

LAKE WABAMUN  
**BOAT LAUNCH STUDY**  
PARKLAND COUNTY



SUBMITTED BY:



**EDA**

Collaborative Inc.

LAKE WABAMUN  
BOAT LAUNCH STUDY

May 2013

SUBMITTED TO:



SUBMITTED BY:



IN ASSOCIATION WITH:



**SHOREPLAN**

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## 1.0 BACKGROUND

### 1.1 Background to the Study

Wabamun Lake is a popular summer destination for boaters in the Capital region. An increase in demand by boaters for improved boat launch facilities has warranted an examination of current and future boat launch facilities on the lake. A preliminary assessment needs to be completed of the existing launch facilities, both the water and land based conditions, the demand for launch opportunities and possible alternative launch locations elsewhere, on the lakeshore. The resulting strategy should identify opportunities and constraints for upgrading both existing and alternative launch facilities on the lake including an identification of best practices, estimated capital costs, management approaches and implementation guidelines.

Parkland County commissioned EDA Collaborative Inc. to carry out this work and prepare a report on their findings. This document presents the final DRAFT Report for this project. The intent of this report is to provide Parkland County with a summary of the background inventory and analysis that has been completed and the strategy recommendations to move forward with the improvements.

### 1.2 Process

The process involved four phases, each composed of several tasks. A summary of this process and timeline is illustrated below:



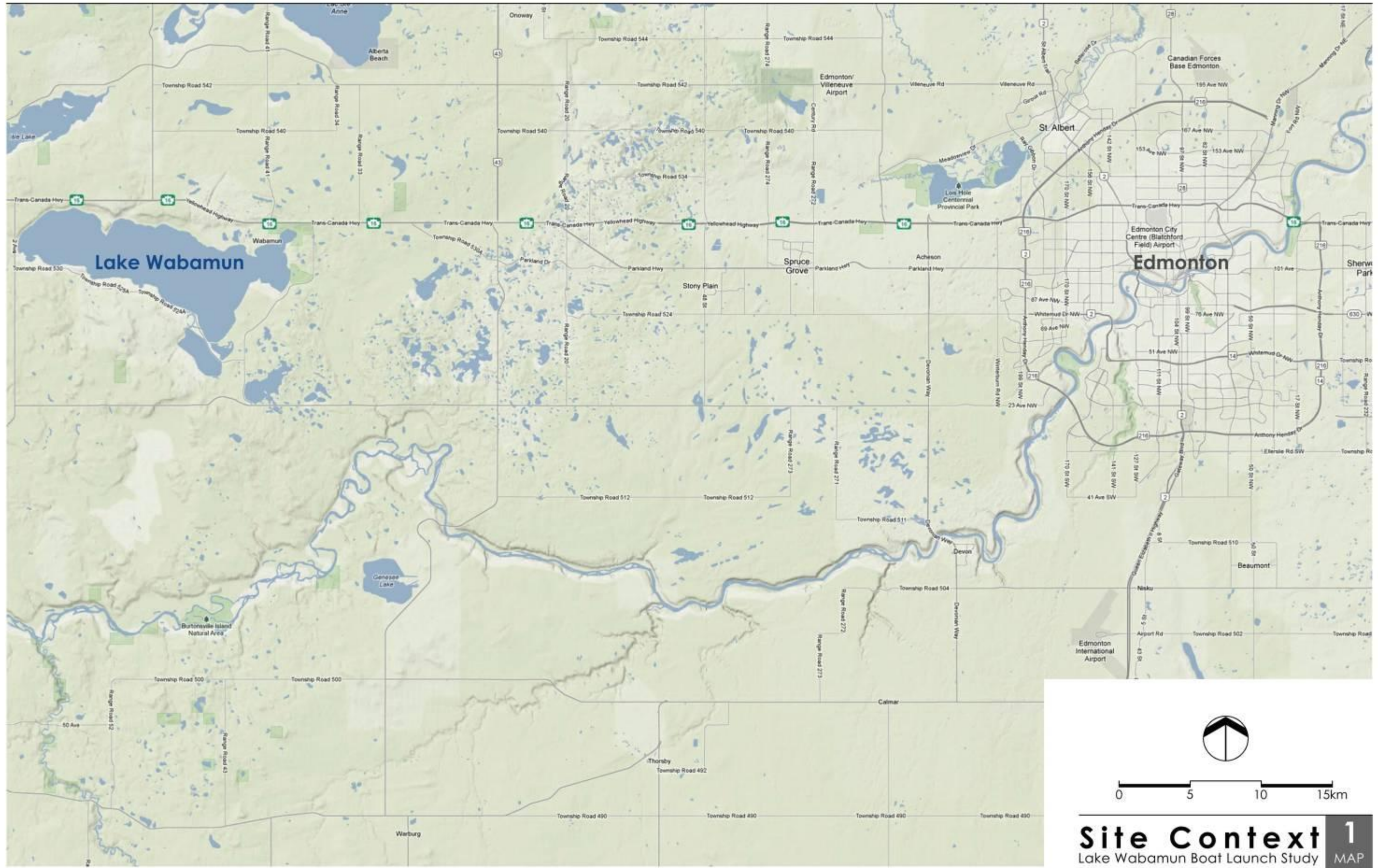
### 1.3 Context and Study Area



Lake Wabamun is situated 60 km west of Edmonton off of Highway 16 (refer to Map 1, page 3). Covering approximately 82 square kilometers, the lake is one of the most heavily used lakes in the province. Recreational use of the lake includes fishing, boating, swimming and bird watching with additional land based recreation use such as camping and golfing. Two marinas and numerous boat launches encircle the lake, and three sailing clubs are located in close proximity (refer to Map 2, Page 3).

Edmontonians began visiting the lake in the early nineteen hundreds, when the railway began offering organized excursions to the lake. This was followed closely by cottage development along the shoreline and the creation of summer villages. By 1996 the number of developed lots surpassed 1300<sup>1</sup>.

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<sup>1</sup> As recognized in "A Review of Scientific Studies and Environmental Impacts"

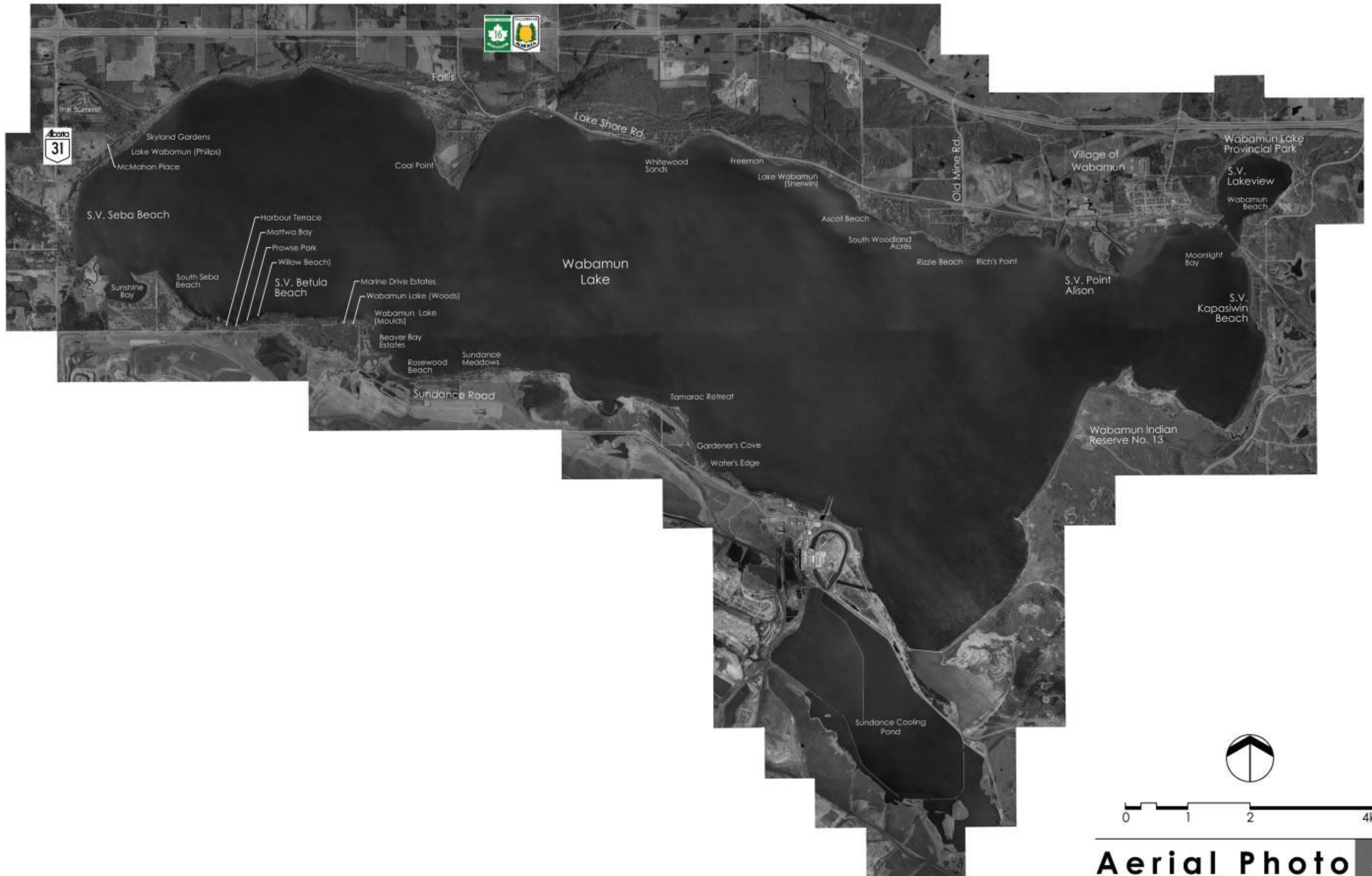


## Site Context 1

Lake Wabamun Boat Launch Study MAP





**Aerial Photo** **2**  
Lake Wabamun Boat Launch Study **MAP**

## 2.0 EXISTING CONDITIONS

### 2.1 Land Ownership

The land flanking the lake is predominately private with five Summer Villages, the Village of Wabamun, and the Wabamun Indian Reserve No. 13 (refer to Map 3 on page 9). The County owned land adjoining the lake is typically associated with reserve dedication as a result of the subdivision process. Several parcels of Crown land exists around the lake with the most notable parcels forming the Wabamun Lake Provincial Park in the northeast area of the lake which contributes significantly to the summer usage of the lake. Other land use in the area includes TransAlta's Wabamun and Sundance power plants, and associated mining and cooling ponds for the Sundance and Keephills power plants.

### 2.2 Amenities and Services

Services and amenities flanking Lake Wabamun include beaches and day use areas, camps and campgrounds, community halls, fire halls, sailing clubs and marinas, and fuel, as shown in Map 4. Amenities are generally concentrated in the northeast and south areas of the Lake. Of particular interest, the only water focused fuel station is located at the private marina in the Village of Wabamun.

### 2.3 Existing Launches

There are over twenty boat launch locations around the lake (refer to Map 4 on page 10), varying in their level of development and launching conditions. The following describes the major existing launch facilities and their operation:

#### 2.3.1 Wabamun Lake Provincial Park Launch

##### *Existing Facilities*

- 1 double vehicle boat launch with gravel access and concrete launch
- 1 hand launch with concrete access
- 1 floating dock to service boat launch
- Structured parking with pull through stalls for approx 140 vehicles and trailers.
- Adjacent day use area and beach with comfort station
- (refer to Map 10 on page 29)



*Operations / Maintenance*

- Located within Wabamun Provincial Park and maintained by the park.
- No charge for launching or parking

*Comments*

- Province is considering improvements to launch access/circulation and expanding the vehicle launch to include the current hand launch location



### 2.3.2 Village of Wabamun Launch

*Existing Facilities*

- 1 double vehicle launch with paved access and a concrete launch
- Structured paved pull through parking for 14 vehicles /trailers
- Unstructured overflow parking for approximately 50 vehicles / trailers north and west of the launch and another approximately 42 vehicle/trailers north and east of the launch
- Fixed timber pier and boarding floats/docks adjacent to launch
- Adjacent day use area beach, water playground and comfort station.
- (refer to Map 11 on page 30)



*Operations / Maintenance*

- Existing parking meter at \$15/day/launch or seasonal passes may be purchased from the village for \$300/year.

*Comments*

- Village would like to upgrade launch and replace public pier.



### 2.3.3 Rich's Point Launch and Ascot Beach Launch

#### *Existing Facilities*

- Informal launch location provided from roadway easement.
- Adjacent day use area with gravel parking area.

#### *Operations / Maintenance*

- Day use area managed by Parkland County

#### *Comments*

- Unstable shoreline soil conditions and shallow water present challenging launch conditions

### 2.3.4 East of Coal Point, Fallis, Sunshine Bay, Betula Beach, Beaver Bay Estates, Sundance Meadow, and Tamarac Retreat Launches

#### *Existing Facilities*

- Informal launch locations usually associated with a roadway easement / access to the lake

#### *Operations / Maintenance*

- Maintenance by Parkland County or Summer Village

#### *Comments*

- Unstable shoreline soil conditions and shallow water present challenging launch conditions

### 2.3.5 Seba Beach Launch

#### *Existing Facilities*

- Single launch with gravel access and natural shoreline launch conditions
- Floating pier adjacent launch
- Adjacent gravel parking area that is signed for no vehicle / trailer parking
- Parking on adjacent roadway
- Adjacent community centre
- (refer to Map 12 on page 31)

#### *Operations / Maintenance*

- Maintained by summer village Seba Beach



### *Comments*

- Launching not encouraged by summer village due to a lack of vehicle/trailer parking and poor shore and bed launch conditions.

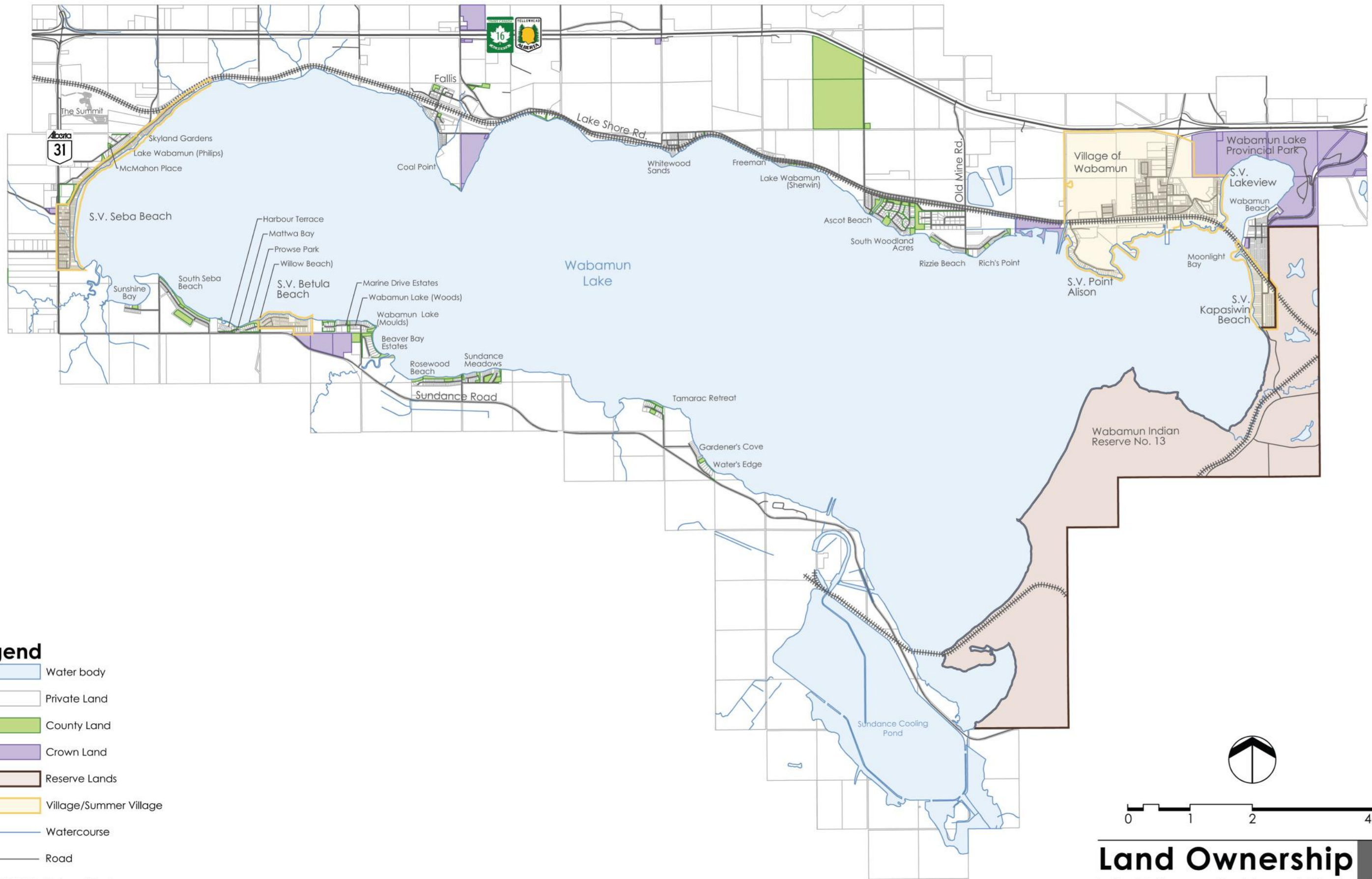
### **2.3.6 Sundance Power Plant Launch (currently closed)**

#### *Existing Facilities*

- Previous boat launch no longer in use due to weir constructed to prevent oil in water from contaminating plant's water supply. (closed 2005)
- Provided the only deep water, keel launch site on the south side of the lake.
- Gravel access

#### *Operations / Maintenance*

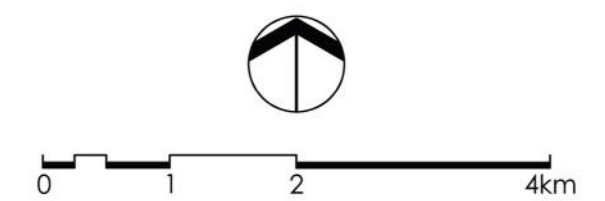
- Inlet channel controlled by Trans Alta



**Legend**

- Water body
- Private Land
- County Land
- Crown Land
- Reserve Lands
- Village/Summer Village
- Watercourse
- Road
- Railroad Tracks

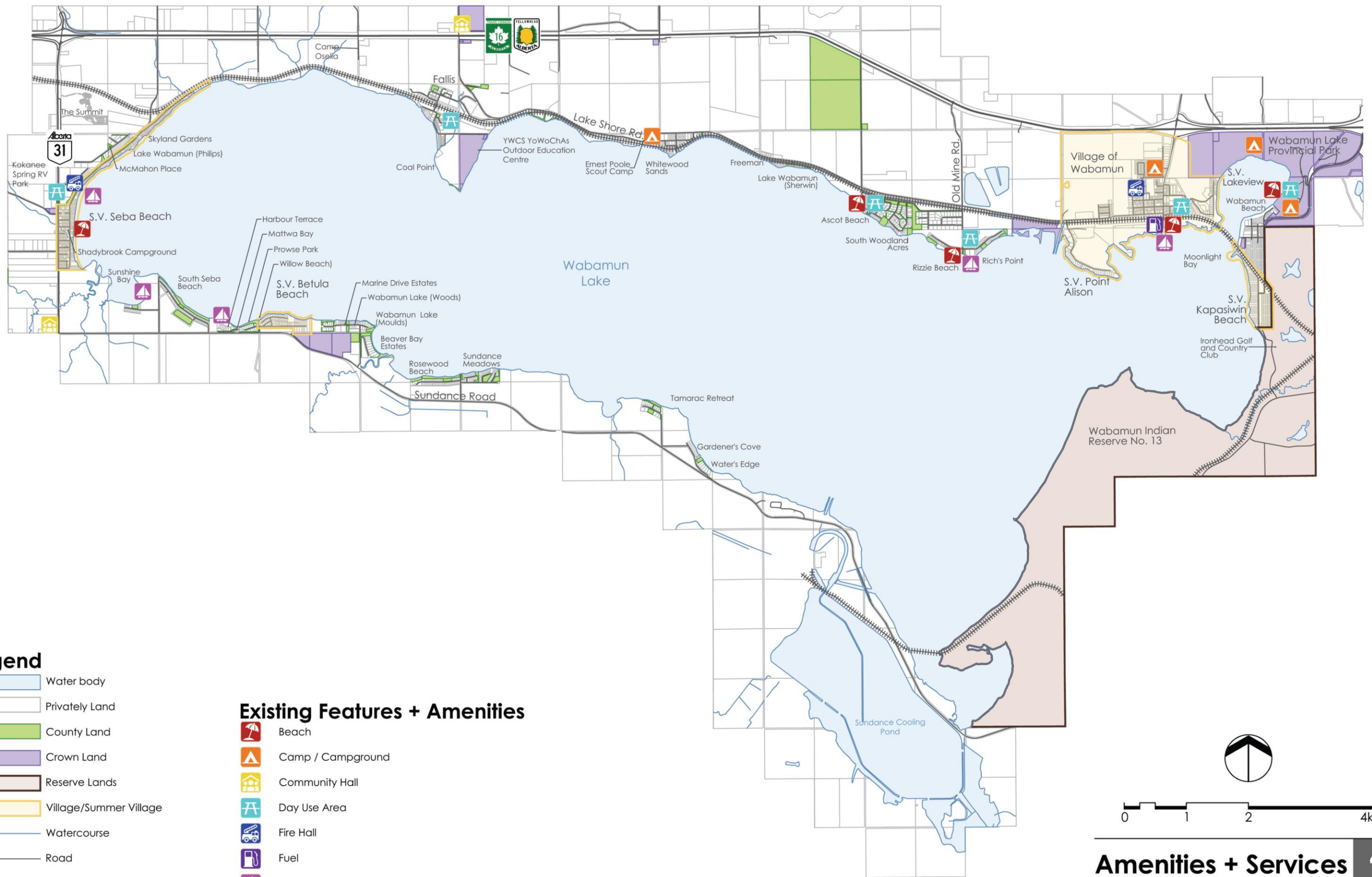
Source: Parkland County



**Land Ownership** 3  
 Lake Wabamun Boat Launch Study MAP

EDA Collaborative Inc.

2012.11.29



**Legend**

- Water body
- Privately Land
- County Land
- Crown Land
- Reserve Lands
- Village/Summer Village
- Watercourse
- Road
- Railroad Tracks

**Existing Features + Amenities**

- ☂ Beach
- ⛺ Camp / Campground
- 🏠 Community Hall
- ☀ Day Use Area
- 🚒 Fire Hall
- ⛽ Fuel
- ⚓ Sailing Club / Marina

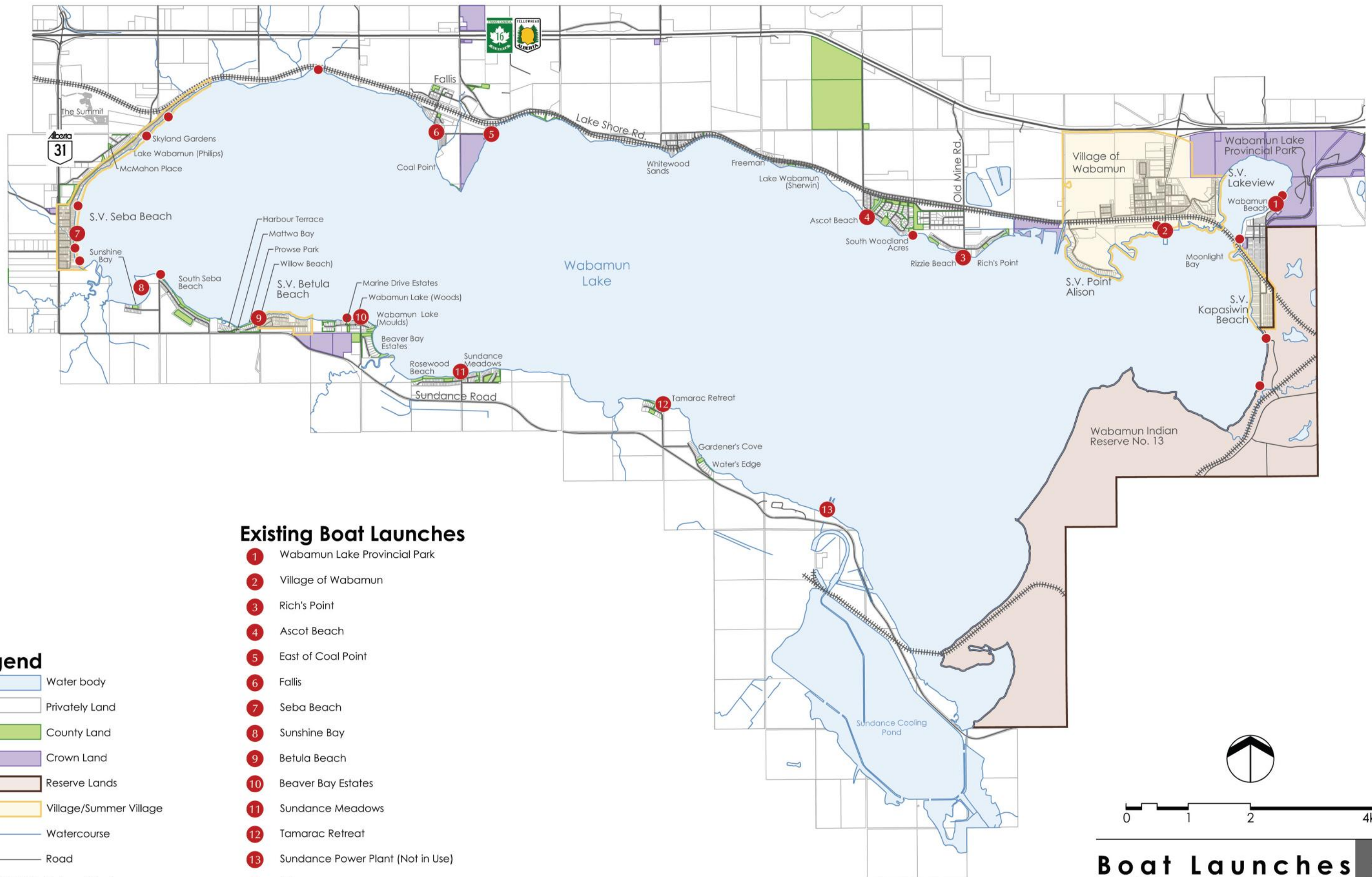


0 1 2 4km

**Amenities + Services**  
Lake Wabamun Boat Launch Study

**4**  
MAP

Source: Atlas of Alberta Lakes <http://alberta-lakes.sunsite.ualberta.ca> and field notes



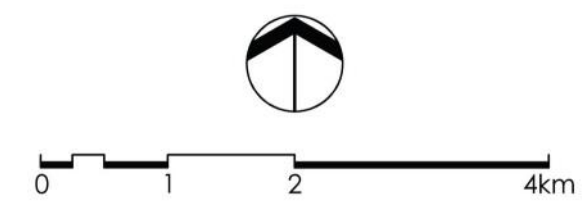
### Existing Boat Launches

- 1 Wabamun Lake Provincial Park
- 2 Village of Wabamun
- 3 Rich's Point
- 4 Ascot Beach
- 5 East of Coal Point
- 6 Fallis
- 7 Seba Beach
- 8 Sunshine Bay
- 9 Betula Beach
- 10 Beaver Bay Estates
- 11 Sundance Meadows
- 12 Tamarac Retreat
- 13 Sundance Power Plant (Not in Use)
- Other

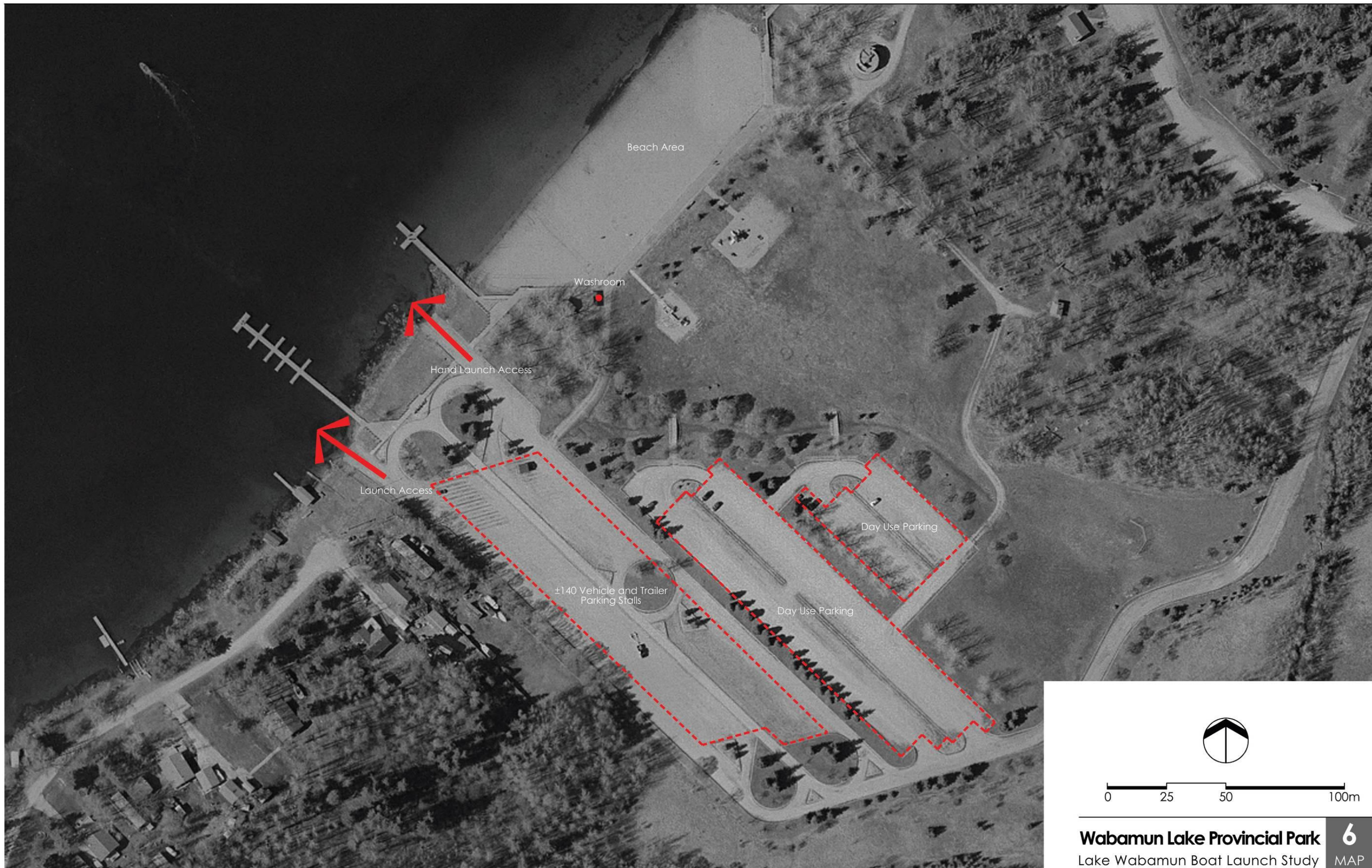
### Legend

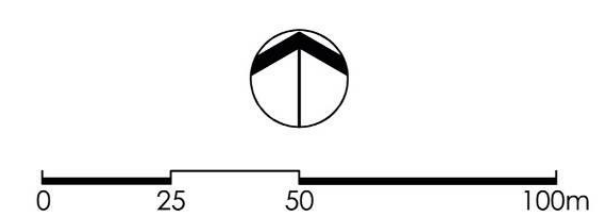
- Water body
- Privately Land
- County Land
- Crown Land
- Reserve Lands
- Village/Summer Village
- Watercourse
- Road
- Railroad Tracks

Source: Field Notes

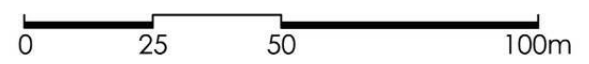








**Village of Wabamun** **7**  
Lake Wabamun Boat Launch Study **MAP**



### 3.0 DISCUSSIONS WITH STAKEHOLDERS AND USERS

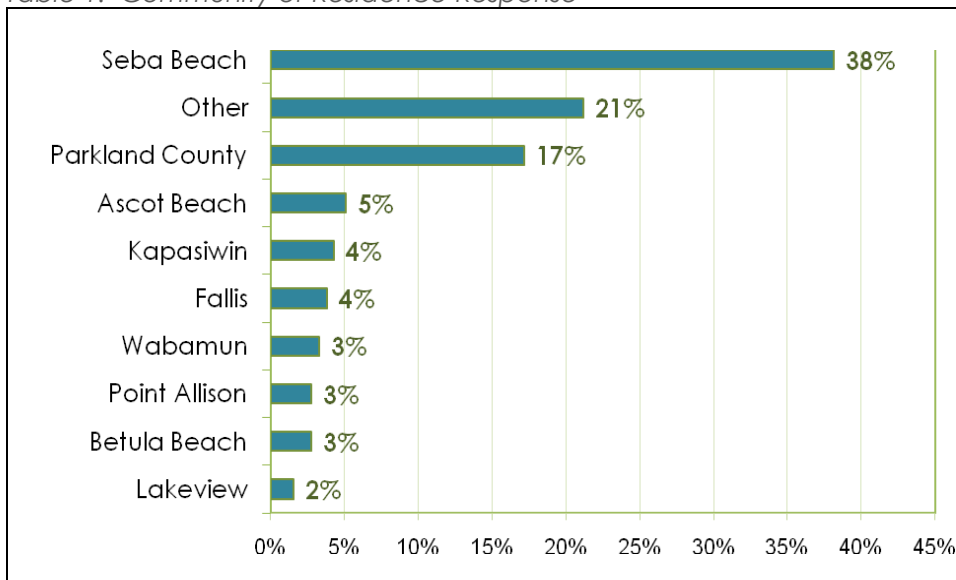
The community consultation conducted for the study included a resident survey, a group use or organization survey, as well as an intercept survey of launch users at the Village of Wabamun and the Provincial Park. The survey processes and results are described in the following sections.

#### 3.1 Resident Survey

Residents of the various summer villages and the Village of Wabamun were surveyed. A questionnaire was developed by the consulting team and distributed to residents of the summer villages (Betula Beach, Seba Beach, Kapasiwin, Lakeview, Point Allison), the Village of Wabamun, and to some residents in Parkland County in close proximity to the Lake. These communities / municipalities distributed the questionnaires themselves along with self addressed postage paid envelopes that would enable respondents to return the questionnaires directly to the consulting team for analysis. In total, 396 responses were received.

The greatest single source of responses came from Seba Beach (38%). Parkland County accounted for 15% of respondents. See the following graph<sup>2</sup>.

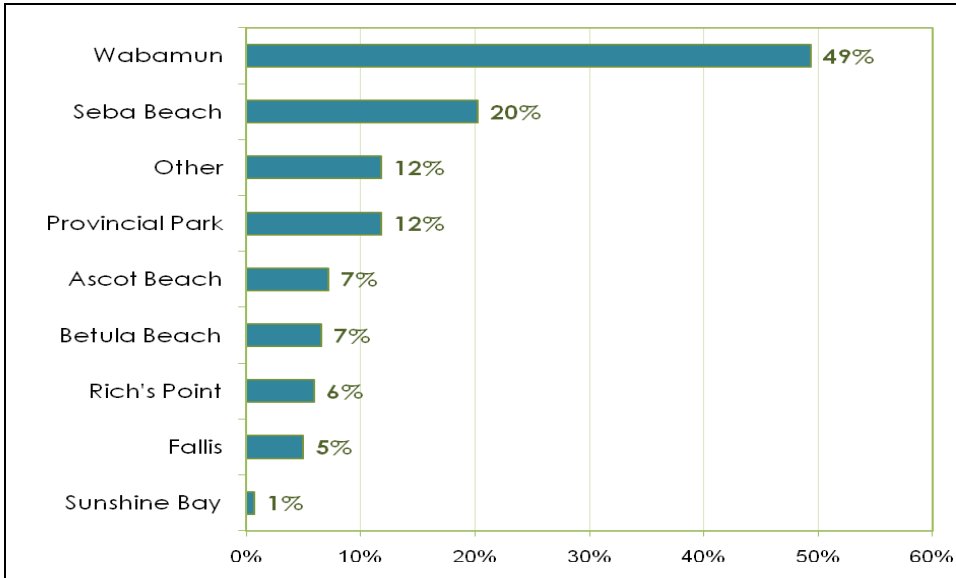
Table 1: Community of Residence Response



<sup>2</sup> Forty-five percent of respondents cited Edmonton as their permanent residence.

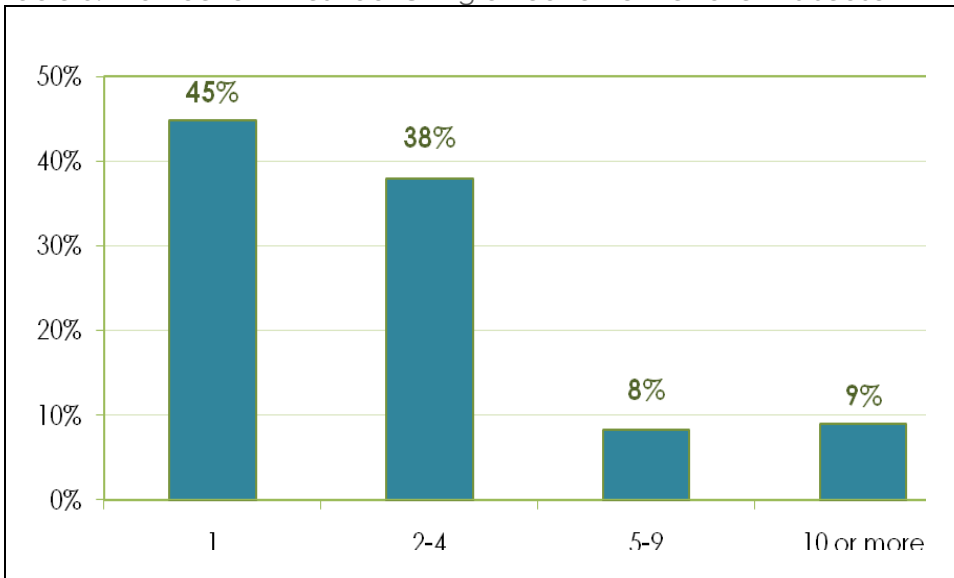
Over three-quarters (78%) of respondents have launched a boat onto Lake Wabamun this year. Almost half (49%) used the launch in the Village of Wabamun; Seba Beach was the launch used by the second largest segment of respondents.

Table 2: Launches Used this Season



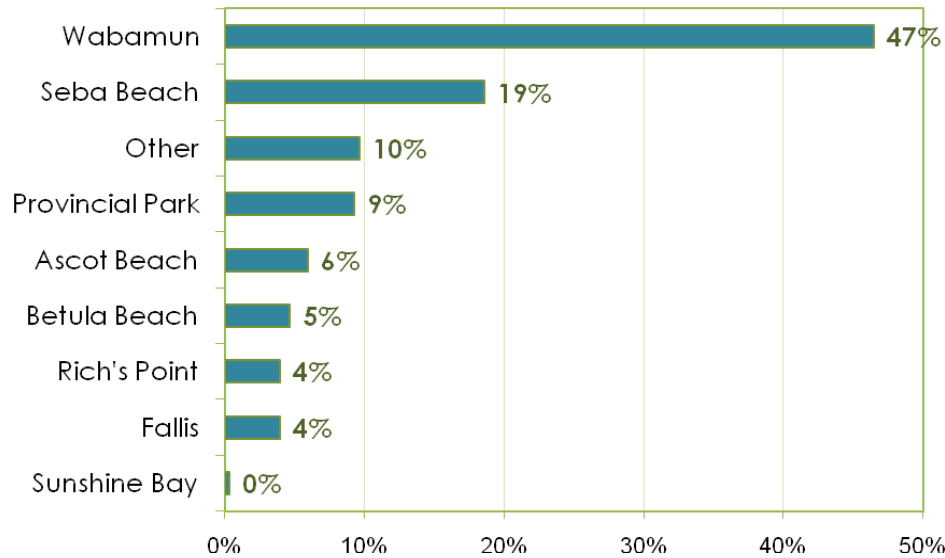
As illustrated in the following graph, the majority of users (83%) have launched a boat four or less times – 45% only launched once.

Table 3: Number of Times Launching a Boat onto the Lake this Season



The launch in Wabamun is the most commonly used one (47%); Seba Beach is the predominant launch for 19% of users. Included in “other” was a launch site on Range Road 52.

Table 4: Launch Used Predominantly



Considering the **Wabamun launch**, almost three-quarters (73%) of users cited the quality of the launch itself as a reason to use it more frequently than others. The water depth (64%), distance from home (26%), and existing support amenities (15%) were also mentioned.

Regarding respondents who indicated that the **Seba Beach launch** is the one they use more than any others, distance from home (89%) was the predominant reason. Water depth (18%), existing support amenities (11%), and the quality of launch itself (7%) were not nearly as important.

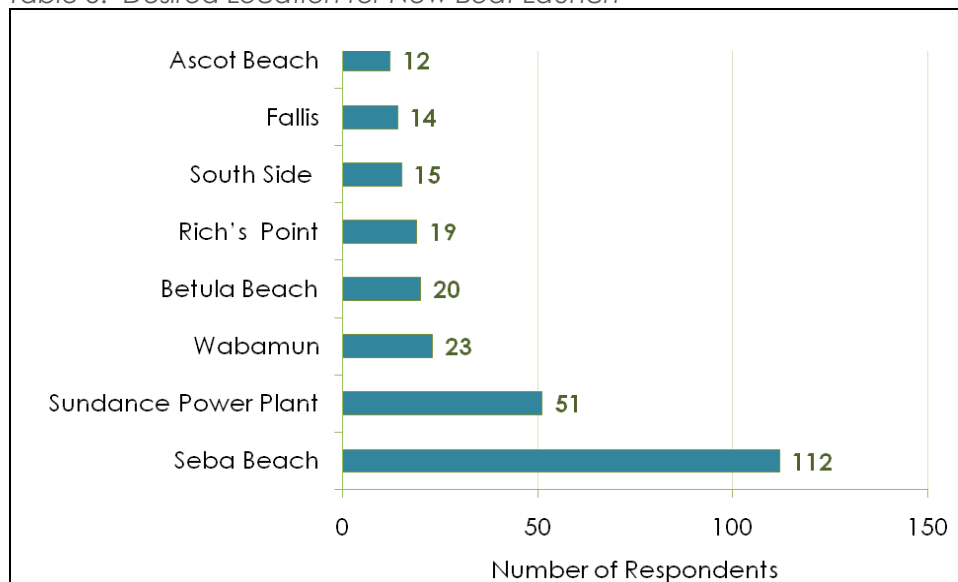
For those that use the **Provincial Park launch** more frequently than the others the distance from home was also the primary reason (89%). The quality of the launch (39%), the water depth (29%), and the existing support amenities (18%) were of lesser importance.

The following table summarizes the good aspects and areas of improvement as well of the number of mentions for the three aforementioned launches.

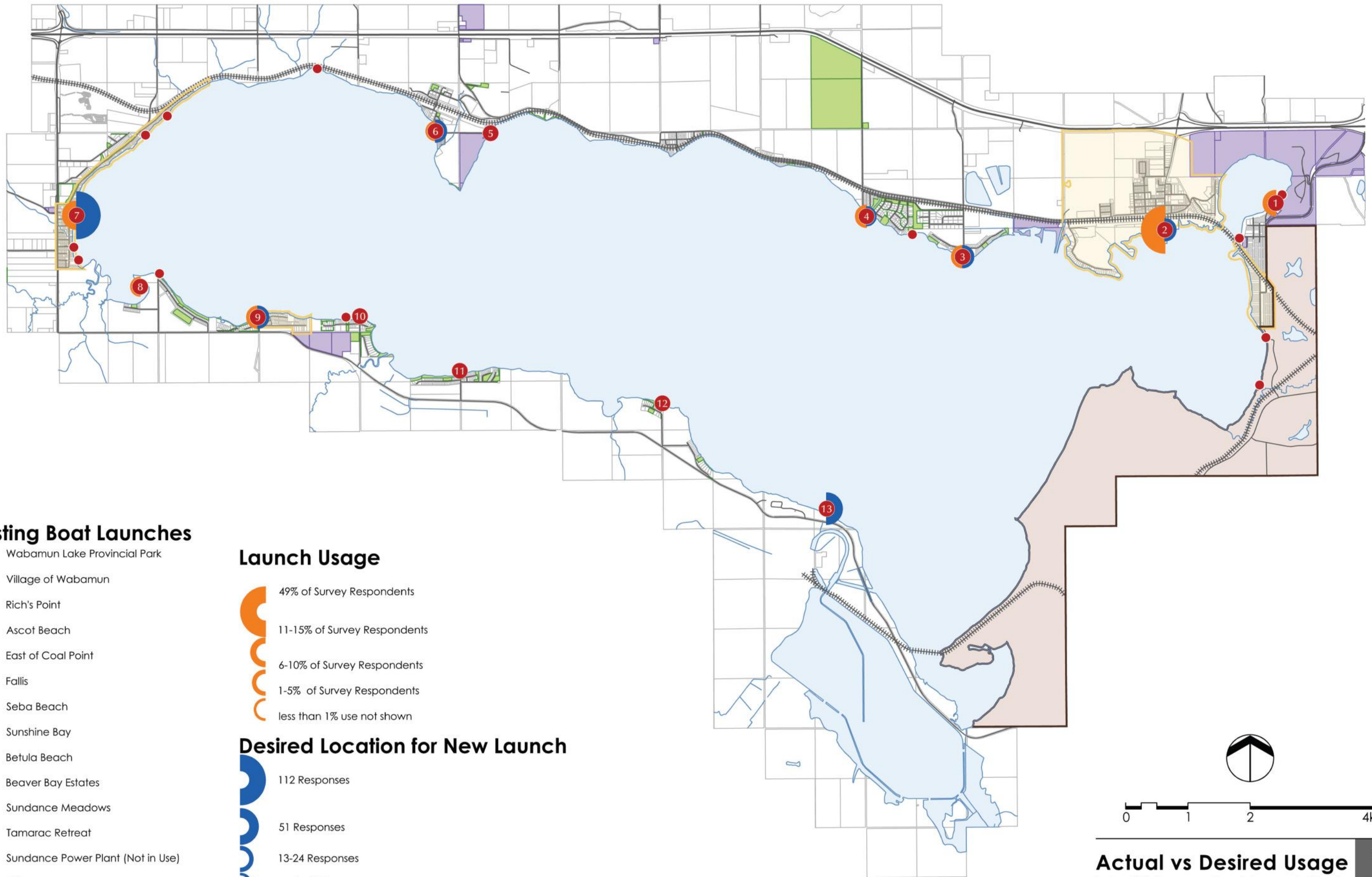
Launch	Good Aspects	Areas of Improvement
<b>Village of Wabamun</b>	Quality of the ramp (61) Water depth (57) Parking (19) Available dock / pier (16) Space to manoeuvre (14) Support amenities nearby (12)	Traffic control (9) Move it to other side of lake (9) Deal with congestion (9) Improve the pier / dock (6) Larger launch area (5) Improved / more parking (5)
<b>Summer Village Seba Beach</b>	Proximity to residence (38) Nearby amenities (6) Not very busy (3)	Water depth (25) Improved ramp (17) More parking (10) More amenities (5)
<b>Wabamun Lake Provincial Park</b>	Proximity to residence (9) Launch is paved (4) Water depth (4)	Difficult to get in the water (6) Additional launches needed (4)

Respondents were also asked to identify a location on Lake Wabamun where a new boat launch should be developed. The most commonly identified desirable launch locations are as shown in the following graph:

Table 5: Desired Location for New Boat Launch



Map 9 depicts the relationship between existing use and demand for future development.



### Existing Boat Launches

- 1 Wabamun Lake Provincial Park
- 2 Village of Wabamun
- 3 Rich's Point
- 4 Ascot Beach
- 5 East of Coal Point
- 6 Fallis
- 7 Seba Beach
- 8 Sunshine Bay
- 9 Betula Beach
- 10 Beaver Bay Estates
- 11 Sundance Meadows
- 12 Tamarac Retreat
- 13 Sundance Power Plant (Not in Use)
- Other

### Launch Usage

- 49% of Survey Respondents
- 11-15% of Survey Respondents
- 6-10% of Survey Respondents
- 1-5% of Survey Respondents
- less than 1% use not shown

### Desired Location for New Launch

- 112 Responses
- 51 Responses
- 13-24 Responses
- up to 12 Responses

0 1 2 4km



**Actual vs Desired Usage**  
Lake Wabamun Boat Launch Study

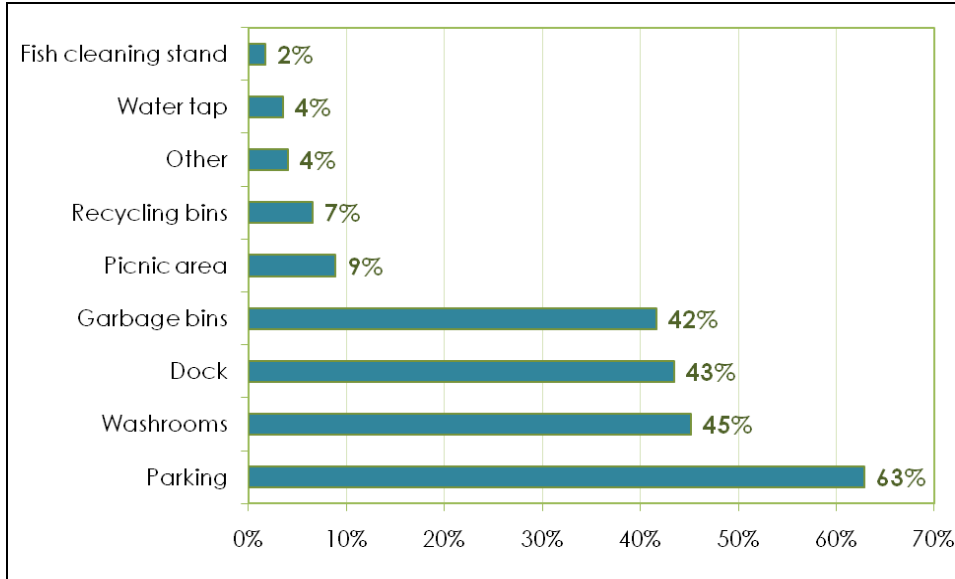
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MAP



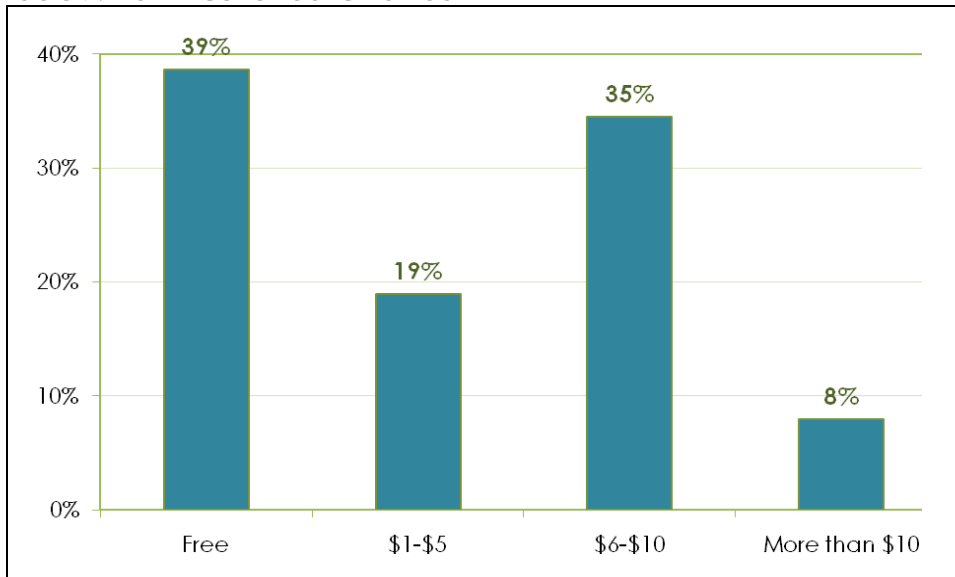
As illustrated in the following graph, approximately two-thirds of respondents (63%) suggested that parking is an amenity that is needed at any new boat launch. Washrooms (45%), a dock (43%), and garbage bins (42%) were also considered as important features.

Table 6: Features / Amenities to Include in a New Boat Launch



When considering a cost to develop and maintain boat launches, respondents were asked what amount would be fair to pay each time they launch a boat. The majority of respondents did think some level of payment was fair with 39% saying launching should be no charge. Forty-three percent felt a cost of at least \$6 was fair. See the following graph.

Table 7: Fair Price to Launch a Boat



## 3.2 Organization (Group Use) Survey

Eight organizations provided their feedback via survey. The groups (along with the site amenities) include:

### 3.2.1 The Bissell Centre; operating Moon Light Bay Camp

- camp with cooking facility and eating space for 90
- men's and ladies' wash house
- recreation hall
- 8 duplex cabins (64 capacity); 2 other cabins for staff and canoe storage
- Summer dock and beach area with sand volleyball and fire pit

### 3.2.2 Ernest Poole Scout Camp

- Canoeing
- Swimming
- Ice fishing

### 3.2.3 Sunshine Bay Yacht Club

- Day club house with kitchen and washrooms
- Picnic shelter
- Boat docks

### 3.2.4 Edmonton Yacht Club

- 2 docks (22 boats)
- Mooring field for 24 boats

### 3.2.5 Wabamun Sailing Club

- Club house
- Limited trailer space
- Sailboat storage
- Pier
- Power boat hoists

### 3.2.6 YWCA YoWoChAs

### 3.2.7 Stony Plain Fish & Game Association

- No amenities on the lake nor does the Association hold events on Lake Wabamun during the open water season.

### 3.2.8 Camp Oselia Children's Camp (Ukrainian Catholic Eparchy of Edmonton)

- 100 person dorm
- Hall / kitchen
- 22 trailer sites (rental to church members)

In terms of utilization of launches, five groups launched onto Lake Wabamun this year – three at the Village of Wabamun; one at the Provincial Park; and one at its own site and

one at the Seba Beach. The Bissell Centre used the Provincial Park while the Sailing Club and both yacht clubs used the Village's launch.

The Provincial Park was used by the Bissell Centre because of its proximity to its camp. The other three groups used the Village boat launch because of its water depth, its adjacency to boat storage and because of its proximity to a crane needed to launch the boats.

The yacht clubs and sailing club agreed that there is a need for a new launch (or enhancements to an existing). In terms of locale, Wabamun Village was identified as appropriate as was Rich's Point and anywhere with depth of 1.9 metres.

Desired amenities identified by the groups include: concrete pad or gravel launch base; fuel service; extended pier; the ability to bring in a crane to handle six foot draft keelboats.

A number of concerns were articulated regarding any potential development of a new boat launch. Two comments cited the large number of boats on the lake on weekends including power boats. One group felt existing infrastructure should be upgraded to minimize additional development. Finally one group commented that sailboats are not accommodated at public launches as they require greater depths.

### **3.3 Intercept Survey of Launch Users**

Users of the boat launches at the Provincial Park and in the Village of Wabamun were surveyed on Friday, August 10<sup>th</sup> and Saturday, August 18<sup>th</sup>, 2012. In total 77 boaters were interviewed; 43 at the Provincial Park and 34 at the launch in the Village of Wabamun. The findings are presented according to the survey location.

#### **3.3.1 Provincial Park Launch**

The majority (74%) of boats launched were recreation or sport boats. Fishing boats comprised 14% of boats launched while personal watercraft (9%) and sailing boats (1%) made up the balance. Eleven of the crafts were at least 20 feet in length (only one of which was a fishing boat) with the average length of 18 feet.

Forty-two (42%) percent of boaters drove from Edmonton to launch while 19% were from Spruce Grove. Spruce Grove was the origin of 19% of launchers while campers at the Provincial Park accounted for 16% of launchers. Sherwood Park (9%) and Stony Plain (7%) were the next most common origins. One boater (2%) each came from Carvel, Seba Beach, or Drayton Valley. In terms of residency approximately half (51%) of boaters live in Edmonton. Spruce Grove (19%), Sherwood Park (12%), and Stony Plain (12%) accounted for the next largest segments.

Approximately one-quarter (26%) of respondents indicated that the distance from their home was the reason that they used the launch. Nineteen percent indicated they used the launch because they were camping in the park. The existing support amenities were cited by 16% of respondents as the reason for using the launch. The quality of the launch itself (12%), the water depth (9%), and the absence of fees (9%) were the next most commonly identified reasons for using the launch.

Boaters were asked to identify the preferred aspects of the launch. Comments included:

- Good parking (10 mentions);
- Access is good (6);
- The facility itself is good (4);
- Double launch (4);
- Traffic flow (3);
- Adjacent to day use area (3); and
- No charge (3).

Boaters were also asked to identify areas of improvement at the launch site. Three comments were most frequently cited; they included:

- More docking spaces are needed after launch (14 comments);
- More parking (9);
- Another launch is needed (4); and
- The curved entry with the curbs is difficult to navigate (3).

Approximately one-third (30% or 13 respondents) have used launches other than at the Provincial Park. The majority of these boaters (12 of 13) used the launch in the Village of Wabamun. The launch at Rich's Point was used by two respondents as was the Seba Beach launch. One respondent used the launch at Ascot Beach.

Respondents were told that there is a cost to develop and maintain boat launches. They were then asked what would be a fair amount to pay each time to launch their boat. The majority of respondents (58%) felt there should be no cost. Twelve percent felt \$1-\$5 would be fair while 28% thought \$6-\$10 would be fair. Two percent of respondents thought a fee greater than \$10 would be fair.

### 3.3.2 Village of Wabamun Launch

Approximately two-thirds (63%) of boats launched were recreation or sport boats. Fishing boats comprised 20% of boats launched and sailing boats (9%) were the next largest segment of craft launched. There were three sailing boats launched (9%), two canoe / kayaks (6%), and one pontoon boat. Six of the crafts were at least 20 feet in length – four were recreation or sport boats while one was a pontoon boat and one was a sailing boat. (The average length of all craft is approximately 18 feet.)

Forty percent of boaters (14 respondents) drove from Edmonton to launch. The next most common origin for the boaters included:

- Stony Plain (5 boaters);
- The Village of Wabamun (2);
- St. Albert (2);
- Spruce Grove (2);
- Betula Beach (2); and
- One from each of the following communities: Leduc, Parkland County, Onoway, Seba Beach, Sherwood Park, Drayton Valley, Point Allison, and Fort Saskatchewan.

There were a number of reasons cited by respondents as to their use of the Village of Wabamun boat launch. The most prevalent reason was the quality of the launch itself (43%). Distance from home (20%), water depth (20%), ease of use (17%), and existing

support amenities (11%) were other reasons mentioned. Those with sailboats commented on the inability to navigate under the bridge as a reason they did not use the launch in the Provincial Park.

Boaters were asked to identify the good aspects of the launch. Comments included:

- Dock / pier (6 mentions);
- Overall quality of the launch (4);
- Access is good (4);
- Parking (3); and
- Multiple launches (3).

Boaters were also asked to identify areas of improvement at the launch site. Three comments were most frequently cited; they included:

- Price is too high / should not be a charge (4 mentions);
- More parking is needed (3); and
- Another launch spot is needed / area needs to be larger (2).

Six of the respondents (17%) have used launches other than at the Village site – all of them used the launch at the Provincial Park.

Respondents were told that there is a cost to develop and maintain boat launches. They were then asked what would be a fair amount to pay each time to launch their boat. The majority of respondents were willing to pay – five (15%) suggested there should be no charge. Six (18%) felt \$1-\$5 would be a fair charge while 14 (41%) suggested \$6-\$10 would be fair. Nine respondents (26%) thought a charge of greater than \$10 would be fair.

### 3.4 Demand Assessment

#### 3.4.1 2008 Alberta Recreation Survey

"Did a household member take part in motor boating in the last 12 months?"	
Edmonton Results	Alberta Results
2008 – 22.3%	2008 – 23.8%
2004 – 19.0%	2004 – 19.6%
2000 – 20.8%	2000 – 20.8%
1996 – 21.1%	1996 – 21.1%

- Considering the 2008 figures, this equates to 167,788 households of the 752,412 in Edmonton.

#### 3.4.2 The Lifesaving Society of Alberta & Northwest Territories

- Provides figures for Pleasure Craft Operator Cards that all pleasure boat operators are to have. From 1999 to 2011 there is an accumulated total of 241,834 in Alberta. In that same period there are 137,615 licensed vessels. Only Ontario, Quebec, and British Columbia have more.

### 3.4.3 Martin Motor Sports (telephone interview)

- Martin Motor Sports is the largest seller of pleasure crafts in the Edmonton area.
- The market for boats (generally recreation / sport boats – water skiing, tubing, etc) mirrors the overall economy
- A lot of boats sold as the economy has picked up
- The primary lakes for boaters in the Edmonton area are Lake Wabamun, Pigeon Lake, and Lac Ste. Anne.

## 3.5 Conclusions

- Amongst residents in the Summer Villages and Village of Wabamun, the launch at Wabamun is predominate while the launch at Seba Beach is the next most off used.
- The majority of the use at the Seba Beach launch comes from residents of Seba Beach itself.
- 84% of Seba Beach residents launched a boat onto Lake Wabamun this year; 43% launched once. The 2011 population of Seba Beach is 143 (Statistics Canada).
- The intercept survey indicated that the majority of launch users are from communities east of Lake Wabamun: Edmonton, Spruce Grove, Stony Plain, Sherwood Park, etc.
- Desired amenities at launches include: adequate sloped of launch, suitable base, parking, docking facilities after launching, washrooms, and garbage bins.
- Based upon traffic, the present amenities, and the ability to expand, the recommended location for enhanced launching is at the Village of Wabamun.
  - At this point enhanced docking facilities at Seba Beach could address the call for improved launch facilities on the west end of the Lake by providing facilities for people to access their boat after it has been launched.

## 4.0 INVENTORY AND ANALYSIS

### 4.1 Lake Bathymetry

The side slopes of the Lake are fairly steeply sloped, especially along the northern, southern and western shorelines (refer to Map 8 on page 14). The bottom of the lake is relatively flat, reaching a depth of 11 meters below normal water level north of the Sundance Meadow and Betula Beach launches.

In addition to direct precipitation, the lake is replenished seasonally by over 35 small drainage courses with several streams providing continuous flow<sup>3</sup>. Over the last century water levels have fluctuated by approximately a metre and a half (see following figure)<sup>4</sup>.

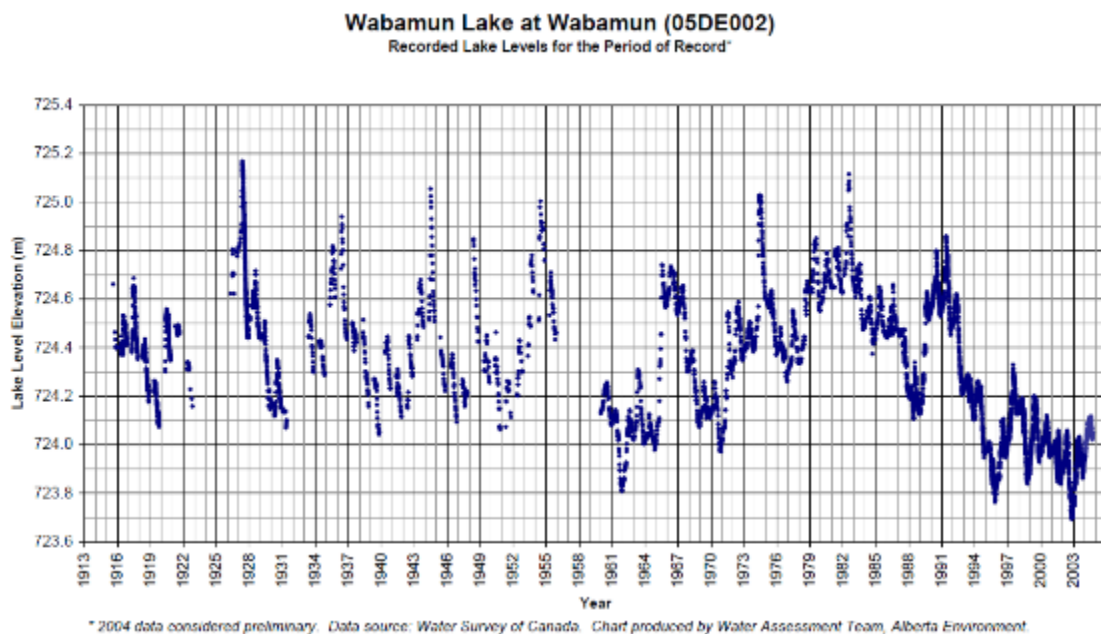


Figure 1: Historic Surface Levels

### 4.2 Lake Wabamun Wave Conditions

A simple wave hindcast was carried out to assess wave conditions at various locations around Lake Wabamun (refer to Map 11 on page 30). Hourly wind speed and direction data were obtained from the Environment Canada weather station at Edmonton International Airport for the fifty one year period from 1961 to 2011. That was used to complete uncalibrated hindcasts at the ten locations shown in Figure 1. Different constant water depths were used for the eastern and western halves of the lake based on a crude averaging of published contours without consideration of possible water level fluctuations. Given the lack of model calibration and the water depth assumptions, the hindcast results should only be viewed as showing approximate conditions for each site.

<sup>3</sup> As recognized in "A Review of Scientific Studies and Environmental Impacts"

<sup>4</sup> As recognized in "A Review of Scientific Studies and Environmental Impacts"

The hindcasts were performed for an assumed average annual boating season of May 15 to September 30. Table 1 shows a summary of conditions for each site, including the highest hindcast significant wave height and peak wave period, and the average number of hours per year when the significant wave height exceeds 0.3m, 0.6m and 0.9m.

The significant wave heights shown in Table 1 are statistical representations of the individual wave heights predicted for each site. A significant wave height is the average of the highest 1/3 of the individual wave heights over the period considered, which in this instance is one hour.

It must be noted that the hindcast wave height represents an offshore condition and does not account for the changes waves undergo as they approach shore. What constitutes "offshore" varies from site to site and is dependent upon the water depth. Wave heights will change due to refraction, shoaling, diffraction and breaking as the wave travels into progressively shallower water. Wave heights at any given launch ramp need to be calculated considering site specific bathymetry but in general, wave heights at the actual ramps can be expected to be lower than the values shown in Table 1.

An analysis of the wind data used for the hindcast showed a peak wind speed of 76 kph during the assumed boating season (May 15 – September 30). That is a sustained wind speed, not a gust. Wind speeds are highest out the westerly sectors and lowest out of the easterly sectors.

Because of the higher westerly winds, the sites on the eastern end of the lake tend to be subjected to higher wave conditions. That is offset somewhat by the shallower depths at the eastern end of the lake, but the wind speed differences have a greater impact than the water depth differences. The most exposed site is site 6 because it has the longest overwater fetches in the higher wind speed direction. Site 5 is the least exposed of the eastern sites because of its location in the lee of Point Alison.

Sites 1 and 2 are the most exposed of the western sites and Site 3 is the most sheltered. It should be expected that some form of wave protection will be required for a ramp at most locations, unless it can be tucked into a locally sheltered area. As noted above, nearshore conditions are different from offshore conditions and a more thorough wave analysis will be required before wave protection needs can be properly assessed. As a general rule, significant wave heights should not exceed 0.3 metres at the launch ramp.



### 4.3 Vegetation and Land Use

The vegetation surrounding the lake ranges from forested (dominated by trembling aspen, balsam poplar and willow, with white spruce) to open grassland areas with reclamation as a result of resource development. Much of the shoreline is emergent vegetation intermingled with beach, with a constructed beach at the Provincial Park and a natural one at Seba Beach<sup>5</sup>.

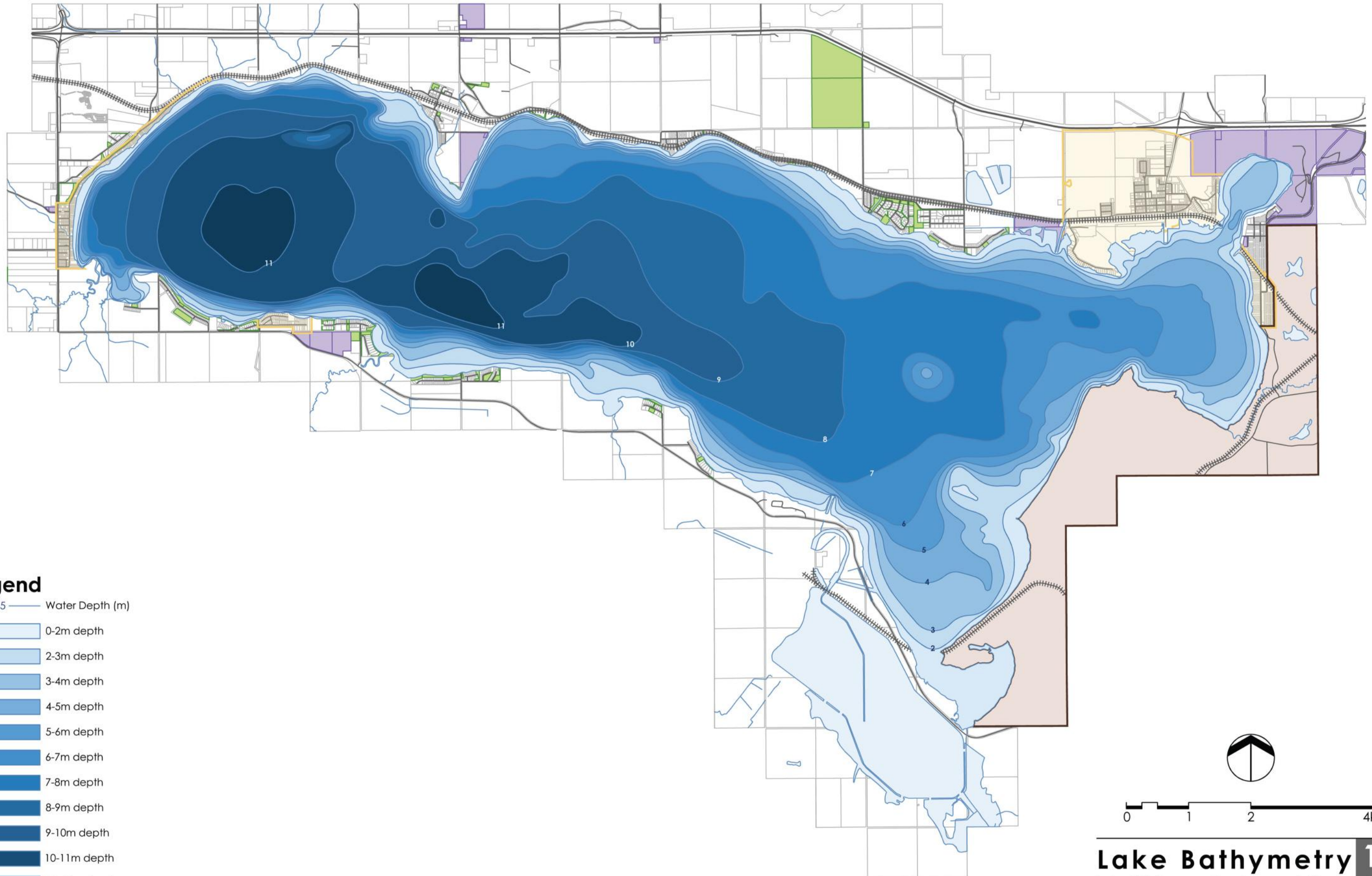
The land uses surrounding the lake is a fairly even mixture of forest/bush, agricultural/open and residential development, interspersed with some pockets of recreational development (refer to Map 7 on page 13). Some resource development and land reclamation exists to the south of the lake as well as to the northeast by the Village of Wabamun.

### 4.4 Traffic Counts

The majority of traffic to Wabamun Lake is coming from Edmonton. Alberta's Transportation's Traffic Volume History 2002-2011 for Highway 16 between Range Road 32 and Gainford demonstrates a trend of annual summer daily traffic reducing in the westerly direction (refer to Map 6 on page 12). Although there are many variables that could cause this trend, a likely scenario may be vehicle turning off to the Wabamun Lake Provincial Park and slightly further west to the Village of Wabamun.

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<sup>5</sup> As recognized by Atlas of Alberta Lakes: <http://sunsite.ualberta.ca/Projects/Alberta-Lakes/view/>



**Legend**

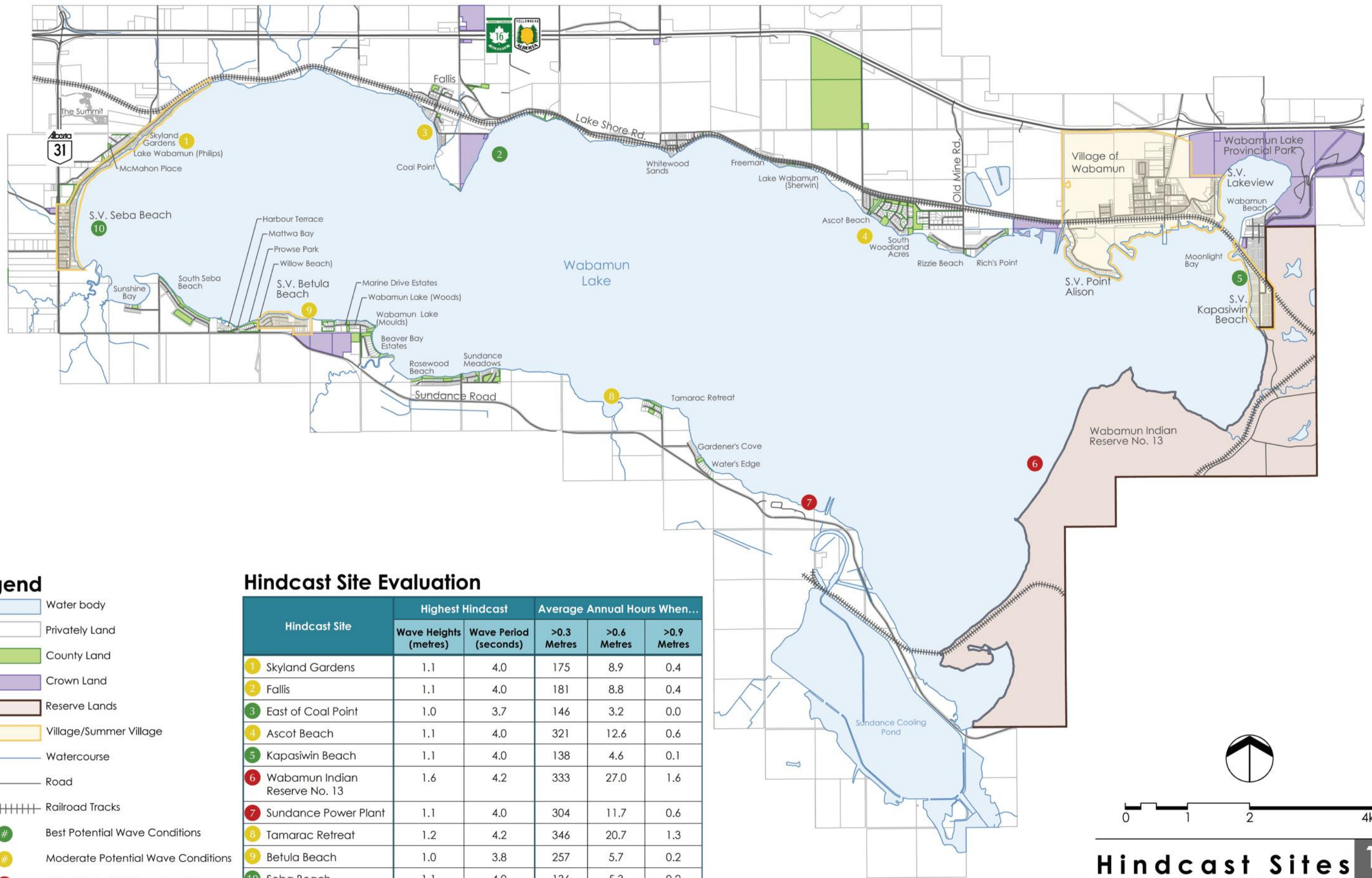
- 5 — Water Depth (m)
- 0-2m depth
- 2-3m depth
- 3-4m depth
- 4-5m depth
- 5-6m depth
- 6-7m depth
- 7-8m depth
- 8-9m depth
- 9-10m depth
- 10-11m depth
- 11 -12m depth

Source: Atlas of Alberta Lakes <http://alberta-lakes.sunsite.ualberta.ca/>

**Lake Bathymetry 10**  
 Lake Wabamun Boat Launch Study MAP

EDA Collaborative Inc.

2012.11.29

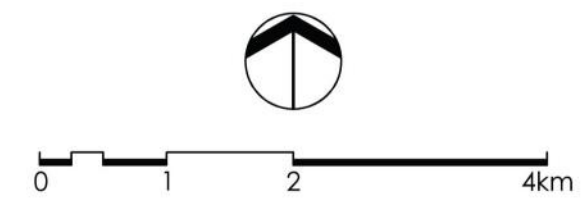


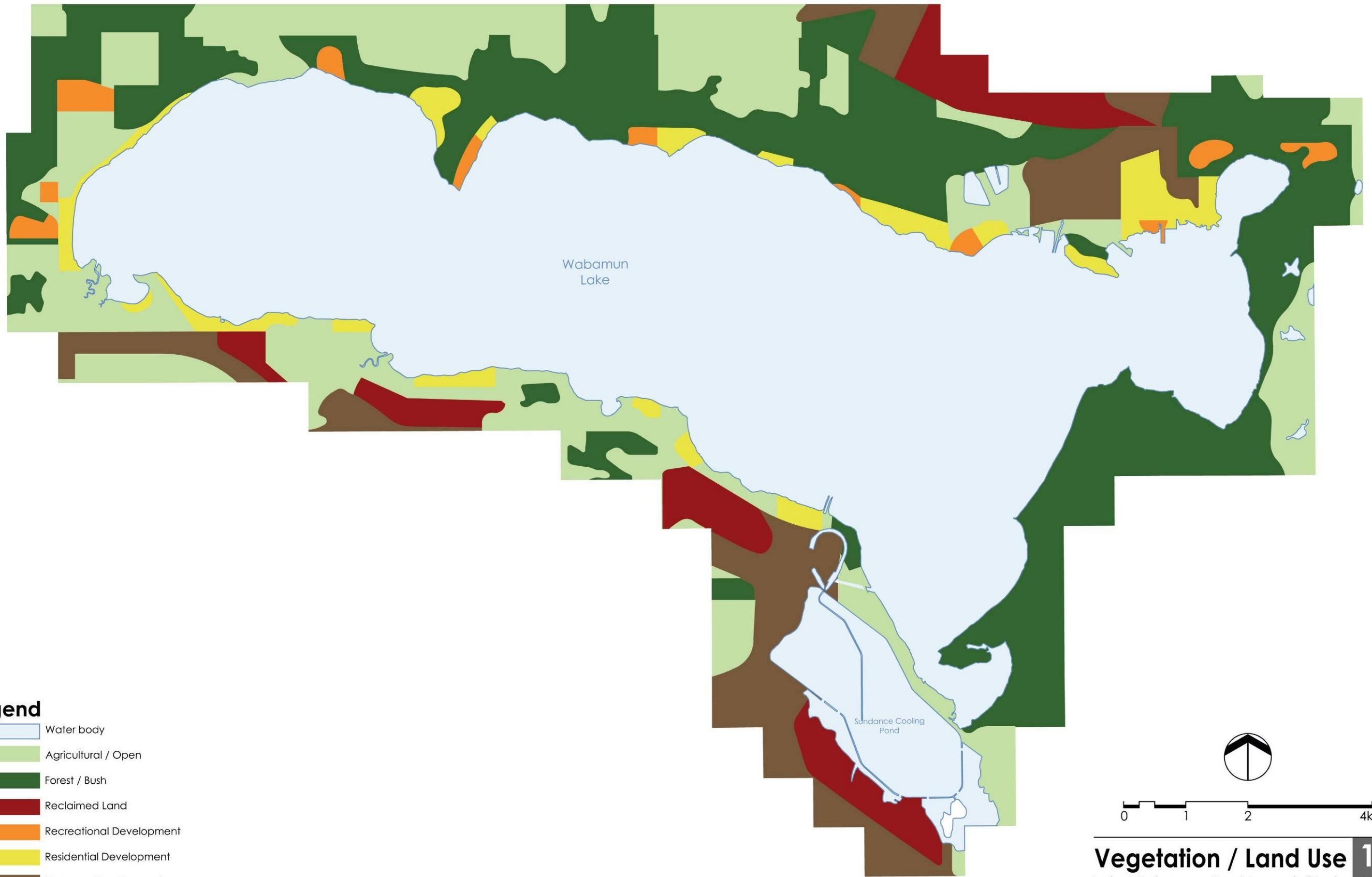
**Legend**

- Water body
- Privately Land
- County Land
- Crown Land
- Reserve Lands
- Village/Summer Village
- Watercourse
- Road
- Railroad Tracks
- # Best Potential Wave Conditions
- # Moderate Potential Wave Conditions
- # Worst Potential Wave Conditions

**Hindcast Site Evaluation**

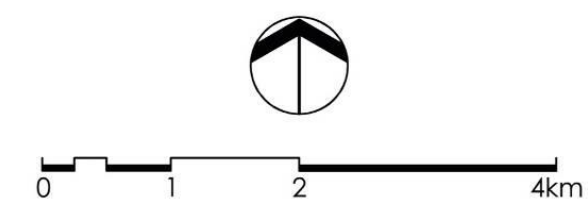
Hindcast Site	Highest Hindcast		Average Annual Hours When...		
	Wave Heights (metres)	Wave Period (seconds)	>0.3 Metres	>0.6 Metres	>0.9 Metres
1 Skyland Gardens	1.1	4.0	175	8.9	0.4
2 Fallis	1.1	4.0	181	8.8	0.4
3 East of Coal Point	1.0	3.7	146	3.2	0.0
4 Ascot Beach	1.1	4.0	321	12.6	0.6
5 Kapasiwin Beach	1.1	4.0	138	4.6	0.1
6 Wabamun Indian Reserve No. 13	1.6	4.2	333	27.0	1.6
7 Sundance Power Plant	1.1	4.0	304	11.7	0.6
8 Tamarac Retreat	1.2	4.2	346	20.7	1.3
9 Betula Beach	1.0	3.8	257	5.7	0.2
10 Seba Beach	1.1	4.0	136	5.3	0.2



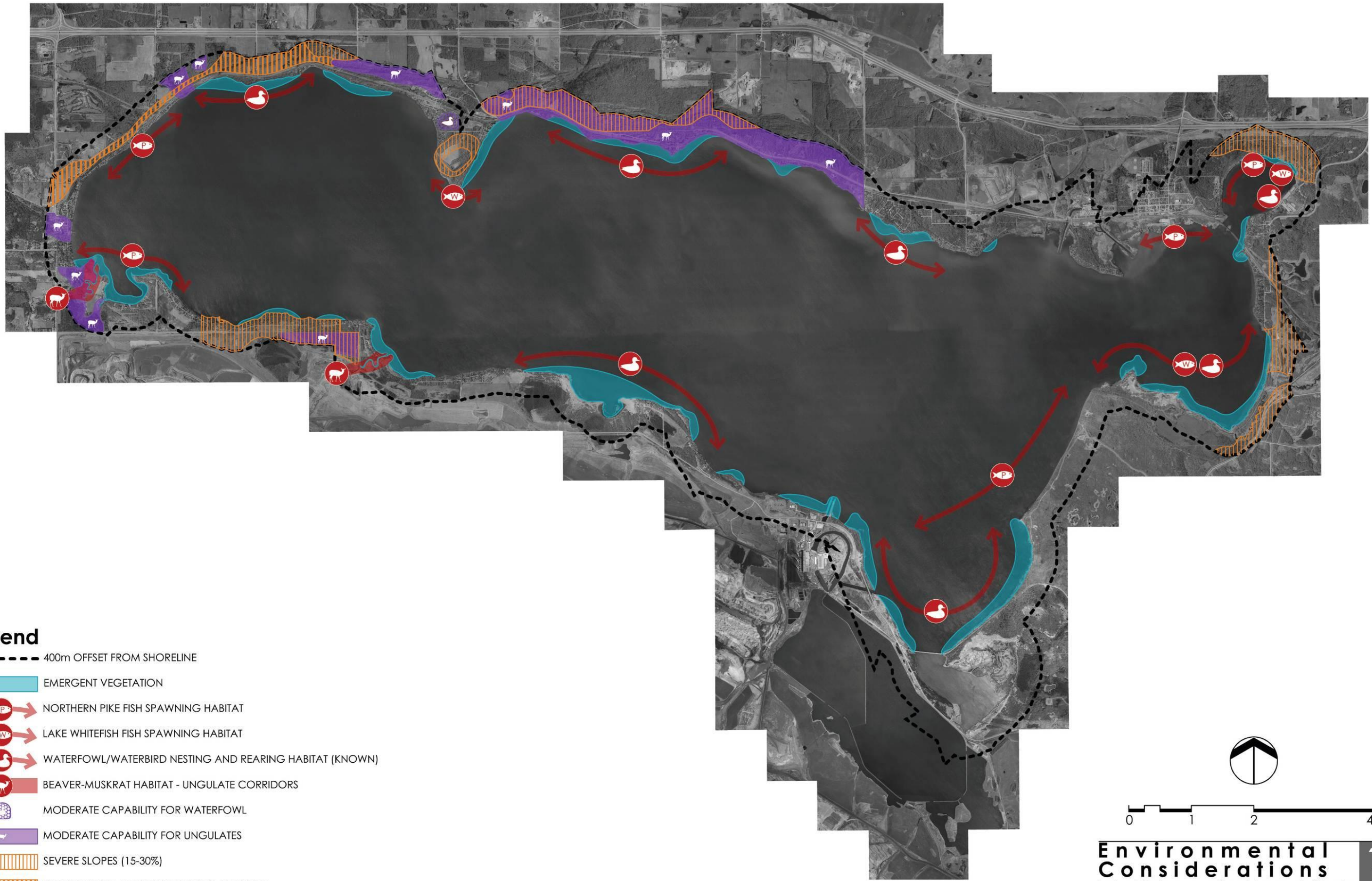


**Legend**

- Water body
- Agricultural / Open
- Forest / Bush
- Reclaimed Land
- Recreational Development
- Residential Development
- Resource Development

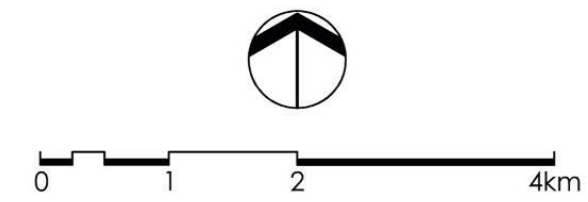


Source: *Atlas of Alberta Lakes* <http://alberta-lakes.sunsite.ualberta.ca/>

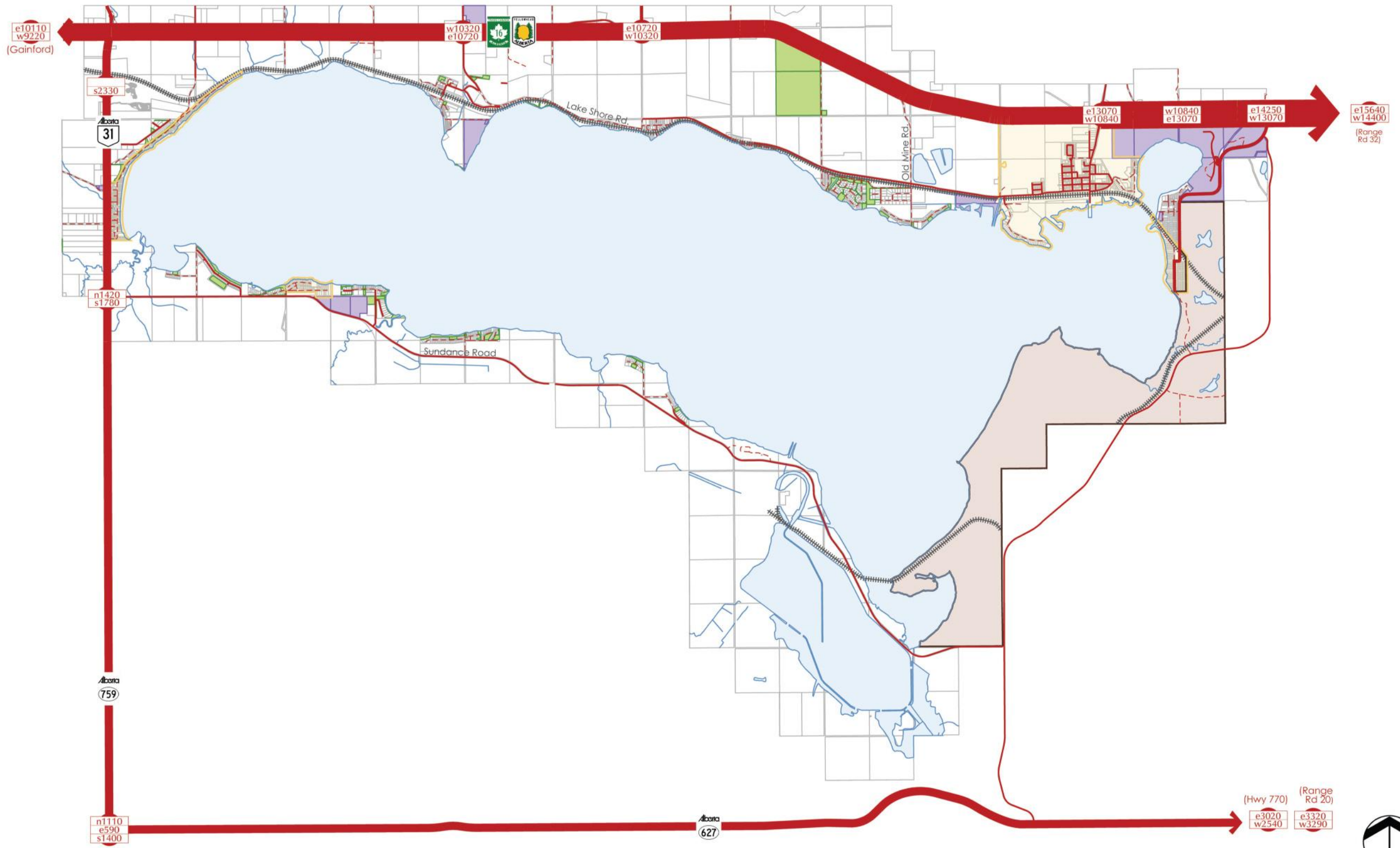


**Legend**

- 400m OFFSET FROM SHORELINE
- EMERGENT VEGETATION
- NORTHERN PIKE FISH SPAWNING HABITAT
- LAKE WHITEFISH FISH SPAWNING HABITAT
- WATERFOWL/WATERBIRD NESTING AND REARING HABITAT (KNOWN)
- BEAVER-MUSKRAT HABITAT - UNGULATE CORRIDORS
- MODERATE CAPABILITY FOR WATERFOWL
- MODERATE CAPABILITY FOR UNGULATES
- SEVERE SLOPES (15-30%)
- SLOPE HAZARD (ROUGH / BROKEN GROUND)



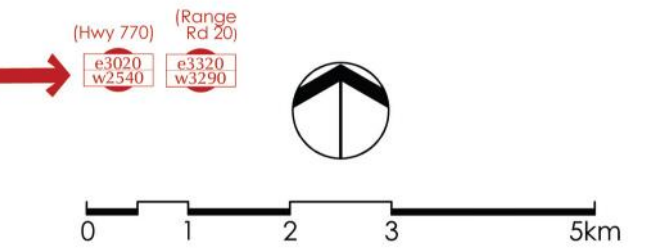
Source: Lake Wabamun Management Plan: 1985



**Legend**

-  Average Summer Daily Traffic By Direction (Where Available)
-  Paved Road
-  Gravel Road

Source: Parkland County (road type) and Alberta Transportation's Alberta Highways 1 to 989 Traffic Volume History 2002-2011



## 5.0 PLANNING CONTEXT

### 5.1 Parkland County Park Development Plan

Parkland County developed a *Park Development Plan* (2011) in order to better utilize their parks and open space system. The Plan strives to upgrade and develop amenities and park spaces for long term sustainability and user satisfaction including improving shoreline accessibility to water. Among the variety of topics discussed, the study looked at boat launches, in particular, Ascot Beach and Rich's Point. The following summarizes the primary findings as they relate to the site and boat launches.

#### 5.1.1 Ascot Beach Site Summary and Proposed Plan

- Site is used primarily as boat launch.
- Residences flank site.
- Amenities include granular parking area (approx 5 vehicles/trailers), fish cleaning, and day use area.
- Site has no known utility services/connections; however, an overhead power line runs across the north end of the site.
- Community consultation revealed desire for signage, upgrades to boat launch, improved day use area, environmental protection, and increased maintenance.
- Limitations include parking availability and shoreline constraints in relation to improved ramp.

The proposed improvements to the site are shown in the following plan:



Figure 2: Proposed Ascot Beach Improvements (source: Park Development Plan)

### 5.1.2 Rich's Point Site Summary and Proposed Plan

- Site is used primarily as day use area
- Residences flank site.
- Amenities include granular parking area (approx 5 vehicles/trailers) and day use area.
- High pressure gas line and power traverse the site.
- Community consultation revealed desire for improvements to infrastructure, circulation and overflow parking for sailing club as well as to the cleanliness of the shoreline.

The proposed improvements to the site are shown in the following plan:



Figure 3: Proposed Rich's Point Improvements (source: Park Development Plan)

### 5.1.3 Boat Launch Planning Considerations

The *Parkland County Park Development Plan* (2011) suggests several planning considerations addressing a myriad of different issues including boat launches. The report recommends the establishment of policies to address the design and construction of boat launches on public land as well as a boat launch study, particularly for Wabamun Lake. The plan also suggests the removal of smaller launches around Wabamun Lake due to limited parking and shoreline conditions.



## 5.2 Approval Requirements

The development of a boat launch has the potential to impact water quality, shoreline conditions, and fish habitat. Any work in or around the lake will require federal approval from Transport Canada (Navigable Waters) and Fisheries and Oceans Canada (federal Fisheries Act) and will likely require at least two provincial approvals (Public Lands Act and Water Act).

In addition, depending on location, approvals / development permits may also be required from:

- The Village of Wabamun
- Summer village(s)
- Parkland County
- Trans Alta

## 6.0 COMPARATIVE REVIEW

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### 6.1 Leduc County

Leduc County has two major boat launches:

#### 6.1.1 Pigeon Lake

There is a marina that residents buy in to. Allows back lot people a place to leave their boats.

- Is a road allowance. there are 12 parking spots
- county puts a dock in yearly
- launch isn't concrete and it gets graded now and then

#### 6.1.2 Wizard Lake

- Formally closed road allowance
- Built with concrete
- Parking lot with a pay machine (\$20 for boat and trailer and \$6 per vehicle)
- There are around 30 boat spots and 20 just for cars
- Water bodies are public accessible so can't charge to get on water but are charged for parking

#### 6.1.3 General

- Closing launches gets farmers mad because they are losing their ability to get water from lake
- County has a parking plan and road management which establishes where they can park. The County has a staff person to help manage parking

### 6.2 Yellowhead County

- Yellowhead County has 5 boat launches that they are responsible for maintaining.
- They do not manage the boat launches; their campground caretakers are responsible for managing them and ensuring that people are using them appropriately. They are however responsible for any repair work that would need to be done if it is required.
- Most of their boat launches are located within the campground themselves with the exception of one which is located at a day use area. At each location we have garbage receptacles, fish cleaning stands, parking for both vehicles and trailers as well as washroom facilities. The only exception is one boat launch at Beta Lake campground, there is no washroom facility at the actual boat launch, they would have to go to the campground which is about a kilometre around the lake.
- They do not charge for use of the boat launch.
- No hours for the boat launch but their campground hours are basically 7am-11pm, after 11pm it is "quiet time" in the campground so they don't generally get a lot of use after that.

- They don't track user numbers. They generally just go on user feedback, for example they have recently added additional sections to their boat docks because of people saying the docks weren't large enough to accommodate all the boats. That gives them a bit of an idea of how much use they're getting.
- Their boat launches haven't really had too many issues. They had to do some work a couple of years ago due to water levels rising and lowering so they had to add additional sections to their launch to make it easier for people to unload, but otherwise they don't too much to them except monitor for repairs which have been pretty minimal to this point.
- They don't have issues with people using their own makeshift launches, their lakes are so small and access so limited that this hasn't been a concern of theirs to this point.
- They are unsure how to stop people from using their own launches and thus damaging the ecosystem unless they were going to consider taking them over and ensuring that they are built to a standard.

### 6.3 Cold Lake Marina

- Owned by provincial government and operated by the City of Cold Lake Recreation Department
- Services:
  - Fuel station
  - Sewer pump-out
  - Fish cleaning
  - Restaurant
  - Concession (Ice Cream)
  - Office
  - Washrooms
  - 230 docks
- Fees:
  - Launch- \$8/per use or \$100 for year pass
  - Docking- \$0.85/ft per day, \$5.30/ft per week, \$13.65/ft per month, \$55.40/ft per season
- Yearly docking spots are in high demand- they try and rotate them among users
- Issues:
  - Length of boats- Marina was designed based on 1980's boat sizes. Not always easy access for large sailboats with high beams.
  - Some behaviour and security issues at night with kids hanging around, jumping off breakwater, etc. (not a huge issue but does happen)
- Suggestions / considerations for a new launch:
  - Open concepts / layout
  - Multiple launches
  - Good and clear rules (e.g. signage) for people understand how to launch
- They keep Marina well-staffed during peak seasons and when launch is busy will have someone directing traffic.

- Most boaters in the Edmonton region go to Pigeon Lake or Lake Wabamun

#### 6.4 Wabamun Provincial Park

- Both launches are operational and built in a similar time
- The one launch can accommodate a full size boat but it is designated as a hand launch
  - The walkway is too dangerous for use of a trailer – it wasn't the amount of use
  - They may turn it into a full boat launch. This could occur next year – it's the flow of traffic that is the problem. They are speaking with the infrastructure people about this.
- The park is looking at the parking issue – that's the most significant
- The full launch is a double launch but people were using it as a single
  - Curbs have been put in so people will use both lanes
- A new launch needs to be of sufficient size to handle people's skill and the size of vehicles. There really needs to be signs indicating it's a double launch. Next time they wouldn't use curbs but rather those removable speedbumps
- Any new launch would need to consider winter use and access onto the lake. People get onto the Lake to go ice fishing
- Demand and usage is increasing. The current design in the park is poor
  - Park is very busy on the weekends. People in small cars are parking in the spots that are for vehicles and trailers. People towing need spots that allow for pull through parking
- A lot of boat launch usage is from people staying in the campground. They tie up to the dock and don't want to put their boats in and pull them all the time. They want to leave them in the water for the duration of their stay in the campground. A marina style is needed.
- Park staff is down at the launch every weekend.
- They used to have a traffic counter but don't have it now. It is on the list to install for next year. Need good lighting down there as well
- There is a demand for more than 1 extra launch on the lake. It needs to be easy access off the major highway and not on the west end. The location of a new launch is important. It is a waste of time and money if the launch is put out west.
- The park launch has the day use hours of 0700-2300 hrs – it's not monitored by a gate
- There is no charge for use now nor for park access
- The lake is big enough to support additional boats on the lake
- Traffic is an issue in and out of the park. People will park on both sides of the road. Park staff tries to be there early in the day to help direct traffic. Signage can help as well.

## 6.5 Summary

Launch	Wizard Lake Campground	Yellowhead County	Cold Lake	Wabamun Lake Provincial Park	Village of Wabamun
<b>Ownership</b>	County (closed road allowance)	County	Provincial Government	Provincial Government	Village
<b>Management</b>	County park staff	Campground caretakers manage & County repairs	Town	Provincial park staff	Village
<b>Fees</b>	Parking = \$20 for boat & trailer ; \$6 for car	No Fee	Launching = \$8 per use or \$100 per year	No Fee	Parking = \$15 for boat & trailer or \$300 per season
<b>Services</b>	<ul style="list-style-type: none"> <li>30 boat parking spots and 20 for cars</li> </ul>	Most launches in campground <ul style="list-style-type: none"> <li>Waste receptacles</li> <li>Fish cleaning stands,</li> <li>Parking for both vehicles and trailers</li> <li>Washrooms</li> </ul>	<ul style="list-style-type: none"> <li>Fuel station</li> <li>Sewer pump-out</li> <li>Fish cleaning</li> <li>Restaurant/ concession</li> <li>Office</li> <li>Washrooms</li> <li>230 docks / marina</li> </ul>	<ul style="list-style-type: none"> <li>Structured parking with pull through stalls for approx 140 vehicles &amp; trailers.</li> <li>Adjacent day use area &amp; beach with comfort station</li> </ul>	<ul style="list-style-type: none"> <li>Structured parking: 14 pull through stalls</li> <li>Random parking: approx. 50 cars &amp; trailers</li> <li>Washrooms, day use area &amp; beach</li> </ul>
<b>Issues</b>	<ul style="list-style-type: none"> <li>Closing launches angers farmers as they lose their ability to get water from lake</li> </ul>		<ul style="list-style-type: none"> <li>Yearly docking spots in high demand and are rotated</li> <li>Length of boats have increased</li> </ul>	<ul style="list-style-type: none"> <li>Increasing demand/ use</li> <li>Parking problems</li> <li>People camping want to leave boats in water</li> </ul>	<ul style="list-style-type: none"> <li>Increasing demand/ use</li> <li>Public pier needs replacing</li> </ul>
<b>Suggestions</b>	<ul style="list-style-type: none"> <li>County has a plan for parking/road management</li> <li>County staff help manage parking</li> </ul>		<ul style="list-style-type: none"> <li>Open layout</li> <li>Multiple launches</li> <li>Good and clear rules for launch</li> </ul>	<ul style="list-style-type: none"> <li>Upgrade hand launch and reconfigure ramp access and parking</li> </ul>	<ul style="list-style-type: none"> <li>Upgrade launch and replace pier</li> </ul>

## 7.0 GENERAL DESIGN PRINCIPALS

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These are general design principles that apply to the layout of small craft facilities used for launching boats from trailers with tires. The criteria presented here were synthesized from various design manuals and publications developed for a wide range of typical conditions. The values presented should not be taken as absolutes and may require some modification to address any site specific conditions or characteristics particular to Lake Wabamun.

### 7.1 Ramps

Ramps usually consist of 2 or more lanes with each lane 5 metres wide. Single lane ramps are generally not considered practical, but if one is required due to unusual circumstances, it should be 6 metres wide. The number of lanes required is dictated by demand. The California Department of Boating and Waterways (1984) uses one lane per 50 launchings and 50 retrievals expected per day, under average conditions. The top elevation of the ramp should be at least 0.6 metres above the expected water level for normal ramp operations. The depth at the toe of the ramp should be at least 1.0 metres under expected low water conditions.

Ramps are typically uniform in grade with slopes ranging between 12 and 15%. A smooth curving transition should be made between the head of the ramp and the ramp approach. Where site conditions dictate, a composite slope may be required in order to put the trailer in a position that makes launching the boat easier. Composite slopes are steeper below the low water level, with the lower slope as steep as 2: 1 (h: v).

Two common ramp types are 1) cast-in-place concrete slabs with an aggregate base, and 2) precast concrete slabs pinned to timber sleepers. All ramps should be finished with a non-skid surface for maximum vehicle traction. Concrete ramps finished with a V-groove surface provide excellent traction. Asphalt can also be used for launch ramps, but it is more difficult to make a durable non-skid asphalt surface.

### 7.2 Launching Fairways

A launching fairway is the water body immediately adjacent to the ramp into which boats are launched and from which boats are retrieved. The fairway should have a minimum water depth of 1.5 metres and a minimum length of 15 metres at the expected low water level for normal operations. The width of the fairway should never be less than the width of the ramp.

Any channel required to connect the ramp/fairway to the open lake should have a minimum depth of 1.5 metres and a minimum width of 20 metres.

### 7.3 Boarding Floats

A boarding float is a floating platform structure that provides access to and from the boat once it has been launched. Commercially available floating docks are frequently used in this capacity.

The boarding float should have a minimum width of 2 metres and a minimum length of 15 metres. If the ramp has 3 or less lanes the boarding floats may be attached to the sides of the ramps. If the ramps have 4 or more lanes then boarding floats should be placed between the lanes in such a manner that all lanes have an adjacent float. The overall ramp design must be such that the floats do not narrow the lane widths.

Typical boarding float freeboards range from approximately 0.2 to 0.5 metres. The boarding float must be designed to withstand wind, wave, current and impact loads. If the boarding float is accessed via a gangway the float must be designed to include the dead and live loads of both the float and the gangway. The gangway /float connection must be designed to accommodate the range of water level fluctuations expected during the ramps operating season.

Gangways should be at least 1.3 metres wide with a maximum slope of 3: 1 at least 90% of the time and a maximum slope of 2.5: 1 for no more than 10% of the time. Slopes will vary with water level fluctuations. Handrails should be provided on the gangway and the gangway should have a non-slip surface under all weather conditions. Raised "safety cleats" with a 0.3m spacing between cleats are frequently found on marina gangways.

## **7.4 Parking**

Where possible, parking areas should be located immediately adjacent to the ramp, with all spaces located within 200 metres of the ramp. Pull-through car/trailer spaces should be included to the maximum extent possible. If space is limited then individual trailer spaces or designated trailer only areas of the parking lot may be considered. A nominal number of car only spaces should also be considered. These are sometimes accommodated at the ends of rows of parking spots or in irregularly shaped areas that will not fit both a car and trailer.

Parking capacity is usually designed to accommodate the expected demand on a normal peak day during the boating season. Some studies have suggested that in the order of 30 to 40 car/trailer spaces should be provided per launching lane. Additional car only parking spots should be added if the launch ramp area accommodates other facilities or uses.

The provision of handicapped parking spaces is generally mandated and the number and location of those spaces can be determined on the basis of the applicable regulations.

## **7.5 Overhead Obstructions**

No overhead power lines should be permitted over the launch ramp area, the parking lot, any approaches or driveways, or other areas where a vehicle can drive while trailering a boat. This is a safety feature that recognizes there are small trailerable sailboats with metal masts and rigging.

## 7.6 Other Facilities and Utilities

There are other facilities and utilities frequently found along with launch ramps including washroom facilities, potable water supplies, fish cleaning stations, boat washing facilities, and area lighting. Assessment of the needs for washroom facilities and potable water are often also related to both other public uses in the vicinity of the launch ramp and the availability of a suitable water supply.

Requirements for a boat washing facility or wash down area, is often associated with the need to prevent the spread of zebra mussels. Those requirements are generally spelled out in regulations applicable to affected areas.

The need for area lighting is typically site specific. A light standard with a “white light” approximately 6 to 7 metres high might be considered where night launching and retrieval occurs. A white light on a standard pole on shore should not conflict with any possible navigation aids and would act as a beacon for incoming boats.



## 8.0 OPPORTUNITIES AND CONSTRAINTS

### 8.1 Summary

A summary of the opportunities and constraints of the various launches are listed below together with a rating for the development potential of the launch.

LAUNCHES	ISSUES / CONSIDERATION	DEVELOPMENT POTENTIAL			RATIONALE
		LOW	MED.	HIGH	
<b>EXISTING</b>					
<b>Wabamun Lake Provincial Park</b>	<ul style="list-style-type: none"> <li>• Third highest percentage of use and low demand for increased development</li> <li>• Close proximity to highest traffic counts</li> <li>• Water depth</li> </ul>			◆	<ul style="list-style-type: none"> <li>• Planned upgrade of one launch from hand to vehicular launch as well as to the configuration of parking and ramp access</li> </ul>
<b>Village of Wabamun</b>	<ul style="list-style-type: none"> <li>• Highest percentage of use and third highest demand for increased development</li> <li>• Close proximity to highest traffic counts</li> <li>• Traffic control is desired</li> </ul>			◆	<ul style="list-style-type: none"> <li>• Public pier requires replacement but requires action from the federal government. There is the opportunity to increase the number of launches in conjunction with the redevelopment of the launch</li> <li>• Supporting amenities</li> <li>• Space to maneuver</li> <li>• Available dock / pier</li> <li>• Existing parking although more is desired</li> </ul>
<b>Rich's Point</b>	<ul style="list-style-type: none"> <li>• Adjacent day use area with gravel parking area.</li> <li>• Moderate percentage of use and moderate demand for increased development</li> </ul>	◆			<ul style="list-style-type: none"> <li>• Informal launch location from roadway easement</li> <li>• Unstable shoreline conditions and shallow water present challenging launch conditions</li> </ul>
<b>Ascot Beach</b>	<ul style="list-style-type: none"> <li>• Adjacent day use area with gravel parking area.</li> <li>• Moderate percentage of use and moderate demand for increased development</li> </ul>	◆			<ul style="list-style-type: none"> <li>• Informal launch location provided from roadway easement</li> <li>• Unstable shoreline conditions and shallow water present challenging launch conditions</li> </ul>
<b>East of Coal Point</b>	<ul style="list-style-type: none"> <li>• Low percentage of use and low demand for increased development</li> <li>• Good wave conditions</li> </ul>	◆			<ul style="list-style-type: none"> <li>• Informal launch location provided from roadway easement</li> <li>• Unstable shoreline conditions and shallow water present challenging launch conditions</li> </ul>

LAUNCHES	ISSUES / CONSIDERATION	DEVELOPMENT POTENTIAL			RATIONALE
		LOW	MED.	HIGH	
<b>Fallis</b>	<ul style="list-style-type: none"> <li>Moderate percentage of use and moderate demand for increased development</li> </ul>	◆			<ul style="list-style-type: none"> <li>Informal launch locations associated with access to the lake</li> <li>Unstable shoreline conditions and shallow water present challenging launch conditions</li> </ul>
<b>Seba Beach</b>	<ul style="list-style-type: none"> <li>Supporting amenities however no fuel</li> <li>Second highest percentage of use and high demand for increased development</li> <li>Good wave conditions</li> </ul>	◆			<ul style="list-style-type: none"> <li>Launching not encouraged by summer village due to a lack of vehicle/trailer parking and poor bed and shore conditions.</li> <li>Little space for the development of a public launch</li> <li>Water depth requires improvement</li> </ul>
<b>Sunshine Bay</b>	<ul style="list-style-type: none"> <li>Low percentage of use and low demand for increased development</li> </ul>	◆			<ul style="list-style-type: none"> <li>Informal launch locations associated with access to the lake</li> <li>Unstable shoreline conditions and shallow water present challenging launch conditions</li> </ul>
<b>Betula Beach</b>	<ul style="list-style-type: none"> <li>Moderate percentage of use and moderate demand for increased development</li> <li>Good wave conditions</li> </ul>	◆			<ul style="list-style-type: none"> <li>Informal launch locations associated with access to the lake</li> <li>Unstable shoreline conditions and shallow water present challenging launch conditions</li> </ul>
<b>Beaver Bay Estates</b>	<ul style="list-style-type: none"> <li>Low percentage of use and low demand for increased development</li> </ul>	◆			<ul style="list-style-type: none"> <li>Informal launch location from roadway easement</li> <li>Unstable shoreline conditions and shallow water present challenging launch conditions</li> </ul>
<b>Sundance Meadows</b>	<ul style="list-style-type: none"> <li>Low percentage of use and low demand for increased development</li> </ul>	◆			<ul style="list-style-type: none"> <li>Informal launch location from roadway easement</li> <li>Unstable shoreline conditions and shallow water present challenging launch conditions</li> </ul>
<b>Tamarac Retreat</b>	<ul style="list-style-type: none"> <li>Low percentage of use and low demand for increased development</li> </ul>	◆			<ul style="list-style-type: none"> <li>Informal launch locations associated with access to the lake</li> <li>Unstable shoreline conditions and shallow water present challenging launch conditions</li> </ul>

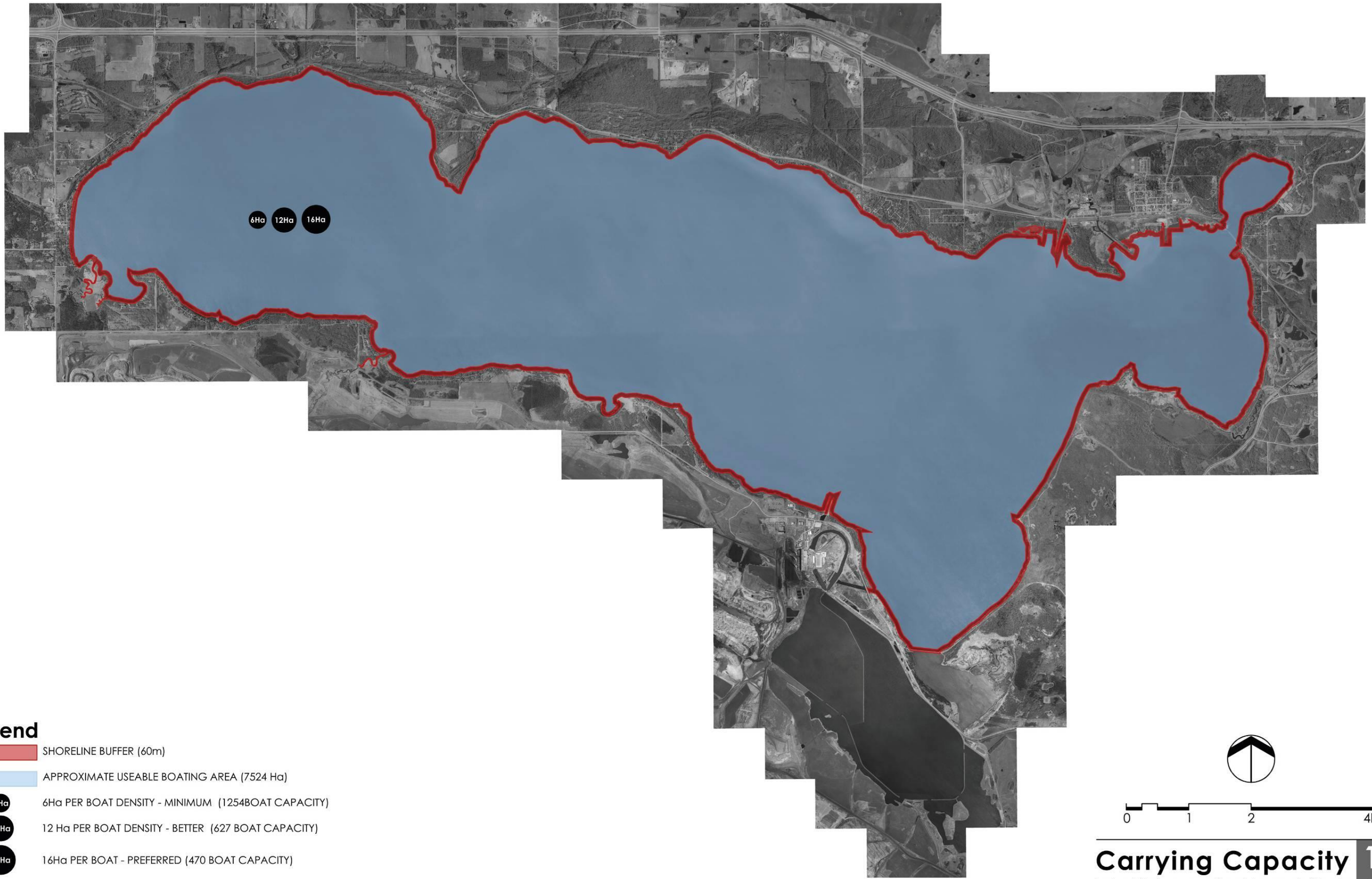
LAUNCHES	ISSUES / CONSIDERATION	DEVELOPMENT POTENTIAL			RATIONALE
		LOW	MED.	HIGH	
<b>Sundance Power Plant</b>	<ul style="list-style-type: none"> <li>No longer used however second highest demand for increased development</li> </ul>	◆			<ul style="list-style-type: none"> <li>Previous boat launch no longer in use due to weir constructed to prevent oil in water from contaminating plant's water supply. (closed 2005)</li> <li>Tran Alta has reviewed its water intake requirements for the Sundance Power Plant and associated facilities and has determined that it is not feasible to reopen the launch in the short to near term.</li> <li>Private land</li> </ul>
<b>PROPOSED</b>					
<b>South Side Launch</b>	<ul style="list-style-type: none"> <li>A south side launch is desired however much of the lake front land is either privately owned or currently otherwise unsuitable for development</li> </ul>		◆		<ul style="list-style-type: none"> <li>There is significant demand and areas with suitable conditions along the south side of the lake.</li> <li>Usage agreements and /or purchasing of suitable parcels needs to be considered.</li> </ul>

## 8.2 Carrying Capacity

There is no universally acceptable formula for determining the carrying capacity of lakes in Alberta. The calculations therefore are based on a gradation ranging from a minimum standard of 6 hectares per boat to a preferred standard of 16 hectares per boat. The calculation demonstrates that the lake could accommodate 470 boats at the preferred density to 1254 boats at the minimum density.

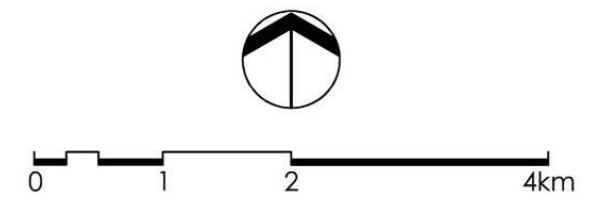
## 8.3 Framework Plan

The framework plan summarizes some of the main determining factors influencing launch development.

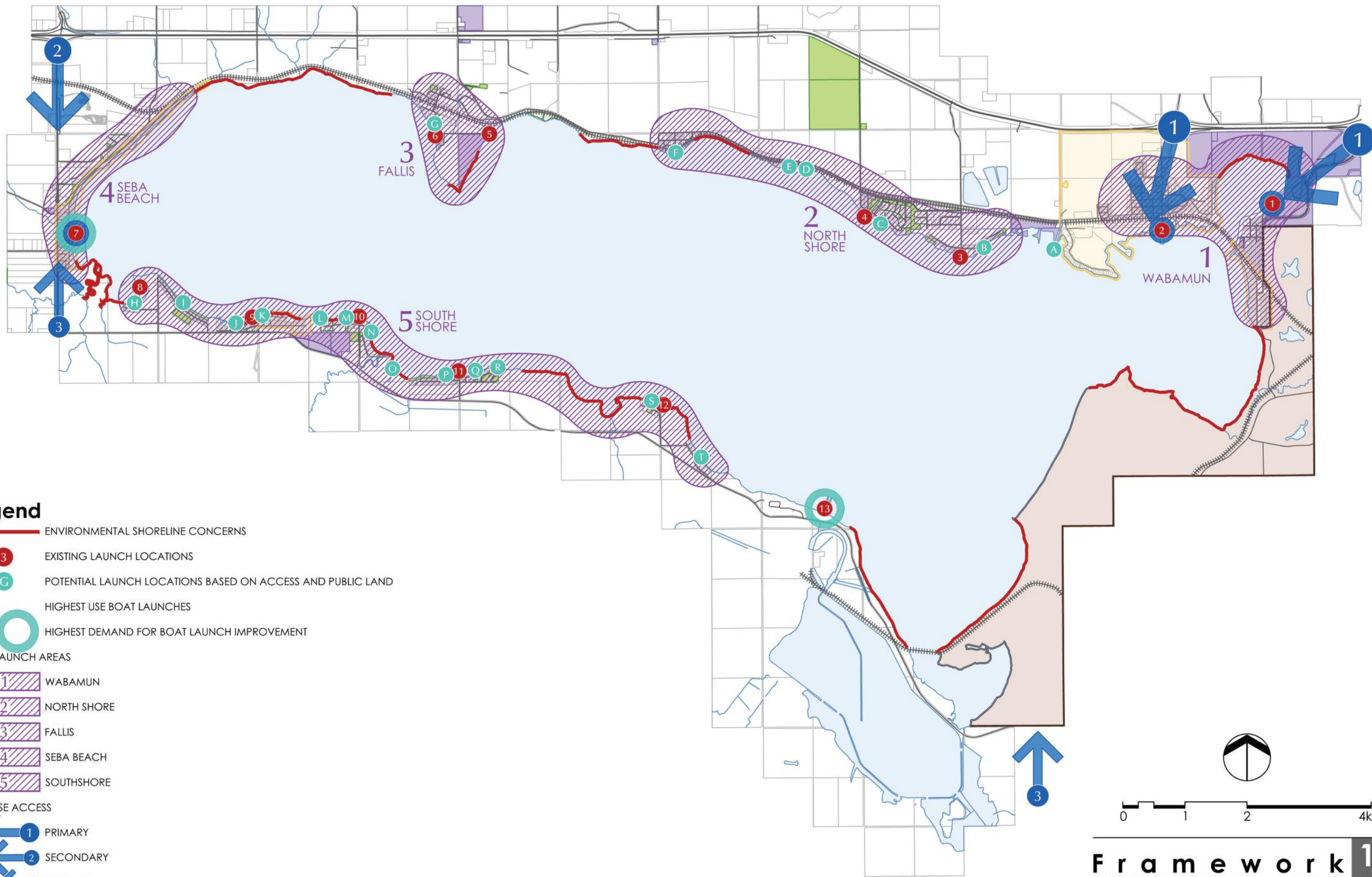


**Legend**

- SHORELINE BUFFER (60m)
- APPROXIMATE USEABLE BOATING AREA (7524 Ha)
- 6Ha 6Ha PER BOAT DENSITY - MINIMUM (1254 BOAT CAPACITY)
- 12Ha 12 Ha PER BOAT DENSITY - BETTER (627 BOAT CAPACITY)
- 16Ha 16Ha PER BOAT - PREFERRED (470 BOAT CAPACITY)



**Carrying Capacity** 15  
 Lake Wabamun Boat Launch Study MAP



**Legend**

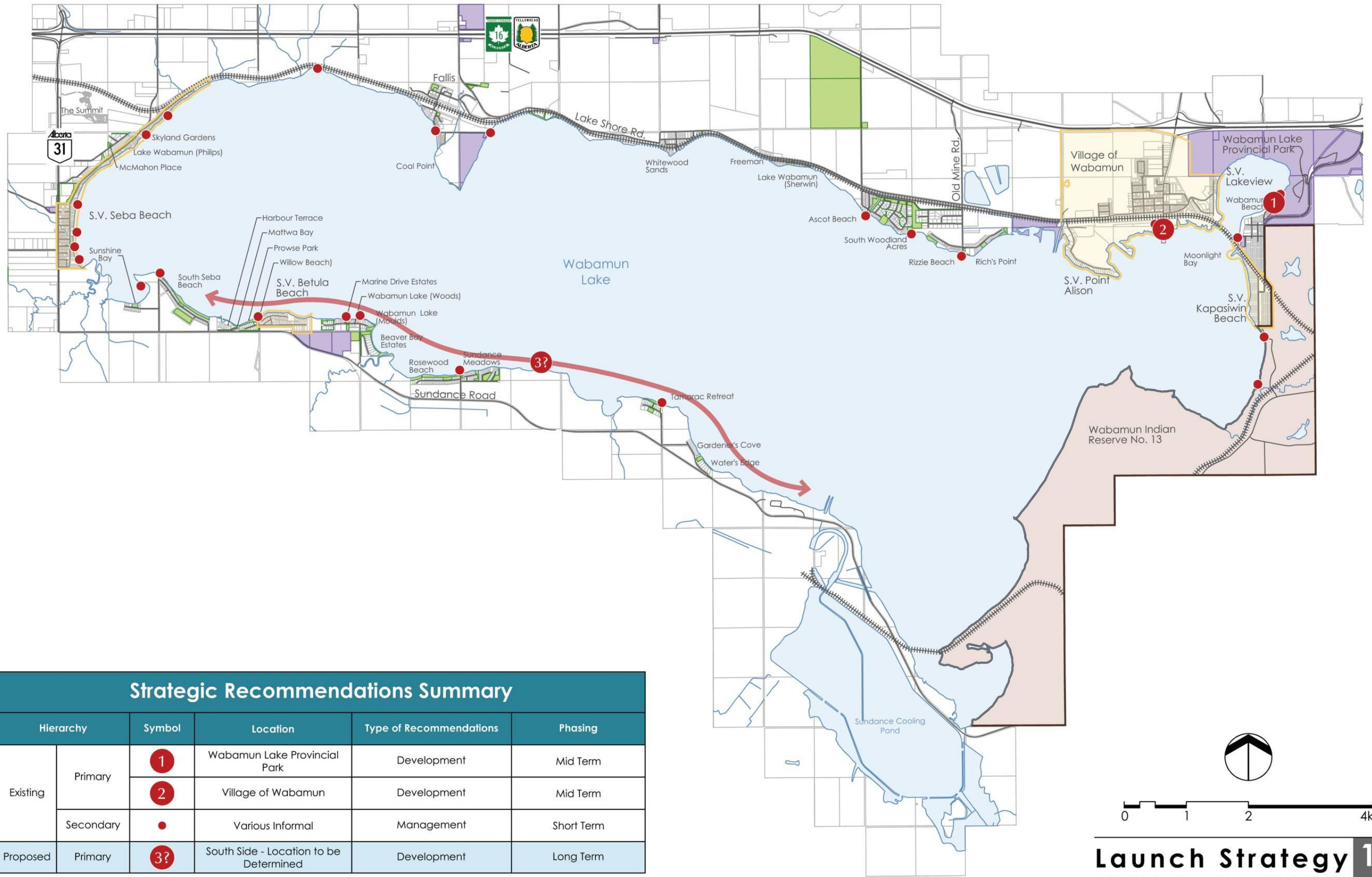
- ENVIRONMENTAL SHORELINE CONCERNS
  - EXISTING LAUNCH LOCATIONS
  - POTENTIAL LAUNCH LOCATIONS BASED ON ACCESS AND PUBLIC LAND
  - HIGHEST USE BOAT LAUNCHES
  - HIGHEST DEMAND FOR BOAT LAUNCH IMPROVEMENT
- LAKE LAUNCH AREAS
- 1 WABAMUN
  - 2 NORTH SHORE
  - 3 FALLIS
  - 4 SEBA BEACH
  - 5 SOUTHSHORE
- DAY USE ACCESS
- 1 PRIMARY
  - 2 SECONDARY
  - 3 TERTIARY

## 9.0 RECOMMENDATIONS

The proposed Boat Launch Strategy Recommendations have been developed with consideration for the existing launch situation, land tenure, expressed interests of users and perceived demand for facilities. The recommendations present feasible opportunities for an expanded system of launch facilities utilizing both existing launches and new facilities, surrounding the Lake. Each recommended launch site is described with a list of related actions and in the case of the primary existing and proposed sites, a conceptual development plan has been included that presents a possible layout for the facilities. The detailed descriptions identify the estimated probable costs for each of the primary launch site plans and proposed phasing to implement each of the launch site recommendations. (Detailed cost estimates are included in the appendices.)

The following chart and mapping summarizes the major launch recommendations and is detailed further in subsequent text.

LAUNCHES	RECOMMENDATIONS	PHASING	PARTNERSHIPS/APPROVALS
<b>EXISTING</b>			
<b>PRIMARY</b>			
Wabamun Lake Provincial Park	<ul style="list-style-type: none"> <li>Pursue the planned upgrading of a hand launch to a vehicular launch and improve the configuration of the existing parking and ramp access</li> </ul>	Short Term (2 -5 yrs)	<ul style="list-style-type: none"> <li>Parkland County</li> <li>Provincial Government</li> <li>Federal Government</li> </ul>
Village of Wabamun	<ul style="list-style-type: none"> <li>Increase the number of launches in conjunction with the redevelopment of the public pier</li> <li>Expand existing parking and improve vehicle circulation to accommodate increased use</li> </ul>	Short Term (2 -5 yrs)	<ul style="list-style-type: none"> <li>Parkland County</li> <li>Village of Wabamun</li> <li>Provincial Government</li> <li>Federal Government</li> </ul>
<b>SECONDARY</b>			
Informal/Others*	<ul style="list-style-type: none"> <li>Maintain informal launch locations for use by adjacent residents and formalize access controls</li> </ul>	Ongoing	<ul style="list-style-type: none"> <li>Parkland County</li> <li>Summer Villages</li> <li>Provincial Government</li> <li>Federal Government</li> </ul>
<b>PROPOSED</b>			
<b>PRIMARY</b>			
South Side	<ul style="list-style-type: none"> <li>Pursue the development of a public launch on the south side of the lake.</li> </ul>	Long Term (10 – 20 yrs)	<ul style="list-style-type: none"> <li>Parkland County</li> <li>Private Owner</li> <li>Provincial Government</li> <li>Federal Government</li> </ul>



### Strategic Recommendations Summary

Hierarchy		Symbol	Location	Type of Recommendations	Phasing
Existing	Primary	1	Wabamun Lake Provincial Park	Development	Mid Term
	Primary	2	Village of Wabamun	Development	Mid Term
	Secondary	•	Various Informal	Management	Short Term
Proposed	Primary	3?	South Side - Location to be Determined	Development	Long Term

## 9.1 Existing Launch Sites

### 9.1.1 Village of Wabamun (refer to Map 18 on page 53)

As one of the most heavily used boat launch locations on the Lake with the most amenities and opportunities to expand, this launch site is seen as a primary development opportunity to service both lake side resident users and day users from the Edmonton centered region. This site offers both expanded opportunities for land based infrastructure (additional parking, utilities, circulation) and increased water access with an expanded ramp and docking facility for a public marina. Adjacent day use facilities could also be upgraded with a separate parking lot and a reconfigured access and traffic circle that would separate boat launch traffic from day use. Finally, the existing public pier needs to be reconstructed and can be lengthened and repositioned to increase the potential ramp width.

This upgrading project has been identified as a priority and could be phased as a short term goal (2 – 5 yrs) once a partnership agreement for the construction and operations is in place between the major partners; Parkland County and the Village of Wabamun. A preliminary estimate of probable costs estimates this project at \$1.7M in capital costs.

Table 8: Preliminary Cost Estimate - Village of Wabamun Proposed Upgrades to Existing Facility

ITEM	DESCRIPTION	ESTIMATED COST
1	SITE WORKS / STRIPPING / GRADING	\$20,000
2	ROADWAY MODIFICATIONS AND UPGRADES	\$50,000
3	BOAT LAUNCH PARKING EXPANSION	\$130,000
4	BOAT LAUNCH RECONSTRUCTION (3 LAUNCHES) AND DOCKS	\$170,000
5	PIER EXTENSION	\$250,000
6	MARINA SLIPS	\$425,000
7	FURNISHINGS	\$15,000
8	BARRIERS / FENCING	\$20,000
9	SITE ID SIGN FEATURE	\$120,000
10	LANDSCAPING	\$65,000
11	ENVIRONMENTAL ASSESSMENT, APPROVALS AND PERMITTING	\$20,000
12	DESIGN, MANAGEMENT AND ENGINEERING FEES	\$110,000
<b>VILLAGE OF WABAMUN BOAT LAUNCH</b>		<b>\$1,395,000</b>
20% Contingency		\$279,000
<b>TOTAL ESTIMATED COST</b>		<b>\$1,674,000</b>

\* COST REFLECTS NEW COMPONENTS UNLESS SPECIFICALLY INDICATED - NO RE-USE OF EXISTING DOCKS, LAUNCHES, ETC, WHICH IF SUITABLE COULD REFLECT A COST SAVINGS

### 9.1.2 Wabamun Lake Provincial Park

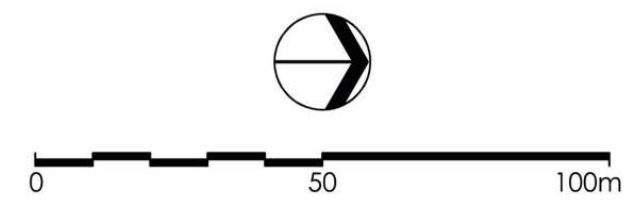
The Province has identified the need to upgrade the existing boat launch facilities at the Provincial Park including the reconfiguration of the launch ramp access, vehicle circulation and parking. An adjacent hand launch location has also been considered for upgrade as a second vehicle launch ramp.



It is understood that these launch site improvements are currently being planned and will require Provincial Park's funding approval to proceed.

### **9.1.3 Informal / Other Launch Locations**

The majority of existing launch locations (over 20) are used on an infrequent basis, usually by adjacent residents as a convenient access to the lake. These sites have not been structured with proper ramps and in most cases do not provide adequate parking opportunities, shoreline soil conditions or water depth to be considered as feasible launch locations. However, on a seasonal basis, they do provide local lake access and if properly managed by a local authority (Summer Village or Residents Association) should be allowed to continue. For this reason, it is not recommended that additional capital investment be made at these locations.



## 9.2 Proposed Launch Site

### 9.2.1 South Side Launch (refer to Map 19 on page 55)

The highest demand for a proper launch facility was expressed by users for the west and south sides of the lake. Although the SV of Seba Beach has a public dock and lake access point, it does not have adequate parking facilities or water depth for an upgraded ramp facility. The remaining launch sites, as identified previously in 9.1.3, also do not offer feasible solutions. A suitable parcel of land needs to be sought which would be large enough to accommodate boat launch access with associated parking, in addition to a day use area with shoreline access.

A South side launch site is considered as a long term goal (10 – 20 yrs) as it will require a significant amount of planning to identify a suitable parcel. A land use agreement or land acquisition may be required, if the parcel is privately owned. A more comprehensive environmental review will likely also be required along with approvals from all government levels, prior to developing a detailed design for the chosen property.

Table 9: Preliminary Cost Estimate – Trans Alta Proposed New Boat Launch Facility

ITEM	DESCRIPTION	ESTIMATED COST
1	SITE WORKS / STRIPPING / GRADING	\$120,000
2	ROADWAY / PARKING LOT CONSTRUCTION	\$350,000
3	BOAT LAUNCH (2 LAUNCHES) AND DOCKS	\$60,000
4	WASHROOM BUILDING	\$80,000
5	FURNISHINGS	\$30,000
6	TOT LOT	\$50,000
7	BARRIERS / FENCING	\$20,000
8	SITE SIGNAGE	\$20,000
9	LANDSCAPING	\$150,000
10	ENVIRONMENTAL ASSESSMENT, APPROVALS AND PERMITTING	\$50,000
11	DESIGN, MANAGEMENT AND ENGINEERING FEES	\$65,000
<b>SOUTH SHORE BOAT LAUNCH / DAY USE AREA</b>		<b>\$995,000</b>
20% Contingency		\$199,000
<b>TOTAL ESTIMATED COST</b>		<b>\$1,194,000</b>

\* COST REFLECTS THE 15 STALL BOAT LAUNCH PARKING LOT - THE ADDITIONAL 15 STALL EXTENSION IN THE DAY USE AREA WOULD BE AN ADDITIONAL \$150,000

