

Public Advisory Committee
Recommendations Report

**Lower Bow River
Sportfishing Regulation Review**

April 16, 2014

Status of this Recommendations Report

This Recommendations Report reflects the views and opinions of the Public Advisory Committee (PAC) which was established to provide advice to Alberta Environment and Sustainable Resource Development. Committee members met over an 18 month period to identify issues, review pertinent information, and debate ideas and proposals on how to manage the sport fishery on the Lower Bow River over the next 5-10 year period. The recommendations which follow are the outcome of PAC's deliberations. The recommendations should be viewed as preliminary proposals for discussion. The Committee did not reach consensus on all matters – as is noted in this draft Recommendations Report.

Public feedback which is obtained during the public engagement phase of the Lower Bow River sportfishing regulation review will be shared with PAC members. The Committee will then be reconvened after the public review period has been concluded to consider public input and finalize its recommendations for consideration by Alberta Environment and Sustainable Resource Development.

PAC recommendations will be incorporated into ESRD's sportfishing regulation change process by the Senior Fisheries Biologist.

Introduction / Background / Purpose

Alberta Environment and Sustainable Resource Development (ESRD) has the legislated mandate and authority to manage Alberta's recreational fishery. ESRD issues annual sportfishing regulations which identify angling opportunities while ensuring the conservation of provincial fish resources. Department staff regularly make recommendations for adjusting the sportfishing regulations – based on current resource information and in response to scientific knowledge and accepted resource management approaches – with the goal of ensuring sustainable fish populations in identified waterbodies. For select high-use or high-profile recreational fisheries, the Department will periodically seek the involvement of public advisory committees (comprised of key user groups and interested organizations) to advise ESRD on regulation changes. Recommendations for regulation changes that are brought forward by these committees are subsequently presented to the wider angling public for reflection and comment.

ESRD established a public advisory committee (PAC) to review existing sportfishing regulations on the Lower Bow River (i.e., Bearspaw Dam to Bassano Dam) in 1999. PAC recommendations were prepared and then vetted with the public. The Committee tabled its final recommendations for changes to the angling regulations in 2000. The Committee was then reconvened about 5 years later to undertake a quick assessment of the ongoing relevancy of its earlier recommendations.

The need to undertake another public review of the sportfishing regulations became apparent when ESRD fisheries biologists began assessing changes to the Lower Bow River fishery and fish habitat due to angling effort, fish population dynamics, environmental factors, and other considerations. In light of the changes which had occurred since the last PAC review (and changes that are anticipated in the future), and given the need to confirm changes in the views and opinions of the angling community, fisheries biologists determined that the time had come to re-examine the current regulations and determine appropriate management objectives for the sport fishery on the Lower Bow River for the next 5-10 year period. Again, angler input would be obtained – initially through an advisory committee, and then from the broader public.

Preliminary work on undertaking a new review of the Lower Bow River angling regulations commenced in 2011. Project Terms of Reference were prepared and signed off by Department officials in the spring of 2012. Subsequently ESRD staff began contacting potential organizations and user groups to determine whether they were interested in having a representative sit on a new public advisory committee. The committee's membership was firmed-up during the summer months in 2012.

As outlined in the PAC Terms of Reference, the purpose of this angling regulation review is to:

- a) *consider the appropriateness/effectiveness of the current regulations, particularly:*
 - *length of angling seasons;*
 - *timing of angling seasons;*
 - *harvest levels for different fish species;*

- *whether sufficient resource protection is being provided during critical life stages (i.e., spawning and migration); and*
 - *other relevant considerations (e.g., user conflicts, impact of gear selection on post release mortality)*
- b) *assess whether current fisheries management regulations are satisfying public demand for a limited resource, and*
- c) *determine whether (and where) public interest may have changed since the last regulation review in 2000.*

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PAC Process

The Lower Bow River PAC was brought together for its inaugural meeting in July 2012. The PAC was comprised of 13 individuals representing various Lower Bow River interest groups and angling constituencies.

Affiliation / Representing

Trout Unlimited Canada
Sarcee Fish and Game Association
Siksika First Nation
West Winds Fly Shop
Troutchasers Outfitting
The Fishin' Hole
Silvertip Outfitters
Tera Environmental (Calgary) - fisheries biologist
The Dimestore Fisherman (fishing television program)
Angling Outfitter Association of Alberta
Fly angler, public at large
Angler, public at large
Angler, public at large

ESRD staff assisting PAC in its review of the current sport fishing regulations included:

- Paul Christensen (Senior Area Fisheries Biologist)
- Cam Wallman (Senior Fisheries Technician) – retired in 2013
- Linda Winkel (Fisheries Biologist)
- Sam Wirzba (facilitator)

Nine PAC meetings were held in Calgary, at roughly 6 week intervals. (A lengthy break occurred after the June 2013 flood.) Meetings were devoted to hearing presentations, identifying issues, discussing ideas and developing recommendations. PAC deliberations have culminated in this Phase 1 Recommendations Report. Following public review of PAC's recommendations, the Committee will be re-convened during Phase 2 to consider public feedback and issue its final recommendations. The Department will also engage appropriate Treaty 7 First Nations on proposed sportfishing regulation changes on the Lower Bow (engagement will occur in accordance with the GoA's First Nations Consultation Policy and Guidelines).

PAC Recommendations

1.0 Management Objectives for Game/Sport Fish

ESRD manages sport fish in the Lower Bow River in accordance with the “Guiding Principles” and the “Goals and Objectives for Fish and Habitat Conservation” which are outlined in the ***Fish Conservation Strategy for Alberta 2006 – 2012***. Goal #3 in the strategy is particularly noteworthy for this regulation review:

Goal 3: Fishing Opportunities - To maintain and provide a high diversity, quality and number of different fishing opportunities across the province, while managing harvest and use at levels that are sustainable.

One of Sustainable Resource Development’s challenges is to allocate, through a public consultation process, the appropriate use or combination of uses of fish resources that are surplus to conservation needs, which result in a sharing of the resource between legitimate users and achieve a range of benefits, while still supporting fishery management objectives. To better understand who is using fish resources and harvest levels, the department will evaluate the merit of licensing all users.

The management of fisheries must follow a policy that allows harvest only when a supply of fish beyond conservation needs has been proven available. The Fish and Wildlife Policy for Alberta (1982) stipulates that the interim allocation priorities will be in the following descending order, until supply and demand issues are addressed on a site-specific basis through the allocation process:

1. Conservation of fish stocks;
2. Alberta Indians fishing for food on specific sites;
3. Métis people fishing on Métis Settlements;
4. Resident recreational use; and
5. Primary commercial uses (e.g., commercial fishing, guiding and tourist angling).

In addition, Sustainable Resource Development is considering the feasibility and merits of treating any losses of fish and habitat attributed to industrial activities as an allocation of the resource to industry. Reductions in fish production levels already need to be considered when determining the available supply of fish for other users.

What follows are proposed management objectives for the 4 leading sport fish species in the Lower Bow River system: Rainbow Trout; Brown Trout; Mountain Whitefish, and; Northern Pike.

Rainbow / Brown Trout

Background and Management Considerations

The current GoA sport angling regulations (2013) allow a catch limit of 1 Trout under 35 cm per day/trip from the Lower Bow River. Seasonal closures (April 1 – May 31; Oct. 1 – Nov. 30) are in effect in river reach 1 and 3 to protect Rainbow Trout (in the spring) and Brown Trout (in the fall) during spawning.

There are no seasonal closures in effect for river reaches 2 and 4. These regulations were proposed and subsequently adopted by the GoA in 2000 after a Public Advisory Committee (PAC) and the general public deliberated on revised management objectives for the Lower Bow sport fishery.

The last Lower Bow River creel survey was completed in 2006. It indicated that few anglers were taking advantage of the current Trout catch limit. In effect, **a *de facto* catch and release fishery has been operating on the Lower Bow, with virtually no harvest of Trout by anglers** (i.e., creel surveys have revealed that few anglers are taking advantage of the current Trout bag limit).

The Lower Bow River continues to be referred to as a “blue ribbon” fishery, providing outstanding angling opportunities for both Brown and Rainbow Trout. A substantial guiding industry has grown up over the years to offer anglers a high quality fishing experience. It is surmised that the number of anglers fishing the Lower Bow is increasing from year to year, and this is anticipated to continue in future years as Calgary experiences further population growth (Calgarians make up approximately 80% of the anglers on the Lower Bow).

Proposed PAC Management Objective

PAC is recommending that the following management objective be adopted, which is intended to keep the Trout fishery in the GoA’s “Trophy Quality” class (as described in Alberta’s Fish Conservation Strategy):

The recreational Trout fishery of the Lower Bow River will be managed as a “trophy quality” fishery to maintain high catch rates for all sizes of Rainbow and Brown Trout. A trophy quality fishery would improve the likelihood of many large Trout being present in the river system.

Rationale for Adopting a Trophy Quality Management Objective

SCIENCE Considerations

ESRD’s senior area fisheries biologist completed a sensitivity analysis to determine what effect varying amounts of angler effort/harvest would have on the Trout population. Modelling results revealed that the Lower Bow Trout fishery cannot be sustained as a Trophy Quality class fishery if even 5% of anglers chose to take advantage of the current catch limit. If the current (2013) regulations are to be retained (i.e., which allow a daily catch limit of 1 trout under 35 cm), and with anticipated increased fishing effort in the coming years, the Trout fishery would rapidly decline from a “Trophy Quality”, to a “Stable” and then eventually to a “Vulnerable” sport fishery.

Increased angler effort in the future (due to increasing numbers of anglers), in conjunction with the catch limits allowed under the current (2013) regulations, will reduce Trout populations. It is important to stress that if the current sport fishing regulations remain unchanged in the future, Trout populations will inevitably experience a decline should anglers capitalize on the allowable harvest. Thus, retaining the status quo will result in Trout population reductions. If anglers favour retaining the angling success rates that are currently enjoyed on the Lower Bow River, then the angling regulations need to be

changed to support a catch and release fishery. Other management actions (e.g., additional seasonal closures) would also need to be adopted, in addition to catch and release, if even higher angling success rates are being sought.

Factors that will negatively impact on the future Trout fishery include (among other things): population growth in southern Alberta (with a commensurate rise in angler effort); land use change and development along the river; fish habitat degradation; water related issues; fish disease (e.g., saprolegnia); fish mortality directly attributable to hydro projects; fish entrainment (through water diversions); improved river access; climate change; etc. As Calgary and surrounding communities continue their rapid growth, new land uses and land development will impinge on the Lower Bow Trout fishery, affecting fish directly and resulting in alterations to fish habitat. The future effect of these negative factors on Trout populations needs to be explicitly considered during this regulation review. A catch and release fishery would buffer fish populations against the above listed impacts and against changes in angler use patterns.

SOCIAL Considerations

The Lower Bow River enjoys the enviable status of being an internationally renowned “blue ribbon” Trout fishery. Retaining this status (through the establishment of a catch and release fishery, which is supported by PAC), would be highly beneficial to recreation anglers (both resident and non-resident), the fish guiding industry, and the local/regional economy. Should the current “trophy quality” status of the Lower Bow River be given up, it is doubtful whether it could be re-established in the future.

PAC Support for the Management Objective (consensus was not achieved)

The majority (11 of 13) PAC members supported the proposed Trout management objective. The majority of PAC members favor a catch and release fishery with no legal harvest of Trout.

An alternative recommendation (which was favored by only one PAC member), is as follows:

The lower Bow River will be managed as a sustainable recreational harvest fishery, providing anglers with good catch rates of many sizes of Rainbow and Brown Trout, with fewer large fish in the system. [NOTE: adopting this management objective would move the trout fishery from the TROPHY Quality to the STABLE fish category.]

The remaining PAC member did not express an opinion on the future of the Trout fishery.

Views of Those Opposing the Trophy Quality Management Objective

Providing a harvest opportunity for Trout is a matter of principle for some anglers. Other anglers have a desire to catch and keep Trout for consumptive purposes.

Sport anglers who are seeking to harvest Trout are not dependent on the Lower Bow River to obtain their catch as there are plenty of other options available (locally and regionally) to collect their bag limit,

i.e., stocked water bodies in the Prairie/Parkland, and open streams and waterbodies in the Eastern Slopes Zones 1 and 2.

Mountain Whitefish

Background and Management Considerations

The current GoA sport angling regulations (2013) allow a daily bag limit of 5 Mountain Whitefish over 30 cm from the Lower Bow River. Seasonal closures (April 1 – May 31; Oct. 1 – Nov. 30) are in effect in river reaches 1 and 3 to protect Rainbow Trout (in the spring) and Brown Trout/Mountain Whitefish (in the fall) during spawning. There are no seasonal closures in effect for river reaches 2 and 4. Bait bans are in effect for river reaches 2, 3 and 4, however bait may be used in river reach 1 from August 16 to Sept. 30. These regulations were proposed and subsequently adopted by the GoA in 2000 after a Public Advisory Committee (PAC) and the general public deliberated on revised management objectives for the Lower Bow sport fishery.

GoA fisheries biologists have categorized the Mountain Whitefish fishery on the Lower Bow River as being in the “Stable” category, but Whitefish populations are thought to be exhibiting signs of a slight decline. PAC members who actively fish the river indicate that Whitefish populations have been falling during the past number of years, except below the Carseland weir.

Bait fishing for Whitefish is currently allowed in only one river reach: Bearspaw Dam to WHD weir – “maggots are the only bait allowed and only in the river from August 16 to September 30.” Bait fishing is typically pursued by anglers who desire to eat their catch, but appears to be declining. This is partly due to the increased effectiveness of other angling means (e.g., artificial rigs) and a reduced desire to retain fish.

The last Lower Bow River creel survey completed in 2006 indicated that anglers had little interest in harvesting Whitefish (33 fish were retained of 1501 caught). An interest in catching Whitefish dropped from the 1985 creel (8.7%) to the 2006 creel (0.3%). Bait fishing for Whitefish dropped from the 1985 creel (33.9%) to the 2006 creel (0.2%).

Although bait fishing is primarily intended to target Whitefish, Trout may be incidentally caught. Bait is generally swallowed more deeply by Trout and Whitefish (compared to artificial lures), causing higher levels of injury and mortality when fishing hooks are removed and fish are released.

Proposed PAC Management Objective

PAC is recommending that the following new management objective be adopted, which is intended to elevate the Mountain Whitefish fishery from the “Stable” to the “Trophy Quality” class (as described in Alberta’s Fish Conservation Strategy):

The recreational Mountain Whitefish fishery of the Lower Bow will be managed as a “trophy quality” fishery to maintain and potentially improve moderate catch rates for all sizes of Mountain Whitefish. A “trophy quality” fishery would improve the likelihood of many large Whitefish being present in the river system.

2016 Update: Comparison of catch rates of mountain whitefish in the Bow River to catch rates in a 2015 survey in Jasper National Park indicate that mountain whitefish populations are collapsed. This fishery cannot be managed to “trophy” objective. Conservation objective is appropriate given current status.

Rationale for Adopting a Trophy Quality Management Objective

SCIENCE Considerations

The Mountain Whitefish harvest in river reach 1 has probably been higher than ESRD staff have assumed. This may be attributed to the desire of many Whitefish anglers to continue fishing until they have maximized their harvest (i.e., until they have reached their daily bag limit of 5 Whitefish).

Information received from anglers who are familiar with the Lower Bow River fishery suggests that Mountain Whitefish populations may be declining. Furthermore, river system changes (impacts) in future years will have detrimental effects on Mountain Whitefish populations. In the Lower Bow River system, catch and release regulations can buffer Mountain Whitefish populations against future changes in angler harvest patterns and environmental changes. High effort fisheries demand increased vigilance and additional safeguards which ensure protection of fish populations; adverse effects can be avoided by employing precautionary management tools. However, there must be explicit recognition that current angling effort, combined with changes in productivity and land use practices, may not achieve the desired “trophy quality” objective.

Mountain Whitefish were not considered a focus of sport fish management historically. While data has been collected for the Bow River population, it has been incidental and sporadic. Population estimates are therefore highly variable, and trends cannot be extrapolated. From the data which exists, no statistically valid decline (in numbers or age and size) can be noted – but this does not mean it has not occurred, or would not occur in the future. Potential impacts to Mountain Whitefish populations documented in other jurisdictions include entrainment in unscreened diversions, river barriers, impoundments, instream construction, road construction, fishing mortality, habitat degradation, water quality and quantity, water withdrawals (by industry and for irrigation use), flow regime alteration, drought, whirling disease, etc. (Northcote and Ennis 1994, Kennedy 2009, Idaho Department of Fish and Game 2007). Particularly relevant impacts in other locations have been noted to include entrainment and alterations in flow regimes during critical periods (such as low water levels and temperatures below 10 C for spawning in the fall), as well as general habitat degradation. All of these impacts exist in the Lower Bow River system and can be anticipated to increase over time. Specific targeted monitoring of this species is therefore recommended, and has been undertaken by ESRD since 2011.

SOCIAL Considerations

PAC members favour of a catch and release fishery for Trout on the Lower Bow. PAC also supports a catch and release fishery for Whitefish. If catch and release is adopted for both Trout and Whitefish then angling regulations for this stretch of river would be simplified and enforcement would be made easier.

Whitefish are not the main target fish for the majority of sport anglers – Trout are. However, if ESRD adopts a catch and release regulation for Mountain Whitefish it may improve future catch rates for this species, thereby improving the recreational fishing experience for anglers that target Whitefish. Anglers desiring to harvest Whitefish would have other waterbody options in southern Alberta for achieving their catch limit.

PAC Support for the Management Objective (consensus was not achieved)

The majority (11 of 13) PAC members supported the proposed management objective. The majority of PAC members also favor a catch and release fishery with no legal harvest of Whitefish.

Views of Those Opposing the Trophy Quality Management Objective

Providing a harvest opportunity for Whitefish is a matter of principle for some anglers. Other anglers have a desire to catch and keep Whitefish for consumptive purposes.

Sport anglers who are seeking to harvest Whitefish are not solely dependent on the Lower Bow River to obtain their catch as there are other options available (locally and regionally) in both the Prairie/Parkland zones and Eastern Slopes zones. Additionally, multiple fish species may be pursued in the immediate geographical vicinity to satisfy a demand to harvest fish.

Northern Pike

Background and Management Considerations

The current GoA sport angling regulations (2013) allow the following catch limits for Pike:

- River reach 1: Northern Pike catch limit of 3 (no size limit); closed from Nov. 1-June 15 (general Reg)
- River reach 2: Northern Pike catch limit of 3 (no size limit); closed from Nov. 1-June 15 (general Reg)
- River reach 3: Northern Pike catch limit of 3 (no size limit); closed April 1-May 30 and Oct. 1-Nov 30
- River reach 4: Northern Pike catch limit of 3 (over 63 cm); no seasonal closure in effect

These regulations were proposed and subsequently adopted by the GoA in 2000 after a Public Advisory Committee (PAC) and the general public deliberated on revised management objectives for the sport fishery. A new PAC has been asked to re-consider this regulation (13 years later) and provide advice to the GoA.

While some anglers are intentionally pursuing Northern Pike on the Lower Bow River, Pike are typically taken as incidental catch by anglers who are targeting large trout in slow moving waters immediately

adjacent to Pike habitat. The creel survey in 2006 did not provide data on the Northern Pike harvest and effort, but both are assumed to be very low.

Proposed PAC Management Objective

PAC is recommending that the following management objective be adopted, which is intended to keep the pike fishery in the GoA's "Stable" class (as described in Alberta's Fish Conservation Strategy):

The recreational Northern Pike fishery of the Lower Bow will be managed as a "trophy quality" fishery to maintain and potentially improve moderate catch rates for all sizes of Pike. Furthermore, no legal harvest should be allowed to maintain high Pike population levels.

Rationale for Adopting the Pike Management Objective

SCIENCE Considerations

The Pike population is surmised to be greatest in river reach 4 (which has the warmest water) and which largely coincides with the Siksika Indian Reserve – where river access is poor.

The basis behind the current (2013) Northern Pike regulations is predicated on low angler effort and low harvest levels for this species.

Northern Pike are native fish species in the Bow River and play an important role in the overall function and health of the Bow River system. Given the long term trend towards warmer temperatures (and therefore warmer water), it is likely that Northern Pike will play an increasingly important role in the future of the Bow River fishery. Once/if critical water temperatures are exceeded (due to climate change, habitat change and/or increased water withdrawals), the current Trout/Whitefish fishery may transition towards a warm water fishery similar to what it found below the Bassano dam. While this change may be well into the future, this development is important to consider in the context of fisheries management and the retention of native fish species that will be present in the system over the long term.

Northern Pike typically have very little overlap with the ecological niches occupied by Trout and Whitefish species. Their body shape and life history requirements are such that they typically occupy slow moving water and vegetated bays. While Pike are opportunistic predators and will prey on Trout, their impact on Trout populations is likely negligible due to limited habitat overlap between the two species, and the abundance of other food items (e.g., Sucker, minnow species, etc.) that can be more easily captured.

SOCIAL Considerations

As Northern Pike are a popular sportfish elsewhere in the province, it is anticipated that this species may be increasingly important to anglers to offer a diversification of opportunities. Future angler use surveys may reveal an increasing importance of this species amongst anglers who cast using lures (as opposed to fly fishing).

PAC Support for the Management Objective (consensus was **not** achieved)

The 5 PAC members that attended the February 2014 PAC meeting supported the Pike management objective.

2.0 River Reaches

Various refinements to the 4 existing river reaches ([Map 1](#)) in the Lower Bow River were discussed at PAC meetings. Agreement finally coalesced around modifications to the 2 upstream river reaches ([Map 2](#)) as shown in the table below.

Existing River Reaches	PAC Recommendation
# 1 - Bearspaw dam to WHD weir (includes the Elbow River below Glenmore Reservoir)	# 1 - Bearspaw dam to Hwy 2 bridge - (lower reach boundary coincides with the upstream Hwy 2 bridge abutment) - (includes the 3 Carburn Park Ponds but excludes all waters in the Inglewood Bird Sanctuary) - (includes the Elbow River below Glenmore Reservoir)
# 2 - WHD weir to Carseland weir (includes 500 m of the Highwood River and the 3 Carburn Park Ponds) but excluding all waters in the Inglewood Bird Sanctuary	# 2 - Hwy 2 bridge to Carseland weir (includes 500 m of the Highwood River)
# 3 - Carseland weir to Hwy 24 bridge (downstream side)	# 3 - NO change
# 4 - Hwy 24 bridge (downstream side) to Bassano Dam (including Bassano Reservoir)	# 4 - NO change

When establishing the downstream boundary for the new river reach #1 (Bearspaw Dam to Hwy 2), the upstream bridge abutments of the Hwy 2 bridge were chosen (over the Hwy 22X bridge and the Policeman's Flats boat launch). The Hwy 2 bridge coincides with the City of Calgary municipal boundary and provides a clear visual landmark for anglers. At present, no established motorized access exists at the Hwy 2 bridge site for parking cars or launching drift boats. Anglers are currently using the highway median and ditches for parking – which is an unauthorized use. As well, no formal engineered vehicle access points or highway merge lanes exist at this location. Given the posted highway speed limit of 110 Km/hour, angler safety – when leaving or entering the highway – is a serious concern at this location.

3.0 Bait Ban

PAC is proposing a bait ban for each proposed river reach. Bait fishing (for which the target species is generally Mountain Whitefish) is currently allowed in the river reach Bearspaw Dam to WHD weir where: "Maggots are the only bait allowed and only in the river from Aug. 16 to Sept. 30." Given PAC's proposal of eliminating a legal harvest for Rainbow/Brown Trout and Mountain Whitefish in all 4 river

reaches, bait fishing will now be banned on the Lower Bow River as bait fishing is deemed to be incompatible with a catch and release regulation.

4.0 Angling Closures

Under the current regulations, angling closures have been used to protect spawning Rainbow Trout (April-May) and Brown Trout and Mountain Whitefish (Oct-Nov) at 2 of 4 river reaches. Given the population growth which is being experienced in Calgary and southern Alberta (which will undoubtedly result in greater angling effort on the Lower Bow in the future), and the desire to maintain the international reputation of the Lower Bow River as a blue ribbon Trout fishery, PAC has proposed that the existing seasonal angling closures now be applied to a new section of the river – from the WHD weir to the Hwy 2 bridge (where the fishery has previously been open for year-round sport fishing). The underlying rationale for the angling closure is as follows:

- this river reach has historically contained excellent and abundant fish spawning habitat
- it would protect redd habitat by keeping anglers out of this section of the river during the spring and fall fish spawning seasons, which would contribute to improved fish recruitment (such recruitment is necessary to maintain a high-use sport fishery)
- it would minimize disturbance to and protect mature fish that are actively spawning from angling interference
- it would help reduce the effects of significant fishing pressure on this section of river by Calgarians who live in close proximity to this river segment and for whom river access is reasonably good

5.0 Catch Limit

The existing regulations allow for the harvest of Trout, Mountain Whitefish and Northern Pike as follows:

- Trout limit is 1 under 35 cm; all Trout over 35 cm must be released
- Mountain Whitefish limit is 5 over 30 cm
- Pike limit 3 [no size limit] – for current River Reaches #1-3
- Pike limit 3 [over 63 cm] – for current River Reach #4

PAC is proposing that a legal harvest of Trout and Mountain Whitefish be eliminated to further reduce angling related fish mortality and that no legal harvest of Northern Pike be allowed. Creel surveys have indicated that virtually no anglers are interested in catching and keeping Trout which are being caught in the Lower Bow River. Thus, a catch and release fishery is being proposed to improve Trout catch rates and to allow fish to reach their largest possible size, consistent with a “Trophy Quality” class fishery, as identified in Alberta’s the *Fish Conservation Strategy for Alberta 2006 – 2010*. Given the apparently low angler interest in catching Mountain Whitefish, as has been determined from creel data, and given some uncertainty about Whitefish population levels in the Lower Bow, a future catch and release regulation would be in the interests of this species at this time.

6.0 Supplementary Recommendations

A comprehensive listing of all PAC recommendations is found in a table in Appendix #1.

PAC's key recommendations are found in rows 1-5 in the table. These primary recommendations have been incorporated in Sections 1.0 - 5.0 of this report.

The table in Appendix #1 also contains supplementary PAC recommendations – which are listed in rows 6 - 23. These supplementary recommendations are being offered to ESRD for consideration and action as appropriate.

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Comparison: Existing / Proposed Angling Regulations

The following table identifies proposed sport fishing regulation changes by river reach.

Existing Regulations		PAC's Recommendation	
River Reach (current)	2013 (current) Regulations	River Reach (proposed)	PAC preferred regulation changes identified on June 27 (coming into effect in 2015 or later)
<p># 1 Bears paw dam to WHD weir</p> <p>(includes the Elbow River below Glenmore Reservoir)</p>	<p>- CLOSED: Apr. 1 - May 31, and Oct. 1 - Nov. 30</p> <p>Trout</p> <p>- June 1 - Sept. 30 and Dec. 1 - Mar. 31</p> <p>- Trout limit 1 under 35 cm; all Trout over 35 cm must be released</p> <p>Mountain Whitefish</p> <p>- June 1 - Sept. 30 and Dec. 1 - Mar. 31</p> <p>- Mountain Whitefish limit 5 over 30 cm</p> <p>Pike</p> <p>General Regs: open June 16 – October 31: Pike limit 3 [no size limit]</p> <p>Bait</p> <p>Maggots are the only bait allowed and only in the river from Aug. 16 to Sept. 30.</p>	<p># 1 Bears paw dam to Hwy 2 bridge</p> <p>- (includes the 3 Carburn Park Ponds but excludes all waters in the Inglewood Bird Sanctuary)</p> <p>- (includes the Elbow River below Glenmore Reservoir)</p> <p>- (lower reach boundary coincides with the upstream Hwy 2 bridge abutment)</p>	<p>- CLOSED: Apr. 1 - May 31, and Oct. 1 - Nov. 30</p> <p>Trout</p> <p>- Trout limit 0 (Catch and Release fishery)</p> <p>Mountain Whitefish</p> <p>- Mountain Whitefish limit 0 (Catch and Release fishery)</p> <p>Pike</p> <p>- no legal harvest</p> <p>Bait</p> <p>- Bait ban</p>
<p># 2 WHD weir to Carseland weir</p> <p>(includes 500 m of the Highwood River and the 3 Carburn Park Ponds) but excluding all waters in the Inglewood Bird Sanctuary</p>	<p>- Open all year: (Apr. 1 - Mar. 31)</p> <p>Trout</p> <p>- Trout limit 1 under 35 cm; All Trout over 35 cm must be released</p> <p>Mountain Whitefish</p> <p>- Mountain Whitefish limit 5 over 30 cm</p> <p>Pike</p> <p>General Regs: open June 16 – October 31: Pike limit 3 [no size limit]</p> <p>Bait</p> <p>- Bait ban</p>	<p># 2 Hwy 2 bridge to Carseland weir</p> <p>(includes 500 m of the Highwood River)</p>	<p>- Open all year: (Apr. 1 - Mar. 31)</p> <p>Trout</p> <p>- Trout limit 0 (Catch and Release fishery)</p> <p>Mountain Whitefish</p> <p>- Mountain Whitefish limit 0 (Catch and Release fishery)</p> <p>Pike</p> <p>- no legal harvest</p> <p>Bait</p> <p>- Bait ban</p>
<p># 3 Carseland weir to Hwy 24 bridge (downstream side)</p>	<p>- CLOSED: Apr. 1 - May 31, and Oct. 1 - Nov. 30</p> <p>Trout</p> <p>- June 1 - Sept. 30 and Dec. 1 - Mar. 31</p> <p>- Trout limit 1 under 35 cm; all Trout over 35 cm must be released</p> <p>Mountain Whitefish</p> <p>- June 1 - Sept. 30 and Dec. 1 - Mar. 31</p> <p>- Mountain Whitefish limit 5 over 30 cm</p> <p>Pike</p> <p>- June 1 - Sept. 30 and Dec. 1 - Mar. 31</p> <p>- Pike limit 3 (no size limit)</p> <p>Bait</p> <p>- Bait ban</p>	<p># 3 NO change</p>	<p>- CLOSED: Apr. 1 - May 31, and Oct. 1 - Nov. 30</p> <p>Trout</p> <p>- Trout limit 0 (Catch and Release fishery)</p> <p>Mountain Whitefish</p> <p>- Mountain Whitefish limit 0 (Catch and Release fishery)</p> <p>Pike</p> <p>- no legal harvest</p> <p>Bait</p> <p>- Bait ban</p>

Existing Regulations		PAC's Recommendation	
River Reach (current)	2013 (current) Regulations	River Reach (proposed)	PAC preferred regulation changes identified on June 27 (coming into effect in 2015 or later)
# 4 Hwy 24 bridge (downstream side) to Bassano Dam (including Bassano Reservoir)	- Open all year: Apr. 1 - Mar. 31 Trout - Trout limit 1 under 35 cm; all Trout over 35 cm must be released Mountain Whitefish - Mountain Whitefish limit 5 over 30 cm Pike - Pike limit 3, over 63 cm Bait - Bait ban	# 4 NO change	- Open all year: Apr. 1 - Mar. 31 Trout - Trout limit 0 (Catch and Release fishery) Mountain Whitefish - Mountain Whitefish limit 0 (Catch and Release fishery) Pike - no legal harvest Bait - Bait ban

Archived

Website

To assist with public review of PAC's recommendations and to provide an Internet presence for this project, a WebPage has been created that offers pertinent information and access to project related documents. The web address is as follows:

<http://esrd.alberta.ca/fish-wildlife/fisheries-management/prairies-area-fisheries-management/lower-bow-river-sport-angling-regulation-review.aspx>

Archived

Appendix #1

PAC Recommendations (derived through PAC member presentations and discussions)

	PAC idea / proposal	in/out scope	context / background	consensus (Y/N)	initial ESRD response
1	Adopt a complete bait ban for all fish species	in	<ul style="list-style-type: none"> - bait fishing is currently only allowed in river reach #1 - it is surmised that bait fishing is largely pursued by a small segment of the angling community - bait is more deeply swallowed by fish causing more damage to released fish - while Mountain Whitefish are the target species for bait anglers, trout will also pursue bait 	N (majority of PAC in favour)	<p>Has been addressed in PAC's Recommendation Report</p> <ul style="list-style-type: none"> • a bait ban is being proposed for all river reaches
2	Adopt catch and release for Trout species (i.e., no legal harvest of Rainbow and Brown Trout) ALTERNATIVELY: Adopt catch and release for <u>all</u> fish species in the Lower Bow River	in	<ul style="list-style-type: none"> - this regulation change would maximize the trout population in the river, thereby improving catch levels - a total C&R regulation, for all fish species, would probably bolster the Lower Bow River's reputation as a world class fishing river - C&R would simplify angling regulations - C&R would simplify enforcement - if instituted, a total C&R would be hard to undo (rescind) in the future 	N (majority of PAC in favour)	<p>Has been addressed in PAC's Recommendation Report</p> <ul style="list-style-type: none"> • catch and release is being proposed for Trout and Whitefish in all river reaches • it is proposed that a <u>harvest</u> of 3 Northern Pike continue to be allowed in all river reaches
3	Decrease harvest levels for Mountain Whitefish	in	<ul style="list-style-type: none"> - more data is required to establish the status of the Mountain Whitefish population. - simplify the current angling regulations by broadening the bait ban and applying catch/release regulations over all river reaches. The "keep it simple" approach would make enforcement easier and may reduce bait induced mortality for all species of fish. 	N (majority of PAC in favour)	<p>Has been addressed in PAC's Recommendation Report</p> <ul style="list-style-type: none"> • catch and release has been adopted for Whitefish in all river reaches
4	Determine the impact of fish diseases (e.g., fungus Saprolegnia) and water algae - Didymo (i.e., rocksnott) on fish populations in the Lower Bow River	?	Fish are placed under stress and put at risk by fish diseases. This is exacerbated by water contaminants and fresh water algae that adversely affect fish. If threats to fish by Saprolegnia and Didymo get worse in the future, resulting in appreciable fish mortality, then a catch and release regulation may need to be adopted.	Y	<p>Has been partially addressed in PAC's Recommendation Report</p> <ul style="list-style-type: none"> • the impact that diseases can have on fish and fish populations is acknowledged in the Trout Position Paper. • sport fishing regulations need to account for fish losses due to Saprolegnia and Didymo (the adoption of catch and release can offset fish losses that are attributable to disease, water algae, and pollutants)
5	Adopt expanded / refined seasonal angling closures to protect spawning fish and redd habitat	in	<ul style="list-style-type: none"> - existing seasonal closures are <u>generalized</u> and applied to <u>entire</u> river reaches. Can a more precise closure system be adopted which is sensitive (and linked) to actual (confirmed) fish life cycle events and to <u>particular</u> high quality spawning habitats to protect these sites? - are additional seasonal closures needed for reasons other than protecting actively spawning fish (i.e., protection of fish during the egg incubation period)? 	?	<p>Has been addressed in PAC's Recommendation Report</p> <ul style="list-style-type: none"> • a <u>new</u> spring and fall angling closure is being proposed for the river reach from the WHD weir to Hwy 2 in the city of Calgary to protect spawning Trout and Mountain Whitefish. (under the current sport fishing regulations year-round fishing is allowed in this river reach) • additional seasonal closures may be considered in other river reaches in the future if fish populations decline

	PAC idea / proposal	in/out scope	context / background	consensus (Y/N)	initial ESRD response
6	Ban the use of treble hooks	in	<ul style="list-style-type: none"> - treble hooks inflict more damage on fish - treble hooks are harder to remove 	?	<ul style="list-style-type: none"> • this is a valid issue (but is not a priority issue for ESRD at this time) • the literature on treble hooks is not conclusive; studies tend to look at fish mortality, not at injury or the extent of injury to fish • this issue needs to be resolved at the provincial level (not local level)
7	Enforce a river angling closure when the water temperature exceeds 70 F for more than 3 consecutive days.	in	<ul style="list-style-type: none"> - warm water is stressful on fish and increases angling mortality - warm water fishing closures are already occurring in Montana where Fish, Wildlife and Parks' policy calls for fishing closures when maximum daily water temperatures reach at least 73 degrees for three consecutive days (water temperatures of 77 degrees or higher can be lethal to Rainbow and Brown Trout, which prefer temperatures in the mid-50s) - but how to implement in Alberta? Where to take water temperature readings? And when? How to inform anglers of a river closure on short notice? - temperatures in the water column are variable, dynamic and can fluctuate rapidly 	?	<ul style="list-style-type: none"> • tools that ESRD can use are: Variation Orders: Orders must specify a start and end date. Anglers are voluntarily asked to refrain from fishing due to high water temperatures. Announced through a Press Release and made available to media outlets. Challenges exist in notifying anglers of the Variation Order and its intent. Stream Flow Advisories: can be used to inform anglers that water temperatures are high and thus angling should be suspended. Like Variation Orders, there are challenges in notifying anglers through a Stream Flow Advisory. • it is thought that education may be more effective than regulatory approaches and enforcement in discouraging angling when water temperatures are high
8	Protect staging fish in the Highwood River during the spring	in	Rainbow trout stage within the Bow River at the confluence of the Highwood River. Here they wait for a short period of time until river ice disappears allowing them to migrate up into the Highwood and Sheep River systems. Angling mortality studies undertaken in 2001 and 2002 indicated mortality from angling at this location to be very low (1%).	?	<ul style="list-style-type: none"> • existing data show that there is low fish mortality attributable to angling at the Highwood River confluence during the "staging" period • ESRD does not know if angling during the "staging" period is affecting spawning success • because the Rainbow Trout population is healthy, ESRD is open-minded to angling during the "staging" period (i.e., the first 2 weeks of April). This is a short duration, high intensity fishery.
9	Ensure adequate fisheries information and updated creel surveys are available for ESRD to effectively manage the sport fishery	in	<p>The frequency of creel surveys depends on the information that is to be obtained and budgets. Within the Bow River system it is desirable to creel every 5 years given the proximity of the City of Calgary to the river. ESRD staff creels were conducted in 1998. Outfitter creels were conducted in 1999. Partial creels, connected with graduate student work, were conducted in 2001 and 2002 (Mar-Apr only) at the confluence of the Highwood River. A full river creel was conducted in 2006 by ESRD. Another full river creel is overdue.</p> <ul style="list-style-type: none"> - Resource managers require up-to-date data in order to effectively manage fish resources. Given the importance of the Bow River fishery, the following information is most desirable for resource managers: <ul style="list-style-type: none"> • spawning success (recruitment) • fish density and their differences throughout the 	Y	<ul style="list-style-type: none"> • while creel surveys are useful, they are not always imperative • a Lower Bow creel would be desirable in the future, but is not needed at present. New sport fishing Regulations for the Lower Bow should be implemented for a period of time before proceeding with a creel survey. • at this time ESRD is quite confident in guessing what would be revealed through a new creel survey. • other tools and means are available to get angling data. Before ESRD collects data, it has to be clear on how the data will be used. • a Lower Bow creel survey would likely cost in the range of about \$100,000 <p>ESRD may fund a creel survey for the Lower Bow River in 2014. Confirmation will be received in April – May 2014.</p>

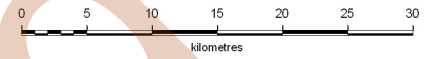
	PAC idea / proposal	in/out scope	context / background	consensus (Y/N)	initial ESRD response
			<p>entire system</p> <ul style="list-style-type: none"> • fish losses due to development and other means • juvenile rearing and the importance of habitat protection • what is the role of the Bow River tributaries? 		
10	ESRD should undertake post-flood research to determine what the specific impacts of the June 2013 flood were on fish habitat and fish populations.	in	<p>Questions to be answered include:</p> <ul style="list-style-type: none"> • Where has fish habitat been significantly altered or lost? • Where has high potential fish habitat been created by the flood? • What kind of habitat restoration projects might be undertaken to compensate for habitat losses? • Also determine what impact flood re-construction and flood mitigation projects will have on fish and fish habitat (both short term and long term)? • How were fish populations affected by the flood? 		<ul style="list-style-type: none"> • The GoA will be launching a new \$10,000,000 fisheries habitat restoration program to address impacts associated with the June flood event. Terms of Reference are being developed. Program staffing is now underway. The program will only look at flood affected areas. The focus will likely be on native fish species only. Partnerships are being explored.
11	A study should be undertaken to determine whether moving to a catch and release fishery has produced desirable changes and whether fish populations are holding steady or perhaps increasing as a result of new sport fishing regulations.	in	<p>An information baseline will need to be established so that before and after effects can be readily ascertained. This will require ongoing tracking/monitoring by the GoA.</p>	?	<ul style="list-style-type: none"> • ESRD biologists indicated that a study which identifies the effects of new fishing regulations would be challenging to undertake because there are numerous variables that could account for any changes in fish populations • current ESRD budgets may not allow the fish monitoring that is needed to track fish population changes
12	Significant sport fishing regulation changes will require a greater enforcement presence in the field – along the entire stretch of the Lower Bow River.	?	<p>An initial leniency period is likely needed to educate and give anglers time to adjust to the new regulations.</p>	Y	<ul style="list-style-type: none"> • Improved (more) enforcement is frequently raised in many fish and wildlife management contexts. But GoA budgets limit how many Fish and Wildlife officers are available to do enforcement work.
13	An education and awareness campaign should be adopted to inform anglers of new regulation changes and the rationale behind the changes	in	<p>Suggestions for raising angler awareness of regulation changes include: improved exposure of regulation CHANGES in the annual Sportfishing Guide that <u>grab the reader's attention</u>; onsite (riverbank) signage; online messaging at angling licensing websites; information bulletins placed in strategic locations, . . .</p>	Y	<ul style="list-style-type: none"> • ESRD acknowledges that a proper effort must be made to inform the angling community of important changes to the sport fishing regulations
14	Increase / improve education about fisheries matters generally	?	<p>- raising angler/outfitter/public awareness on critical issues is hugely important</p> <p>- key issues (and the associated messages) that we need to get out include:</p> <ul style="list-style-type: none"> • aquatic invasive species 	?	<ul style="list-style-type: none"> • ESRD will give more thought and attention to this proposal • water body specific education and awareness programs are sometimes undertaken by the Department • this recommendation is applicable province wide (it is not specific to the Lower Bow River)

	PAC idea / proposal	in/out scope	context / background	consensus (Y/N)	initial ESRD response
			<ul style="list-style-type: none"> fish species identification fish spawning periods threats to the fishery - what media/mechanisms should be used in angler/public education campaigns?		
15	Reciprocal licensing should be pursued for all non-resident anglers	out	Some view this as the fairest form of licensing (all jurisdictions would charge the same base angling license fee)	N	<ul style="list-style-type: none"> adopting this measure is administratively complicated and unwieldy (would require up-to-date angling information for every jurisdiction in the world as the Lower Bow attracts anglers from around the world) this is a provincial, not local, issue ESRD is exploring more fundamental licensing matters (e.g., whether seniors should pay for fishing licenses)
16	Create a special Bow River angling license	out	- a special angling license for the Bow River would set the Bow River apart, giving it special status and recognition - in what way should the proposed license be "special" ?	N	<ul style="list-style-type: none"> why create a special Bow River license? What would be gained or accomplished through this? a special Bow River angling license would likely contribute to making the Bow River an <u>exclusive</u> fishery a special license would present administrative challenges and necessitate the establishment of a dedicated revenue fund (the viability of this is uncertain)
17	More needs to be done to give the Bow River special recognition, to elevate its profile and to extol its fishery values among residents and river users. The Bow River fishery is "world class" and thus should be given a unique status in the province.	out	River recognition does <u>not</u> mean formal <u>designation</u> under the Canadian Heritage Rivers System ¹ http://www.chrs.ca/en/mandate.php - if the Bow River fishery were given "special" status, perhaps it would attract more GoA resource management funding - what is the mechanism for giving the Bow River "special" status (and is the focus here on the Bow or only the Lower Bow River)?	N	<ul style="list-style-type: none"> marketing falls outside of ESRD's mandate and does not pertain to this regulation review do we really want to raise the profile of the Lower Bow sport fishery and attract more attention and anglers? "word of mouth" is still one of the key means for anglers to share their fishing experiences is there any relationship with proposal #15
18	Adopt "Angler Etiquette" and "Boater Etiquette" campaigns	out	- identifying a Code of Conduct for anglers and boaters has numerous benefits (particularly for new comers)	?	<ul style="list-style-type: none"> this recommendation is applicable province wide (it is not specific to the Lower Bow River)
19	Inform anglers of various penalties and fine amounts for different angling infractions	out	- informing anglers of fine amounts and punitive actions that could be taken by authorities would likely serve as a deterrent - but this could likely only be done in general terms and illustratively	?	<ul style="list-style-type: none"> this recommendation is applicable province wide (it is not specific to the Lower Bow River)
20	Increase the enforcement presence on River Reach #4 to address the use of illegal gear and the illegal harvest of fish that is occurring here	out	Fish poaching is occurring on River Reach #4, both outside and inside the Indian Reserve. Fish regulations are meaningless if they are not diligently enforced. Is the illegal fish harvest in Reach #4 responsible for lower fish population levels here?	?	<ul style="list-style-type: none"> See also #11 above
21	Seasonal fishing closure signs	out	Anglers (particularly those who fail to consult the Sport	?	<ul style="list-style-type: none">

	PAC idea / proposal	in/out scope	context / background	consensus (Y/N)	initial ESRD response
	should be prominently displayed at the HWY 24 boat launch and on the main access roads at Wyndham Carseland PP		Fishing Regulations) need to be reminded of the fishing closures that are in effect in River Reach #3 (Carseland weir to Hwy 24) to protect spawning Trout.		
22	Address fish habitat issues that pertain to the Lower Bow River, including: <ul style="list-style-type: none"> • riparian/bank/shoreline habitat destruction • thermal water pollution • garbage in the river • fish ladders 	out	The alteration and degradation of fish habitat has significant negative consequences for all fish species. Unless action is taken to minimize impacts and restore damaged habitats, fish will be adversely affected. If threats to fish get worse, then a total catch and release regulation may need to be adopted.	?	•
23	Disseminate good information about: <ul style="list-style-type: none"> • status of fish populations • resource management challenges • findings from surveys • angling and other impacts 	out	Accurate and timely information needs to be made available to inform resource managers, resource users and concerned individuals. It empowers them to engage in deliberate constructive actions to protect water, fish and habitat resources and to mitigate the harmful impacts of human activity in its myriad forms.	?	•

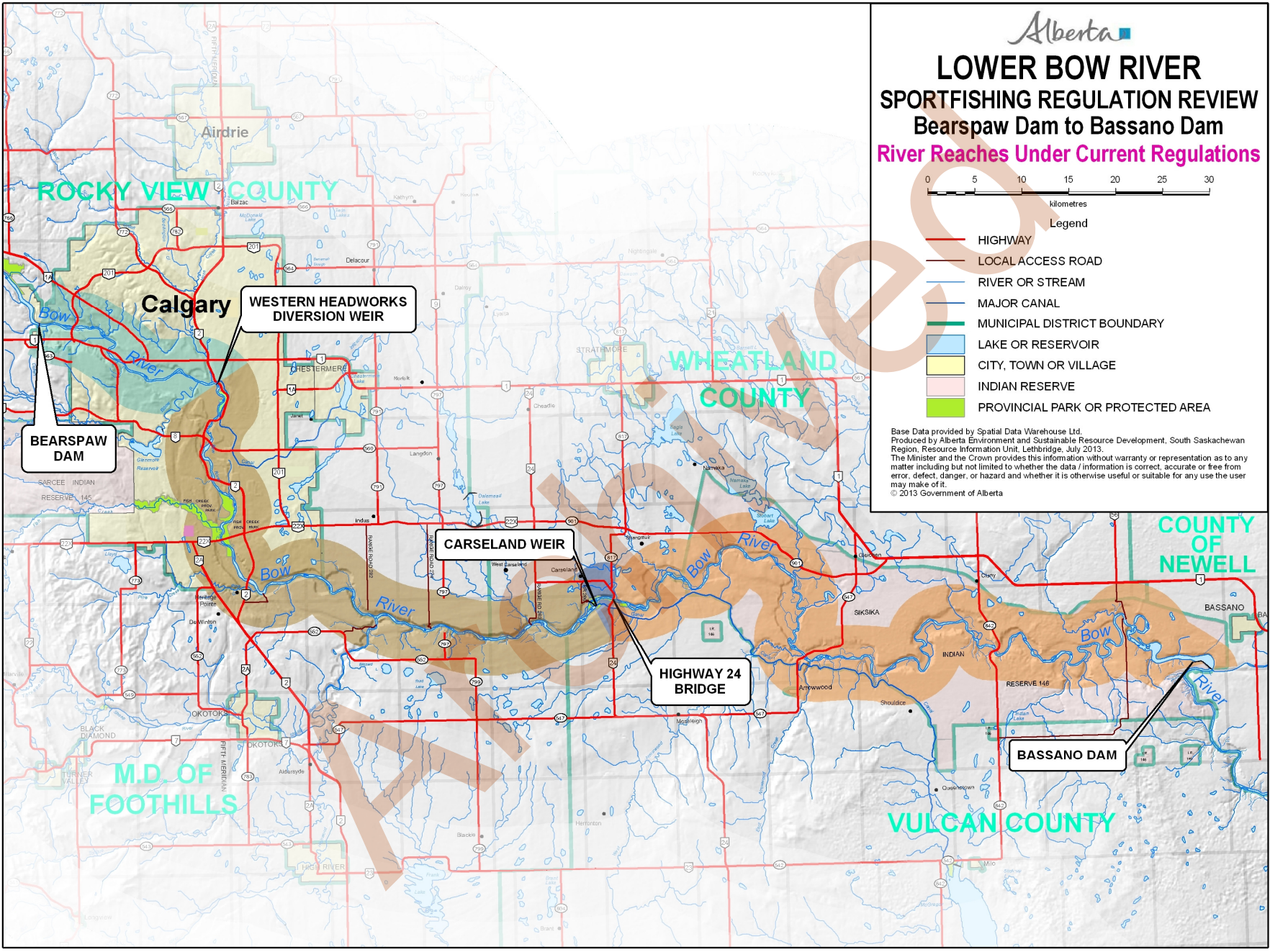


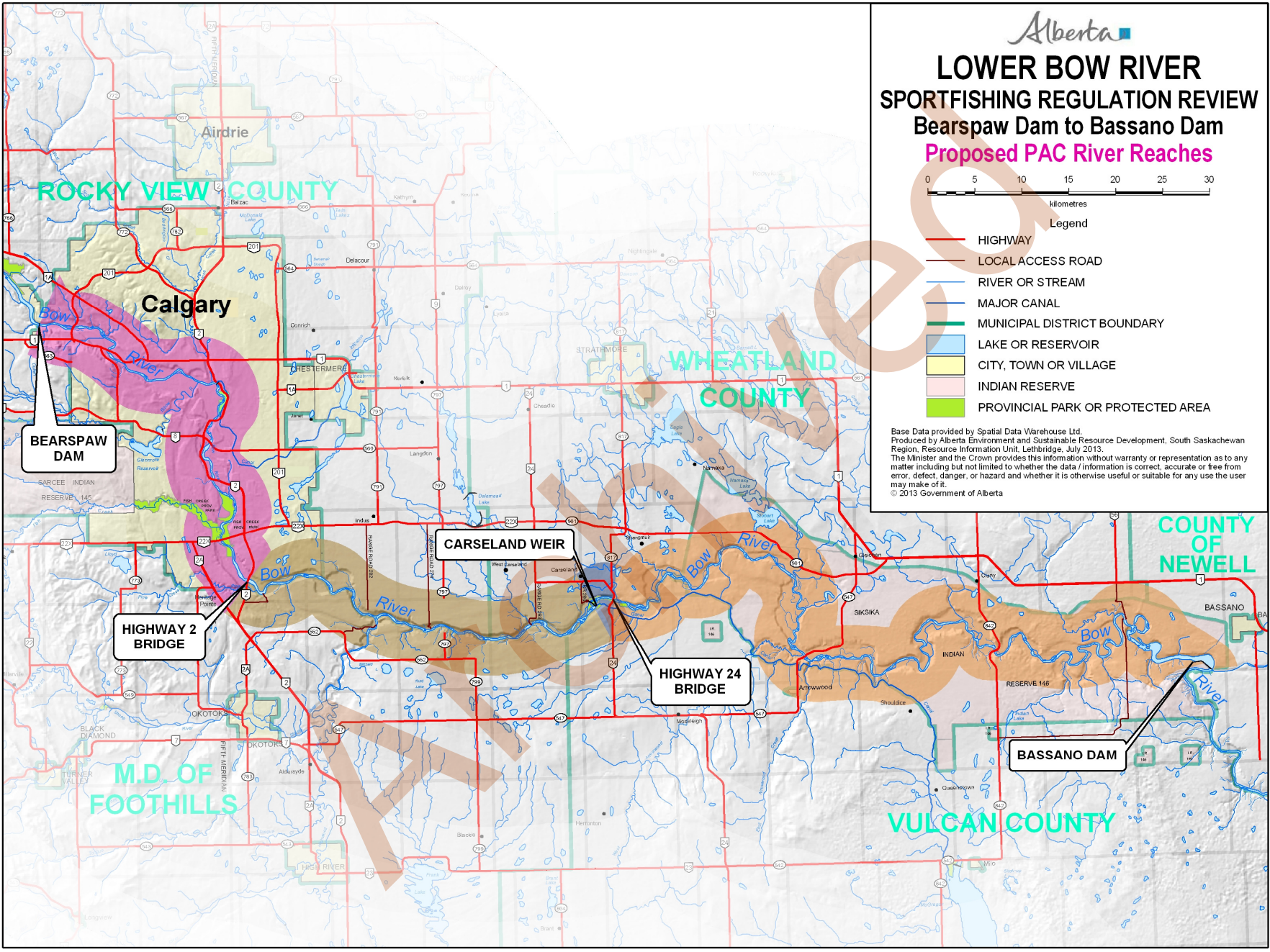
LOWER BOW RIVER SPORTFISHING REGULATION REVIEW Bears paw Dam to Bassano Dam River Reaches Under Current Regulations





- Legend
- HIGHWAY
 - LOCAL ACCESS ROAD
 - RIVER OR STREAM
 - MAJOR CANAL
 - MUNICIPAL DISTRICT BOUNDARY
 - LAKE OR RESERVOIR
 - CITY, TOWN OR VILLAGE
 - INDIAN RESERVE
 - PROVINCIAL PARK OR PROTECTED AREA

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








LOWER BOW RIVER
SPORTFISHING REGULATION REVIEW
Bearspaw Dam to Bassano Dam
Proposed PAC River Reaches


 0 5 10 15 20 25 30
 kilometres

Legend

-  HIGHWAY
-  LOCAL ACCESS ROAD
-  RIVER OR STREAM
-  MAJOR CANAL
-  MUNICIPAL DISTRICT BOUNDARY
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