

## Zoology Rank Review and Changes 2009/2010

### Amphibians:

We have adopted the new scientific and English names as now listed by a number of standard taxonomy sources for amphibians (Crother 2008, Collins and Taggart 2009, Frost 2009). There is ongoing discussion amongst the herpetologists as to the validity or necessity of these changes, but as most of the major references have adopted these, we are following suit. The frogs that were part of the Genus *Rana* and of the North American True Frogs are now *Lithobates*. The Western Toad is now *Anaxyrus boreas* (formerly *Bufo boreas*). The Tiger Salamander has changed from *Ambystoma tigrinum* to *A. mavortium*; and now has Blotched in front of its English name.

The ranks of the amphibians were not reviewed this year.

### Birds:

A portion of the birds were reviewed this year; and will be completed next year. The following are a few of the notable ones. Please see the spreadsheet for all of the changes.

Marbled Murrelet changed from S2B to S3B; this is a reflection of increased and better surveys over the past few years resulting in a much larger population than previously estimated. There still are many threats and concerns both on its breeding grounds and the water as well as some declining trends. The non-breeding rank went from S4N to S3N which reflects the concern around its prey supply.

Long-tailed Duck had always been a bit of a conundrum; there was one breeding record in the extreme northwest of BC from 1927 and then another record from the northwest in 1989. There is a lot of Long-tailed Duck habitat that is difficult to access and few surveyors in this area of the province; with so little to go on, it had been ranked as SUB-or "unknown". Since the last assessment more records have been found, thanks in part to the Breeding Bird Atlas, thus the breeding rank is now S2S3.

A number of birds that are found disparately along the coast or offshore and don't breed in the province had previously not been ranked and listed as SNA. Over the past few years we have been applying non-breeding ranks to these species using global trends, local threat sand what is known about the numbers seen in BC and the frequency of occurrence. Buller's, Pink-footed and Flesh-footed Shearwaters plus Black-footed and Laysan Albatross were given ranks this year.

### Fish:

This was the first detailed rank review of the freshwater fish in eight years. As a result, there have been many changes to the Conservation Status Ranks due to a re-evaluation of the threats and trends (if known). This was also the first time the rank calculator was used for ranking these species. In most cases these are small changes that ultimately better reflect the risk of extinction and make the results comparable to the other taxonomic groups. Please see the spreadsheet for all of the changes.

The most significant change is the extinction of the species pair; Enos Lake Benthic Stickleback and Enos Lake Limnetic Stickleback. These species have experienced a total collapse into a hybrid swarm with neither parental species remaining. The signal crayfish (*Pacifastacus leniusculus*) is implicated in the collapse. Their impact may be direct (e.g. predation) or indirect (e.g. increased turbidity).

Another change of interest is the Emerald Shiner went from S1 (red list) to an “unknown”. It is only known in B.C. from a single collection made in 1960. Additional sampling efforts in the area have not found more individuals, so it is unknown if this species is extant.

### **Mammals:**

A portion of the mammals were reviewed this year, including Sea Otter, the Soricomorphs (Shrews and Moles), and the majority of the ungulate species.

Once extirpated from the B.C. coast, the Sea Otter was re-introduced in 1969 and 1972; and has been increasing in numbers ever since. This is reflected by the rank changing from S2 (red) to S3 (blue) this year. Despite their fabulous recovery, they remain vulnerable to oil spills and their population is heavily concentrated in just two areas.

There were several minor adjustments made to the ranks of shrews and moles this year, largely due to changes in knowledge of threats and distribution. The Arctic Shrew (*Sorex arcticus*) changed to a slightly more at-risk status (from S4 to S4?). Though the change in rank is minor, the reason for the change is noteworthy, as this species' distribution is restricted to the Northeast portion of the province where the current increase in petroleum exploration and development is raising the threat level for many species.

The Olympic Shrew (*Sorex rohweri*) changed from S1 to S1S2. This species was only described in 2007 and at that time the only known BC occurrences were from Burns Bog in Delta. Since then a review of museum specimens turned up 18 specimens that were identified as this species, showing a distribution restricted to South of the Fraser River, and as far East as the Chilliwack valley (Nagorsen and Panter 2009). The species remains of very high conservation concern, as it has likely lost much habitat and appears to be rare within its restricted range.

Wood Bison changed from S1 to S2, as the population has been increasing, and although the potential threats of disease or genetic contamination from plains or domestic bison remains real, there are no other immediate threats to this species in BC.

Bighorn sheep changed from S2S3 to S3. While the threat of disease transmission from domestic stocks remains high, local populations which experienced die-offs in the early part of the decade have shown good signs of recovery. There is ongoing work to prevent contact between domestic livestock and wild bighorn sheep. The provincial population appears stable overall, with some localized increases and declines in different areas of the province.

The Northern Mountain Population of Caribou changed from S3S4 to S3. A more comprehensive threats assessment suggests that threats are high for this population, including an increasing threat from mining

and oil and gas development within the Southern Mountain National Ecological Area. Several herds are known to be declining as of 2008.

The common name for the southern population of Caribou was changed to “Southern Mountain Population” for consistency and clarity.

**Molluscs:**

The molluscs did not go through a formal review this year but there were a few interesting notes.

In 2008, a new species of fresh-water mussel, *Lampsilis siliquoidea*, Fatmucket, was discovered from the Petitot River in extreme northeastern B.C. A rank of SU was assigned, based on this single detection of 50 empty shells that were washed up on an island within the river. Live animals need to be detected before a rank can be established.

The Pygmy Slug, *Staala gwaii*, was recently discovered in 2002 and is an endemic species to B.C., found only in Haida Gwaii. There are 9 known occurrences on Graham and Moresby Islands, with habitat ranging from lowland, coniferous forest to subalpine tundra. Threats include logging at lower elevations, grazing of native vegetation by introduced deer throughout the islands (including alpine/subalpine) and encroachment of forest into subalpine habitat as a result of global warming. Currently, the severity of threats upon this species is unknown and a rank of S3? has been assigned.