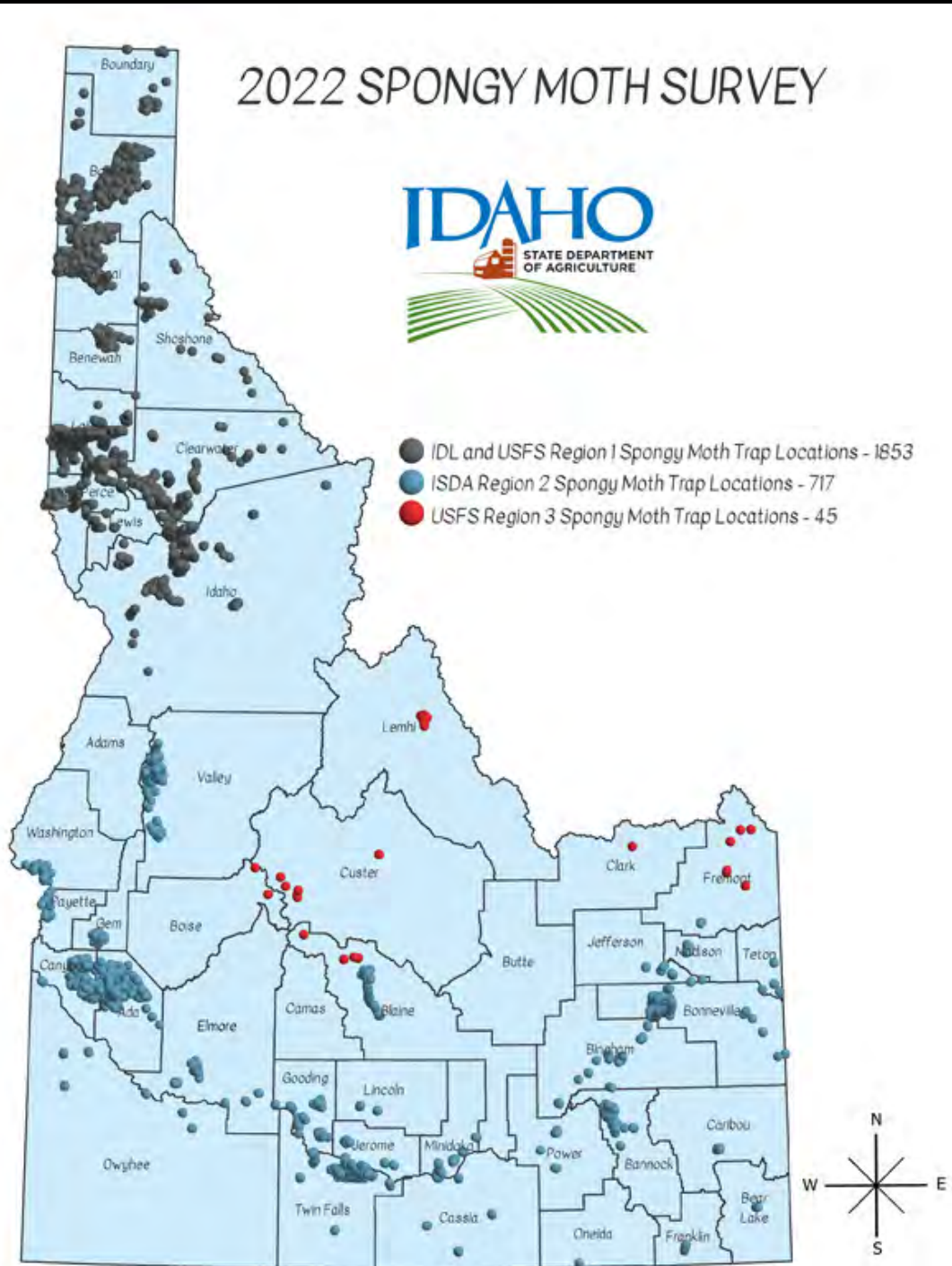
# Spongy Moth (SM)

During 2022 2,615 pheromone-baited SM traps were deployed throughout Idaho by the following agencies:

- Idaho Department of Lands (IDL): 1,747 detection traps
- Idaho State Department of Agriculture (ISDA): 717 detection traps
- United States Forest Service R-1 (USFS): 106 detection traps
- United States Forest Service R-3 (USFS): 45 detection traps

Between April 19 and October 20, 2022 staff from each participating agency completed the placement and subsequent retrieval of traps. No SM were collected in 2022, thus indicating a non-presence in Idaho this year.

The complete report on the 2022 SM Survey Program in Idaho may be viewed on the following IDL website: <https://www.idl.idaho.gov/forestry/insects-and-disease/>





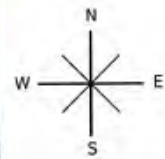
# 2022 SMALL GRAIN COMMODITY SURVEY

For the 2022 Small Grain Commodity Survey ISDA placed traps for the following: Old World Bollworm and Small Brown Planthopper.

Visual Surveys were done for the following: Cucurbit Beetle, Sunn Pest, Maritime Garden Snail and Cochlicellid Snails.



● Small Grain Commodity Trap Locations  
 ■ Counties Surveyed



## Small Grain Commodity Survey

Wheat, which is grown in 42 of Idaho's 44 counties, is a prominent crop in Idaho with its highest production areas in the eastern part of the state and the north central Palouse region. In 2021, the National Agricultural Statistics Service reported Idaho's total wheat production yield was 77 million bushels. For winter wheat 710,000 acres were planted and 640,000 acres harvested. For spring wheat 510,000 acres were planted and 485,000 acres were harvested, with a combined production value of \$529 million.

In 2022 ISDA, in cooperation with the USDA APHIS PPQ's Cooperative Agricultural Pest Survey program (CAPS), conducted trap-based surveys for two exotic organisms that could threaten Idaho corn crops: *Old World Bollworm* and *Small Brown Planthopper*. ISDA staff located 96 grain fields throughout the following counties: *Ada, Bingham, Bonneville, Canyon, Cassia, Elmore, Fremont, Gooding, Idaho, Jefferson, Latah, Lincoln, Madison, Minidoka, Nez Perce, Owyhee, Power and Twin Falls*; and two traps per pest were set out in each corn field. They were set out in June and removed by September. Traps were serviced every two weeks and lures were changed as instructed.

ISDA also conducted 2 visual surveys for *Cucurbit Beetle, Sunn Pest, Maritime Garden Snail, and Cochlicellid Snails* in all corn fields that were trapped throughout the assigned counties.

2022 Results from both the visuals and trap surveys were all negative.

# Karnal Bunt Survey

Karnal Bunt (KB) is a disease of wheat caused by the fungus *Tilletia indica*. *T. indica* was found in the United States in 1996. It has not been found in Idaho. The US Department of Agriculture has attempted to eradicate the fungus via continuing surveys, along with quarantines.

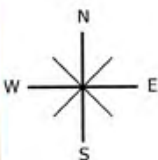
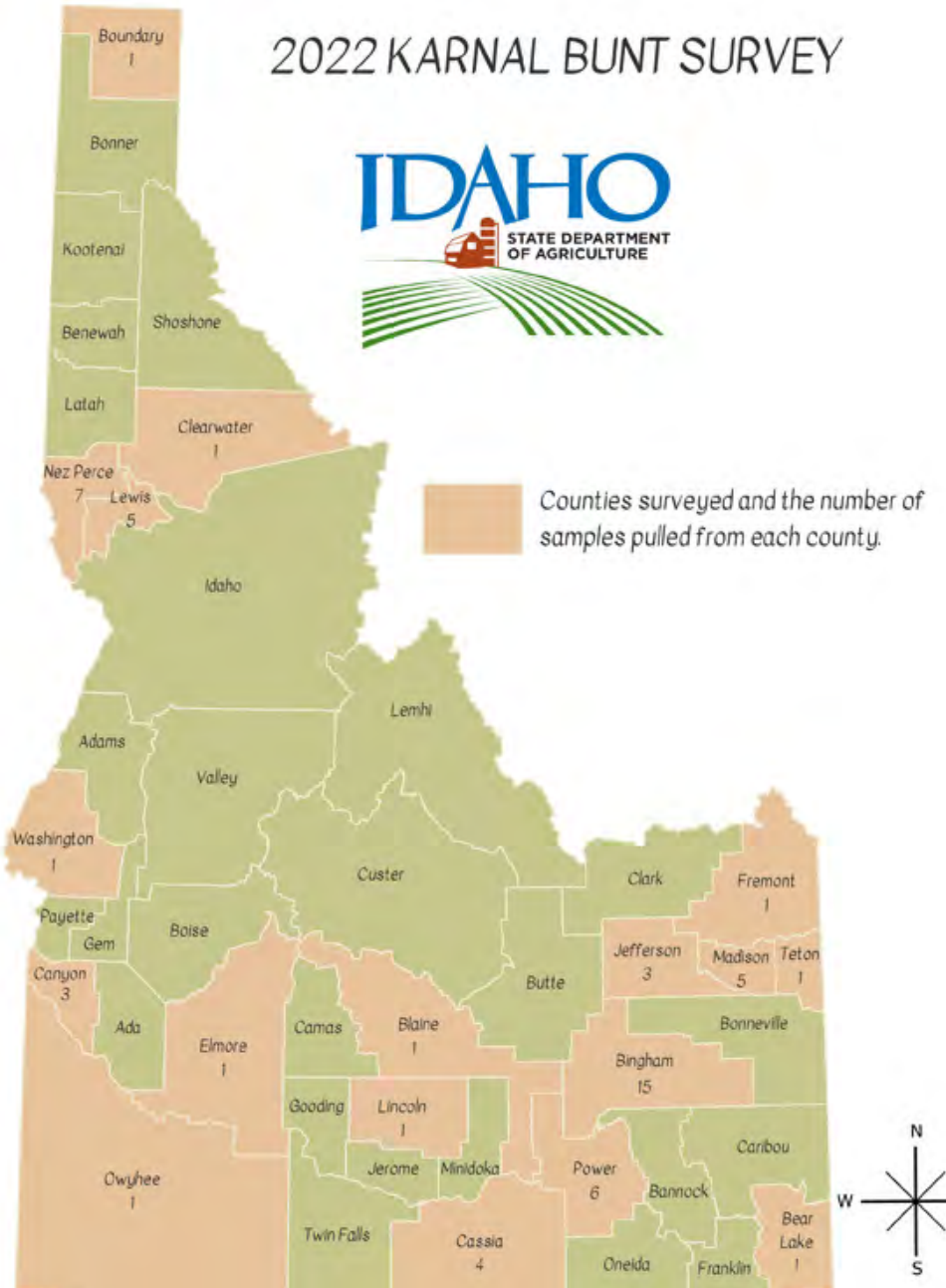
ISDA has conducted surveys in Idaho for KB since 1996.

During 2022, ISDA collected 58 wheat samples from 18 counties in Idaho and sent them to a USDA APHIS PPQ lab to be tested for the pathogen. Results from this year's survey were all negative.

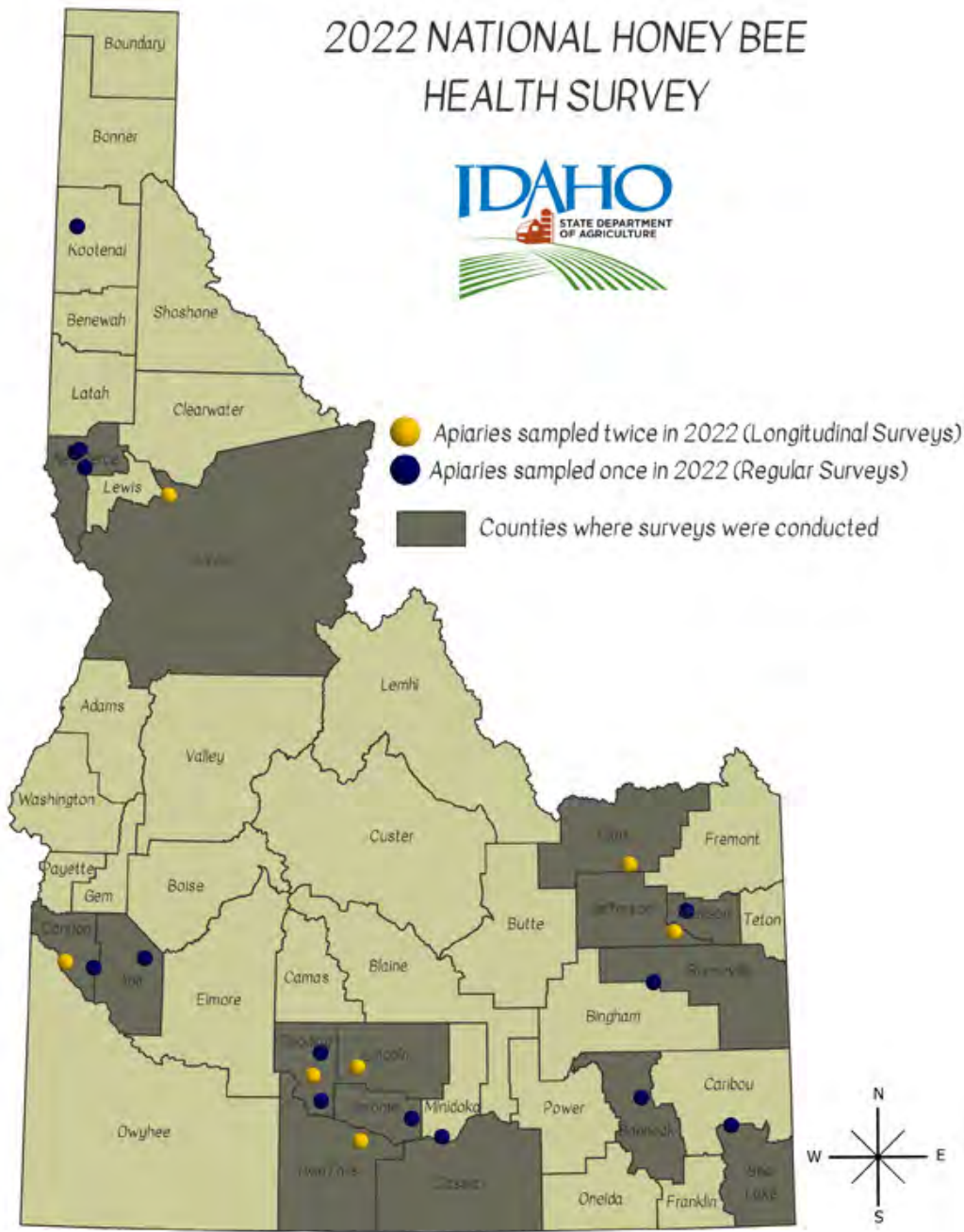
To date, KB has never been detected in Idaho!



## 2022 KARNAL BUNT SURVEY



# 2022 NATIONAL HONEY BEE HEALTH SURVEY



## Idaho Apiary Registration and National Honey Bee Health Survey

Idaho registered 157 beekeepers and 140,425 honey bee colonies during 2022. As in years past, Idaho was one of 42 states and territories who participated in the USDA APHIS/University of Maryland National Honey Bee Health Survey.

This survey is an ongoing attempt to collect baseline data on the health of the US honey bee industry. The project has several parts, and is primarily geared towards establishing the absence within the US of several exotic bee pests including, but not limited to, the parasitic mite *Tropilaelaps*, the Asian honey bee (*Apis cerana*), and Slow Bee Paralysis Virus. To maximize information gained from the survey effort, samples were also analyzed for other diseases and parasites known to be present in the US such as *Nosema* sp., *Varroa* mites and a number of viral diseases. Additionally, wax or bee bread samples were collected from select hives to test for the presence of various pesticides of concern.

In June of 2022, ISDA started collecting samples of bees from 8 hives of 19 apiaries located throughout the state. 14 of those apiaries were sampled once during 2022. The remaining 5 were sampled once in the spring before honey flow and then again in the fall after honey was pulled. This is termed the "longitudinal survey". The 19 surveys carried out in 2022 were completed by October 18th. ISDA is expecting diagnostic reports with data analysis, to be supplied by ARS/UM of Maryland, from the 2022 survey.

For summary reports for the past seven years of the Idaho Honey Bee Health Surveys go to:  
<http://invasivespecies.idaho.gov/plants-archived-yearly-reports>.

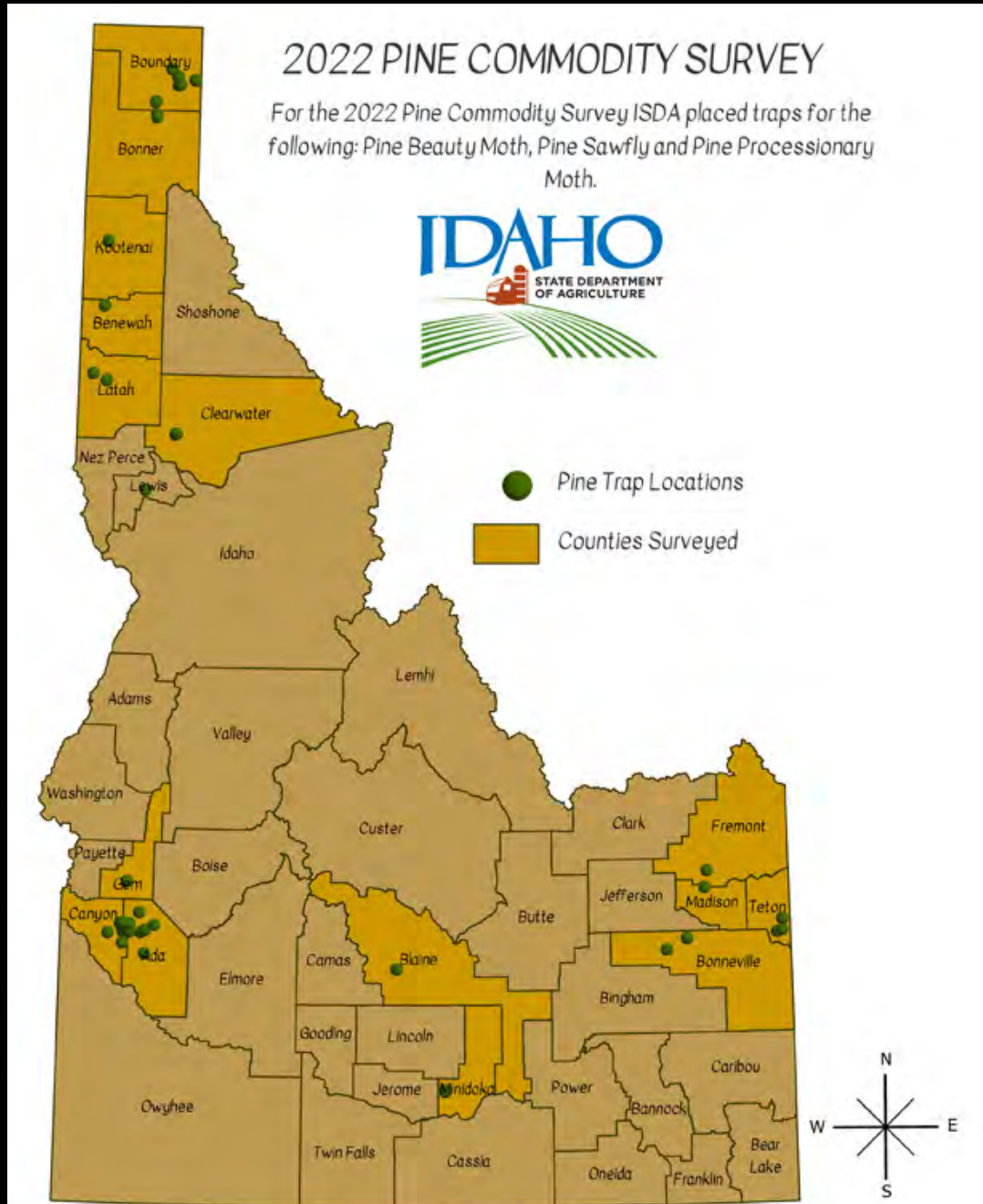
# Pine Commodity Survey

Pines are diverse and abundant and at least 97 species occur in the United States. They are one of the most valuable commercial timber sources and are used for construction, furniture, pulpwood, land management and more. Pines dominate four forest types in the western United States: ponderosa pine, western white pine, lodgepole pine, and pinyon pine juniper.

During 2022 ISDA, in cooperation with the USDA APHIS PPQ Cooperative Agricultural Pest Survey program (CAPS), carried out surveys for four exotic organisms that could potentially threaten Idaho pine tree nurseries. The targets were: *Pine Beauty Moth* (PBM), *Pine Sawfly* (PSF) and *Pine Processionary Moth* (PPM).

ISDA staff located 28 nurseries that grew or sold pine trees throughout the following counties: *Ada, Benewah, Blaine, Bonner, Bonneville, Boundary, Canyon, Clearwater, Fremont, Gem, Kootenai, Latah, Madison, Minidoka and Teton*. The ISDA deployed 90 traps per pest throughout the 28 nurseries. All were set out by May 15th and removed in mid-August. They were checked every two weeks and lures were replaced as instructed.

2022 Results for the trap surveys were all negative.



# Grasshopper / Mormon Cricket Program

## Introduction

Although grasshoppers and Mormon crickets are a natural part of Idaho's ecosystem, under the right environmental conditions, their population densities can reach levels that result in negative economic and environmental impacts. These impacts have labeled grasshoppers and Mormon crickets as some of the worst agricultural pests in Idaho. Due to the significant historical losses caused by grasshopper and Mormon crickets to Idaho's agriculture industry, The Idaho State Department of Agriculture (ISDA) implemented the Grasshopper and Mormon Cricket Control Program in 2004. This program provides qualifying landowners with mitigation assistance on private range and croplands throughout the state. Since the introduction of the program, ISDA has distributed over 3 million pounds of Carbaryl insecticide bait in an effort to mitigate Idaho's agricultural losses.

## Background

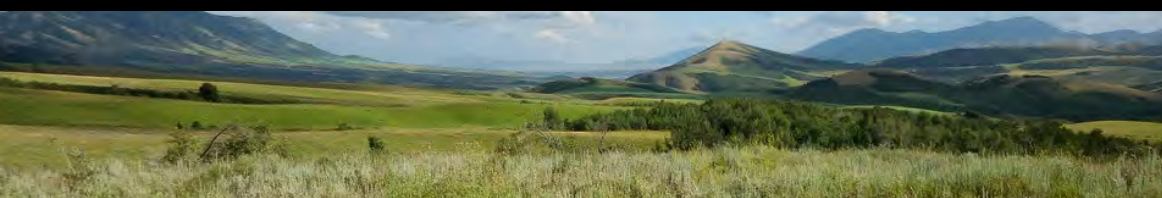
The Grasshopper and Mormon Cricket Control Program provides landowner assistance on a case-by-case basis, to those landowners who request ISDA assistance and are actively experiencing grasshopper or Mormon cricket infestations on qualified agricultural use lands. The assistance provided by the program to mitigate the damage comes in the form of 5% Carbaryl insecticide bait or a pre-approved reimbursement for insecticides purchased and applied by the landowner, for situations where Carbaryl bait is not the most effective control method. The management and timely control of grasshopper and Mormon cricket populations are key to the success of the program. Based on annual surveys conducted by The U.S. Department of Agriculture, Animal and Plant Health Service (USDA-APHIS), Idaho has experienced very serious pest outbreaks in years past, and 2022 was no exception. The program received 178 landowner assistance requests spanning across twenty-three Idaho counties, and provided assistance, by way of 5% Carbaryl bait or insecticide reimbursements, to treat approximately 18,178.3 acres\* of agricultural land in Idaho.

\*5% Carbaryl bait treatment acreages are calculated using the recommended rate of 10lbs./acre using the Reduced Agent and Area Treatment (RAAT) method.

## Program Updates

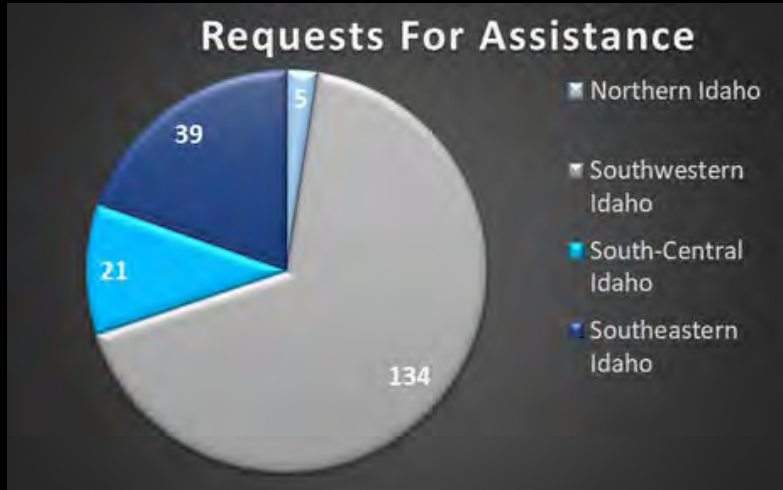
This autumn, the ISDA Grasshopper and Mormon Cricket Program gave its best wishes to Kahla Montrose as she left the program. In late September, Sam Kennedy stepped into their new role as the Invasive Species Specialist and Grasshopper and Mormon Cricket Program Coordinator.

Sam will continue Kahla's efforts to work with partners and landowners to control Grasshoppers and Mormon Cricket infestations and reduce their negative impact on the agricultural community.

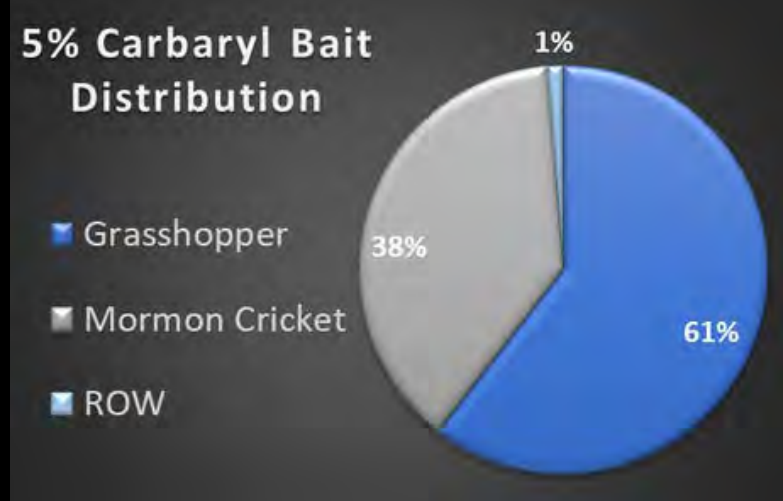


# Program Accomplishments

In the 2022 season, the program received 178 landowner requests for assistance which resulted in 128,280 pounds (lbs.) of bait and \$56,641.98 of reimbursements distributed to landowners in 23 counties. In comparison, in 2021 we experienced a high volume of Landowner Assistance Requests (276), resulting in \$151,980.45 of reimbursements and 114,200 lbs. of bait. In situations where Carbaryl bait is not the most effective control method, ISDA may reimburse landowners for pre-approved insecticides and adjuvants purchased and applied on their own. The most notable difference between 2021 and 2022 is the cost of these Reimbursements, which may be attributed to the number of infested acres (5,147 in 2022 and 16,633 in 2021) in which landowners treated through the reimbursement program.



2022 was a moderate year for Landowner Assistance requests, with approximately 75% of those requests coming from the Southwestern Idaho area and just under 3% coming from Northern Idaho.



The majority of the Carbaryl bait distributed to landowners was used for grasshopper control.



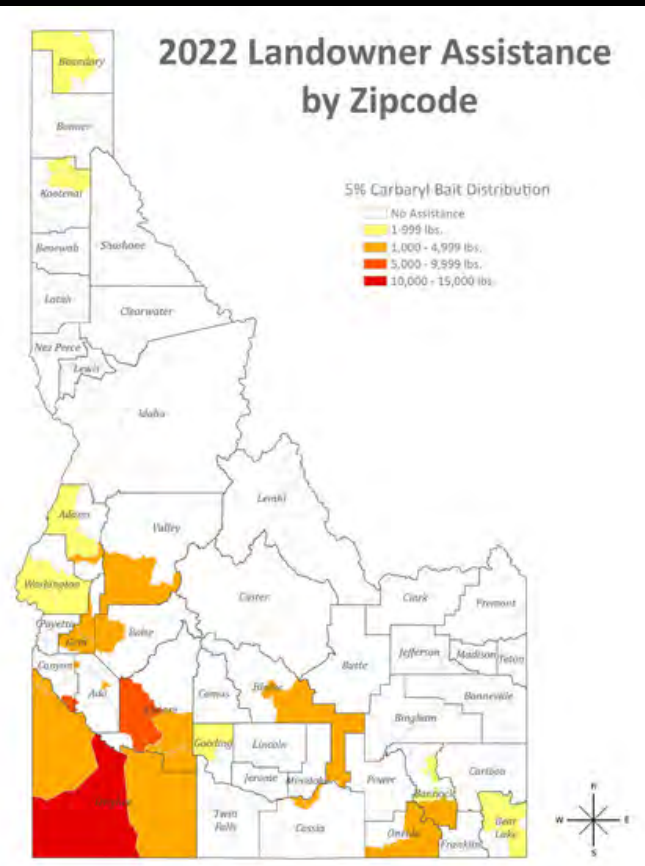
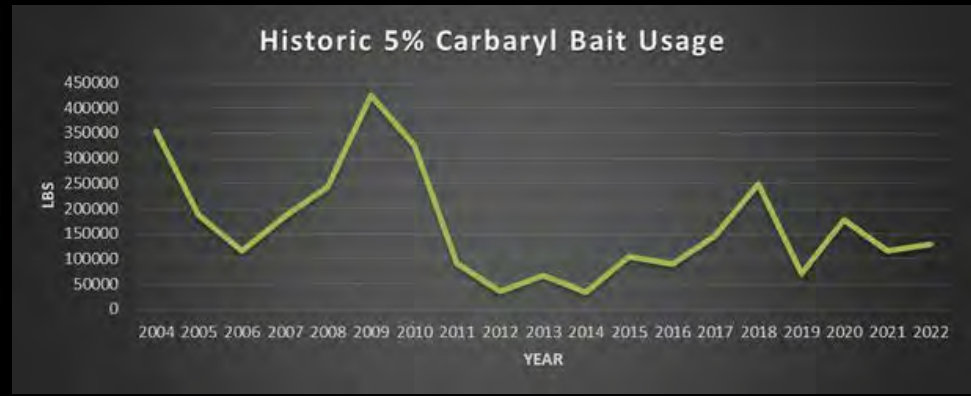
\*5% Carbaryl bait treatment acreages are calculated using the recommended rate of 10lbs./acre using the Reduced Agent and Area Treatment (RAAT) method.

Additionally, program staff were able to scout 332 sites statewide and conduct surveys for both grasshoppers and Mormon crickets simultaneously. Public reports as well as survey data indicated the need to conduct a Right of Way treatment on 12 miles of Highway 51, located in Owyhee County.

In summary, the overall cost of insecticides to assist landowners and mitigate roadway hazards statewide decreased from \$267,100.05 in 2021 to \$200,929.98 in 2022.

## Summary of Insecticide Treatments Statewide

Method of Application	Lbs. (\$1.08/lb)	Value
5% Carbaryl bait, landowner application, Total Private	128,280	\$138,542.40
5% Carbaryl bait, ISDA State/ROW application, Mormon cricket control	1160	\$1,252.80
Total Admin Use	4160	\$4,492.80
Total 5% Carbaryl bait distributed	133,600	\$144,288.00
Landowner reimbursement, grasshopper & Mormon cricket control	5,147 (acres treated)	\$56,641.98
Total cost of all treatments		\$200,929.98



## Outbreak Areas

When severe grasshopper or Mormon cricket outbreaks occur, it is crucial to respond in a timely matter to prevent total loss of range and croplands. In these situations, the ISDA may declare specific geographic areas as outbreak areas, allowing for a swifter response. In 2022, ISDA did not declare any outbreak areas.





## Cull Onion Inspections and Actions

The deadline for disposal each year is March 15. Once the deadline was reached, visits were conducted and cull onion piles were then disposed of, resulting in compliance being reached.

In 2022, monitoring of cull onion sites began on March 15th in Ada, Canyon, Gem, Owyhee, Payette, and Washington counties. A total of 68 inspections were conducted between March and June, most for repeated monitoring, and no formal actions were required. Monitoring and inspection of these sites was conducted to identify and keep areas of high concern in compliance with IDAPA 02.06.05 Subchapter F – Disposal of Cull Onions and Potatoes.

## Idaho-California APIP Program

During 2022, Idaho State Department of Agriculture (ISDA) in conjunction with California Department of Food and Agriculture (CDFA) scheduled 52 Pre-Shipment Inspections for honeybees, in preparation for movement to California for crop pollination services. This was the 8th year that Idaho has participated in this program

The week of December 5th, Division of Plant Industries Inspectors certified over 279,147 bee colonies to be shipped into California for pollination.



## Export Certification for the 2022 Calendar Year

In 2022, the Division of Plant Industries issued 4218 Federal and 127 State Phytosanitary Certificates for 197 different types of commodities to 92 countries.

The Division of Plant Industries certified over 569,453,006 pounds of seed, grain, hay, lumber, plants, and other commodities for export. The ISDA operates this program under a Memorandum of Understanding with the USDA.

## Other Regulatory Inspections and Actions

ISDA, under the authority of Title 22, Chapters, 4, 5, 23 and 24 of the Idaho Code, and IDAPA defined pest quarantines, conducts inspections and consequently takes action against various pest threats and other violations.

In 2022, there were 2,497 licensed nurseries in the state; of those, 325 were inspected for compliance under statutes of the Idaho Nursery and Florists Law, and they were examined for the presence of plant pests as well as noxious weeds.



## Seed Lab Summary

The Idaho State Seed laboratory (ISSL) received 5,319 samples and completed 8,183 service tests in fiscal year 2022. The most common crops submitted for service testing during this timeframe, in order of volume, were beans, grains, native species, grasses, peas, vegetables/herbs/flowers, sagebrush, alfalfa, brassica, and corn.

In total, 64 regulatory enforcements were conducted for licensing and truth-in-labeling requirements and none of these checks resulted in inspector actions. A total of 687 seed dealer licenses were issued.

Reseeding projects with native seed from the BLM significantly contributed to our testing requests. Testing of Native seeds increased by 56%. The lab continues to be very busy with agricultural crops as well. As many as 383 distinct species were tested.

The ISSL also attained a new national accreditation in 2022 becoming an U.S.D.A. Accredited Seed Laboratory, making it one of a few state run laboratories in the country to hold this credential!





## Diseases and Pests Found During 2022 Field Inspections for Export Certification

In 2022, 79 seed companies submitted field inspection requests representing 52 crop types. The total acres submitted for inspection were 29,911, with a total of 59,307 acres inspected due to multiple inspections required for some crop diseases. This represents 3 fewer companies who participated in 2021, with an 11.12% decrease in submitted acreage from the 33,237 acres submitted in 2021.

Year	Number Participating Firms	Number of Crops	Submitted Acres	Inspected Acres
2004	44	27	46,282	79,671
2005	43	28	42,961	74,905
2006	47	30	37,859	70,692
2007	48	32	30,938	58,218
2008	50	32	34,439	66,114
2009	43	33	36,541	72,184
2010	46	35	32,495	62,608
2011	41	30	25,193	51,404
2012	50	30	24,102	50,045
2013	57	32	23,785	50,157
2014	62	36	26,620	55,846
2015	62	36	28,678	64,077
2016	62	38	31,093	67,930
2017	60	34	32,485	68,040
2018	66	37	30,757	65,639
2019	68	35	33,233	68,950
2020	72	34	29,667	60,421
2021	82	49	33,237	69,383
2022	79	52	29,911	59,307

**Alfalfa Seed:** A total of 1,287.45 acres were submitted for inspection during the 2022 growing season. All fields inspected were found apparently free from Alfalfa mosaic alfamovirus – AMV, Bacterial leaf spot (*Xanthomonas alfalfae*), Bacterial wilt of alfalfa (*Clavibacter michiganensis* subsp. *insidiosus*), Dodder (*Cuscuta* spp.), Leafy spurge (*Euphorbia esula*), Stem and bulb nematode (*Ditylenchus dipsaci*), Summer blackspot (*Cercospora medicaginis*), Verticillium wilt (*Verticillium alfalfae*), and Verticillium wilt of mint (*Verticillium dahliae*).

**Allium, Chives:** A total of 17 acres were submitted for inspection during the 2022 growing season. All fields inspected were found apparently free from Botrytis rot of onion (*Botrytis allii*), Botrytis stalk rot (*Botrytis aclada*), Downy mildew of onion (*Peronospora destructor*), Onion smudge (*Colletotrichum circinans*), Onion yellow dwarf potyvirus, Purple blotch (*Alternaria porri*), Sclerotinia rot (*Sclerotinia* spp.), Onion smut (*Urocystis* sp.), Stem and bulb nematode (*Ditylenchus dipsaci*), and White rot of onion (*Sclerotium cepivorum*).



**Allium, Garlic:** A total of 13.69 acres were submitted for inspection during the 2022 growing season. In total, there were 13.75 acres inspected due to multiple inspection requirements for certain diseases. All fields inspected were found apparently free from Botrytis rot of onion (*Botrytis allii*), Botrytis stalk rot (*Botrytis aclada*), Downy mildew of onion (*Peronospora destructor*), Onion smudge (*Colletotrichum circinans*), Onion yellow dwarf potyvirus, Purple blotch (*Alternaria porri*), Sclerotinia rot (*Sclerotinia* spp.), Onion smut (*Urocystis* sp.), Stem and bulb nematode (*Ditylenchus dipsaci*), and White rot of onion (*Sclerotium cepivorum*).

**Allium, Onions:** A total of 562.56 acres were submitted for inspection during the 2022 growing season. In total, there were 840.79 acres inspected due to multiple inspection requirements for certain diseases. All fields inspected were found apparently free from Botrytis rot of onion (*Botrytis allii*), Botrytis stalk rot (*Botrytis aclada*), Downy mildew of onion (*Peronospora destructor*), Onion smudge (*Colletotrichum circinans*), Onion yellow dwarf potyvirus, Purple blotch (*Alternaria porri*), Sclerotinia rot (*Sclerotinia* spp.), Onion smut (*Urocystis* sp.), Stem and bulb nematode (*Ditylenchus dipsaci*), and White rot of onion (*Sclerotium cepivorum*).

**Allium, Ornamental:** A total of 8 acres were submitted for inspection during the 2022 growing season. All fields inspected were found apparently free from Botrytis rot of onion (*Botrytis allii*), Botrytis stalk rot (*Botrytis aclada*), Downy mildew of onion (*Peronospora destructor*), Onion smudge (*Colletotrichum circinans*), Onion yellow dwarf potyvirus, Purple blotch (*Alternaria porri*), Sclerotinia rot (*Sclerotinia* spp.), Onion smut (*Urocystis* sp.), Stem and bulb nematode (*Ditylenchus dipsaci*), and White rot of onion (*Sclerotium cepivorum*).

**Allium, Shallot:** A total of 0.04 acres were submitted for inspection during the 2022 growing season. All fields inspected were found apparently free from Botrytis rot of onion (*Botrytis allii*), Botrytis stalk rot (*Botrytis aclada*), Downy mildew of onion (*Peronospora destructor*), Onion smudge (*Colletotrichum circinans*), Onion yellow dwarf potyvirus, Purple blotch (*Alternaria porri*), Sclerotinia rot (*Sclerotinia* spp.), Onion smut (*Urocystis* sp.), Stem and bulb nematode (*Ditylenchus dipsaci*), and White rot of onion (*Sclerotium cepivorum*).

**Allium, Welsh Onion:** A total of 26 acres were submitted for inspection during the 2022 growing season. All fields inspected were found apparently free from Botrytis rot of onion (*Botrytis allii*), Botrytis stalk rot (*Botrytis aclada*), Downy mildew of onion (*Peronospora destructor*), Onion smudge (*Colletotrichum circinans*), Onion yellow dwarf potyvirus, Purple blotch (*Alternaria porri*), Sclerotinia rot (*Sclerotinia* spp.), Onion smut (*Urocystis* sp.), Stem and bulb nematode (*Ditylenchus dipsaci*), and White rot of onion (*Sclerotium cepivorum*).

**Beans, Dry:** A total of 675.4 acres were submitted for inspection during the 2022 growing season. In total, there were 1,430.3 acres inspected due to multiple inspection requirements for certain diseases. To meet requirements of IDAPA 02.06.06, Rules Governing the Planting of Beans, all fields inspected were found apparently free from Anthracnose (*Colletotrichum lindemuthianum*), Bean bacterial wilt (*Curtobacterium flaccumfaciens* pv. *flaccumfaciens*), Brown spot (*Pseudomonas syringae* pv. *syringae*), Common blight (*Xanthomonas axonopodis* pv. *phaseoli*), Fuscus blight (*Xanthomonas fuscans* pv. *fuscans*), and Halo blight (*Pseudomonas savastanoi* pv. *phaseolicola*).

**Beans, Garden:** A total of 9,228.38 acres were submitted for inspection during the 2022 growing season. In total, there were 24,471.14 acres inspected due to multiple inspection requirements for certain diseases. To meet requirements of IDAPA 02.06.06, Rules Governing the Planting of Beans, all fields inspected were found apparently free from Anthracnose (*Colletotrichum lindemuthianum*), Bean bacterial wilt (*Curtobacterium flaccumfaciens* pv. *flaccumfaciens*), Common blight (*Xanthomonas axonopodis* pv. *phaseoli*), Fuscus blight (*Xanthomonas fuscans* pv. *fuscans*), and Halo blight (*Pseudomonas savastanoi* pv. *phaseolicola*).



- **Brown spot** (*Pseudomonas syringae* pv. *syringae*) was confirmed in 189 acres; the remaining acres inspected were found apparently free from Brown spot.
- **Alfalfa mosaic alfamovirus** – AMV was confirmed in 10 acres

**Beans, Trial Ground – Phaseolus sp.**: A total of 252.16 acres were submitted for inspection during the 2022 growing season. In total, there were 1,259.88 acres inspected due to multiple inspection requirements for certain diseases. To meet requirements of IDAPA 02.06.06, Rules Governing the Planting of Beans, all fields inspected were found apparently free from Anthracnose (*Colletotrichum lindemuthianum*), Bean bacterial wilt (*Curtobacterium flaccumfaciens* pv. *flaccumfaciens*), Brown spot (*Pseudomonas syringae* pv. *syringae*), Common blight (*Xanthomonas axonopodis* pv. *phaseoli*), Fuscus blight (*Xanthomonas fuscans* pv. *fuscans*), and Halo blight (*Pseudomonas savastanoi* pv. *phaseolicola*).

**Beans, Trial Ground – Non-Phaseolus sp. (Azuki)**: A total of 0.54 acres were submitted for inspection during the 2022 growing season. In total, there were 2.7 acres inspected due to multiple inspection requirements for certain diseases. To meet requirements of IDAPA 02.06.06, Rules Governing the Planting of Beans, all fields inspected were found apparently free from Anthracnose (*Colletotrichum lindemuthianum*), Asian soybean rust (*Phakopsora pachyrhizi*), Bean bacterial wilt (*Curtobacterium flaccumfaciens* pv. *flaccumfaciens*), Brown spot (*Pseudomonas syringae* pv. *syringae*), Common blight (*Xanthomonas axonopodis* pv. *phaseoli*), Fuscus blight (*Xanthomonas fuscans* pv. *fuscans*), and Halo blight (*Pseudomonas savastanoi* pv. *phaseolicola*).

**Beans, Trial Ground – Non-Phaseolus sp. (Cowpea)**: A total of 0.13 acres were submitted for inspection during the 2022 growing season. In total, there were 0.65 acres inspected due to multiple inspection requirements for certain diseases. To meet requirements of IDAPA 02.06.06, Rules Governing the Planting of Beans, all fields inspected were found apparently free from Anthracnose (*Colletotrichum lindemuthianum*), Asian soybean rust (*Phakopsora pachyrhizi*), Bean bacterial wilt (*Curtobacterium flaccumfaciens* pv. *flaccumfaciens*), Brown spot (*Pseudomonas syringae* pv. *syringae*), Common blight (*Xanthomonas axonopodis* pv. *phaseoli*), Fuscus blight (*Xanthomonas fuscans* pv. *fuscans*), and Halo blight (*Pseudomonas savastanoi* pv. *phaseolicola*).

**Beans, Trial Ground – Non-Phaseolus sp. (Faba/Fava)**: A total of 0.01 acres were submitted for inspection during the 2022 growing season. In total, there was 0.05 acre inspected due to multiple inspection requirements for certain diseases. To meet requirements of IDAPA 02.06.06, Rules Governing the Planting of Beans, all fields inspected were found apparently free from Anthracnose (*Colletotrichum lindemuthianum*), Asian soybean rust (*Phakopsora pachyrhizi*), Bean bacterial wilt (*Curtobacterium flaccumfaciens* pv. *flaccumfaciens*), Brown spot (*Pseudomonas syringae* pv. *syringae*), Common blight (*Xanthomonas axonopodis* pv. *phaseoli*), Fuscus blight (*Xanthomonas fuscans* pv. *fuscans*), and Halo blight (*Pseudomonas savastanoi* pv. *phaseolicola*).

**Beans, Trial Ground – Non-Phaseolus sp. (LabLab/Hyacinth)**: A total of 0.02 acres were submitted for inspection during the 2022 growing season. In total, there was 0.10 acre inspected due to multiple inspection requirements for certain diseases. To meet requirements of IDAPA 02.06.06, Rules Governing the Planting of Beans, all fields inspected were found apparently free from Anthracnose (*Colletotrichum lindemuthianum*), Asian soybean rust (*Phakopsora pachyrhizi*), Bean bacterial wilt (*Curtobacterium flaccumfaciens* pv. *flaccumfaciens*), Brown spot (*Pseudomonas syringae* pv. *syringae*), Common blight (*Xanthomonas axonopodis* pv. *phaseoli*), Fuscus blight (*Xanthomonas fuscans* pv. *fuscans*), and Halo blight (*Pseudomonas savastanoi* pv. *phaseolicola*).



**Beans, Trial Ground – Non-Phaseolus sp. (Mung)**: A total of 0.01 acres were submitted for inspection during the 2022 growing season. In total, there were 0.05 acres inspected due to multiple inspection requirements for certain diseases. To meet requirements of IDAPA 02.06.06, Rules Governing the Planting of Beans, all fields inspected were found apparently free from Anthracnose (*Colletotrichum lindemuthianum* pv. *flaccumfaciens*), Asian soybean rust (*Phakopsora pachyrhizi*), Bean bacterial wilt (*Curtobacterium flaccumfaciens*), Brown spot (*Pseudomonas syringae* pv. *syringae*), Common blight (*Xanthomonas axonopodis* pv. *phaseoli*), Fuscus blight (*Xanthomonas fuscans* pv. *fuscans*), and Halo blight (*Pseudomonas savastanoi* pv. *phaseolicola*).

**Beans, Trial Ground – Non-Phaseolus sp. (Soybeans)**: A total of 0.97 acres were submitted for inspection during the 2022 growing season. In total, there were 4.85 acres inspected due to multiple inspection requirements for certain diseases. To meet requirements of IDAPA 02.06.06, Rules Governing the Planting of Beans, all fields inspected were found apparently free from Anthracnose (*Colletotrichum lindemuthianum*), Asian soybean rust (*Phakopsora pachyrhizi*), Bean bacterial wilt (*Curtobacterium flaccumfaciens* pv. *flaccumfaciens*), Brown spot (*Pseudomonas syringae* pv. *syringae*), Common blight (*Xanthomonas axonopodis* pv. *phaseoli*), Fuscus blight (*Xanthomonas fuscans* pv. *fuscans*), and Halo blight (*Pseudomonas savastanoi* pv. *phaseolicola*).

**Brassica, Arugula**: A total of 0.3 acres were submitted for inspection during the 2022 growing season. All fields inspected were found apparently free from Black leg (*Leptosphaeria maculans*), Black rot of crucifers (*Xanthomonas campestris* pv. *campestris*), and Bacterial blight of crucifers (*Pseudomonas cannabina* pv. *alisalensis*).

**Brassica, Collards**: A total of 28 acres were submitted for inspection during the 2022 growing season. All fields inspected were found apparently free from Blackleg (*Leptosphaeria maculans*), Black leg/Stem Canker (*Leptosphaeria biglobosa*), Black rot of crucifers (*Xanthomonas campestris* pv. *campestris*), Club root (*Plasmiodiophora brassicae*), and Crucifer bacterial leaf spot (*Pseudomonas syringae* pv. *maculicola*).

**Brassica, Kale**: A total of 10.5 acres were submitted for inspection during the 2022 growing season. All fields inspected were found apparently free from Black leg (*Leptosphaeria maculans*), Black leg/Stem Canker (*Leptosphaeria biglobosa*), Black rot of crucifers (*Xanthomonas campestris* pv. *campestris*), Club root (*Plasmiodiophora brassicae*), and Crucifer bacterial leaf spot (*Pseudomonas syringae* pv. *maculicola*).

**Brassica, Mustard**: A total of 3 acres were submitted for inspection during the 2022 growing season. All fields inspected were found apparently free from Black leg (*Leptosphaeria maculans*), Black leg/Stem Canker (*Leptosphaeria biglobosa*), Black rot of crucifers (*Xanthomonas campestris* pv. *campestris*), Club root (*Plasmiodiophora brassicae*), and Crucifer bacterial leaf spot (*Pseudomonas syringae* pv. *maculicola*).

**Brassica, Spinach**: A total of 0.3 acres were submitted for inspection during the 2022 growing season. All fields inspected were found apparently free from Black leg (*Leptosphaeria maculans*), Bacterial blight of crucifers (*Pseudomonas cannabina* pv. *alisalensis*), and Downy Mildew (*Peronospora farinosa*).

**Brassica, Turnip**: A total of 158 acres were submitted for inspection during the 2022 growing season. All fields inspected were found apparently free from Black leg (*Leptosphaeria maculans*), Black leg/Stem Canker (*Leptosphaeria biglobosa*), Black rot of crucifers (*Xanthomonas campestris* pv. *campestris*), Club root (*Plasmiodiophora brassicae*), and Crucifer bacterial leaf spot (*Pseudomonas syringae* pv. *maculicola*).



**Carrot:** A total of 3,016.67 acres were submitted for inspection during the 2022 growing season. All fields inspected were found apparently free from *Alternaria leaf blight* (*Alternaria dauci*) and *Bacterial blight of carrot* (*Xanthomonas hortorum* pv. *carotae*).

- **Black rot of carrot** (*Alternaria radicina*) was confirmed in 11.60 acres; the remaining acres that were inspected were found apparently free from *Black rot of carrot*.

**Celery:** A total of 0.01 acres were submitted for inspection during the 2022 growing season. All fields inspected were found apparently free from *Anthracnose* (*Colletotrichum obiculare*) and *Black rot of carrot* (*Alternaria radicina*).

**Corn:** A total of 4,023.82 acres were submitted for inspection during the 2022 growing season. In total, there were 8,010.24 acres inspected due to multiple inspection requirements for certain diseases. All fields inspected were found apparently free from *Brown spot* (*Physoderma maydis*), *Brown stripe downy mildew* (*Sclerophthora rayssiae* var. *zeae*), *Crazy top of corn* (*Sclerophthora macrospora*), *Eyespot* (*Aureobasidium zeae*), *Goss's bacterial wilt* (*Clavibacter michiganensis* subsp. *nebraskensis*), *Green ear downy mildew* (*Sclerospora graminicola*), *Head smut* (*Sporisorium reilianum*), *Java downy mildew* (*Peronosclerospora maydis*), *Late wilt* (*Harpophora maydis*), *Northern corn leaf spot* (*Cochliobolus carbonum*), *Philippine downy mildew* (*Peronosclerospora philippinensis*), *Sorghum downy mildew* (*Peronosclerospora sorghi*), *Southern corn leaf blight* (*Cochliobolus heterostrophus*), *Spontaneum downy mildew* (*Peronosclerospora spontanea*), *Stewart's wilt* (*Pantoea stewartii*), *Sugarcane downy mildew* (*Peronosclerospora sacchari*), and *Yellow leaf blight* (*Mycosphaella zeae-maydis*).

- **Common smut** (*Ustilago maydis*) was confirmed in 83.61 acres
- **High plains virus** was confirmed in 245.67 acres
- **Wheat streak mosaic tritimonovirus** was confirmed in 3.07 acres
- **Sugarcane mosaic potyvirus** was confirmed in 2 acres

**Corn, to Australia:** A total of 87.53 acres were submitted for inspection during the 2022 growing season. In total, there were 175.06 acres inspected due to multiple inspection requirements for certain diseases. All fields inspected were found apparently free from *Brown spot* (*Physoderma maydis*), *Brown stripe downy mildew* (*Sclerophthora rayssiae* var. *zeae*), *Crazy top of corn* (*Sclerophthora macrospora*), *Eyespot* (*Aureobasidium zeae*), *Goss's bacterial wilt* (*Clavibacter michiganensis* subsp. *nebraskensis*), *Green ear downy mildew* (*Sclerospora graminicola*), *Head smut* (*Sporisorium reilianum*), *Java downy mildew* (*Peronosclerospora maydis*), *Late wilt* (*Harpophora maydis*), *Maize dwarf mosaic potyvirus*, *Northern corn leaf spot* (*Cochliobolus carbonum*), *Philippine downy mildew* (*Peronosclerospora philippinensis*), *Sorghum downy mildew* (*Peronosclerospora sorghi*), *Southern corn leaf blight* (*Cochliobolus heterostrophus*), *Spontaneum downy mildew* (*Peronosclerospora spontanea*), *Stewart's wilt* (*Pantoea stewartii*), *Sugarcane downy mildew* (*Peronosclerospora sacchari*), and *Yellow leaf blight* (*Mycosphaella zeae-maydis*).

- **Common smut** (*Ustilago maydis*) was confirmed in 1 acre
- **High plains virus** was confirmed in 63 acres

**Garbanzo Beans/Chickpeas Trial Ground:** A total of 0.75 acres were submitted for inspection during the 2022 growing season. In total, there were 1.20 acres inspected due to multiple inspection requirements for certain diseases. All fields inspected were found apparently free from *Anthracnose* (*Colletotrichum* spp.) and *Ascochyta blight of Chickpeas* (*Ascochyta rabiei*).



**Garden Oranche:** A total of 0.1 acres were submitted for inspection during the 2022 growing season. All fields inspected were found apparently free from Black leg (*Leptosphaeria maculans*) and Bacterial blight (*Pseudomonas syringae*).

**Grain, Barley:** A total of 7.87 acres of barley were submitted for inspection during the 2022 growing season. In total, there were 12.34 acres inspected due to multiple inspection requirements for certain diseases. All fields inspected were found apparently free from Bacterial leaf streak (*Xanthomonas translucens*) and Smut (*Urocystis* sp.).

**Grain, Amaranth:** A total of 0.3 acres were submitted for inspection during the 2022 growing season. All field inspected were found apparently free from Bitter rot / Anthracnose (*Glomerella cingulata*) and Downy mildew of spinach (*Peronospora farinosa*).

**Grain, Buckwheat:** A total of 1.9 acres were submitted for inspection during the 2022 growing season. All fields inspected were found apparently free from Sugarbeet downy mildew (*Erysiphe polygoni*).

**Grain, False Flax:** A total of 0.3 acres were submitted for inspection during the 2022 growing season. All fields inspected were found apparently free from Club root (*Plasmodiophora brassicae*).

**Grain, Flax:** A total of 0.32 acres were submitted for inspection during the 2022 growing season. All fields inspected were found apparently free from Flax rust (*Melampsora lini*).

**Grain, Foxtail Millet:** A total of 0.1 acres were submitted for inspection during the 2022 growing season. All fields inspected were found apparently free from Smut (*Urocystis* sp.).

**Grain, Oat:** A total of 9 acres were submitted for inspection during the 2022 growing season. All fields inspected were found apparently free from Bacterial leaf streak (*Xanthomonas translucens*) and Smut (*Urocystis* sp.).

**Grain, Oat Trial Ground:** A total of 3.72 acres were submitted for inspection during the 2022 growing season. In total, there were 6.64 acres inspected due to multiple inspection requirements for certain diseases. All fields inspected were found apparently free from Bacterial leaf streak (*Xanthomonas translucens*) and Smut (*Urocystis* sp.).

**Grain, Quinoa:** A total of 0.02 acres were submitted for inspection during the 2022 growing season. All fields inspected were found apparently free from Bitter rot / Anthracnose (*Glomerella cingulata*) and Downy mildew of spinach (*Peronospora farinosa*).

**Grain, Wheat:** A total of 2.8 acres were submitted for inspection during the 2022 growing season. All fields inspected were found apparently free from Bacterial leaf streak (*Xanthomonas translucens*) and Smut (*Urocystis* sp.).

**Herb, Basil:** A total of 0.17 acres were submitted for inspection during the 2022 growing season. All fields inspected were found apparently free from Verticillium wilt (*Verticillium* spp.).

**Herb, Coriander:** A total of 22.30 acres were submitted for inspection during the 2022 growing season. All fields inspected were found apparently free from Bacterial blight of carrot (*Xanthomonas hortorum* pv. *carotae*), Bacterial leaf spot (*Pseudomonas syringae*), and Stem gall of Coriander (*Protomyces macrosporus*).



**Herb, Dill:** A total of 8 acres were submitted for inspection during the 2022 growing season. All fields inspected were found apparently free from Alternaria leaf blight (*Alternaria dauci*).

**Lentil:** A total of 0.30 acres were submitted for inspection during the 2022 growing season. All fields inspected were found apparently free from Anthracnose (*Colletotrichum lindemuthianum*) and Anthracnose of lentil (*Colletotrichum truncatum*).

**Lettuce:** A total of 158.04 acres were submitted for inspection during the 2022 growing season. All field inspected were found apparently free from Lettuce Mosaic Potyvirus -LMV-.

**Lettuce, Endive:** A total of 3 acres were submitted for inspection during the 2022 growing season. All fields inspected were found apparently free from Lettuce mosaic potyvirus -LMV-.

**Mint, Peppermint:** A total of 107 acres were submitted for inspection during the 2022 growing season. In total, there were 214 acres inspected due to multiple inspection requirements for certain diseases. All fields inspected were found apparently free from Mint root borer (*Fumibotys fumalis*), Mint stem borer (*Pseudobaris nigrina*), Verticillium wilt (*Verticillium non-alfalfae*), and Verticillium wilt of mint (*Verticillium dahliae*).

**Peas:** A total of 4,680.71 acres were submitted for inspection during the 2022 growing season. In total, there were 9,140.62 acres inspected due to multiple inspection requirements for certain diseases. All fields inspected were found apparently free from Anthracnose of lentil (*Colletotrichum truncatum*).

- **Bacterial blight of peas** (*Pseudomonas syringae* pv. *psis*) was confirmed in 138.2 acres; the remaining acres inspected were found apparently free from Bacterial blight of peas
- **Ascochyta foot rot** (*Phoma pinodella*) was confirmed in 42 acres

**Pepper, Bell:** A total of 0.15 acres were submitted for inspection during the 2022 growing season. In total, there were 0.3 acres inspected due to multiple inspection requirements for certain diseases. All fields inspected were found apparently free from Angular leaf spot (*Pseudomonas amygdali* pv. *lachrymans*), Anthracnose (*Colletotrichum* spp.), Bacterial canker (*Clavibacter michiganensis* pv. *michiganensis*), Bacterial spot (*Xanthomonas vesicatoria*), Cucumber mosaic cucumovirus -CMV-, and Phytophthora blight (*Phytophthora capsici*).

**Potato:** A total of 1,867 acres were submitted for inspection during the 2022 growing season. All fields inspected were found apparently free from Late blight (*Phytophthora infestans*).

**Radish:** A total of 179.65 acres were submitted for inspection during the 2022 growing season. All fields inspected were found apparently free from Bacterial blight of radish (*Xanthomonas*. *campestris* pv. *raphani*), Black rot of crucifers (*Xanthomonas campestris* pv. *campestris*), and Turnip/radish anthracnose (*Colletotrichum higginsianum*).

**Vine, Cucumber:** A total of 0.15 acres were submitted for inspection during the 2022 growing season. All fields inspected were found apparently free from Angular leaf spot (*Pseudomonas amygdali* pv. *lachrymans*), Anthracnose (*Colletotrichum orbiculare*), Bacterial fruit blotch of Watermelon (*Acidovorax citrulli*), Bacterial leaf spot of cucurbits (*Xanthomonas cucurbitae*), and Cucumber mosaic cucumovirus - CMV-.



**Vine, Summer Squash:** A total of 0.15 acres were submitted for inspection during the 2022 growing season. All fields inspected were found apparently free from Angular leaf spot (*Pseudomonas amygdali* pv. *lachrymans*), Anthracnose (*Colletotrichum orbiculare*), Bacterial fruit blotch of Watermelon (*Acidovorax citrulli*), Bacterial leaf spot of cucurbits (*Xanthomonas cucurbitae*) and Cucumber mosaic cucumovirus – CMV-.

**Sunflowers:** A total of 3,456.76 acres were submitted for inspection during the 2022 growing season. In total, there were 6,913.52 acres inspected due to multiple inspection requirements for certain diseases. All fields inspected were found apparently free from Downy mildew of Asteraceae (*Plasmopara halstedii*).

- *Alternaria leaf spot of sunflower* (*Alternaria zinniae*) was confirmed in 121 acres.
- *Root and crown rot* (*Pythium* spp.) was confirmed in 25 acres.
- *Sclerotinia rot* (*Sclerotinia* spp.) was confirmed in 315.26 acres

**Tomato:** A total of 0.15 acres were submitted for inspection during the 2022 growing season. In total, there were 0.30 acres inspected due to multiple inspection requirements for certain diseases. All fields inspected were found apparently free Bacterial speck (*Pseudomonas syringae* pv. *tomato*).

## Acreage submitted for Inspection under the Idaho Rules for Phytosanitary and Post-Entry Certification, Rules Governing the Planting of Beans, Phaseolus Species, in Idaho and Rules Governing the Planting of Beans, Other Than Phaseolus Species, in Idaho for the 2022 Field Season

### 2022 Inspection Acres Report (compiled 12/27/2022)

Crop	Number of Applications	Acres Submitted for Inspection	Number of Inspections Based on Diseases Requested	Actual Acres Inspected
<i>Alfalfa Total</i>	56	1,287.45	1	1,287.45
<i>Amaranth Total</i>	1	0.30	1	0.30
<i>Arugula Total</i>	1	0.30	1	0.30
<i>Barley</i>	2	3.40	1	3.40
	13	4.47	2	8.94
<i>Barley Total</i>	15	7.87		12.34
<i>Basil Total</i>	1	0.17	1	0.17
<i>Beans, Dry Phaseolus</i>	41	595.90	2	1,191.80
	3	79.50	3	238.50
<i>Beans, Dry Phaseolus Total</i>	44	675.40		1,430.30
<i>Beans, Garden Phaseolus</i>	328	3,214.00	2	6,428.00
	119	6,014.38	3	18,043.14
<i>Beans, Garden Phaseolus Total</i>	447	9,228.38		24,471.14
<i>Beans, Trail Ground Azuki Non-Phaseolus Total</i>	2	0.54	5	2.70





Crop	Number of Applications	Acres Submitted for Inspection	Number of Inspections Based on Diseases Requested	Actual Acres Inspected
Beans, Trial Ground Cowpea Non Phaseolus Total	1	0.13	5	0.65
Beans, Trail Ground Faba/Fava Non Phaseolus Total	1	0.01	5	0.05
Beans Trial Ground LabLab/Hyacinth Total	1	0.02	5	0.10
Beans Trial Ground Mung-Non Phaseolus Total	1	0.01	5	0.05
Beans Trial Ground -Phaseolus	2	0.23	1	0.23
	62	251.93	5	1,259.64
Beans Trial Ground - Phaseolus Total	64	252.16		1259.88
Beans Trial Ground Soybeans Non-Phaseolus Total	3	0.97	5	4.85
Buckwheat Total	2	1.90	1	1.90
Carrot Total	474	3,016.67	1	3,016.67
Chives Total	2	17.00	1	17.00
Celery Total	1	0.01	1	0.01
Collards Total	1	28.00	1	28.00
Coriander Total	3	22.30	1	22.30
Corn To Australia Total	7	87.53	2	175.06
Corn	1	37.40	1	37.40
	499	3,986.42	2	7,972.84
Corn Total	500	4,023.82		8,010.24
Cucumber Total	1	0.15	1	0.15
Dill Total	2	8.00	1	8.00
Endive Total	1	3.00	1	3.00
False Flax Total	4	0.30	1	0.30
Flax Total	1	0.32	1	0.32
Foxtail Millet Total	1	0.01	1	0.01
Garbanzo Bean/Chickpea Trial Ground	1	0.30	1	0.30
	1	0.45	2	0.90
Garbanzo Bean/Chickpea Trial Ground	2	0.75		1.20
Garden Orache Total	1	0.10	1	0.10
Garlic	16	13.63	1	13.63
	1	0.06	2	0.12
Garlic Total	17	13.69		13.75
Kale Total	1	10.50	1	10.50
Lentil Total	1	0.30	1	0.30
Lettuce Total	23	158.04	1	158.04
Mustard Total	1	3.0	1	3.0
Oats Total	2	9.0	1	9.0
Oats Trial Ground	2	0.80	1	0.80
	1	2.92	2	5.84
Oats Trial Ground Total	3	3.72		6.64



Crop	Number of Applications	Acres Submitted for Inspection	Number of Inspections Based on Diseases Requested	Actual Acres Inspected
Onion	91	284.33	1	284.33
	16	278.23	2	556.46
Onion Total	107	562.56		840.79
Ornamental Allium Total	2	8.00	1	8.00
Peas	50	220.80	1	220.80
	264	4,459.91	2	8,919.82
Peas Total	314	4,680.71		9,140.62
Pepper Bell Total	1	0.15	2	0.30
Peppermint Total	8	107.00	2	214.00
Potato Total	13	1,867.00	1	1,867.00
Quinoa Total	1	0.02	1	0.02
Radish Total	14	179.65	1	179.65
Shallot Total	1	0.04	1	0.04
Spinach Total	1	0.30	1	0.30
Squash Summer Total	1	0.15	1	0.15
Sunflower Total	42	3,456.76	2	6,913.52
Tomato Total	1	0.15	2	0.30
Turnip Total	13	158.00	1	158.00
Welsh Onion Total	2	26.00	1	26.00
Wheat Total	2	2.801	1	2.80
<b>Totals</b>	<b>2,212</b>	<b>29,911.11</b>		<b>59,307.26</b>



# Noxious Weed Free Forage & Straw Certification Program

## Background

In an effort to limit the introduction and spread of noxious weeds through forage and straw throughout Idaho and on to United States Forest Service (USFS) and Bureau of Land Management (BLM) lands, the Idaho State Department of Agriculture's (ISDA) Noxious Weed Free Forage and Straw (NWFF&S) Certification Program was implemented in 1995. ISDA is a member of a voluntary national organization called the North American Invasive Species Management Association (NAISMA) and has incorporated its forage and straw inspection procedures, called the NAISMA Weed Free Forage Program, into the NWFF&S Rules. The purpose of this organization, and its rules, is to set minimum requirements for uniform participation of the various states in the program. The NWFF&S Certification Program allows for the transportation and sale of certified Idaho forage and straw products into and through states and other boundaries where restrictions are placed on such commodities.

## Program Updates

This July, the NWFF&S program said a fond farewell to Kahla Montrose due to a wonderful opportunity that took her family elsewhere. In August, Bethany Muffley expanded SW Idaho Program Specialist duties to include statewide NWFF&S oversight.



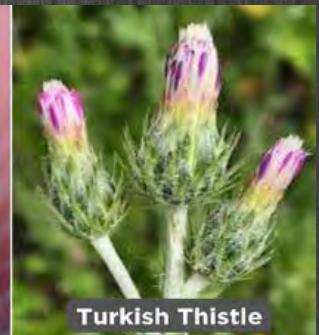
Cogongrass



Goatsrue



Starry Stonewort



Turkish Thistle

A new EDRR species called cogon grass was temporarily added to the state noxious weed list as of June 14th, 2022. This is in addition to the three species added to the Idaho State Noxious Weed List in 2021: Goatsrue, Starry Stonewort, and Turkish Thistle. This increases the number of noxious weeds that fields are inspected for to 71 for the Idaho Standard and 92 for the NAISMA Standard.



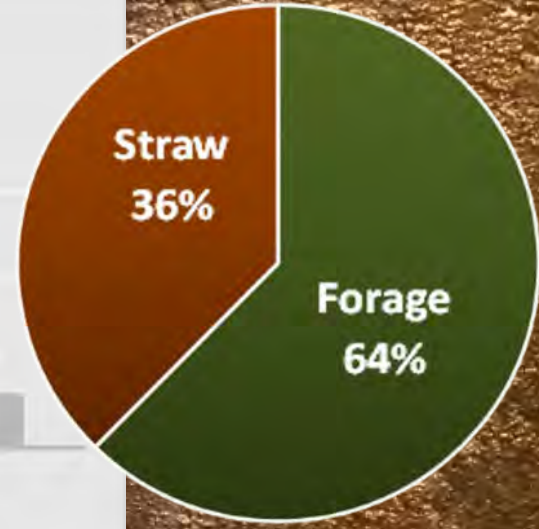
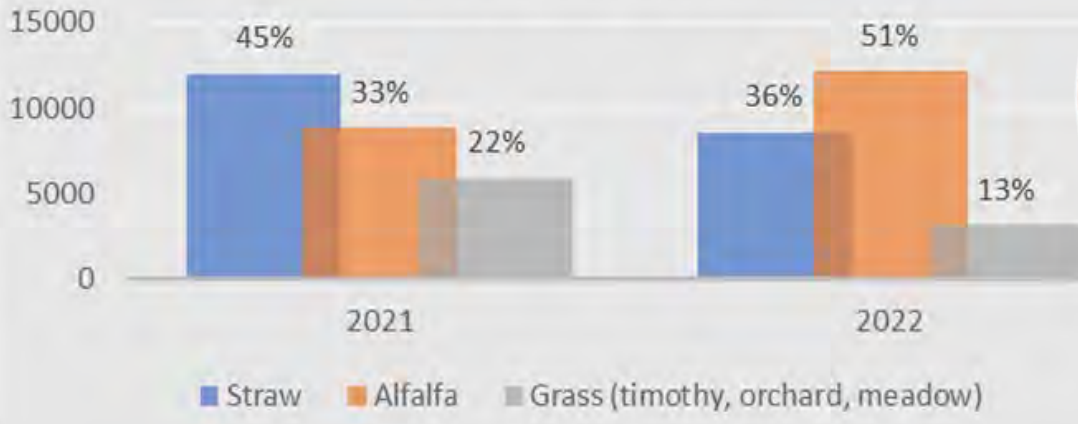
The NAISMA Standard certification twine was changed in 2022 from purple & yellow to blue & orange. Knot strengths now available are: 9600/170, 6500/240 and 4000/440. 4000/400 will be available starting in 2023.

# Program Accomplishments

In 2022, the NWFPS Program trained 60 inspectors across the state to certify fields as noxious weed free. With 32 counties participating, 24,615 acres of forage and straw were inspected; and 23,874 of those acres were certified as noxious weed free. 99.7% of those acres were certified to the NAISMA Standard.

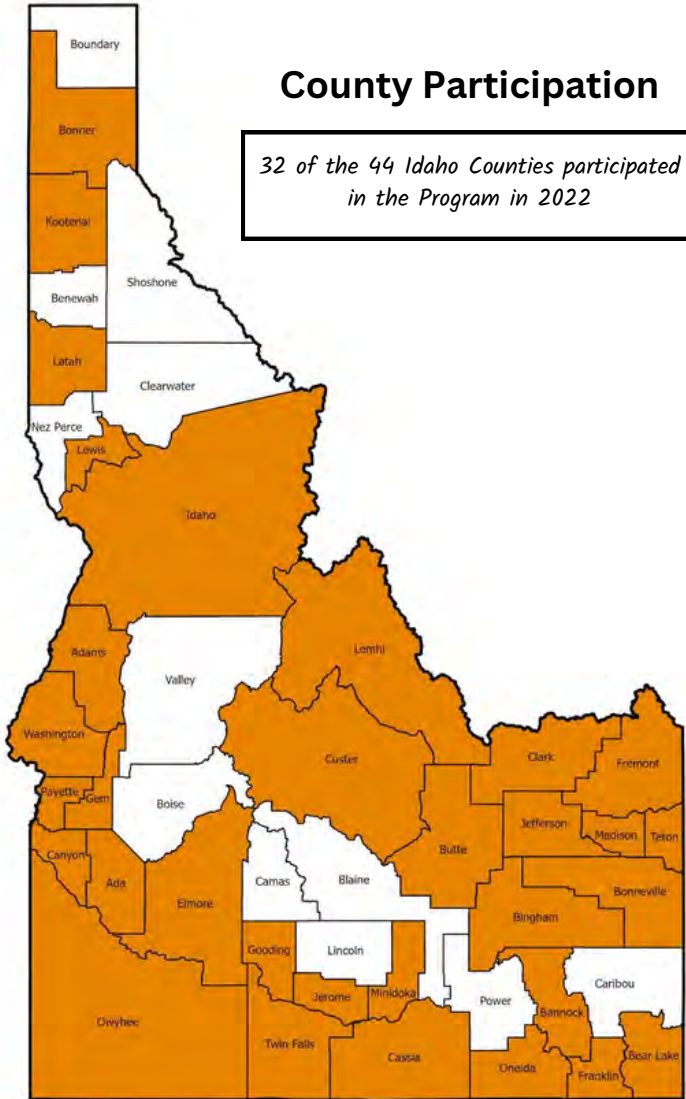
There were 2,891 less acres certified in 2022 than 2021 which has been a continued trend over the last two seasons. This decrease is most likely correlated to 2021 drought conditions and the subsequent uncharacteristic cool and wet conditions experienced in June of 2022 causing a slow start for the season.

## Certified Forage Type 2021 vs. 2022

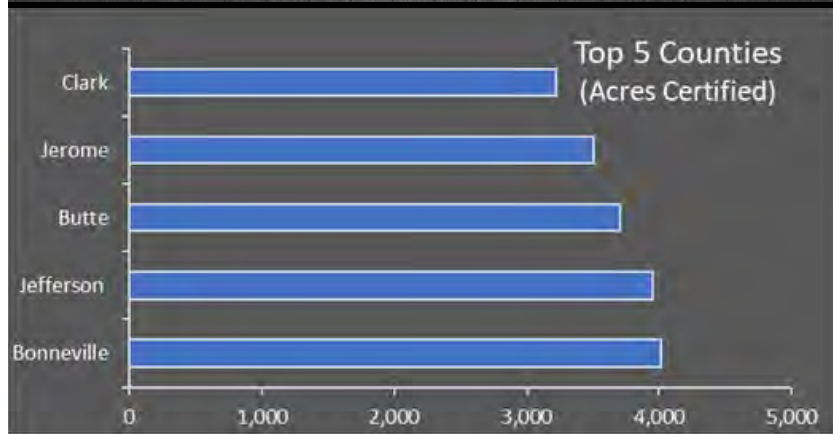


## County Participation

32 of the 44 Idaho Counties participated in the Program in 2022



85.8% of all forage & straw certified was remanufactured into products such as pellets, cubes, bagged straw, & compressed forage bales.





Invasive species present a significant threat to the economy and environment of Idaho. The Idaho State Department of Agriculture (ISDA) administers the Invasive Species Program for the state, managing program activities that include watercraft inspection, invasive species surveys, invasive species education, and management of the state's Noxious Weed program.

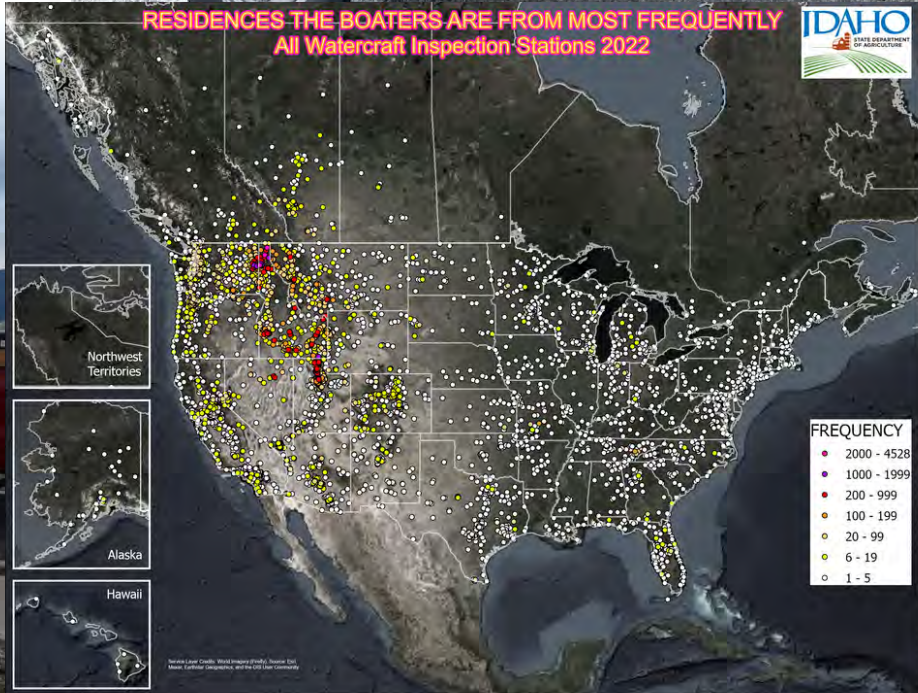
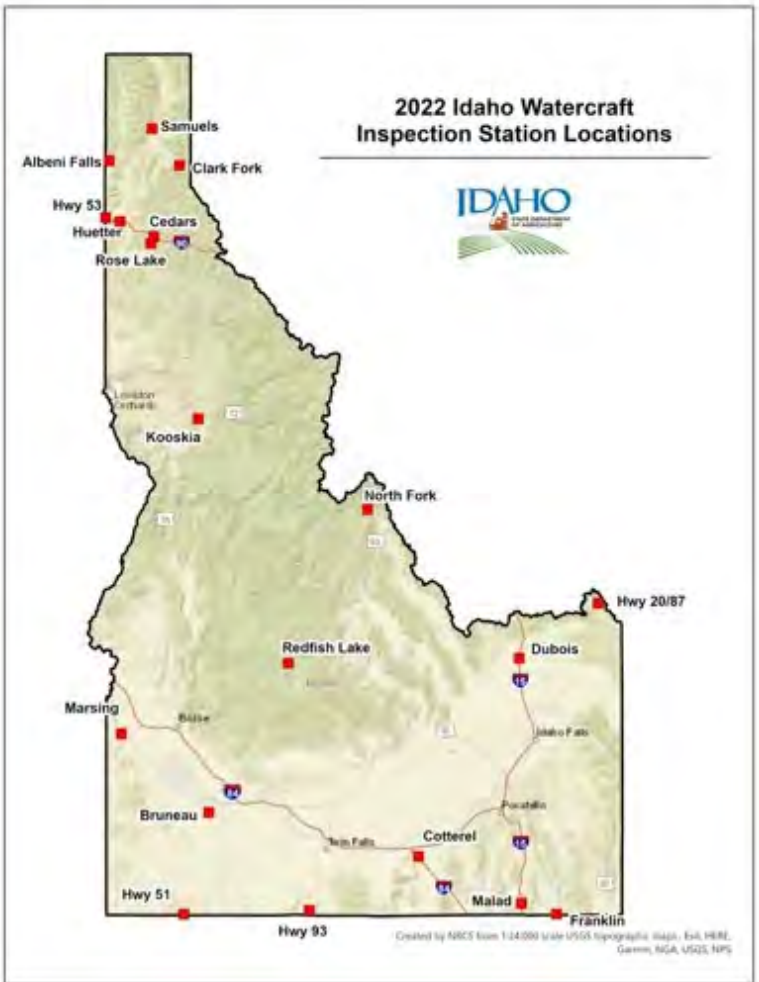
## Program Highlights

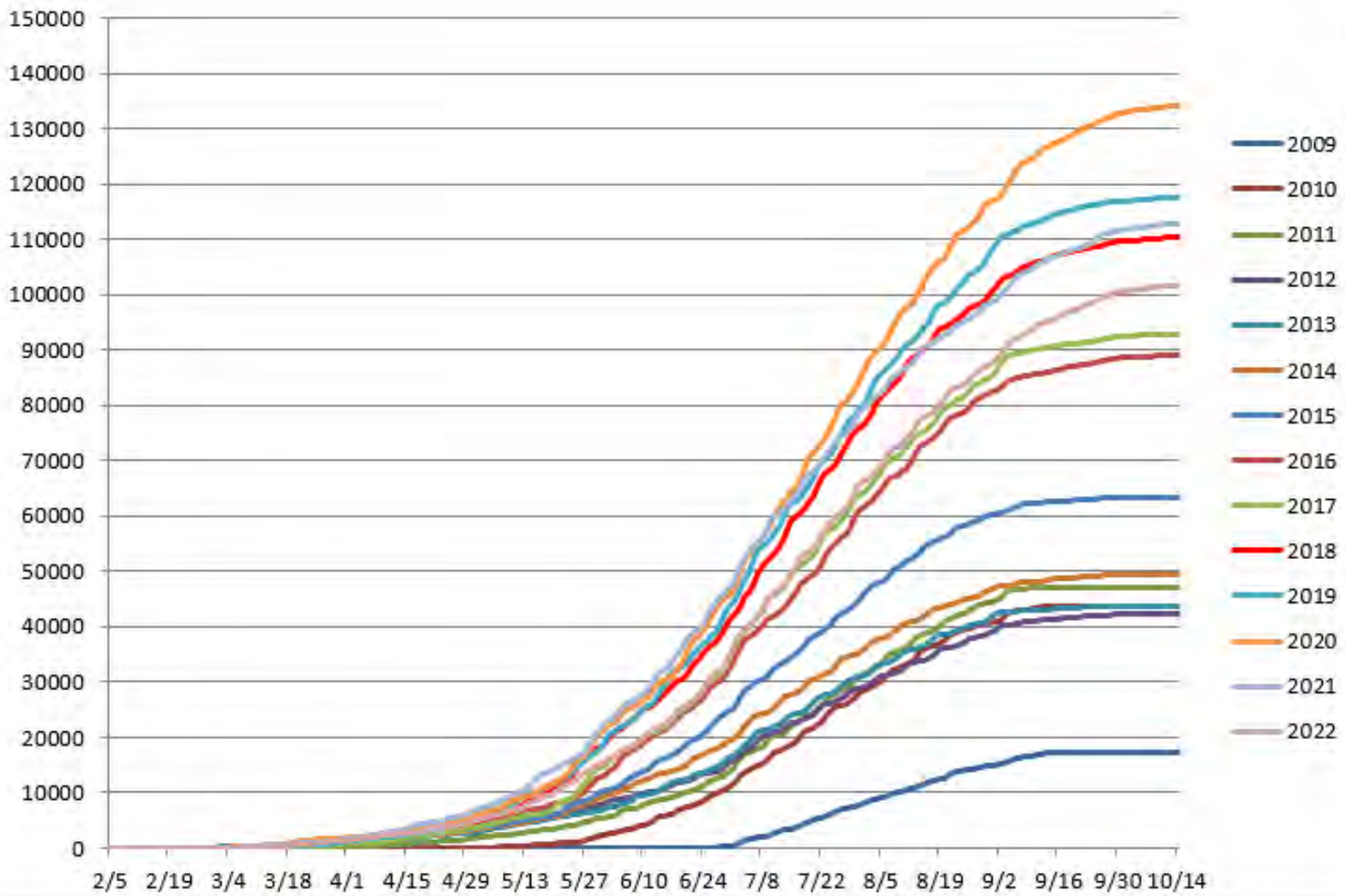
- 102,670 watercraft inspections were conducted in 2022.
- 1,068,612 watercraft inspections have been conducted in Idaho since the program began in 2009.
- 36 zebra/quagga mussel fouled vessels were intercepted in 2022 with 17 of them destined to Idaho.
- 413 zebra/quagga mussel fouled vessels have been intercepted in Idaho since the program began in 2009.
- Increased level of watercraft inspection station operations on numerous levels including:
  - 24-hour operation at the I-84 West Cotterell Watercraft Inspection Station.
  - 18-hour operations at the Cedars I-90 West, Malad I-15 North, and Jackpot Hwy 93 North Watercraft Inspection Stations.
  - Cooperative agreement with the Bear Lake Regional Commission to support two Utah Watercraft Inspection Stations.
  - Law enforcement support at every Idaho inspection station.
- 1,650 veliger samples for zebra/quagga mussel early detection monitoring were collected from over 80 waterbodies throughout the state in 2022.
- To date, no evidence of zebra or quagga mussels have been found in the waters of Idaho.
- To date, zebra/quagga mussels have not been observed anywhere in the waters of the Columbia River Basin, including Oregon, Washington, Wyoming, British Columbia, and Alberta.
- 229.82 acres of Aquatic Noxious Weeds were chemically treated in 2022.
- The hydrilla eradication project has continued to see a reduction in plants across all 3 active infestation areas.
- The Noxious Weeds Cost Share Program awarded \$758,476.75 State Fund dollars & \$85,837.50 Federal Fund dollars to CWMA programs statewide.
- ISDA's Noxious Weeds Cost Share Program had participation from 18 CWMA's.
- 15,342 acres of forage and 8,598 acres of straw were certified under the Noxious Weed-Free Forage and Straw program.
- Cogon Grass (*Imperata cylindrica*) First Report in Ada County and New Temporary Listing in 2022



# Watercraft Inspection

Prevention of aquatic invasive species (AIS) is a significant component of the Invasive Species program. The 2022 season was the 14th year of the watercraft inspection program, with 19 inspection stations operating statewide (Figure 1). In 2022, stations inspected 102,670 watercraft (Figure 2). The continued high level of watercraft inspections was due, in part, to several factors including, extending station operation to cover daylight hours, 24-hour operation at I-84 West Cotterell, 18-hour operations at the Cedars I-90 West, Malad I-15 North, and Jackpot Hwy 93 North Watercraft Inspection Stations, lighted message boards, increased signage, operating additional inspection stations and contracting with law enforcement to assist with station compliance.





**High Risk Inspections:** 2,015 watercraft visited high-risk water bodies with known zebra/quagga mussel infestations within the previous 30 days. Watercraft traveling from these areas represent the highest risk for transporting live zebra/quagga mussels into the state. Watercraft inspections at mussel-impacted waters are the most efficient and effective way to prevent the introduction of mussels into Idaho. Vessels that were found to have recently been in mussel-impacted waters received a thorough high-risk inspection and hot wash to ensure that they were free of AIS. Following inspection, over half of these boats traveled to destinations in Idaho, with the remainder destined to locations throughout the western region. Watercraft inspection information is available online at: <http://invasivespecies.idaho.gov/watercraft-inspection-stations>

**Mussel-Fouled Watercraft:** 36 watercraft were intercepted transporting zebra or quagga mussels in 2022. These vessels originated from mussel-impacted waters in the Southwest, as well as from the Mid-West and over to the Great Lakes region. Seventeen of these vessels were destined for Idaho, with the others heading to waters in the neighboring states. Vessels that were destined for Idaho were thoroughly decontaminated by ISDA staff and remained out of the water for a minimum of 30 days. A total of 413 mussel-fouled vessels have been intercepted in Idaho since the program began in 2009. Additional watercraft inspection data from the 2022 season is displayed on the ISDA Invasive Species Program website at: <http://invasivespecies.idaho.gov/watercraftinspection-stations/>.

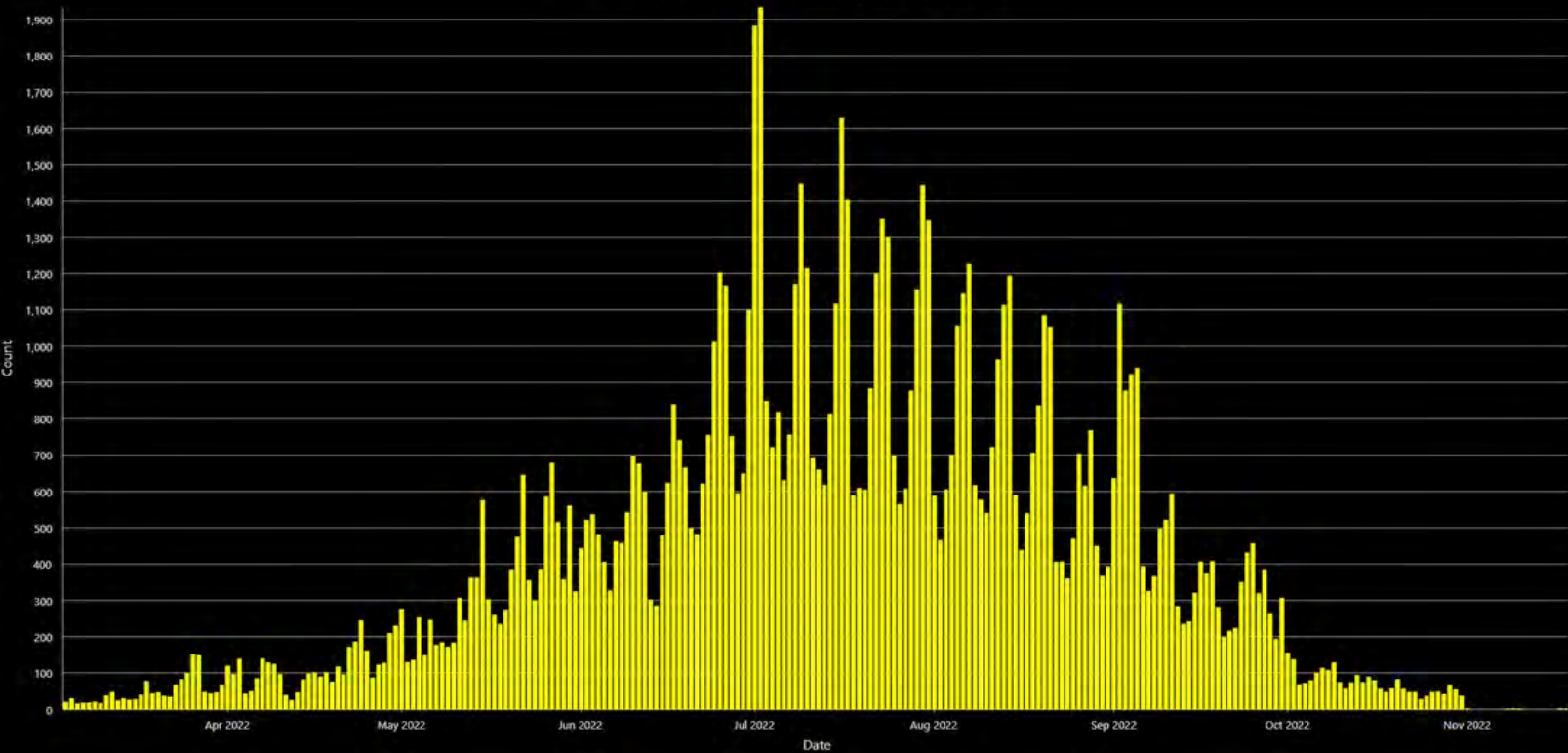


# Idaho Watercraft Inspection Numbers by Station in 2022

Inspection Station	Inspections	Hotwash	Fouled	Weeds
Albeni Falls	9,423	6	0	10
Bruneau	3,556	16	0	4
Cedars	13,204	151	16	155
Clark Fork	6,780	1	1	4
Cotterel	5,873	167	1	4
Dubios	842	3	0	1
Franklin	5,757	9	0	2
Huetter	14,048	13	1	54
Hwy 12 (Kooskia)	990	1	0	3
Hwy 20/87	4,681	4	0	2
Hwy 51 (Duck Valley)	263	0	0	0
Hwy 53	5,598	1	0	60
Hwy 93	1,856	87	2	5
Malad	8,492	177	10	44
Marsing	2,073	5	0	18
North Fork	2,939	6	0	4
Redfish Lake	2,188	2	0	4
Rose Lake	3,376	3	0	156
Samuels	9,042	10	0	26
Idaho Falls Roving Crew	442	2	0	0
Post Falls Roving Crew	1,221	0	0	15
ISDA Staff	47	6	5	11
<b>Total</b>	<b>102,691</b>	<b>670</b>	<b>36</b>	<b>582</b>

**CLEAN • DRAIN • DRY**

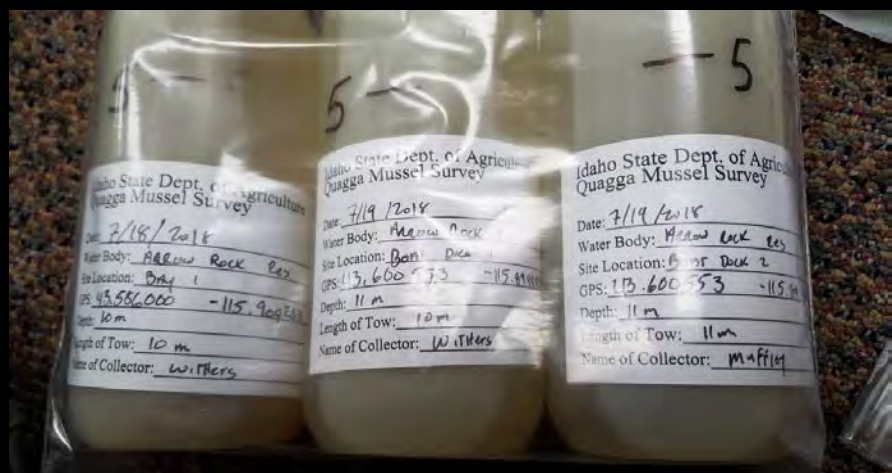
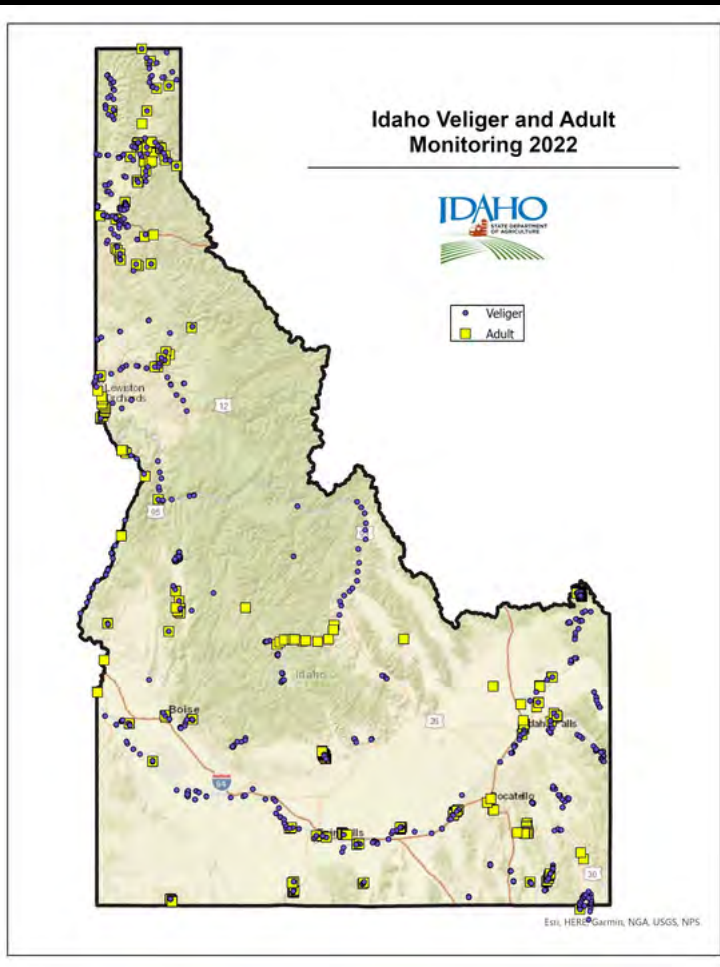
Number of Watercraft Inspections by date - All Stations





# Invasive Species Early Detection Monitoring

ISDA's early detection monitoring program collected 1,650 plankton (or veliger) samples from 80 waterbodies in Idaho in 2022. A number of partners also assist with mussel early detection monitoring including the Shoshone Piute Tribe, The Coeur d'Alene Tribe, Idaho Power Company, Lemhi County, US Army Corps of Engineers, US Forest Service, lake associations, and various canal companies and irrigation districts throughout the state. To date, no evidence of mussels has been found in Idaho or anywhere in the Columbia River Basin.



## Education

Education is a major component of the ISDA invasive species prevention program. Watercraft inspection stations play an important role in education through one-on-one interaction with the public and reinforcing the "Clean, Drain, Dry" message. Inspectors also provided a variety of invasive species-related educational materials to the public.

ISDA staff participated in a number of events this season which helped educate user groups and the boating public on invasive species issues and the importance of "Clean, Drain, Dry." Staff provided 20 watercraft inspection trainings, educating over 100 individuals on the threats of invasive species and watercraft inspection protocols. Staff also presented on invasive species issues to noxious weed professionals, counties, tribes, master naturalists, angling groups, marine deputies, ITD Port of Entry staff, DEQ staff, IDFG staff, lake associations, and student groups.

ISDA also unveiled a new Invasive Species of Idaho website with the help of the marketing expertise of Drake Cooper. Two additional campaign messages were created, "Knock it Off" and "Know What You Grow," to add to established messages already in use, "Clean-Drain-Dry", "Don't Let It Loose", and "Buy It Where You Burn it." An Invasive Species of Idaho Facebook page was also created and is being utilized to promote important campaign messages, form collaborative relationships, share ideas and articles, and drive internet traffic to the website for more detailed information. Other platforms utilized to drive traffic to the website included: radio spots, banner ads, and Pandora radio commercials.

# Idaho Invasive Species Council

The Idaho Invasive Species Council (IISC) was created in 2001 by Executive Order, as a forum for coordinating invasive species related efforts and initiatives in the state. Executive Order 2017-05 replaces Executive Order 2010-14, to continue this coordinated effort. The IISC holds biannual meetings for discussions and project updates. An updated copy of the IISC Strategic Plan is available online at: <https://invasivespecies.idaho.gov/idahoinvasive-species-council/>



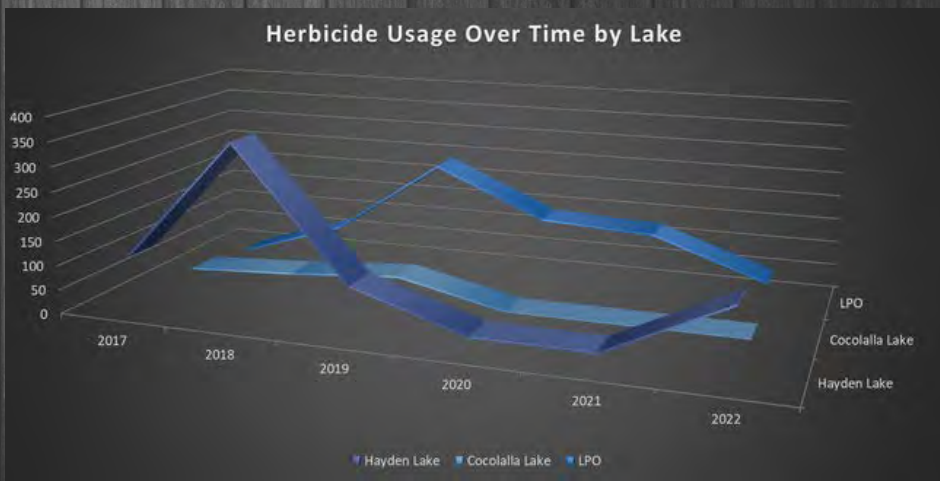
## Aquatic Noxious Weed Treatments

Aquatic noxious weed treatment plans are published annually on a map that can be accessed at <http://invasivespecies.idaho.gov/treatment-plans>.

ISDA chemically treated 229.82 acres of Aquatic Noxious Weeds in 2022. The species that were primarily targeted were: Eurasian watermilfoil, Parrotfeather milfoil and Curlyleaf pondweed.

For aquatic herbicide treatments on these species, a trend is becoming more pronounced as acres of treatment are starting to decrease due to the proper use and timing of systemic type herbicides. ISDA continues to monitor all known infestations of aquatic noxious weeds while surveying for new infestations.

In 2022, ISDA staff conducted 17,611 individual survey occurrences. By conducting a high level of surveys, ISDA is able to be more targeted and prescriptive with treatments. ISDA will continue this strategy to encourage this same trend for all aquatic noxious weed applications.



### 2022 Idaho Aquatic Noxious Weed Surveys Dashboard

#### Filter Options

All filter criteria will be applied if more than one filter is used.

#### Filter by Date

All Dates

#### Filter by Waterbody

All Waterbodies

#### Filter by Target Species Density

All Target Species Densities

#### Filter by Target Species

All Target Species

#### Filter by Additional Species Found

All Additional Listed Species Found

#### # Surveys by Waterbody



#### # Aquatic Surveys Conducted

17,611

402

# surveys where additional listed, non-target species found

#### # Surveys with Positive Detections

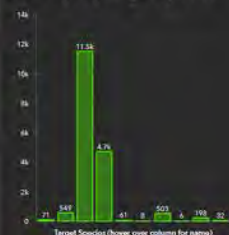
4,189

Idaho Aquatic Noxious Weed Target Species Only

Average Depth of Survey (in meters)

1.846

#### # Surveys by Target Species



#### Individual Surveys

Name of Waterbody = Spokane River

Date and Time = Wed Nov 23 2022 14:32:00 GMT-0700

(Mountain Standard Time)

Target Species = Eurasian Watermilfoil

Density = 0 - Target Species 0%

Depth of Survey (in meters) = 0

Additional Species Found =

Name of Waterbody = Spokane River

Date and Time = Wed Nov 23 2022 14:30:00 GMT-0700

(Mountain Standard Time)

Target Species = Eurasian Watermilfoil

Density = 0 - Target Species 0%

Depth of Survey (in meters) = 0

Additional Species Found =

Name of Waterbody = Spokane River

Date and Time = Wed Nov 23 2022 14:29:00 GMT-0700

(Mountain Standard Time)

Target Species = Eurasian Watermilfoil

Density = 0 - Target Species 0%

Depth of Survey (in meters) = 0

Additional Species Found =

Name of Waterbody = Spokane River

Date and Time = Wed Nov 23 2022 13:45:00 GMT-0700

(Mountain Standard Time)

Target Species = Eurasian Watermilfoil

Density = 0 - Target Species 0%

Depth of Survey (in meters) = 0

Additional Species Found =





## CWMA Cost Share Program

ISDA continues to provide leadership, training, and support to Cooperative Weed Management Areas (CWMA) throughout the state. These CWMA are comprised of county governments, federal partners, Native American Tribes, and private landowners. CWMA work cooperatively to combat noxious weed infestations across agency and jurisdictional boundaries. Their efforts help to protect wildland habitat, ecosystem diversity, recreational opportunities, and agriculture in Idaho.

In 2022, ISDA awarded \$758,476.75 in State Fund dollars & \$85,837.50 in Federal Fund dollars to 18 participating CWMA. The CWMA cost share participants provided over \$1.8 million dollars in matching contributions, and treated approximately 100,000 acres of noxious weed infestations. The treatments include chemical, mechanical, cultural, and biological control methods. Cost share revenues also contributed to the mapping and monitoring of over 400 thousand acres of previously surveyed lands. CWMA's have also incorporated revegetation work in to their work plans, in effort to try and help Idaho lands to recover from the invasion of noxious weeds. The CWMA also help to educate citizens about the threat of noxious weeds in their area, as well as, throughout the State.

## Other Statewide EDRR Listings



*Giant Hogweed*



*Iberian Starthistle*



*Common/European Frogbit*



*Yellow Floating Heart*



*Giant Salvinia*

# 2022 EDRR Updates



## Goatsrue (*Galega officinalis*)

- Perennial
- Purple to white pea-like flowers
- Alternate pinnately compound leaves
- Toxic to cattle and horses
- Identified by Utah Department of Food and Agriculture employee visiting Idaho
- Species Confirmed by ISDA in August 2020
- 3 separate areas where species can be found in Franklin County
- Listed as EDRR in 2021 and added to the Invasive Species Noxious Weed Rule in 2021
- Local County has been treating and monitoring treatment sites

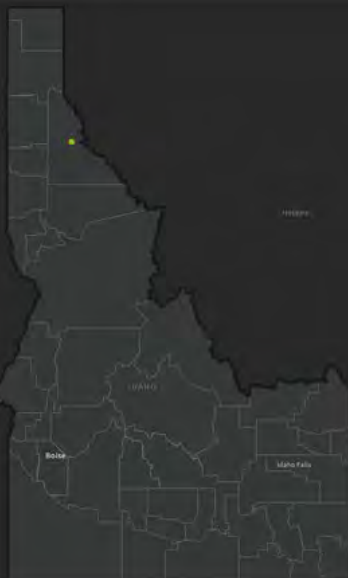
## Policeman's Helmet (*Impatiens glandulifera*)

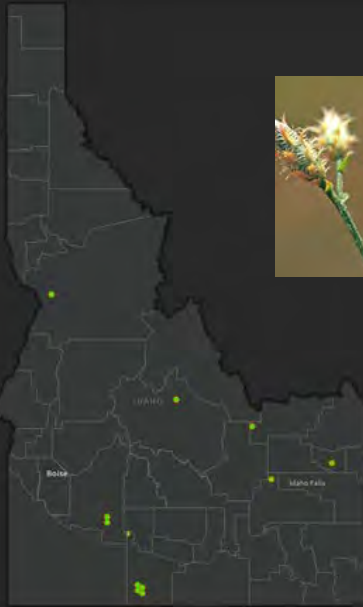
- Annual, herbaceous
- Plant grows 6-10 feet tall
- Flower colors range from white to purple or pink resembling an old fashioned English policeman's helmet
- Leaves can be opposite or whorled, oblong, elliptic, or egg-shaped, with serrated leaf margins
- Stems are purple or reddish tinged and hollow
- Listed as EDRR in 2007 and added to the Invasive Species Noxious Weed Rule in 2007



## Purple Starthistle (*Centaurea calcitrapa*)

- Annual - Perennial (dependent on moisture)
- Plant grows between 1-6 feet tall
- Flowers, purple to pink, with sharp spined bracts over 1 inch long
- Purple starthistle seeds do not have plumes, Iberian starthistle seeds have plumes
- Leaves are deeply lobed and covered with fine hairs.
- Single known location near Castleford, ID
- Twin Falls County continues to work with property owner to eradicate plants
- Listed as EDRR in 2016 and added to the Invasive Species Noxious Weed Rule in 2016



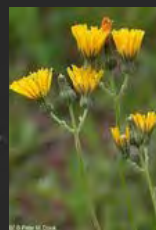
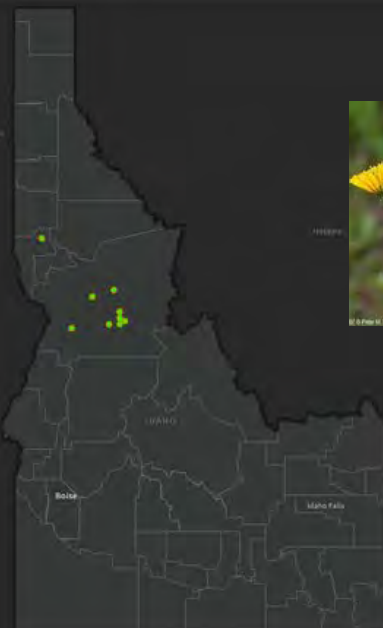
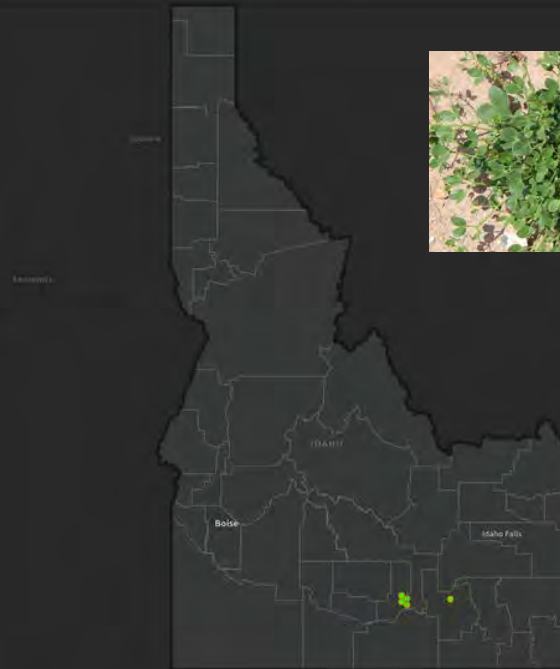


## Squarrose Knapweed (*centaurea virgata* spp. *squarrosa*)

- Perennial
- Plant grows 1-3 feet tall
- Rosette and lower leaves are deeply lobed whereas upper leaves are entire, linear, or bract-like .
- Flowers are rose to purple colored, relatively small, slender, and urn-shaped
- Stems are highly branched
- Bract tips are recurved or spreading
- Listed as EDRR in 2007 and added to the Invasive Species Noxious Weed Rule in 2007

## Syrian Beancaper (*Zygophyllum fabago*)

- Perennial
- Plant is bushy, up to 3 feet tall and 3 feet wide
- Branched from a woody crown
- Flowers are borne in the upper leaf axils, salmon to yellow or white with pinkish veins, and up to 3/4 inch across
- Leaf arrangement is opposite, compound leaves consist of a pair of leaflets, thick, leathery, fleshy, smooth, and hairless
- Listed as EDRR in 1993 and added to the Invasive Species Noxious Weed Rule in 1993



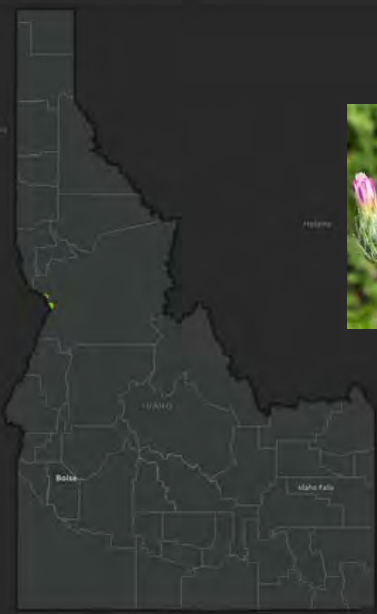
## Tall Hawkweed (*Hieracium piloselloides*)

- Perennial
- Plant grows to 3 feet tall with leafless stems.
- Leaves smooth or very sparsely hairy
- Heads have dandelion-like yellow, ray (strap-like) flowers
- Flowers are long stalked in open clusters
- Stolons absent, root buds present
- Milky latex is exuded when pilant is cut or broken.
- Listed as EDRR in 2007 and added to the Invasive Species Noxious Weed Rule in 2007



## Turkish thistle (*Carduus Cinereus*)

- Annual
- Plant grows to be 5 inches -3 feet tall
- Purple flowers arranged as a single terminal head or in a tight terminal cluster
- Winged, pinnated leaves with spines
- First identified in Spring of 2019 by Oregon Department of Ag in the Hells Canyon Recreation Area on the Idaho and Oregon border
- Presence confirmed via DNA analysis at Pittsburgh Landing in Spring 2020
- Listed as EDRR in 2021 and added to the Invasive Species Noxious Weed Rule in 2021
- Local Cooperative Weed Management area applied and received funding to carry out control and survey efforts in 2021

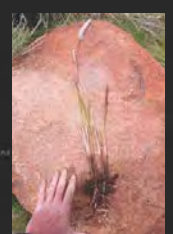
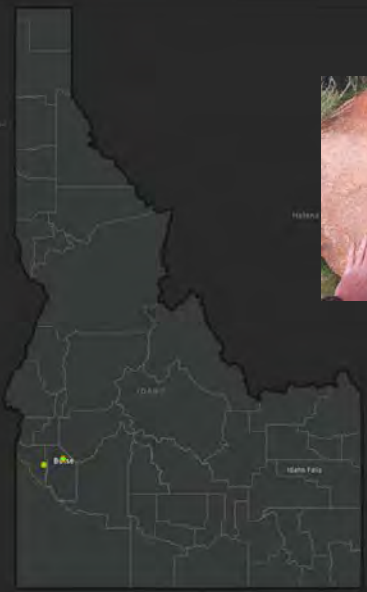


## Yellow Devil hawkweed (*Hieracium glomeratum*)

- Perennial
- grows to 3 feet tall with leafless stems.
- Leaves with short stiff hairs on both sides
- Heads have dandelion-like yellow ray (strap-like) flowers
- Flower stalk is short in compact flower clusters
- Milky latex is exuded when plant is cut or broken
- Listed as EDRR in 2007 and added to the Invasive Species Noxious Weed Rule in 2007

## Cogon Grass (*Imperata cylindrica*)

- Perennial, colony-forming Plant
- Grows to 3ft tall
- Reproduces by seed, can produce up to 3,000 per seed head; Also, vegetatively spreads by rhizomes (5-10ft per year)
- Leaves have an off-center and whitish midrib
- Spikelets are grouped into a large panicle with a plum-like, fuzzy structure and can look silky
- Sub Species ..Rubra (Red Barron, Japanese Bloodgrass) Leaves will turn a deep red color in August
- First identified in Spring of 2019 by Oregon Department of Ag in the Hells Canyon Recreation Area on the Idaho and Oregon border
- Added as a temporary listing in 2022 and added to the Invasive Species Noxious Weed Rule in 2021





## Flowering Rush (*Butomus umbellatus*)

- Submerged and /or emergent aquatic Perennial
  - Can grow up to 5 feet tall and survive in 20 feet of water
  - leaves are fleshy, lanceolate, and triangular at cross section
  - 3 petalled, pink to white flowers that form umbels and sit atop long cylindrical stalks
  - Roots are thick, fleshy and rhizomatous
  - Seeds can float, are brown and contained in an indehiscent capsule
- Positive locations on the Snake river and Farragut State Park in 2021

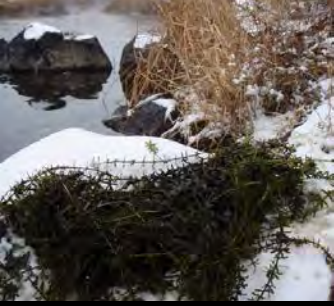


In 2022, ISDA continued to actively work on Eurasian watermilfoil (EWM) in Hayden Lake, Lake Pend Oreille, Pend Oreille River, Priest Lake, Bear Lake, Clear Lake, and Blue Heart Springs. Blue Heart is a popular South-Central Idaho tourism destination and local favorite. ISDA staff continued removal efforts in 2022 and noted marked decreases in population densities because of effort taken in 2021 which included assistance from the Governor's Office of Species Conservation, County weed superintendents, and Idaho Power. Contractor help was again assigned in May to decrease EWM biomass to a level that was easily maintained by ISDA staff for the remainder of the season. EWM activities also extended itself into assistance with survey and removal efforts in Payette Lake to compliment Valley County Noxious Weeds well established removal program. ISDA staff circumnavigated Payette Lake and performed in water survey activities using power boat, kayaks, and snorkeling to identify populations of EWM so that this data could be used to guide activities for contractors utilizing Diver Assisted Suction Harvesting (DASH).

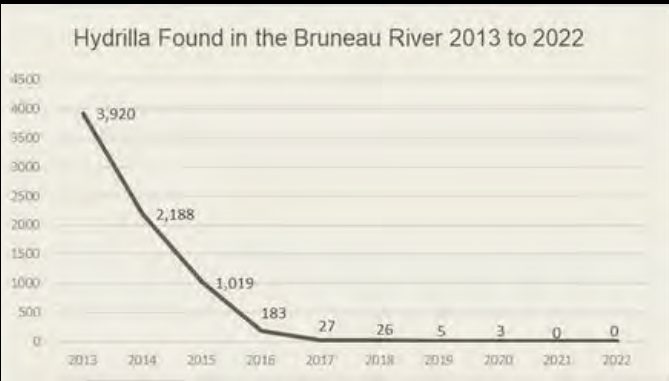


## Hydrilla

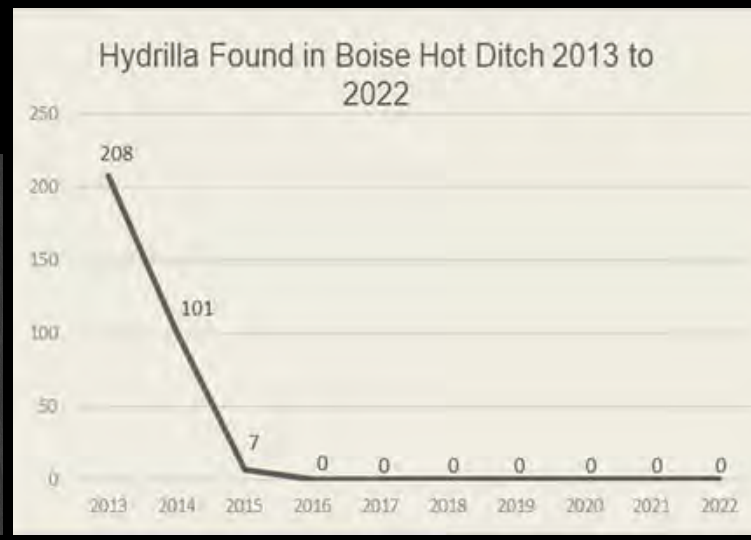
Hydrilla is considered one of the worst aquatic invasive plant species in North America and was placed on the Idaho Noxious Weed list as an early detection, rapid response (EDRR) species. Hydrilla was initially discovered in the Bruneau River in 2007 with additional populations discovered in Ada and Twin Falls counties. All populations are located in and around geo-thermally influenced areas with direct outflow into the Snake River. Eradication is the ultimate goal for plants on the EDRR list and ISDA coordinated an aggressive management program aimed at doing just that.



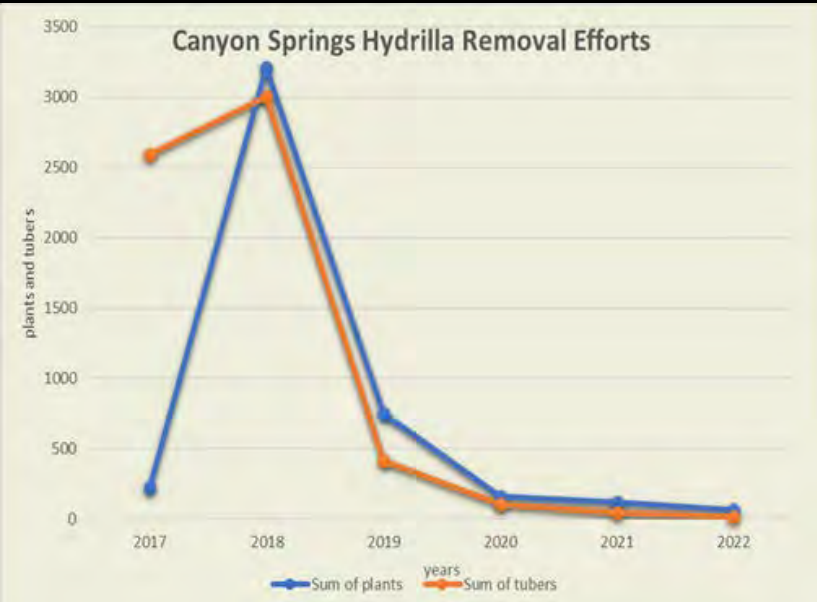
**Bruneau River** – Initial population was discovered in late 2007 in a 14-mile stretch of river which discharges into CJ Strike Reservoir. Management actions began in 2008 using an integrated pest management (IPM) approach which included chemical controls, mechanical controls, cultural control, biological controls, and hand removal. Monitoring and removal activities occurred on a weekly basis with high density areas of plant occurrence visited most frequently. By 2016, plant populations had decreased to the point where hand pulling was the only control method utilized, and the intensity of survey events decreased due to lack of plants found. In 2022, the Bruneau River recorded a 100% decrease in population size with 0 plants found for the second year in a row. Monitoring efforts are still identifying a small population of hydrilla in an adjacent canal system; however, plant materials are being actively removed to prevent entry back into the river. The canal population is decreasing in size as a result of removal efforts, and ISDA will continue to survey and remove plant mass until eradication is achieved. Only three plants were observed this season and survey data noted a 98.8% decrease in total plant occurrence. The entire infestation area will continue to be monitored into 2023 and plants will be removed whenever encountered.



**Boise Hot Ditch** – Population discovered in 2008 and was reported by an individual who helped with initial hydrilla removal efforts in the Bruneau River. Due to the size and accessibility of this population, hand removal has been the only method utilized. This control strategy has proven effective for the site with no hydrilla plants detected since 2016. Reproductive materials can remain dormant for up to 10 years so monitoring activities will continue bi-annually to ensure that if any re-growth is discovered, it will be removed before having the chance to re-infest the area.



**Buhl** – Population discovered in 2015 by ISDA on a routine monitoring survey. Plants were found in several sites within this area including geothermal aquaculture facilities and private residences with decorative water features. Removal efforts included cultural controls, biological controls, and hand pulling; with a 99.5% percent decrease in population size since initial discovery. Monitoring and removal activities have been occurring on a weekly basis in the summer and fall and will continue during winter months at a reduced frequency.



**Twin Falls** – Population reported by land manager approximately 1-week after discovery of the Buhl population in 2015. Hydrilla was observed in a settling pond at the outflow of a geothermal fish raceway. Removal efforts included cultural controls, biological controls, and hand pulling with a 98% decrease in population size since initial discovery. In 2017, hydrilla was found in a new water course adjacent to the settling pond which led to an increase of plants observed on site. Mechanical control and hand pulling were used to remove plants in this area and decreases are again being recorded. Monitoring and removal activities have been occurring in this area on a weekly basis during summer and fall and will also continue over the winter months at a reduced frequency.



# Parrot feather Milfoil

Parrotfeather Milfoil (*Myriophyllum aquaticum*) is an emergent aquatic weed native to South America, that was most likely introduced into Idaho as an aquarium or aqua-garden plant which escaped containment. Studies indicate parrotfeather milfoil as a warm water species intolerant to freezing conditions, however, this milfoil has found a niche in Idaho allowing it to persist. Parrotfeather has been observed growing in areas with naturally flowing spring water capable of keeping constant, non-freezing temperatures throughout winter months. Downstream surveys in Gem County (2021) identified populations of plants along the Payette River extending down into the confluence with the Snake River. Due to the extent of spread, ISDA assigned management priority to upstream populations in an attempt to stop the infestation at its source.

**Jerome County** – Effort to remove plant populations from a known population resumed in 2019. ISDA staff coordinated team work days to removal plants from a natural spring near the Blue Lakes Country Club using mechanical control and hand removal. Monitoring and removal activities occurred and as of September 2022, no regrowth has been observed. To date, no parrotfeather milfoil has been identified in the Mid-Snake River area.



**Gem County** – A coordinated effort with Gem County Weed Control began in 2019 utilizing chemical control and hand-removal strategies. The site is located within a seepage canal that passes through four private properties. This water course acts as a catchment for several irrigation canals in the area and is also influenced by natural spring water inputs. Hand removal was targeted in the upper areas of the canal in 2019 and 2020 with marked decreases of re-growth observed in subsequent years. In 2021, a survey of the entire infestation zone was conducted to monitor plant densities and identify areas where chemical application would be most beneficial. Landowners were notified and a coordinated chemical application using contractors began in late June and into early July 2022. ISDA staff conducted pre- and post-treatment monitoring of the infestation zone throughout the field season to remove plant materials where feasible, and to assess areas in need of additional treatment. Activities are expected to continue in 2023 using a combination of chemical applications performed by Gem County Weed Control and support via hand removal provided by ISDA staff.



**Ada County** – Ada County Weed Control shared point location data for a known parrotfeather population located in a spring fed canal which flows directly under Linder Bridge in Meridian and into the Boise River. This population has existed for several years and has undergone a variety of attempts to effectively manage; however, no lasting success has been achieved. A joint effort between Ada County and ISDA was initiated in 2022 to apply techniques utilized on previous parrotfeather sites to see if progress could be made. The spring water source originates from the Eagle IDFG fish hatchery and meanders through and between several private properties. Survey efforts identified the source population at approximately 130 feet west of Linder Road and extended downstream approximately .5 mile before emptying into the Boise River. Kayak surveys down river, identified areas of parrotfeather occurrence indicating that plant fragments were traveling into the system from this location. Initial mitigation efforts occurred in the upper 130 ft area (450 lbs. of parrotfeather removed) and staff from Ada County and ISDA continued visiting the site monthly between April and November. Removal activities were executed manually via hand pulling using snorkel equipment. Observations of plant densities decreased with each visit, and by the last survey, only three very small plants were identified and removed. Removal activities will continue in 2023 using a similar strategy at this location with the goal of expanding our work area to include the .5 miles of infested spring east of Linder Road.

## Exotic Wood Boring Bark Beetle -USDA Survey

As part of USDA's 2022 National EWBB Survey, a total of 42 Lindgren Funnel traps at 20 locations in 16 counties throughout Idaho were installed and monitored. Sites included Forest Service campgrounds, National Forests, tree farms, wood recycler, and urban landscape plantings. In 2022, a variety of 5 different lure combinations were used in the traps. Current years' specimen samples are in the process of being identified. (Report provided by Brian Marschman, Idaho State Plant Health Director, USDA APHIS PPQ)

## Pale Cyst Nematode- USDA Survey

Idaho's Pale Cyst Nematode Eradication Program:

Production Acres Surveyed: 819

Seed Acres Surveyed: 20

Number of Counties Surveyed: 3 Counties

Positive: 32 fields (3,542 acres total)

Report provided by Robert Gourley, Acting Director, PCN Program, USDA APHIS PPQ



All thirty-two known infested fields are located within an 8.5-mile radius that spans portions of northern Bingham County and southern Bonneville County. PPQ deregulated 2 acres of associated fields in 2022. The current regulated area is 6,568 acres; of that total 3,542 acres are infested fields and 3,026 acres are associated fields. Viability staining analyses of cysts from 27 infested fields show no detectable viability. Of these 27 fields, 26 have successfully completed the greenhouse bioassay phase of evaluating eradication progress, making them eligible to return to potato production with certain regulatory controls in place. The remaining field has greenhouse bioassays in progress, with the final results expected in early 2023. Seven infested fields are working through the eradication process and still show some level of viable PCN in soil samples.

In 2022, potatoes were planted on three infested fields (305 acres, total) that were eligible to return PCN host crop production as part of the in-field bioassay test, the final test that must be passed to declare PCN eradication and deregulate an infested field. This was the first crop for two fields and the second crop for the other field since before PCN was detected on those fields.

PCN Eradication Treatments: The soil fumigant Telone II (1,3-dichloropropene) was applied to 454 acres (5 fields) in 2022. Soil samples were collected from the five fields following treatment to determine treatment efficacy. PCN viability results are expected in late January 2023 for these soil samples.

Outreach: Stakeholder updates (Quarterly Reports) were published to the USDA APHIS PCN website in April, July, and October 2022. The 2022 fourth quarter report will be posted in January 2023.

Sampling Information: To date, the PCN Program has collected 542,912 soil samples in Idaho (from outside of the 32 known infested fields) to ensure Idaho's freedom from PCN. A total of 199,727 samples have been collected from the eradication fields since 2006 in order to monitor eradication progress and to provide cysts to several institutions for PCN research.

To date, the PCN laboratory in Idaho Falls has screened 739,079 soil samples collected in Idaho, and 100,632 samples from other potato producing states. An additional 63,862 samples collected in Idaho were screened at the Idaho Food Quality Assurance Laboratory and the University of Idaho Parma laboratory between 2006 and 2009. There have been no pale cyst nematode detections in the U.S. outside of southeast Idaho. Since program inception in 2006, the PCN Program has analyzed the viability of 1,027 cyst samples collected from infested fields before and after eradication treatments.





## Plant Pathology Summary Report

In 2022, the Idaho State Department of Agriculture Plant Pathology Lab (ISDA-PPL) received a total of 1037 samples (field, seed, regulatory, and submitted) consisting of over 30 crop types. ISDA-PPL ran a total of 3729 tests for organisms of concern on these samples.

Included in the 2022 total sample number, there were 648 field inspection samples from 7 different crop species tested in the Plant Pathology Laboratory. A total of 2502 tests were conducted on these field samples, of which, 76 were positive for organisms of concern. The table below summarizes the positive test results found during the 2022 field season.

The table below shows the number of fields that were positive for organisms of concern. During the 2022 field season.



## Positive Field Sample Results

Crop	Number of Positive Fields	Disease
Beans, Garden	1	Alfalfa mosaic Alfamovirus -AMV-
	12	Bean Common Mosaic Potyvirus
	9	Potyvirus Screen
	4	Pseudomonas Syringae pv Syringae
Carrot	1	Alternaria Radicina
Corn	28	High plains virus
	1	Surgarcane Mosaic Potyvirus
	5	Ustilago maydis
Garlic	2	Wheat Streak Mosaic Tritimovirus
Lettuce	1	Potyvirus Screen
	1	Potyvirus Screen
Pea	1	Phoma Pinodella
	4	Pseudomonas Syringae pv PISI
Sunflower	1	Alternaria Zinniae
	1	Pythium Spp.
	1	Sclerotinia spp.
	4	Sclerotinia spp.

# 2022 Plant Industries Public Outreach and Educational Presentations

## January

January 13	Kahla Montrose	Grasshopper Control/Identification	Noxious Weed Professionals
January 14	Bethany Muffley	Effective Monitoring in the Hydrilla Program	Noxious Weed Professionals
January 18	Kim Holzer	Avista Weeds	Utility
January 19	Paul Castroville	Idaho Horticulture Expo, Invasive Insect Pests on the Horizon	Public
January 19-20	Paul Castroville	Idaho Horticulture Expo, Emerald Ash Borer Biology and ID	Public
January 25	Bethany Muffley	General Invasive Species/Noxious Weeds	Boise Metro Rotary
January 26	Kahla Montrose	GH/MC Control	County Staff
January 26	Kim Holzer	Cocolalla Lake Association	Cocolalla Lake Stakeholders
January 27	Paul Castroville	Oregon Dept. of Ag Japanese Beetle Presence & Eradication in ID	JB Cooperators

## February

February 8	Kahla Montrose	Idaho GH/MC 2021 Update	National Grasshopper Board
February 16	Kahla Montrose	GH/MC Control Program	APHIS GH/MC Staff
February 16	Kahla Montrose	GH/MC & NWFSS Updates	Public
February 22	Paul Castroville	Botanical gardens, Sharing the World with Bugs	Master Naturalists

## March

March 1	K. Holzer/J. Roman	WIT Cedars	WIT Staff
March 2-3	Cole Morrison	WIT Malad	WIT Staff
March 8	B. Muffley/S. Kennedy	WIT Marsing & Bruneau	WIT Staff
March 10	Bethany Muffley	General Invasive Species/Noxious Weeds	ISDA Plant Inspectors
March 15	Kahla Montrose	NWFSS Certification	NWFSS Inspectors
March 16	Kahla Montrose	NWFSS Certification	NWFSS Inspectors
March 17	Kahla Montrose	NWFSS Certification	NWFSS Inspectors
March 22	Kahla Montrose	NWFSS Certification	NWFSS Inspectors
March 24	Cole Morrison	Teton County Weed Seminar	County Staff
March 25	Kahla Montrose	GH/MC Control	Public
March 28	Paul Castroville	American Legion, Beneficial Bugs & Insects	Gardeners of Idaho
March 29-30	K. Holzer/J. Roman	WIT Rose Lake	WIT Staff

## April

April 4	Bethany Muffley	WIT Duck Valley	WIT Staff
April 4	Cole Morrison	Henrys Fork Watershed Update	Watershed Stakeholders
April 7-8	Cole Morrison	Idaho Bowfishing Tournament	Public
April 12	Kahla Montrose	GH/MC Program	ISDA Staff
April 12-13	K. Holzer/J. Roman	WIT Clark Fork	WIT Staff
April 16	Cole Morrison	Protneuf Valley Environmental Fair	Public
April 21	Bethany Muffley	General Invasive Species/Noxious Weeds	Master Naturalists
April 21	Kim Holzer	University of Idaho (Fish/WLF 102)	Students
April 22	Paul Castroville	Deer Flat, Sharing the World with Bugs	Master Naturalists
April 27	K. Holzer/J. Roman	Hayden Lake Watershed District	Hayden Lake Stakeholders
April 28	B. Muffley/S. Kennedy	Informational Booth/ Watercraft Inspection Demo	Public
April 27-28	K. Holzer/J. Roman	WIT Albeni and Samuels	WIT Staff
April 28	Paul Castroville	Ponderosa State Park, Sharing the World with Bugs	Master Naturalists

## May

May 3-4	K. Holzer/J. Roman	WIT Huetter and Hwy 53	WIT Staff
May 5	B. Muffley/S. Kennedy	WIT Marine Deputy	Marine Deputy Staff
May 12	Bethany Muffley	Noxious Weed ID and Effective Monitoring	Valley County Staff
May 12	Kahla Montrose	GH/MC Program	Valley County Staff
May 12	Kim Holzer	Ramsey Water Days	Public

# 2022 Plant Industries Public Outreach and Educational Presentations

## May

May 19-20	Jenny Roman	Pend Oreille Water Festival	Public
May 25	K. Holzer/J. Roman	Youth Water Summit	Public
May 31	Kahla Montrose	Forklift Training	ISDA Staff

## June

June 1	Paul Castrovillo	Idaho City, Insects in the Ecosystem/Effects of Invasive Pests	Students
June 6-7	Cole Morrison	WIT Dubois	WIT Staff
June 14	Kim Holzer	Talk-Oh	NGO
June 15	Bethany Muffley	Integrated Weed Mgmt/Effective Monitoring	Adams County Staff
June 15	Kahla Montrose	GH/MC Control	Public
June 15	K. Holzer/J. Roman	Live After 5	Public
June 24-26	Cole Morrison	Burley Regatta	Public
June 28	Paul Castrovillo	Potential Invasive Urban/Forest Pests on Idaho Radar	Master Naturalists

## July

July 6	Cole Morrison	Idaho Master Naturalist	Master Naturalist
July 7	Paul Castrovillo	Potential Invasive Urban/Forest Pests on Idaho Radar	Public
July 16	Kim Holzer	Inland Empire Chapter ACBS	Public

## August

August 12	Kim Holzer	Inland Empire Chapter ACBS	Public
August 13	Kim Holzer	Inland Empire Chapter ACBS	Public
August 20	Paul Castrovillo	Botanical Garden, Ask an Entomologist	Public

## September

September 2	Cole Morrison	East Idaho Fair Noxious Weed Booth	Public
September 6	B. Muffley/S. Kennedy	General Invasive Species/Noxious Weeds	Coast Guard Auxiliary
September 12	Bethany Muffley	General Invasive Species/Noxious Weeds	Watershed Staff Part 1
September 12	Sam Kennedy	General Invasive Species/Noxious Weeds	Watershed Staff Part 2
September 22	B. Muffley/S. Kennedy	Informational setup/activities with 5th graders	Students
September 23	Kim Holzer	Southside Harvest Festival	Public
September 23	J. Varley/J. Roman	Hayden Lake Watershed District	Hayden Lake Stakeholders

## October

October 19	K. Holzer/J. Roman	The Confluence Project - Post Falls HS	Students
October 20	Bethany Muffley	Update on EWM/Hydrilla Activities in Central Idaho	Water Resource Commission
October 20	Kim Holzer	North Fork CDA WAG	Agency
October 26	Paul Castrovillo	Ada County, Invasive Insect Pests on the Horizon	Master Gardeners

## November

November 4	Paul Castrovillo	Dennis Technical Education Center, Insects are Cool	Students
November 8	Kim Holzer	University of Idaho-Community Resource Center	Students
November 17	Kim Holzer	The Confluence Project - New AIS curriculum	Students

## December

December 6	Paul Castrovillo	Galaxy Event Center, Invasive Insect Species Pest Update	County Weed Superintendants
December 7	Kim Holzer	Coeur d'Alene Natural Resources Committee	City
December 8	Paul Castrovillo	Canyon County, Invasive Insect Species Pest Update	County Weed Superintendants
December 14	Paul Castrovillo	Invasive Species Council	Idaho Invasive Species Council

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