File: 2023dec11_strongm_describes_dmu_naming_numbering_post2001_-draft-doc.docx (5 pages).
Date: (Hopefully the date is correct in filename; started years ago, then more work a couple days before this 2023 Dec.11, durable-draft, which might be final notes after QAQC; check file date/time stamp for exact date/time).
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Description: **A psudo after-action document** and outline of how DMUs are numbered post 2001 reorg of DMUs in WCO chapter 12 sections 12.0 – 2.499 , using methods/procedures/etc. notes by M.Strong (~ 2001).

The **2001 Spring DMU simplification effort "rules"** (which continue to this current date) for reorganized DMUs numbering and approaches, for the Wildlife Conservation Order (WCO) section numbering, handling irregular DMUs, splits or regrouping, and related items, follow, with an explanation of that work.

- A provided fact or **requirement(1):** All DMUs are 3-digit even if only 1 digit is valid; i.e. a DMU including most of Alcona county 1 or 01 is DMU001. Never is a DMU written as "DMU1" if is say DMU001 and WCO section 12.1.

- **A repeated DMU complaint situation developed over several months (years?)**, related to several long-term issues or ongoing problems (many created by previous specialists now gone from WLD) where now a new logical plan was required to solve the "over-several-years created" problems of:

    - ***Overly complicated unit boundary definitions that use small-scale features most people don't know where those things are located (i.e. one boundary used a powerline and underground pipe, and some others used a backwoods town-range block section-quarter-quarter line edge which is only found on detailed maps, etc.); these caused many unenforceable situations too:*** Several complaints were re-occurring which also related to repeated NRC and other higher-ups (also getting comments from the public) that the existing boundaries were so generally complicated, and didn't follow major boundary features (repeatedly the point was made that the boundary features should be major enough that they are found on the State MDOT highway map which is available for free to public, from MDOT Welcome centers, DNR offices, etc. – so is a common information resource.
      Resulting requirements (2,3): (i.) This easily-found-feature fact became a major new check on unit boundary definitions unless there was an over-riding need like disease controls, etc.;
      (ii.) Text definitions were also to use, if a detailed boundary not along major county or major highways as a boundary, a general "reader friendly" location with say a town-range-location (and not just the town-range-location) like so-many-miles due east of town zzz, etc.

    - ***Units jump all over the State and follow no logical pattern or make sense to anyone:*** to avoid the massive numbering chaos we had pre-2001, where a new DMU was just the next unused sub-section of WCO within the allotted deer sections of 12.0 to 12.499, and the DMU got the same number as that subsection – made a 3 digit number of course. This meant that mapped DMUs were "jumping" all over the state with no organized relationship to help understand why a DMU numbered as it was, nor if it related to an adjacent DMU, etc. Complaints reached a point of being before the Director, NRC, and included NRC Commissioners, Mich. Legislature members, the public, staff, etc., and were joined with the complaints on complicated boundary text definitions.
    - ***Units did not lead easily to WCO Sections:*** Adding to the chaos or extra complications was that there wasn't always a direct easy to easy-to-understand relationship between the final defined WCO section number and the defined unit within that section text. Meaning often the DMU number could not always be used to easily and obviously anticipate the WCO section number (compared to the approved plan), and this also could add to confusion when combined with units were added to WCO sections in largely order units needed were added to the end and sometimes

previous sections were reused for newer units. There was no logical approach for internally organizing the sections and units combined.
Resulted in requirements(4,5): (i.) come up with a more organized approach that makes sense at least internally. (ii.) The workgroup was also directed to try to come up with a method that also maintained a relationship easily seen between the WCO section number and unit number.

- Unit size relevancy questioned: When asked to justify why some units were so small, yet statistics and trends information or population data were on by-county levels, there was a discussion of the scale of units and the overall situation was time for changes to "scale of management matches the scale of data" goal for WLD. In the past, there were some believed trends to react to public complaints and even NRC Commissioner complaints on quotas being too small, to split a unit and be able to set a smaller unit higher and leave the other piece low, etc. = as reasons why there were so many very small units, some the size of a political township or cluster of political townships, corner of a county, etc. WLD leadership, predominantly expressed repeatedly by WLD-Chief Becky Humphries, Deer Research Spec (and general overall scientific stds-and-practices advocate too) Bill Moritz for "scale of mgmt. at scale of data" improvements was **a requirement (6)** during work.

- **Internally in WLD, a solution was being developed:** At that time w/ WLD-Chief Becky Humphries gathered and made a 3-person ad-hoc priority workgroup of: the Deer Research Spec Bill Moritz, the Deer Mgmt Spec John Urbain, and WLD Map & Geotech Spec Marshall Strong. The group was to investigate, brainstorm, and come up with ideas to resolve or at least improve units (*specifically DMUs, but the new approach for DMUs should be used overall for all units, which was the final decision too*).
  - **There were multiple in-WLD iterative loops for preparations and new WCO text creation**, meetings, etc. on resolving the chaos. The workgroup tried several ideas, and the final supported idea was the M. Strong "seed" proposal of using the Michigan county number (01 to 83 based on the alphabetical order of the county names, which at that time was used internally for surveys, was on Michigan license plates and tax docs, etc. (so said large landowner Bill Moritz). M. Strong had to do mock-ups and the workgroup had to bring the proposal twice before Chief Humpries, check with LED and Dennis Knapp (at that time the quality controller of WCO) and DNR legal consult, revise if needed, then before Director K. Cool and then before NRC (within a certain couple of months, before new DMus needed for fall 2001 hunting into 2002 winter, and regulations, etc.).
  - **All previous pre-2001 defined DMUs in WCO sections 12.000 to 12.499** (the WCO block of sections reserved for deer management units, within Chapter 12 of WCO) were to be reviewed and we/WLD was moving to the "scale of management matches the scale of data" a repeated management mindset and approach that Bill Moritz and the Chief were striving to take WLD to that new scientifically supported situation. Also at that time, the charge was the workgroup was to review all WCO deer sections, and a huge amount of WCO official and legal text blocks were made sure to follow appropriate standards and practices, issues fixed, etc. if a given area was determined to continue forward. There were almost no DMUs following easily recognized boundaries of county lines, and the most complicated boundaries were for DMUs in the upper peninsula or for lower peninsula DMUs smaller than a county line and sometimes spanning over county lines. … these were two more requirements(7,8) for the workgroup.
  - Interests in boundary edges at county lines resulted in M.Strong having to create spatial analysis for where roads occurred on county lines and identified those where county lines didn't occur with a county road too.

- **The decision was to NOT do WCO section numbering as matching 3-digit numbers**, like section 12.001 for DMU001, etc. (this was a point DNR Law Enforcement and Dennis Knapp stressed, related to legal formats and standards, plus to not add more confusion, etc.)…. which was a limiter.

- **A prototype proposed summary of a WLD solution** with a few examples was created (as slides), and after being liked/approved by the WLD Chief, a few in LED and Dennis Knapp, then the proposal was floated as a summary presentation before the upper mgmt. incl. Deputy Director George Bergoune (?spelling?), etc. After questions were answered and overall expressed support from others in DNR, a revised proposal was presented to the DNR Director and then the NRC. After the WLD approach was supported, the workgroup moved forward on the revisions.

- **Added requirement(9) was to keep any mission/mgmt. critical DMUs as were numbered, for less confusion for the public, and ensure mgmt. needs and goals could be met.** The consistently supported DMU in this category was DMU452, used for TB disease mgmt., sampling, and reporting – which was a unit spanning the 4-corners portions of 4 counties of Alcona, Alpena, Montmorency, and Oscoda. That DMU452 did not follow the new rules, as was nowhere near county 52 Marquette county, but internal WLD needs, executive considerations, and upwards to Director and NRC supported that DMU452 continues and as it was "so much higher a number above other DMUs" at the time, it should stand out as unique and, hopefully, not complicate the new approach.

- **The new post-2001 DMU approach** uses the 2-digit county number and the proportion of the said county that is the majority of the specific DMU, to know where and how to name the specific DMU. For the DMU number, the two right-most digits of the 3-digit DMU number are the predominant or larger piece of whatever Michigan county is in that DMU;
  - Example: county 32 Huron County would be defined in WCO section 12.32 and be DMU032.

  There are or were planned conditional options, all based on the county number and proportion of more than one county piece in a unit area then use the majority/larger area piece:
  - **If multiple DMUs use major pieces of the same county**
    then it's the 100's digit that changes, so, for example, say a unit over county 84 (which does not exist) can result in DMU084, DMU184, DMU284, etc.

  - **The goal or strategy is to use WCO sections 12.1 to 12.83 for units related to counties 1-83**, and those WCO sections above 12.83 be used for special units, either special management needed subunits or regional units, etc.
    - Variations of a by-county DMU in a WCO section (meaning those in sections 12.1 to 12.83) would use a subsection letter approach, meaning (back to the example above) DMU084 in sec 12.84, then DMU184 in sec 12.84a and DMU284 in sec 12.84b, etc.
    - The first unit can be defined as *WCO section 12.84 or DMU084.*
    - Next, conceptually, the situation can occur where that unit needs to be split for mgmt. needs or new regulations that don't work with the current units, so one of 2 things happens:
      - **If need to keep the original DMU**,
        then *WCO sect 12.84 stays for DMU084*, without any edits (this has developed or now is why we've currently some by-county DMUs and 3-county DMUs existing at the same time, used as needed in mgmt.; if no quota and not open in the annual planning for drawings, licenses, and hunting quotas, then the DMU can still exist in WCO and is just waiting for later use) *(however at that time, DMU002 Alger county, wasn't needed and that area was grouped with a larger multi-county unit spanning the northern edge of the UP, so every "county sized unit" wasn't created as a default nor kept with changes early in the new process).*

- **If don't need to keep the original un-changed DMU**,
  then as example that *WCO section 12.84 can be used for the new smaller DMU084* but it s the larger piece of county 84 of any other units (which has been done)
  -or- if the decision is that it may be confusing for the public, then the new smaller portion could be WCO section 12.84a for DMU 184 (which has been a method done several times; see how the 100s digit increments up with variations in #84/DMU084).
- The largest piece stays defined in WCO section 12.84 and is DMU 084 ... unless the decision is to leave DMU084 the full unedited unit like before.
- Subsequent variations where the biggest piece of the unit is part of county 84, could just use the section sub-numbering (or really lettering) approach and cause the creation of WCO section 12.84a, or 12.84b, or 12.84c as needed.

- **This approach has several logical benefits, and would keep similar geographically placed units grouped together in the WCO sections**, besides the WCO official text definition citing a related section number specifically within the section (or at the end, as in "… except that portion defined in WCO section 12.84c." or similar).

- However, an approach exception developed when the 3-county sized DMUs were needed in 2013, a different approach was used which used the county number of the largest piece in the unit, and a preceding "3" digit (so resulted, for example, in DMU311 for 3 county unit of a combination of Berrien, Van Buren, and Cass counties (in order of size) … or, another example, DMU332 for the 3 county unit of a combination of Huron, Tuscola, and Sanilac counties. Alt6hough different (maybe skipping the DMU# 2## series), the leading 3 helped clearly show was 3-county DMU.

- **Examples of the large our special-needed units in sections above 12.83 include**:
  - (Of course) **WCO sec 12.452 = DMU452** for TB disease needs (then CWD occurred).
  - In 2001 June, every section 12.84 to 12.499 (not every number used) were repealed, -except- needed **WCO 12.452 for DMU452 the special need larger unit**., which was expected, planned for and appropriate within the created, reviewed and approved, established and previously developed + applied logic, rules or guidelines for DMUs or WCO units.
    - The plan is all units above WCO sec 12.83 are special and larger units, but still if possible follow the same rules/guidelines.
    - Later (circa 2009) the space for these special larger units was put into practice and in following years the sections above 12.83 have been used for regional units better described as notable portions of peninsulas (UP or LP) and/or for special needs like unique license needs, urban deer mgmt., or disease related units.
  - In 2009 May, the first unit above 12.83 was created, followed later by others:
    - All these units followed the established and previously developed + applied logic, rules or guidelines, such as:
      - the unit number right-2-digits were above 83, plus
      - the WCO section number matching the unit number, and
      - the section was above WCO 12.83:
    - (2009May) **WCO sec 12.487, DMU487, a regional DMU** of many counties or DMUs, for managing public vs pvt licenses and giving public/hunters flexibility.

- (2011June) **WCO sec 12.486, DMU486, a regional DMU** of many counties or DMUs, for managing public vs pvt licenses and giving public/hunters flexibility.
- (2017June) **WCO sec 12.487, DMU486, a regional DMU** of many counties or DMUs, for managing public vs pvt licenses and giving public/hunters flexibility.
- (2017June) **WCO sec 12.499, DMU486 or "urban deer management zone", a regional DMU** of 4 counties in far LP SW or DMUs, for managing urban deer.
- (2018Aug) **WCO sec 12.498, DMU498 or "core CWD area", a regional DMU** of parts of many counties or DMUs, for CWD mgmt. needs.
- (2017June) **WCO sec 12.487, DMU486, a regional DMU** of many counties or DMUs, for managing public vs pvt licenses and giving public/hunters flexibility.

New developments, since 2020-2021+ Covid pandemic changed WLD office work and other rel. aspects:

As a remaining member of that 2001 workgroup, I am concerned that this variation occurring in 2021 (below) are the start of departure from the well thought, well-reviewed and hard-worked results to improve and keep WCO and units better than previous chaos. I explain:

- A recent exception has occurred which actually breaks the previously set rules or guidelines of DMUs and WCO sections, which are the two DMUs of:
  - (2021Feb) **WCO sec 12.483, DMU351, a regional DMU** of many counties or DMUs, for managing public vs pvt licenses and giving public/hunters flexibility.
  - (2021Feb) **WCO sec 12.484, DMU352, a regional DMU** of many counties or DMUs, for managing public vs pvt licenses and giving public/hunters flexibility.

  A big problem is these do not have the DMU number in the section, and also the 2 right-most digits have no relationship to the easy finding the unit in WCO.

2023dec11: Note: it's too late, but during the time I wasn't included in the "regs early prep loop" during pandemic, etc. like I was before pandemic and should be included now, the newer units for multi-county/dmu-size in UP (DMU351 and DMU352) really do not follow the DMU numbering "rules" or standards-and-practices we've been using since 2001 June simplification of state-wide DMUs. I wonder if these "guidelines" or "rules" are really written down or in a file saved on the system, for documenting the approach and for use for later DMUs.

-Marshall Strong DNR-WLD, and using contributing notes from/including those named above in this file, particularly from: the Deer Research Spec Bill Moritz, the Deer Mgmt Spec John Urbain, and WLD-Chief Becky Humphries.

(end-of-DMU + WCO developed rules or guidelines notes, to date; by M.Strong, for WLD long-term docs … updated 2023dec11, draft document version.)

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