

# Idaho's Pesticide and Water Quality Program: **Lemhi River Surface Water Quality Monitoring**

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# Topics

## **Water Program at ISDA**

- Background
- Projects
- Summary

## **Two Thoughts:**

- Dry
- Cold



# Reference Points



## Aquatic Life Benchmarks

- EPA: Aquatic Life Benchmarks and Ecological Risk Assessments for Registered Pesticides
- Vascular/Nonvascular Plants
- Fish
- Macroinvertebrates/Bugs



# ISDA Pesticide Monitoring Goals

Identify problems/potential problems from:

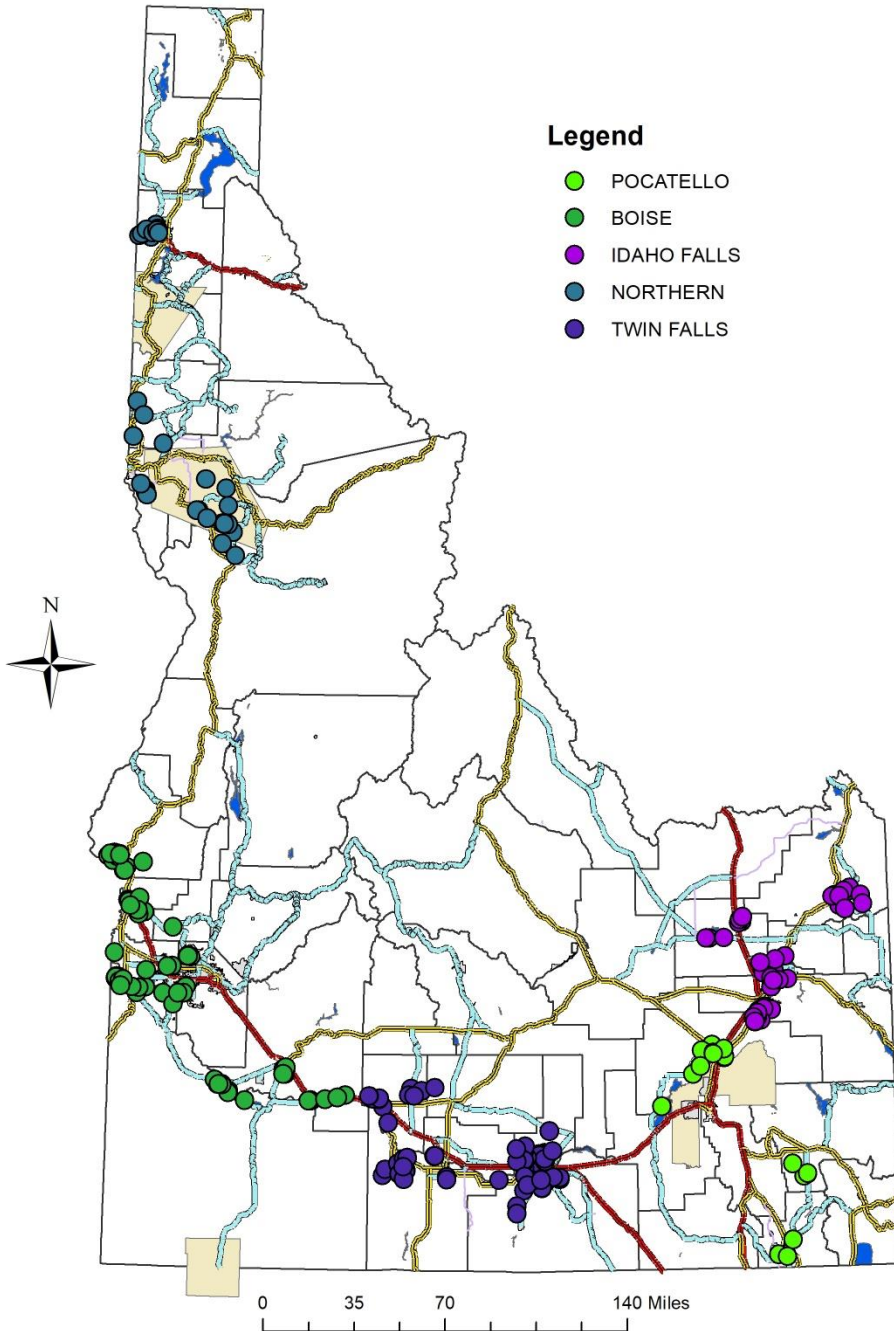
- Wide-spread
- Appropriate use

Problems that can lead to limits of that water usage

- Drinking water (primary concern)
- Aquatic Life



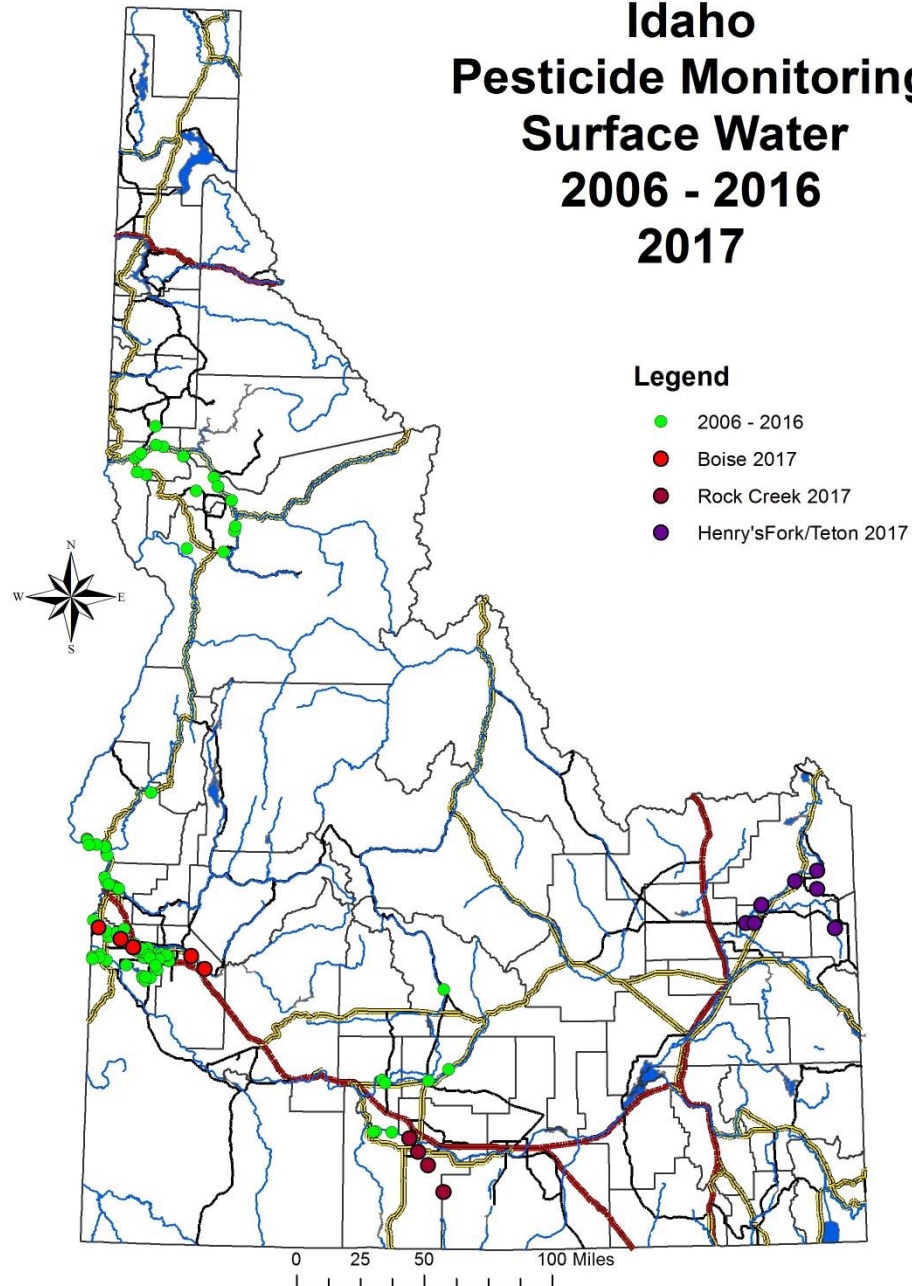
# 2018 Ground Water Well Locations





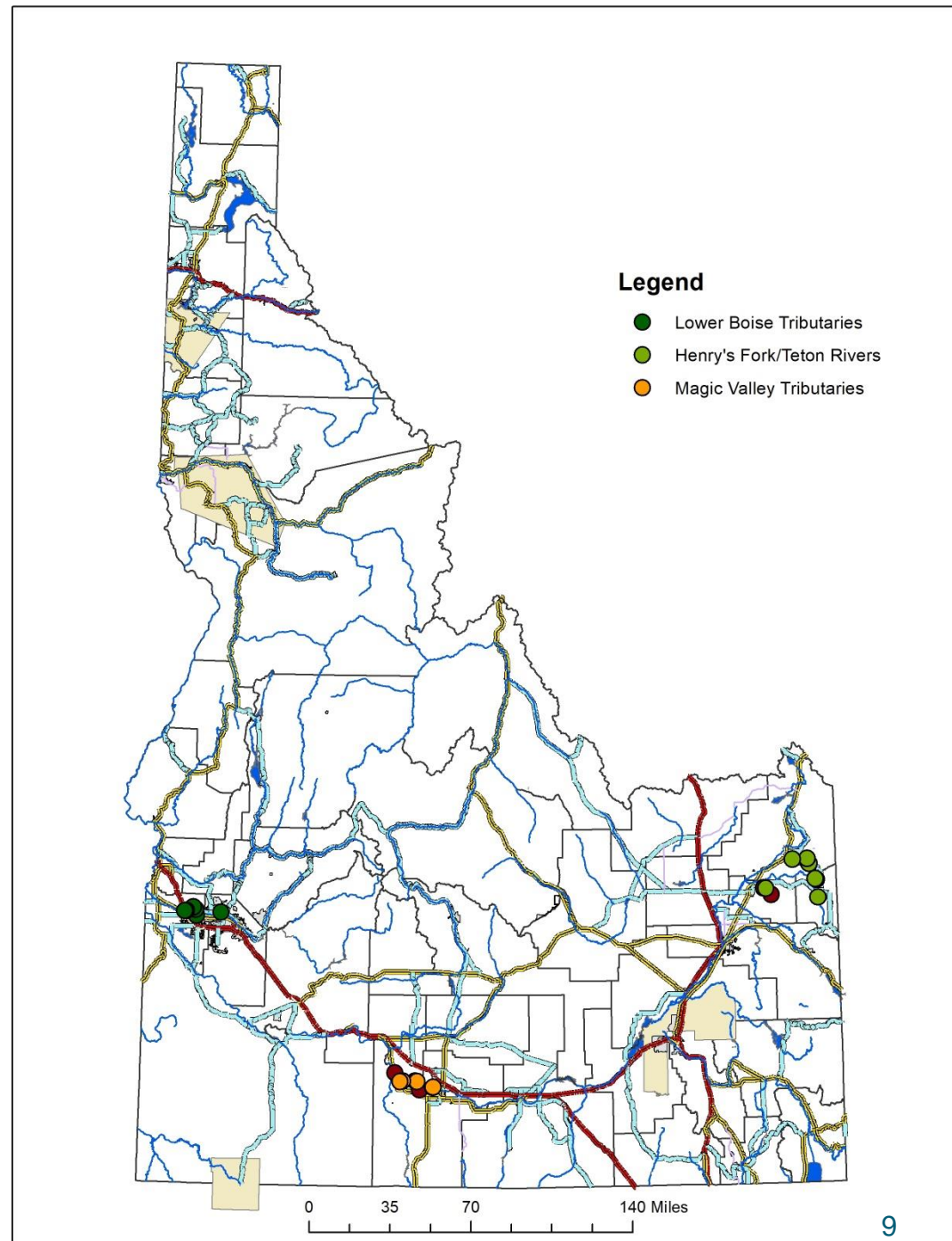
# Surface Water Monitoring

# Idaho Pesticide Monitoring Surface Water 2006 - 2016 2017

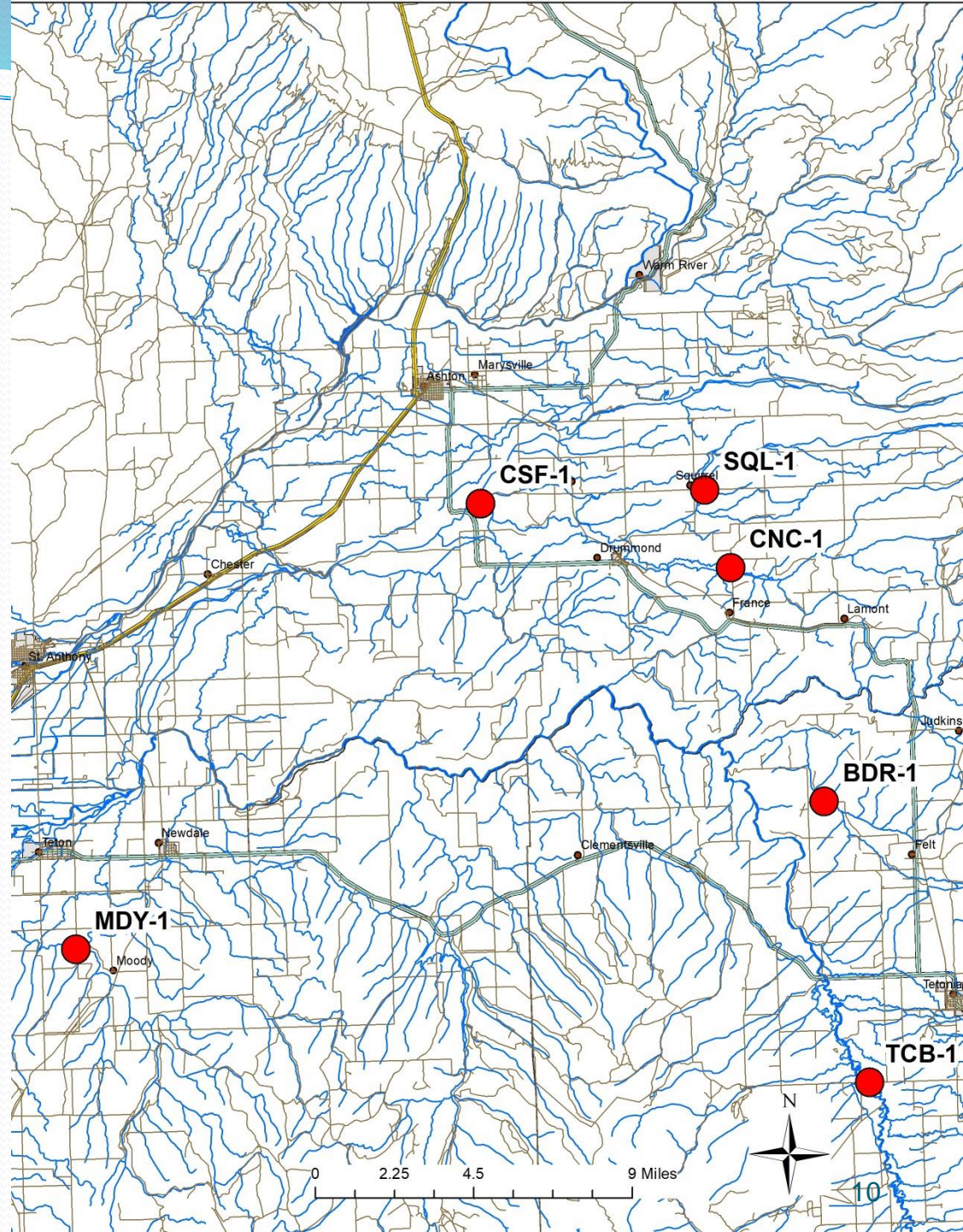




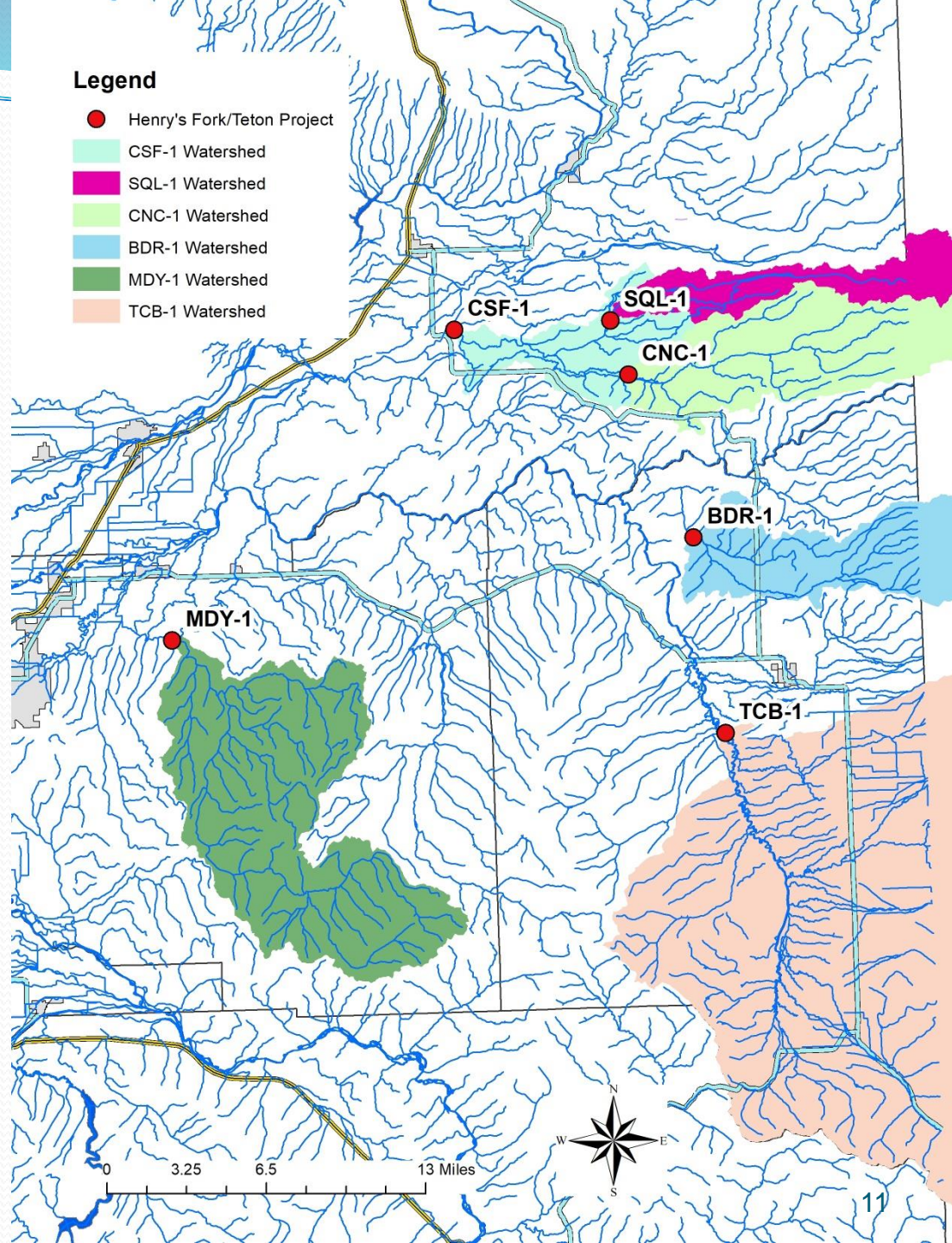
# 2018 Surface Water Monitoring Locations



# Henry's Fork/ Teton Rivers



# Henry's Fork/ Teton Rivers



# Henry's Fork/Teton Rivers

## Results 2018

- 11 Sample Dates
- 71 Samples

Location	Dates with ND	Pesticide	# Detections	Max (ug/L)	Min (ug/L)
Badger Crk near Felt	5				
Conant at E 1000 N	10	TRIFLURALIN	1	0.068	0.068
Conant at N 4400 E	11				
Moody at N 6000 E	8	2, 4-D	1	0.11	0.11
		AZOXYSTROBIN	1	0.065	0.065
		BOSCALID	1	0.12	0.12
		BROMOXYNIL	1	0.19	0.19
		IMIDACLOPRID	1	0.23	0.23
		MCPA	1	0.37	0.37
		METOLACHLOR	1	0.37	0.37
		METRIBUZIN	1	0.43	0.43
		PENDIMETHALIN	3	0.096	0.033
		PENTACHLOROPHENOL	1	0.14	0.14
Squirrel at E 1000 N	11				
Teton @ Cache Bridge/Packsaddle Rd	9	2, 4-D	1	0.19	0.19
		TRIALATE	1	0.79	0.79

- One Detections above the Aquatic Life Benchmark

# Direction: 2019

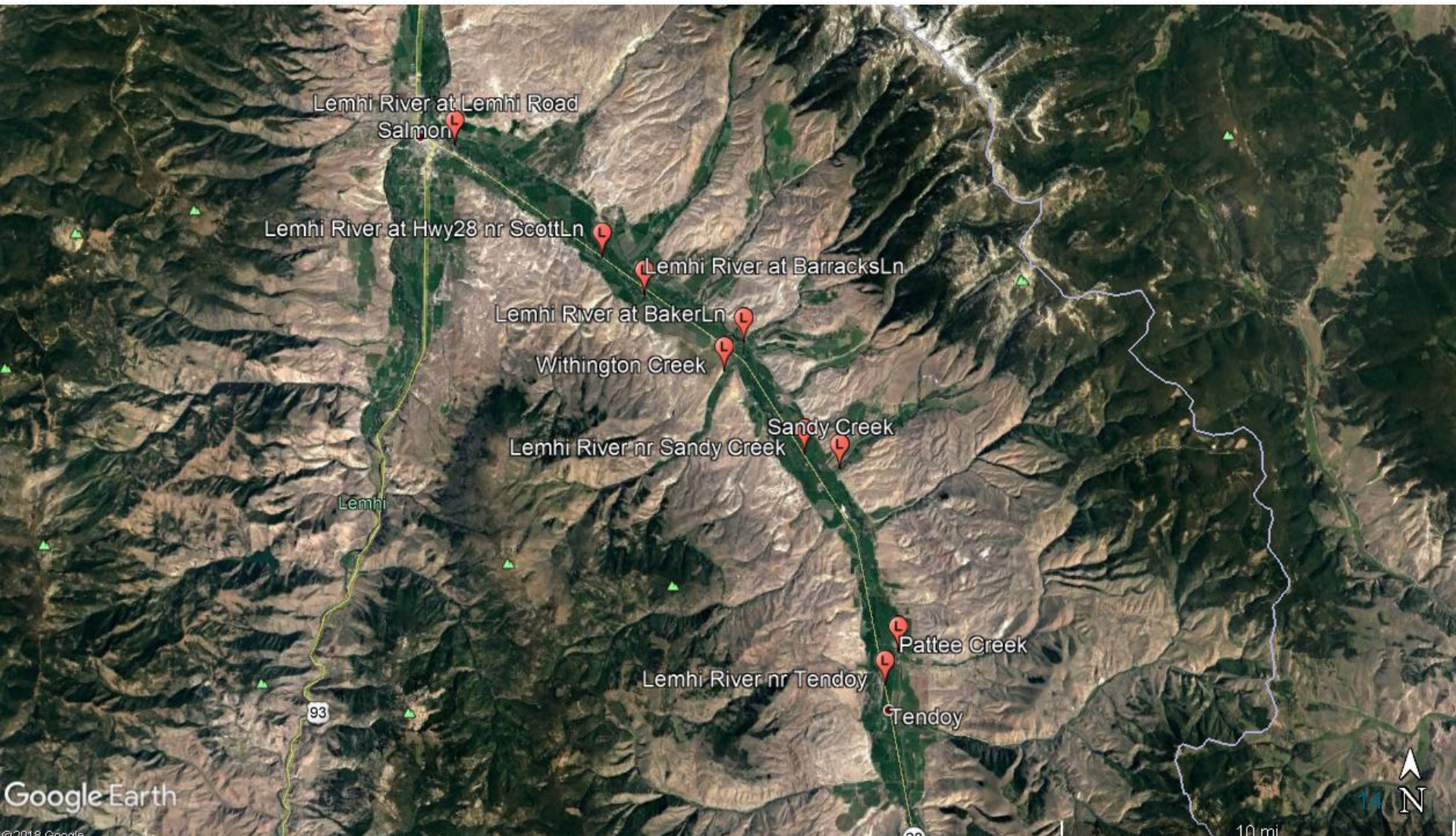
- Lemhi River (and ESA)
- Raft River/Lake Walcott Subbasin Tributaries
- Wood Rivers

## **Direction: 2020**

- Revisit Clearwater monitoring



# Optional Monitoring Locations Lower Lemhi River



# Optional Monitoring Locations Upper Lemhi River



# Proposed work

- 10 weeks with monitoring
- Every other week monitoring
- 6 sample sites
- Approximately 70 samples (incl. QA/QC)
- Roughly \$38,000





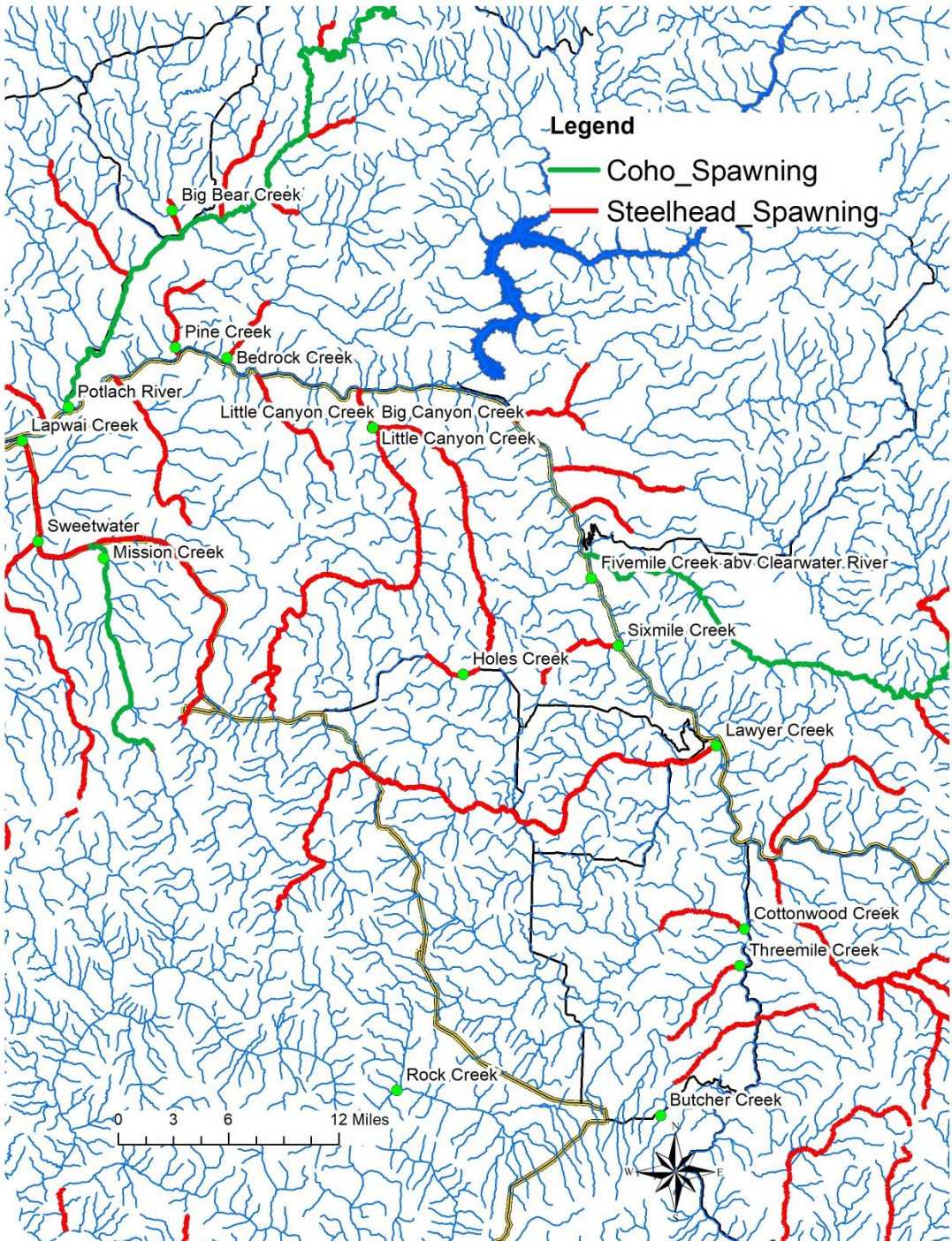
# Overall Concerns

- Neonics (Imidacloprid/*Merit*)
- Chlorpyrifos, Diazinon, and Malathion –
  - Renewal, BiOps and EPA
- Agriculture
  - Wide-spread use
  - Drift
  - Typically not a single applicator problem
- **Additive effects**
- **Species of Concern - ESA**

# Example: Additive Effects



- Drain Canal from multiple fields
  - 17 different pesticides identified
  - Over 10 at one time



Any Questions?



# Thank You!

- [WaterQuality@isda.idaho.gov](mailto:WaterQuality@isda.idaho.gov)
- (208) 332-8597



Idaho Food Quality Assurance Laboratory  
Water Analyte List and MDL  
2018

# IFQAL 2018 Analyte list

### LC/TQD Negative

Analyte	MDL (µg/L)
clopyralid	0.10
picloram	0.15
dicamba	0.10
bentazon	0.050
dacthal monoacid	0.10
bromoxynil	0.050
2,4-D	0.10
2,4-DCBA	0.050
MCPA	0.050
triclopyr	0.10
MCPP	0.050
dichlorprop	0.050
2,4-DB	0.15
3,5-Dichlorobenzoic Acid	0.050
dinoseb	0.050
pentachlorophenol	0.050

### LC/TQD Positive

Analyte	MDL (µg/L)
2,6-DEA	0.10
3-OH carbofuran	0.025
aldicarb	0.050
aldicarb sulfone	0.050
allethrin	0.050
azinphos methyl	0.025
azoxystrobin	0.025
bensulide	0.050
benthiocarb	0.025
bromacil	0.050
carbaryl	0.025
carbofuran	0.025
coumaphos	0.050
cycloate	0.075
deisopropyl atrazine	0.050
desethyl atrazine	0.025
diflubenuron	0.025
dimethoate	0.025
diuron	0.025
fluometuron	0.025
imidacloprid	0.025
iprodione	0.050
linuron	0.050
metalaxyl	0.050
methiocarb	0.050
methomyl	0.050
methyl paraoxon	0.050
MGK-264	0.050
monuron	0.025
naled	0.15
norflurazon	0.025
oryzalin	0.050
oxamyl	0.050
propargite	0.050
propazine	0.025
propiconazole	0.025
propoxur	0.050
pyraclostrobin	0.025
simazine	0.025
tebuthiuron	0.025
terbacil	0.050
thiamethoxam	0.050
tralkoxydim	0.025
triadimefon	0.025

### GC/TQD

Analyte	MDL (µg/L)
alachlor	0.050
ametryne	0.050
atrazine	0.025
benfluralin	0.10
bifenthrin	0.015
boscalid (nicobifen)	0.050
chloroprotham	0.075
chlorpyrifos	0.025
cyfluthrin	0.050
cypermethrin	0.050
DCPA	0.025
deltamethrin	0.040
diallate	0.050
diazinon	0.025
dichlobenil	0.10
dichlorvos	0.050
diclofop methyl	0.050
EPTC	0.050
esfenvalerate	0.040
ethalfluralin	0.10
ethoprop (ethoprophos)	0.025
etridiazole (Terrazole)	0.10
fenarimol	0.025
fenpropathrin	0.025
hexazinone	0.025
lambda cyhalothrin	0.025
malathion	0.050
methidathion	0.050
metolachlor	0.050
metribuzin	0.050
MGK-264	0.050
napropamide	0.025
oxyfluorfen	0.050
parathion-methyl	0.075
pendimethalin	0.025
permethrin	0.10
phorate	0.10
phosmet	0.050
piperonyl butoxide	0.060
prometon	0.025
propyzamide	0.050
resmethrin	0.030
stirofos (tetrachlorvinphos)	0.025
sumithrin (phenothrin)	0.050
terbufos	0.050
triallate	0.050
trifluralin	0.050