



Instructions

Preparing a Species Analysis Spreadsheet

A species analysis is performed to determine impacts to protected species including federally threatened and endangered species (16 USC 1531-1544), state threatened and endangered species (31 TAC §65.171-177 [animals]; 31 TAC §69.1-9 [plants]), and Species of Greatest Conservation Need (SGCN) (43 TAC §2.206). Preparation of a species analysis is required for all TxDOT projects for which an environmental review is required, except those covered by one of the expedited CE processes described in Chapters 13, 14, 16, or 17 of Environmental Guide Volume 1 Process,¹¹ and those covered by categorical exclusion criteria listed in 23 CFR 771.117 (c)(1) and (c)(29). ENV biologists may, on a case-by-case basis, grant exceptions to this requirement for other projects if a species analysis is not warranted for some project-specific reason; however, this is unusual. Instructions for documenting this analysis in ECOS are included in the **Documentation** section of this guidance and the [Environmental Guide: Volume 2 Activity Instructions](#). District environmental staff are encouraged to request reviews of species analysis documentation from the ENV biologist assigned to the district per the [Environmental Guide: Volume 2 Activity Instructions](#).


Step One – Obtain Species Lists:

The first step in performing a species analysis is to download an official list of federally listed species and critical habitat for the project from the USFWS Information for Planning and Conservation (IPaC) system (i.e., the “USFWS Species List”), and the TPWD RTEST county list for the county(ies) in which the project is located (i.e., the “TPWD Species List”).

Instructions for obtaining USFWS Species List

- Visit <https://ipac.ecosphere.fws.gov/>
- Login or create an account by following the instructions provided on the website.
- Select the “GET STARTED” button
- Input your project area per one of the options below:
 - If you have a shapefile for the project area, select “UPLOAD SHAPE FILE” under the “1 Find location” heading on the left-hand side of the screen and follow the instructions provided in the pop-up box. The pop-up box also includes a link to a demo video on how to upload your shapefile.
 - If you do not have a shapefile for the project area, zoom to the vicinity of the project area and draw in your project area using the sketch, polygon, or line functions under the “2 Define area” heading on the left-hand side of the screen. Be as precise as possible, as the list is populated based on various parameters including counties, hydrologic unit codes, and similar boundaries. If precise project location information is not available, then the county(ies) where work will occur can be selected. This countywide approach may result in the need to evaluate additional species that may not have ranges that coincide with the project area.
- After inputting the project area select the “CONTINUE” box. This will generate a list of federally protected resources potentially occurring within the defined project boundaries.

¹ Expedited (c)(22) CE; expedited emergency open-ended (d) CE; expedited (c)(1), (c)(3), (c)(8), or (c)(18) rail safety CE; and expedited (c)(23) recreational trails CE

- After reviewing the list of federally protected resources, select the “DEFINE PROJECT” box on the left-hand side of the screen. This will prompt a screen where the project name and description can be entered.
 - Project names must be entered as TxDOT_Project or RoadName_mainCSJ (e.g., TxDOT_SH 151_1234-56-789)
 - Project descriptions should be brief, but explanatory and match information in ECOS or TxDOT connect.
 - After entering this information select the “SAVE” button. This will generate a project home page.
- *If the USFWS list is being obtained by a consultant:* Select the box that says “ 1 Member” below and left of the map on the Project Home page. A pop-up box with project members will appear. Enter the e-mail of the TxDOT district environmental project manager under Add project member and select the “ADD MEMBER” box. Other team members may be added as appropriate. Once complete, close the pop-up.
- On the upper right side of the Project Home page, select the white “REQUEST SPECIES LIST” box.
- Select the “YES, REQUEST A SPECIES LIST” box. This will generate a series of questions that must be answered correctly.
 - Is this project being conducted, permitted, funded, or licensed by a Federal agency? must be answered “Yes” if there is any federal funding. Otherwise, select “No”.
 - What kind of organization are you working for directly? must be answered, “State Agency” for all TxDOT projects or locally sponsored projects using federal funding and requiring environmental clearance through TxDOT. Confirm any other situation with district environmental staff or ENV.
 - Is there a Lead Agency in charge of this project? Should be answered “We are the lead agency” for most federally funded TxDOT projects. If this is not clear, confirm this with district environmental staff or ENV.
 - What is your role in this project? May be answered as follows and as applicable:
 - Consultant = “Consultant”
 - District Environmental Staff = “Co-Applicant”
 - ENV NRM staff = “Applicant”
 - Other entities (e.g., local sponsor) = “Lead Project Proponent” or “Supporting Project Proponent”
 - If you selected an agency in any previous response, the final question will be, *What agency do you work for?* Select “Texas Department of Transportation”.
 - Enter your work contact information.
 - Review and confirm project information.
 - Select the project type from the drop down menu. Choose the most appropriate for planned activities from these roadway options:
 - Bridge – Maintenance

- Bridge – New Construction
- Bridge – Removal
- Bridge – Replacement
- Road/Hwy Abandonment
- Road/Hwy – Maintenance/Modification
- Road/Hwy – New Construction
- Verify all information is correct then select the “SUBMIT OFFICIAL SPECIES LIST REQUEST” button. This will prompt a species list to be generated, which may take a few moments to complete. The USFWS species list will be available in a link that begins with “Species List” and ends with the applicable office for the region where the project activities will occur.
- Select the link for the species list and it will launch in a new tab. Save this list using the following file name: “CSJ_Project or Road Name_USFWS Species List_YYYYMMDD” (e.g., CSJ 1234-56-789_SH 151_USFWS Species List_20220331.pdf)

Note: If any changes are made to the project area, the project area for your species list must be updated. To do this complete the following steps:

- Visit <https://ipac.ecosphere.fws.gov/> and login.
- Select the “My Projects” button
- Select the applicable project and then select the “PROJECT HOME” button.
- Select the “full screen” arrows toggle in the upper right-hand corner of the project area map shown on the project home page.
- Select the “EDIT LOCATION” button on the left-hand side of the screen and select “I UNDERSTAND” in the warning dialogue box that is generated.
- Modify the project area to reflect any changes since the original list was obtained
- Select the “SAVE PROJECT LOCATION” button. This will return you to the project home page and a dialogue box that says “The changes to your project have been saved” should appear.
- Select the “REQUEST UPDATED LIST” button on the righthand side of the screen. Select the “REQUEST UPDATED SPECIES LIST” button.
- Verify that all the information provided on the next screen is still correct. Scroll down to and select the “SUBMIT OFFICIAL SPECIES LIST REQUEST” button. This will generate a new species list.
- Save the new list following the same naming convention mentioned above.

Note: If more than six months have passed since the IPaC list was obtained, the species list must be updated per the following steps:


- Visit <https://ipac.ecosphere.fws.gov/> and login.
- Select the “My Projects” button
- Select the applicable project and then select the “PROJECT HOME” button.
- Select the “REQUEST UPDATED LIST” button on the righthand side of the screen. Select the “REQUEST UPDATED SPECIES LIST” button.



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- Verify that all the information provided on the next screen is still correct. Scroll down and select the “SUBMIT OFFICIAL SPECIES LIST REQUEST” button. This will generate a new species list.
- Save the new list following the same naming convention mentioned above.

Note: If it is determined that the project may affect any federally listed species or critical habitat, and consultation with USFWS may be necessary, the applicable NRM biologist should be added to the project team per the steps below:

- Visit <https://ipac.ecosphere.fws.gov/> and login.
- Select the “My Projects” button
- Select the box that says “ 1 Member” in the first box of the Project Home page.
- A pop-up box with project members will appear. Enter the e-mail of the T enter the e-mail of the applicable TxDOT NRM biologist for the project under Add project member and select the “ADD MEMBER” box. Once complete, close the pop-up.

Instructions for obtaining TPWD Species List

- Visit <https://tpwd.texas.gov/gis/rtest/>.
- On the sidebar on the left side of the page, scroll down “View County Report”.
- Select your county and click the green arrow below. This will generate the county list on the right side of the screen.
- Select the save icon above the report and save as a .PDF for documentation purposes and as a .csv file for later incorporation into the SGCN tab.

Unlike USFWS species lists, TPWD species lists are only available at the county level; therefore, TPWD species lists must be thoroughly reviewed to identify or rule out species based on their habitat requirements and the habitat conditions identified during the site visit(s).

Step Two – Desktop Analysis:

The second step in performing a species analysis is to gather information through desktop review. Desktop review involves consulting a variety of resources including, but not limited to:

- Google Earth
- Aerial Photography
- Topographic Map
- Texas Natural Diversity Database (NDD)
- [Ecological Mapping System of Texas \(EMST\)](#)
- [USFWS Critical Habitat Maps](#)
- [Coastal Area Maps](#)
- [Karst Zone Maps](#)
- [National Wetland Inventory](#)
- [County Soil Surveys](#)
- [Mussels of Texas](#)
- [iNaturalist](#)



- [eBird](#)
- Habitat Models for Various Species

The purpose of the desktop analysis is to collect information on the project area(s) and surroundings to determine if suitable habitat for protected species may be present. In certain cases, the likely presence or absence of certain species can be determined at this stage. In other cases, decisions can be made about types of field equipment that may be required during a site visit to perform habitat assessments and if applicable and appropriate, presence/absence surveys.

NOTE: While some files such as aerial and topographic maps should be uploaded to ECOS per instructions in the [Environmental Guide: Volume 2 Activity Instructions](#), other documents generated during desktop review should be maintained in the district project file, and not uploaded into ECOS. See the Documentation section for more information on required ECOS documentation for a species analysis.

Step Three – Site Visit:

After collecting desktop information about the project location and species that could occur in the area, a site visit should be made to determine if suitable habitat may be present for one or more protected species. In some cases (e.g., species that are seasonal or vary from year to year in their activity or abundance) multiple site visits may be necessary to perform habitat assessments, presence/absence surveys, and/or additional studies if applicable. Photos documenting the existing conditions and potential habitat present should be taken during the site visit. See [TxDOT Guidance for Conducting Habitat Assessments and Presence-Absence Surveys](#) for more information on field methodologies.

Step Four – Species Analysis Form and Spreadsheet:

Results from desktop reviews and field studies must be thoroughly documented by completing the Species Analysis Spreadsheet (SAS) and a Species Analysis Form (SAF), both available on [ENV's Natural Resources Toolkit](#). The SAF is completed utilizing information from the SAS. As the SAF contains built in instructions, it is not addressed further in this guidance document. Please confirm you are working with the most recent version of the SAS and SAF by downloading them directly from ENV's Environmental Compliance Toolkits website for each project. See the **Documentation** section for more information on ECOS documentation.

The SAS summarizes findings from initial studies and reviews and provides effect determinations for federally listed, candidate, and proposed species and impact determinations for state listed species. The SAS contains the following tabs:

- **Project:** Project specific information should be entered into this tab
- **Species:** Some of the contents of this tab will autogenerate based on the TxDOT District and County(ies) selected on the project tab. Determinations of suitable habitat, effects, and impacts are made in this tab.
- **Marine Species:** This tab includes information on marine species. As these species occur in coastal waters and may only be impacted by a small portion of TxDOT projects, they are not included in the Species tab. For those projects that could impact coastal waters, this tab should be completed.
- **Notes:** This tab includes information on certain protected species. This tab is for informational purposes only and should not be printed.
- **References:** This tab contains select references on protected species. This tab is for informational purposes only and should not be printed.

- **Addendum:** This tab is used to document any changes in the species tab based on discrepancies with state and federal lists or to document changes not yet incorporated in either list or the SAS.
- **SGCN:** This tab is provided as an optional tool for documenting impacts to SGCN. Impacts to SGCN must be documented, and it is highly recommended that this tab be utilized for that purpose.

The following are the steps for completing a SAS:

- 1) Enter project information into the Project tab.
 - a. Fill-in the “Project Name” using the same name that has been entered into the “Project Name” field on WPD I.
 - b. Fill-in the “CSJ(s)” using this format: xxxx-xx-xxx. If there are multiple CSJs for the project, list the main CSJ first before listing the other CSJs, and separate the CSJs from each other with commas.
 - c. Select the correct “TxDOT District” district from the drop-down menu. This will autogenerate the counties in the “County(ies)” box. If the project spans two or more TxDOT districts, select the “MultiDistrict” option from the bottom of the drop-down menu.
 - d. Select the “County(ies)” in which the project will take place from the drop-down menu. Multiple counties can be selected.
 - e. Fill-in the “Prepared by” field with the name of the individual who is completing the spreadsheet.
 - f. Fill-in the “Date Completed” field with the current date. If the spreadsheet is completed over the course of multiple days, update the “Date Completed” field so it shows the latest date on which information was entered into the spreadsheet.

(Check to make sure that all the information entered in the six fields is correct. If any of it is incorrect, click that field and hit “Delete” to erase it and start over in that field.)
 - g. Click the gray box labeled, “After entering project information on this ‘Project’ tab, click within this gray box to generate the species list on the ‘Species’ tab.” This will automatically update the second tab (labeled “Species”) to show only those federally or state-listed species known to the specific county(ies) selected on the first tab. This can take several minutes. Wait for the blue circle to stop spinning before moving on to the “Species” tab as instructed below. Do not click the gray box multiple times.

(Note that, after clicking the gray box as described in the bullet above, you can still make changes to the “Project Name,” “CSJ(s),” “Prepared by:” and “Date Completed” fields. You can also add new counties to the “County(ies)” field and click the gray box again to re-generate the species list on the “Species” tab.)
 - h. However, if you need to delete a county from the “County(ies)” field, then you must start over with a fresh copy of the SAS.)
- 2) Complete the species entries on the Species tab.
 - a. Cross-reference these species with the species that appear on the USFWS and TPWD lists for the county(ies) to which the species analysis applies. If there are any discrepancies, record this in the Addendum tab (directions on completing this tab can be found in step 4). Also, e-mail ENV-Bio@txdot.gov so that corrections can be made to the master spreadsheet on our toolkit.
 - b. Using the information collected from desktop reviews and any field visits, determine if habitat is present for each species and select (Y) or (N) in column F (Suitable Habitat Present?) for every species that appears on the Species tab. If you select the wrong

value and need to change it, click out of the cell and then back in the cell, instead of trying to re-type in the cell.

- c. For each species, under column G (Explanation for determination regarding suitable habitat) provide a detailed explanation on how it was determined that suitable habitat is or is not present. At a minimum, responses in this column should include brief description on how the conclusion was reached (e.g., desktop review and field visits and the dates they occurred), a brief description of the habitat present in the project area, and important habitat elements for a species that were present or absent.
- d. In column I (Effect/Take Determination for Federally Listed Species), select an effect determination from the dropdown menu. Note that this column is not applicable for state-listed species and the field will be locked for species that are not federally listed. Options from the dropdown include “No effect or Take” and “May affect”. If the project does not have the potential to impact the species in question, the “No effect or take” option should be selected for all projects, regardless of funding source. Note that there is no definition for take for federally listed plants. The options for plant species in this column are “May affect” and “No effect or harm”.

The “May affect” option should be selected for projects that have a federal nexus (e.g., federal funding, USACE permit) and may result in impacts to a federally listed species.

If “May affect” is selected, contact your assigned NRM biologist right away. Note that, with the exception of the monarch butterfly, “Take” is not an option from the dropdowns in this column. If there is a situation where it is anticipated that take could occur from a state-funded project with no federal nexus, contact your assigned NRM biologist right away. For more information on addressing the monarch butterfly in a TxDOT species analysis review Guidance: Addressing the Monarch Butterfly in a TxDOT Species Analysis. If you select the wrong value and need to change it, click out of the cell and then back in the cell, instead of trying to immediately re-type in the cell.

- e. In column K (Impact Determination for State-Listed Species), select an impact determination from the dropdown menu. Note that if the species could be impacted by construction activities, “May impact” should be selected here, even if Best Management Practices would be implemented for that species. There are situations where suitable habitat may be present, but the project would have “no effect” or “no impact” to a species. Some examples include a scenario where there are waterbodies suitable for protected fish or mussel species within the project area, but no work would occur within or adjacent to the water. Another possible example includes where suitable habitat is present for a protected species, but surveys per established protocols have been performed and no individuals have been detected. If you select the wrong value and need to change it, click out of the cell and then back in the cell, instead of trying to immediately re-type in the cell.
 - f. In column L (Explanation for Effect/Take and/or Impact Determination) explain why the project would have no effect/impact (e.g., no suitable habitat present, suitable habitat present, but no work would occur within that habitat, etc.), or why the project may effect/impact a species. In column M (Presence/Absence survey conducted?) select Y or N from the dropdown menu. “Y” should only be selected if formal species-specific presence/absence surveys were conducted. If you select the wrong value and need to change it, click out of the cell and then back in the cell, instead of trying to immediately re-type in the cell.
- 3) There is a question related to marine species at the bottom of the Species tab for coastal counties.
- a. If the project occurs within or adjacent to coastal waters, “Y” should be selected here in column F (Suitable Habitat Present?). Select “N” for any project that would not occur within or adjacent to coastal waters.

Species Analysis” Activity, unless the Activity had been previously created and remains open as of the date that the re-analysis occurs.

- District Staff must obtain a new list of federally listed species and critical habitat for the project from the USFWS IPaC system and the TPWD RTEST county list.
 - If the project area changed, the project area must be updated in IPaC per the Instructions for obtaining USFWS species list above.
- If no new species have been added to the USFWS IPaC system and/or the TPWD RTEST county list AND there have been no changes to the impact/effect calls, then district environmental staff uploads the new list of federally listed species and critical habitat for the project from the USFWS IPaC system and the TPWD RTEST county list under the newly created “Perform Species Analysis” Activity, or the original “Perform Species Analysis” Activity if it was never finalized, and indicates in the “Comments” field of this Activity the date(s) on which the USFWS IPaC system and/or the TPWD RTEST county list were updated and that no species were added and no new effects to any species previously included are anticipated.
- If one or more species have been added to the USFWS IPaC system and/or the TPWD RTEST county list OR there have been changes to the impact/effect calls, then district environmental staff must do the following:
 - Upload the new official list of federally listed species and critical habitat for the project from the USFWS IPaC system and the TPWD RTEST county list under this Activity,
 - Generate an updated species analysis spreadsheet by manually adding the new species to the “addendum” tab and attaching it to the existing spreadsheet.
 - Upload the new version of the project-specific species analysis spreadsheet under this Activity.
 - If the new version of the project-specific species analysis spreadsheet affects the conclusions on the Species Analysis form, district environmental staff must update the Species Analysis form and upload the revised version under this Activity.
- District environmental staff may, at their discretion, create a Review of the new “Perform Species Analysis” Activity and assign it to the appropriate resource area ENV SME assigned to the respective district.
- Once the ENV SME has finalized his or her Review, if there are pending comments, the district environmental staff:
 - prepares a new, revised version of the new version of the project-specific species analysis spreadsheet (and the updated Species Analysis form if there is one) that is responsive to the comments made and uploads it under this Activity;
 - completes the comment response matrix by filling-in the “How Addressed,” “New Page,” and “New Section” columns and uploads it under this Activity; and
 - creates a new Review under this Activity and assigns it to the ENV SME.
- Once the ENV SME has no further comments and has finalized his or her Review (if a Review was created), district environmental staff uploads the final new version of the project-specific species analysis spreadsheet (and the updated Species Analysis form if there is one) with the word, “Approved,” at the beginning of the respective file name.
- If the Species Analysis form was updated to indicate a “may effect call” or that consultation with or authorization from the USFWS is required, whereas the previous version of the form indicated that no consultation with or authorization from the USFWS is required, then the district environmental staff creates the “Obtain Endangered Species Act (ESA) Consultation” Activity and contacts their ENV assigned biologist immediately.



Performing a Species Analysis for a Reevaluation

If a species analysis was performed during the initial environmental review, considerations must be given to a species analysis for a reevaluation. There are two main considerations when evaluating a project reevaluation's impacts to protected species and TxDOT's species analysis documentation: 1) Are there changes to the project that could impact protected species? 2) Have new federal or state-listed species been added to the USFWS or TPWD lists? The steps below discuss how to approach a species analysis during a reevaluation.

- 1) Determine if there have been changes to the project that could impact protected species. These changes include, but are not limited to:
 - The addition of new ROW
 - The addition of new ground disturbing activities
 - The need for additional clearing of vegetation
 - New impacts to streams or other waters of the U.S.
 - A change in the timing/duration of construction or other activities that could impact determinations and/or commitments made at the time of initial clearance
- 2) If the reevaluation does include changes to the project that could impact previously evaluated protected species, a new species analysis should be performed. District environmental staff creates and completes a new "Perform Species Analysis" per the instructions in ENV Instructions: Preparing a Species Analysis Spreadsheet and the instructions for the "Perform Species Analysis" Activity in Environmental Guide Volume 2. The district may download and complete a new species analysis spreadsheet from the Natural Resources Toolkit, or update the existing species analysis spreadsheet utilizing the addendum tab. If the new species analysis indicates that the project changes may affect or take a federally listed species, consult with the appropriate district assigned NRM biologist immediately.
- 3) If the reevaluation does not include changes to the project that could impact previously evaluated protected species, then do the following:
 - a. Obtain a new IPaC and RTEST list per Step One Instructions above.
 - b. If there are no new species added to these lists, upload the lists to the "Perform Reevaluation" activity. In the comments field, provide the following text: "New IPaC and RTEST lists were generated and reviewed for this reevaluation. There are no changes to protected and imperiled species on these lists, and there would be no new impacts to those species. Therefore, the original species analysis remains valid." On the reevaluation form, note that the reevaluation does not include changes to the project that could impact previously evaluated species and there are no new listed species.
 - c. If the new lists include species that were not previously evaluated, create and complete a new "Perform Species Analysis" per the instructions in ENV Instructions: Preparing a Species Analysis Spreadsheet and the instructions for the "Perform Species Analysis" Activity in this Environmental Guide Volume 2. The district may download and complete a new species analysis spreadsheet from the Natural Resources Toolkit, or update the existing species analysis spreadsheet utilizing the addendum tab. If the new species analysis indicates that any new federally listed species that may be affected or taken, consult with the appropriate district - assigned NRM biologist immediately.

Documentation

The following documentation is required when a species analysis activity is required to be completed:

- Official USFWS IPaC List (dated within six months of environmental clearance)
- TPWD RTEST List (dated within six months of environmental clearance)
- completed Species Analysis Spreadsheet
- completed Species Analysis Form



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Additional documentation may be required in specific situations as follows:

- Documentation of presence/absence surveys, if completed
- If TPWD Coordination applies:
 - *Completed Documentation of Texas Parks and Wildlife Department Best Management Practices Form*
 - any correspondence to or from TxDOT and TPWD
- If USFWS Coordination for the Bald and Golden Eagle Protection Act (BGEPA) applies:
 - any correspondence to or from TxDOT and USFWS
 - Non-Purposeful Take Permit issued by USFWS

See the *Environmental Guide: Volume 2 Activity Instructions* for the “Perform Species Analysis” activity for more information on documenting the species analysis in ECOS.

See Also:

- [TxDOT Guidance for Conducting Habitat Assessments and Presence-Absence Surveys](#)
- [Environmental Guide: Volume 2 Activity Instructions](#)
- [Environmental Handbook: Endangered Species Act](#)
- [Texas Parks and Wildlife Memorandum of Understanding](#)
- [Guidance: Texas Parks and Wildlife Department Coordination Under the 2021 Memorandum of Understanding](#)
- [NRM Resource Aggregator \(Available to TxDOT Staff Only\)](#)



Appendix A: Revision History

The following table shows the revision history for this instruction document.

Revision History	
Effective Date Month, Year	Reason for and Description of Change
July 2022	Version 2 updates all links, provides updated instructions on how to obtain a USFWS species list, provides updates to guidance changes based on changes to species analysis spreadsheet, adds instructions on how to perform a species re-analysis, provides a summary of documentation expectations, and provides links to newly developed guidance.
September 2021	Version 1 was released.