

AERONAUTICAL CHARTING MEETING
Charting Group
Meeting – October 28 - 29, 2020

RECOMMENDATION DOCUMENT

FAA Control #20-02-346

Subject: Improved Clarity and Consistency of Part 93 Special Use Airspace on VFR Charts

Background/Discussion:

Special Air Traffic Rules/Airport Traffic Patterns (FAR Part 93) are shown VFR charts with a blue boundary showing diagonal hash marks and a white background (the removal of elevation coloring for land), per IAC Book 2, chapter 3.9.4.14.1, and shown in Book 2's Appendix 14. In busy areas with numerous chart elements, this airspace can be difficult to see. In addition, in populated areas where elevation coloring is replaced with yellow, there is inconsistency with how Part 93 areas are charted. Third, the VFR chart legend notes only the presence of the diagonal hash marks for Part 93 airspace, neglecting to mention that the area is colored white. The only time white coloration is described in the legend is when a sectional contains glaciers. If a Part 93 area is located near glaciers, the white coloration can cause confusion as to whether the area is white due to the airspace or because the Part 93 area contains a glacier. Finally, the hashes on the airspace border are defined as being at a 45 degree angle, which in practice is 45 degrees relative to north, not to the boundary line, which in all examples is drawn as horizontal or vertical, thus rendering the hashes in all examples as being 45 degrees relative to the boundary.

To illustrate the above points, special use airspace from four areas will be discussed. First, note the Part 93 area around Anchorage. On the sectional in particular, this area is cluttered with numerous symbols, resulting in the hash marks being difficult to see along much of the border. In addition, the presence of a populated area results in much of the white coloring being replaced by yellow. Of note (and more easily seen on the TAC), there are two unpopulated areas within the city (both forests) that show patches of white surrounded by yellow. These areas are next to Campbell Lake (near the SE border of the Part 93 airspace) and just S/SE of Merrill field (PAMR). Zooming out at the area around Anchorage, note that there are numerous large glaciers, all colored in white. The abundance of glaciers in this area could lead pilots to believe that the white areas near the city of Anchorage are in fact glaciers.

Next, consider the large special use area surrounding Washington, DC. The majority of this airspace is populated, but unlike Anchorage, the yellow coloring has been muted, making it much easier to identify the special airspace. This chart is much clearer than Anchorage.

Third, note the small area of Part 93 airspace surrounding Pearson Airport in Vancouver, WA, just NW of Portland International. This area is small, contains numerous chart symbols, and is entirely populated, resulting in the whole area being yellow. As a result, it is difficult to identify as special airspace.

Lastly, the Ketchikan sectional shows Part 93 airspace around Ketchikan International Airport. This airspace boundary is oriented at approximately 45 degrees relative to an east/west line,

and the result is that the hashes denoting the airspace are all perpendicular to the boundary, not 45 degrees to it. In both the chart Legend and the VFR Chart User's Guide, examples of these boundaries are only shown with the hashes at an angle relative to the boundary line. Other airspace with hashes, such as Prohibited areas, Alert areas, and MOAs have hashes defined relative to the boundary, so they are much more easily identified.

Recommendations:

The following recommendations are suggested to make Part 93/special use airspace more clearly identifiable and consistent across the country:

1. The yellow color signifying a populated area should be muted in all Part 93 areas, as is done in Washington, DC.
2. The Legend on VFR charts should illustrate the two possible background colors (populated or unpopulated) within a Part 93 area.
3. The hash marks should be defined as 45 degrees relative to the airspace boundary, not to north.
4. If another color is available, consider a color other than white to signify unpopulated Part 93 areas to prevent them from being confused with glaciers. Light grey may work well, as it is similar to the white currently used and is a color not currently used for airspace or elevation information. Light grey can be quite close to white while still differentiable from white.

I believe the first two recommendations should absolutely be implemented to ensure consistency across all VFR charts in all areas, and to ensure clarity and reduce confusion when looking at the legend. While the legend doesn't include all symbols (omitting those used sparingly), it does include all airspace and elevation coloring information, except for Part 93 areas (and, relevant to this discussion, the yellow color for populated areas is not shown in the legend). The third recommendation will make the boundaries of special use airspace consistent with other types of airspace marked by hashed boundaries.

I believe more confusion is caused by the issues addressed with the first two recommendations followed by the third, and while I think the fourth recommendation is beneficial, it may not be as high a priority as the first three. I do believe all should be implemented.

Summarized, IAC Book 2, chapter 3.9.4.14 should be updated with more specific rules to ensure consistency and clarity in all Part 93 areas, and the VFR chart legends should display these rules.

Comments:

For background, the circumstance leading me to discover this confusion was when I was reviewing the Anchorage sectional for something unrelated to the Part 93 airspace. I noted the significant amount of white near Elmendorf AFB and assumed the white area was related to a restriction of some kind tied to the military base. I could not explain the two white areas in the city, and I could not find an answer in the chart legend or the VFR Chart User Guide, which contains far for information about chart symbology than the legend. I asked an online aviation group for help. The ensuing discussion, which included many highly experienced CFIs and

airline pilots, brought about the points that I have made here, including pointing out that the two white areas in Anchorage were forests, which explained why they are not yellow, but did not explain why they are white. Additionally, the discussion brought forth the examples of the Washington, DC, airspace and the Vancouver/Portland and Ketchikan areas, showing how the charting is inconsistent across different areas of the country.

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MEETING 20-02

Jeremy Katz, private pilot, provided a [briefing](#) on the new recommendation. He explained that he has concerns regarding some of the colors and symbols that are used on FAA Visual Flight Rules (VFR) charts. First, he showed the Anchorage Sectional and Terminal Area Chart (TAC) and noted white areas shown within the yellow populated area, the meaning of which is unclear. He questioned whether or not white is intentionally used in the Special Air Traffic (Part 93) Areas. He pointed out that the Legend and the Chart Users' Guide do not indicate color or shading for these areas. He recommended that the yellow color that is used to identify populated places be muted in all Part 93 Areas. With regard to the symbol used for Special Air Traffic Areas, he noted the legends depict the hash marks at a 45° angle to the boundary line. He then showed examples from the charts where the hash marks are depicted at 90° to the boundary. He recommended that the FAA address the charting inconsistencies and consider adding more explanatory guidance to the Legends and Chart Users' Guide. A complete list of Jeremy's recommendations can be found in the Recommendation Document.

Katie Murphy, FAA/AJV-A214, said there are some items that she can take back to her office for consideration. She also said some of the inconsistencies can be explained. She said that in charting, they use hypsometric tint to show elevation and the tint is not shown in areas that show city tint so that may explain what appears to be inconsistencies. She also emphasized that the Special Flight Rules Areas (SFRA) around Washington DC is unique and the depiction was congressionally mandated to emphasize the extra security. She said she will investigate the inconsistent charting of the hash marks. She will also see if more explanation is needed in the Legends and the Chart Users' Guide. Valerie Watson, FAA/AJV-A250, agreed and said the some general explanatory text on the use of masking in the Chart Users' Guide could help alleviate some of the confusion.

Jeremy clarified that he was not recommending a change to the DC SFRA. He recommends using that as an example of the use of muted color to differentiate the Part 93 areas from the city tint.

STATUS: OPEN

ACTION: Katie Murphy, FAA/AJV-A214, will take the recommendations back to the Visual Charting Team for consideration and will report back at the next meeting.