2023

Forest Information Checker User Guide

Ministry of Natural Resources and Forestry

FI Checker Version: 2023_01

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Background

The Forest Information Checker (FI Checker) is a business application designed and developed by the Ontario Ministry of Natural Resources and Forestry (MNRF) for the purpose of checking Forest Information Portal data submissions. This tool is intended as an interim solution to bridge the gap between the loss of check functionality for the initial version of the FI portal due to data structure changes precipitated by the move from FRI-derived background data to EFRI-derived background data, and the transfer of responsibility for the FI Portal from Policy Division (PD) to Regional Operations Division (ROD).

The primary purpose of the tool is to automate validation of FI Portal submissions to ensure that their format and contents meet the standards set out by the Forest Information Manual Technical Specifications (2009, 2018, 2020).

This tool is directly supported within MNRF by the 3 Regional Operations Division Resource Information and Analysis Units (RIAUs), but is also provided to forest industry partners for their own internal use without direct support.

Prerequisites

- ArcGIS 10.1 or higher OR ArcGIS Pro 2.9 or higher
- The FI Checker tool was designed for users at a novice to familiar level of use in ArcMap or ArcGIS Pro
- The checker program can check feature classes, shapefiles and coverages (not e00 files).
- If your file format is shapefile (or coverage), save all the shapefiles (or coverages) in a single folder and the tool will check through all the files in that folder.
- If your file format is a feature class, save all the feature classes in a single file geodatabase and the tool will check through all the feature classes in that file geodatabase.
- The submission files should follow the correct naming convention for the tool to recognize it. Refer to the FIM tech specs (Forest Information Manual – Technical Specifications) for submission naming conventions. Correct naming conventions must be used but the tool allows users to add a suffix.

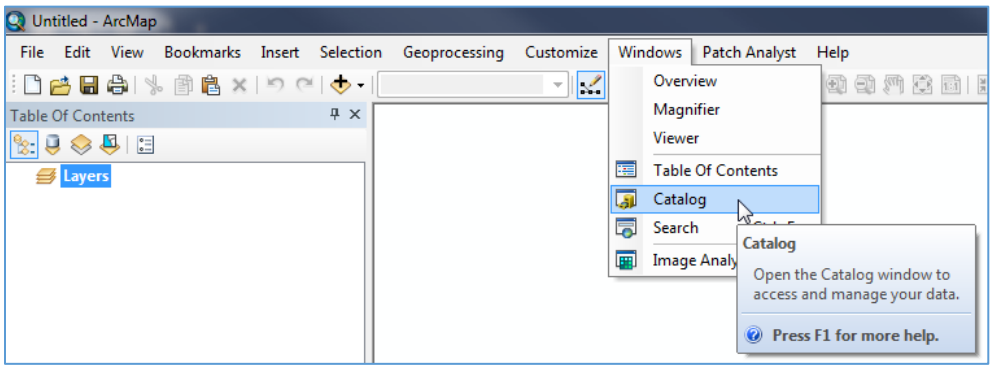
- This is the conventional name:
  ✓**MU175_19PCI00**
- Lower cases are accepted and recognized:
  ✓**mu175_19pci00.shp**
- Mix of upper and lower cases are recognized:
  ✓**Mu175_19Pci00**
- AOCs have its own rule, so the following is also accepted and recognized:
  ✓**MU17519AOC001.shp**
- Suffixes are recognized by the tool
  ✓**MU175_19PCI00_2017JUL6**
- The tool will not recognize the following feature classes/shp/coverages as part of the submission:
  ✗**2017JUL6_MU175_19PCI00** ***prefixes are not accepted**
  ✗**MU_175_19PCI00.shp** ***extra underscore**
  ✗**175_19PCI00**
  ✗**PlanningCompsiteInventory .shp**
- The tool will also recognize the layer even if the FMU code or if the file's submission year is inconsistent with the submission year user entered into the tool.
  ⚠**MU175_17PCI00** ***wrong submission year – in this case, the tool will check this submission anyway but the report will tell the user that the submission year is wrong.**

FI Checker Operation on ArcMap 10.x

1. Download the FI Checker tool from NRIP. Extract files from the zipped folder and save it somewhere on your C drive.

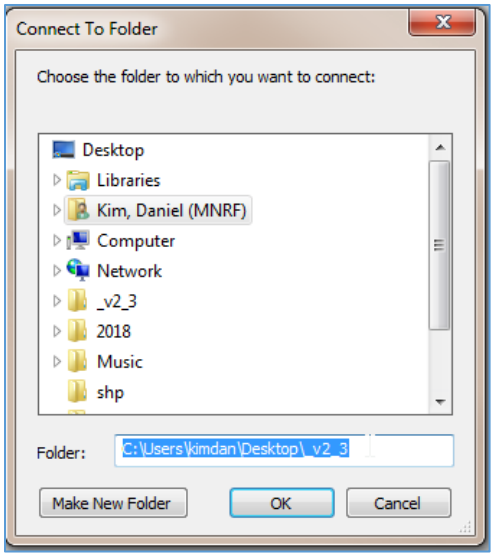
2. Open ArcMap.

3. Open ArcCatalog 



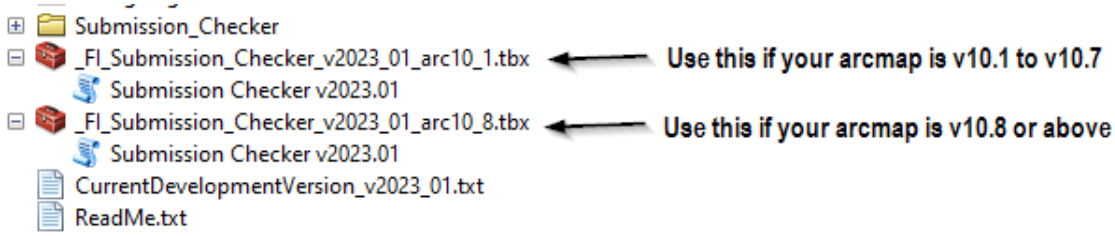
3. In ArcCatalog window in ArcMap. Click **Connect To Folder**  .

4. On your Connect to Folder Window's Folder box, type in where you unzipped the downloaded tool.



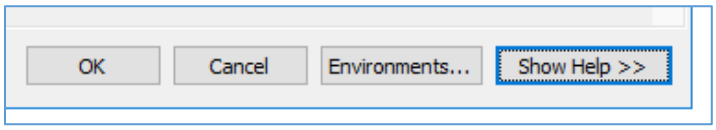
Click OK.

5. On your ArcCatalog window, locate the **_FI_Submission_Checker_v2023_01.tbx** toolbox and double click to expend it. Note that if you are using ArcMap 10.7 or below, you should use the toolbox with the suffix "_arc10_1".



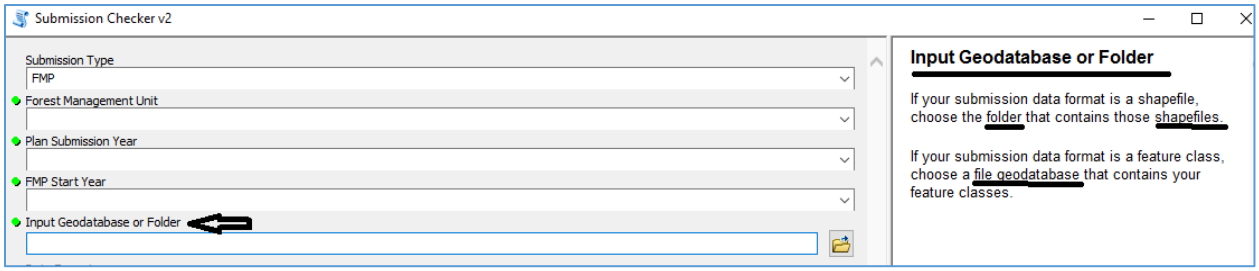
6. Double click the **Submission Checker v2023_01** to open the tool.

7. Make sure to turn on the help section by clicking the **Show Help >>** button on the bottom right.



Just like any other tool in arcmap, the help section is designed to guide the users through each parameter of the tool. Simply click on the input parameter box to view the associated help in the "Show Help" pane on the right.

8. Fill out all the parameters. Please read the associated help dialog for assistance and ease of use. For example, on the "Input Geodatabase or Folder" parameter, the help section indicates that if the input is a shapefile, use the folder icon and navigate to the *Folder* that contains the shapefiles. For the file geodatabase, navigate to the *Geodatabase* containing the feature classes that you want to check, not the actual feature class.



9. Click OK button on the bottom of the tool to run it.

10. If you are having any issues, or if the tool crashes, please first read the error messages or double check your parameters. If you can't resolve the issue, please copy the texts in "View Details" and send them to daniel.kim2@ontario.ca.

A quick note about run time: PCI, BMI and OPI (record count ~300,000) will take 20-30mins each to run. All other layers should take less than a minute to run. If you are planning to run just a single layer such as OPI, you can save time by creating a new geodatabase and have the OPI the only feature class in that geodatabase (and run the tool on that geodatabase). Tool running time can be greatly increased if your spatial data is not in your local drive (i.e. on a network shared drive). The location of the tool itself won't affect the running time.

10. The output report will be automatically saved on the **parent folder of your Input Geodatabase or the Input Folder** in the case of shapefile and coverages**.**

11. When the tool is successfully run, it will automatically open the Report using your computer's default internet browser.

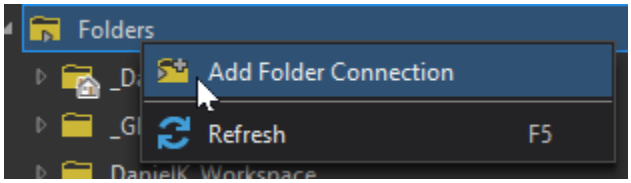
At the end of the tool run, the report will automatically pop open on your computer's default browser. It can also be opened from the folder where your input inventory resides. Examine the report information as described in the FI Checker Output section described below, and make any necessary edits to your submission files in your GIS software.

FI Checker Operation on ArcGIS Pro

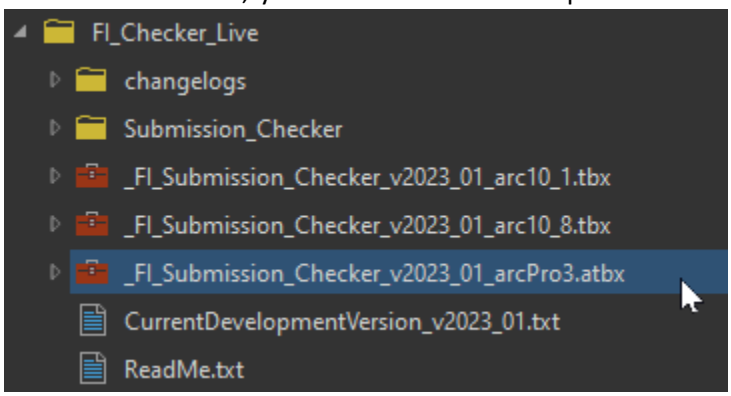
The process overall for ArcGIS Pro is very similar to that of ArcMap.

1. Download the FI Checker tool from NRIP. Extract files from the zipped folder and save it somewhere on your C drive.
2. Open ArcGIS Pro. Start a new project or you can open any existing project.

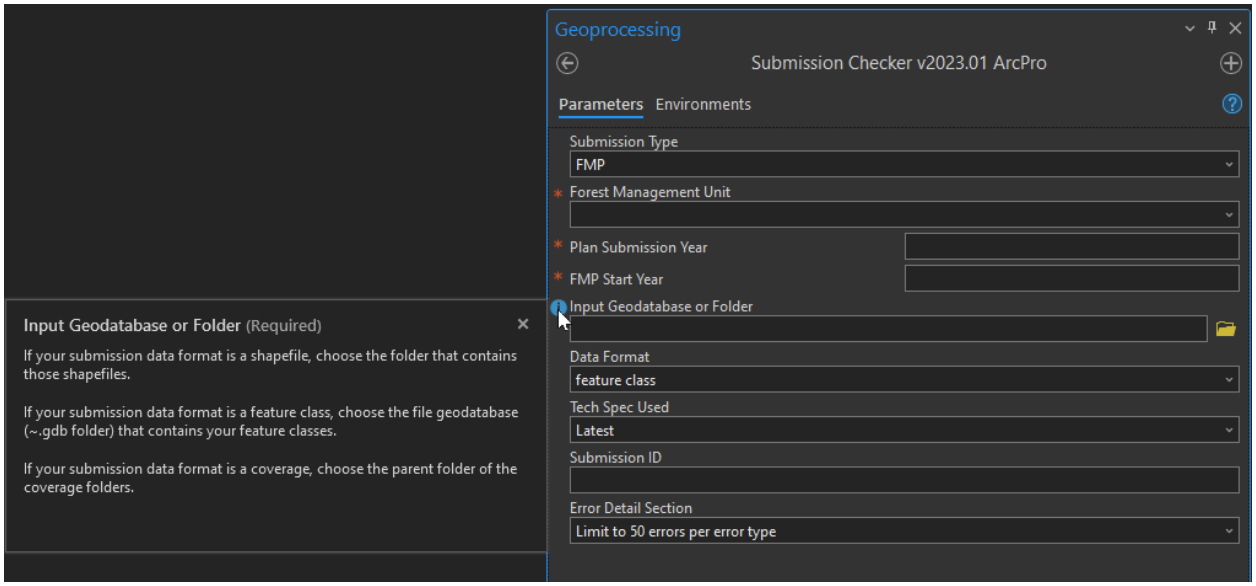
3. In Catalog window, right click Folders and Add Folder Connection. Then browse to the folder where you've extracted (unzipped) the FI Checker package and click OK.



4. Back to the Folders, you should be able to expand and find the FI Submission Checker toolboxes.



5. Expand the toolbox that has ~_arcPro3.atbx at the end of its name. Double click on the Submission Checker script to open the tool's user interface.



6. Fill out each parameter. If you are unsure, you can hover your mouse over to the blue exclamation mark next to the field name to view more information about each parameter.
7. Once you've filled out all the parameters, click Run.
8. Optionally you can click on "View Details" while the tool is running in order to see the progress.
9. If you are having any issues, or if the tool crashes, please first read the error messages or double check your parameters. If you can't resolve the issue, please copy the texts in "View Details" and send the information to daniel.kim2@ontario.ca .

Command Line Operation

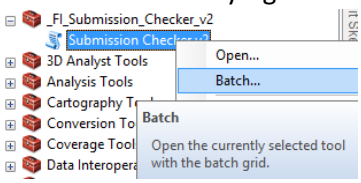
The tool can be run from a command prompt using a batch file. The instruction can be found in **batch_run_template.txt** file included in the package. This text file is also a template to create a new batch file.

Note that this opens up a possibility to integrate and customize this tool with your own script or program.

Also note that even though this command line operation doesn't require you to open ArcMap or ArcGIS Pro, the script utilizes the arcpy library which means your computer should have ArcMap or ArcGIS Pro installed in order to run the tool through command prompt.

Batch Operation (ArcMap only)

- This can be done by right-clicking on the script in the toolbox and selecting "Batch"



- This isn't usually necessary as it's usually one forest and one submission package at a time that needs to be checked.
-

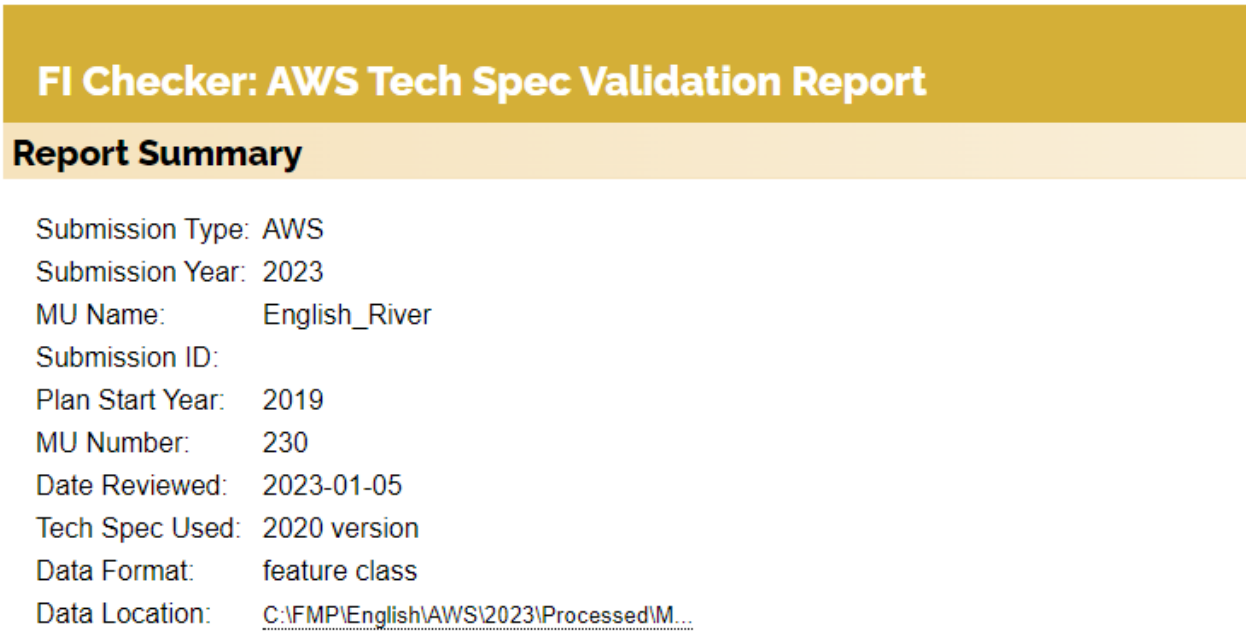
FI Checker Output

Please refer to the FIM tech specs, planning team, Analysts and GSO for assistance when interpreting the Errors and Warnings found.

The output report can be found in the parent folder of the input geodatabase or the folder. An example of the output report filename is "MU930_2019_FMP_Report_8152.html".

Your computer will choose the default internet browser to open the report. The report can be opened using both Google Chrome and Microsoft Edge. Depending on your computer's settings, you may need to click "Allow blocked content" when you open the output report on a browser.

1. The General Information about the spatial data that's being checked.



2. The Report Summary contains the following information:

- List of layers that did not follow the naming convention.
- Missing layers that could've been included in the submission type (eg. If Scheduled Harvest is missing in AWS)
- If not all layers are using the same projection, it will show up in the Summary section.
- For each layer, list of missing mandatory fields.
- For each layer, list of stage 1 (Invalid-Critical) or stage 2 (Invalid-Minor) validation flags.
- For each layer, the report will let the user know if all the fields and records are **Valid**.
- For each layer, hyperlinks to the applicable section of the tech spec.
- Hover over the name of each layer to check the projection.

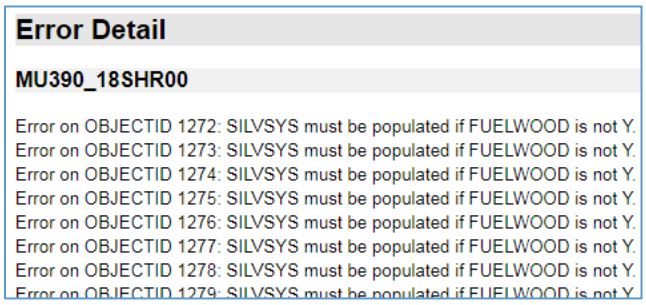
Missing layer(s): ['Scheduled Aggregate Extraction', 'Scheduled Protection Treatment', 'Scheduled Establishment Assessment']

Layer File Name	Layer Name	Existing Mandatory Fields	Additional Fields	Field Validation	Field Comments	Record Validation	Record Validation Comments	Reference
MU390_18AGP00	Existing Forestry Aggregate Pits	['PITCLOSE', 'PITOPEN', '...	['OBJECTID', 'SHAPE']	Valid	N/A	Valid	- Total number of records checked: 43	4.2.19
MU390_18SAC001	Scheduled Area Of Concern	['AOCID', 'AOCTYPE']	['OBJECTID', 'SHAPE', 'SH...	Valid	N/A	Valid	- Total number of records checked: 6428	4.2.8
MU390_18SAC002	Scheduled Area Of Concern	['AOCID', 'AOCTYPE']	['OBJECTID', 'SHAPE', 'SH...	Valid	N/A	Valid	- Total number of records checked: 2178	4.2.8
MU390_18SAC003	Scheduled Area Of Concern	['AOCID', 'AOCTYPE']	['OBJECTID_1', 'SHAPE', '...	Valid	N/A	Valid	- Total number of records checked: 214	4.2.8
MU390_18SHR00	Scheduled Harvest	['AWS_YR', 'BLOCKID', 'SI...	['OBJECTID_1', 'SHAPE', '...	Valid	N/A	Invalid-Critical	- Total number of records checked: 2277 - Error on 315 record(s): SILVSYS must be populated if FUELWOOD is not Y. - Error on 80 record(s): SILVSYS must be CC when HARVCAT = SCNDPASS. - Error on 97 record(s): HARVCAT = BRIDGING is only available when the AWS start year is equal to the first year of the plan period. - Error on 315 record(s): The population of FUELWOOD is mandatory and must follow the correct coding scheme.	4.2.7
MU390_18SOR00	Scheduled Operational Road	['AWS_YR',	['OBJECTID',	Valid	N/A	Valid	- Total number of records checked: 106	4.2.11

Some general tips when interpreting the summary report:

- If the flagged error/warning is originated from the FRI (for example, errors in Ecosite fields), it is generally okay to ignore it (but confirm with the planning team).
- Try to focus on the Errors and not the Warnings.
    - Warnings refer to Stage 2 flags in the tech spec and it is often phrased “X should be Y”.
    - Errors refer to Stage 1 flags in the tech spec and it is often phrased “X must be Y”.
- If the report tells you that you are missing a mandatory field, it’s most likely that you’ve misspelled that field. Correct the field name and re-run the tool.
- Use the Error Detail section if you need to find individual records that caused this flag.

3. The Error Details section is designed to help the user to find individual records that caused the flag. It contains the polygon ID and the reason why this record has been flagged.



Error Detail

MU390_18SHR00

Error on OBJECTID 1272: SILVSYS must be populated if FUELWOOD is not Y.
Error on OBJECTID 1273: SILVSYS must be populated if FUELWOOD is not Y.
Error on OBJECTID 1274: SILVSYS must be populated if FUELWOOD is not Y.
Error on OBJECTID 1275: SILVSYS must be populated if FUELWOOD is not Y.
Error on OBJECTID 1276: SILVSYS must be populated if FUELWOOD is not Y.
Error on OBJECTID 1277: SILVSYS must be populated if FUELWOOD is not Y.
Error on OBJECTID 1278: SILVSYS must be populated if FUELWOOD is not Y.
Error on OBJECTID 1279: SILVSYS must be populated if FUELWOOD is not Y.

Use ArcMap’s Select By Attribute function to select the particular ObjectID (or FID) to select the flagged record. Examining the flagged records will give the user a better understanding of the cause of the error.

Appendix 1: Terms and Abbreviations

FI Portal/Forest Information Portal – the web application where forest management data submissions are made by the forest industry to the Ministry of Natural Resources and Forestry

eFMP – This site allows public access to draft and approved forest management plans prepared for Crown forests in all management units in Ontario. The details of the activities described in the plans are also posted to this site annually in what are called annual work schedules. These schedules describe all forestry activities to be carried out that year namely harvest, renewal, road construction, prescribed burns, aerial pesticide spraying projects and insect pest management programs. At the end of each year, an annual report of the completed activities for each management unit is posted. Plans, schedules and reports are made up of text tables and maps.

ST1/Stage 1: - Stage 1 validations ("checks") represent errors in data format, or missing mandatory data. These errors must be fixed for an FI Portal submission to be accepted by the MNRF.

ST2/Stage 2: - Stage 2 validations ("checks") represent warnings, where an item being validated *may* be problematic, or could simply be a result of specific differences with a particular forest that are known and acceptable. While a submission with Stage 2 warnings can still be accepted, the warnings should be discussed with an MNRF Forest Analyst prior to data submission.

Validation: – The process of checking an FI Portal submission for errors or inconsistencies by the FI Checker.

Appendix 2: FI Checker Project Information

Project Owner/Manager: MNRF Regional Operations Division, Integration Branch

Tool Developer: MNRF Regional Operations Division Northwest, Northeast and Southern Regions – Regional Information and Analysis Units (RIAUs)

FI Checker Project Team:

Project Lead:	David David, Integration Branch
Development Lead:	Daniel Kim, Northeast Region RIAU
Developers:	Daniel Kim, Northeast Region RIAU Harold Doran, Southern Region RIAU Angus Carr, Northwest Region RIAU
Business Processes:	Robert Fournier, Northeast Region RIAU Andre St. Louis, Northeast Region RIAU Glen Watt, Southern Region RIAU Garnet Beemer, Northwest Region RIAU
Advisors:	Larry Watkins, Policy Division Hue Higham, Policy Division Denis Gagnon, Policy Division
Supervisors/Managers:	Ryan Petrauskas, Integration Branch Andy Smiegielski, Northwest Region RIAU Michael Malek, Northeast Region RIAU Silvia Strobl, Southern Region RIAU