

IMP Template Instructions*

Template Overview

We have been tasked with completing Inventory and Monitoring Plans (IMPs) for *every* station by 2022. The most important components of this effort are to 1) identify and rank each station's resources of concern (ROCs), and 2) identify current and potential surveys to inform management of those ROCs. Once a station has completed ranking ROCs and surveys they should make certain required fields for *priority* surveys are complete within PRIMR. Tables of each station's ROCs and associated species are uploaded to ArcGIS Online (AGOL) by data managers. These two resources (PRIMR and AGOL) then provide the necessary information for Division of Scientific Resources (DSR) staff to complete a draft IMP for station review. Any survey-specific information that needs updating *should be made within PRIMR*; updates that need to be made to ROC data in Appendices B or C should be sent to Jennifer Zorn. Once updates are made in PRIMR and/or AGOL a new draft of the IMP can be created by knitting the document; necessary signatures can be obtained once a final draft is completed. Lastly, when you knit an IMP you need to be either on an FWS server or logged into Pulse Secure in order to gain access to PRIMR.

Necessary Files for completing an IMP

The following image files need to be *in the same folder* as the .Rmd file:

1. **cover_photo.JPG** – Image of the Refuge for the IMP cover page
2. **fws_banner.png** – USFWS Refuge System banner with Blue Goose
3. **fws_shield.png** – USFWS shield emblem
4. **signature_page.jpg** – Signature page jpeg file

Station-specific information that needs to be updated within the Template

YAML Header

author: lines 4-5: Replace 'IMP Template' with Refuge and Complex name, respectively

date: line 6: Enter year IMP will be finalized

Variables

The following variables are defined in the `setup` code chunk that begins on line 25 of the .Rmd template file.

Refuge-specific variables that need to be set prior to knitting the IMP start on line 52. These include:

`nroc` – Enter the number of ROCs identified during the IMP process, written out (e.g. 'three')

`nsurv` – Enter the number of surveys included in the IMP, numeric format (e.g. '3')

**Questions, edits, ideas?* Contact Jeff Warren (jeffrey_warren@fws.gov or 406.276.3536)

nsurv2 – Enter the number of surveys included in the IMP, written out

imp.year – Enter the year the IMP was finalized

roc.participants – Enter the names of each individual that participated in the ROC workshop, e.g., c(“John Doe”, “Jane Doe”, “Sasquatch”)

roc.days – Enter the length of the ROC workshop in number of days (written out)

roc.date – Enter the dates of the workshop, e.g., “March 26-28, 2019”

refuge.costcode – Enter the Refuge’s cost code, e.g., “FF06RFTN00”

refuge.complex – If the Refuge is part of a Complex enter the Complex’s name here, otherwise leave as NA

refuge.link – Enter the URL to the Refuge’s website *twice* - once between the “[]” brackets and once between the parentheses “()”.

There are **two** variables that need to be defined for Refuges **not** within Legacy Region 6; these start on line 80. If either or both of these variables are left ‘NA’ the following error will occur: “object ‘roc_df’ not found”.

refuge.ccp – Enter the five-digit number at the end of the URL for the Refuge’s Comprehensive Conservation Plan (CCP) *when downloaded* from PRIMR. For example, you would enter 25520 for a CCP with this link: ‘https://ecos.fws.gov/ServCat/DownloadFile/25520’

refuge.est.page – Enter the page number of the downloaded CCP where the Refuge’s establishment history is described. For example, you would enter 10 for an establishment history section with this link: ‘https://ecos.fws.gov/ServCat/DownloadFile/5781#page=10’

ArcGIS Online ‘Token’

Legacy Region 6 is housing ROC information within AGOL; to access those data you will need a current ‘token’ (line 85). This is acquired by navigating to *any* AGOL hosted feature layer through ‘Groups’ or ‘Content’ while logged into an ArcGIS FWS account. Open the feature layer’s ‘Overview’ and scroll down to ‘URL’. Select ‘View’, which will open a new window. In the address bar of the window you will see that the URL has ‘token=’ within the address. Copy everything *after* the ‘=’; paste this into the .Rmd file between the quotation marks on line 94. These data are used to create appendices B and C in the template; **if your region is not using AGOL for managing ROC information** make certain you ‘turn off’ the code chunks that create those appendices (see below). You can then ignore the AGOL token within the script.

Text within the main body of the IMP

The template’s text may be tailored to capture unique attributes of each station’s IMP process. This may be most prevalent in ‘Methods’ to describe the process used to 1) rank ROCs and 2) prioritize/identify surveys for Table 1. The template does not currently adjust the number of survey narratives included in the IMP to match the number of priority surveys identified. The template currently is formatted for nine priority surveys; if you have fewer priority surveys than that, it is necessary to delete the superfluous script in the *Surveys Conducted With Current or Additional Capacity* section. To do this, locate the first survey narrative that is not necessary. For example, if you have three priority surveys you would look for the fourth survey narrative. Each survey narrative starts with two pound signs followed by an asterisk and then the number, e.g., ‘## *4’ in our example. You would start deleting text at this point, deleting everything down to the line immediately above the “newpage” command preceding the References section. Lastly, citations within Table 1 should be added to the References section. If you want to provide a link to a reference available online, follow the example for the refuge.link, i.e., URLAddress will provide a hot link in the text labeled ‘URLAddress’.

Turning Appendices ‘*On*’ and ‘*Off*’

Legacy Region 6 currently includes three appendices within each IMP – Appendix A is analogous to Table 2, i.e., non-priority surveys currently captured in PRIMR. Appendix B is a table that provides each ROC’s rank and associated Refuge purpose and rationale, and Appendix C provides *nested ROCs* for each ROC. There are two code chunks for each appendix – one to subset and format the data and another to format and print the table. If you don’t need/want these appendices to appear in your IMP, simply add ‘eval=F’ after each of the code chunk names for each appendix. For example, to ‘turn off’ Appendix B navigate to the code chunk that creates the appendix (aptly named ‘AppendixB’) and add the ‘eval=F’ command after the code chunk name, separating them with a comma (e.g., {r AppendixB, eval=F}); do the same for the code chunk that prints Appendix B (e.g., {r AppendixB_print, results=‘asis’, eval=F}). That will preclude Appendix B from being created and printed when the document is knitted. If you turn off Appendix B you also need to turn off Appendix C (or you will receive an error). However, the opposite is not true – you can turn off Appendix C and not turn off Appendix B without an error.