

NICOLA LAKE EURASIAN WATERMILFOIL MANAGEMENT PLAN – PILOT PROGRAM



ACKNOWLEDGEMENTS

We would like to thank the Thompson Nicola Regional District, Electoral Areas M, N, and I for providing the funding for this project and Columbia Shuswap Regional District staff member, Hamish Kassa, for providing guidance and support during the development of this plan.

TABLE OF CONTENTS

Acknowledgements.....	i
1.0 Introduction	1
2.0 Background	1
3.0 Purpose.....	3
4.0 EWM Management.....	3
4.1 Objectives	3
4.2 Actions	3
4.2.1 Prevention & Education	3
4.2.2 Removal	4
4.2.3 Site Selection	4
4.2.4 Determining Control Area.....	5
4.2.5 Monitoring.....	5
5.0 Benefits & Potential Effects.....	6
5.1 Benefits.....	6
5.1.1 Recreation and Tourism.....	6
5.1.2 Education	6
5.2 Potential Effects and Mitigation.....	6
5.2.1 Preventing Accidental Propagation of EWM	7
5.2.2 Minimizing Potential Effects to Aquatic Species and Habitats	7
5.2.3 Minimizing Turbidity	8
5.3 Funding & Budget	8
5.4 THE WORK	9
6.0 Closure.....	9
7.0 References.....	13

TABLE OF FIGURES

Figure 1 Distribution and Prevalence of Eurasian Water-Milfoil in Nicola Lake, BC.....	10
Figure 2 Areas Recommended by Golder for EWM Management.....	11
Figure 3 Prioritization of Treatment Areas	12

1.0 INTRODUCTION

The Nicola Lake Eurasian Watermilfoil Management Plan (NEWMP) is a product of the Nicola Lake planning process and an action item of the Nicola Lake Action Plan (FBC 2013). Funding for the development of the NEWMP was provided by the Thompson Nicola Regional District (TNRD).

The Nicola Lake planning process was started in 2012 in response to public concerns regarding water quality, invasive species, development pressure, recreation interests, as well as various other issues. A public meeting was hosted in Merritt on September 19, 2012 to kick off the process and gather information from the public. One of the primary issues raised at this meeting was the perceived proliferation of Eurasian watermilfoil (*Myriophyllum spicatum*) (EWM) in Nicola Lake.

Aquatic plants (macrophytes) are part of healthy lake systems, providing cover, habitat, and food for fish and other organisms (MOE 2011). However, invasive macrophytes, such as EWM, are not native and exist outside of their native ecology. EWM has an absence of predators, diseases, and competition allowing for rapid spread and displacement of native species.

An overabundance of EWM in aquatic systems can result in the following (Golder 2013):

- Invasion and replacement of native plant communities (loss of biodiversity);
- Obstruction of recreational activities (i.e., swimming, boating, waterskiing, fishing, etc.) and consequently a reduction in the economic benefits of tourism;
- Reduced appeal of beach areas due to an accumulation of plant debris;
- Impediments to flood control, water conservation, drainage, and irrigation works;
- Changes in lake nutrient and oxygen levels;
- Reduced navigability of waterways; and
- Increased risk of introduction into other aquatic systems in the region.

2.0 BACKGROUND

EWM was identified in Nicola Lake by BC Ministry of Environment (MOE) staff in 1991; however, based on the size of the infestations, it was assumed that the introduction likely occurred during the late 1980s (Einarson & Maxnuk, 1991). Since the initial documented sighting in 1991, EWM has essentially become naturalized throughout Nicola Lake (D. Einarson, BC Ministry of Environment, personal communication, December 3, 2012; Golder 2013).

During the late 2000s, BC Parks conducted some diver removal of EWM near the boat launch and swimming area at Monck Provincial Park (M. Friars, BC Parks, personal communication, April 28, 2014). Additional diver removal was conducted at Monck Park and at the Kamloops Sailing Association site in 2014 under the auspices of the Nicola Lake planning process.

The first step in developing a NEWMP was to gain an understanding of the problem. To this end, a macrophyte inventory was commissioned in 2013 to determine the extent of the EWM infestation and the composition of macrophytes communities in Nicola Lake. The macrophyte inventory of Nicola Lake was completed by Golder Associates Ltd. (Golder) in September of 2013. The report concluded that EWM appears to have established in almost all suitable habitats within the lake and that native milfoil species (i.e., northern watermilfoil [*Myriophyllum sibiricum*]) appear to have been displaced (Golder 2013). The report recommends that areas of public concern, that also have a verified high prevalence of EWM, should be prioritized in a management regime. Those areas include the following:

1. Public boat launches;
2. Recreation areas at Quilchena;
3. Harmon Estates;
4. Monck Provincial Park;
5. Nicola Estates;
6. Communities along the northwest lakeshore accessed from Nicola Lake Road;
7. The lake-spanning bed at the narrows, west of Harmon Estates; and
8. Nicola Bay Resort.

Figure 1 shows the areas inventoried and estimated prevalence of EWM in Nicola Lake from the Golder (2013) macrophyte study. Figure 2 shows the areas in Nicola Lake that Golder (2013) recommended be prioritized in a EWM management plan.

The inventory report also recommended that a EWM management plan include specific goals to produce the greatest benefits including measures to prevent the spread of EWM to other lakes in the region and the potential introduction of other invasive species (i.e., quagga mussels [*Dreissena bugensis*]) to Nicola Lake. Examples of such goals include the following:

- Improving navigation for boat traffic;
- Keeping beaches free from plant growth;
- Restoring the diversity of macrophyte communities; and
- Maintaining an optimal cover of macrophytes for fish production.

The second step in the development the NEWMP was to understand the potential implications of management regimes to fisheries resources in the lake. A fisheries utilization assessment was commissioned and completed by Triton Environmental Consultants in 2014.

The fisheries utilization assessment concentrated on areas that had greater than 21% EWM composition, as identified in the Golder (2013) report. Figure 2 shows the sample sites of the fisheries utilization assessment (Triton 2014).

The Triton (2014) report concluded that fish habitat at the surveyed sites was poor to fair due to the level of shoreline development, limited habitat complexity, and lack of cover for refuge. The report further concluded that the timing of EWM removal in a management scheme (i.e., summer or winter) was unlikely to correspond with salmonid¹ use of littoral areas.

¹ Salmonids include trout, whitefish and salmon fish species

In addition, potential disruption to native mussels was also expected to be unlikely given that no live mussels were found during the surveys. Recommendations from the Triton (2014) report are as follows:

- Implement diver control of EWM (hand pulling and/or cutting);
- Pursue partnerships and or coordinate with the Okanagan Basin Water Board, Columbia Shuswap Regional District, and the Regional District of the Kootenay Boundary, to benefit from their EWM control knowledge and expertise; and
- Identify Burbot and Kokanee spawning and rearing habitat and time periods and incorporate this information into the NEWMP.

3.0 PURPOSE

The purpose of the NEWMP is to prioritize and manage EWM in high use areas of Nicola Lake, reduce the risk of further introductions of EWM into other lakes in the region, and prevent the introduction of other aquatic invasive species into Nicola Lake.

4.0 EWM MANAGEMENT

4.1 OBJECTIVES

The objectives of NEWMP are as follows:

1. Educate lake users about aquatic invasive species and encourage preventative behaviour;
2. Reduce the risk of further introductions of invasive species (both into and out of Nicola Lake);
3. Develop a pilot program to actively remove EWM from priority locations on Nicola Lake; and
4. Evaluate the effectiveness of the EWM Pilot Program.

4.2 ACTIONS

4.2.1 PREVENTION & EDUCATION

Prevention is the most cost effective method of managing terrestrial and aquatic invasive species. Once an invasive species has been introduced, the cost to manage the infestation increases dramatically. The following actions address objectives 1 and 2 listed above:

1. Install “clean drain dry” signs at all boat launch locations on Nicola Lake as well as at visitor information centers and at gas stations with car (and boat) wash facilities;
2. Develop an interpretive sign for Monck Provincial Park with aquatic and terrestrial invasive species information and methods of prevention, including the “clean drain dry” messaging;
3. Implement a mandatory boat wash pilot program at Monck Provincial Park;
4. Develop a stakeholder and outreach education program that will provide employment for students during the summer months; and
5. Deliver educational programs to local schools and lake-user groups.

4.2.2 REMOVAL

Based on a series of lectures and workshops regarding lake health and EWM control case studies, the Nicola Lake Working Group outlined the following methods of EWM management that they felt would work best in Nicola Lake:

- Diver hand pulling;
- Diver hand cutting;
- Harvesting; and
- Rototilling.

Based on the results of the macrophyte inventory (Golder 2013) and the fisheries assessment (Triton 2014), diver hand pulling and cutting have been selected as the preferred control methods for a pilot removal program. Many of the proposed EWM management sites are comprised of a mix of EWM and native species, including species of management concern (i.e., provincially blue-listed perfoliate pondweed [*Potamogeton perfoliatus*] and sheathing pondweed [*Stuckenia vaginata*]). Therefore, a species selective approach is preferred.

Harvester and/or rototillers (such as is being utilized in Shuswap Lake) are non-selective and would be inappropriate for use in Nicola Lake. Rototilling also increases suspended sediments which is not desirable near water intakes and may contribute to an increase of available nutrients in the water column. Nutrient additions could result in algae blooms.

4.2.3 SITE SELECTION

Given funding limitations, sites have been prioritized based on maximizing ecological and public benefits. The order of priority is as follows:

GROUP 1

Group 1 include the highest priority sites; EWM control is recommended for these sites during the spring/summer of 2016. Funding for control actions will be provided by the Nicola Planning Process; funding will be allocated as it becomes available. The Group 1 priority sites are presented in Figure 3 and include:

1. Developed boat launch on Highway 5A;
2. Semi-developed boat launch on Highway 5A; and
3. Undeveloped boat launch on Highway 5A.

GROUP 2

EWM control is recommended for Group 2 sites in the spring/summer of 2016 or as soon as possible. Funding for EWM control at these sites is proposed to be provided by the Nicola Planning Process in partnership with respective upland property owners. Funding will be allocated as it becomes available; the proportion of funding provided by the Nicola Planning Process will be determined on a site-by-site basis. Group 2 priority sites are also shown in Figure 3 and include:

1. Monck Provincial Park;
2. Harmon Estates boat launch; and
3. Nicola Lakeshore Estates boat launch.

GROUP 3

EWM control is recommended for Group 3 sites in the spring/summer of 2016 or as soon as possible. Funding for EWM control at these sites is proposed to be provided by the Nicola Planning Process in partnership with respective upland property owners. Funding will be allocated as it becomes available; the proportion of funding provided by the Nicola Planning Process will be determined on a site-by-site basis. Group 3 priority sites are also shown in Figure 3 and include:

1. Kamloops Sailing Association site (Douglas Lake Ranch RV park);
2. N'Kwala RV Park; and
3. Nicola Bay RV.

Other sites that were identified in the macrophyte inventory (Golder 2013) for EWM control are not prioritized for removal at this time, including:

1. Recreation areas at Quilchena;
2. Communities along the northwest lakeshore accessed from Nicola Lake Road; and
3. The lake-spanning bed at the narrows, west of Harmon Estates.

Although these sites have high proportions of EWM, it is unlikely that applying control methods will have an equal benefit in reducing the likelihood of EWM to spread to other lakes as those prioritized in groups 1 and 2. Upland owners that have Crown land tenure of areas infested with EWM are encouraged to employ diver removal as described in this plan. Owners are reminded to attain requisite authorizations through FrontCounter BC prior to implementing EWM removal.

4.2.4 DETERMINING CONTROL AREA

The size of the control site (the area where EWM will be removed) will be determined on a site by site basis. The minimum width of control sites will be four meters and the length will be determined by the distribution of EWM.

4.2.5 MONITORING

Sites where control work is taking place will be monitored annually for a minimum of 1 year, post treatment, to measure the effectiveness of the program. A monitoring program will be designed to detect annual changes in the macrophyte community with particular attention to the abundance of EWM and the presence of other aquatic invasive species. The program will include reference sites in order to account for natural variation and stochastic events.

5.0 BENEFITS & POTENTIAL EFFECTS

5.1 BENEFITS

There are several anticipated benefits of the NEWMP. From a social perspective, people will benefit greatly through continued enjoyment of the lake and the associated economic benefits of tourism. In addition, education that is focussed on prevention will have far-reaching benefits in improving ecological awareness that should extend beyond the issue of EWM in Nicola Lake.

5.1.1 RECREATION AND TOURISM

Nicola Lake is a highly desirable location for nearby residents and tourists alike. A survey of lake recreationists, carried out in 2013 by Peak Planning Associates, revealed that the second most important lake attribute is the cleanliness of the water and public areas. Furthermore, when asked how their experiences at the lake could be improved, EWM removal was the second most common response. When asked about factors that could be detrimental to their lake experience and keep them from visiting, poor water quality (i.e., pollution and EWM infestation) was again the second most common response (Peak Planning Associates 2013).

The results of the Peak Planning survey highlight the importance of EWM management to tourism and the associated economic benefits to businesses in the Nicola Valley, Merritt, and surrounding areas.

5.1.2 EDUCATION

There are many educational opportunities through the development and implementation of a EWM management plan. Tourists and residents visiting the lake will learn, or be reminded, of the importance of preventing the spread of invasive species and will be given tips, techniques, and tools for applying preventative practices. This includes education about identifying invasive species and methods for preventing new introductions and managing further encroachment. Invasive species are primarily introduced unintentionally through human activities. Although EWM is already established in Nicola Lake and can only be managed at this stage, preventing its spread to other water bodies is a top priority (ISCBC 2015).

The concept of prevention applies to more than just EWM and this is where the most benefit may be realized for Nicola Lake. The potential introduction of invasive quagga and zebra mussels (*Dreissena polymorpha*) is of concern in BC. The Pacific Northwest, including BC and Alberta, is the only region in North America unaffected by zebra and quagga mussels. The consequences of an introduction would be devastating to water quality, aquatic life, tourism, and infrastructure (i.e., drains, intakes, dams, etc.) and would be very costly to mitigate (ISCBC 2015).

5.2 POTENTIAL EFFECTS AND MITIGATION

The methods used to control EWM may have adverse effects to other aspects of a lake ecosystem. Using established best management practices and utilizing least-risk timing windows is expected to mitigate potential adverse effects. These are described in the following sub-sections.

5.2.1 PREVENTING ACCIDENTAL PROPAGATION OF EWM

An important consideration of in EWM removal is that, if not done properly, it may serve to exacerbate the problem. As EWM can establish from small plant fragments (ISCBC 2015) careless handling during plant removal can inadvertently facilitate spread. To mitigate this potential effect, capture nets will be positioned around the pilot study sites during active diver removal to prevent plant fragments from drifting away. All loose EWM plant material will be promptly removed from the water.

5.2.2 Minimizing Potential Effects to Aquatic Species and Habitats

The provincial and federal governments have regulations for conducting work in and around water. This includes least-risk timing windows for minimizing the risk of harm to fish, including their eggs, juvenile and spawning adult life stages, and to the organisms that they feed upon (DFO 2015).

To minimize impacts to aquatic species and habitats, EWM control activities will adhere to work timing windows set by the BC Ministry of Forests, Lands and Natural Resource Operations (MFLNRO 2015) and Fisheries and Oceans Canada (DFO). It will also minimize the duration of in-water work. Given that there is no known shallow, summer shore spawning in Nicola Lake (pers. comm. Dennis Einarson), selective hand removal of EWM plants will take place between May and August based on local conditions at each site.

Nicola Lake has at least 14 dominant macrophyte species, two of which are non-native (e.g., EWM and curled pondweed [*Potamogeton crispus*]) and two of which are provincially blue-listed: Perfoliated pondweed (*Potamogeton perfoliatus*) and Sheathing pondweed (*Stuckenia vaginata*) (Golder 2013). Divers conducting EWM removal will need to be experienced and trained in the identification of EWM in order that native milfoils species and/or other native aquatic plants are not inadvertently removed.

The shoreline and littoral zone of a lake are perhaps the most important habitats for fish and other aquatic or semi-aquatic species. These habitats are commonly used for spawning and juvenile rearing (both fish and amphibious larvae). Nicola Lake has at least 18 species of fish, including the blue-listed Bull Trout (*Salvelinus confluentus*) and Interior Fraser Coho Salmon (*Oncorhynchus kisutch*) which are listed as Endangered by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC 2015). These species use of the littoral zone, and specifically of macrophyte habitat, is considered to be low to moderate (Triton 2014). Therefore, hand-pulling and/or cutting of EWM plants should pose little risk of negatively affecting these species.

Steelhead Trout (*Oncorhynchus mykiss*) are also known to occur in Nicola Lake (Triton 2014). While not listed provincially or federally, local populations are declining (Levy & Parkinson 2014). Steelhead are culturally important and historically made up an important recreation fishery. Steelhead make low to moderate use of the littoral zones during the juvenile life stage (Triton 2014) and are not expected to interact with the proposed diver removal program.

Burbot (*Lota lota*) makes moderate to high use of the littoral zone during spawning and moderate use as rearing juveniles (Triton 2014). Diver removal, as proposed, will be conducted within an appropriate timing window to avoid potential interactions with Burbot. Burbot generally spawn during late winter or very early spring and eggs settle to the bottom. Fry are demersal (drifting in lake currents) and juveniles generally move to the shoreline areas when water temperatures cool in the littoral zone during early fall. There, juveniles hide during the day and come out at night to feed (McPhail 2007).

Kokanee (*Oncorhynchus nerka*) and Lake Trout are shore spawners; however, their presence in Nicola Lake was not detected during the fisheries utilization assessment (Triton 2014).

Rocky Mountain Ridged Mussel (*Gonidea angulata*) is a provincially red-listed species, is listed federally as a species of “special concern” in the *Species at Risk Act* (SARA), and as “endangered” by COSEWIC. The presence of live mussels in Nicola Lake was not detected during the fisheries utilization assessment; however, three Oregon floater (*Anodonta sp.*) shells were observed (Triton 2014). If live mussel beds are detected, hand-cutting of EWM plants, as opposed to hand-pulling plants, will be employed to avoid disturbing the habitat.

5.2.3 Minimizing Turbidity

EWM management can temporarily increase turbidity in the water due to disturbance of the lake-bottom substrate. Potential adverse effects of increased turbidity include potential stress and/or health effects to fish and other aquatic life as well as a temporary reduction in water quality and aesthetics. To minimize increased turbidity as a result of EWM removal, the following mitigation will be employed:

- Cutting plants rather than pulling them, in areas where short-term turbidity is not tolerable due to sensitive habitat, recreation values, or proximity to water intakes and infrastructure;
- Conducting control work during timing windows that do not interfere with recreation, fisheries, and other lake values;
- Communicating with local water utility managers when working near water intakes; and
- Avoiding work at sensitive sites on windy days, which would hinder the natural re-settling of the suspended sediments and prolong elevated turbidity.

5.3 FUNDING & BUDGET

Funding for EWM control has not been confirmed. The budget is an estimation based on the time it will take to complete control work at each of the sites and the cost for a two person dive team, plant removal, travel, and project management. Prioritized control work will take place as outlined in section 4.2.3.

Table 1. Estimate Pilot Project Budget.

Group	Site	Effort (days)	Dive Team	Project Management	Sub-total
1	Developed boat launch on Highway 5A	1.25	\$1,600	\$240	\$2,000
	Semi-developed boat launch on Highway 5A	1.25	\$1,600	\$240	\$2,000
	Undeveloped boat launch on Highway 5A	1.25	\$1,600	\$240	\$2,000
2	Monck Provincial Park	1.25	\$1,600	\$240	\$2,000
	Harmon Estates boat launch	1.25	\$1,600	\$240	\$2,000
	Nicola Lakeshore Estates boat launch	1.25	\$1,600	\$240	\$2,000
3	Kamloops Sailing Association	1.5	\$1,600	\$288	\$2,400
	N'Kwala RV Park	1.5	\$1,600	\$288	\$2,400
	Nicola Bay RV	1.5	\$1,600	\$288	\$2,400
Estimated Total:		12	\$14,400	\$2,304	\$19,200

5.4 THE WORK

All aspects of contract development and implementation for the work outlined in this plan will be undertaken by the Fraser Basin Council (FBC) as part of the secretariat support provided to the Nicola planning process. All permits and applications to FrontCounter BC and Fisheries and Oceans Canada will be coordinated and completed by FBC. Where possible, EWM removal will be coordinated across all of the groups outlined in section 4.2.3.

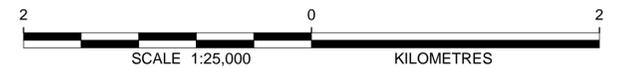
6.0 CLOSURE

The development of this plan has been guided by the Nicola Steering Committee to help prevent the spread of Eurasian watermilfoil from Nicola Lake and to help prevent new introductions of invasive species to the lake and area. The implementation of this plan is an important part of watershed management.



- LEGEND**
- ☆ Boat Launch Location
 - Extent of Macrophyte Beds
 - Approximated Boundary of Macrophyte Beds
 - Edge of Shallow Shelf
 - Areas of Concern as Indicated by the Public
- Sample Locations**
- % Cover Ranges of EWM**
- Dominant: >49%
 - Sub-dominant: 21-49%
 - Present but slight: 5-20%
 - Trace: <5%
 - None

REFERENCE
 BASE IMAGERY FROM BING WEB MAPPING SERVICE



PROJECT		FRASER BASIN COUNCIL NICOLA LAKE EURASIAN WATERMILFOIL MANAGEMENT PLAN - PILOT PROGRAM	
TITLE		DISTRIBUTION AND PREVALENCE OF EURASIAN WATER-MILFOIL IN NICOLA LAKE, BC (GOLDER 2013)	
PROJECT NO. 1533655		FILE No.	
DESIGN	KP	31 Aug. 2015	SCALE AS SHOWN
GIS	BKL	31 Aug. 2015	REV. 0
CHECK	KP	31 Aug. 2015	FIGURE: 1
REVIEW			



I:\CAD-GIS\Clients\Fraser Basin Council\Nicola Lake\99 PROJECTS\1533655\02 PRODUCTION\2000\MAXD\Report\1533655_2000_Figure 1.mxd



- LEGEND**
- ☆ Boat Launch Location
 - Fisheries Survey Location (Triton 2013)
 - Recommended EWM Management Areas

REFERENCE
 BASE IMAGERY FROM BING WEB MAPPING SERVICE



PROJECT		FRASER BASIN COUNCIL NICOLA LAKE EURASIAN WATERMILFOIL MANAGEMENT PLAN - PILOT PROGRAM			
TITLE		AREAS RECOMMENDED BY GOLDER FOR EWM MANAGEMENT			
		PROJECT NO. 1533655	FILE No.		
DESIGN	KP	31 Aug. 2015	SCALE AS SHOWN	REV. 0	
GIS	BKL	31 Aug. 2015			
CHECK	KP	31 Aug. 2015			
REVIEW					



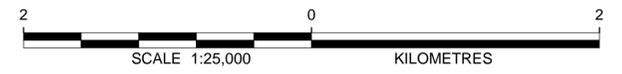
FIGURE: 2



LEGEND

	GROUP 1
	GROUP 2
	GROUP 3

REFERENCE
 BASE IMAGERY FROM BING WEB MAPPING SERVICE



PROJECT
**FRASER BASIN COUNCIL
 NICOLA LAKE EURASIAN WATERMILFOIL
 MANAGEMENT PLAN - PILOT PROGRAM**

TITLE
PRIORITIZATION OF TREATMENT AREAS



PROJECT NO. 1533655			FILE No.	
DESIGN	KP	31 Aug. 2015	SCALE AS SHOWN	REV. 0
GIS	BKL	31 Aug. 2015		
CHECK	KP	31 Aug. 2015		
REVIEW				

FIGURE: 3

\CAD-GIS\Clients\Fraser Basin Council\Nicola Lake\99 - PROJECTS\1533655\02 - PRODUCTION\2000\MXD\Report\1533655_2000_Figure 3.mxd

7.0 REFERENCES

- COSEWIC (Committee on the Status of Endangered Wildlife in Canada). 2015. Wildlife Species Search webpage. Available online at: http://www.cosewic.gc.ca/eng/sct1/index_e.cfm (Accessed May 2015).
- DFO (Fisheries and Oceans Canada). 2015. Projects Near Water webpage. Available online at: www.dfo-mpo.gc.ca/pnw-ppe/index-eng.html. (Accessed May 2015).
- Einarson, E.D., and M.D. Maxnuk. 1991. Discovery and Control of Eurasian Watermilfoil (*Myriophyllum spicatum*) in Nicola Lake. Kamloops, BC
- FBC (Fraser Basin Council). Nicola Lake Action Plan. June 20, 2013. Available online at: http://www.fraserbasin.bc.ca/tr_nicola_lake_resources.html#nlap
- Golder Associates Ltd. Characterization of Macrophytes and Evaluation of the Prevalence of Eurasian Watermilfoil (*Myriophyllum spicatum* L.). November 13, 2013. Available online at: http://www.fraserbasin.bc.ca/_Library/TR/nicola_lake_ewm_report_2013_web.pdf
- ISCBC (Invasive Species Council of BC). 2015. Invasive species information webpage. Available online at: <http://bcinvasives.ca/> (Accessed June 2015).
- Levy, D.A., and E. Parkinson. 2014. Independent Review of the Science and Management of Thompson River Steelhead. Prepared for Thompson Steelhead Technical Subcommittee c/o Cook's Ferry Indian Band. Spences Bridge, BC.
- McPhail, J.D. 2007. The freshwater fishes of British Columbia. The University of Alberta Press.
- MFLNRO (BC Ministry of Forest Lands and Natural Resource Operations). 2015. Regional timing windows information webpage. Available at: <http://www.env.gov.bc.ca/wld/instreamworks/regionaltimingwindows.htm> (Accessed Oct. 13, 2015).
- MOE (BC Ministry of Environment). 2011. Water Quality – Eurasian Watermilfoil in British Columbia webpage. Available online at: <http://www.env.gov.bc.ca/wat/wq/brochures/milfoil.html> (Accessed June 2015).
- Peak Planning Associates. 2013. Nicola Lake and Area Recreation Survey Report. October 31, 2013. Available online at: http://www.fraserbasin.bc.ca/_Library/TR/nicola_lake_rec_survey_2013.pdf
- Triton Environmental Consultants. 2014. Nicola Lake Eurasian Watermilfoil Management Planning Fisheries Utilization Assessment. October 15, 2014. Available online at: http://www.fraserbasin.bc.ca/_Library/TR/nicola_lake_ewm-fisheries_oct_2014_mr.pdf

Personal Communications:

D. Einarson, BC Ministry of Environment, December 3, 2012

M. Friars, BC Parks, April 28, 2014