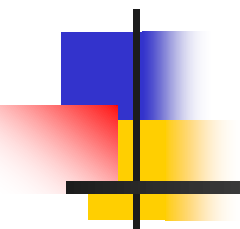




2014 Water Quality Workshop: Monitoring, Assessment, and Management

Adaptive Management for Stream Cleanup: Fifteen Mile Creek



David R. Tuthill, Jr., Ph.D., P.E.

February 4, 2014

Integrated Watershed Solutions, Inc.

"Improving Water Quality Using Watershed Solutions"



Topics

- Brief background on IWS – who are we?
- Swimmable Boise River by 2018 Campaign
- The problem with Fifteen Mile Creek
- Cleaning up Fifteen Mile Creek
- Next Steps

Integrated Watershed Solutions Inc.

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Integrated Watershed Solutions Inc.

Integrated Watershed Solutions, Inc. is a non-profit corporation that develops engineered and biological solutions at the scale of landscapes to solve the problems of water use efficiency, precision agriculture, water pollution and loss of wetlands.

Our Watershed Approach



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Recent News

- [Presentation to the 2013 Idaho DEQ Water Quality Workshop](#)
- [Presentation to the Idaho Water Users Association Annual Seminar](#)

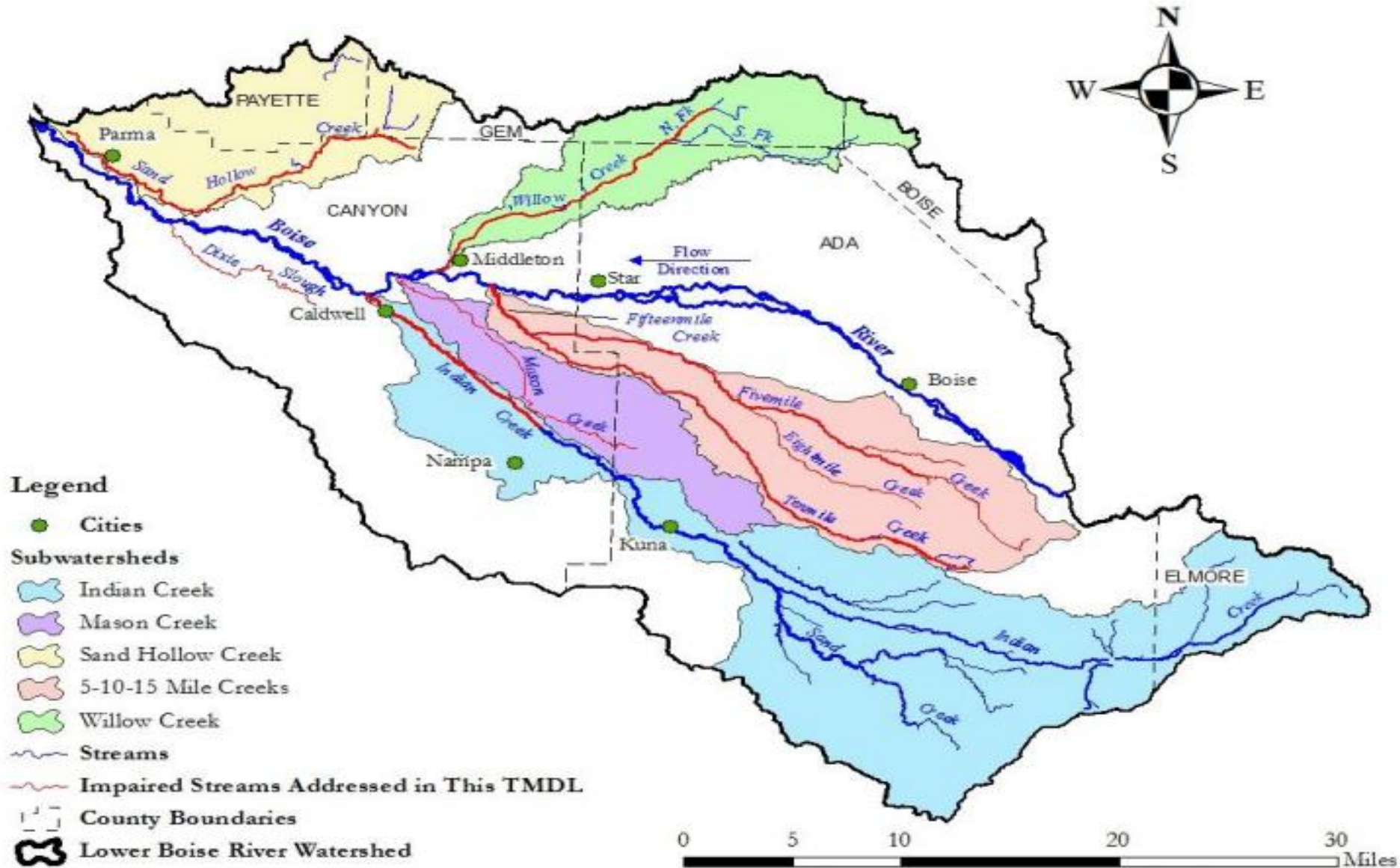
Integratedwatersheds.org

Integrated Watershed Solutions, Inc.

"Improving Water Quality Using Watershed Solutions"

- Incorporated as a 501c(3) non profit
- 5 Board members (Senior members of the Idaho water and agricultural community)
- 9 person Technical Advisory Team
- Funded project: North Alkali Drain
 - Phase 1 nearing completion
 - On Lower Boise Watershed Council tour agenda for 2014

Swimmable Boise River by 2018 Campaign



The most recent year-round discharge data for Fifteenmile Creek were collected by USGS in 1996.

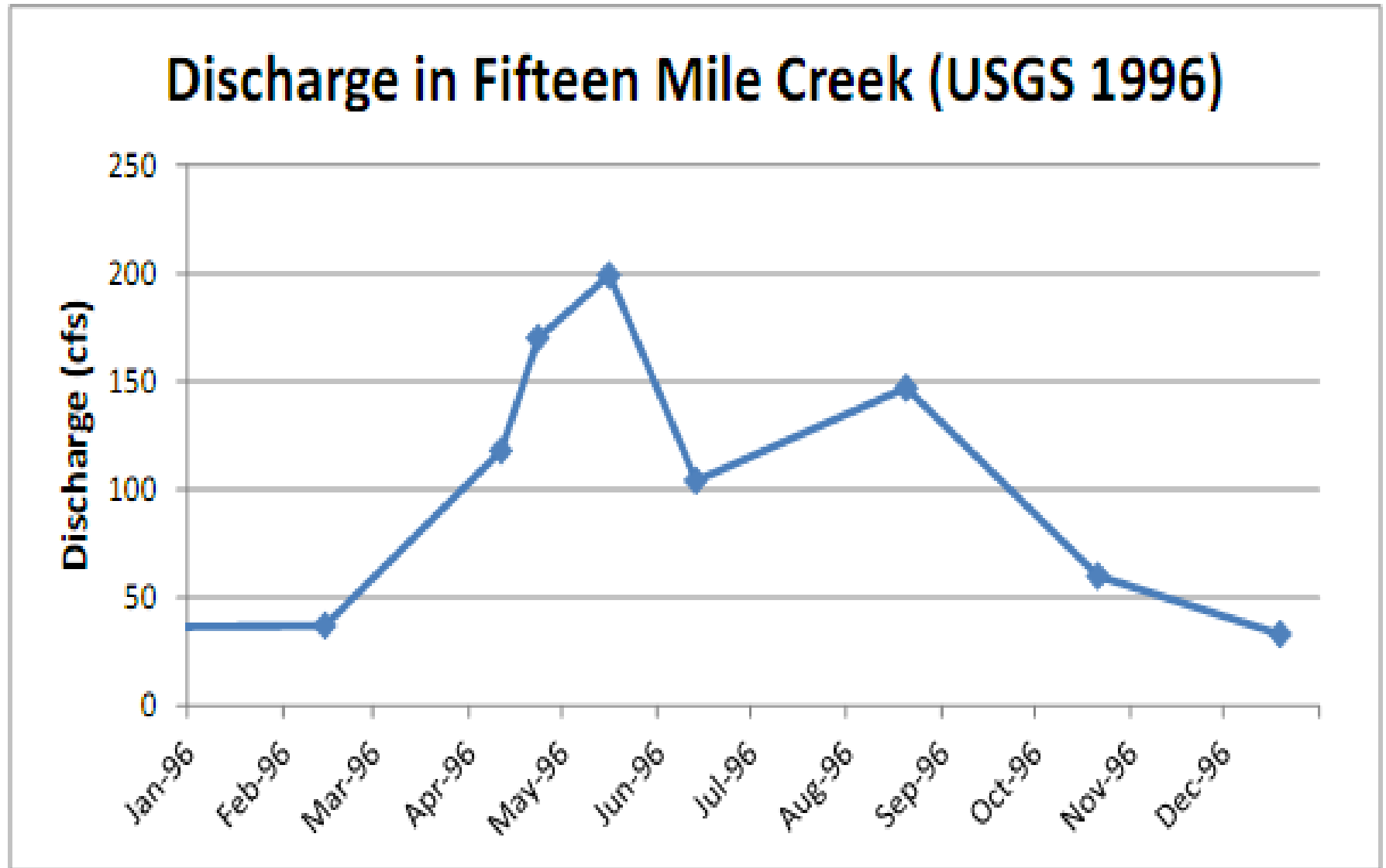


Figure 8 Discharge in Fifteen Mile Creek (1996 USGS)





Table 4. Estimated Existing Nonpoint Source Agricultural Loads

Source Name	Estimated Baseline Acres	Estimated Load (kg/day)
Fifteenmile Creek	12,391	61
Mill Slough	10,609	52
Willow Creek	4,873	24
Mason Creek	23,493	115
Hartley Gulch (Both)	10,546	52
Indian Creek	21,317	104
Conway Gulch	5,842	29
Dixie Drain	28,263	138
Boise Riparian #1	12,077	59
Boise Riparian #2	27,731	136
Boise Riparian #3	4,920	24
TOTAL EST. LOAD		792

Table 5. Example nonpoint source load allocations for tributaries in the Lower Boise River subbasin.

Stream	Assessment Unit	Present NPS Flow (cfs)	Load Allocation at this Flow	
			Sediment kg/day	E. coli 10 ⁹ CFU/day
Five Mile	010_03	70.9	3,042	218
Nine Mile	010_02	10.0	n/a ¹	31
Ten Mile	008_03	71.0	3,046	219
Fifteen Mile	007_04	135.2	5,800	416
Sand Hollow	016_03	0.9	39	n/a ¹
Sand Hollow	017_03	28.7	1,231	88
Sand Hollow	017_06	146.4	6,281	451
Willow	015_03	42.8	1,836	n/a ¹
Dixie	001_02	200	n/a ¹	616
Indian	002_04	126.0 ²	5,405	388
Indian	003d_02	1.1	n/a ¹	3
Mason	006_02	171.2	7,344	527

¹ These combinations of assessment units and pollutants are not listed as impaired on the 2012 303(d) list.

² This flow was measured at Caldwell, where it has significantly increased from the flow listed in table x3x



Image © 2013 DigitalGlobe

GOO



1992

Imagery Date: 10/27/2002 43°41'17.99" N 116°35'51.91" W elev 2410 ft



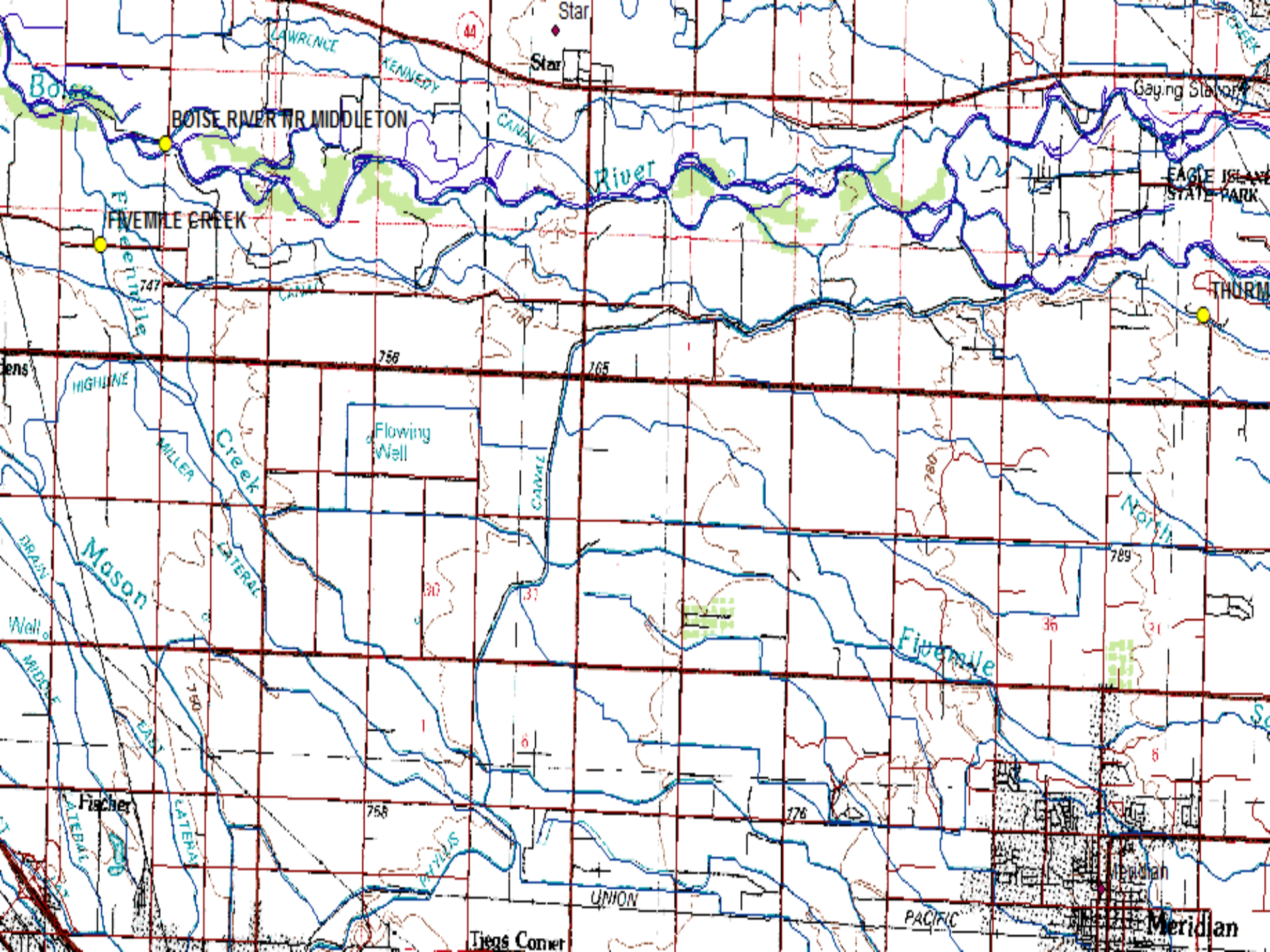
1992

Imagery Date: 7/11/2010 43°41'13.40" N 116°35'36.74" W elev 2411 ft



Solution

1. Automate diversions from the Boise River
2. Divert from drains preferentially to the Boise River
3. Polish with sediment ponds and wetlands



BOISE RIVER TR MIDDLETON

FIVEMILE CREEK

Star

Gauging Station

EAGLE ISLAND STATE PARK

THURM

Flowing Well

Mason

Five Mile

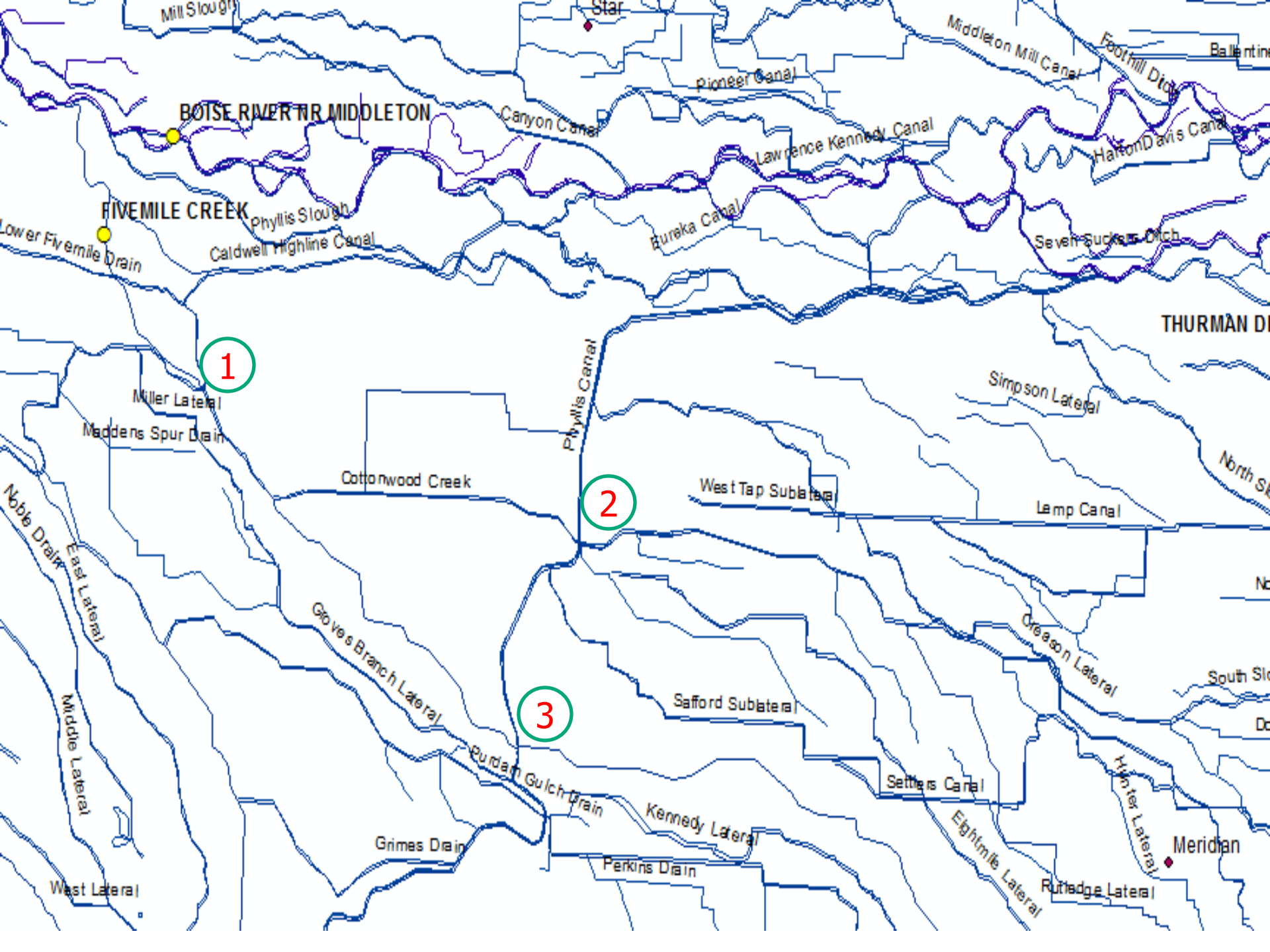
Fischer

UNION

PACIFIC

Meridian

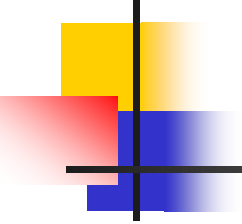
Tioga Corner



1

2

3



Potential Signatories to Fifteen Mile Creek Water Quality Improvement Project Strategic Agreement

	Relationship with IWS	Initial Discussions	Concept Presentation	Decision to Sign		Anticipated Participation	
				Agreement	Collaboration	In-Kind	Cash
City of Meridian	X	X	X		X	X	X
United Water Idaho Pioneer Irrigation District	X	X			X	X	X
Idaho Rivers United Idaho Conservation League	X	X			X	X	
Life Outdoors	X				X	X	
Idaho DEQ	X				X		
U.S. EPA	X				X		



IWS Requested the City of Meridian to consider taking the following steps:

1. Finalize and sign a Professional Services Agreement , and initiate actions specified in the Agreement
2. Join initial discussions to finalize the Strategic Agreement
3. Be prepared to review a potential agreement with a landowner when a sediment pond/wetland assessment proposal is developed



Response from City of Meridian (Tom Barry, Public Works Director)

- Fifteen Mile Creek Cleanup looks like a good project
- City of Meridian would like to be involved, but...
- EPA Permit Writer indicated there would be no credit for offsite solutions (reuse, etc.)
- Unless EPA provides hope for some type of credit, City of Meridian will not invest



Request to EPA Region 10 on December 16, 2013

- Be open to offsite solutions on a case by case basis – at the Permit Writer level
 - If environmental community is supportive
 - If water quality improvements are measured
 - If quality credits are certified
 - As a pilot program



Next Steps

- Look for re-opener language in EPA Preliminary NPDES Permit for the City of Meridian -- soon
- Continue to work with downstream parties that have potential for sediment ponds and wetland cleanup -- ongoing
- Assemble interested parties to draft a Strategic Agreement – this spring
- Measure flows and quality -- this year
- Construct solutions -- 2015
- Repeat on all tributary streams to the Boise R. -- ASAP
- Swim the Boise with Christopher Swain and Troy Smith in 2018