Potential polygon scenarios

Answers the question: How much of the mountainous KBAs are covered by protected areas

**Key:**

Red: Country Border

Purple: Protected Areas (WDPA)

Black: KBA+GMBA intersected

Brown: Full KBA that was identified to have at least partially overlapped with GMBA

Two Pas within 1 country, KBA+GMBA overlaps one: KBA+GMBA fully covered

Two Pas within 1 country, KBA+GMBA overlaps both: KBA+GMBA fully covered

Intersected KBA+GMBA inside PA, but full KBA not: Intersected calculation (black) would say full coverage (to be interpreted as the mountainous part of this KBA is fully covered. Says nothing about the non-mountainous part). Non-intersected (brown) would calculate a partial coverage (x% of KBA that has been identified to have mountains is covered)

Two different KBAs intersect the same PA: each KBA is calculated separately and their % coverage by the PA is reported. The full vs partial KBA follows the same logic as above

Two different KBAs are in the same mountain range: each KBA gets their % coverage calculated (as above)

If curious about the mountain coverage, using the KBA+GMBA intersection we can just take the area of all the shapefiles and sum it up, and divide that by the mountain range area. We can’t do this when using full KBAs (instead with that we continue to just get a % coverage by KBA site that has been identified as a mountain)

One KBAs overlaps two mountain ranges: **In KBA+GMBA full intersection this does not happen** because the polygon is broken up into two separate ones (note that there is no black outline). However, when doing the full KBA, the indication would be that this mountainous KBA has full PA coverage.

If you care to do aggregations, by mountain range it acts as above (you get a % coverage of this mountainous KBA (in our case 100%). If you care to aggregate by anything *other* than mountain range (eg country or region), this needs to be handled to avoid double counting! The KBA/GMBA spatial join makes 2 rows (one per mountain range) for a single KBA (should be easy enough to identify. Any KBA with duplicate rows (minus the mountain range) should be removed before aggregating up to a country or regional level). Again this only matters for the full kba calculation

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KBA/GMBA crosses national border. **Does not happen (KBAs are national)** This means that we can aggregate the SitRecId to get national totals