

FIA National Newsletter

April 2021

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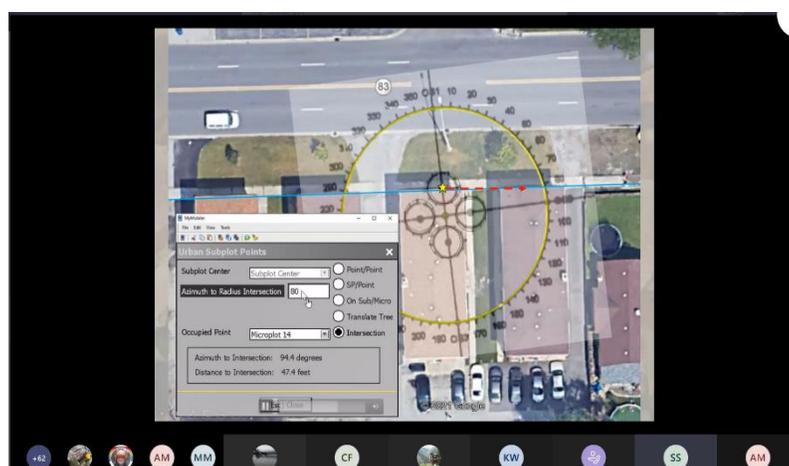
National Urban FIA Virtual Certification by Sjana Schanning

At the end of March, the Urban Portfolio hosted the first virtual National Urban FIA certification session. With strong attendance from all four FIA units, a mix of over 70 Federal field staff, contractors, cooperators, Quality Assurance staff and Contracting Officer Representatives joined together to refresh and expand their understanding of Urban FIA protocols.

Participants saw real life examples using aerial photos, data recorder screen sharing, focused review slides and even took a stroll together down a city street via Google Street view to assess tree crown variables and diameter measurement locations. Although in-person field practice is a critical piece of learning, the virtual session allowed for broad participation and provided tools so that everyone involved in Urban FIA could have the same understanding of the detailed data collection procedures. It was a great opportunity for participants to learn from the collective experiences of their peers from around the country.

The materials developed for this session will continue to serve as key pieces in the certification process and will increase efficiency by helping to balance distance learning with in-person field practice.

Thank you to all participants for your involvement and engagement in what will hopefully be only the first of many National sessions to come. If you have any additional ideas for certification improvements or future collaborations, please contact Urban Portfolio lead, Mark Majewsky at mark.majewsky@usda.gov



TEAMS Screenshot of Urban FIA Virtual Training

All-FIA TEAMS Team: FIA Resource Center

Currently there are a number of platforms for communicating and sharing information across FIA and outside of FIA (e.g., Pinyon, national website, email and SharePoint).

Even with the capabilities of existing platforms, there is still a need for a communication platform that can provide information to those that want to access, a receptacle to share additional information (e.g., links) as well as provide two-way/multi-way communication (e.g., program-wide meetings). Microsoft TEAMS seems to provide this capability.

The PM's tasked the National Operations Team with creating an all-FIA TEAMS team: introducing the **FIA Resource Center**.

The FIA Resource Center has many channels providing resources and information pertaining to the FIA program. All FIA employees will be able to access the FIA Resource Center. An invite to the team, as well as informational video, will be sent mid-May.

We hope the FIA Resource Center will be successful in being a central communication hub for FIA staff. For questions related to the FIA Resource Center please contact Summer Dunn or Mary Miller.

Update on Program-Wide Issues: ICE & 250-Acre Rule

As highlighted in last month's newsletter, FIA is incorporating a new change-management process to help ensure that efficient, effective and successful changes are implemented. As noted in the previous newsletter, part of the phased process is that any program-wide issue must be daylighted and presented to the PM's. To date, a number of issues have been presented to the PM's. In this newsletter, the PM's have provided a status update on two of the current national issues; ICE and the 250-acre rule.

ICE-update from Michael Wilson

FIA staff have a reputation of coming up with new and entertaining acronyms, and occasionally one opens the door to a lot of opportunities for wit and humor: Image-based Change Estimation



(ICE) definitely falls into this category. That's really cool. But what IS up with ICE?

As many of you are aware, FIA's ICE pilot was an approach at estimating land use and land cover over 2- to 3-year increments. The work is conducted by photo interpreters examining a time series of aerial photos to identify visible changes at a more frequent time frame than FIA's standard 7- to 10-year inventory cycles. FIA has been studying ICE for well over a decade, and notably some of the base estimation concepts of ICE originated in a pilot for the driest FIA State: Nevada (seriously?). Then in 2014, language of the Farm Bill "Understand and report on changes in land cover and use" propelled the work on ICE as a collaborative national pilot effort between FIA and the Geospatial Technology and Applications Center (GTAC).

FIA has continued to study ICE, both in terms of improving the work on the pilot and looking at other questions and alternatives, such as whether an ICE CUBED (integrating field calls with Landsat imagery) might perform better than just plain ICE.



I'm sure someone will soon point out that sphere ice balls are even more effective than even cubes...

In May 2017 GTAC/FIA staff provided an example of an ICE report at an FIA Management Team during a freezing (of course) field trip in Utah. There is a theme here.

This past January, members of the TRB presented an Issue paper to the PMs essentially asking "What's happening to the ICE?"

(<https://usfs.app.box.com/file/760388519655?s=2ovesrt0yh32mu24hkcbdd2sgin626k6>).

The ICE pilot had been implemented across many of the Northeast States, and resulted in production-ready data collection, quality control, and estimation procedures along with automated reporting. But the reception was rather cold across the rest of the FIA units, primarily due to the labor-intensive nature of the effort and evidence that it didn't provide as much detail as we'd hoped (See Georgia pilot findings below).

But if the intent is to meet the direction of the 2014 Farm Bill through a national approach, and ICE seems to be only part of the solution, what do we do?

In February, FIA staff who work in the Land Use/Land Cover science arena, along with other individuals from across FIA bands (TRB, Analysis, IM, and DC), and staff from GTAC met to discuss some options for an ICE path forward. The primary LU/LC questions discussed included: What are we really trying to estimate? Length of time, how frequently, significance level, etc. FIA staff brought the group up to speed on the results from the Georgia pilot (<https://www.fs.usda.gov/treesearch/pubs/61144>). There was discussion around how well different sources of information (the base FIA sample, ICE, TimeSync) agree and the magnitude of changes over time. From the Georgia pilot manuscript:

- In order to decipher these land use and land cover trends in North Central Georgia, we not only needed a sufficient sample size (i.e. the complete set of FIA plots instead of a single panel), but also a wide enough time interval (5-year instead of annual), and class simplicity (4 classes instead of many).*
- Improving FIA panel data alone with 2-phase estimators (using ICE or TimeSync in phase 1) will reduce variance in estimates, but will not smooth the inter-panel variability enough to make estimates through time meaningful...In fact, FIA plot information can and should be used as an additional source of observational information when collecting ICE and TimeSync on the FIA grid.*
- ...the stage is set for FIA to embrace a harmonized land use and land cover change system. While data collected through TimeSync alone revealed the temporal patterns and transitions between collapsed classes, bringing all the evidence to bear (from the ground, air photos and Landsat) to*

reconstruct the history on all its plots will result in a more comprehensive assessment of land use and land cover change.

There is general consensus that with the approaches we have now we're not going to be able to get decent precision on annual change estimates, even where change occurs at 2% per year. And though the information collected from the ICE pilot has value, it is not going to be the full solution (maybe like a cold glass of ICE needs something more). We have learned that we can implement ICE, and we can further develop it into a project for specific areas; but to implement nation-wide, it would be a large investment and does not provide adequate detail on change. The estimated cost of doing ICE as is, extrapolated from numbers provided by NRS, falls around \$1.5 million for national data collection, analysis and reporting.

The team suggested, and has decided, to investigate other approaches at integrating existing FIA and possibly ICE data with other ancillary data – LCMS, LANDSAT cover change (both use and cover), and other remote sensing sources to increase detection, precision, and measures of change potentially at finer scales and more frequently (e.g., annually). The team is drafting a briefing paper on these further investigations that will be specific around the benefits and costs. Existing ICE state reports have been compiled from GTAC's archive and are being centralized for feedback in an LULC Portfolio. With new 2021 funding, GTAC is also developing a dashboard to show land use and cover changes estimated with FIA's standard variables, and is also experimenting with changes to the ICE tool to better support integration of prefield and ICE calls.

Although we've continued to support development of the ICE tools and training, further implementation of ICE as a national product is cooling pending further investigations. However, that doesn't mean the ICE has melted. For example, the ICE pilot is already being expanded in one National Forest (in the hot Southwest of R3 of course) to gather more information on forest change dating back to the 1950's.

Here's ICE:

I think it's nICE

Now let's get a sIICE.

-Andy Lister, Research Forester, FIA poet.



250-Acre Rule: What is it?

In summary, the 250-acre rule is related to plot confidentiality. For those clients/users requesting specific plot information (requests going through the Spatial Data Services team) for an area of interest, the 250-acre rule is utilized. The 250-acre rule is based on the following: a 1 mile buffer of the fuzzed location, a county layer and the user's layer of interest. If the resulting combination of those 3 results in a sliver polygon is less than 250 acres, the intersection result is not returned.

The NFS is essentially asking for an exception to this rule. More specifically, NFS is requesting permissions to turn off the 250-acre rule in SIT (Spatial Intersection Tool in DATIM). SDS is concerned that sharing any output that results from using data generated with the 250-acre rule turned off, will result in potential plot confidentiality issues.

An update on the 250-acre rule from Mila Alvarez below:

On February 24, FIA members (Michael Wilson, Donavon Nigg, Jim Westfall, Bill Burkman, Mila Alvarez, Hobie Perry, Tom Thompson, and Liz Burrill) met with NFS representatives (Renate Bush, Carlos Ramirez, Larry Laing, and Emrys Treasure) to discuss NFS request to have permission to turn off the 250-acre rule in the Spatial Intersection Tool (SIT) in the DATIM toolkit.

Tom Thomson conducted a brief presentation of the three potential solutions to their request, building from the issue paper previously authored by Tom Thompson and the SDS team. Tom presented to NFS members the courses of action included under each solution, and recommended Option B as preferred. This solution would allow the NFS SIT specialists the ability to run off the 250-acre rule by requiring them to sign a Letter of Intent that will remind of the legal obligation federal employees have to protect any FIA confidential data shared, such as FIA plot location. This option reaches a balance between the roles and legal responsibilities of each party.

The discussion led to posterior discussions about the need for updating the current FIA/NFS service wide agreement during the annual NFS-FIA coordinators meeting held on March 25 and April 6.

FIA is still waiting to hear about NFS decision on the preferred course of action.

More information and updates pertaining to these, and other program-wide issues, will be provided in future newsletters.

Corrections, Link to Portfolios, FIA-Related Social Media & FIA Treearch

In last month's issue, FIA staff that are part of the Women in Forest Carbon Initiative were identified. Five staff members were identified but there are actually six FIA staff members involved in the initiative: Kristen Pelz (RMRS), Sara Goeking (RMRS), Summer Dunn (RMRS), Ashley Lehmen (PNW), Kerry Dooley (SRS) and *Ixia Aviles-Vazquez (RMRS)*

To keep a consistent location where portfolios can be accessed as well as the latest FIA related social media activity, portfolio links and links to social media are included in the newsletter. Additionally, all FIA-related

publications can be located at the link below using a tool that searches R&D's *Treearch* database. Follow the links below for the latest information on portfolios and social media activity. And a reminder, any social media post related to FIA, please ensure to use the following handle: #USDA_FIA

Carbon: <https://usfs.box.com/s/g5awv86ym9c1lf1ijjpx049xk4ou4ejo>

Biomass: <https://usfs.box.com/s/jhet52fknd2adzd7xvg2hxsjarxxuww>

Digital Engagement: <https://usfs.box.com/s/7n54qiqpbn5fqimfuuuqvyysvcx1n86z>

Land Use/Land Cover: <https://usfs.box.com/s/avnvyr0b7j4jkph7qbtppxxt5vppipqy>

National Landowner Survey: <https://usfs.box.com/s/qlblr2ocia7x9ny35mmwdkeq0blk37v6>

Small Area Estimation: <https://usfs.box.com/s/6oz691r8h7eeiavgjiwx1p0dsbkms2dh>

Timber Products Output: <https://usfs.box.com/s/gqf2127er38d7djrsypwqwfq6khabvps>

Urban FIA: <https://usfs.box.com/s/7iobdmd7vbkel0frp3ukjui75rv97mu>

Community Engagement: <https://usfs.box.com/s/gina22bcum9wtyzicnl4efbp1xumwttb>

FIA in Social Media: https://twitter.com/search?q=USDA_FIA&src=typd

FIA Publications in Treearch:

The tool to search FIA-specific publications within *Treearch* can be accessed at the following link:

<https://www.nrs.fs.fed.us/internal/treearch/>

To search FIA-specific publications using this tool:

- 1) Click on drop-down and choose "All Forest Inventory & Analysis Units"
- 2) Choose date range
- 3) Click Submit

For more information on the Community Engagement Newsletter, please contact:



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