



**Montana Fish,
Wildlife & Parks**

**2015 Report on
Aquatic Invasive Species Monitoring**

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Montana Fish, Wildlife & Parks

The Montana Fish, Wildlife & Parks (FWP) Aquatic Invasive Species (AIS) Program works to implement the AIS Management Plan through coordination and collaboration, prevention of new AIS introductions, early detection and monitoring, control and eradication, and outreach and education. The goal of the AIS Management Plan is to minimize the harmful impacts of AIS through the prevention and management of AIS into, within and from Montana. The report for the Early Detection and Monitoring program for 2015 follows.

Early Detection and Monitoring – Background

Montana's Aquatic Invasive Species (AIS) early detection and monitoring program has been in place since 2004. Early detection allows Montana Fish, Wildlife & Parks (FWP) biologists to locate small or source AIS populations, while monitoring allows FWP to study current population trends. FWP monitors for all aquatic invasive species, including zebra/quagga mussels (ZM/QM), New Zealand mudsnails (NZMS), Eurasian watermilfoil (EWM), flower rush (FR), and curlyleaf pondweed (CLPW). Plankton sampling for ZM, QM, and Asian clam veligers (microscopic larvae) has increased each year, in part due to an increase in volunteer sampling efforts. To aid in AIS monitoring, FWP employees – including fish health staff and regional biologists and technicians – have been trained in AIS species identification. FWP staff are often sampling high risk waters for other purposes, and additional AIS sampling increases overall efforts with less travel cost for AIS staff in Helena. Overall monitoring and early detection efforts have increased steadily over the years.

Methods

FWP assesses the risk for AIS introductions to waterbodies annually. Variables used in determining risk are constantly evolving. Sites are prioritized based upon the previous years' work conducted by FWP, available calcium and water quality data as well as that collected by FWP, angler/boater pressure, boater movement data from watercraft inspection stations, monitoring conducted by other state and federal agencies, surface-water hydrology of the system, and other assorted variables.

Montana utilizes a variety of techniques in monitoring for AIS species. Plankton sampling involves the collection of microscopic organisms in the water column using specialized, fine mesh nets and analyzing those samples at the FWP Aquatic Invasive Species Laboratory in Helena. Cross-polarized light microscopy is the method utilized by the laboratory to detect the larvae (veligers) of invasive bivalves such as Dreissenid mussels and Asian clams. Polymerase Chain Reaction (PCR) testing or the amplification of environmental deoxyribonucleic acid (eDNA) is used as a confirmation of microscopy findings for verification, if necessary, by the Montana FWP AIS Laboratory. Invertebrate sampling involves the use of kick nets and rock picking to search for invasive species while identifying native species and noting population densities. Fish pathogens, such as whirling disease, are

considered AIS and therefore FWP conducts pathogen testing in fish in conjunction with other AIS monitoring in coordination with the FWP Fish Health Laboratory in Great Falls. All of Montana's monitoring protocols have been scientifically reviewed, are updated annually, and are coordinated with neighboring states.

The movement of fish could also be a substantial vector for transferring AIS. FWP moves large numbers of fish through both its hatchery and wild fish transfer programs. Hatcheries cannot receive certification to sell or move fish without passing an AIS inspection. To accomplish this, the FWP Fish Health Laboratory and the Aquatic Invasive Species Laboratory work very closely together to inspect all federal, state and commercial hatcheries annually as well as source waterbodies for any transfer of wild fish stock. These AIS inspections include both on-site AIS surveys and disease/pathogen testing in fish.

It is the policy of the FWP AIS program to monitor for all aquatic invasive species taxa whenever possible. While multiple other agencies and organizations assist in monitoring throughout the state (usually with plankton sampling), FWP routinely monitors for all taxa while conducting standard monitoring.

FWP has always sampled for macrophytes, but focused on point-intercept sampling at high risk sites unless assisting partners with in-depth plant mapping. In 2013, FWP integrated MDA's plant specialist into its AIS program and began performing comprehensive aquatic plant sampling in select water bodies throughout the state to locate or confirm aquatic invasive plant populations. Sampling occurs from early summer until plants begin to die off with colder water temperatures. Typically, sampling occurs from June to October though sampling dates can fluctuate with temperatures and spring runoff. While sampling, FWP notes presence of all aquatic plants and identifies them to species when feasible. Sampling protocols include littoral point sampling, point-intercept sampling, and sampling entire stretches of rivers focusing on dispositional areas where plants would settle and establish. The monitoring crew responsible for plant mapping is also trained in identifying other AIS species and collects plankton samples and conducts invertebrate surveys.

2015 Results

In 2015, a total of 162 waterbodies, 615 unique sites and 827 total sites were inspected in Montana. **New populations of AIS were found in 2015 by FWP at the following locations: curlyleaf pondweed at Newlan Creek Reservoir and Fourchette Bay in Fort Peck Reservoir; New Zealand mudsnails were found on the Jefferson River at the Silver Star Fishing Access Site.** Table 2 on page 11 provides a complete listing of 2015 monitoring locations which includes AIS species observed as well as sites where no AIS were detected. Note that this table only shows the results for 2015 monitoring conducted by FWP, not previous years' results or results from surveys conducted by other agencies or organizations. Findings in 2015 include the following:

- No adult populations of ZM/QM or Asian clams were detected this year or in previous years on Montana waters.
- No zebra/quagga mussel or Asian clam (*Dreissena spp.* or *Corbicula spp.*, respectively) veligers were detected in the plankton samples processed by the FWP AIS Laboratory in Helena in 2015 or in previous years for Montana waters.
- New Zealand mudsnails continue to persist at Darlington Ditch, Hauser Lake, Bluewater Creek, the Yellowstone River, the Beaverhead River, the Ruby River and on the Missouri River below Holter Dam.
- Eurasian watermilfoil continues to persist at Fort Peck Reservoir, Noxon Rapids Reservoir, Cabinet Gorge Reservoir, Jefferson River, and the upper Missouri River.
- Curlyleaf pondweed remains on the Bitterroot River, Cabinet Gorge Reservoir, Canyon Ferry Reservoir, Clark Canyon Reservoir, Hauser Lake, Holter Lake, Ennis Lake, Hebgen Lake, Madison River, Missouri River, Noxon Rapids Reservoir, Clark Fork River, and Post Creek.

Figure 1 illustrates AIS monitoring sites over the past eleven years, while Figure 2 illustrates sites monitored in 2015. All high risk sites are inspected annually at a minimum, while lower risk sites are surveyed less frequently. The program goal is to comprehensively monitor the state every year, and all types of waterbodies (lakes, reservoirs, ponds, creeks, rivers, etc.) are included. This statewide emphasis is illustrated in Figures 1 and 2.

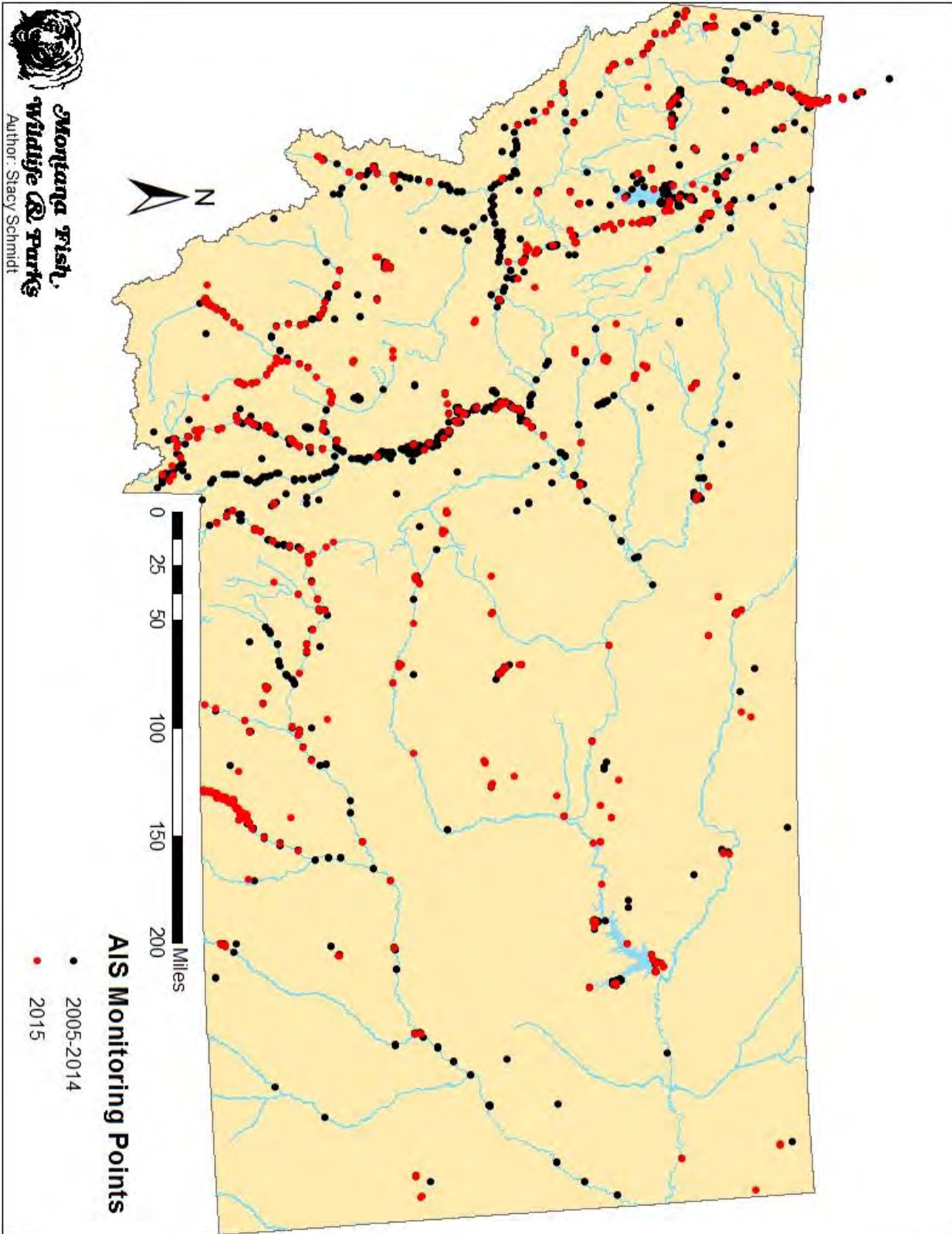


Figure 1: Map of AIS sampling locations, 2005-2015

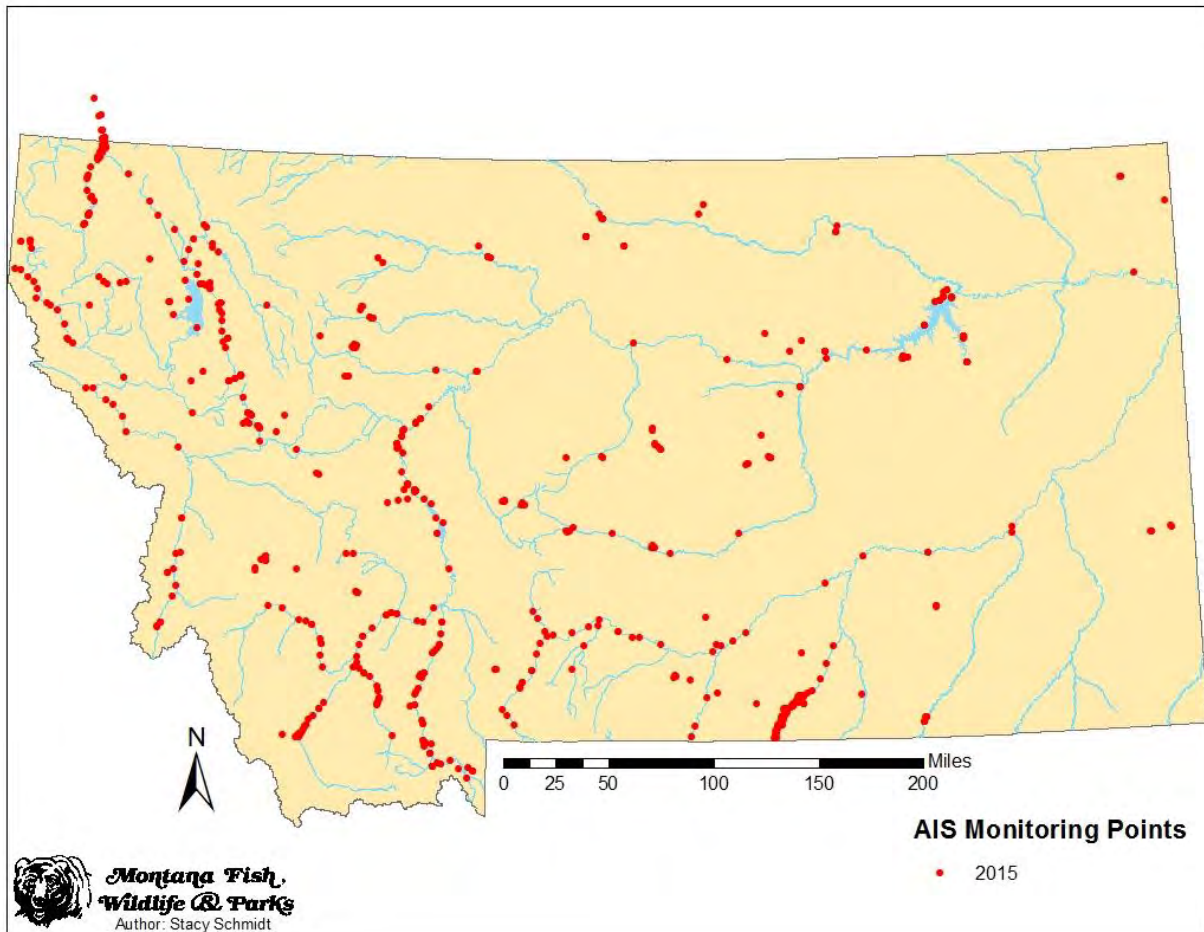


Figure 2: Map of AIS Sampling Locations, 2015

Figure 3 illustrates trends in AIS monitoring over the past eleven years. Numerous variables contributed to the fluctuations in the data. FWP's Aquatic Invasive Species program has been expanding since its inception and is an essential part of a comprehensive AIS management program. This expansion includes the monitoring aspect of the program as evidenced in the table below.

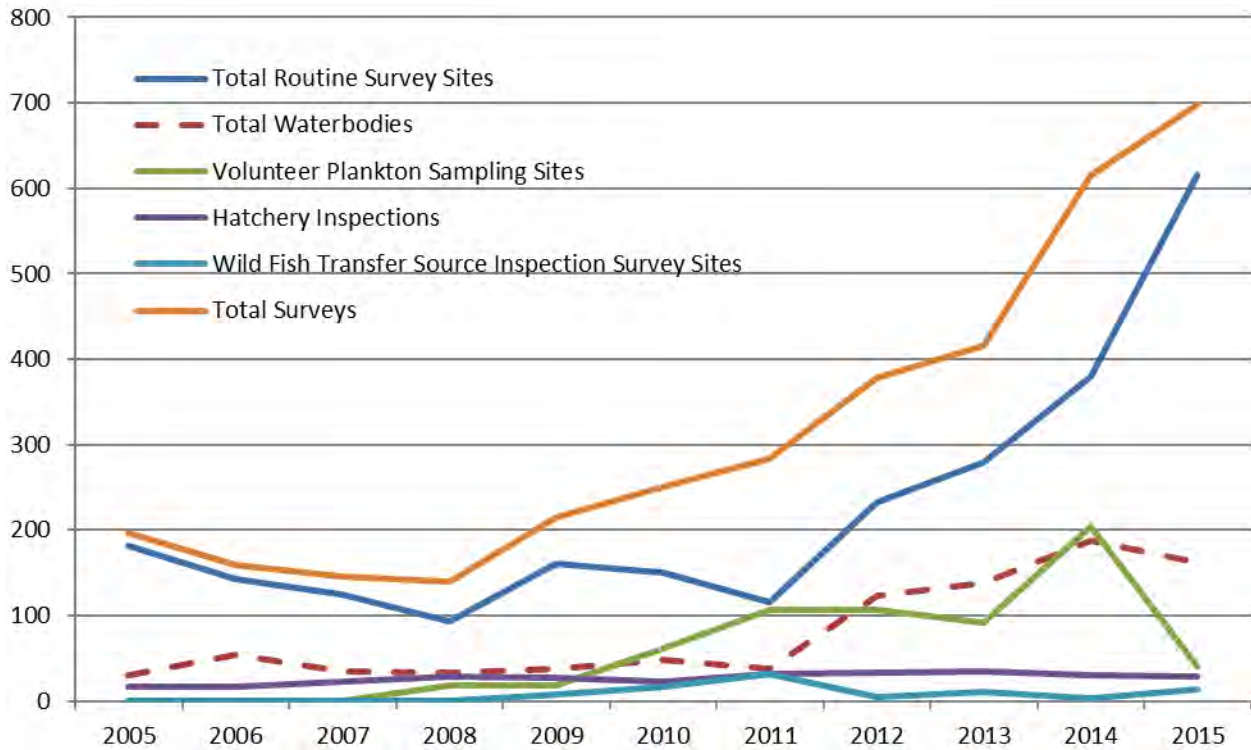


Figure 3: Annual AIS Monitoring (2005-2015)

Aquatic Plant Sampling

FWP selected water bodies that were suspect to contain AIS, high risk, or locations needing confirmation of AIS. In all, FWP crews surveyed 41 waterbodies. Table 1 shows the locations of FWP sampling for aquatic invasive plants. The monitoring crew found new curlyleaf pondweed populations in Newlan Creek Reservoir and in Fourchette Bay of Fort Peck Lake.

Table 1. 2015 Aquatic plant sampling locations

Water Body	County	Sampling Type	Sampling Days	Sampling Points	Findings
Ackley Lake	Judith Basin	Point-Intercept	1	78	No AIS found
Bailey Reservoir	Hill	High Risk Points	.25	4	No AIS found
Beaver Creek Reservoir	Hill	Littoral Survey	.5	57	No AIS found
Boxelder Lake	Sheridan	Littoral Survey	.5	31	No AIS found
Bull Lake	Lincoln	Point-Intercept	2	199	No AIS found
Bynum Reservoir	Teton	Point-Intercept	1	108	No AIS found
Carters Pond	Fergus	Point-Intercept	.5	24	No AIS found
Castle Rock Reservoir	Rosebud	Point-Intercept	1	74	No AIS found
Clark Canyon Reservoir	Beaverhead	Littoral Survey	2	304	No AIS found
Cooney Reservoir	Carbon	Point-Intercept	2	182	No AIS found
Deadman's Basin Reservoir	Wheatland	Point-Intercept	1	114	No AIS found
Delmoe Lake	Jefferson	Point-Intercept	1	67	No AIS found
East Fork Reservoir	Granite	Point-Intercept	1	63	No AIS found
Ennis Lake	Madison	Point-Intercept	2	242	No AIS found

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Water Body	County	Sampling Type	Sampling Days	Sampling Points	Findings
Eureka Reservoir	Teton	Point-Intercept	1	123	No AIS found
Fort Peck Lake (Crooked Creek and Fouchette Bay Area's)	Petroleum/Phillips/Garfield	Littoral Survey	3	178	Eurasian watermilfoil persists Curlyleaf pondweed found in Fouchette Bay at two sampling points
Georgetown Lake	Granite	Point-Intercept	3	287	No AIS found
Hebgen Lake	Gallatin	Point- Intercept	2	168	Curlyleaf pondweed persists in multiple sites
Helena Valley Regulating Reservoir	Lewis & Clark	Point-Intercept	2	113	Curlyleaf pondweed persists
Hyalite Reservoir	Gallatin	Point-Intercept	1	33	No AIS found
Jefferson River (Twin Bridges to Cardwell Bridge FAS)	Madison/Jefferson	Whole Reach Survey	3	424	Curlyleaf pondweed persists at multiple locations
Jefferson River (Cardwell Bridge FAS to Drouillard FAS)	Madison/Jefferson/Gallatin	Whole Reach Survey	3	190	Curlyleaf pondweed persists at multiple locations Eurasian watermilfoil first appears at the Boulder River/Jefferson Slough confluence as reported in previous surveys
Lake Baker	Fallon	Point-Intercept	1	68	No AIS found
Lake Sutherland	Meagher	Point-Intercept	1	46	No AIS found
Martinsdale Reservoir	Meagher/Wheatland	Point-Intercept	2	183	No AIS found
Missouri River (Holter Dam to Craig FAS)	Lewis & Clark	Whole Reach Survey	1	137	Curlyleaf pondweed persists at multiple locations
Missouri River (Craig FAS to Spite Hill FAS)	Lewis & Clark	Whole Reach Survey	1	136	Curlyleaf pondweed persists at multiple locations
Missouri River at Culbertson	Richland/Roosevelt	Point Sampling	.5	11	Eurasian watermilfoil verified at this site
Nevada Reservoir	Powell	Littoral	.5	56	No AIS found
Newlan Creek Reservoir	Meagher	Point-Intercept	1	37	Curlyleaf pondweed found in eastern corner
Nilan Reservoir	Lewis & Clark	Point-Intercept	1	96	No AIS found
Painted Rocks Reservoir	Ravalli	Littoral	1	117	No AIS found
Petrolia Reservoir	Petroleum	Point-Intercept	1	104	No AIS found
Pishkun Reservoir	Teton	Point – Intercept	2	188	No AIS found
Placid Lake	Missoula	Littoral Survey	1	107	No AIS found
Salmon Lake	Missoula	Littoral Survey	1	130	No AIS found
Seeley Lake (and Clearwater River)	Missoula	Littoral Survey	1	176	No AIS found
South Sandstone Reservoir	Fallon	Point-Intercept	1	76	No AIS found
Spar Lake	Lincoln	Point-Intercept	1	35	No AIS found
Spring Meadow Lake	Lewis & Clark	Point-Intercept	1	28	No AIS found
Tiber Reservoir (Lake Elwell)	Liberty/Toole	Littoral Surevy	3	367	No AIS found
Upper Carters Pond	Fergus	Point-Intercept	.5	25	No AIS found
Yellow Water Reservoir	Petroleum	Point-Intercept	2	164	No AIS found

Aquatic Invasive Species Laboratory

The FWP Aquatic Invasive Species laboratory is located in Helena, MT. It currently processes plankton samples for New Mexico and the Missouri River Basin, including Kansas, Nebraska, Missouri, North Dakota, South Dakota, Wyoming, and Montana. It is in Montana's best interest to know what AIS may exist downstream and near its borders, and as such, samples are processed for partner states as an in-kind service. The base funding for this lab is provided

by the U.S. Fish and Wildlife Service. Figures 4 and 5 illustrate the volume of samples handled by the lab each year. The lab has discovered new populations of *Dreissena spp.* veligers as well as *Corbicula sp.* (Asian clam) veligers for multiple downstream states. The lab undergoes routine quality control testing by other states and has participated in a community double-blind round robin study on the reliability of early detection methods (Frischer et al, 2011). **In 2015, no veligers for either genus were found in any Montana water samples (n=688) processed by the FWP Dreissenid lab in Helena.** In out-of-state samples (n=1195), *Corbicula* veligers were found in nine samples from two states and *Dreissenid* veligers were found in six samples from four states.

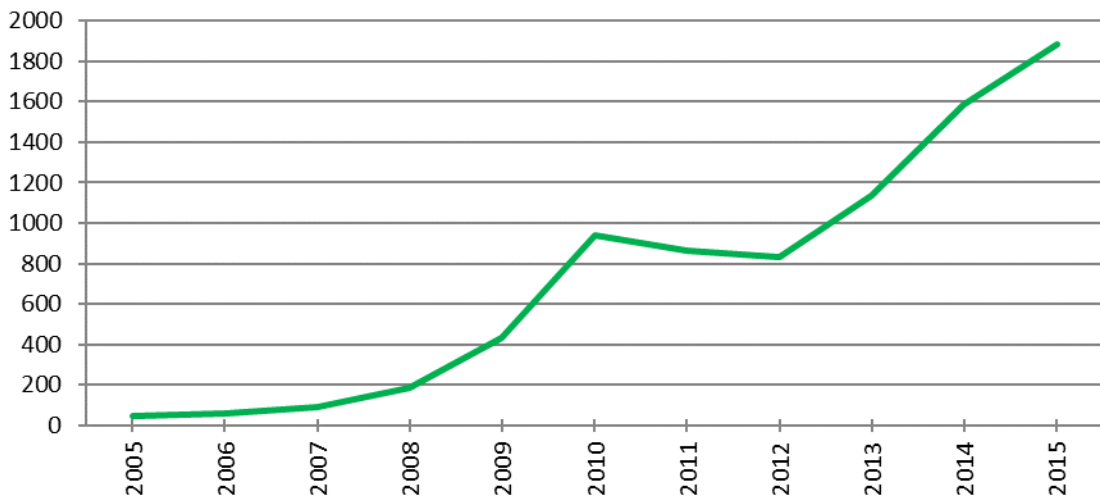


Figure 4: Number of samples processed by lab each year.

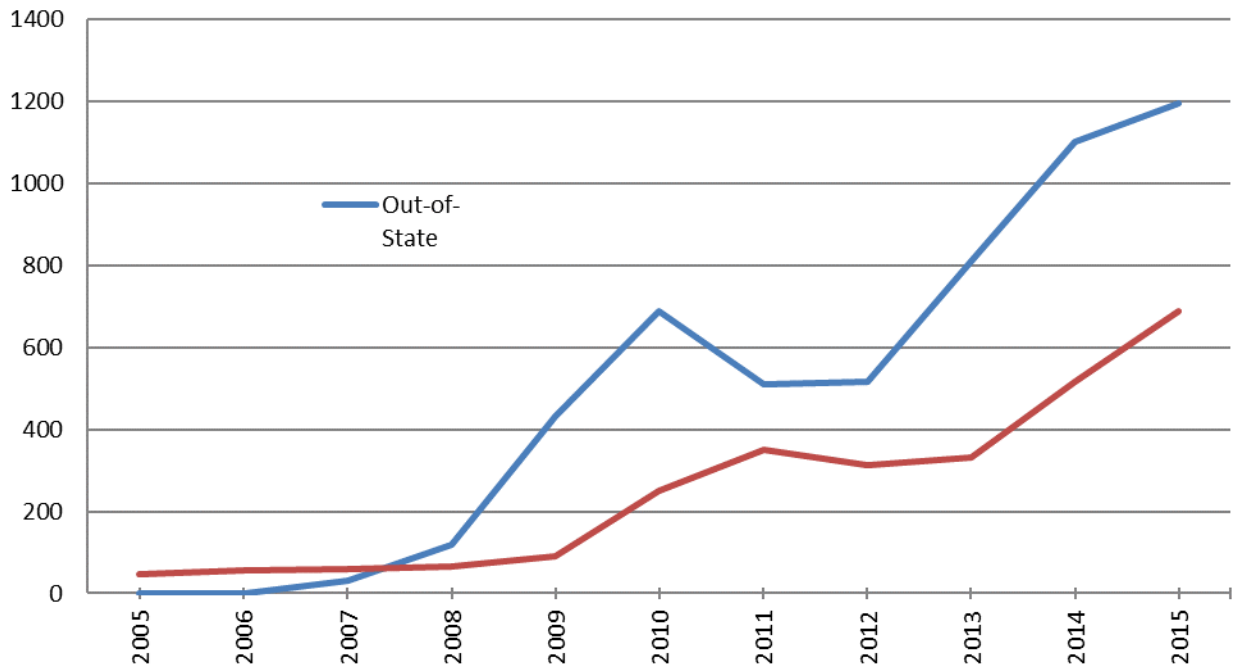


Figure 5: Number of plankton processed by year: in-state vs. out-of-state.

The AIS laboratory is currently well over its current capacity for samples received in order to process those samples in a timely manner. Due to the increasing sample load each year, the timing for which samples are received and the increasing need for samples to be prioritized during the summer months, the AIS laboratory is currently taking measures to accommodate the higher sample load in order to get samples processed more efficiently. This is a proposed solution to the problem of increasing turn-around time for the lab’s current sample load. This will not allow for additional samples. In order for the lab to take on additional samples, other measures will need to be taken. This is an issue that is currently under consideration by the AIS management team.

Future Needs

Statewide monitoring efforts by FWP, private sector and government entities are continually improving and expanding. These efforts are critical to the early detection and monitoring of invasive species, and are an important aspect of the AIS program and statewide AIS Management Plan. While these efforts do not guarantee discovery of all AIS species as they are introduced, they do significantly increase the potential to discover new populations before they become established or spread beyond their current boundaries. Limiting the establishment or spread of AIS allows for research to be conducted into control and eradication methods, and allows for greater efficiency in monitoring and early detection methods. These advances will ultimately save the state time and money protecting its aquatic resources and infrastructure.

Table 2: 2015 FWP AIS Monitoring Locations

Waterbody	# of Sites	Macrophyte Sampling	Invert Sampling	Plankton Sampling	Type	AIS Occurrences
Ackley Lake*	2	Yes	Yes	Yes	Wild	
April Reservoir	1	Yes	Yes	Yes	WFT	
Ashley Lake	1	No	No	Yes	Plankton	
Bailey Reservoir	4	Yes	Yes	Yes	Wild	
Beaver Creek* Reservoir	3	Yes	Yes	Yes	Wild	
Beaverhead River	9	Yes	Yes	Yes	Wild	NZMS
Big Hole River	9	Yes	Yes	Yes	Wild	
Big Spring Creek	5	Yes	Yes	Yes	Hatchery	
Bighorn Lake	77	Yes	Yes	Yes	Wild	
Bighorn River	5	Yes	Yes	Yes	Wild	
Bison Bone Reservoir	1	Yes	Yes	Yes	WFT	
Bitterroot Fish Hatchery	1	Yes	Yes	Yes	Hatchery	
Bitterroot River	5	Yes	Yes	Yes	Wild	
Blacktail Deer Creek	1	Yes	Yes	Yes	Wild	
Bluewater Creek	20	Yes	Yes	Yes	Hatchery	NZMS

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Boulder River (Sweet Grass Co.)	3	Yes	Yes	Yes	Wild	
Boulder River (Jefferson Co.)	2	Yes	Yes	Yes	Wild	
Boxelder Lake*	3	Yes	Yes	Yes	Wild	
Brown's Lake	1	Yes	Yes	Yes	Wild	
Brush Lake	1	Yes	Yes	Yes	Wild	
Bull Lake*	4	Yes	Yes	Yes	Wild	
Bynum Reservoir*	3	Yes	Yes	Yes	Wild	
Cabinet Gorge Reservoir	4	Yes	Yes	Yes	Wild	EWM, CLPW
Canyon Ferry Reservoir	5	Yes	Yes	Yes	Wild	
Castle Rock Lake*	2	Yes	Yes	Yes	Wild	
Clark Canyon Reservoir*	8	Yes	Yes	Yes	Wild	CLPW
Clark Fork River	6	Yes	Yes	Yes	Wild	
Clarks Fork Yellowstone River	4	Yes	Yes	Yes	Wild	
Clearwater River	3	Yes	Yes	Yes	Wild	
Cliff Lake	1	No	No	Yes	Plankton	
Cooney Reservoir*	3	Yes	Yes	Yes	Wild	
Creston National Fish Hatchery	1	Yes	Yes	Yes	Hatchery	
Crystal Lakes Hatchery	1	Yes	Yes	Yes	Hatchery	
Darlington Ditch	3	Yes	Yes	Yes	Wild	NZMS
Deadman's Basin Reservoir*	4	Yes	Yes	Yes	Wild	
Drag Reservoir	1	Yes	Yes	Yes	WFT	
East Fork Reservoir*	2	Yes	Yes	Yes	Wild	
Ennis Lake*	6	Yes	Yes	Yes	Wild	CLPW
Ennis National Fish Hatchery	1	Yes	Yes	Yes	Hatchery	
Eureka Reservoir*	3	Yes	Yes	Yes	Wild	
Fish Trap Lake	1	Yes	Yes	Yes	Wild	
Flathead Lake Salmon Hatchery	1	Yes	Yes	Yes	Hatchery	
Flathead Lake	4	Yes	Yes	Yes	Wild	
Flathead River	4	Yes	Yes	Yes	Wild	
Fort Peck Dredge Cuts	2	Yes	Yes	Yes	Wild	
Fort Peck Reservoir*	14	Yes	Yes	Yes	Wild	EWM
Fort Peck Hatchery	1	Yes	Yes	Yes	Hatchery	
Fresno Reservoir	3	Yes	Yes	Yes	Hatchery	
Georgetown Lake*	6	Yes	Yes	Yes	Wild	
Giant Springs Trout Hatchery	1	Yes	Yes	Yes	Hatchery	
Harriman Trout Co.	1	Yes	Yes	Yes	Hatchery	
Hauser Lake	5	Yes	Yes	Yes	Wild	NZMS, CLPW
Hebgen Lake*	3	Yes	Yes	Yes	Wild	CLPW
Helena Valley	1	Yes	Yes	Yes	Wild	

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Regulating Reservoir*						
Holland Lake	1	No	No	Yes	Plankton	
Holter Lake	3	Yes	Yes	Yes	Wild	CLPW
Hungry Horse Reservoir	3	Yes	Yes	Yes	Wild	
Hyalite Reservoir*	2	Yes	Yes	Yes	Wild	
Jefferson River*	9	Yes	Yes	Yes	Wild	NZMS, CLPW
Jocko River Trout Hatchery	1	Yes	Yes	Yes	Hatchery	
John Beck Pond	1	Yes	Yes	Yes	Hatchery	
Karsten Coulee Reservoir	1	Yes	Yes	Yes	WFT	
Lake Baker*	2	Yes	Yes	Yes	Wild	
Lake Como	2	Yes	Yes	Yes	Plankton	
Lake Delmoe*	3	Yes	Yes	Yes	Wild	
Lake Frances	2	Yes	Yes	Yes	Wild	
Lake Helena	1	No	No	Yes	Plankton	
Lake Koocanusa	20	Yes	Yes	Yes	Wild	
Lake Mary Ronan	1	Yes	Yes	Yes	Wild	
Lake Sutherlin	3	Yes	Yes	Yes	Wild	
Lake Upsata	1	Yes	Yes	Yes	Wild	
Largent Bend Pond #3	1	Yes	Yes	Yes	WFT	
Lindbergh Lake	1	No	No	Yes	Plankton	
Little McGregor Lake	1	Yes	Yes	Yes	Wild	
Lower Carter's Pond*	1	Yes	Yes	Yes	Wild	
Lower Stillwater Lake	1	Yes	Yes	Yes	Wild	
Lower Thompson Lake	1	Yes	Yes	Yes	Wild	
Luloff Pond	1	Yes	Yes	Yes	Hatchery	
Madison River	17	Yes	Yes	Yes	Wild	CLPW
Martinsdale Reservoir*	4	Yes	Yes	Yes	Wild	
McClure Creek	1	Yes	Yes	Yes	WFT	
McGregor Lake	1	Yes	Yes	Yes	Wild	
Middle Thompson Lake	1	Yes	Yes	Yes	Wild	
Miles City Fish Hatchery	1	Yes	Yes	Yes	Hatchery	
Milk River	1	Yes	Yes	Yes	Wild	
Missouri River*	15	Yes	Yes	Yes	Wild	NZMS (middle), CLPW (upper and middle), EWM (lower)
Murray Springs Trout Hatchery	1	Yes	Yes	Yes	Hatchery	
Mussellshell River	4	Yes	Yes	Yes	Wild	
Nelson Reservoir	2	Yes	Yes	Yes	Wild	
Nevada Creek Reservoir*	2	Yes	Yes	Yes	Wild	
Newlan Creek	3	Yes	Yes	Yes	Wild	

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Reservoir*						
Nilan Reservoir*	3	Yes	Yes	Yes	Wild	
North Polly Reservoir	1	Yes	Yes	Yes	WFT	
Noxon Reservoir	8	Yes	Yes	Yes	Wild EWM, CLPW	
Painted Rocks Reservoir*						
Pelican Point Pond #2	1	Yes	Yes	Yes	WFT	
Petrolia Lake*	4	Yes	Yes	Yes	Wild	
Pishkun Reservoir*	7	Yes	Yes	Yes	Wild	
Placid Lake*	2	Yes	Yes	Yes	Wild	
Prickly Pear Creek	1	Yes	Yes	Yes	Wild	
Quake Lake	1	Yes	Yes	Yes	Wild	
Rainbow Springs Trout Farm	1	Yes	Yes	Yes	Hatchery	
Rainy Lake	1	Yes	Yes	Yes	Wild	
Rose Creek	1	Yes	Yes	Yes	Hatchery	
Ruby River	8	Yes	Yes	Yes	Wild NZMS	
Ruby River Reservoir	2	Yes	Yes	Yes	Wild	
Salmon Lake*	3	Yes	Yes	Yes	Wild	
Seeley Lake*	3	Yes	Yes	Yes	Wild FWL, WPL	
Sekokini Springs	1	Yes	Yes	Yes	Hatchery	
Shields River	3	Yes	Yes	Yes	Wild	
Smiling Moose Ranch	7	Yes	Yes	Yes	Troubleshooting	
South Sandstone Reservoir*	2	Yes	Yes	Yes	Wild	
Spar Lake*	2	Yes	Yes	Yes	Wild	
Spring Meadow Lake*	1	Yes	Yes	Yes	Wild	
St. Regis River	2	Yes	Yes	Yes	Wild	
Sun Ranch Hatchery	1	Yes	Yes	Yes	Hatchery	
Sun River	1	Yes	Yes	Yes	Wild	
Swan Lake	1	Yes	Yes	Yes	Wild	
Swan River	14	Yes	Yes	Yes	Wild	
Thompson Falls Reservoir	1	Yes	Yes	Yes	Wild	
Tiber Reservoir*	4	Yes	Yes	Yes	Wild	
Tongue River	2	Yes	Yes	Yes	Wild	
Tongue River Reservoir	3	Yes	Yes	Yes	Wild	
Upper Carter's Pond*	1	Yes	Yes	Yes	Wild	
Upper Stillwater Lake	1	Yes	Yes	Yes	Wild	
Upper Thompson Lake	1	Yes	Yes	Yes	Wild	
Van Lake	1	Yes	Yes	Yes	Wild	
Vogel Reservoir (Box Elder)	1	Yes	Yes	Yes	Wild	
Wade Lake	2	No	No	Yes	Plankton	
Wapiti Reservoir	1	Yes	Yes	Yes	Wild	
Washoe Park Trout Hatchery	1	Yes	Yes	Yes	Hatchery	
West Fork Bitterroot River	1	No	No	Yes	Plankton	
Westslope Trout Co.	1	Yes	Yes	Yes	Hatchery	

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Whitefish Lake	1	Yes	Yes	Yes	Wild	
Yellow Water Reservoir*	3	Yes	Yes	Yes	Wild	
Yellowstone River	26	Yes	Yes	Yes	Wild	NZMS
Yellowstone River Trout Hatchery	1	Yes	Yes	Yes	Hatchery	

* Indicates locations where more comprehensive macrophyte surveys were conducted. See Appendix A.

Literature Cited

Frischer, M.E., Nierzwicki-Bauer, S.A., Kelly, K.L. 2011. Reliability of Early Detection of *Dreissena* spp. Larvae by Cross Polarized Light Microscopy, Image Flow Cytometry, and Polymerase Chain Reaction Assays: Results of a Community Double-Blind Round Robin Study (Round Robin Study Phase II). [http://www.musselmonitoring.com/Reports/RRII%20Final%20Report%20\(2010\).pdf](http://www.musselmonitoring.com/Reports/RRII%20Final%20Report%20(2010).pdf).

Appendix A. Results of Aquatic Plant Surveys

This appendix contains details of plant sampling within the list water bodies. Plant locations and species frequency (based on all sample points within the water body) are noted for each water body surveyed.

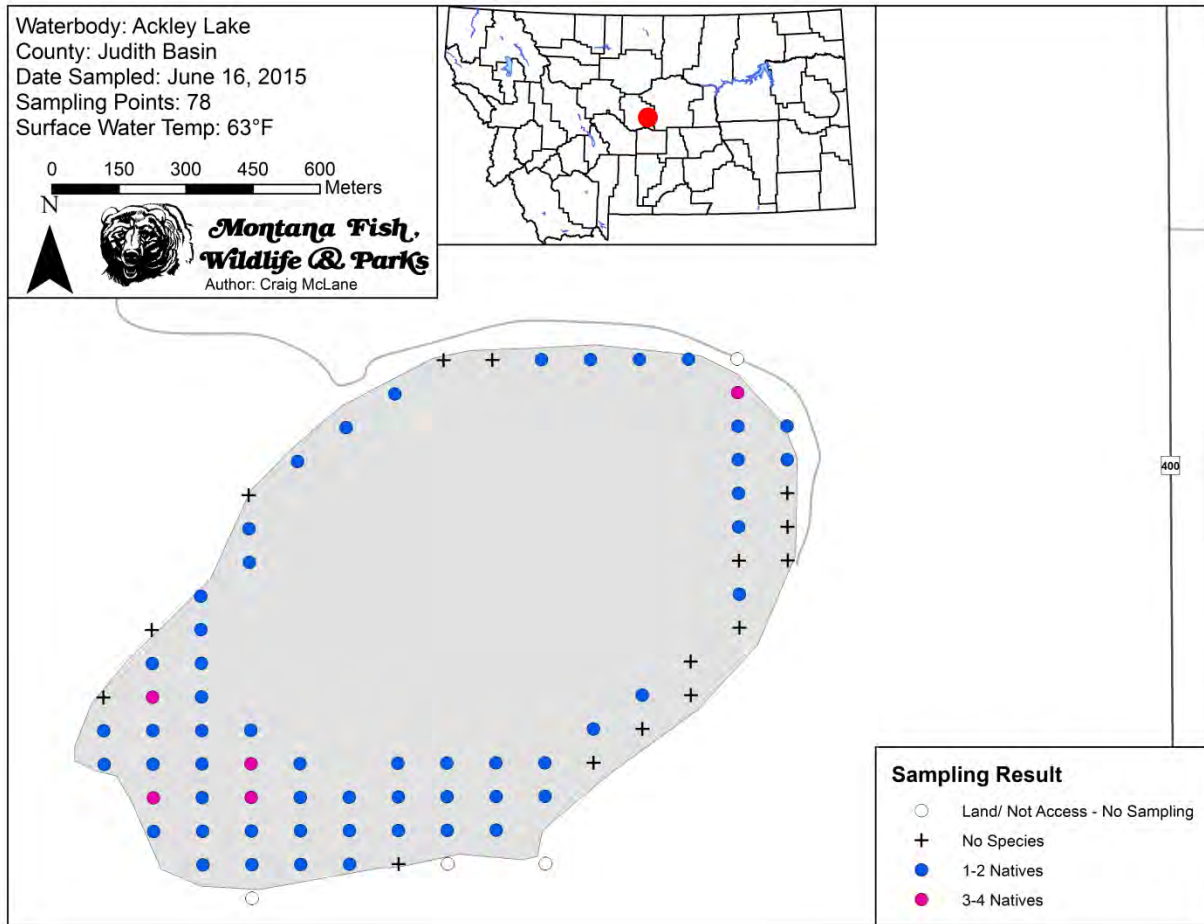
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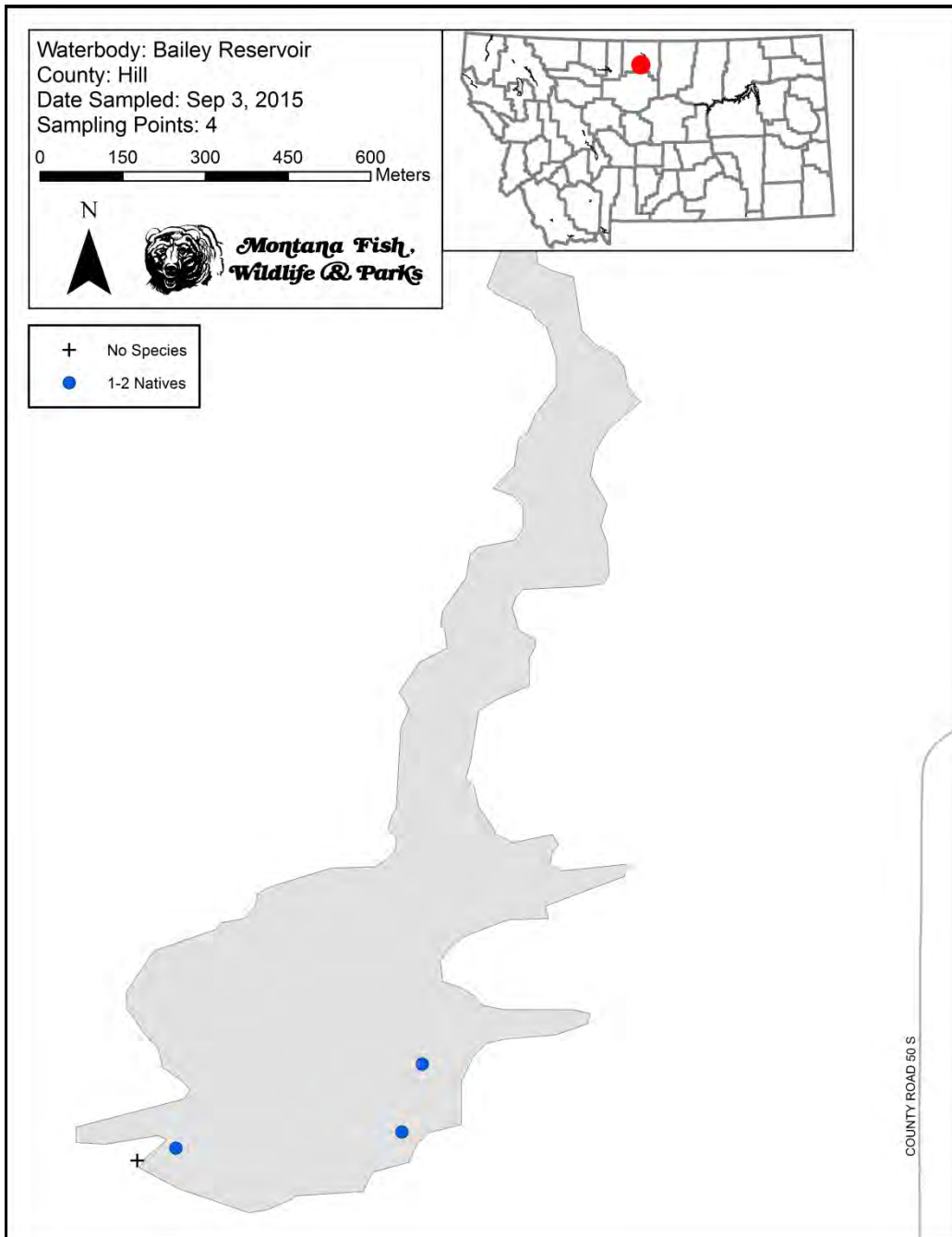
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1. Ackley Lake



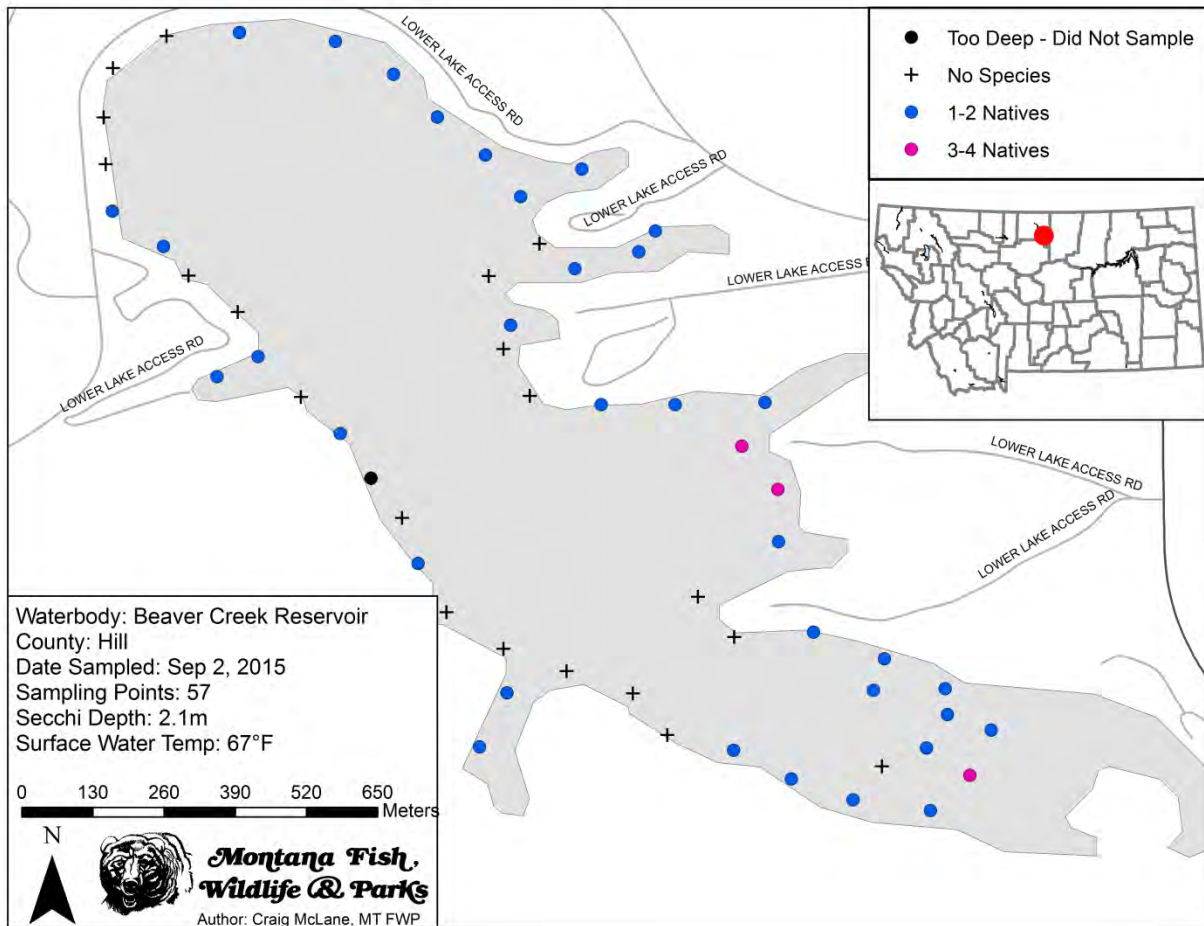
Ackley Lake	n=74	Count	Frequency of Occurrence %
No species detected	-	15	20.3%
Nitella species	Brittlewort	23	31.1%
<i>Potamogeton foliosus</i>	Leafy pondweed	23	31.1%
Chara species	Muskgrass	17	23.0%
<i>Ceratophyllum demersum</i>	Coontail	16	21.6%
<i>Fontinalis antipyretica</i>	Common water moss	3	4.1%
<i>Polygonum amphibium</i>	Water smartweed	2	2.7%
<i>Potamogeton filiformis</i>	Slender leaved pondweed	2	2.7%
Isoetes species	Quillwort	1	1.4%

2. Bailey Reservoir



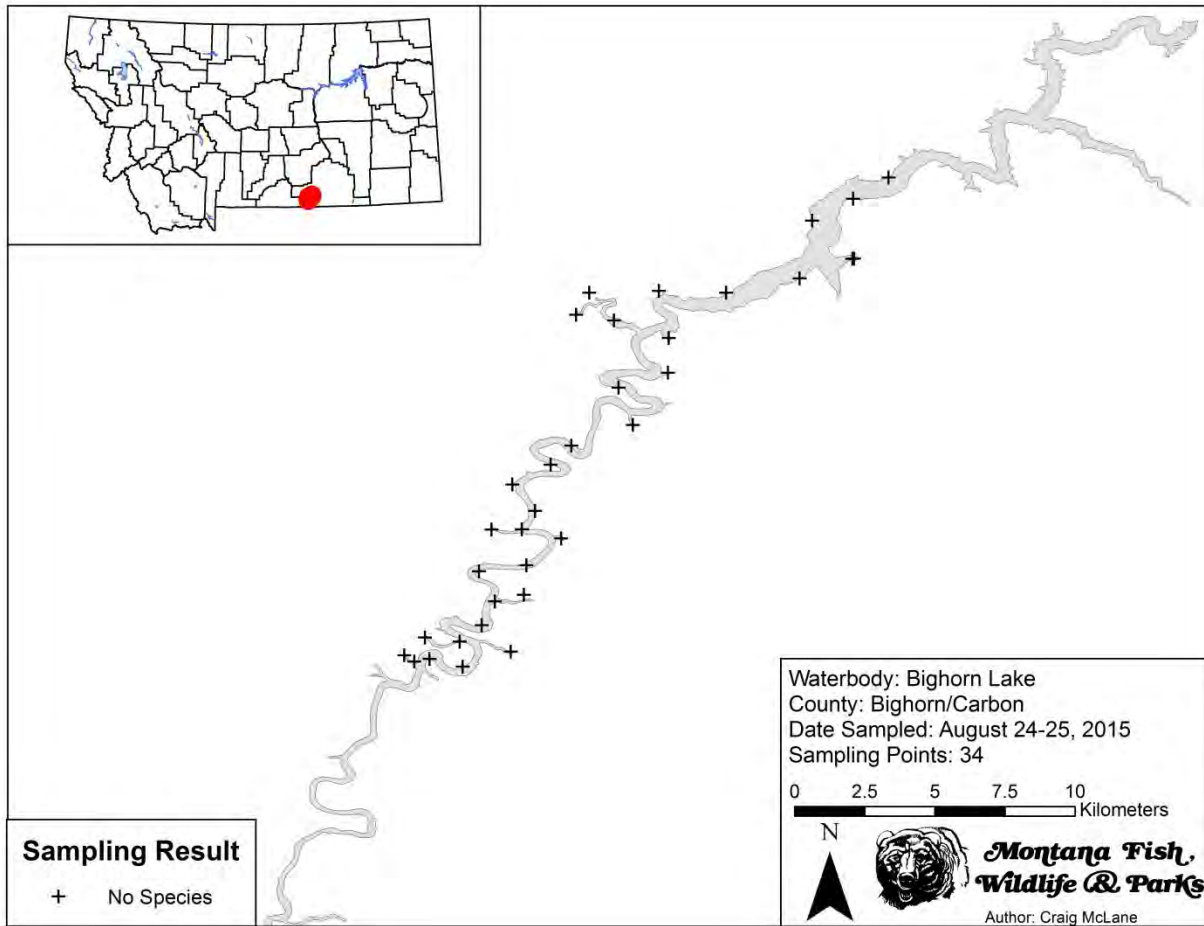
Bailey Reservoir	n=4	Count	Frequency of Occurrence %
No species detected	-	1	25.0%
Myriophyllum sibiricum	Northern watermilfoil	2	50.0%
Chara species	Muskgrass	1	25.0%
Potamogeton species	Pondweed species	1	25.0%

3. Beaver Creek Reservoir



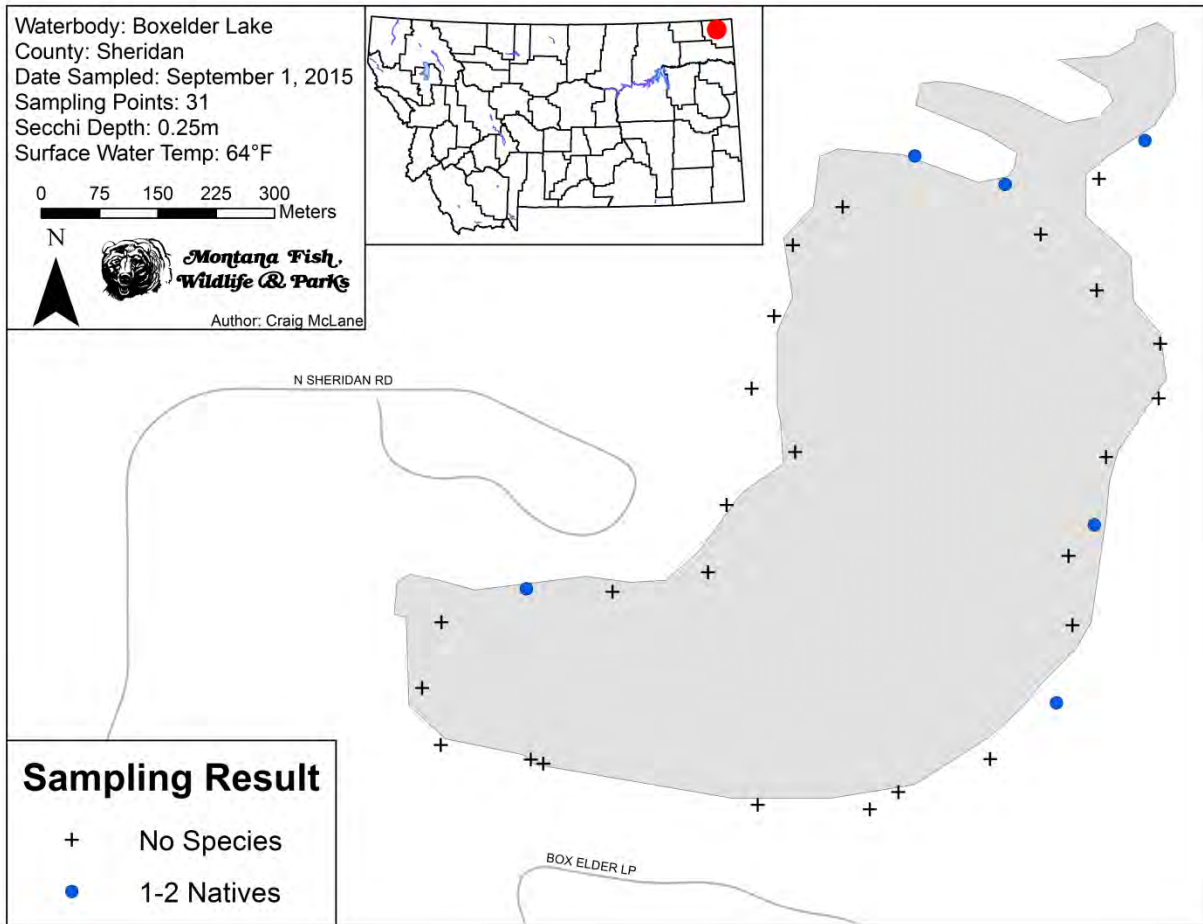
Beaver Creek Reservoir	n=57	Count	Frequency of Occurrence %
No species detected	-	20	35.1%
Elodea species	Waterweed species	33	57.9%
Potamogeton foliosus	Leafy pondweed	9	15.8%
Chara species	Muskgrass	8	14.0%
Potamogeton pectinatus	Sago Pondweed	4	7.0%
Potamogeton filiformis	Slender leaved pondweed	2	3.5%

4. Bighorn Lake



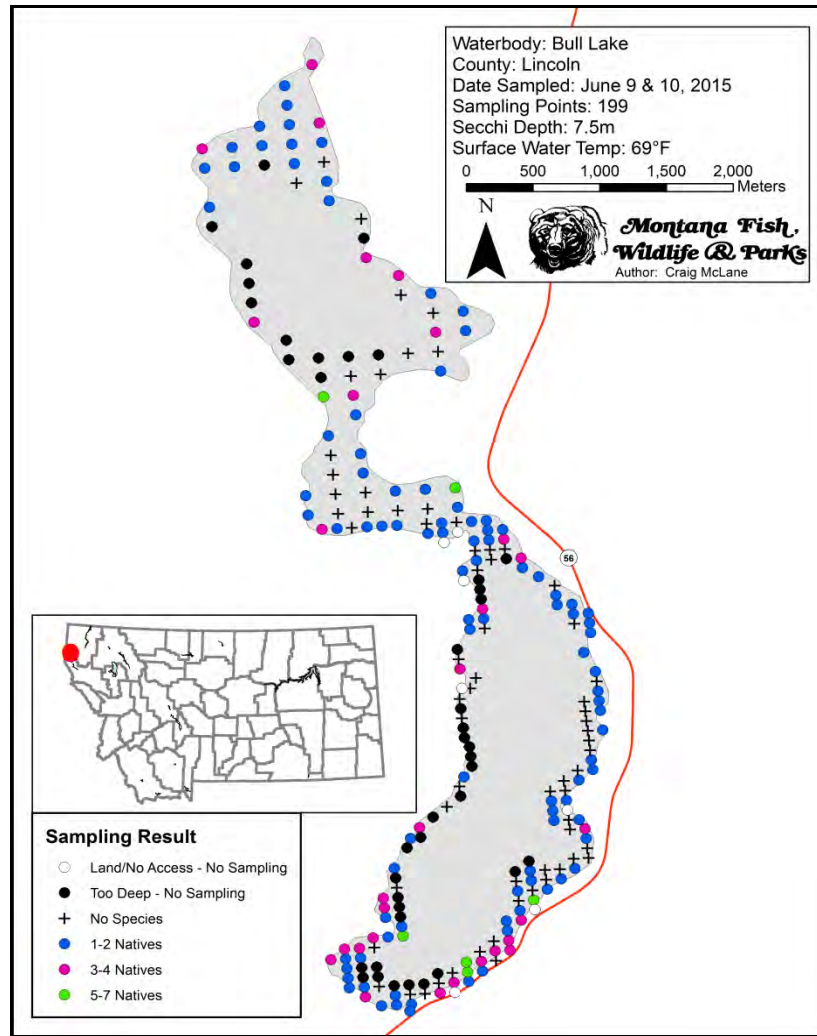
Bighorn Reservoir	n=34	Count	Frequency of Occurrence %
No species detected	-	34	100.0%

5. Boxelder Lake



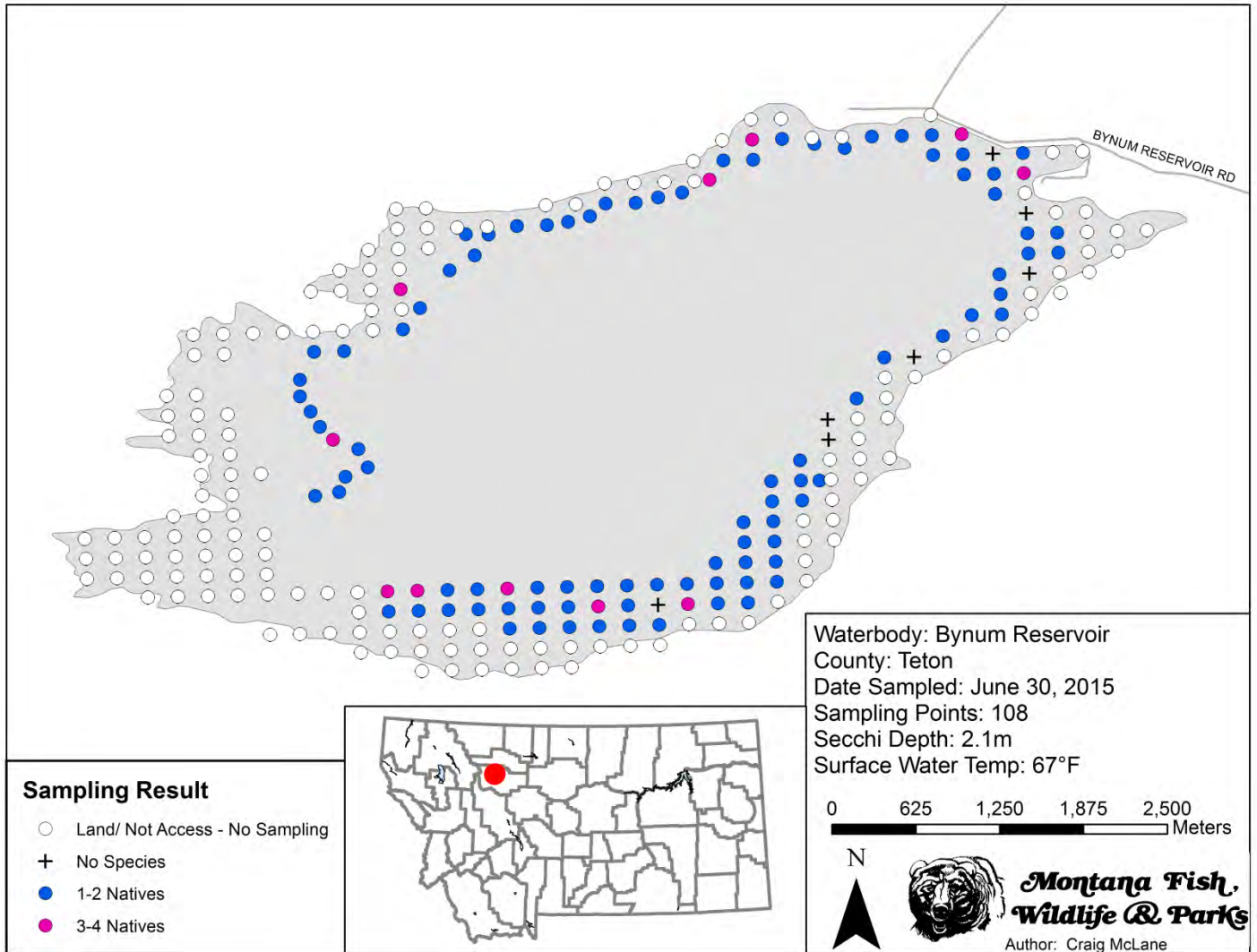
Boxelder Reservoir	n=31	Count	Frequency of Occurrence %
No species detected	-	25	80.6%
Potamogeton pectinatus	Sago Pondweed	4	12.9%
Ceratophyllum demersum	Coontail	2	6.5%

6. Bull Lake



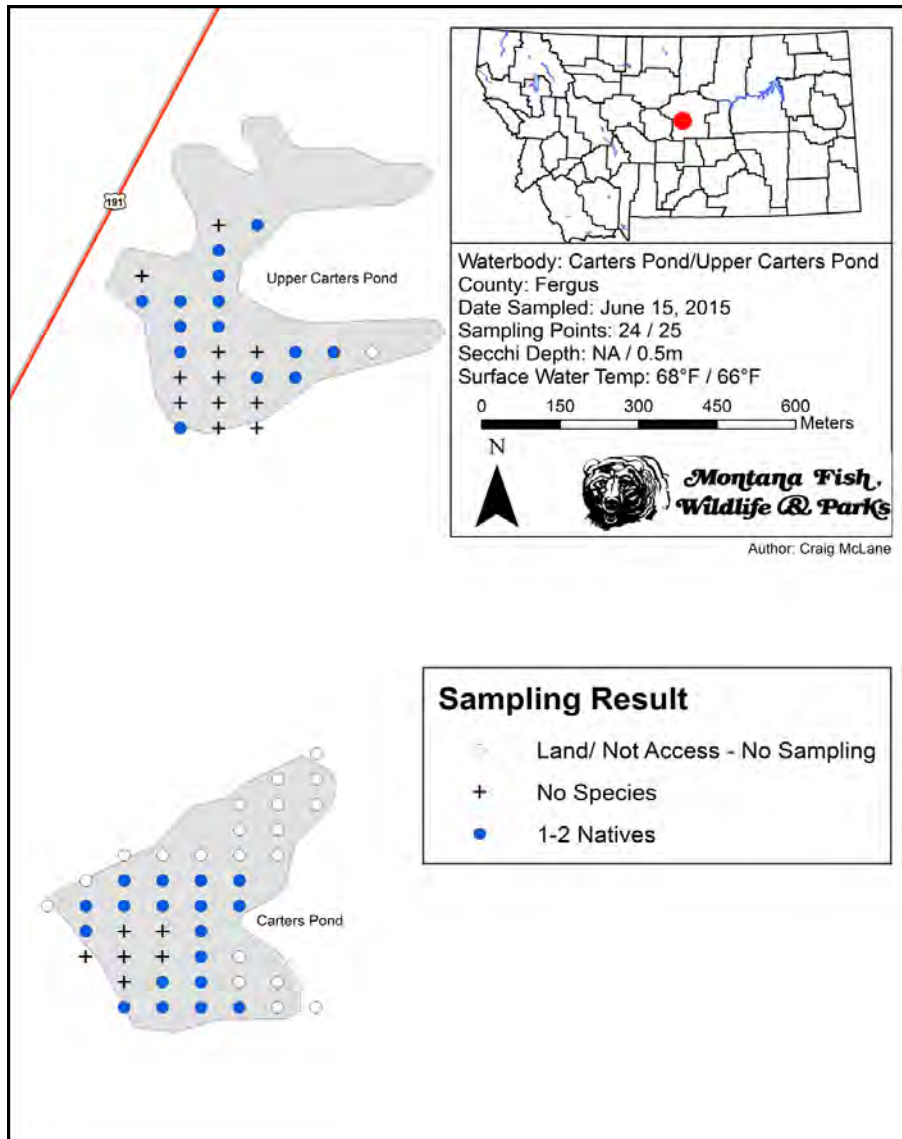
Bull Lake	n=199	Count	Frequency of Occurrence %
No species detected	-	67	33.7%
Elodea species	Waterweed species	46	23.1%
Chara species	Muskgrass	42	21.1%
Isoetes species	Quillwort	37	18.6%
Potamogeton robbinsii	Fern-leaf pondweed	34	17.1%
Potamogeton praelongus	White-stemmed pondweed	33	16.6%
Scirpus species	Bulrush species	16	8.0%
Myriophyllum sibiricum	Northern watermilfoil	13	6.5%
Ranunculus aquatilis	White waterbuttercup	13	6.5%
Sagittaria cuneata	Northern arrowhead	11	5.5%
Potamogeton amplifolius	Large-leaf pondweed	10	5.0%
Nitella species	Brittlewort	5	2.5%
Potamogeton richardsonii	Richardson's pondweed	4	2.0%
Potamogeton pectinatus	Sago Pondweed	3	1.5%
Brasenia schreberi	Watershield	2	1.0%
Nuphar polysepala	Spatterdock	2	1.0%

7. Bynum Reservoir



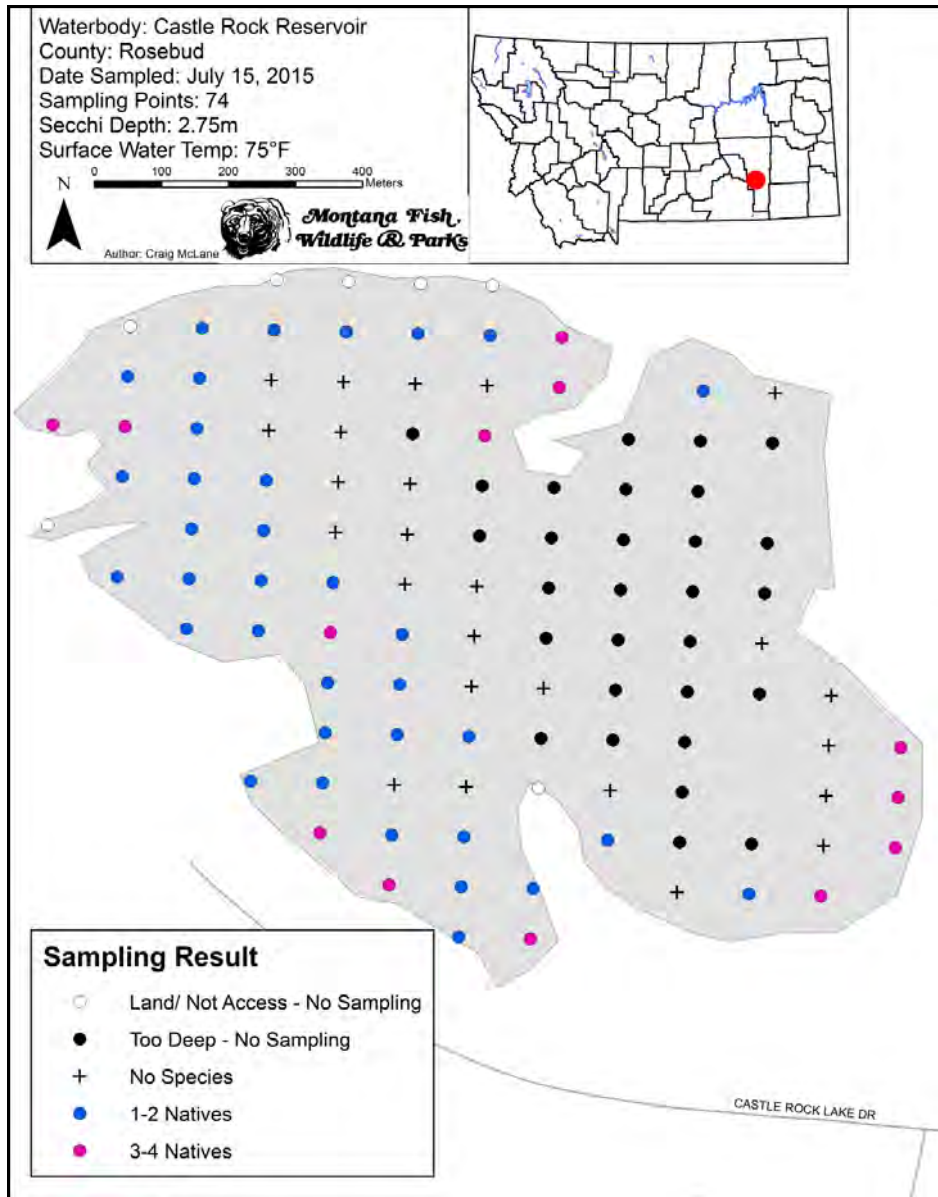
Bynum Reservoir	n=108	Count	Frequency of Occurrence %
No species detected	-	7	6.5%
Chara species	Muskgrass	101	93.5%
Potamogeton pectinatus	Sago Pondweed	20	18.5%
Potamogeton foliosus	Leafy pondweed	11	10.2%
Myriophyllum sibiricum	Northern watermilfoil	9	8.3%
Potamogeton richardsonii	Richardson's pondweed	6	5.6%
Ranunculus aquatilis	White waterbuttercup	3	2.8%

8. Carters Pond & Upper Carters Pond



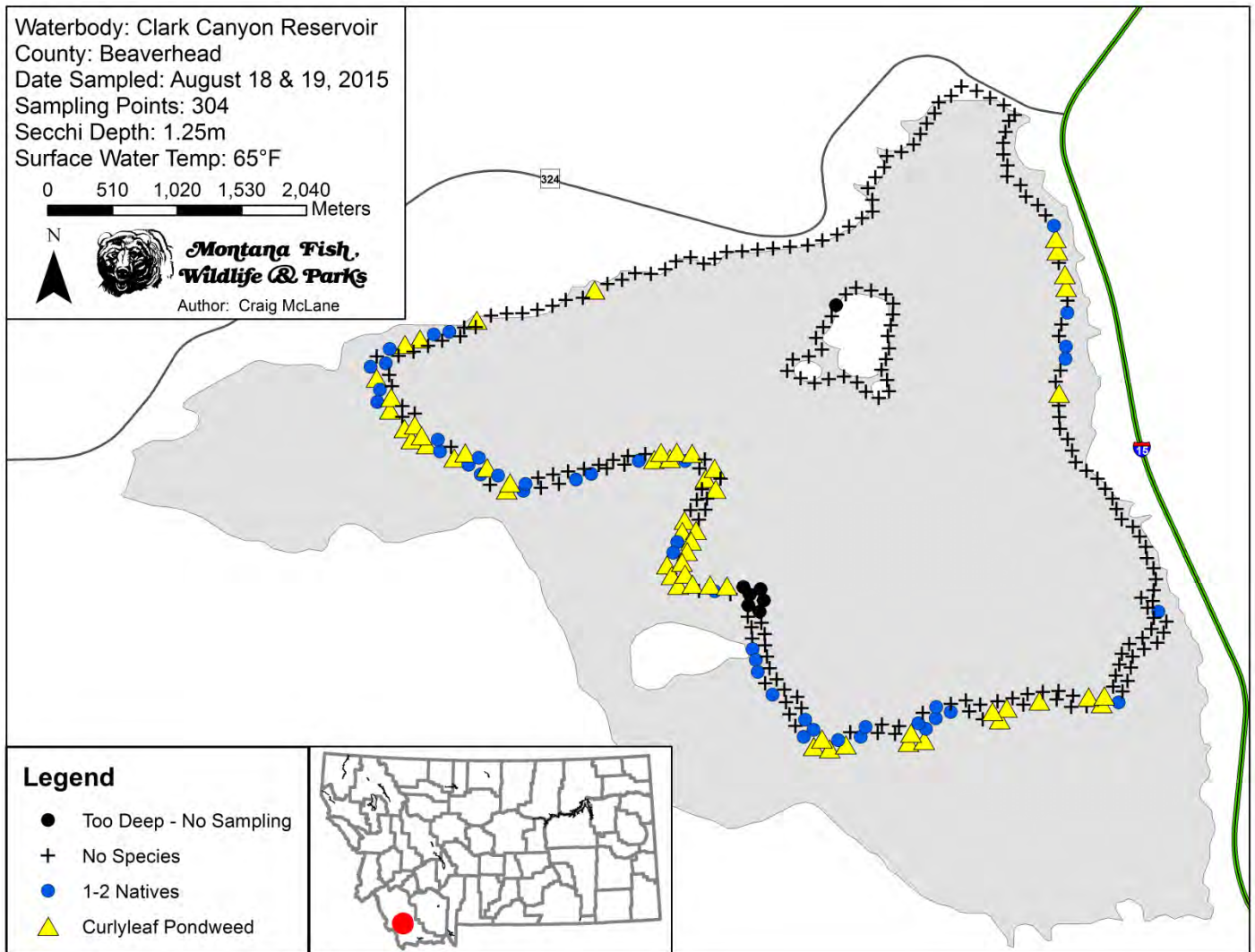
Carters Pond	n=24	Count	Frequency of Occurrence %
No species detected	-	6	25.0%
Potamogeton pectinatus	Sago Pondweed	9	37.5%
Zannichellia palustris	Horned pondweed	7	29.2%
Potamogeton foliosus	Leafy pondweed	3	12.5%
Chara species	Muskgrass	2	8.3%
Elodea species	Waterweed species	1	4.2%
Upper Carters Pond	n=25	Count	Frequency of Occurrence %
No species detected	-	11	44.0%
Potamogeton pectinatus	Sago Pondweed	14	56.0%

9. Castle Rock Reservoir



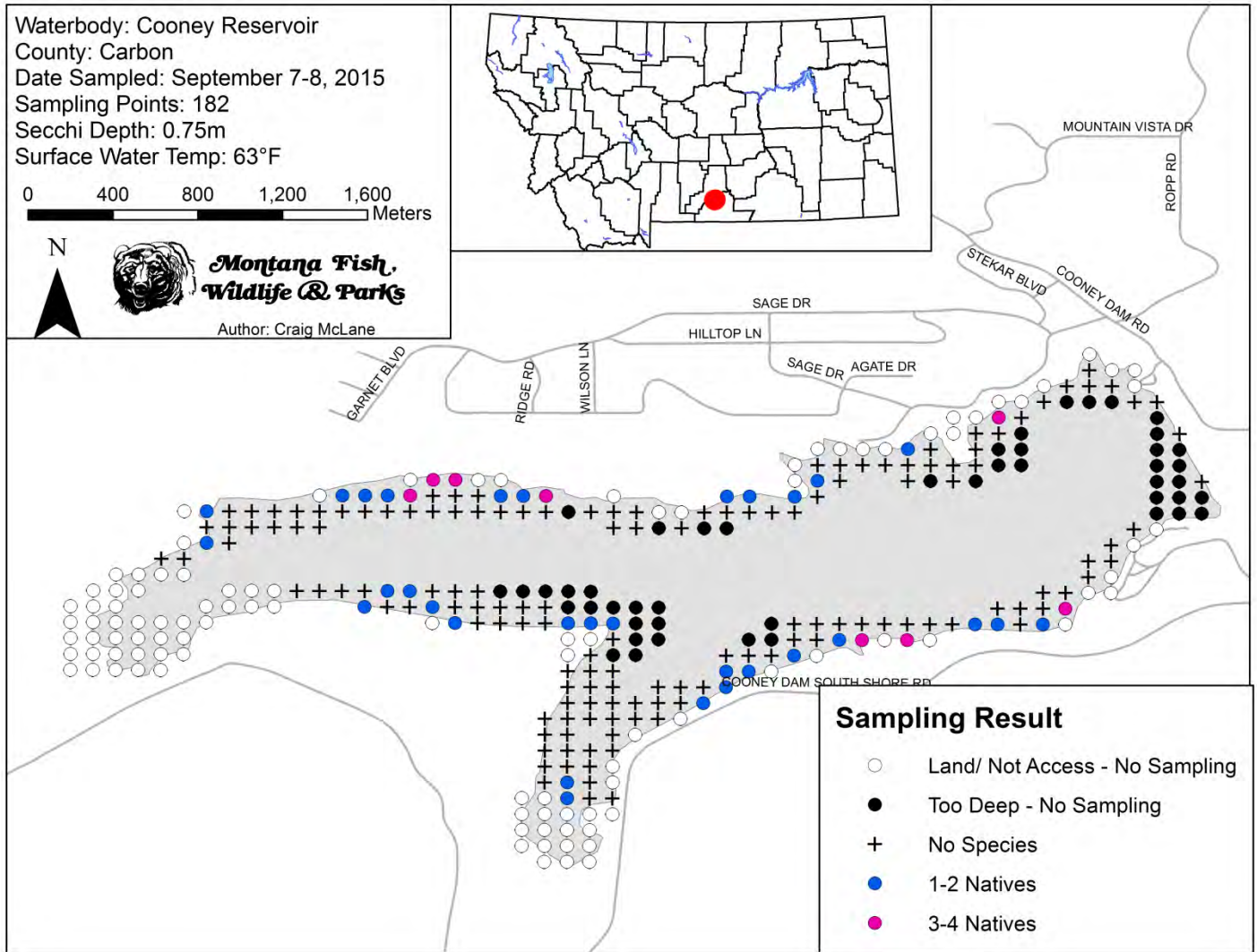
Castle Rock Reservoir	n=74	Count	Frequency of Occurrence %
No species detected	-	25	33.8%
Ceratophyllum demersum	Coontail	36	48.6%
Myriophyllum sibiricum	Northern watermilfoil	35	47.3%
Ruppia cirrhosa	Ditchgrass	23	31.1%
Chara species	Muskgrass	8	10.8%
Potamogeton praelongus	White-stemmed pondweed	2	2.7%
Elodea species	Waterweed species	1	1.4%

10. Clark Canyon Reservoir



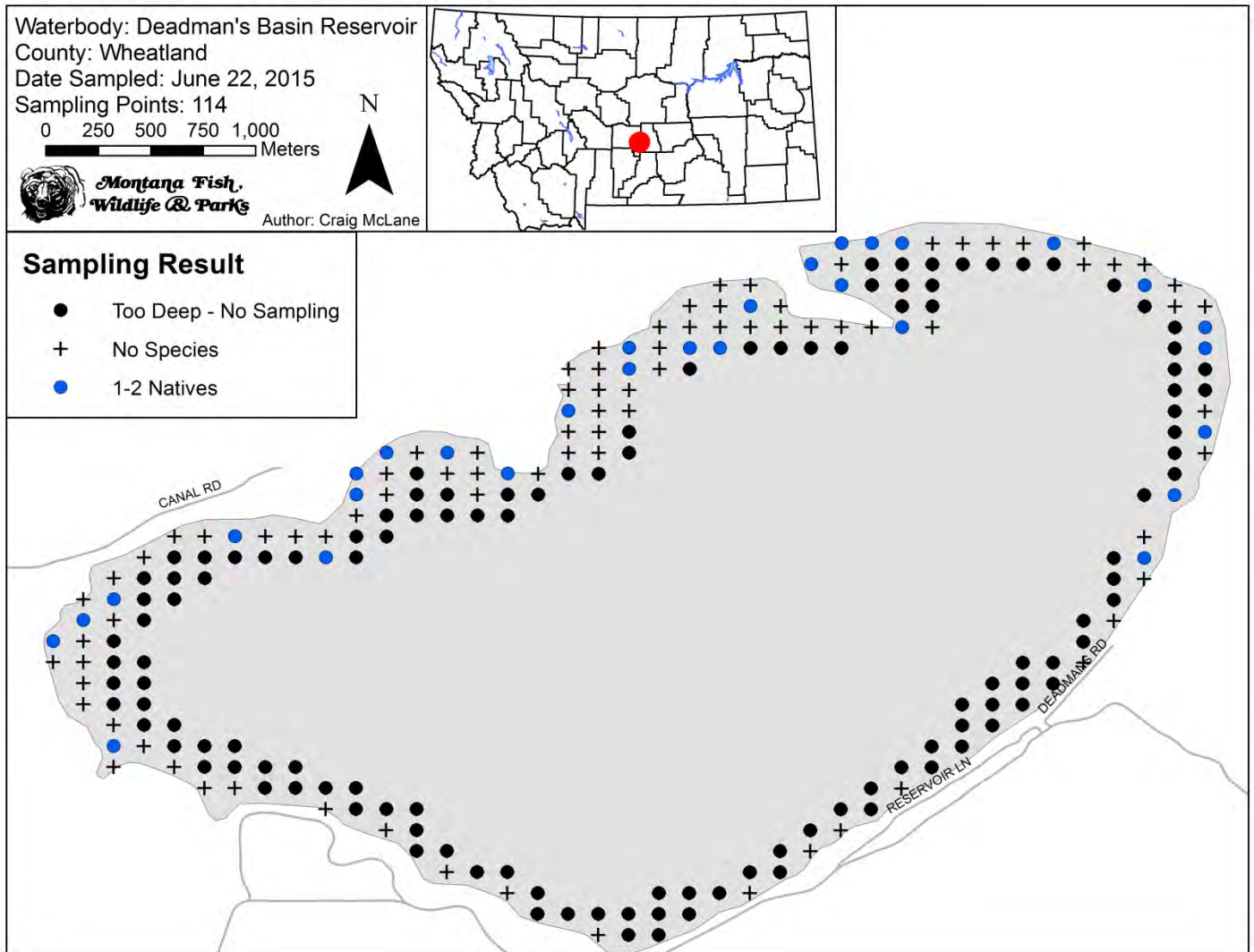
Clark Canyon Reservoir	n= 304	Count	Frequency of Occurrence %
No species detected	-	204	67.1%
<i>Potamogeton species</i>	Pondweed species	70	23.0%
<i>Potamogeton crispus</i>	Curlyleaf Pondweed	57	18.8%
<i>Potamogeton pectinatus</i>	Sago Pondweed	48	15.8%

11. Cooney Reservoir



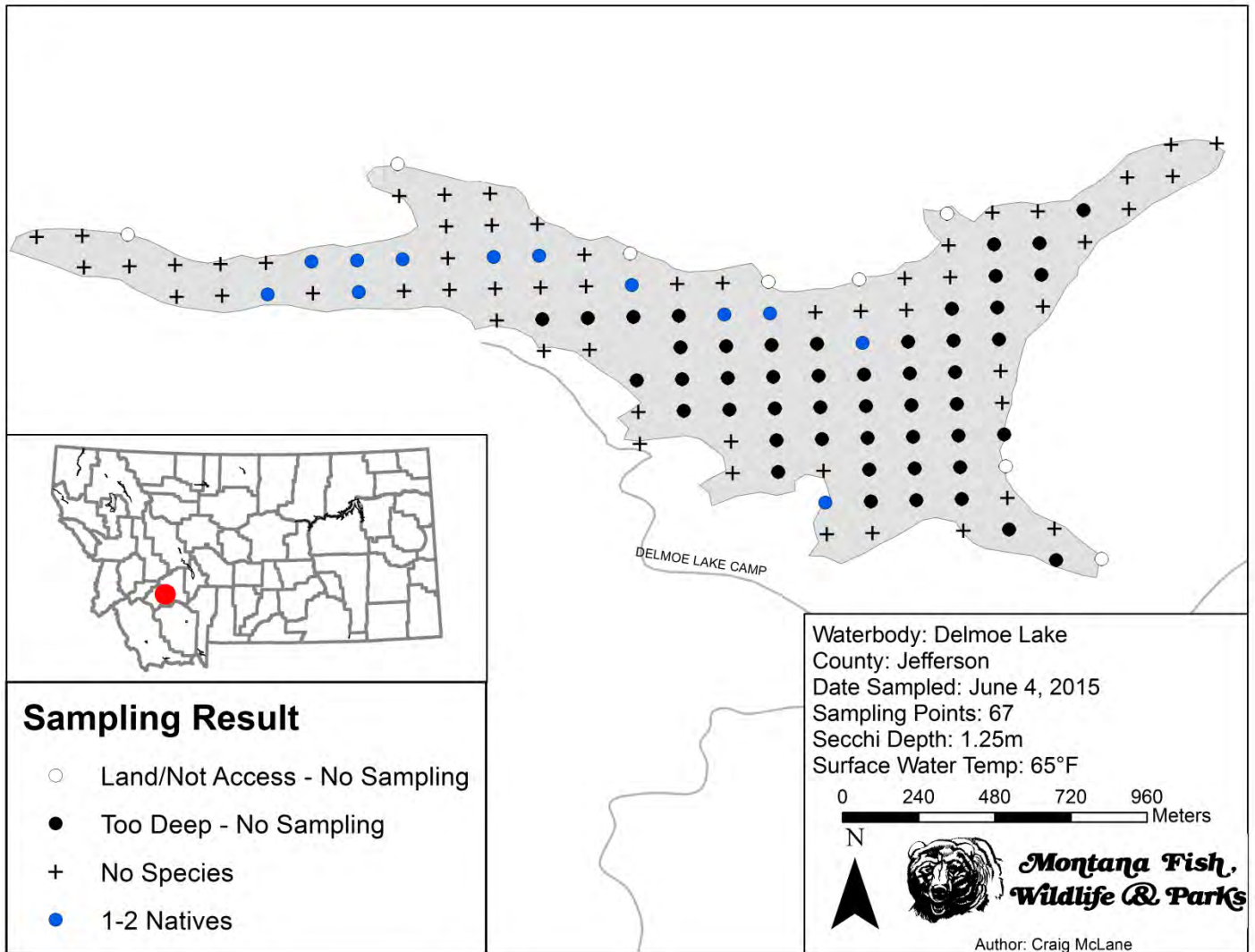
Cooney Reservoir	n=182	Count	Frequency of Occurrence %
No species detected	-	143	78.6%
<i>Chara species</i>	Muskgrass	24	13.2%
<i>Elodea species</i>	Waterweed species	24	13.2%
<i>Potamogeton foliosus</i>	Leafy pondweed	11	6.0%
<i>Potamogeton pectinatus</i>	Sago Pondweed	7	3.8%
<i>Ranunculus aquatilis</i>	White waterbuttercup	1	0.5%

12. Deadman's Basin Reservoir



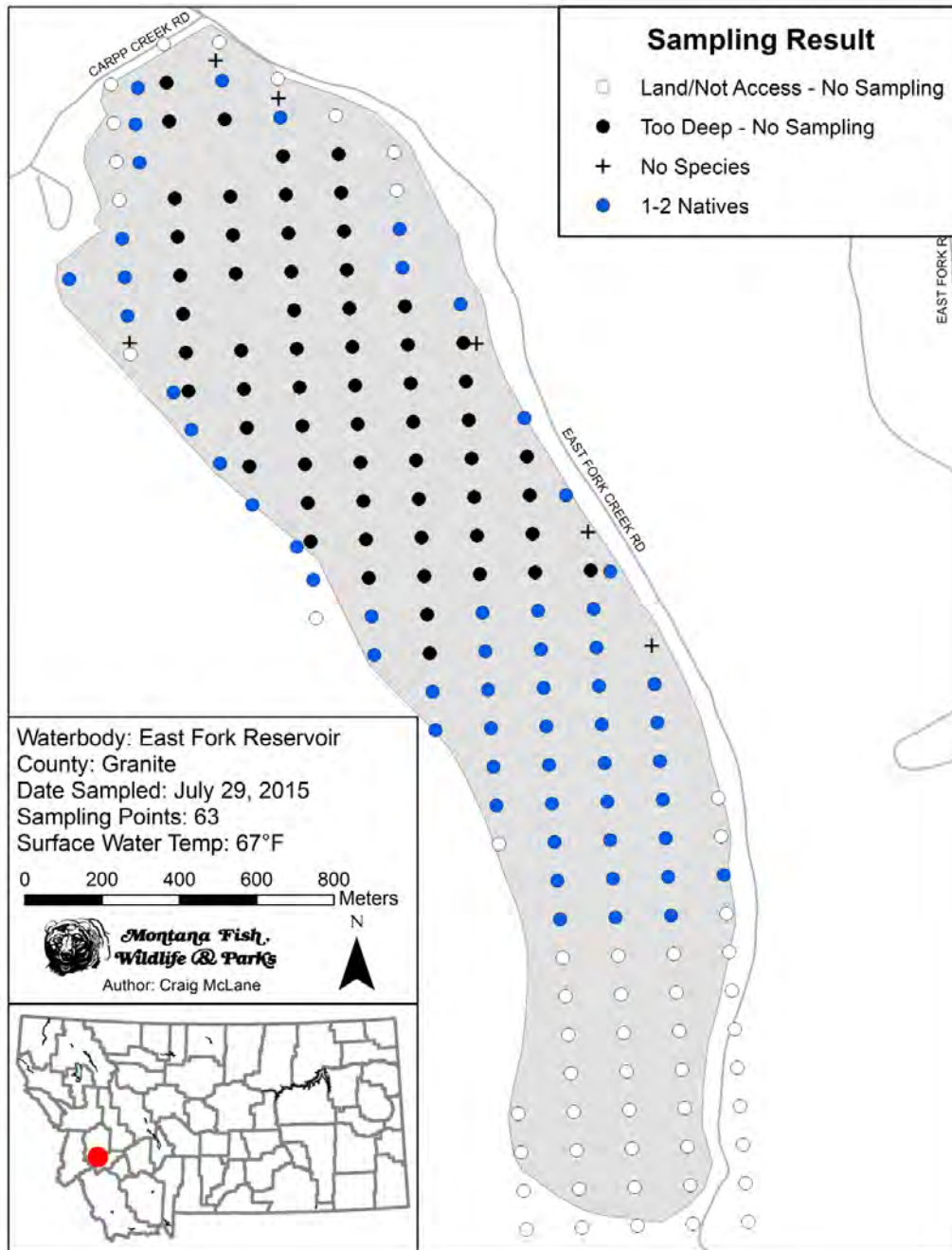
Deadmans Basin Reservoir	n=114	Count	Frequency of Occurrence %
No species detected	-	84	73.7%
<i>Chara species</i>	Muskgrass	26	22.8%
<i>Potamogeton pectinatus</i>	Sago Pondweed	13	11.4%
<i>Ranunculus aquatilis</i>	White waterbuttercup	2	1.8%

13. Delmoe Lake



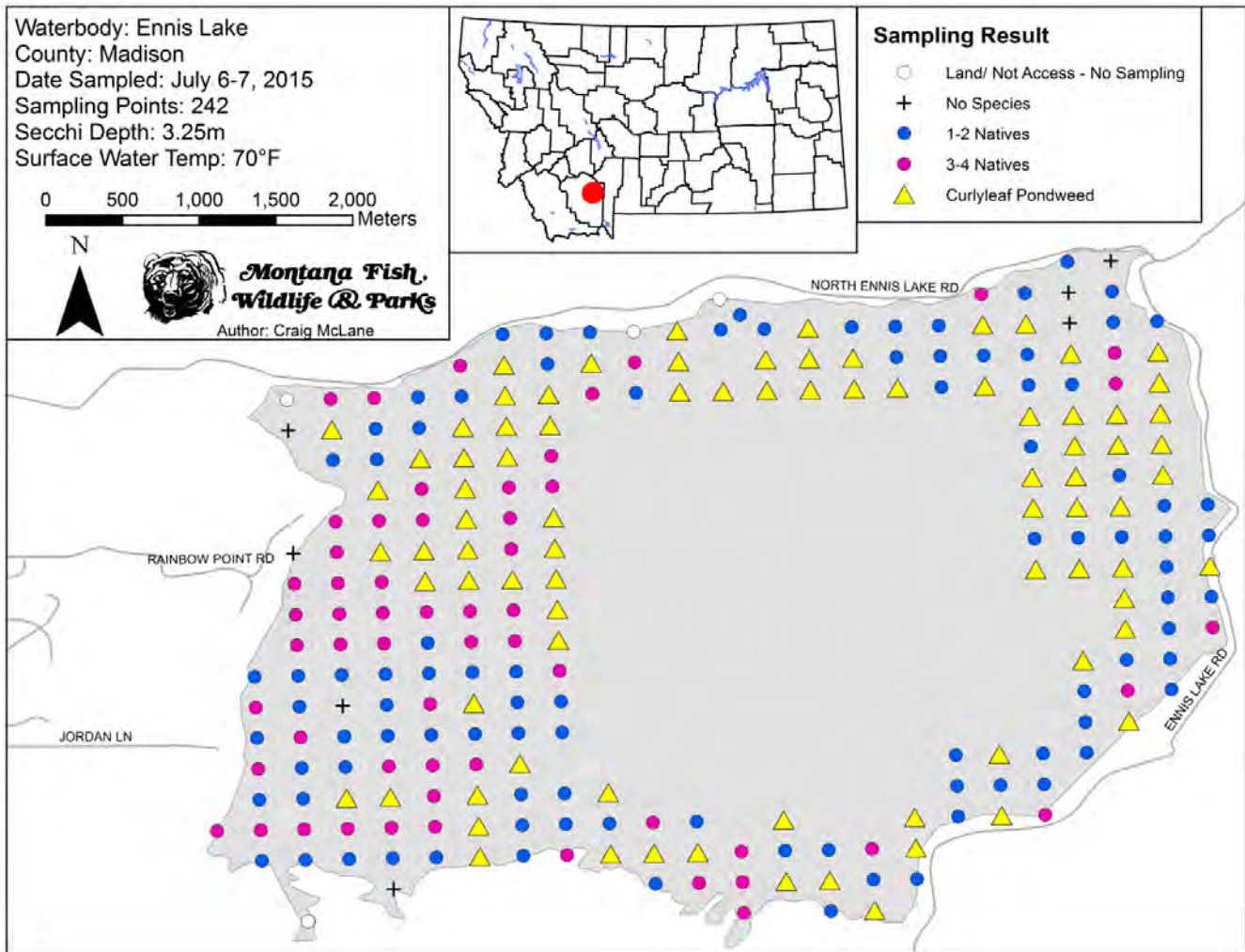
Delmoe Lake	n=67	Count	Frequency of Occurrence %
No species detected	-	55	82.1%
<i>Nitella species</i>	Brittlewort	10	14.9%
<i>Najas flexilis</i>	Slender water-nymph	1	1.5%
<i>Potamogeton species</i>	Pondweed species	1	1.5%

14. East Fork Reservoir



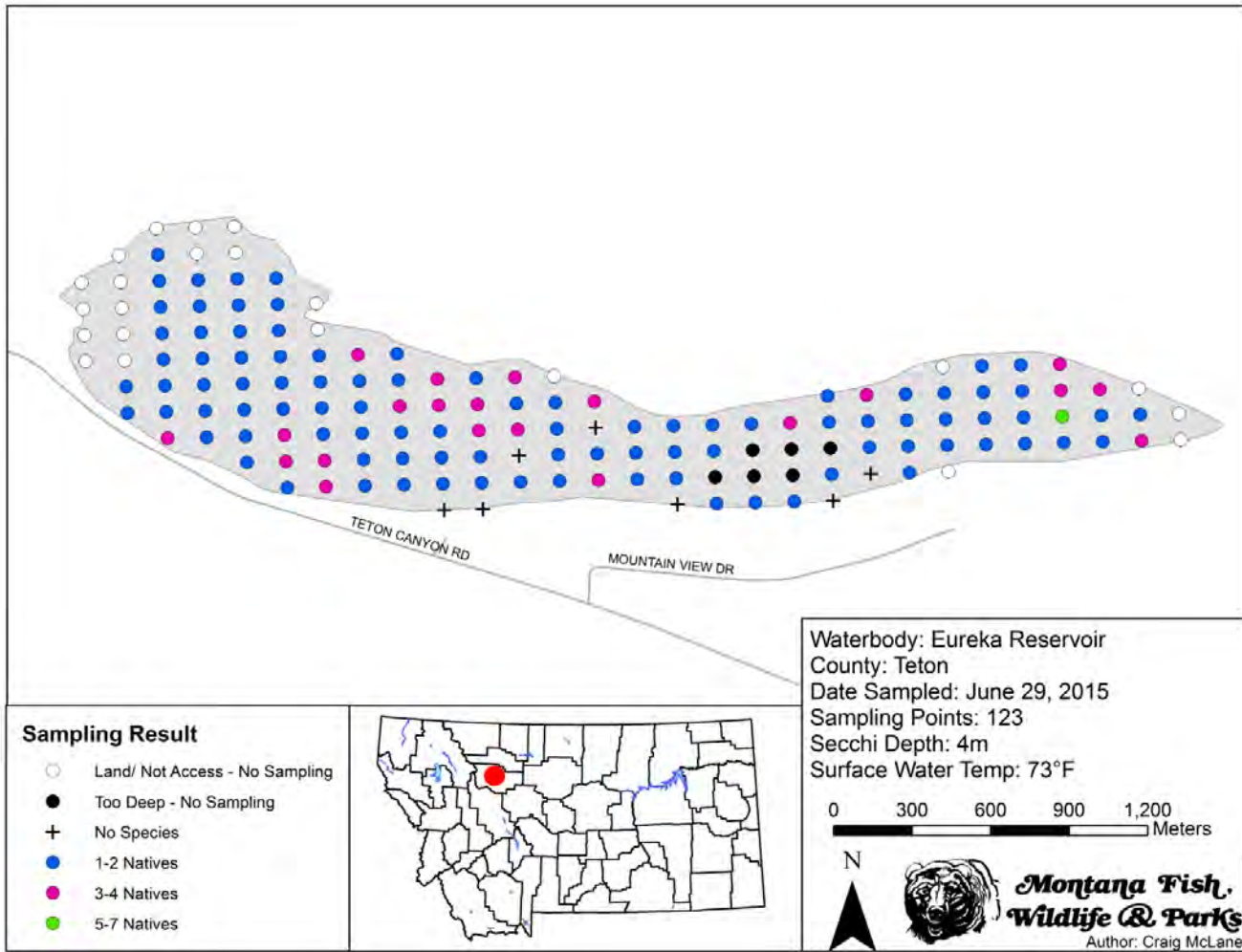
East Fork Reservoir	n=63	Count	Frequency of Occurrence %
No species detected	-	6	9.5%
<i>Chara species</i>	Muskgrass	55	87.3%
<i>Ranunculus aquatilis</i>	White waterbuttercup	5	7.9%

15. Ennis Lake



Ennis Lake	n=242	Count	Frequency of Occurrence %
No species detected	-	7	2.9%
<i>Elodea species</i>	Waterweed species	196	81.0%
<i>Chara species</i>	Muskgrass	124	51.2%
<i>Potamogeton crispus</i>	Curlyleaf Pondweed	83	34.3%
<i>Potamogeton foliosus</i>	Leafy pondweed	52	21.5%
<i>Myriophyllum sibiricum</i>	Northern watermilfoil	48	19.8%
<i>Ceratophyllum demersum</i>	Coontail	45	18.6%
<i>Ranunculus aquatilis</i>	White waterbuttercup	30	12.4%
<i>Potamogeton pectinatus</i>	Sago Pondweed	23	9.5%
<i>Sagittaria cuneata</i>	Northern arrowhead	13	5.4%
<i>Potamogeton richardsonii</i>	Richardson's pondweed	3	1.2%

16. Eureka Reservoir

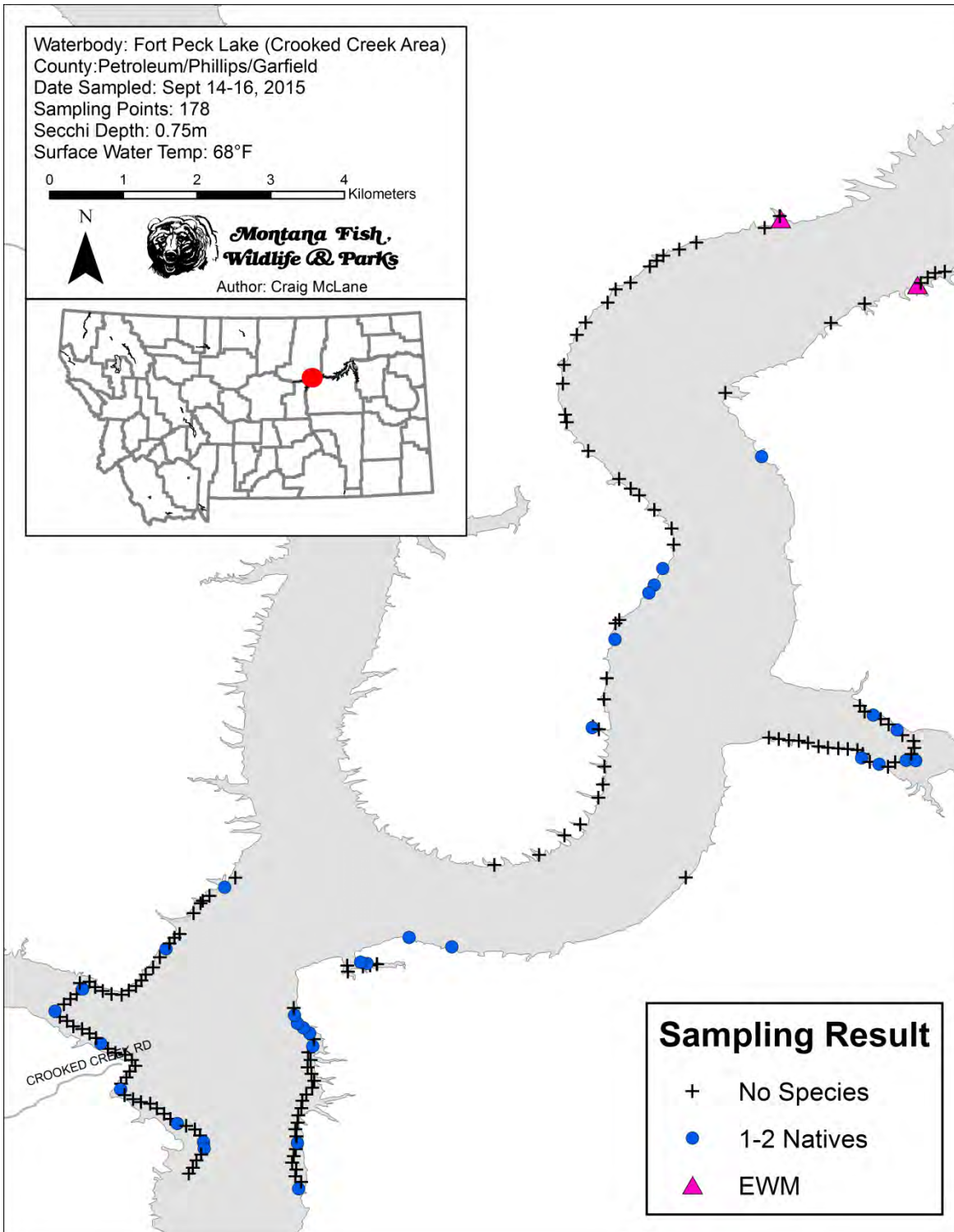


Eureka Reservoir	n=123	Count	Frequency of Occurrence %
No species detected	-	7	5.7%
<i>Hippuris vulgaris</i>	Mare's tail	67	54.5%
<i>Potamogeton pectinatus</i>	Sago Pondweed	62	50.4%
<i>Chara species</i>	Muskgrass	44	35.8%
<i>Potamogeton richardsonii</i>	Richardson's pondweed	17	13.8%
<i>Ceratophyllum demersum</i>	Coontail	8	6.5%
<i>Polygonum amphibium</i>	Water smartweed	8	6.5%
<i>Fontinalis antipyretica</i>	Common water moss	6	4.9%
<i>Isoetes species</i>	Quillwort	3	2.4%
<i>Juncus species</i>	Rush species	2	1.6%

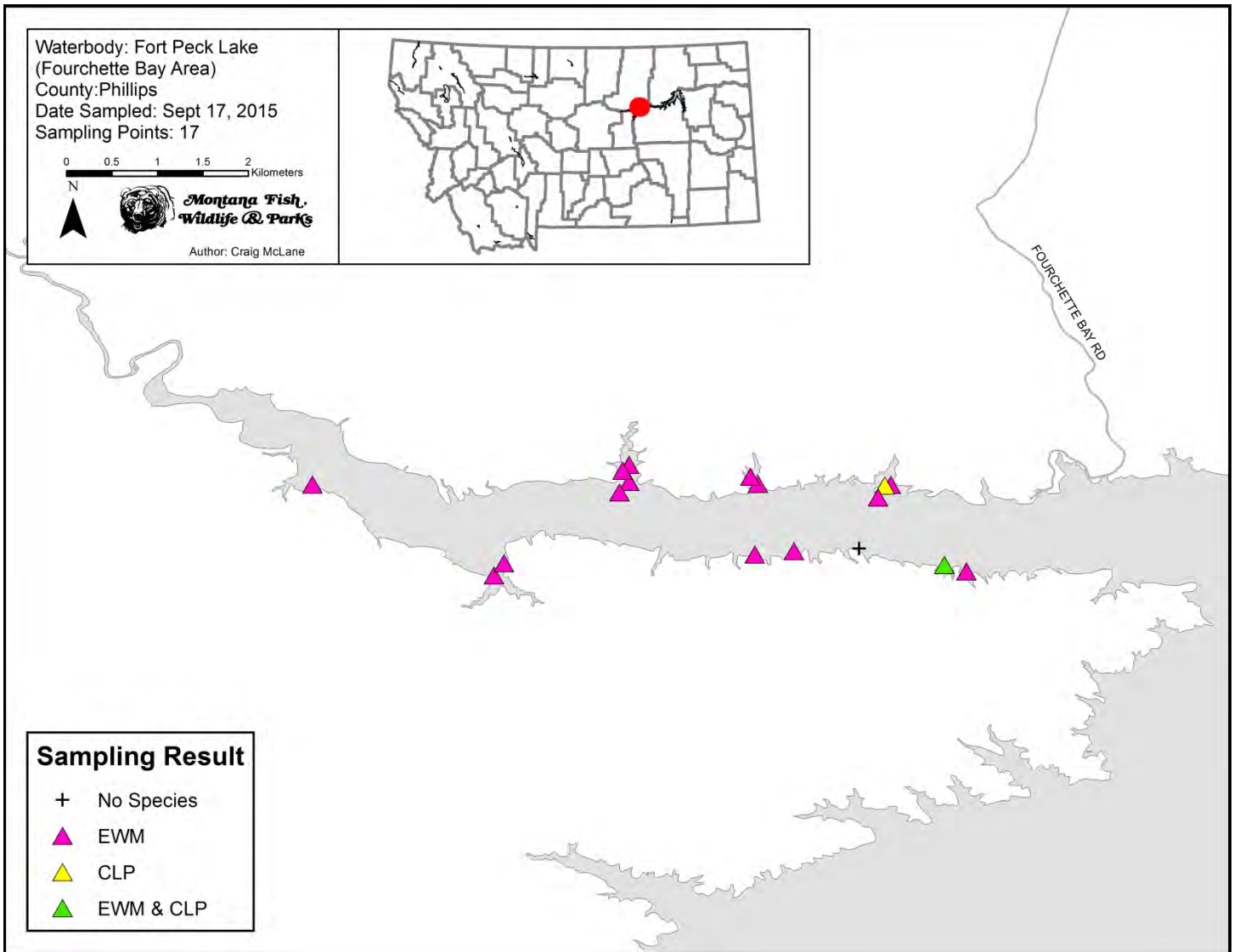
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<i>Potamogeton praelongus</i>	White-stemmed pondweed	2	1.6%
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17. Fort Peck Lake (Crooked Creek & Forchette Bay Areas)

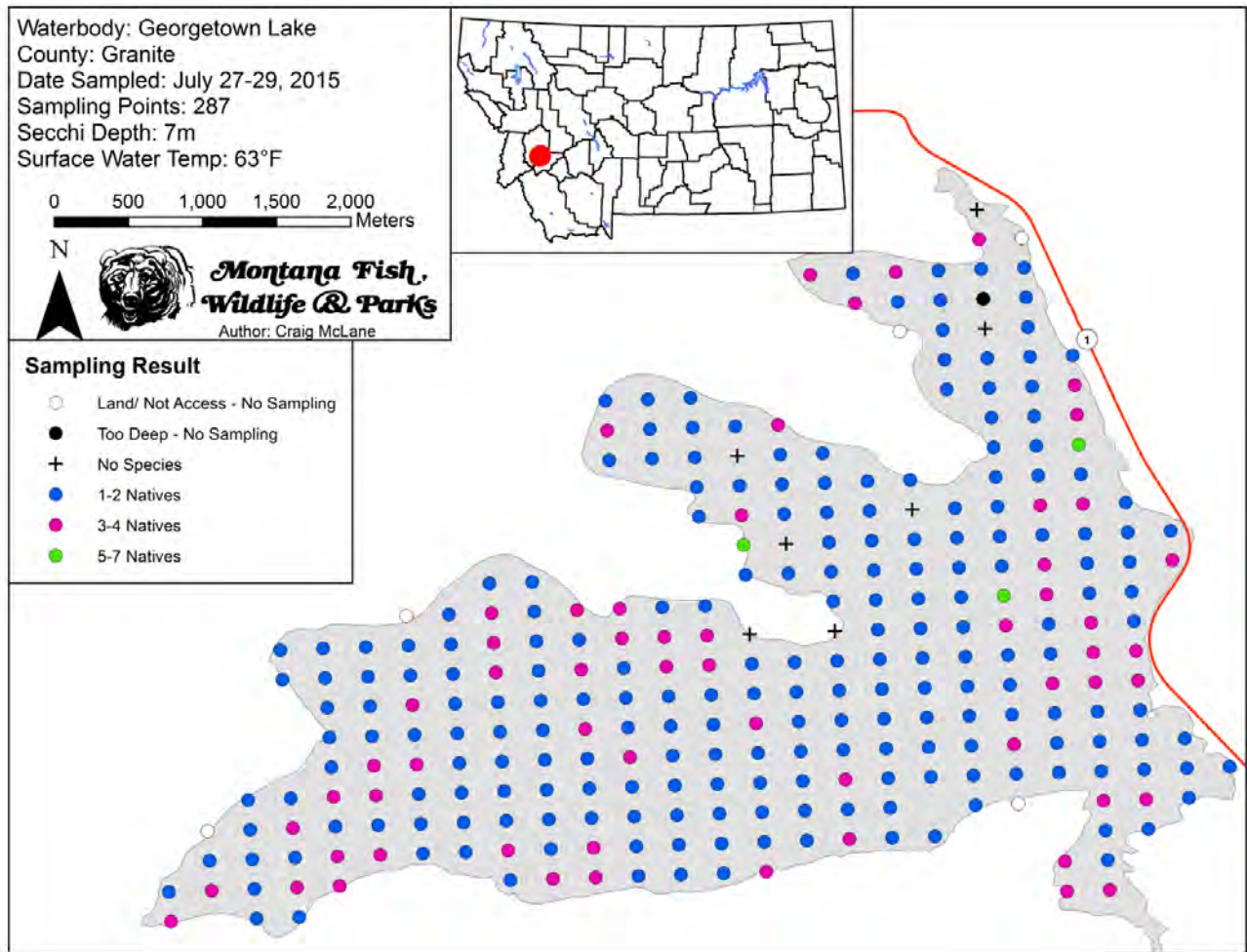


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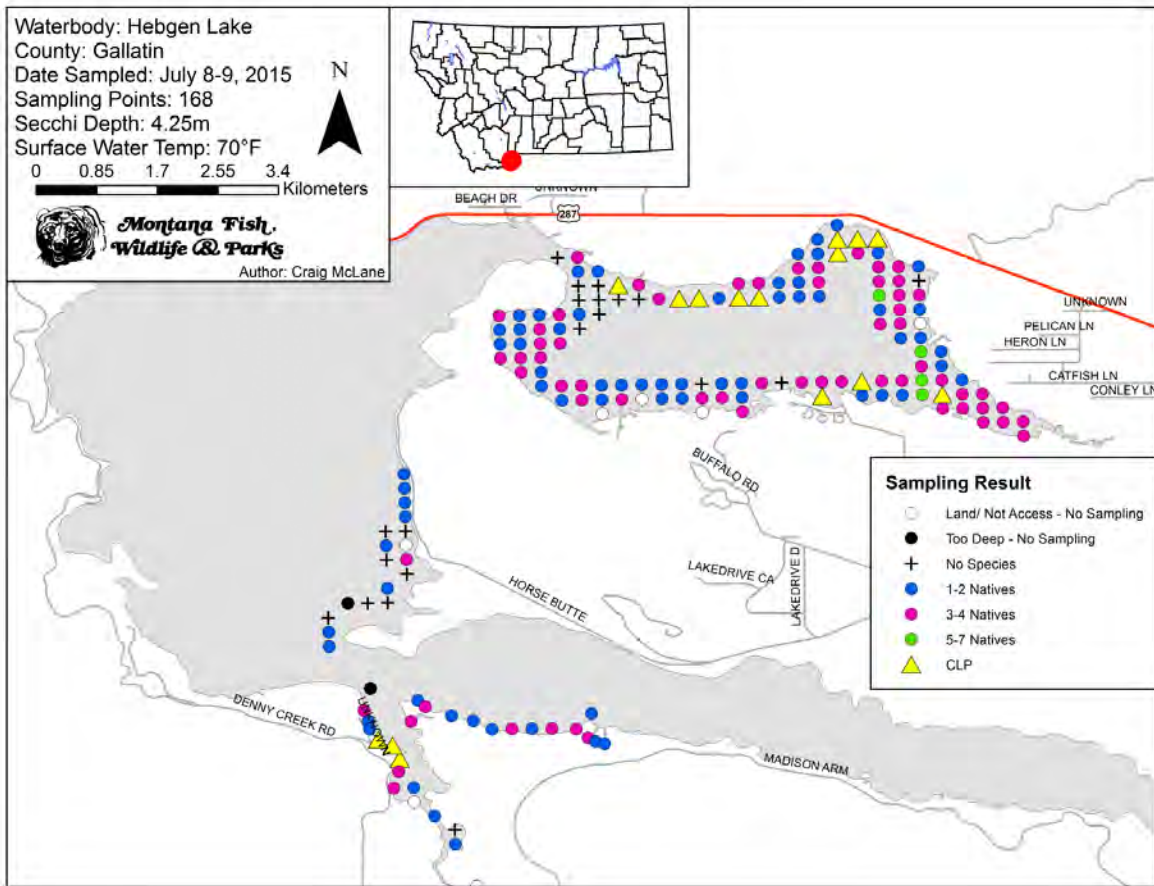
Ft Peck Lake	n=195	Count	Frequency of Occurrence %
No species detected	-	145	74.4%
<i>Potamogeton pectinatus</i>	Sago Pondweed	33	16.9%
<i>Myriophyllum spicatum</i>	Eurasian watermilfoil	17	8.7%
<i>Potamogeton crispus</i>	Curlyleaf Pondweed	2	1.0%
<i>Sagittaria cuneata</i>	Northern arrowhead	1	0.5%

18. Georgetown Lake



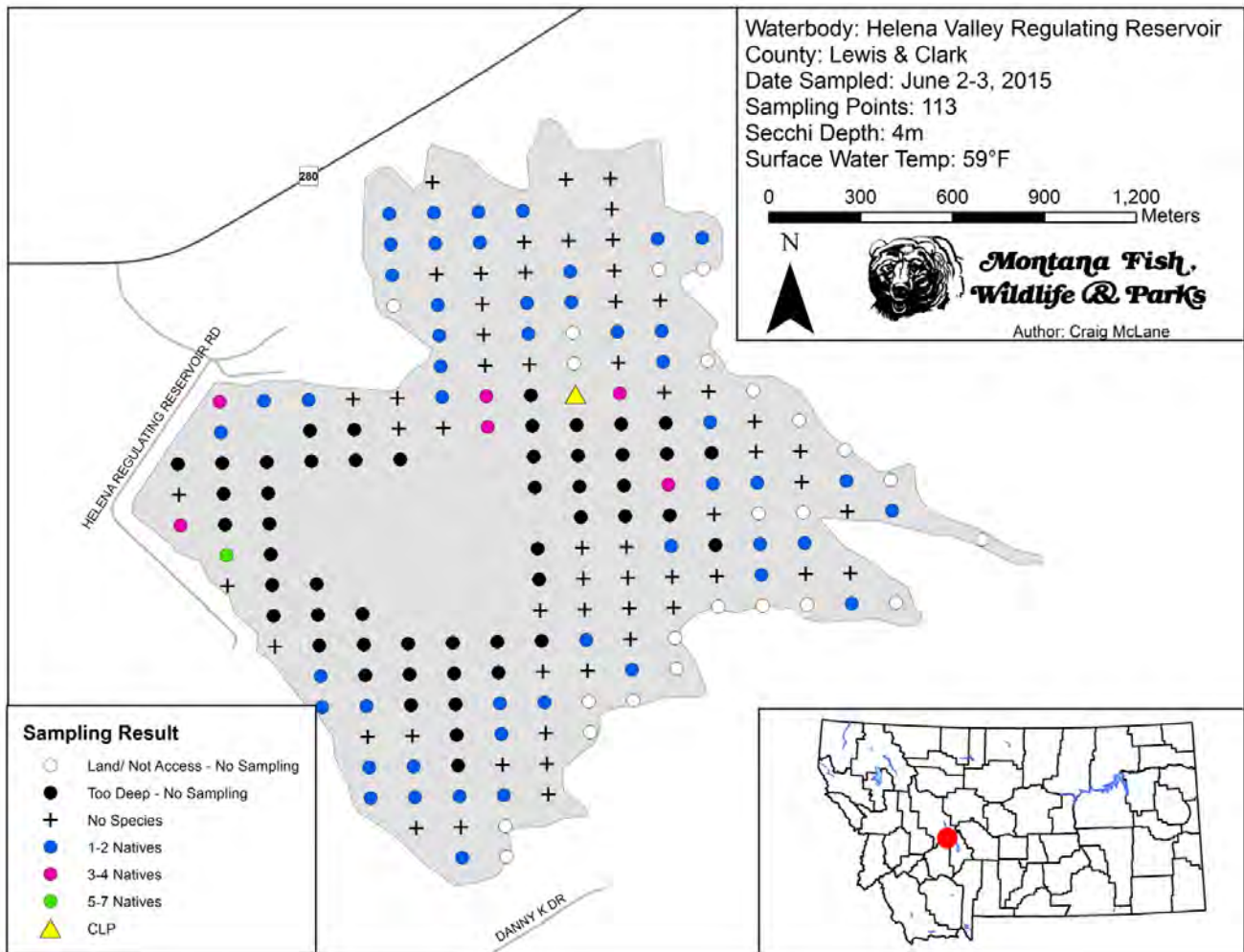
Georgetown Lake	n=287	Count	Frequency of Occurrence %
No species detected	-	7	2.4%
<i>Chara</i> species	Muskgrass	247	86.1%
<i>Potamogeton praelongus</i>	White-stemmed pondweed	120	41.8%
<i>Ceratophyllum demersum</i>	Coontail	54	18.8%
<i>Myriophyllum sibiricum</i>	Northern watermilfoil	32	11.1%
<i>Potamogeton richardsonii</i>	Richardson's pondweed	18	6.3%
<i>Elodea</i> species	Waterweed species	17	5.9%
<i>Potamogeton gramineus</i>	Grass-leaved pondweed	12	4.2%
<i>Lemna trisulca</i>	Star Duckweed	6	2.1%
<i>Potamogeton pectinatus</i>	Sago Pondweed	5	1.7%
<i>Ranunculus aquatilis</i>	White waterbuttercup	5	1.7%
<i>Alisma gramineum</i>	Narrowleaf water-plantain	3	1.0%

19. Hebgen Lake



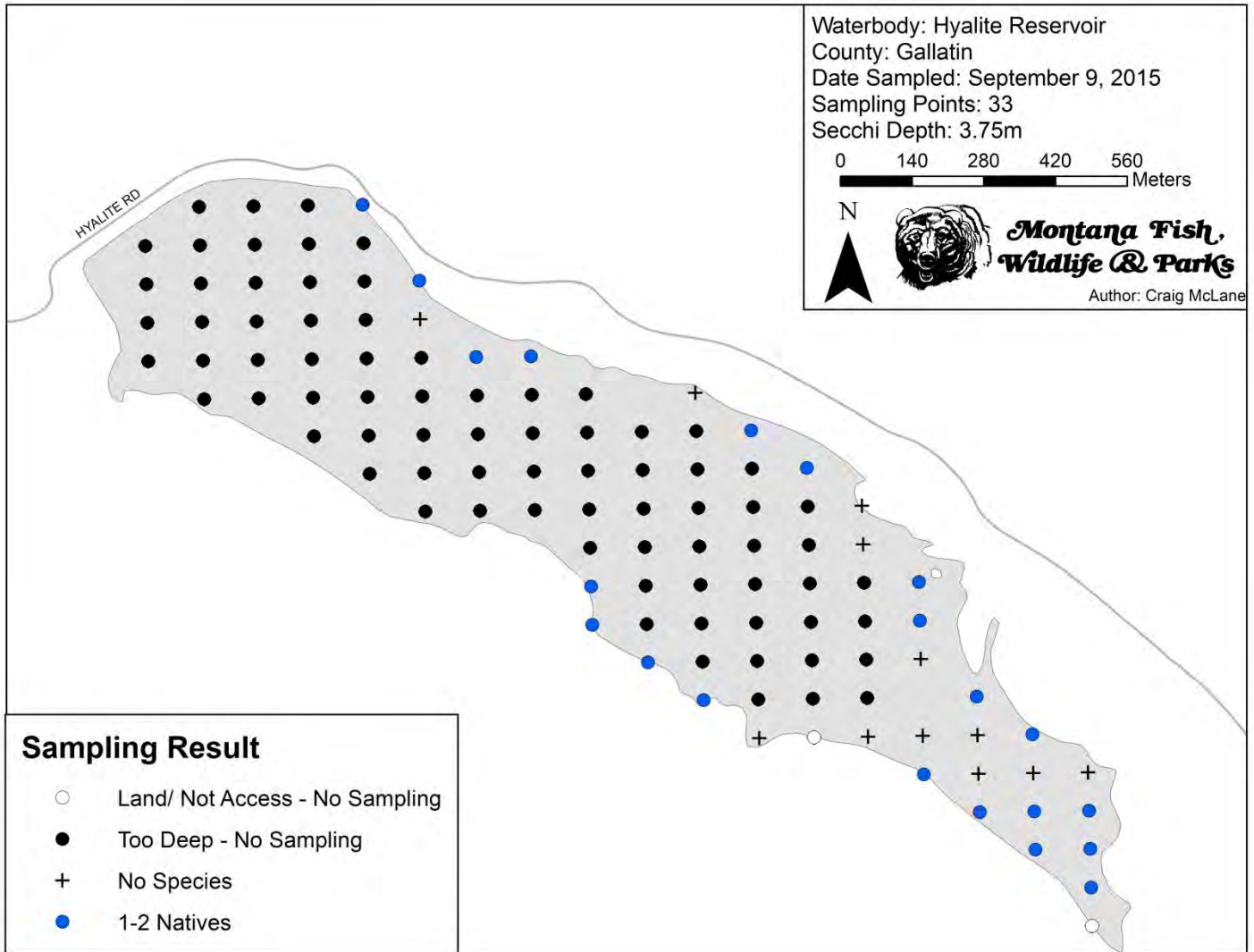
Hebgen Reservoir	n=168	Count	Frequency of Occurrence %
No species detected	-	20	11.9%
<i>Elodea species</i>	Waterweed species	123	73.2%
<i>Chara species</i>	Muskgrass	73	43.5%
<i>Potamogeton foliosus</i>	Leafy pondweed	70	41.7%
<i>Myriophyllum sibiricum</i>	Northern watermilfoil	37	22.0%
<i>Ceratophyllum demersum</i>	Coontail	16	9.5%
<i>Potamogeton crispus</i>	Curlyleaf Pondweed	15	8.9%
<i>Potamogeton filiformis</i>	Slender leaved pondweed	13	7.7%
<i>Ranunculus aquatilis</i>	White waterbuttercup	12	7.1%
<i>Potamogeton richardsonii</i>	Richardson's pondweed	10	6.0%
<i>Isoetes species</i>	Quillwort	5	3.0%
<i>Potamogeton gramineus</i>	Grass-leaved pondweed	5	3.0%
<i>Sagittaria cuneata</i>	Northern arrowhead	2	1.2%
<i>Potamogeton zosteriformis</i>	Flat-stem pondweed	1	0.6%

20. Helena Valley Regulating Reservoir



Helena Valley Regulating Reservoir	n=113	Count	Frequency of Occurrence %
No species detected	-	56	49.6%
<i>Potamogeton foliosus</i>	Leafy pondweed	21	18.6%
<i>Isoetes species</i>	Quillwort	16	14.2%
<i>Callitriche hermaphroditica</i>	Autumnal water-starwort	14	12.4%
<i>Ceratophyllum demersum</i>	Coontail	13	11.5%
<i>Elodea species</i>	Waterweed species	10	8.8%
<i>Chara species</i>	Muskgrass	3	2.7%
<i>Potamogeton pectinatus</i>	Sago Pondweed	3	2.7%
<i>Potamogeton species</i>	Pondweed species	3	2.7%
<i>Potamogeton crispus</i>	Curlyleaf Pondweed	1	0.9%
<i>Myriophyllum sibiricum</i>	Northern watermilfoil	1	0.9%
<i>Ranunculus aquatilis</i>	White waterbuttercup	1	0.9%
<i>Polygonum amphibium</i>	Water smartweed	1	0.9%

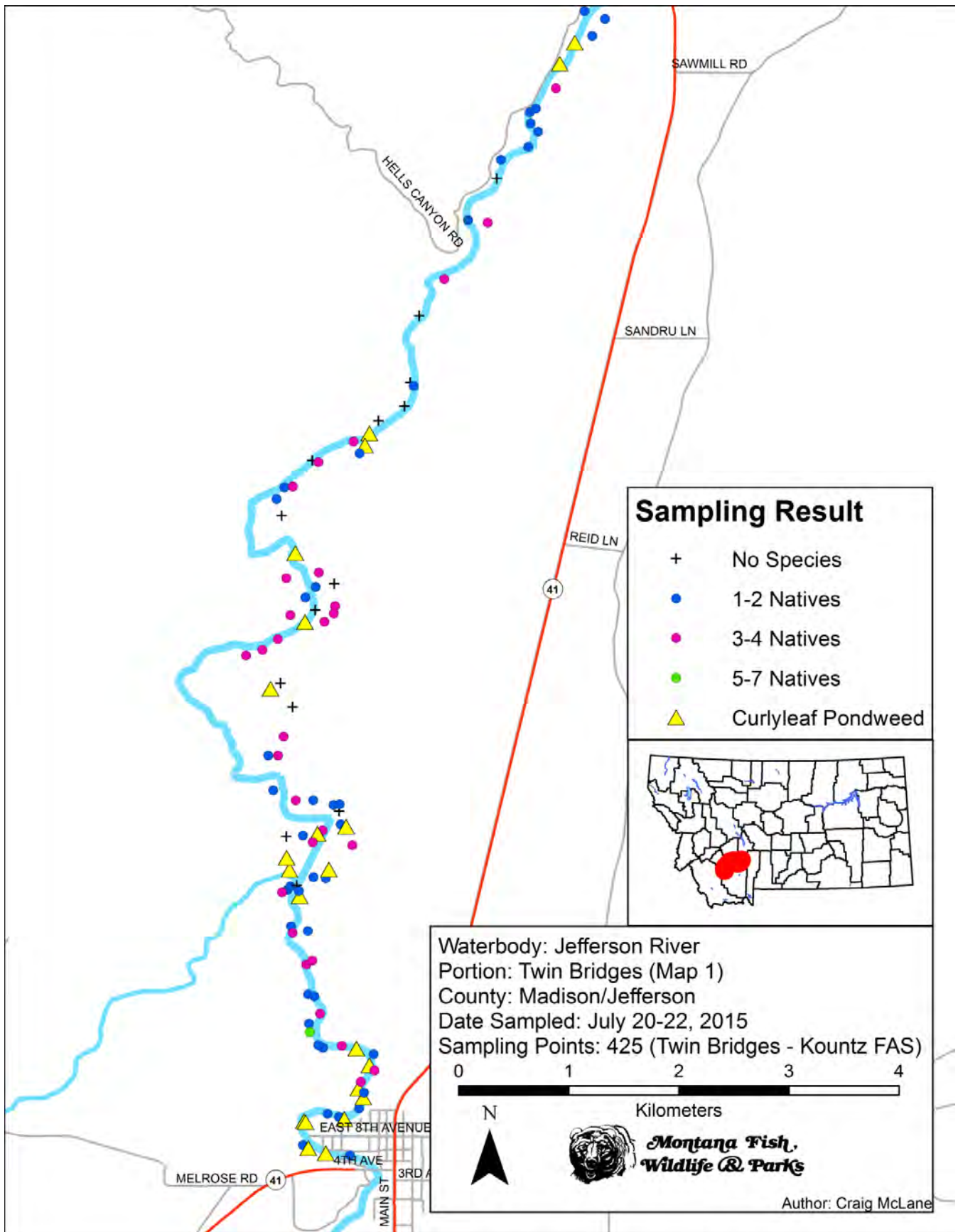
21. Hyalite Reservoir

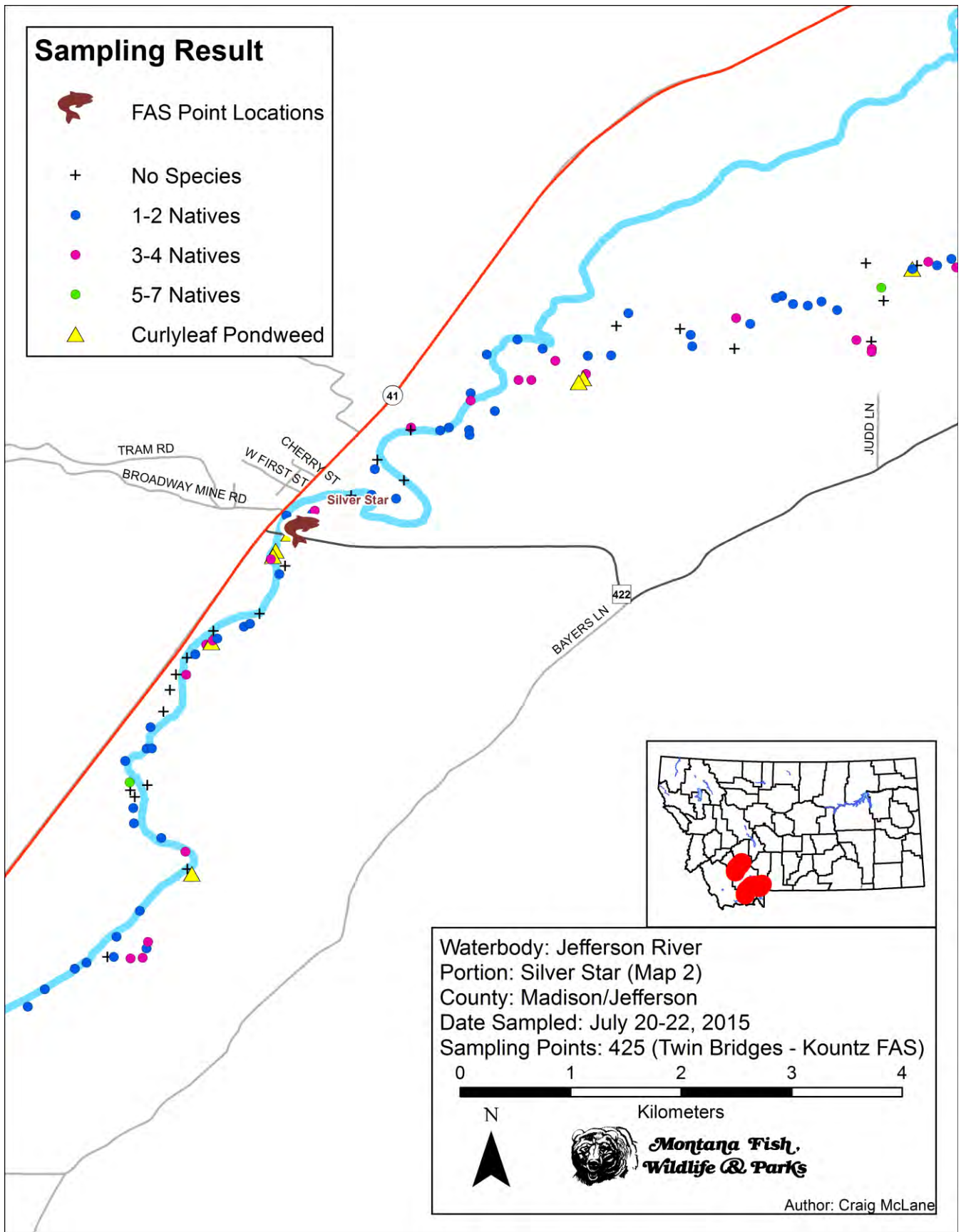


Hyalite Reservoir	n=33	Count	Frequency of Occurrence %
No species detected	-	12	36.4%
<i>Elodea species</i>	Waterweed species	21	63.6%
<i>Chara species</i>	Muskgrass	3	9.1%

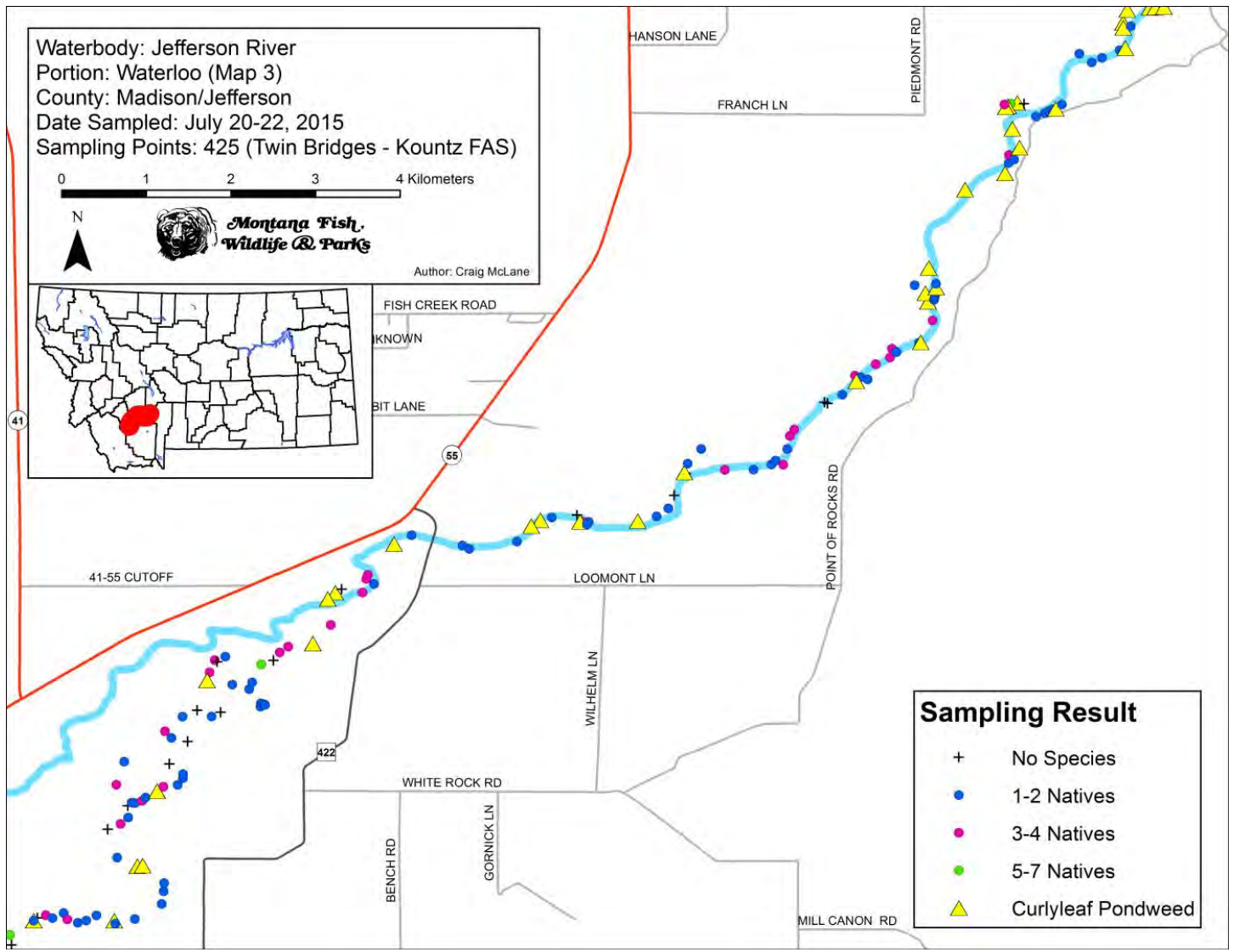
22. Jefferson River (Twin Bridges to Kountz Bridge and Cardwell Bridge to Drouillard FAS)

Jefferson River	n=613	Count	Frequency of Occurrence %
No species detected	-	61	10.0%
<i>Elodea species</i>	Waterweed species	321	52.4%
<i>Potamogeton pectinatus</i>	Sago Pondweed	267	43.6%
<i>Potamogeton crispus</i>	Curlyleaf Pondweed	139	22.7%
<i>Myriophyllum spicatum</i>	Eurasian watermilfoil	118	19.2%
<i>Ranunculus aquatilis</i>	White waterbuttercup	99	16.2%
<i>Myriophyllum sibiricum</i>	Northern watermilfoil	53	8.6%
<i>Ruppia cirrhosa</i>	Ditchgrass	49	8.0%
<i>Chara species</i>	Muskgrass	45	7.3%
<i>Potamogeton foliosus</i>	Leafy pondweed	26	4.2%
<i>Ceratophyllum demersum</i>	Coontail	22	3.6%
<i>Sagittaria cuneata</i>	Northern arrowhead	18	2.9%
<i>Fontinalis antipyretica</i>	Common water moss	7	1.1%
<i>Hippuris vulgaris</i>	Mare's tail	6	1.0%
<i>Polygonum amphibium</i>	Water smartweed	6	1.0%
<i>Lemna species</i>	Duckweed species	3	0.5%
<i>Potamogeton praelongus</i>	White-stemmed pondweed	1	0.2%

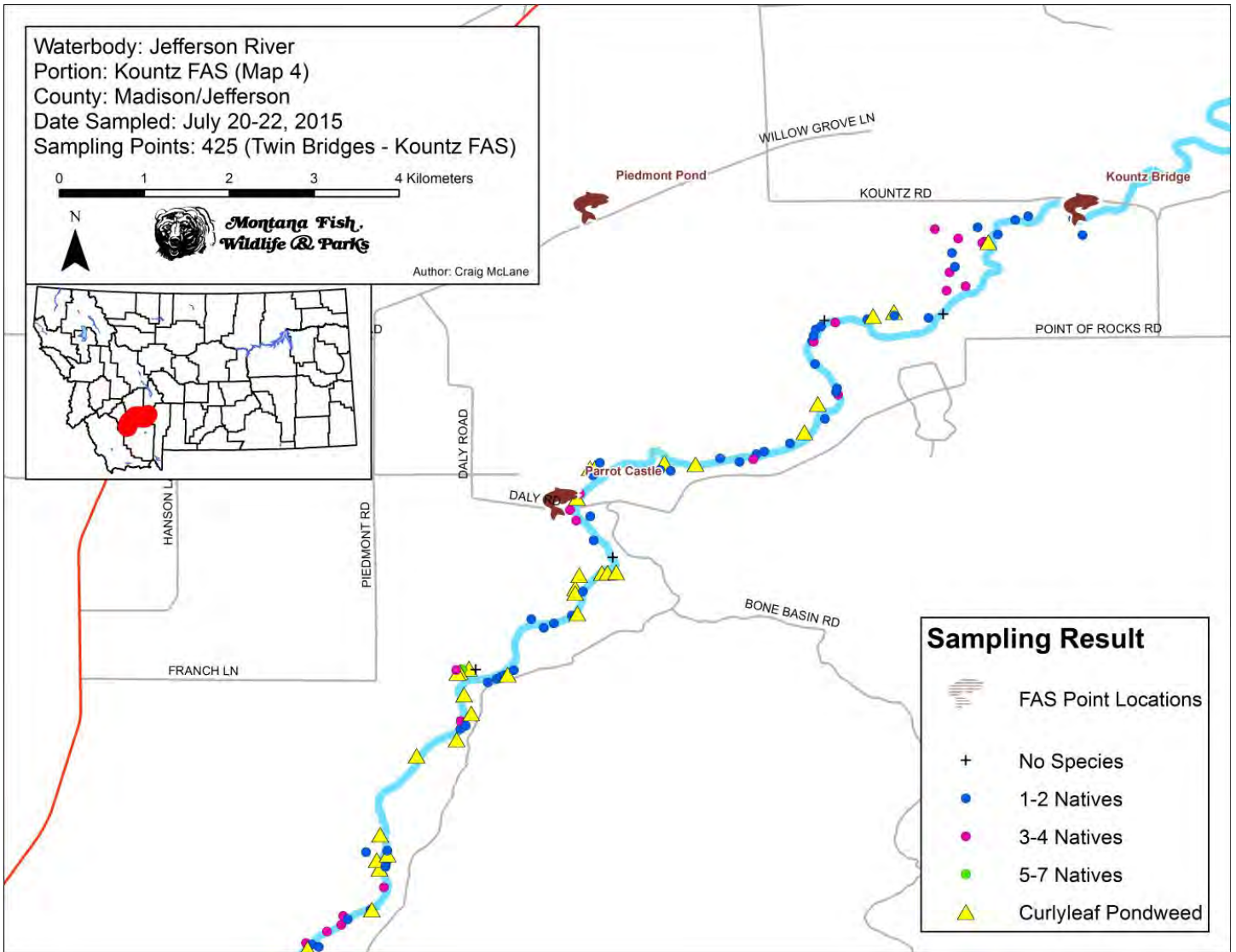


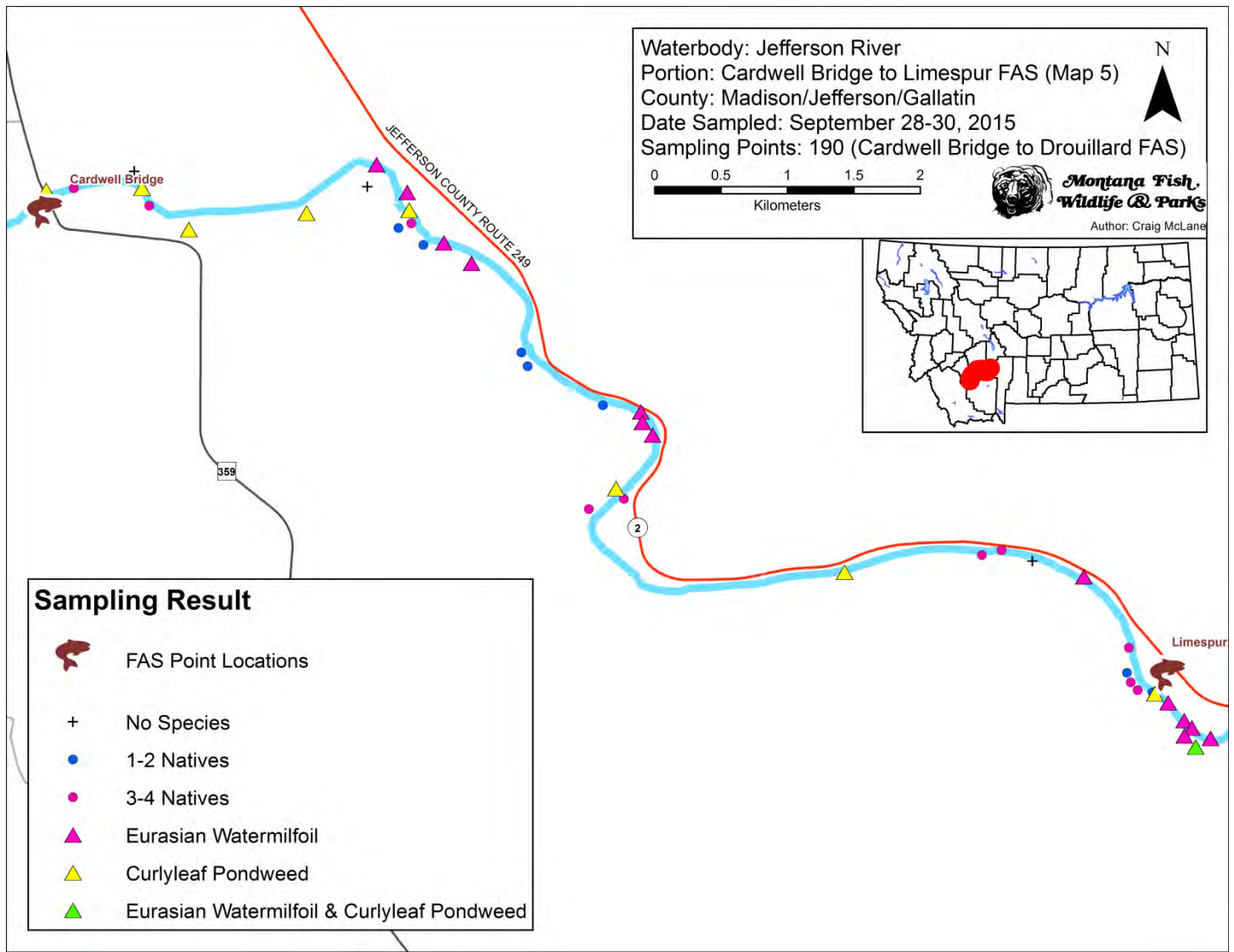


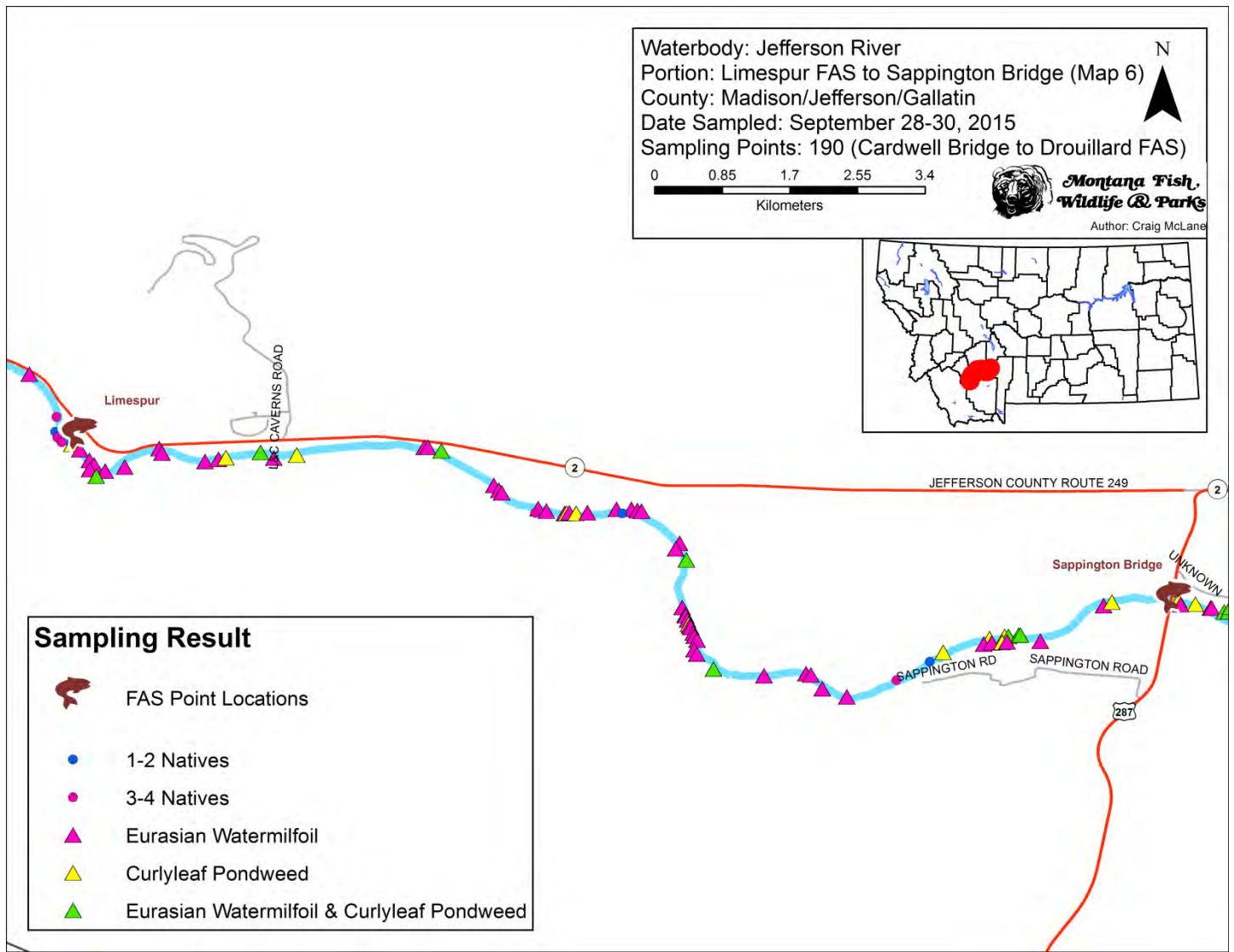
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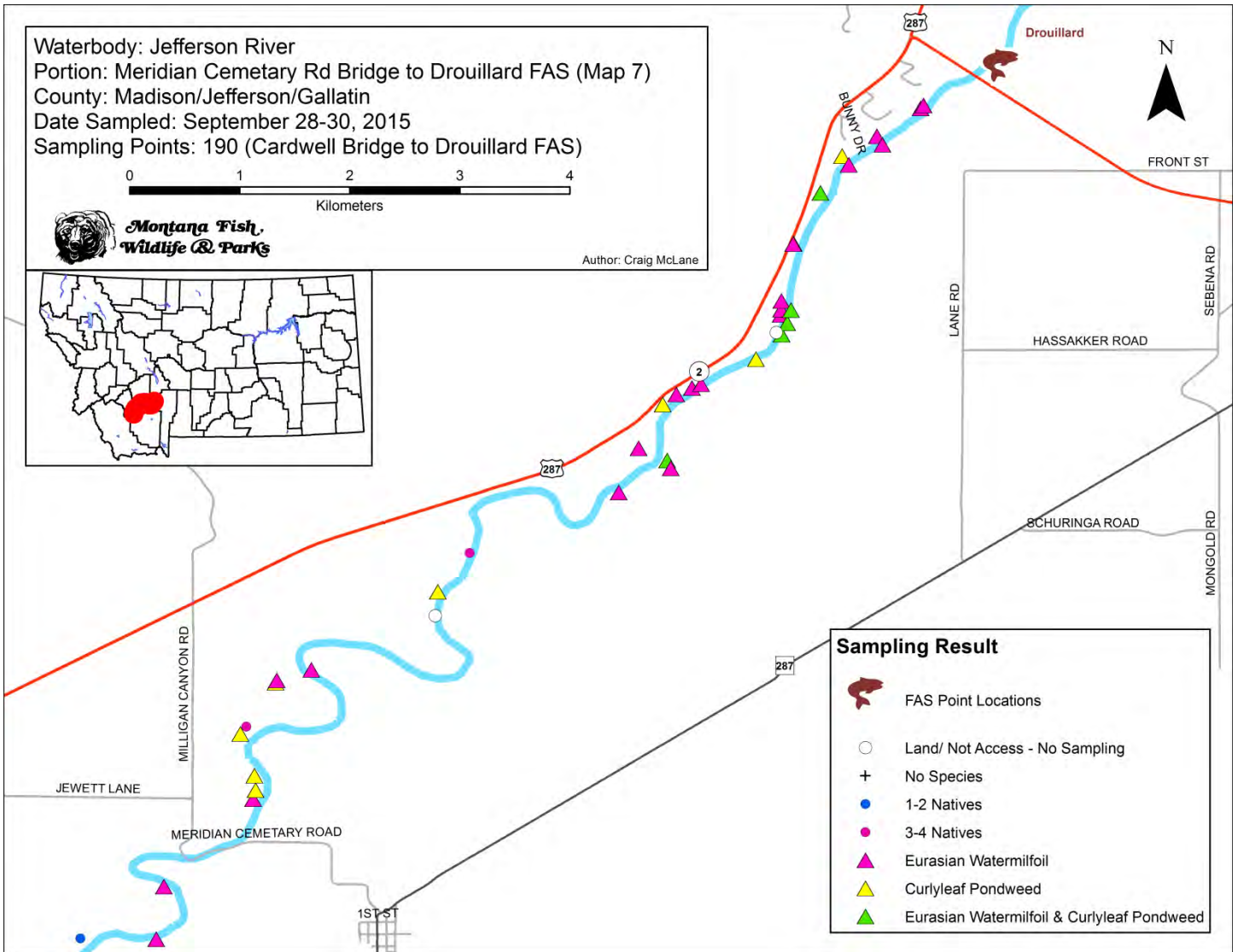
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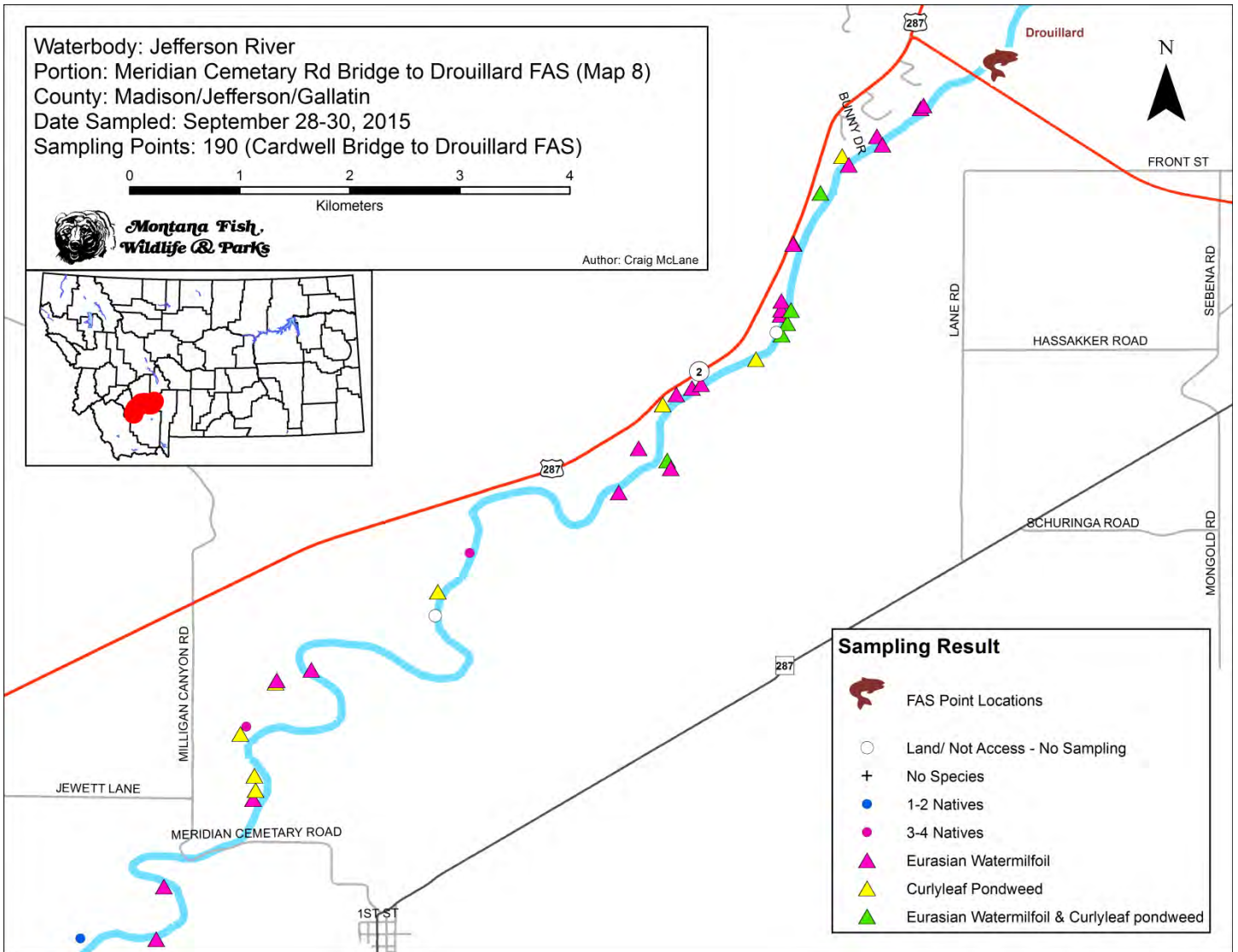




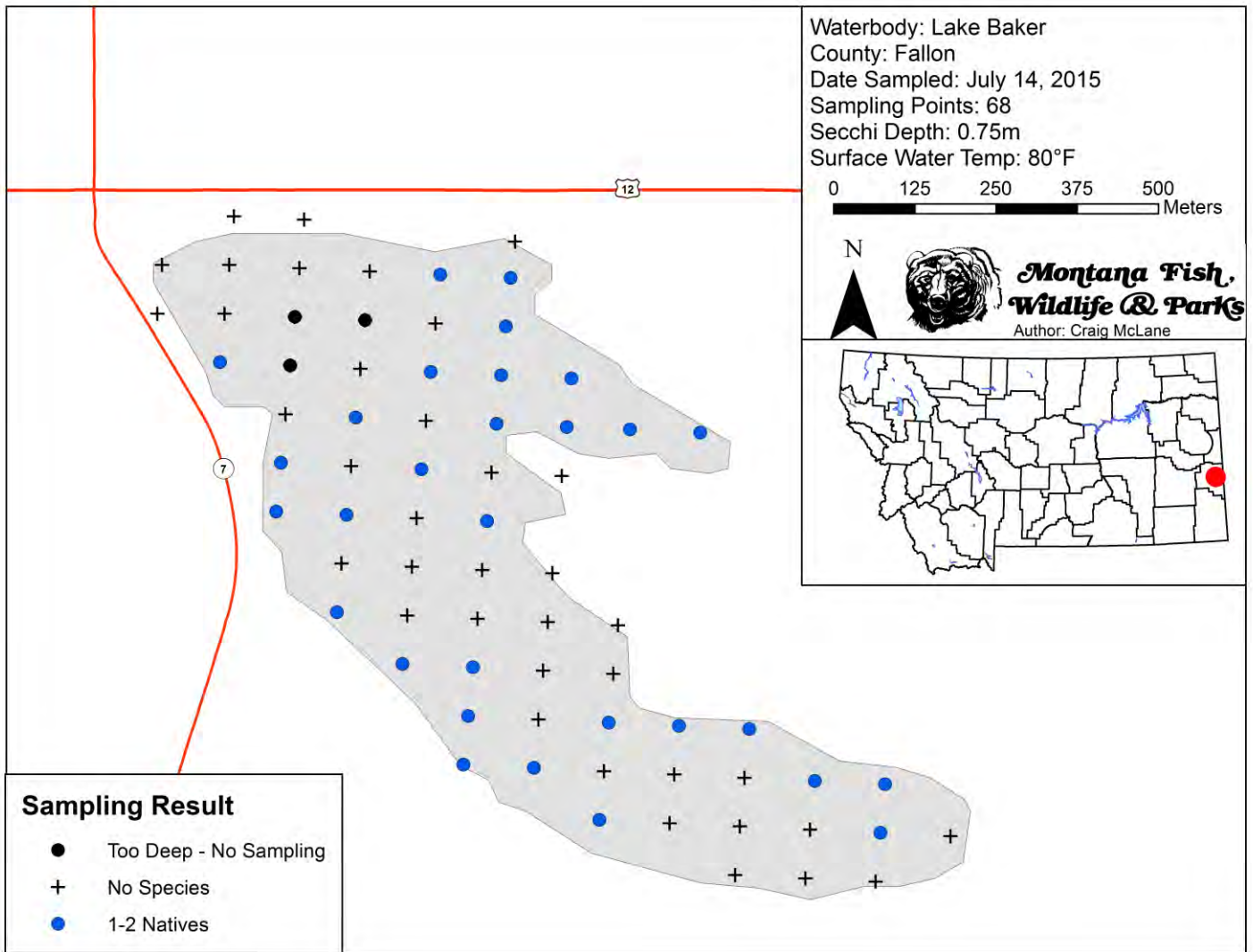
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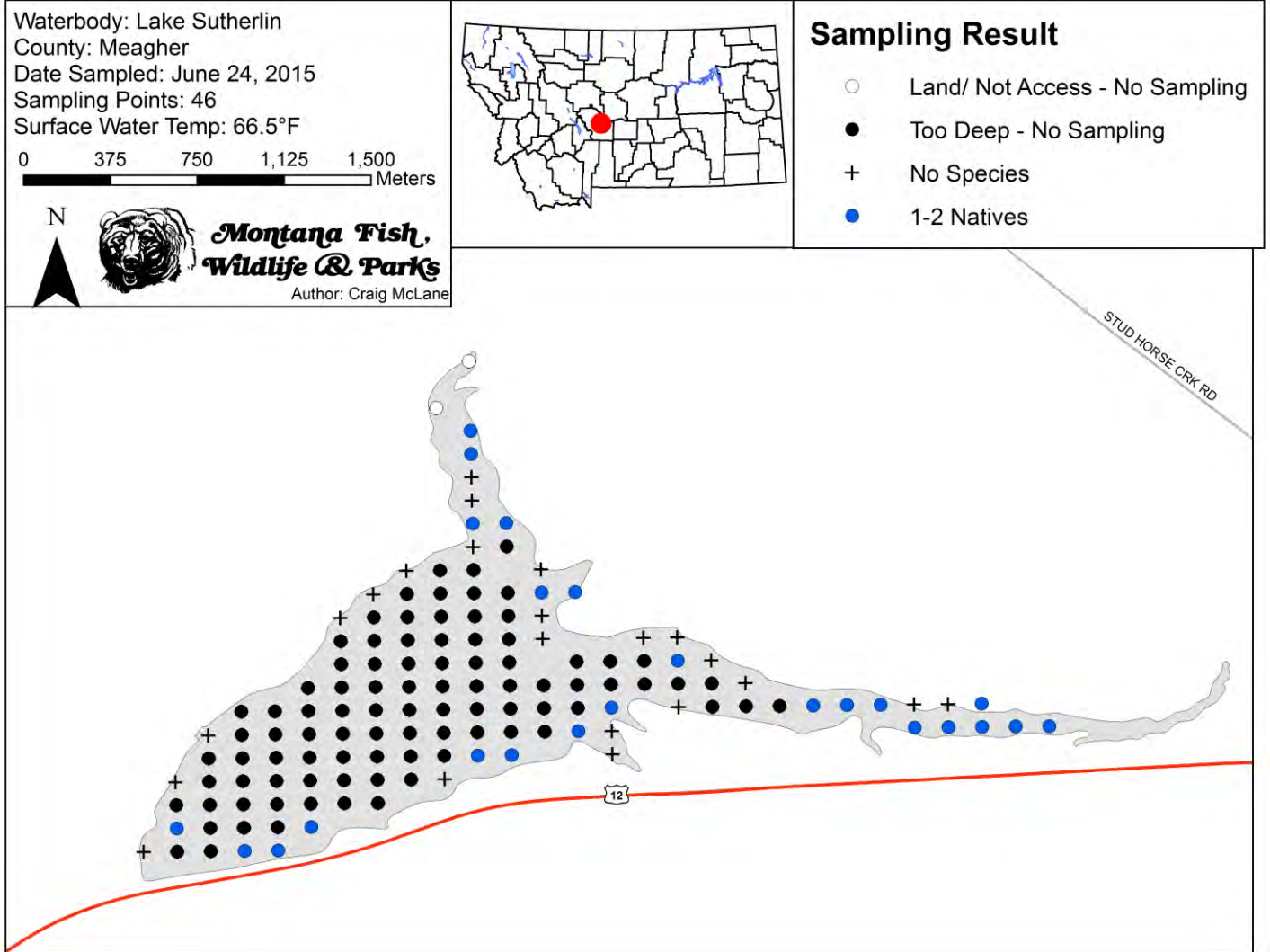


23. Lake Baker



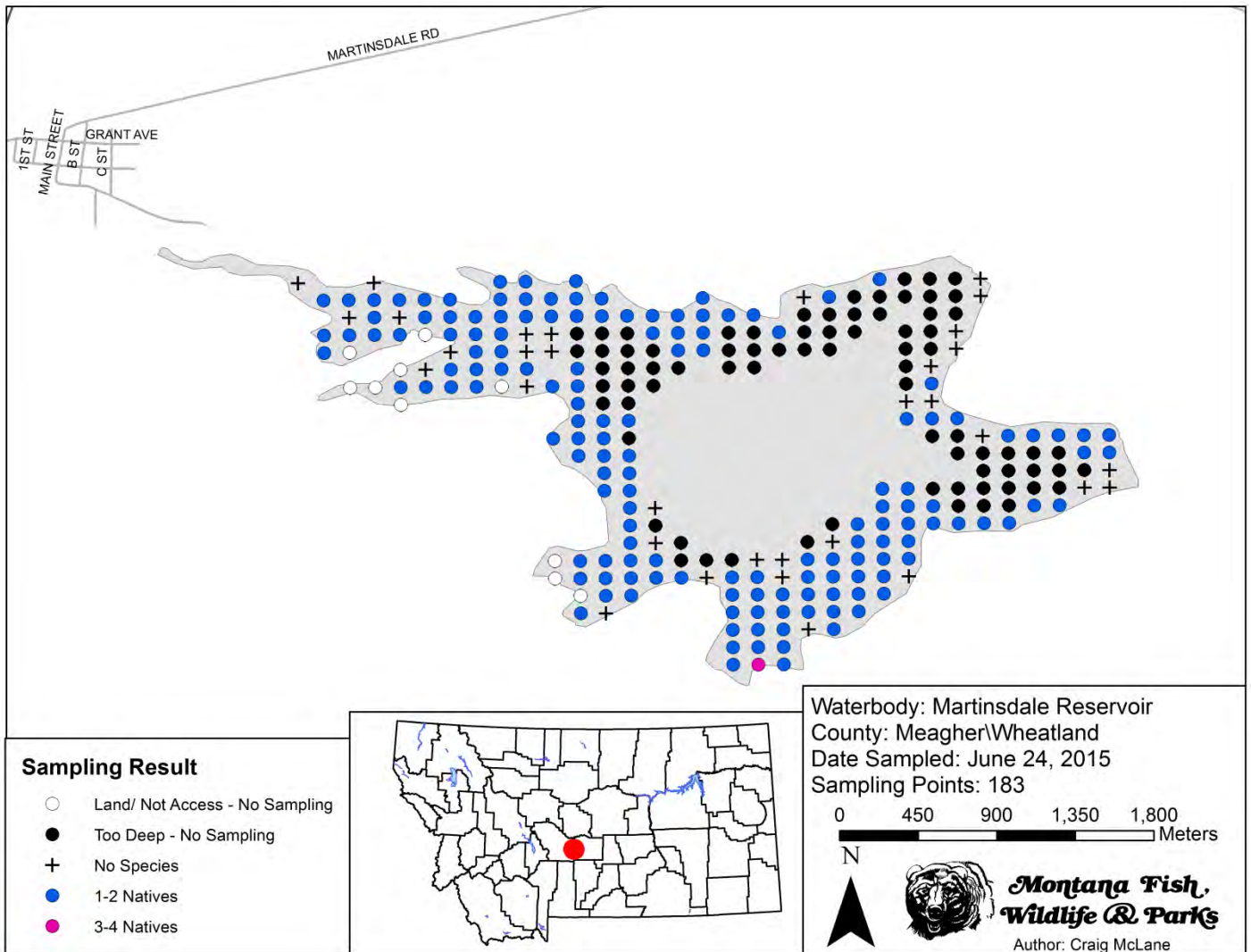
Lake Baker	n=68	Count	Frequency of Occurrence %
No species detected	-	38	55.9%
<i>Chara species</i>	Muskgrass	30	44.1%

24. Lake Sutherland



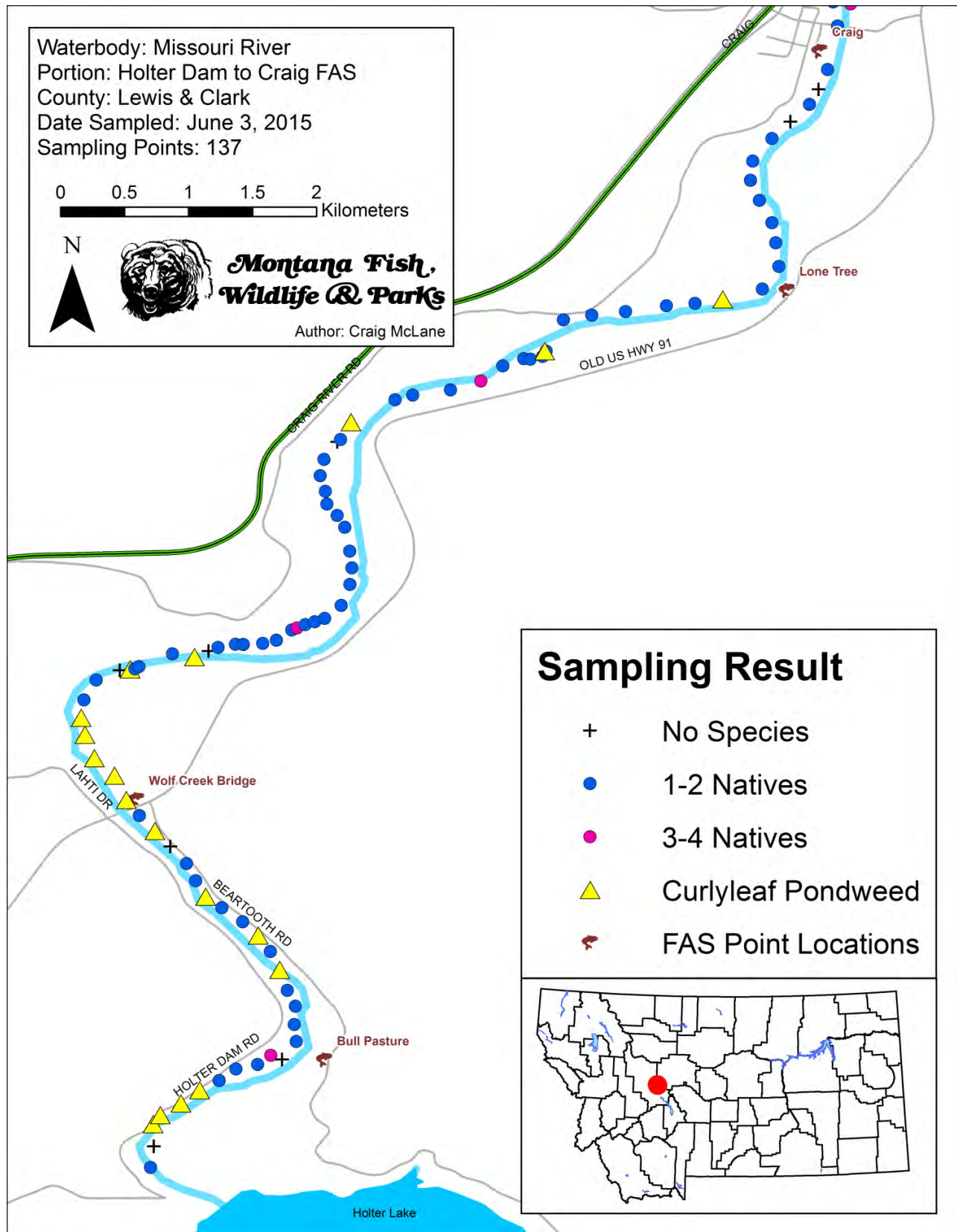
Lake Sutherland	n=46	Count	Frequency of Occurrence %
No species detected	-	22	47.8%
<i>Chara species</i>	Muskgrass	10	21.7%
<i>Fontinalis antipyretica</i>	Common water moss	7	15.2%
<i>Potamogeton filiformis</i>	Slender leaved pondweed	6	13.0%
<i>Ranunculus aquatilis</i>	White waterbuttercup	3	6.5%
<i>Hippuris vulgaris</i>	Mare's tail	2	4.3%
<i>Scirpus species</i>	Bulrush species	2	4.3%
<i>Polygonum amphibium</i>	Water smartweed	1	2.2%

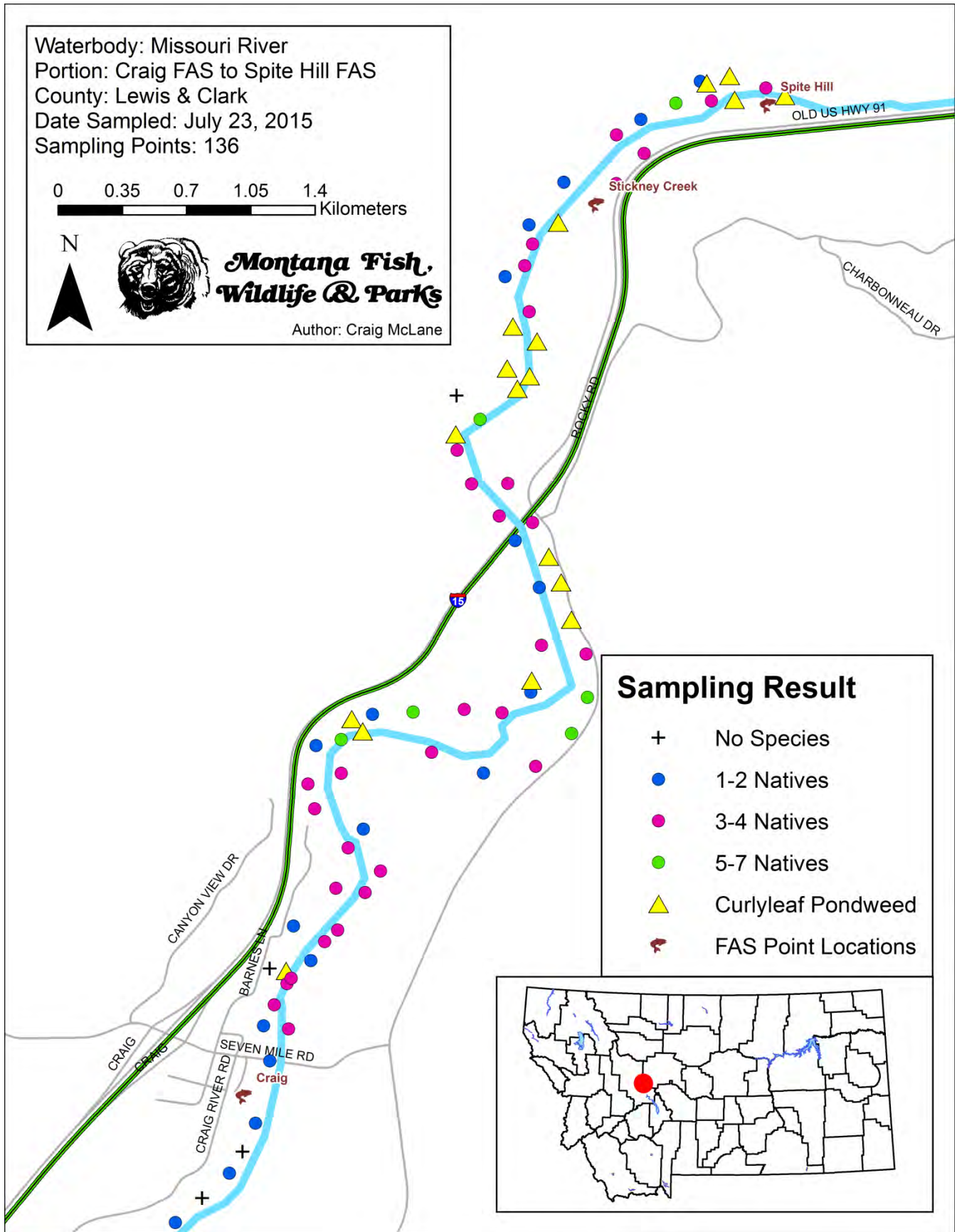
25. Martinsdale Reservoir

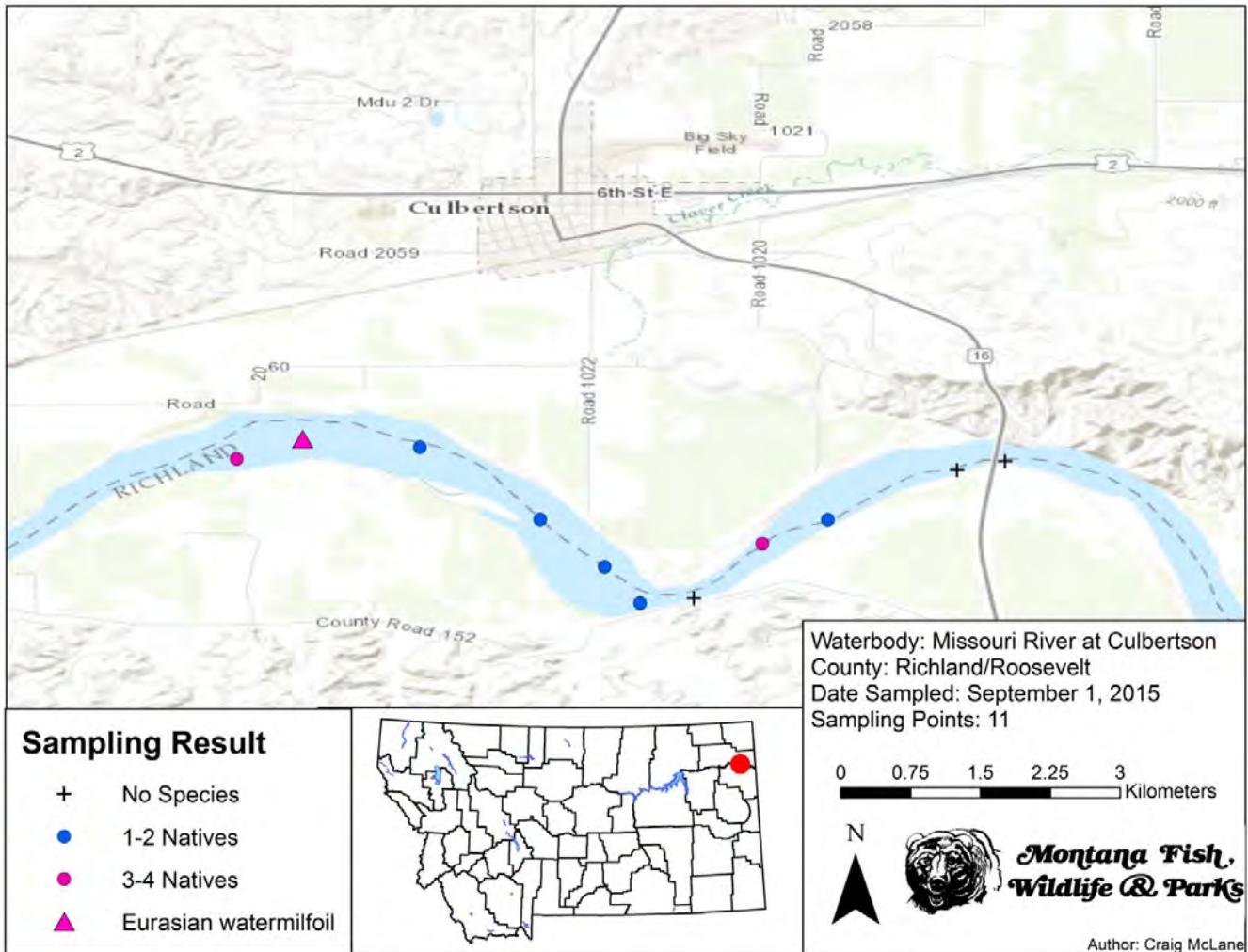


Martinsdale Reservoir	n=183	Count	Frequency of Occurrence %
No species detected	-	33	18.0%
<i>Chara species</i>	Muskgrass	139	76.0%
<i>Polygonum amphibium</i>	Water smartweed	7	3.8%
<i>Scirpus species</i>	Bulrush species	6	3.3%
<i>Potamogeton filiformis</i>	Slender leaved pondweed	6	3.3%
<i>Fontinalis antipyretica</i>	Common water moss	5	2.7%

26. Missouri River (Holter Dam to Spite Hill FAS & at Culbertson)

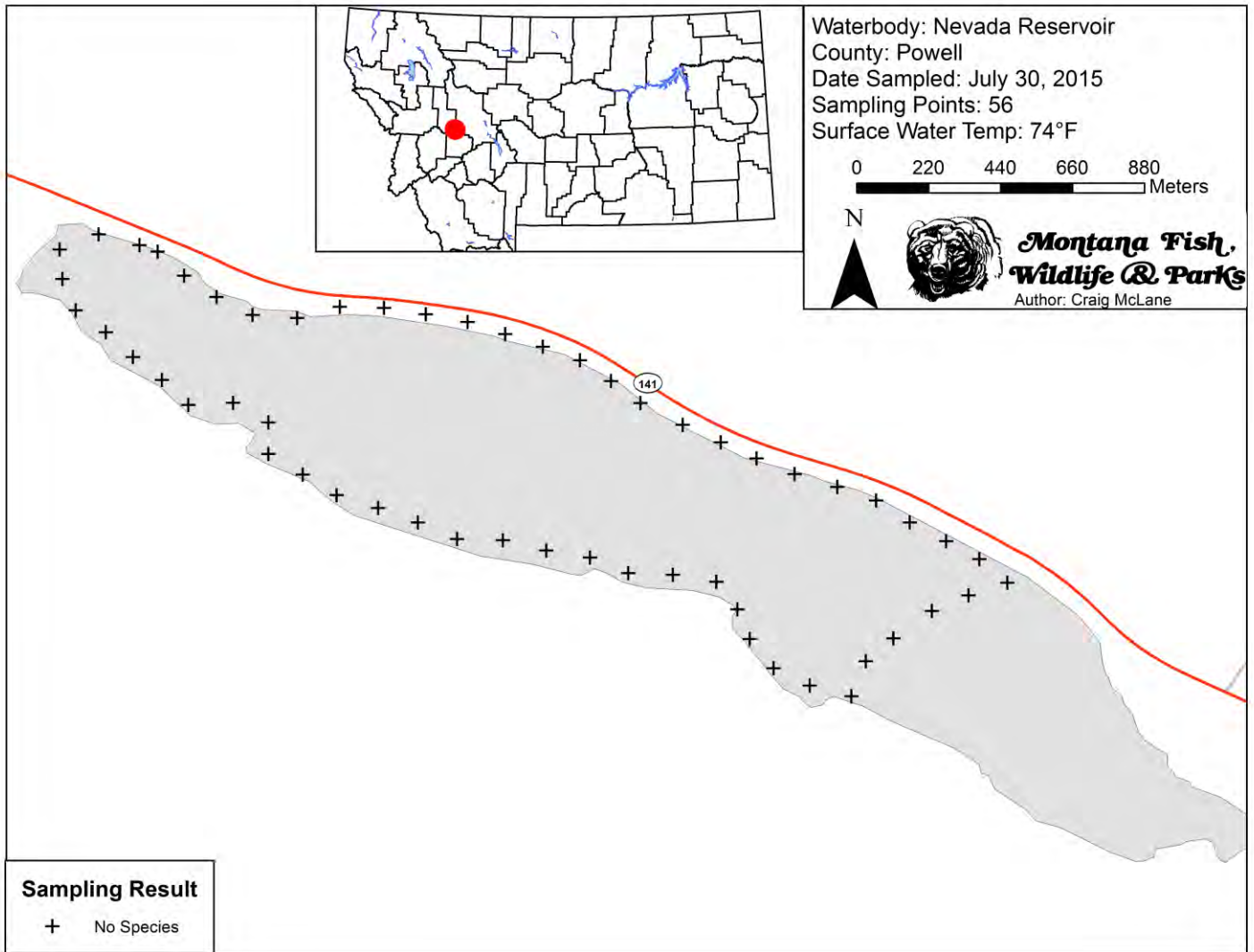






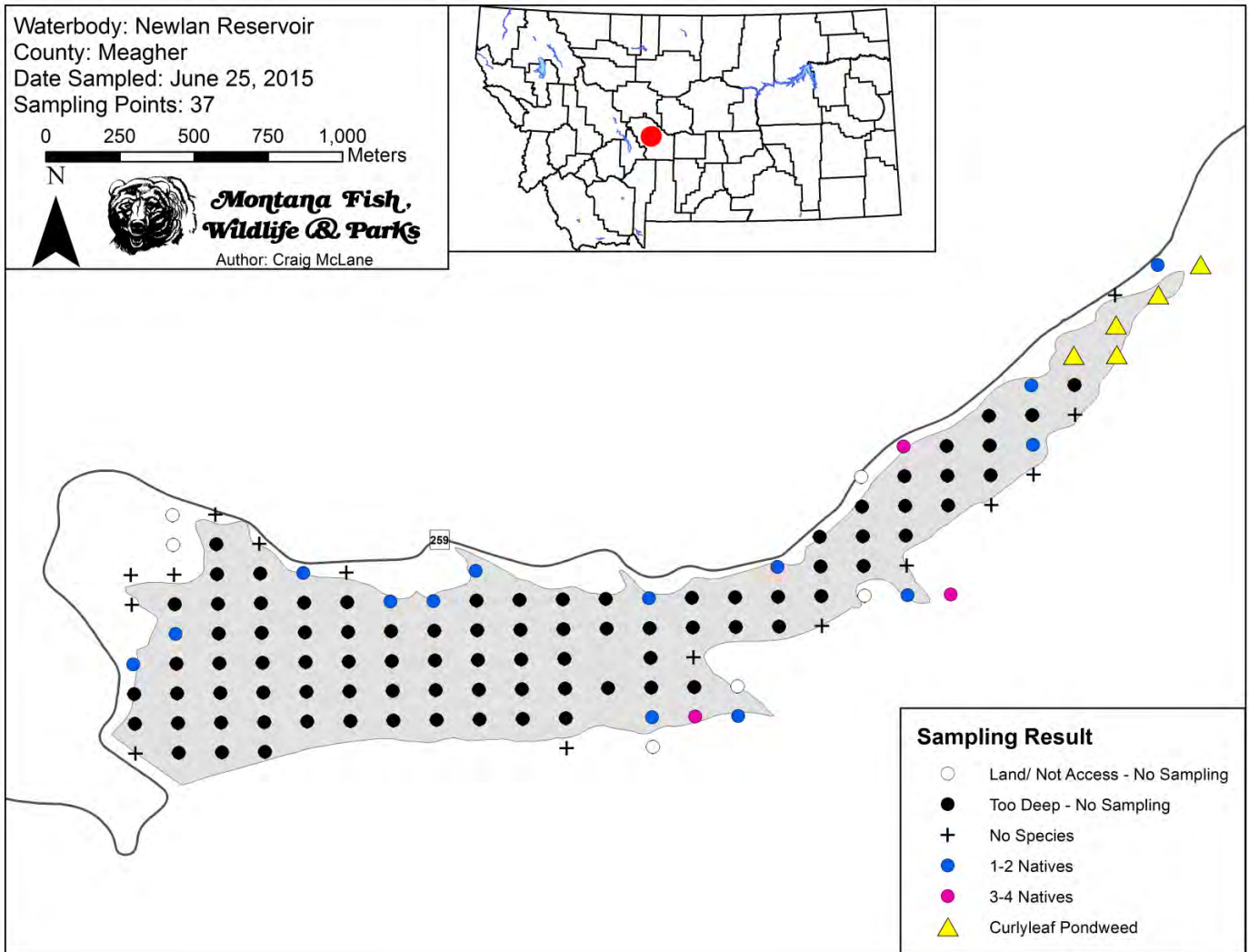
Missouri River	n=176	Count	Frequency of Occurrence %
No species detected	-	13	7.4%
<i>Ranunculus aquatilis</i>	White waterbuttercup	111	63.1%
<i>Potamogeton foliosus</i>	Leafy pondweed	66	37.5%
<i>Chara species</i>	Muskgrass	40	22.7%
<i>Potamogeton crispus</i>	Curlyleaf Pondweed	36	20.5%
<i>Elodea species</i>	Waterweed species	34	19.3%
<i>Potamogeton pectinatus</i>	Sago Pondweed	30	17.0%
<i>Myriophyllum sibiricum</i>	Northern watermilfoil	24	13.6%
<i>Fontinalis antipyretica</i>	Common water moss	9	5.1%
<i>Potamogeton filiformis</i>	Slender leaved pondweed	6	3.4%
<i>Ceratophyllum demersum</i>	Coontail	5	2.8%
<i>Sagittaria cuneata</i>	Northern arrowhead	4	2.3%
<i>Lemna species</i>	Duckweed species	2	1.1%
<i>Limosella aquatica</i>	Water mudwort	2	1.1%
<i>Ruppia cirrhosa</i>	Ditchgrass	2	1.1%
<i>Myriophyllum spicatum</i>	Eurasian watermilfoil	1	0.6%

27. Nevada Reservoir



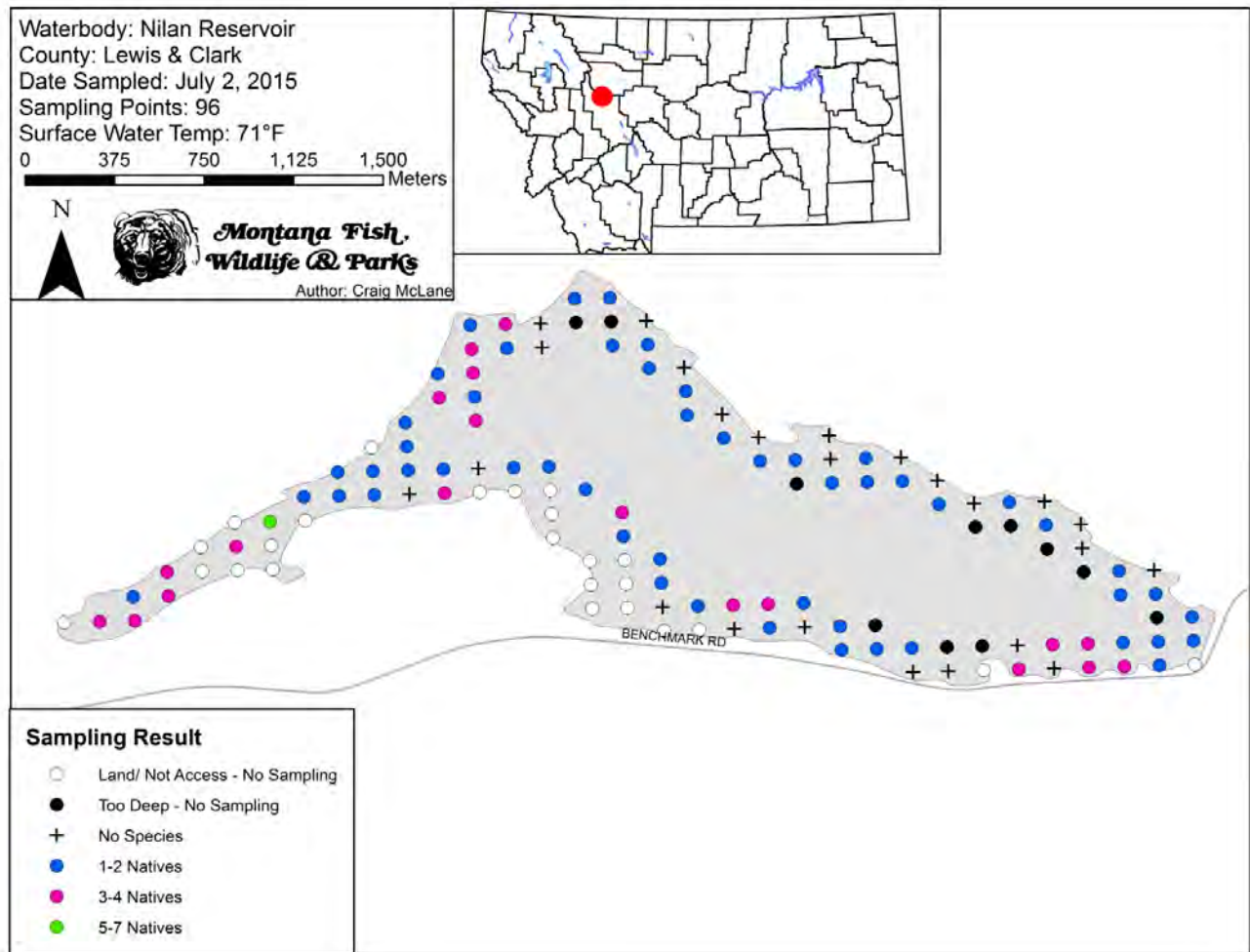
Nevada Creek Reservoir	n=56	Count	Frequency of Occurrence %
No species detected	-	56	100%

28. Newlan Reservoir



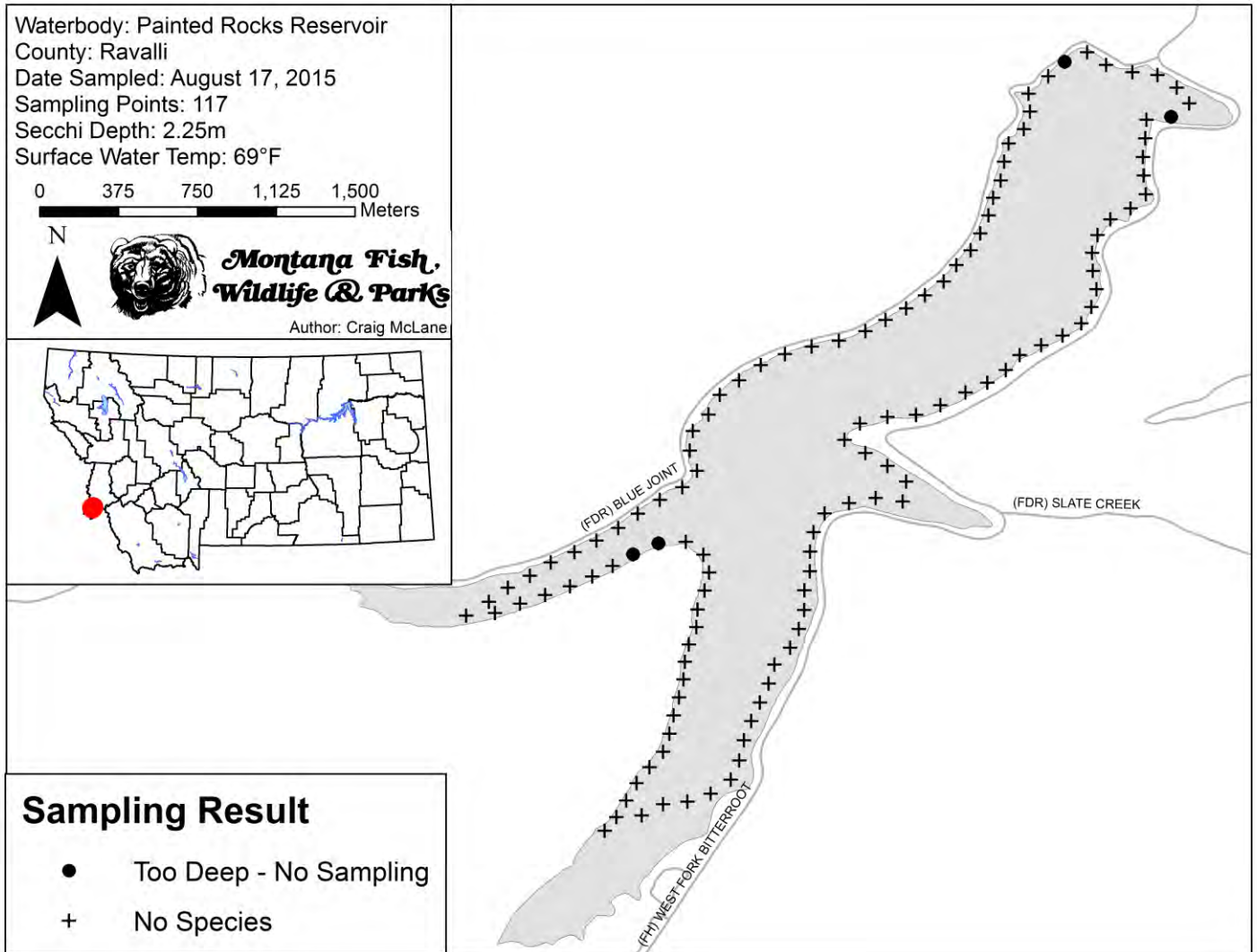
Newlan Reservoir	n=37	Count	Frequency of Occurrence %
No species detected	-	15	40.5%
<i>Chara species</i>	Muskgrass	7	18.9%
<i>Ceratophyllum demersum</i>	Coontail	6	16.2%
<i>Ranunculus aquatilis</i>	White waterbuttercup	6	16.2%
<i>Potamogeton crispus</i>	Curlyleaf Pondweed	5	13.5%
<i>Nitella species</i>	Brittlewort	5	13.5%
<i>Myriophyllum sibiricum</i>	Northern watermilfoil	4	10.8%
<i>Elodea species</i>	Waterweed species	3	8.1%
<i>Fontinalis antipyretica</i>	Common water moss	3	8.1%
<i>Zannichellia palustris</i>	Horned pondweed	1	2.7%
<i>Potamogeton filiformis</i>	Slender leaved pondweed	1	2.7%

29. Nilan Reservoir



Nilan Reservoir	n=96	Count	Frequency of Occurrence %
No species detected	-	24	25.0%
<i>Chara species</i>	Muskgrass	49	51.0%
<i>Ranunculus aquatilis</i>	White waterbuttercup	21	21.9%
<i>Ceratophyllum demersum</i>	Coontail	13	13.5%
<i>Potamogeton foliosus</i>	Leafy pondweed	13	13.5%
<i>Fontinalis antipyretica</i>	Common water moss	9	9.4%
<i>Potamogeton pectinatus</i>	Sago Pondweed	9	9.4%
<i>Myriophyllum sibiricum</i>	Northern watermilfoil	7	7.3%
<i>Polygonum amphibium</i>	Water smartweed	6	6.3%
<i>Hippuris vulgaris</i>	Mare's tail	3	3.1%
<i>Potamogeton richardsonii</i>	Richardson's pondweed	3	3.1%
<i>Potamogeton praelongus</i>	White-stemmed pondweed	2	2.1%

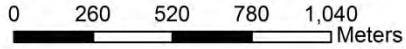
30. Painted Rocks Reservoir



Painted Rocks Reservoir	n=117	Count	Frequency of Occurrence %
No species detected	-	117	100.0%

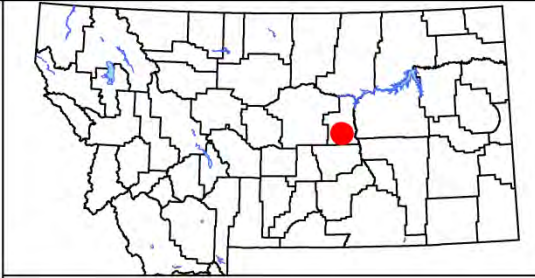
31. *Petrolia Reservoir*

Waterbody: *Petrolia Reservoir*
 County: Petroleum
 Date Sampled: June 18, 2015
 Sampling Points: 104



**Montana Fish,
 Wildlife & Parks**

Author: Craig McLane

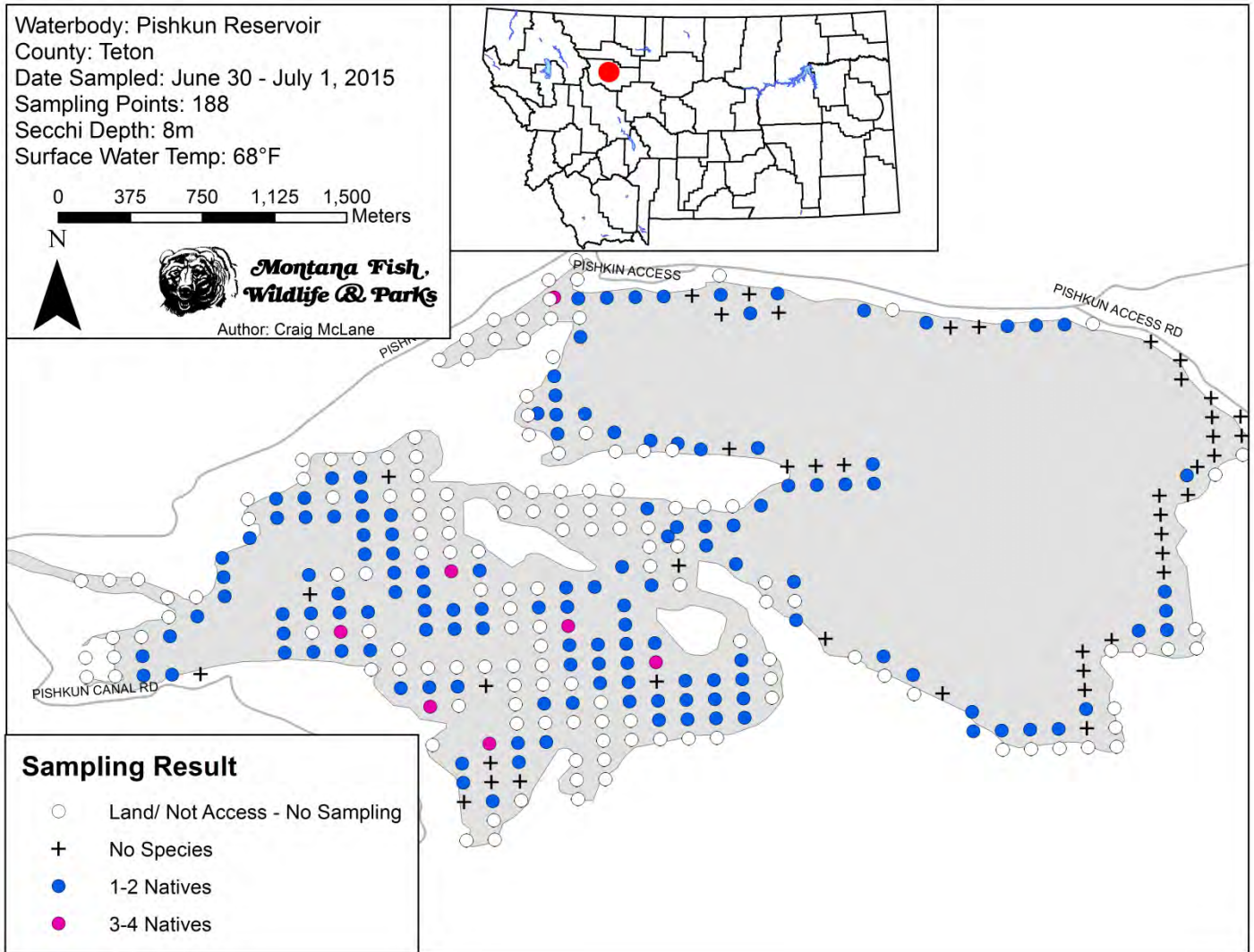


Sampling Result

- Land/ Not Access - No Sampling
- Too Deep - No Sampling
- + No Species
- 1-2 Natives

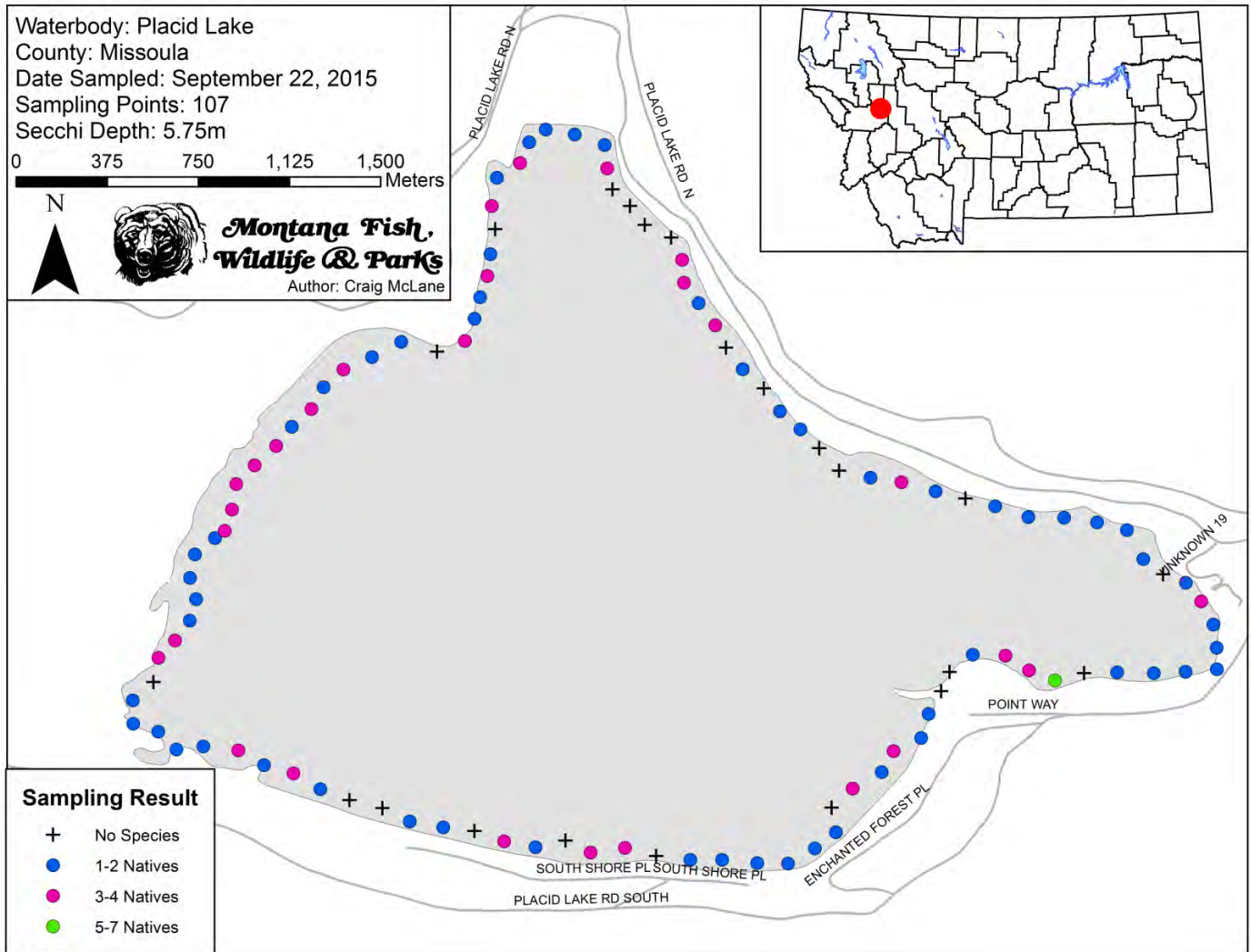
Petrolia Reservoir	n=104	Count	Frequency of Occurrence %
No species detected	-	100	96.2%
<i>Polygonum amphibium</i>	Water smartweed	2	1.9%
<i>Zannichellia palustris</i>	Horned pondweed	1	1.0%
<i>Scirpus species</i>	Bulrush species	1	1.0%

32. Pishkun Reservoir



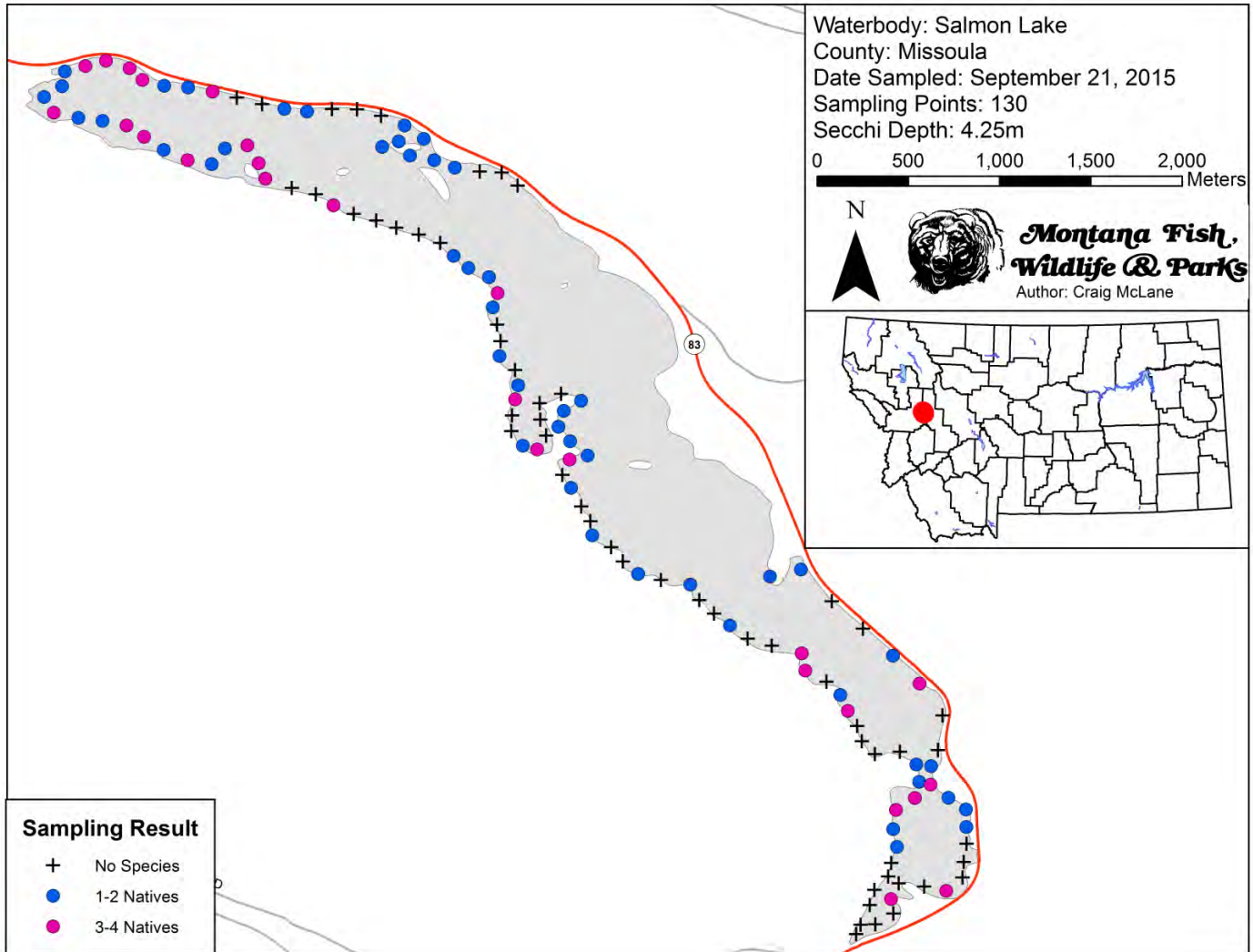
Pishkun Reservoir	n=188	Count	Frequency of Occurrence %
No species detected	-	43	22.9%
<i>Chara species</i>	Muskgrass	136	72.3%
<i>Potamogeton pectinatus</i>	Sago Pondweed	23	12.2%
<i>Ranunculus aquatilis</i>	White waterbuttercup	23	12.2%
<i>Ceratophyllum demersum</i>	Coontail	4	2.1%
<i>Elodea species</i>	Waterweed species	5	2.7%
<i>Potamogeton richardsonii</i>	Richardson's pondweed	4	2.1%

33. Placid Lake



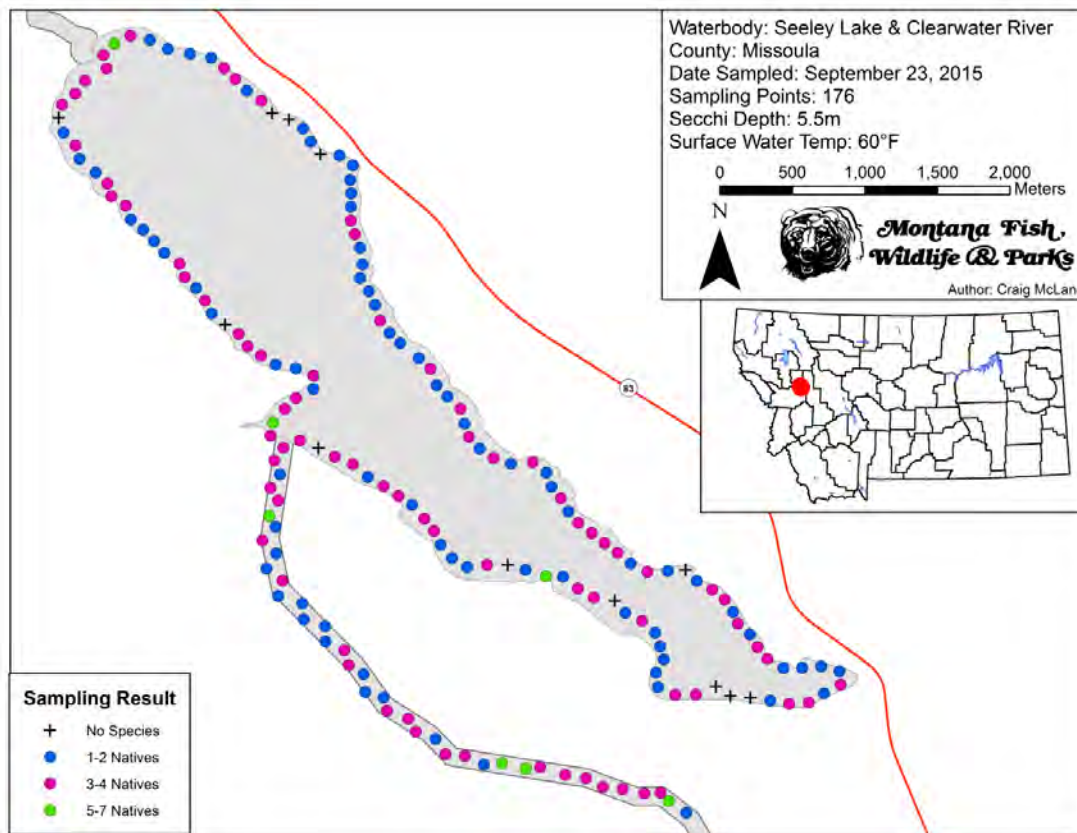
Placid Lake	n=107	Count	Frequency of Occurrence %
No species detected	-	22	20.6%
<i>Potamogeton robbinsii</i>	Fern-leaf pondweed	61	57.0%
<i>Potamogeton praelongus</i>	White-stemmed pondweed	33	30.8%
<i>Elodea species</i>	Waterweed species	30	28.0%
<i>Chara species</i>	Muskgrass	19	17.8%
<i>Myriophyllum sibiricum</i>	Northern watermilfoil	16	15.0%
<i>Bidens beckii</i>	Beck's water-marigold	14	13.1%
<i>Potamogeton richardsonii</i>	Richardson's pondweed	9	8.4%
<i>Ceratophyllum demersum</i>	Coontail	5	4.7%
<i>Ranunculus aquatilis</i>	White waterbuttercup	2	1.9%
<i>Najas flexilis</i>	Slender water-nymph	1	0.9%

34. Salmon Lake



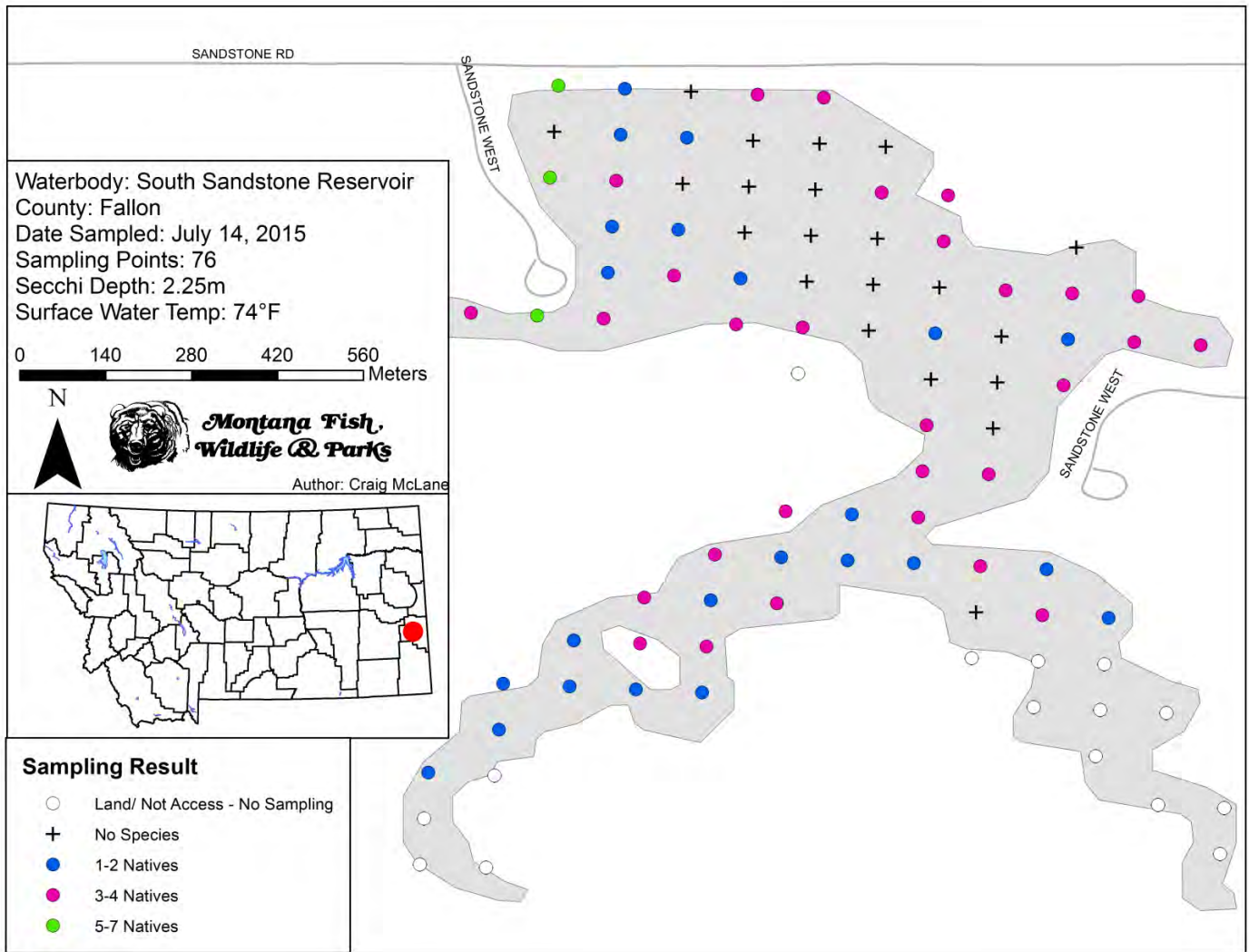
Salmon Lake	n=130	Count	Frequency of Occurrence %
No species detected	-	56	43.1%
<i>Elodea species</i>	Waterweed species	50	38.5%
<i>Potamogeton robbinsii</i>	Fern-leaf pondweed	31	23.8%
<i>Myriophyllum sibiricum</i>	Northern watermilfoil	29	22.3%
<i>Ranunculus aquatilis</i>	White waterbuttercup	12	9.2%
<i>Potamogeton praelongus</i>	White-stemmed pondweed	11	8.5%
<i>Chara species</i>	Muskgrass	9	6.9%
<i>Bidens beckii</i>	Beck's water-marigold	8	6.2%
<i>Potamogeton richardsonii</i>	Richardson's pondweed	6	4.6%
<i>Ceratophyllum demersum</i>	Coontail	1	0.8%
<i>Potamogeton species</i>	Pondweed species	1	0.8%

35. Seeley Lake and Clearwater River



Seeley Lake	n=137	Count	Frequency of Occurrence %
No species detected	-	12	8.8%
<i>Potamogeton robbinsii</i>	Fern-leaf pondweed	97	70.8%
<i>Elodea species</i>	Waterweed species	55	40.1%
<i>Potamogeton praelongus</i>	White-stemmed pondweed	55	40.1%
<i>Myriophyllum sibiricum</i>	Northern watermilfoil	43	31.4%
<i>Bidens beckii</i>	Beck's water-marigold	26	19.0%
<i>Chara species</i>	Muskgrass	25	18.2%
<i>Ranunculus aquatilis</i>	White waterbuttercup	3	2.2%
<i>Potamogeton species</i>	Pondweed species	3	2.2%
<i>Najas flexilis</i>	Slender water-nymph	1	0.7%
<i>Potamogeton richardsonii</i>	Richardson's pondweed	1	0.7%
Clearwater River	n=39	Count	Frequency of Occurrence %
<i>Potamogeton robbinsii</i>	Fern-leaf pondweed	33	84.6%
<i>Elodea species</i>	Waterweed species	22	56.4%
<i>Myriophyllum sibiricum</i>	Northern watermilfoil	22	56.4%
<i>Potamogeton praelongus</i>	White-stemmed pondweed	20	51.3%
<i>Bidens beckii</i>	Beck's water-marigold	14	35.9%
<i>Ranunculus aquatilis</i>	White waterbuttercup	3	7.7%
<i>Chara species</i>	Muskgrass	2	5.1%

36. South Sandstone Reservoir

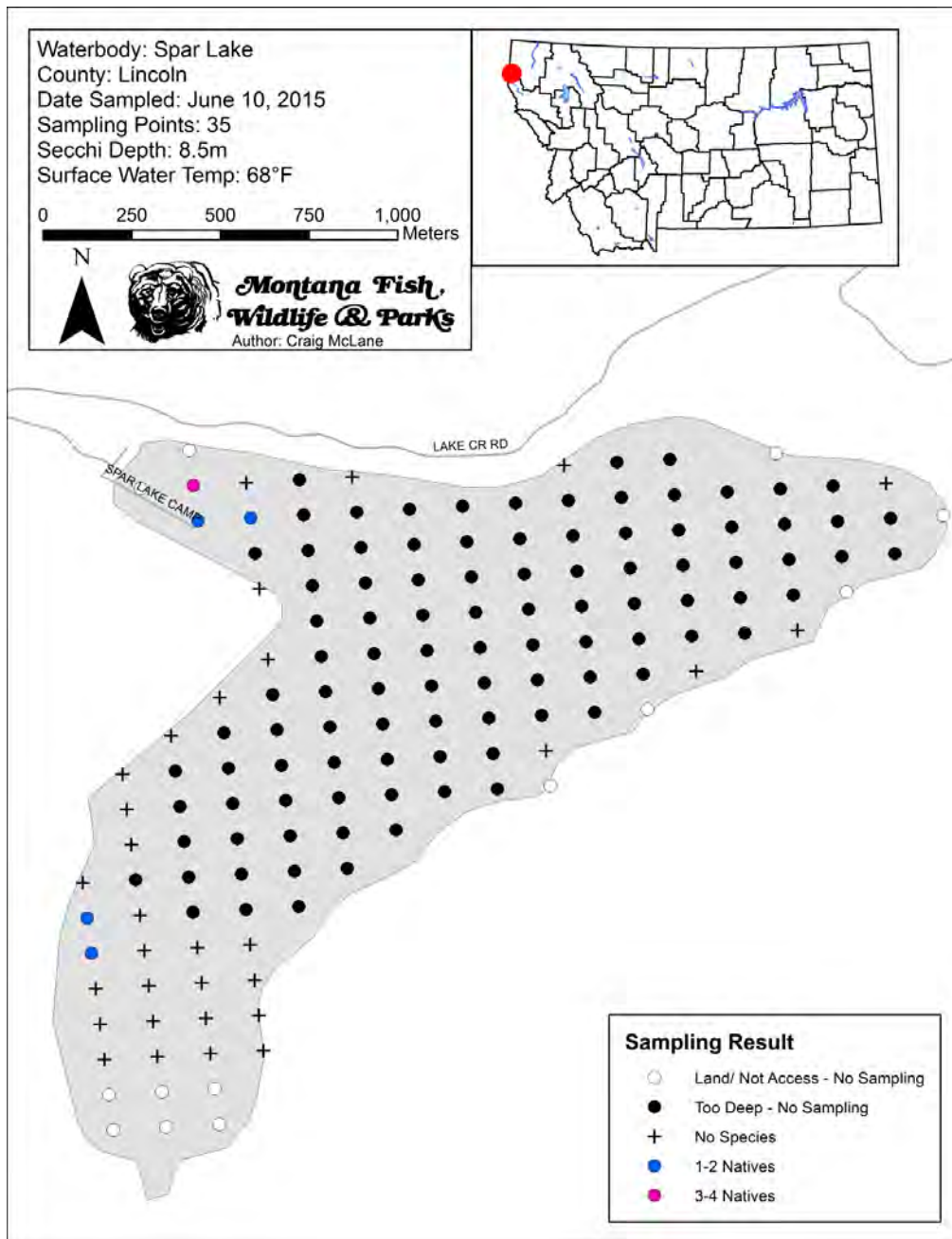


South Sandstone Res	n=76	Count	Frequency of Occurrence %
No species detected	-	21	27.6%
<i>Chara species</i>	Muskgrass	42	55.3%
<i>Myriophyllum sibiricum</i>	Northern watermilfoil	31	40.8%
<i>Ceratophyllum demersum</i>	Coontail	23	30.3%
<i>Potamogeton pectinatus</i>	Sago Pondweed	15	19.7%
<i>Fontinalis antipyretica</i>	Common water moss	14	18.4%
<i>Ranunculus aquatilis</i>	White waterbuttercup	3	3.9%
<i>Ruppia cirrhosa</i>	Ditchgrass	3	3.9%
<i>Potamogeton filiformis</i>	Slender leaved pondweed	3	3.9%

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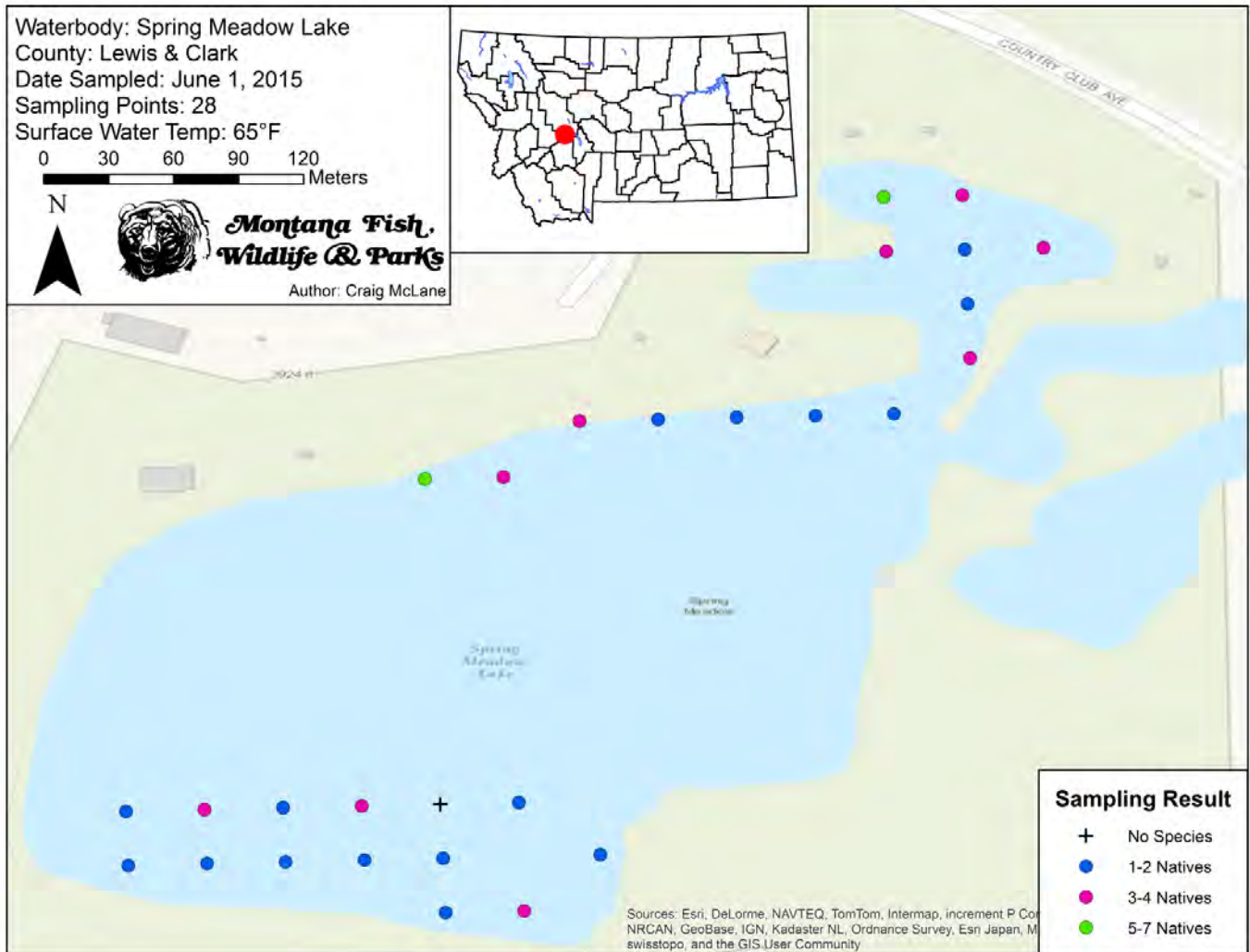
<i>Potamogeton foliosus</i>	Leafy pondweed	3	3.9%
<i>Potamogeton richardsonii</i>	Richardson's pondweed	1	1.3%

37. Spar Lake



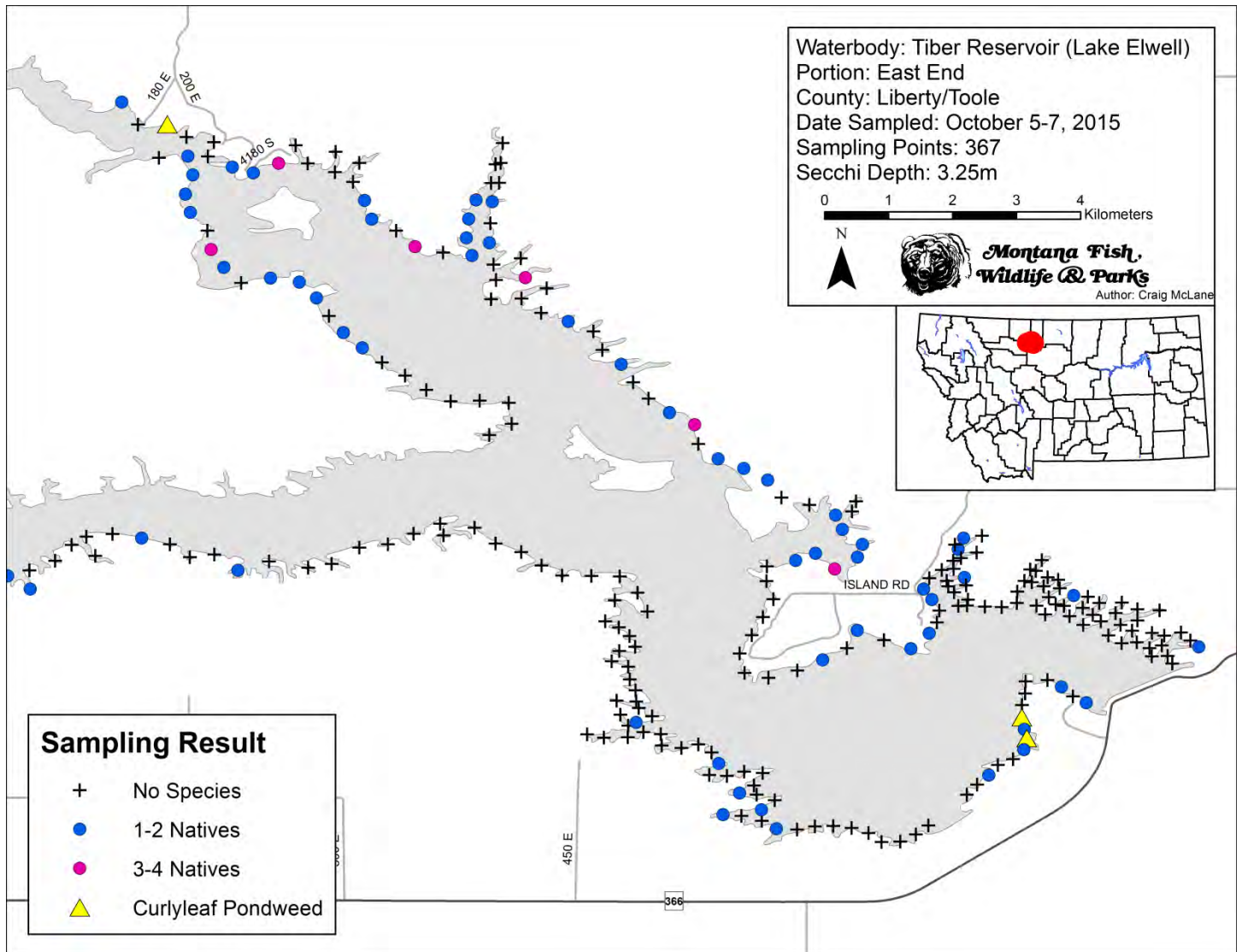
Spar Lake	n=36	Count	Frequency of Occurrence %
No species detected	-	31	86.1%
<i>Nitella species</i>	Brittlewort	3	8.3%
<i>Fontinalis antipyretica</i>	Common water moss	2	5.6%
<i>Isoetes species</i>	Quillwort	1	2.8%
<i>Zannichellia palustris</i>	Horned pondweed	1	2.8%

38. Spring Meadow Lake

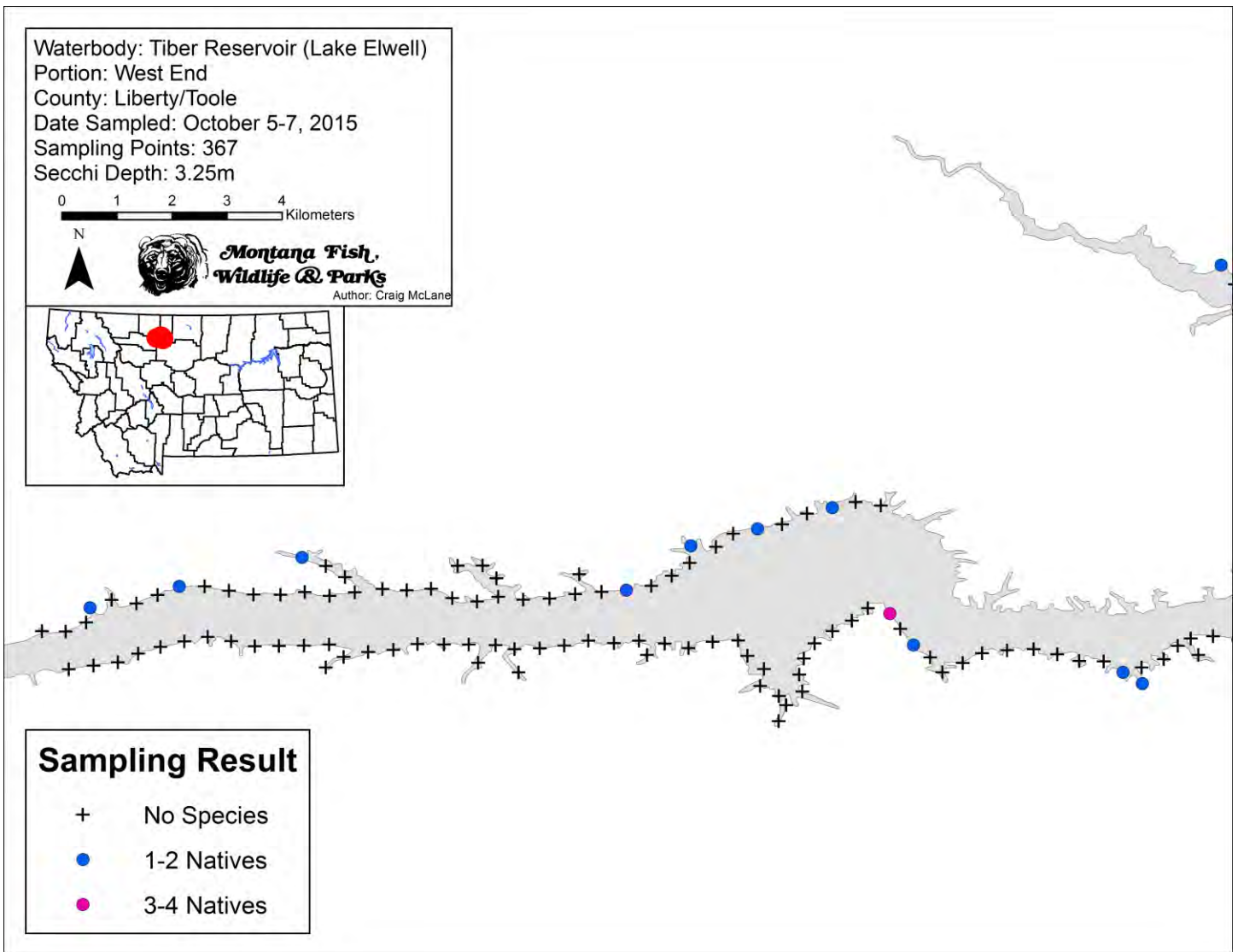


Spring Meadow Lake	n=28	Count	Frequency of Occurrence %
No species detected	-	1	3.6%
<i>Chara species</i>	Muskgrass	22	78.6%
<i>Ceratophyllum demersum</i>	Coontail	18	64.3%
<i>Elodea species</i>	Waterweed species	10	35.7%
<i>Potamogeton epihydrus</i>	Ribbon-leaf pondweed	8	28.6%
<i>Myriophyllum sibiricum</i>	Northern watermilfoil	4	14.3%
<i>Ruppia cirrhosa</i>	Ditchgrass	3	10.7%
<i>Nitella species</i>	Brittlewort	2	7.1%
<i>Potamogeton species</i>	Pondweed species	2	7.1%
<i>Potamogeton foliosus</i>	Leafy pondweed	1	3.6%

39. Tiber Reservoir (Lake Elwell)

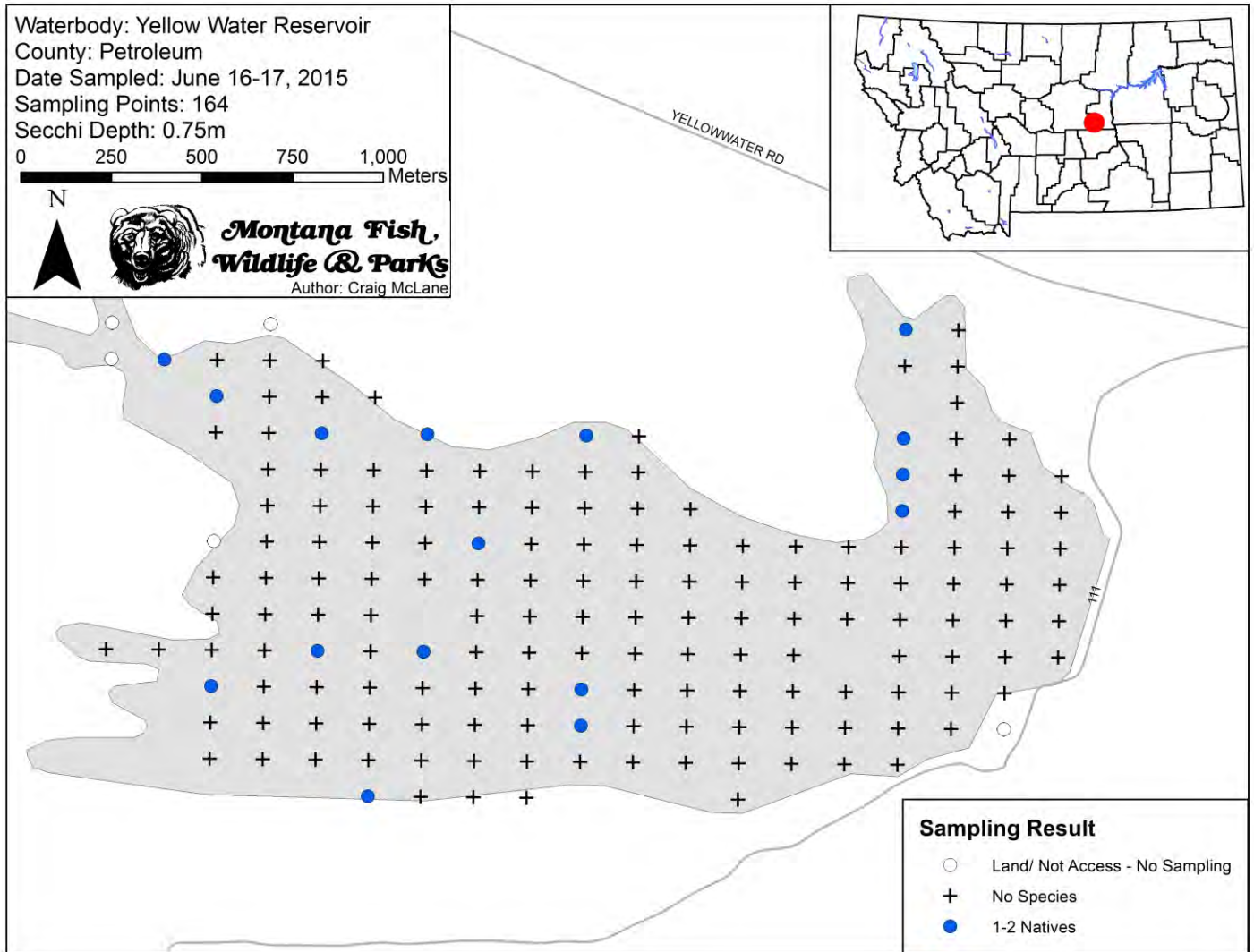


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Tiber Reservoir (Lake Elwell)	n=367	Count	Frequency of Occurrence %
No species detected	-	290	79.0%
<i>Chara species</i>	Muskgrass	43	11.7%
<i>Potamogeton foliosus</i>	Leafy pondweed	20	5.4%
<i>Elodea species</i>	Waterweed species	16	4.4%
<i>Potamogeton pectinatus</i>	Sago Pondweed	15	4.1%
<i>Zannichellia palustris</i>	Horned pondweed	11	3.0%
<i>Najas flexilis</i>	Slender water-nymph	4	1.1%
<i>Potamogeton crispus</i>	Curlyleaf Pondweed	3	0.8%
<i>Potamogeton filiformis</i>	Slender leaved pondweed	1	0.3%

40. Yellow Water Reservoir



Yellow Water Reservoir	n=164	Count	Frequency of Occurrence %
No species detected	-	148	90.2%
<i>Polygonum amphibium</i>	Water smartweed	7	4.3%
<i>Chara species</i>	Muskgrass	5	3.0%
<i>Isoetes species</i>	Quillwort	3	1.8%
<i>Potamogeton pectinatus</i>	Sago Pondweed	3	1.8%