

Summary of Activities

Date: September 1st, 2015

To: Ian Kitch
Conservation & Water Stewardship

From: Holly Urban & Brock Koutecky
Swan Valley Sport Fishing Enhancement
Contact: svsfe@mymts.net

Subject: East & West Watjask Lakes

Location: East & West Watjask Lakes, Duck Mountain Provincial Park

Research History: In the late 1980's, Fisheries Branch conducted perch removal on both Watjask Lakes to determine stock responses. The study was conducted to determine if heavy cropping of perch would result in higher growth rates to a existing stunted perch population. This slow growth was hypothesised to be due to overpopulation and intraspecific competition. Results indicated that removal of larger age classes resulted in increased growth of older cohorts in both waterbodies. This study was conducted over one year and very little conclusions were drawn. The report concludes that improving benthic and planktonic production and subsequently monitoring perch growth may have been useful (Lysack, 2001).

Summary of Activities: In early July 2015 SVSFE technicians assessed the Watjask Lakes to determine if these waterbodies had potential for stocking game fish species. Pre-survey activities determined lake parameters using mapping software. Results are as follows; East Watjask Lake - area (70 ha), lake shoreline (4,593m), and island shoreline (1,052m) and West Watjask Lake - area (82.52ha), shoreline (7,852m) and island shoreline (1,436m).

Lake surveys transpired over the weeks of July 6th and August 12th, 2015. The lakes were depth mapped using 50 meter transects, the deepest basins located were 10.5 meters (East Watjask), and 13.5 meters (West Watjask). Habitat maps were created on site. Emergent and submergent vegetation percentages were documented and aquatic vegetation types were identified. Modern bathymetric analysis can be found on page 10 & 11. The habitat maps from 2015 can be viewed on pages 8 & 9. Late summer water sampling, benthic sampling, and vegetation mapping was conducted on August 12th and 13th 2015. The water parameters documented include pH, total dissolved solids (TDS), conductivity, dissolved oxygen, alkalinity, nitrates, nitrites, and phosphate levels. Water stations were conducted in two locations over the two deep basins of each lake. Water samples were taken and analyzed in accordance to SVSFE water sampling protocol; 2m above bottom, mid-depth, and 2 meters below surface.



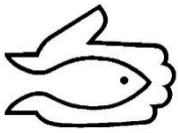
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Subject: East & West Watjask Lakes

Late summer dissolved oxygen and temperatures were documented at every meter depth for each of the two respective deep basins of each lake. As per protocol, weather, turbidity, and water colour was documented at each water station as well. Benthic samples were taken at each water sampling station, as well as in two random littoral areas to determine benthic prevalence in more likely habitats. Ten vegetation transects were mapped where technicians would mark the beginning and end of both emergent and submergent vegetation using a Garmin echoMap 50s sonar. In East Watjask, the average depth where emergent vegetation ceased was 2.2m and the average depth where submergent vegetation ceased was 4.3m. In West Watjask, the average depth where emergent vegetation ceased was 2m and the average depth where submergent vegetation ceased was 4m. An accurate vegetation prevalence map for the Watjask Lakes using GIS is still pending. A satellite image, including scale and sample sites can be viewed on pages 12, 13 and the water testing results can be viewed on pages 14, 15, 16, 17.

East Watjask Fish Sampling: Fish sampling was conducted on July 9th 2015. One small mesh trap net capable of catching small-bodied fish was set on the south shore for a duration of 22 hours. One 2" short set gill net was set near the main basin (45 min) and another was set near the west bay basin (30 min). Due to a certain confidence that current fish sampling methods accurately represented the biotic populations of the lake, no overnight gill nets were set. Water and fish sampling locations can be on page 12. Fish sampling results are as follows:

GILL NET				
PROJECT SITE	DEPTHS (m)	TOTAL FISH CAUGHT	HOURS FISHED	CPUE (Fish/hour)
EW-GI-15-001	3.8 - 8.0	8	0.75	10.67
EW-GI-15-002	4.0 - 7.0	2	0.53	3.75
TRAP NET				
PROJECT SITE	DEPTHS (m)	TOTAL FISH CAUGHT	HOURS FISHED	CPUE (Fish/hour)
EW-TR-15-001	1.0 - 2.5	670	20.47	32.74

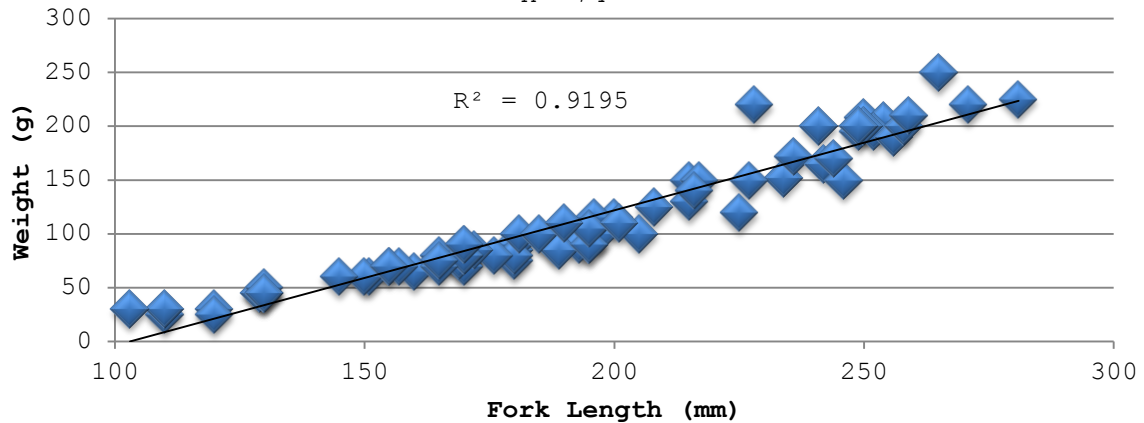


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Subject: East & West Watjask Lakes

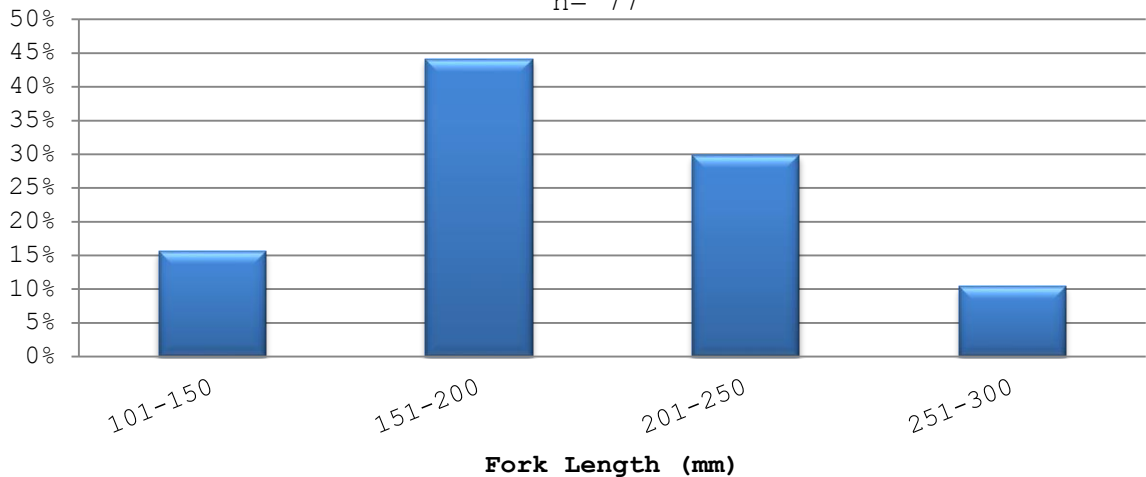
2015 EAST WATJASK LAKE Yellow Perch Size Distribution

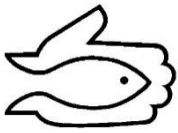
n= 74



2015 EAST WATJASK LAKE Yellow Perch Length Frequencies

n= 77

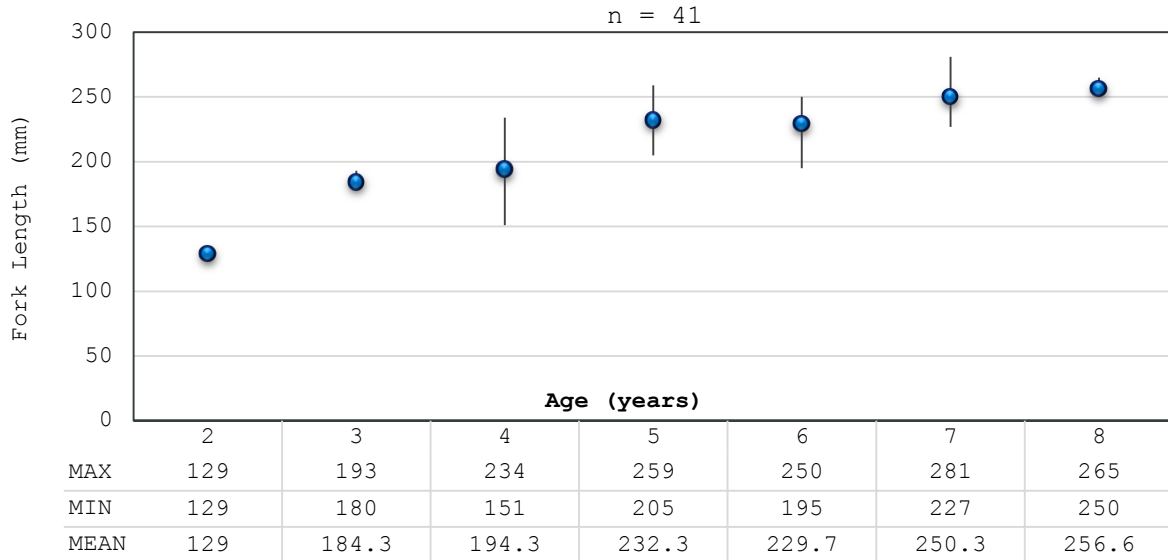




Summary of Activities

Subject: East & West Watjask Lakes

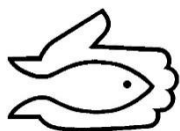
2015 EAST WATJASK LAKE Min, Max, Mean Weight of Yellow Perch Ages 2 - 8



Interestingly, all fish captured in East Watjask were yellow perch, and no evidence of any other forage minnow species was identified through trapping methods. However, technicians observed large schools fathead minnows and darters on multiple occasions in East Watjask Lake. Yellow perch from the trap net were counted and released in order to determine catch-per-unit-effort (CPUE). CPUE was determined to be 32.74 fish per hour.

A random sample of 77 perch were measured, weighed, and age structures were collected. Perch from the random sample ranged from 103mm to 259mm in size, with a majority measuring on the 151-200mm range. Age results suggest that the lake inhibits a stunted perch population. Yellow perch from East Watjask show a very evenly distributed length-weight relationship. Observations made while sampling perch stated that the fish were great specimens and very healthy. Common yellow perch parasites including yellow grub, and neascus (black spot parasite) were quite minimal and sarcoma was non-existent in the sample size.

Short-set gill nets were used to sample in deeper strata. CPUE in gill nets were significantly lower than that of West Watjask Lake. Fish captured were fully sampled and data is represented with trap netting data in figures above. Yellow perch were not found in depths greater than 5.5 meters. Stomach contents were analyzed in a small subsample. Fish remains and boatmen were identified.



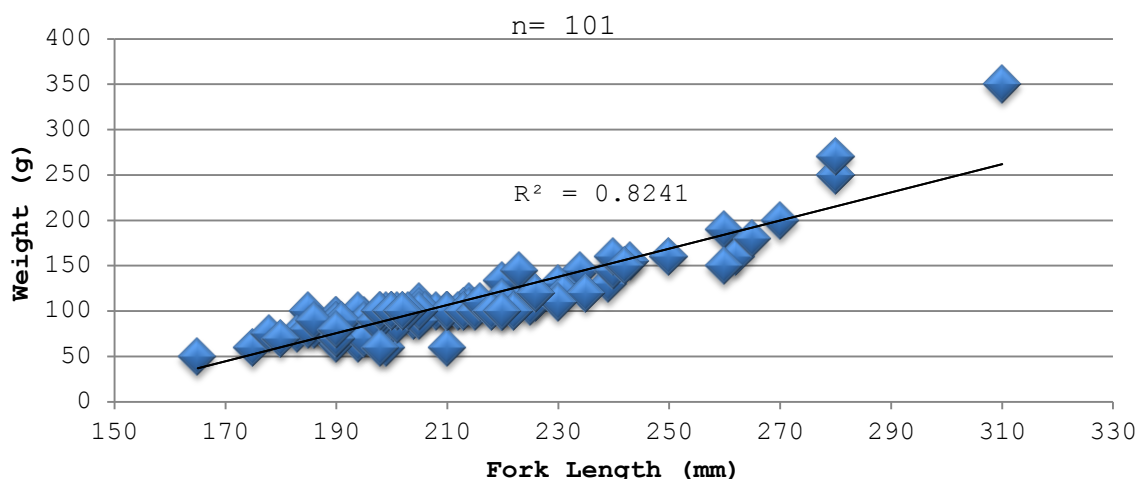
Summary of Activities

Subject: East & West Watjask Lakes

West Watjask Fish Sampling: Fish sampling was conducted on July 7th and 8th 2015. One small mesh trap net was set on the south shore for a duration of 22 hours. Three 2" 3-panel short set gill nets were set in near the main basin for durations of approximately one hour per set. Due to a level of uncertainty regarding fish species present in the lake, one standard gang was set overnight for a duration of 18 hours. Water and fish sampling site map can be viewed on page 12. Fish sampling results are as follows:

GILL NET				
PROJECT SITE	DEPTHS (m)	TOTAL FISH CAUGHT	HOURS FISHED	CPUE (Fish/hour)
WW-GI-15-001	1.4 - 5.5	57	1.07	53.44
WW-GI-15-002	5.0 - 10	5	0.90	5.56
WW-GI-15-003	7.0 - 12.3	0	1.12	0.00
WW-GI-15-004	5 - 6.6	191	18.00	10.61
TRAP NET				
PROJECT SITE	DEPTHS (m)	TOTAL FISH CAUGHT	HOURS FISHED	CPUE (Fish/hour)
WW-TR-15-001	0 - 2.3	2107	21.97	95.92

2015 WEST WATJASK LAKE Yellow Perch Size Distribution



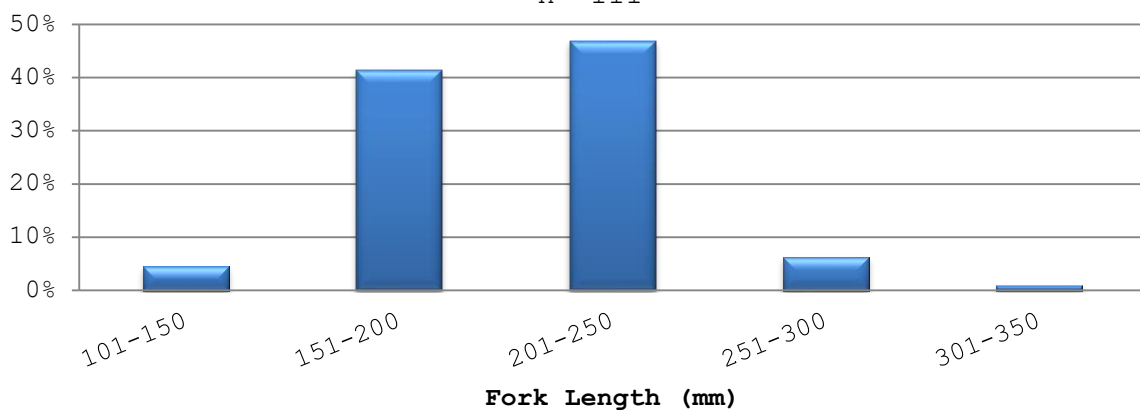


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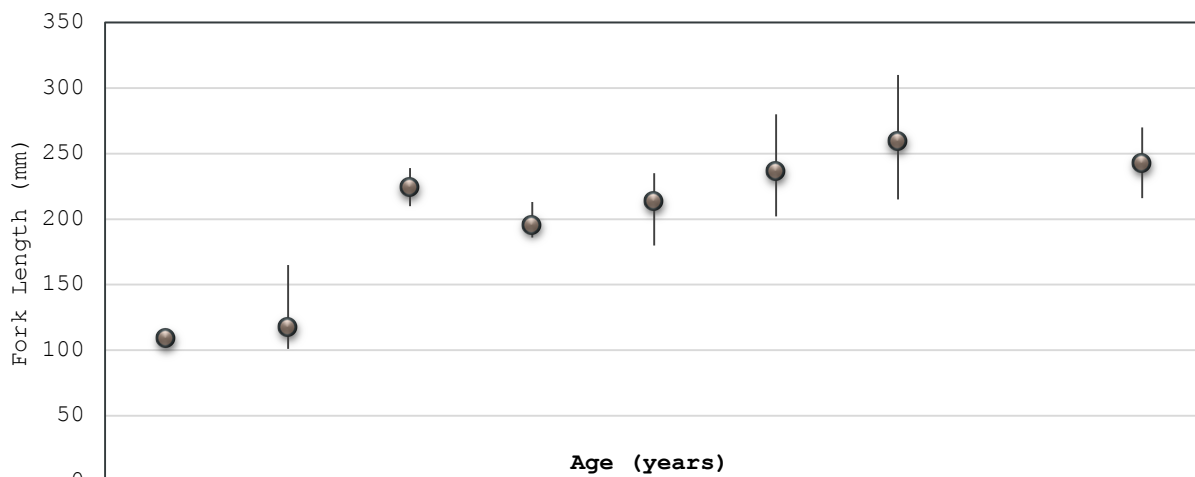
2015 WEST WATJASK LAKE Yellow Perch Length Frequencies

n = 111

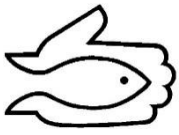


2015 WEST WATJASK LAKE Min, Max, Mean Weight of Yellow Perch Ages 1 - 9

n = 37



	1	2	3	4	5	6	7	8	9
MAX	109	165	239	213	235	280	310		270
MIN	109	101	210	186	180	202	215		216
MEAN	109.0	117.6	224.5	195.9	213.7	236.8	259.6		243



Summary of Activities

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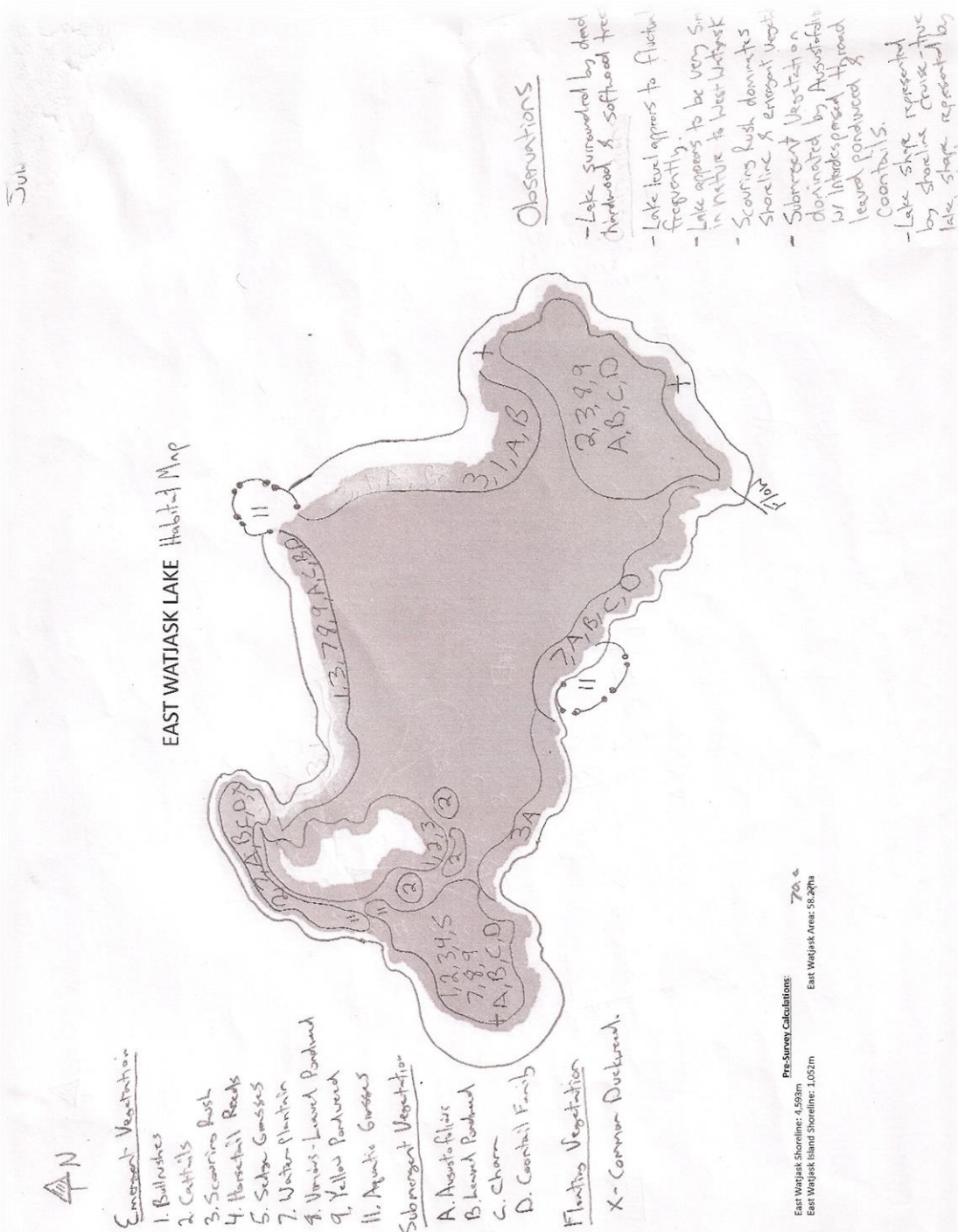
Interestingly, all fish captured in West Watjask Lake were yellow perch, and no evidence of any other forage minnow species was identified. However, technicians observed large schools fathead minnows on multiple occasions in West Watjask Lake. Yellow perch from the trap net were counted and released in order to determine CPUE. CPUE was determined to be an impressive 95.92 fish per hour. Observations from the trap net were that a majority of the perch possessed yellow grub in low levels, many possessed blackspot (neascus) and few had sarcoma. Perch size ranged from 10mm to 310mm, with a majority measuring around 200mm. Not one fish exceeded 330mm, corresponding with age results suggests that the lake inhibits a stunted perch population, and therefore should not be promoted as a trophy perch fishery.

Short-set gill nets were used to sample in deeper strata, and one overnight standard gang was set because of a level of uncertainty regarding presence of other species in the lake. Sampled fish, and therefore fish representative of size distribution and length frequency figures above came exclusively from gill netting methods. Observations drawn were that yellow perch concentrations were found exclusively in depths <5.5m. There was a high percentage of perch within two length frequencies (150mm-200mm, and 201mm-250mm). Age structures were collected, and a sub-sample of 35 perch were aged. Interestingly, the oldest perch sampled was 9 years old and 270mm. Roberge et al (2001) stated that the maximum age averages from 9-10 in yellow perch, with few living more than 11 years (Brown et al, 2009). Kreiger et al (1983) indicated the maximum age of yellow perch was usually 9-10 years. With so many old fish at such low length frequencies it becomes apparent that both Watjask Lakes inhibit stunted perch populations. It would be interesting to follow stock response with the introduction of a predatory game fish species to determine if the interaction would limit intraspecific competition amongst yellow perch and promote growth to sizes that would attract anglers. A sub-sample of stomach contents were sampled (n=5), and stomachs were empty; suggesting a need for further investigation and or a greater sample size to determine perch preferred forage.





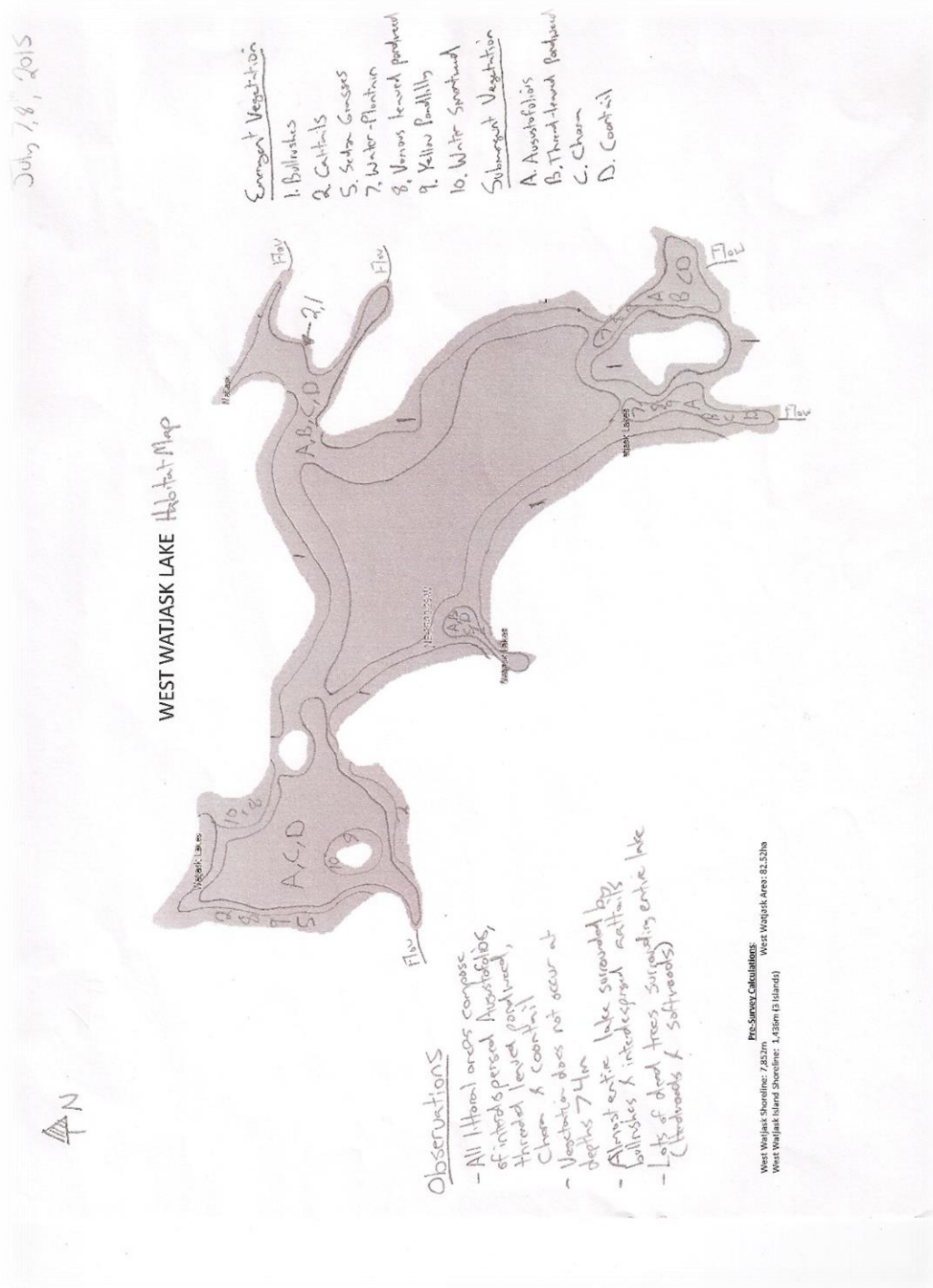
East Watjask Habitat Map

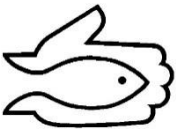




Subject: East & West Watjask Lakes

West Watjask Habitat Map

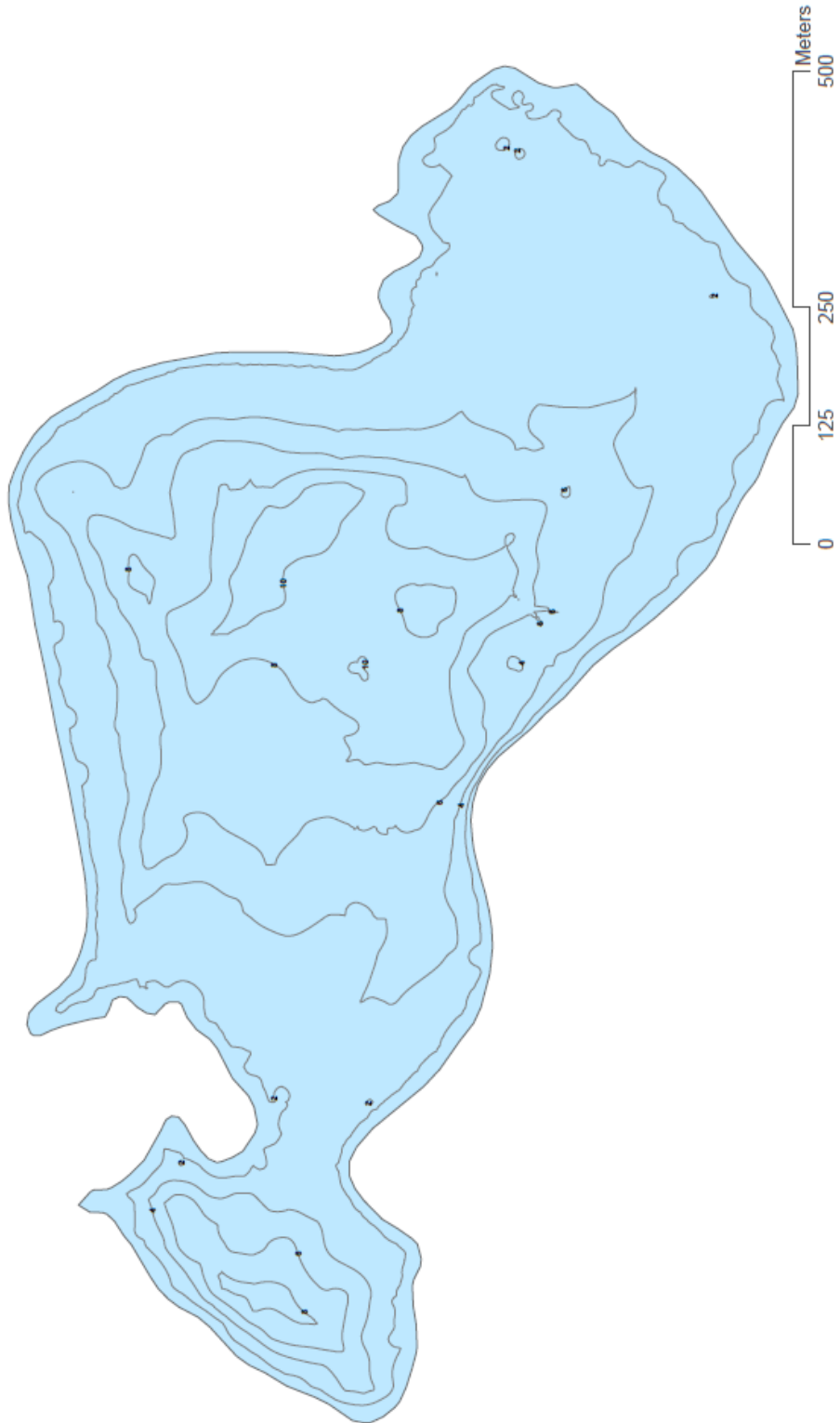
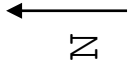


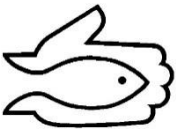


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Subject: East & West Watjask Lakes

East Watjask Bathymetric Map 2015: Contours in Meters

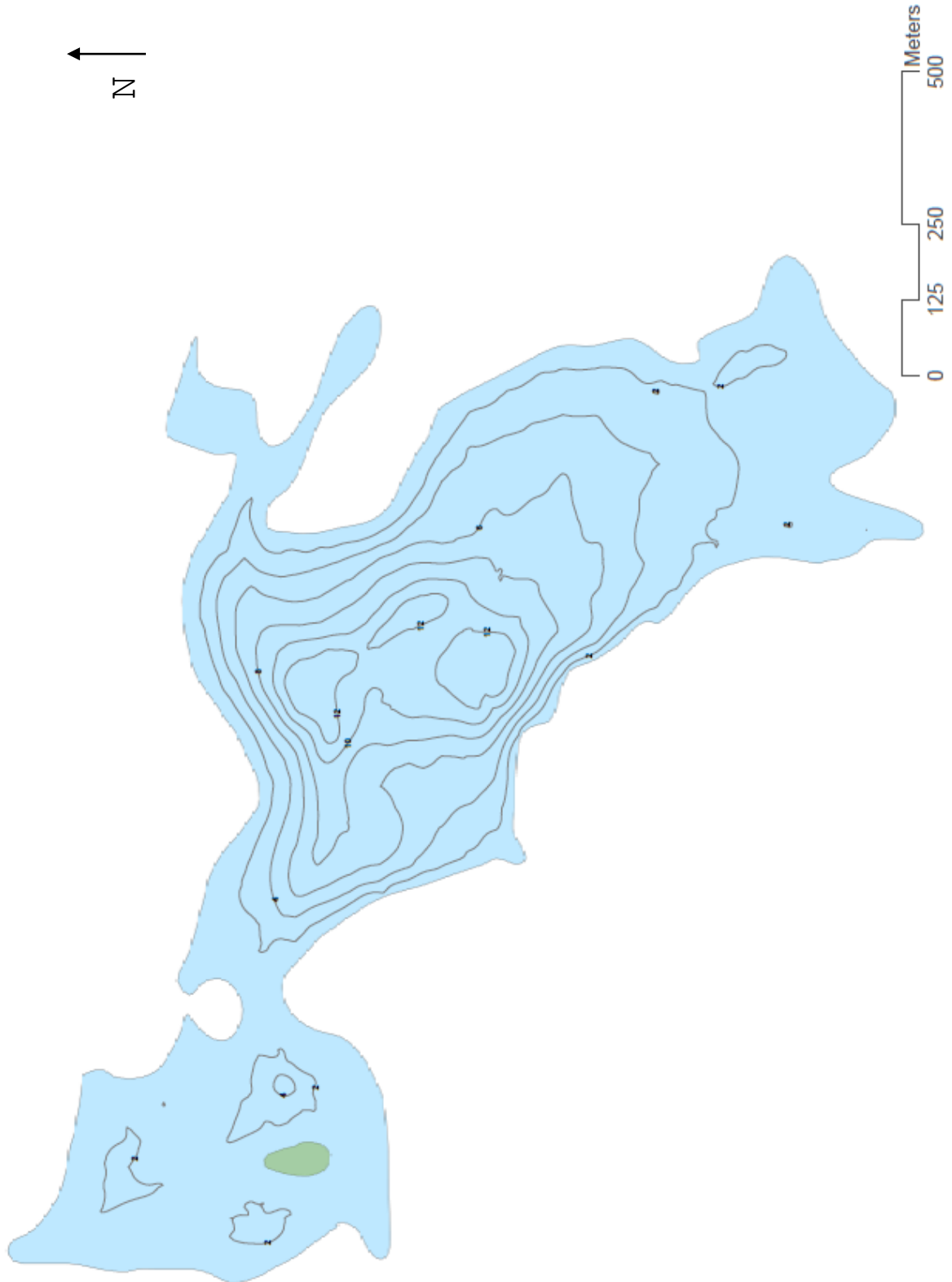




Summary of Activities

Subject: *East & West Watjask Lakes*

West Watjask Bathymetric Map 2015: Contours in Meters

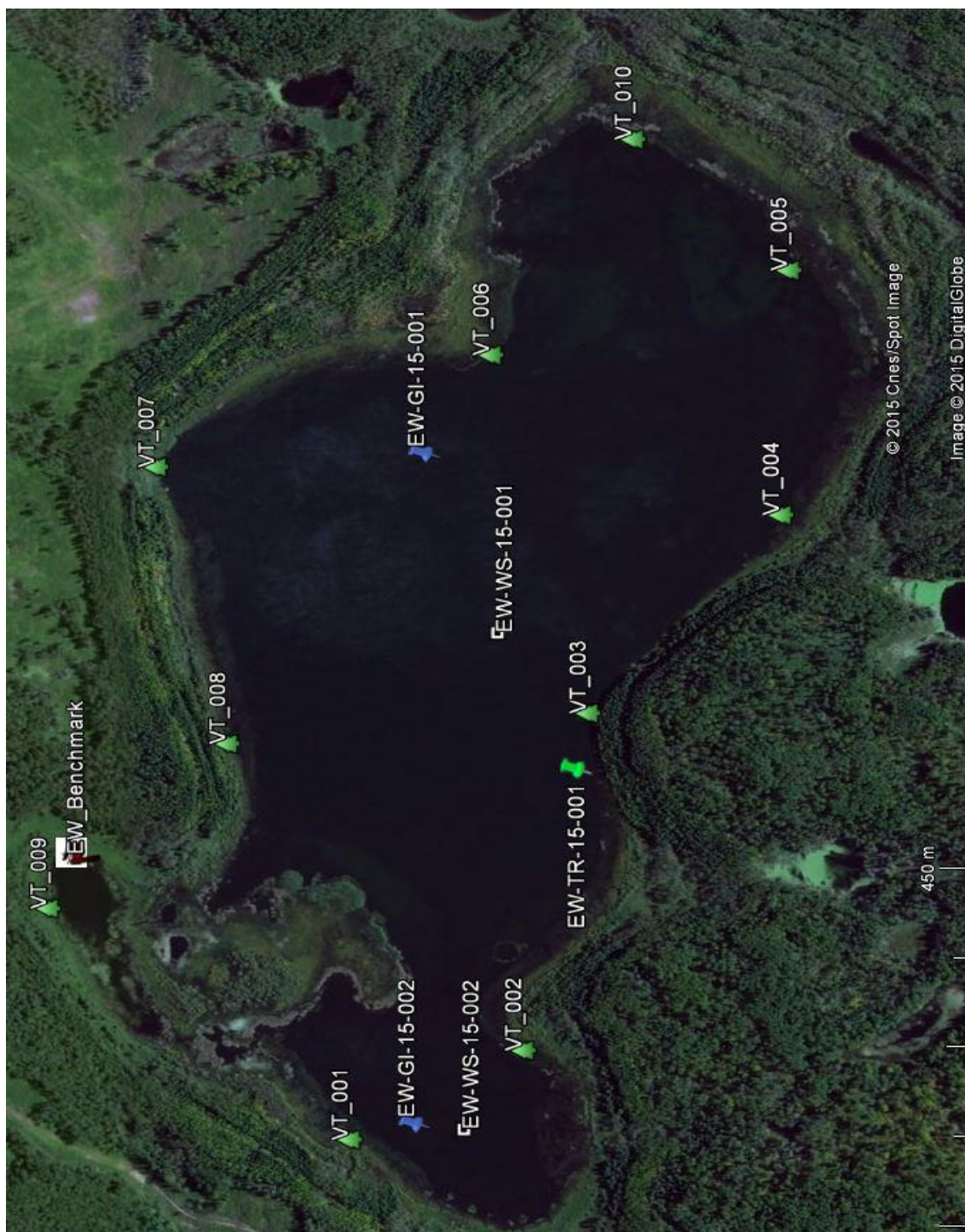


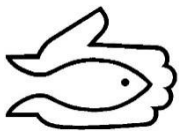


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East Watjask Sample Map

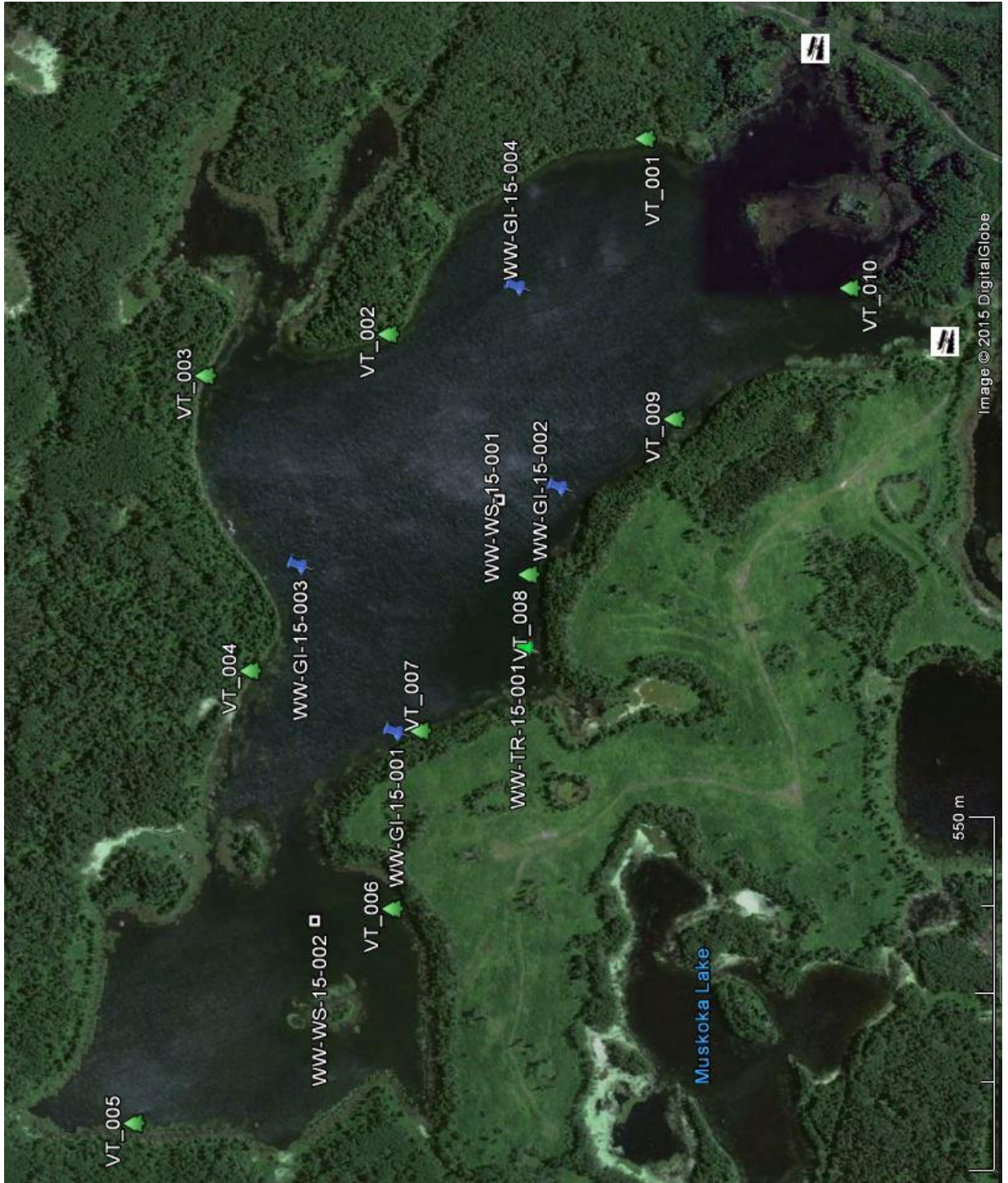




Summary of Activities

Subject: East & West Watjask Lakes

West Watjask Sample Map





Summary of Activities

Subject: East & West Watjask Lakes

East Watjask Water Chemistry Results:

Water Station #1					
Project Site Code:		EW-WS-15-001			
Date:		Thursday, August 13, 2015			
UTM:	331723 5724254	Depth	2m	5m	8m
Time of Day:	11:22	TDS (ppm):	129	130	153
Cloud Cover:	1/8	CON (µs):	258	260	306
Air Temp (°C):	26	pH:	8.93	8.98	8.56
Sample Depth (m):	10.4m	Water Temp (°C)	24	21.9	16.5
Water Surface:	Rippled	Alkalinity (mg/L):	100	80	80
Water Colour:	Yellow/Clear	Nitrates (ppm):	0	0	0
Secchi (m):	3.5m	Nitrites (ppm):	0	0	0
Morpheodaphnic Index (MEI):	TBD	Phosphate (ppm):	15	15	22.5

Water Station #1		
DO/Temp Profile		
Depth (m)	DO	TEMP°C
Surface	8.84	22.8
1	8.54	22.7
2	8.66	21.6
3	7.38	20.2
4	7	19.5
5	5.58	18.9
6	3.77	18.1
7	0.64	15.2
8	0.68	10.2
9	0.67	9.2
10	0.65	9
11		
12		
13		
14		

Benthic Sample - Water Station # 1			
Benthic Substrate:	SI, MU	Benthic Organisms:	Chronomids (Phantom), Watermites
Vegetation:	NA	Comments:	Phantom Midges Very Abundant

Benthic Sample - Littoral Site # 1 331877 5724605			
Benthic Substrate:	SI, MU	Benthic Organisms:	Snail, Clam, Bloodworm, Caddisfly, Chronomids, Water Mites
Vegetation:	Chara, Algae, UNID Decay	Comments:	Dregde at 2.7m, No Gammerus, Very Smelly



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East Watjask Water Chemistry Results:

Water Station #2					
Project Site Code:		EW-WS-15-002			
Date:		Thursday, August 13, 2015			
UTM:	331063 5724343	Depth	2m	4m	6m
Time of Day:	12:40	TDS (ppm):	128	130	143
Cloud Cover:	2/8	CON (µs):	255	258	282
Air Temp (°C):	27	pH:	8.9	8.79	8.72
Sample Depth (m):	8.7m	Water Temp (°C)	23.4	21.4	17.7
Water Surface:	Calm	Alkalinity (mg/L):	100	100	100
Water Colour	Yellow/ Clear	Nitrates (ppm):	0	0	0
Secchi (m):	3.34m	Nitrites (ppm):	0	0	0
Morpheodaphic Index (MEI):	TBD	Phosphate (ppm):	15	15	15

Water Station #2		
DO/Temp Profile		
Depth (m)	DO	TEMP°C
Surface	8.4	23
1	8.42	22.4
2	7.81	21.4
3	6.42	19.7
4	4.45	18.8
5	1.24	15.2
6	0.72	11.1
7	0.68	9
8	0.66	8.6
9		
10		
11		
12		
13		
14		

Benthic Sample - Water Station # 2			
Benthic Substrate:	SI, MU	Benthic Organisms:	Chronomids (Phantom), Watermites
Vegetation:	Decaying UNID Plant Matter	Comments:	Benthic Organisms not as abundant as WS-001

Benthic Sample - Littoral Site # 2 331467 5723795			
Benthic Substrate:	MU	Benthic Organisms:	Gammerus, Chronomids, Mites, Backswimmer, Boatmen, Snails, Clam, Fatthead Minnow
Vegetation:	Duckweed, UNID Decay	Comments:	Kick-Sample @0.2M



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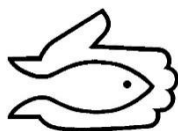
West Watjask Water Chemistry Results:

Water Station #1					
Project Site Code:		WW-WS-001			
Date:		August 12th, 2015			
UTM:	330202 5725092	Depth	2m	6.75m	9m (max)
Time of Day:	12:02	TDS (ppm):	116	123	123
Cloud Cover:	0/8	CON (µs):	230	247	246
Air Temp (°C):	27	pH:	9.09	8.89	8.77
Sample Depth (m):	13.5	Water Temp (°C)	23.3	21.5	19.5
Water Surface:	Rippled	Alkalinity (mg/L):	100	100	100
Water Color:	Yellow/ Brown (clear)	Nitrates (ppm):	0	0	0
Secchi (m):	3	Nitrites (ppm):	0	0	0
Morpheodaphnic Index (MEI):	TBD	Phosphate (ppm):	20	15	22.5

Water Station #1		
DO/Temp Profile		
Depth (m)	DO	TEMP°C
Surface	8.5	22.4
1	8.52	21.6
2	8.44	21.1
3	8.37	20.4
4	7.83	19.4
5	7.26	19.1
6	6.26	18.7
7	1.24	15.4
8	1.73	9.9
9	1.17	7.6
10	1.14	6.9
11	1.11	6.5
12	1.08	6.2
13	1.06	6
14		

Benthic Sample Water Station # 1			
Benthic Substrate:	MU, DE	Benthic Organisms:	Chronomids (low)
Vegetation:	NA	Comments:	Very black substrate, small-fine particles, some decomposed veg present

Littoral Benthic Sample # 1 (330200 5724947)			
Benthic Substrate:	GR, SA	Benthic Organisms:	clams, freshwater shrimp, leeches, water boatmen, chronomids
Vegetation:	MED	Comments:	kick sample, cover - MA & LT



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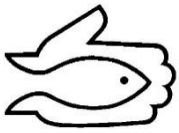
West Watjask Water Chemistry Results:

Water Station #2					
Project Site Code:		WW-WS-002			
Date:		August 12th, 2015			
UTM:	329533 5725406	Depth	1m	3m	
Time of Day:	14:10	TDS (ppm):	104	103	
Cloud Cover:	0/8	CON (µs):	209	206	
Air Temp (°C):	30	pH:	9.34	9.36	
Sample Depth (m):	4.3	Water Temp (°C)	25.2	25	
Water Surface:	Rippled	Alkalinity (mg/L):	80	80	
Water Color:	Yellow/ Brown	Nitrates (ppm):	0	0	
Secchi (m):	3.05	Nitrites (ppm):	0	0	
Morpheodaphic Index (MEI):	TBD	Phosphate (ppm):	22.5	15	

Water Station #2		
DO/Temp Profile		
Depth (m)	DO	TEMP°C
Surface	9.58	23.6
1	10.42	23
2	9.25	21.4
3	7.21	20.3
4	0.66	19.4
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		

Benthic Sample - Water Station # 2			
Benthic Substrate:	SI, MU	Benthic Organisms:	chronomids (Phantom), watermites
Vegetation:	Decaying UNID Plant Matter	Comments:	benthic organisms not as abundant as WS-001

Littoral Bethic Sample # 2 (330847 5724586)			
Benthic Substrate:	MU, DE	Benthic Organisms:	snails, clams
Vegetation:	HIGH	Comments:	dredge sample, also observed boatmen, dragonfly larvae, fathead minnows

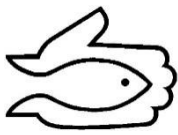


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Discussion: Due to an interesting resemblance of both lakes in terms of natural similarities, water testing results, and species composition SVSFE feels that stating a few comparative observations would be relevant in this summary. Yellow perch were the only fish species captured in both East and West Watjask trapping methods. However, large schools of fathead minnows and darters were observed in the shallows of both lakes on multiple occasions. It is important to state that due to that abundance of aquatic vegetation that seining is not a suggested method for forage sampling in these particular lakes. Perch size distribution only varied slightly between both lakes, suggesting a stunted population across both waterbodies. CPUE in West Watjask was extremely higher (3x) than that of East Watjask for both trap netting and gill netting methods. For this reason, there is a high level of confidence that perch populations are much higher in West Watjask Lake. Also, observations made while sampling and counting perch stated that the fish were great specimens and very healthy in East Watjask Lake. Comparatively, parasites and skin diseases were very minimal, especially when comparing the samples to that of West Watjask Lake. In West Watjask, a majority of perch possessed blackspot (neascus), yellow grub, or a combination of the two, with a few rare cases of sarcoma.

SVSFE strongly believes that both East and West Watjask Lakes are great candidate lakes for stocking game fish species for recreational angling. Perch have a tendency to overpopulate and become stunted, especially in small lakes where they are the main piscivorous fish (Brown, 2009). Stunted yellow perch populations have been hypothesised to have three explanatory factors; intraspecific competition due to overcrowding, low food availability, and/or the absence of top predators (Ridgway, 1994). Stocking predatory fish is the most effective management practice for reducing yellow perch populations and increasing fish size (Mecozzi, 2015). A yellow perch fishery requires large fish in order to attract anglers, which is a quality that both of these lakes do not possess at this point in time. It becomes apparent that through introducing a sport fish species, the Watjasks may or may not relieve intraspecific competition amongst yellow perch and promote growth. This phenomenon would be very difficult to project, and since the perch population is not large enough to attract anglers, it becomes apparent that a game fish introduction may be the best management practice. The potential recommendation for new management is as follows:



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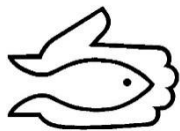
Subject: East & West Watjask Lakes

Muskellunge: In 1996, regional biologist Ken Kansas suggested a muskellunge transfer from Twin Lake to West Watjask Lake (Kansas, 1996). West Watjask, as opposed to East Watjask would be the better option of the two primarily because the lake is larger, deeper, and has a higher prevalence of forage species. Muskellunge tend to be primarily piscivorous although they are very opportunistic have been observed feeding on anything from aquatic insects to small mammals (Bozek, 1999). A dietary study of muskellunge in Wisconsin identified that the main food source over each season is yellow perch and white sucker. In the same study (Bozek, 1999) states "We believe that substantial biomass of yellow perch and catostomids in waters receiving stocked muskellunge would be beneficial successful muskellunge stocking program". Line Lake, which is located approximately 40km North-East of West Watjask, was a very successful musky lake over 10 years until the lake winterkilled and the musky program was ceased due to problems acquiring muskellunge stock. Interestingly, Line Lake and West Watjask are both similar in nature with large yellow perch populations. For this reason, in terms of forage ability, natural characteristics, and northerly location there is a high level of confidence that musky stocking would be successful in West Watjask Lake. SVSFE compiled a muskellunge habitat requirement table based on information acquired from the Habitat Index Models for Muskellunge created by the Fish and Wildlife Service, USA, 1987 (Cook et al 1987). The table is as follows:

Muskellunge Habitat Requirements

Parameter	Requirement
Size of Waterbody	Lakes >40ha (Optimal)
Aquatic Vegetation	Moderate Density (35-85%) pondweed, water celery, water lilies, arrowheads, coontail
Spawning	Spawning sites <1m in heavily vegetated flooded areas
Substrate	High aquatic vegetation and submerged structures
Forage	Prefer large food items - growth slow with small prey
Water Depth	Large fish 15.2m, Range can vary from 2m to 15m. In summer, preferred habitat is <2m (24-27°C)
Bathymetry	High littoral percentage, multiple bays for adult home ranges.
Turbidity	Clear (minimal turbidity) >1m
Water Temperature	Prefer 19-28°C, 25-26°C optimal for growth, >32°C lethal
pH	6.0 - 9.0
Dissolved Oxygen	>4mg/L in winter, Adults can withstand low summer levels
Water Velocity	0.2 - 1.2m/sec
Trophic Status	Morphedaphic index (MEI) range of 6.0 - 7.2 - Mesotrophic
Competition	Musky thrive with no presence of NRPK

Based on comparing West Watjask Lakes to this general habitat requirement table it appears very quickly that the waterbody is an ideal candidate for introductions. The lake is >80ha, the littoral zones are not only large, but also consists of a high composition of dense submergent and emergent aquatic vegetation, large-bodied prey items are prevalent, water parameters are on par, and potential spawning habitat is available.



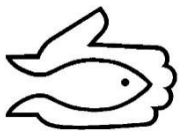
Summary of Activities

Subject: East & West Watjask Lakes

Habitat Suitability Model - Muskellunge: Furthermore, West Watjask Lake characteristics were compared to a "Habitat Suitability Index Model for Muskellunge", written by the Fish and Wildlife Service of the US Department of the Interior (Cook et al 1987). This model incorporates a list of "muskellunge life requisites", or variables/rates scaled from 0 (unsuitable habitat), to 1 (optimal habitat). Habitat variables are grouped into four variables including food, water quality, cover/reproduction, and other. Below are a list of the variables and how they scored on West Watjask Lake. **Note:** variables pertaining to muskellunge spawning habitat not documented at this time as when conducting assessments it was believed that sterile muskellunge were the only option.

1. Water Transparency: >1m optimal - West Watjask 3m **Score: 1**
2. Relative Abundance of Forage <12cm: Although we know that forage (<12cm) are extremely abundant. Index requires figure in prey/cubic meter - which at this point is unknown. **Score: Unknown**
3. Size Diversity of Forage Fish: We found that 2 size classes (0-150mm and 151-300mm) were present in large numbers, fish in third class size are scarce (>300mm). **Score: 0.8**
4. Dissolved Oxygen Winter: Currently unknown, based on historical records (2002, 1997, 1996) DO appears to be no issue, however pending. **Score: 1**
5. Maximum Water Epilimnion: Max mid-summer range 20°C to 30°C. Further data will be collected in the summer of 2016 (temp loggers). 2015 average water temperature at stations 22.2°C **Score: 1**
6. Percent of Lake Vegetated Area: Optimal 25%-75%. Awaiting littoral map analysis for final numbers, but is approximately 45-50% (Area <4m) **Score: 1**
7. Dissolved Oxygen in Spawning Areas (Spring): **Score: Unknown**
8. Drop in Water Level During Critical Periods: **Score: Unknown**
9. Ratio of Spawning Habitat to Summer Habitat: **Score: Unknown**
10. Northern Pike Density: No presence (optimal): **Score: 1**
11. Water Body Size: 85ha: **Score: 0.9**

At current, it appears through literature review and habitat suitability index that the lake appears to be "our route" to optimal muskellunge introductions (scoring 6.7 out of the 7 known variables). The current variables missing or requiring further investigation in the assessments are pending for 2016 field collection, and we are confident that these results will come back positive. As for relative abundance of forage, or an estimated fish density (#2) further assessments are required to determine this variable. As for muskellunge suitability in terms of natural reproduction, this variable is highly unknown at this point. However recruitment success is not of top priority and would only be a bonus if evidence was determined. The lake would be managed as a catch and release trophy fishery and would be restocked as natural mortalities occur.



Summary of Activities

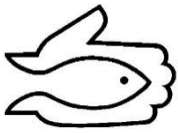
Subject: East & West Watjask Lakes

Recommendations/Suggestions: It is highly recommended that management plans be created for both East and West Watjask Lakes pending further investigation. The current recommendation is to conduct assessments to strengthen confidence. First of all; winter dissolved oxygen be conducted on both lakes over the winter of 2016 & 2017 during the months of January, February, and March. As long as the safe number of >4 mg/L is recorded in late March that confidence of fish stocking should be considered. Furthermore, we suggest a more comprehensive study on perch populations in the summer of 2016. SVSFE will supplement a study to determine relative abundance in order to strengthen score on suitability index. Documentation of potential spawning habitat and long term water temperature logging will be conducted as well. Pending positive results, the suggestion is to stock Muskellunge in West Watjask Lake (the larger and deeper of the two) for the time being. East Watjask Lake should be "left alone" for now and management plans should be considered based on success rates of West Watjask introductions.

At current, our regional manager, Ian Kitch has submitted an application for Muskellunge to the Introductions and Transfers Committee of Manitoba. Ian has also found a muskellunge supplier in Minnesota who carries 100% certified disease free, non-sterile, spotted muskellunge at 9-10" for \$10 USD each not including delivery. The supplier suggest that shipping is not a problem, and that fall of 2016 stocking is an option (Preferably spring 2017). He also suggests a stocking rate of 3 fish/acre. Further investigations/discussions with fisheries branch are required to determine proper stocking rate of musky destine for West Watjask lake.

West Watjask Muskellunge Rates 2015				
Rate:	Acres	# Fish	Cost	Cost + Delivery
3 Fish/Acre	204	612	\$6,120 USD	???

Muskellunge is an extremely sought after game/trophy fish species in Manitoba. At a time where musky fishing is hard to find in our province, there is without a doubt that an initiative like this would become very popular if successful. It is suggested that if the investment be made to stock Muskellunge in the area, that access to the lake be improved. Today, the lake is easily accessible by truck, however it is unknown when or if decommissioning of the road will take place. At current, the road is a designated trail to kilometer 6 and the access to the lake is at kilometer 9, suggesting that 3 kilometres of logging road may become decommissioned in the future. The lake could be a quad access only at some point, however a boat launch of some sort should be constructed as access on to the lake is far from ideal at this point. It is also suggested that a no-kill regulation be put in place and the lake be managed as a catch and release fishery. A program regarding promotion of proper catch and release fish handling techniques should be initiated as well. This small stretch of the Western Region along the west side of the Duck Mountains could become and even greater angling destination.



Summary of Activities

Subject: East & West Watjask Lakes

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