

Technical Memorandum

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Date: January 17, 2022

Subject: Proposed Covered Species for the Guadalupe River Habitat Conservation Plan and Incidental Take Permit

The purpose of this memorandum is to present the current list of proposed covered species for the Guadalupe River Habitat Conservation Plan (GRHCP) and Incidental Take Permit (ITP). The term “covered species” as used in this memorandum includes those species for which GBRA would request authorization for incidental take and develop a conservation strategy with avoidance, minimization, and mitigation measures. The GRHCP Project Team will use the covered species list presented here to continue to compile background data, develop species accounts, evaluate incidental take, develop conservation strategies as warranted, and focus other GRHCP efforts. The GRHCP Project Team and GBRA have worked closely to discuss and evaluate species and develop this covered species list and will continue to evaluate the list, including potential additions or deletions to the list, during development of the GRHCP.

AGENCY GUIDANCE

Chapter 7 of the joint U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) “Habitat Conservation Planning and Incidental Take Permit (ITP) Processing Handbook” (HCP Handbook) (USFWS and NMFS 2016) provides guidance for deciding which species to cover in an HCP. The following is an excerpt from the HCP Handbook guidance on covered species:

“The applicant must include Endangered Species Act (ESA)-listed animal species that are expected to be taken by proposed covered activities as covered species in the HCP. Species that may be ESA-listed during the permit term, and are expected to be taken from proposed activities, should be considered for inclusion as a covered species. Common species, or species that have very low likelihood of becoming ESA-listed, should not be covered by the HCP because every species included involves commitments of time and money by both the applicant and the Services. Every species covered in the HCP must be treated as though it were already ESA-listed.

The Services require applicants to include as HCP covered species all ESA-listed wildlife species for which incidental take is reasonably certain to occur, unless take is addressed through a separate ESA mechanism (e.g., section 7 consultation with another Federal

agency, separate incidental take permit, etc.), or to explain or demonstrate in the HCP why take is not anticipated or will be avoided during implementation of covered activities (e.g., inclusion of measures that will avoid potential for take).”

Because impacts to ESA-listed plants do not fall under the definition of take, the Services cannot permit incidental take of plants. However, section 9 of the ESA prohibits the damage or destruction of plants under certain circumstances. In addition, the Services cannot issue an ITP that would adversely modify critical habitat of plants or jeopardize the continued existence of listed plant species. If an HCP addresses activities and/or conservation measures that may impact ESA-listed plants, covering those plants in the HCP may be prudent to provide “No Surprises” assurances in the ITP and to help the USFWS meet their obligations regarding jeopardy and critical habitat under section 7 of the ESA, as described above.

CONSIDERATIONS FOR THE GRHCP

For the GRHCP, “covered species” will include those species for which GBRA will request an ITP and develop a conservation strategy with avoidance, minimization, and mitigation measures. The covered species list should consider the following:

- The USFWS requires applicants to cover ESA-listed wildlife species for which incidental take is *reasonably certain* to occur as a result of a potential covered activity.
- The GRHCP can cover proposed, candidate, and other non-listed species, but each covered species must be treated as if it was already ESA-listed at the time of permit issuance.
- To include a species as a covered species, the GRHCP must provide the following:
 - sufficient information to perform a quantitative or qualitative take analysis;
 - effective conservation actions with measurable benefits (avoidance, minimization, mitigation);
 - conservation actions for the species that are practicable to implement; and
 - evidence that requested take does not jeopardize the survival and recovery of the species in the wild.
- The GRHCP will not cover any plants, due to the different applicability the ESA with regard to plants, as discussed above.
- Groups of related species will be treated as species guilds to the extent possible (e.g., *Eurycea* salamanders and freshwater mussels), providing expanded data and analysis where appropriate for species-specific differences.
- The GRHCP will be designed to allow take coverage by second-party entities within the plan area which conduct similar activities as the GBRA. Accordingly, the covered species should be considered broadly enough to include those entities and their activities.

In addition to the covered species, GRHCP implementation may provide benefits to other species that have

a low likelihood of becoming ESA-listed and, therefore, do not warrant being included as covered species.

PROPOSED COVERED SPECIES LIST FOR THE GRHCP

To identify potential covered species for the GRHCP, GBRA and the GRHCP Project Team reviewed the following:

- Species identified on lists generated by USFWS' Information for Planning and Consultation (IPaC) tool for the 23 counties in the GRHCP plan area¹ (USFWS 2021). The IPaC lists include species that are currently listed as threatened or endangered under the ESA; are proposed, candidates, or petitioned for future ESA listing; or are identified on current USFWS listing work plans.
- Species identified on lists generated by the Texas Parks and Wildlife Department's (TPWD) Rare, Threatened and Endangered Species of Texas (RTEST) website for the 23 counties in the plan area. The RTEST lists include species that are listed as threatened or endangered by the State of Texas, are considered Species of Greatest Conservation Need (SGCN) by the State of Texas; or are monitored by the Texas Natural Diversity Database.
- Species identified in GBRA's 2019 and 2021 Section 6 grant applications as potentially benefitted by the GRHCP.
- Recommendations of the USFWS and TPWD staff from initial meetings with those agencies
- Recommendations and ideas from The Aransas Project (TAP) from regular discussions with TPA personnel.
- Discussions with Edwards Aquifer Authority (EAA) staff about their HCP and future plans.

The following four criteria were applied to the species identified from the above resources to determine the current list of proposed covered species for the GRHCP. GBRA and the GRHCP Project Team will continue using these four criteria to evaluate the covered species list during GRHCP development:

- **Range** – The species is known to occur or is expected to occur within the HCP plan area based on species locality and range data, species literature, and professional expertise.
- **Listing Status** – The species is listed under the ESA as threatened or endangered, is proposed or candidate for listing, or has a strong likelihood of being listed during the permit term. Potential for listing during the permit term is based on current listing status, consultation with experts at the USFWS, evaluation of species population trends and threats, and best professional judgment.
- **Impact** – The species or its habitat may be adversely affected by covered activities or projects at a level that is likely to result in take as defined by the ESA (but see explanation of coverage

¹ The 23 counties are Aransas, Bandera, Bastrop, Blanco, Caldwell, Calhoun, Comal, DeWitt, Fayette, Gillespie, Goliad, Gonzales, Guadalupe, Hays, Karnes, Kendall, Kerr, Lavaca, Real, Refugio, Travis, Victoria, and Wilson.

of plants described above).

- **Species Data** – Sufficient scientific data exists on the species’ life history, habitat requirements, and occurrence in the HCP plan area, allowing adequate evaluation of impacts and development of conservation measures to mitigate those impacts.

The species lists generated from the IPaC and RTEST sources and discussions above contained more than 350 species across the 23 counties in the GRHCP plan area; however, most of those species are not expected to be covered species in the GRHCP because they have low likelihood of becoming ESA-listed during the permit term.

The GBRA and GRHCP planning team engaged with the USFWS, TPWD, species experts and key stakeholders over several months in the early stages of GRHCP development. Based on those discussions and the initial evaluations using the four criteria described above, **Table 1** (at the end of this memorandum) provides the current list of proposed covered species. The list includes 12 species: three salamanders, five birds, one insect, and three freshwater mussels. **Table 2** identifies other species on the county lists that are already ESA-listed, or currently proposed or candidates for listing, but initial evaluations indicated that take is not reasonably certain to occur as a result of potential GBRA or Stakeholder covered activities. The species in **Table 2** are not expected to be covered species in the GRHCP but will be re-evaluated as the GRHCP covered activities are developed in more detail. Other species, such as the American eel and alligator gar will benefit from GRHCP conservation activities. Some species, such as the alligator snapping turtle and sea turtles are either not found in the plan area or are not affected by GBRA activities.

In addition to the species identified in **Table 1** and **Table 2**, GBRA will continue to consider other species that were discussed during initial meetings with USFWS and TPWD in November 2021, as well as other species that may be identified as the GRHCP is developed (e.g., by stakeholders). For example, species that were identified during initial meetings with USFWS and TPWD include:

- Guadalupe bass (*Micropterus treculii*) – Species may serve as host for proposed endangered mussel species, but its future listing potential is unknown.
- Cagle’s map turtle (*Graptemys caglei*) – Identified concerns were related to large-scale reservoirs in previous water plans. GBRA currently has no plans to construct large-scale reservoirs.
- Texas diamondback terrapin (*Malaclemys terrapin littoralis*) – Species occurs in coastal portions of plan area, but its future listing potential is unknown.
- Other endemic fish species, such as Guadalupe darter (*Percina apristis*), Guadalupe roundnose minnow (*Dionda flavipinnis*), and burrhead chub (*Macrhybopsis marconis*).

These species will benefit from GRHCP conservation actions and other activities. For example, the Guadalupe bass benefits from continuation of TPWD stocking efforts and it is also a known host for the Guadalupe fatmucket.

By applying the same four criteria described above, the GRHCP Project Team will use a systematic and objective approach to determine the proposed covered species. This approach will help ensure that the GRHCP is “right-sized” for the needs of GBRA and its partners.

REFERENCES

- Devitt, T. J., A. M. Wright, D. C. Cannatella, and D. M. Hillis. 2019. Species delimitation in endangered groundwater salamanders: Implications for aquifer management and biodiversity conservation. *Proceedings of the National Academy of Sciences* 116(7):2624-2633.
- Texas Parks and Wildlife Department (TPWD). 2021. Rare, Threatened, and Endangered Species of Texas by County. Available at <https://tpwd.texas.gov/gis/rtest/>. Last accessed December 2021.
- U.S. Fish and Wildlife Service (USFWS). 2021. Information for Planning and Consultation (IPaC) website. Available at <https://ecos.fws.gov/ipac/>. Last accessed December 2021.
- U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS). 2016. Habitat Conservation Planning and Incidental Take Permit Processing Handbook. 361 pp + apps. https://www.fws.gov/angered/what-we-do/hcp_handbook-chapters.html.

Table 1. Proposed Covered Species for the Guadalupe River Habitat Conservation Plan

Common Name	Scientific Name	Federal Status ¹	State Status ¹	General Location and Habitat	Initial Evaluation ²
Amphibians					
1. Cascade Caverns (Comal Blind) salamander ³	<i>Eurycea latitans</i> (<i>E. tridentifera</i>) ³	NL	T	Kendall, Comal counties; aquatic – springs, streams, and caves with rocky or cobble beds.	These salamanders occur in the plan area and are likely to become ESA-listed during the permit term since their habitat is limited. Because their distribution and habitat are restricted, further evaluation of covered activities will determine the potential for take.
2. Fern Bank salamander	<i>Eurycea pterophila</i>	NL	NL	Kendall, Blanco, Hays, Comal counties; aquatic – Blanco River springs	
3. Undescribed salamander	<i>Eurycea sp. 2</i> (Devitt et al. 2019)	NL	NL	Guadalupe headwaters, Kerr, Gillespie counties; aquatic – springs (Guadalupe headwaters salamander)	
Birds					
4. Eastern black rail	<i>Laterallus jamaicensis</i> ssp. <i>jamaicensis</i>	T	T	Texas coast: primarily Aransas, Calhoun, Refugio, Victoria counties; salt, brackish, and freshwater marshes, pond borders, wet meadows, and grassy swamps	Black rails occur in coastal portions of the plan area and could be impacted by activities within coastal marsh or other persistent emergent wetlands. An existing 4(d) rule allows for incidental take from certain activities, and incidental take may be preventable by avoiding the nesting/brooding season and incorporating other BMPs. Further evaluation of covered activities will determine the potential for take.
5. Golden-cheeked warbler	<i>Setophaga chrysoparia</i>	E	E	Central Texas counties west of Interstate Highway 35 and Balcones Escarpment (Real through Hays/Comal counties); oak-juniper woodlands with mature Ashe juniper for nesting material	Golden-cheeked warblers occur in the western portion of the plan area and could be impacted by activities in or adjacent to suitable habitats. Incidental take may be preventable by avoiding the nesting season and incorporating other BMPs. Further evaluation of covered activities will determine the potential for take.
6. Piping plover	<i>Charadrius melodus</i>	T	T	Texas coast: Aransas, Calhoun, Refugio counties (migratory elsewhere); beaches, sand/mud/algal flats, dunes, spoil islands	Piping plovers and red knots overwinter (no nesting) in the eastern extent of the plan area. Initial reviews indicate GBRA’s activities would not impact them, but second-party activities may impact the species and have the potential for incidental take.
7. Red knot	<i>Calidris canutus rufa</i>	T	T	Texas coast: Aransas, Calhoun, Refugio counties (migratory elsewhere); beaches, sand/mud/algal flats, dunes, spoil islands	
8. Whooping crane	<i>Grus americana</i>	E	E	Texas coast: Aransas, Calhoun, Refugio, Victoria counties (migratory elsewhere); marshes, ponds, and flooded grain fields	Whooping cranes overwinter (no nesting) in coastal portions of the plan area. Further evaluation of covered activities will determine if incidental take is reasonably certain to occur due to impacts to either the crane’s food web and prey base, or to habitat availability.

Table 1. Proposed Covered Species for the Guadalupe River Habitat Conservation Plan

Common Name	Scientific Name	Federal Status ¹	State Status ¹	General Location and Habitat	Initial Evaluation ²
Insects					
9. Monarch butterfly	<i>Danaus plexippus</i>	C	NL	Occurs in Texas year-round, but is most common during spring and fall migrations. Caterpillars are dependent on milkweed (<i>Asclepias</i>) species.	Adults and caterpillars could occur in plan area. On 12/17/2020, USFWS found that ESA-listing was warranted but precluded by other priorities. Further evaluation of covered activities and species details will determine if incidental take is reasonably certain to occur or if there is sufficient data to quantify take.
Mollusks					
10. False spike	<i>Fusconaia mitchelli</i>	PE	T	Proposed critical habitat in Guadalupe River in Gonzales, DeWitt, Victoria counties; small streams to medium-size rivers, riffles and runs with flowing water, often in stable substrates of sand, gravel, and cobble	These freshwater mussels occur in the plan area, are currently proposed for ESA-listing, and could be impacted by covered activities. Covered activities that affect aquatic habitats in the Guadalupe River and major tributaries should be further evaluated for take potential.
11. Guadalupe fatmucket	<i>Lampsilis bergmanni</i>	PE	T	Proposed critical habitat in Guadalupe River and Johnson Creek in Kerr, Kendall counties; reported in slow to moderate current in various substrates; also observed in macrophyte beds, roots of cypress trees, and vegetation along steep banks	
12. Guadalupe orb	<i>Cyclonaias necki</i>	PE	T	Proposed critical habitat in Guadalupe River in Kerr, Kendall, Comal, Guadalupe, Caldwell, Gonzales, DeWitt, Victoria counties and San Marcos River in Gonzales County; occurs in mainstem and tributary habitats, often in substrates composed of sand, gravel, and cobble, including mud-silt or gravel-filled cracks in bedrock slabs	

¹ Federal and State status: E = Endangered; T = Threatened; PE = Proposed Endangered; C = Candidate; NL = Not Listed

² Initial evaluation applying the four criteria described above: Range, Listing Status, Impact, and Species Data

³ *Eurycea latitans* includes former *E. tridentifera*, as recommended by Devitt et al. (2019). The Integrated Taxonomic Information System (ITIS) classifies *E. tridentifera* as an invalid taxon and a junior synonym to *E. latitans*.

Table 2. ESA-listed, Proposed, and Candidate Species Not Proposed to be Covered in the GRHCP

Common Name	Scientific Name	Federal Status ¹	State Status ¹	Initial Evaluation and Rationale for Not Covering the Species
Edwards Aquifer HCP species ²	11 species ²	–	–	GBRA’s activities are not expected to result in take of the Edwards Aquifer HCP species (GBRA pumps from the Carrizo-Wilcox Aquifer, not the Edwards Aquifer).
Houston toad	<i>Bufo houstonensis</i>	E	E	Species not currently known to occur in the GRHCP plan area.
Attwater’s greater prairie-chicken	<i>Tympanuchus cupido attwateri</i>	E	E	Potential covered activities are not expected to result in incidental take of the species.
Northern aplomado falcon	<i>Falco femoralis septentrionalis</i>	E	E	Species has limited distribution in the eastern extent of the GRHCP plan area, primarily on barrier islands. Potential covered activities are not expected to result in incidental take of the species.
Ocelot	<i>Leopardus pardalis</i>	E	E	Species does not occur in the plan area. The nearest documented ocelot population is in Kenedy and Willacy counties, over 100 miles south of the plan area.
Gulf Coast jaguarondi	<i>Herpailurus yagouaroundi cacomitli</i>	E	E	Species does not occur in the plan area, and no documented jaguarundi populations currently exist in Texas.
West Indian manatee	<i>Trichechus manatus</i>	T	T	Potential covered activities are not expected to result in incidental take of the species.
Sea turtles ³	5 species ³	–	–	Species are restricted to marine and estuarine open water habitats for most of their lives; females utilize beaches for nesting. Potential covered activities are not expected to result in take of any of the sea turtle species.
Black lace cactus	<i>Echinocereus reichenbachii</i> var. <i>albertii</i>	E	E	Potential covered activities or conservation measures are not expected to impact these listed or proposed plant species.
Bracted twistflower	<i>Streptanthus bracteatus</i>	PT	NL	
Tobusch fishhook cactus	<i>Sclerocactus brevihamatus</i> ssp. <i>tobuschi</i>	T	E	

¹ Federal and State status: E = Endangered; T = Threatened; PT = Proposed Threatened; NL = Not Listed

² Edwards Aquifer HCP species = 11 aquatic species covered by the Edwards Aquifer HCP: Comal Springs salamander (*Eurycea* sp. 5), San Marcos salamander (*E. nana*), Texas blind salamander (*E. rathbuni*), fountain darter (*Etheostoma fonticola*), San Marcos gambusia (*Gambusia georgei* – now declared extinct by USFWS), Peck’s Cave amphipod (*Stygobromus pecki*), Texas troglobitic water slater (*Lirceolus smithii*), Comal Springs dryopid beetle (*Stygoparnus comalensis*), Comal Springs riffle beetle (*Heterelmis comalensis*), Edwards Aquifer (Texas Cave) diving beetle (*Haideoporus texanus*), and Texas wild-rice (*Zizania texana*).

³ The five sea turtle species include Atlantic hawksbill sea turtle (*Eretmochelys imbricata*), green sea turtle (*Chelonia mydas*), Kemp’s Ridley sea turtle (*Lepidochelys kempii*), leatherback sea turtle (*Dermochelys coriacea*), and loggerhead sea turtle (*Caretta caretta*).