

Riverine Acoustic Fish Telemetry (RAFT™) Network Terms and Conditions

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This is the formal Riverine Acoustic Fish Telemetry (RAFT™) database terms and conditions that will be applied to all current and future RAFT™ users. Contact Doug Appel (dsappel@usgs.gov) or Marybeth Brey (mbrey@usgs.gov) with questions about this document.

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1. Definitions and Acronyms

Data Manager - the person appointed to manage data within RAFT™ .

Data Policy - the agreement between Members of the RAFT™ Network or other persons which sets out the process through which RAFT™ data can be accessed (i.e., this document).

Member(s) – individuals who are registered with a Login.gov account to access the database website. Members may or may not have any assigned Projects or access to data.

OTN - Ocean Tracking Network.

Owner(s) – individuals who created a Project on RAFT™ or who are assigned as an Owner to a Project. The Owner is often the Project Primary Investigator (PI) but may be an individual designated by the PI. Owners have permission to modify project descriptions, grant/revoke project access, monitor project activity, upload data, and query data.

Partner(s) – agencies, organizations, or individuals who collect acoustic telemetry data and submit it to the database, who use the data to answer research questions or to make management decisions, or who provide input or support to a project. Partners will always be assigned to at least one project and given a Project Role.

Project – an individual tagging/detection effort is called a Project and may be limited to a specific geographic area, species, or set of acoustic transmitter codes or array of receivers. Data uploaded to RAFT™ are associated with and maintained within a designated Project. Permissions required to interact with a Project are assigned by the Owner.

Project Roles:

Principal Investigator (PI)– person(s) responsible for the overall planning, direction, and management of the Project. The PI is the lead and typically the **primary** point of contact in the database and Owner of the Project. The PI may have permission to modify their project

description, grant/revoke project access to users, monitor project activity, upload data, and query data.

Co-Investigator (CI) – if there is more than one PI for a project, subsequent individuals will be listed as Co-Investigators. The CI may have permission to modify their project description, grant/revoke project access to users, monitor project activity, upload data, and query data.

Researcher - person(s) who may collect/use/analyze the data to answer research questions but is not the project lead. Researchers may be responsible for deploying, maintaining, and retrieving data from acoustic receivers, tagging animals, submitting data to the database, or performing analyses on the data. They may be a student. Researchers may be assigned permission by the Owner to have administrative rights and to upload or query data.

Collaborator – person(s) who may provide input or support to a project or be a member of the public who requests and is granted access to a project. Collaborators may be given permission by the Owner to query or download data.

RAFT™ - Riverine Acoustic Fish Telemetry network is the acoustic telemetry database and associated tools; may also be referred to as the “RAFT™ network” or “RAFT™ node.”

2. Background

The *Riverine Acoustic Fish Telemetry (RAFT™)* network (formerly, FishTracks) was initiated as a partnership between Southern Illinois University (SIU) and the U.S. Geological Survey (USGS) Illinois Water Science Center (now the Central Midwest Water Science Center) around 2014. The database was focused on bigheaded carp (i.e., silver carp *Hypophthalmichthys molitrix* and bighead carp *H. nobilis*) acoustic telemetry data from Pool 26 of the Mississippi River to the Dresden Island Pool of the Illinois River. Receivers along the river were maintained and tagging of fish was conducted by a small group of researchers from SIU, U.S. Fish and Wildlife Service (USFWS), and the U.S. Army Corps of Engineers (USACE). The original idea was to start linking data from USGS gage stations to telemetry data for fish movement and provide an easy way for researchers in the sub-basin to share acoustic telemetry data. However, as interest in all invasive carp species (i.e., bighead carp, silver carp, black carp [*Ctenopharyngodon idella*], and grass carp [*Mylopharyngodon piceus*]) increased, so too did the volume of data. Although support and staff for the database and subsequent visualization tools ebbed and flowed over the years, interest in a comprehensive database for acoustic telemetry data has not. In 2023, additional interest from the USACE to expand the database, both spatially and to other fish species, necessitated changing the database structure to something more robust and easier to use. Therefore, the migration to implementing the structure used by the Ocean Tracking Network (OTN) was initiated.

The mission of the OTN is to inform sustainable management of aquatic animals by providing information on their movements, habitats, and survival through international expertise, data warehousing, and technological innovation. Detection data uploaded from an OTN-structured node can be cross-referenced with tags in other OTN data nodes to resolve unknown detections and provide detection data to tag owners in other regions. Additionally, OTN data managers aid with data quality assurance and provide technical support. The OTN is a growing a community of fish tracking projects, and exposing RAFT™ to this group will allow researchers to find partners and collaborators in the field.

3. Overview

The RAFT™ node contains three main types of acoustic biotelemetry records and metadata: tagging, receiver, and detections. Associated metadata for multiple fish species and telemetry technologies in the Mississippi River Basin and its associated sub-basins is also included in the network. Telemetry data stored in this database are accessible to the Members of a Project after their Project is registered. Partners can access detections of their tags from any receiver file uploaded to RAFT™. Owners can grant any Member access to tagging data (i.e., species, tagging location, length, weight) and subsequent detections of tagged fish.

Like the OTN, RAFT™ aims to “balance the utility of data sharing, both within the acoustic telemetry community and with the broader public, against the real and practical concerns of sharing this very sensitive ecological information,” (OTN Data Policy). A primary goal of RAFT™ is to facilitate a collaborative data exchange network with individual Partners from a variety of agencies and institutions. While some data are immediately available through the RAFT™ website (e.g., approximate receiver location and deployment metadata), all animal-specific metadata and detections (i.e., receiver downloads and tagging metadata) are restricted to the project PI and associated Partners until public release (annually, following a one-year quality assurance period).

Both OTN and RAFT™ understand the concerns of researchers; however, by December 31, 2025, all federally funded projects and data, including state agency and university projects that receive funding from federal sources, must comply with The Open, Public, Electronic and Necessary Government Data Act of 2018 (OPEN Government Data Act; 44 U.S.C. 3501-3520). The RAFT™ Network will default to following OPEN guidelines set forth by the USGS and the Department of the Interior and will function with a “opt out” approach. This means that all data are assumed to be supported by some level of Federal funding and will be made public as soon as possible. For projects that do not receive Federal funding, other data sharing options may apply, and these requests will be considered on a case-by-case basis. Additional details can be found in Section 8.

4. Collaborators

Access to RAFT™ website is limited to registered users. Anyone can freely register as a user. By registering as a user, you are registering as a RAFT™ Member, and thus as a Collaborator with the U.S. Geological Survey (USGS) who hosts and maintains the RAFT™ Network website. The USGS is authorized to collaborate with other federal agencies, units of state or local government, industrial organizations, private corporations, public and private foundations, and nonprofit organizations (including universities) under the Stevenson–Wylder Act (15 U.S.C. § 3710a, as amended). The USGS has a mission in Ecosystems to protect public safety, property, and ecosystems from invasive plants and animals and infectious fish and wildlife diseases that pose significant ecologic and economic threats to the resources of the United States. Data contributions from collaborators support this mission.

5. Data Submission

By submitting data to RAFT™, Partners agree to the following:

- a. Partners will ensure all data are in accordance with predefined data formatting standards as described in the RAFT™ metadata submission forms.

- b. Partners should inform RAFT™ data managers of any known data errors, inaccuracies, or needed updates as soon as possible.
- c. Partners should consider making all their data accessible to all Partners as soon as they deem it appropriate. PIs can do this by opting into unrestricted sharing through RAFT™ administrators.
- d. Partners understand that RAFT™ is structured to meet all Federal OPEN data policies. As these policies change, so too may the RAFT™ data policy. Partners will be given the opportunity to review any new Terms and Conditions if Federal data policies change.

6. Data Access

- a. Anyone will be able to view the public facing pages of RAFT™ without a www.login.gov account and will be able to:
 - Access the homepage/landing page (with general information about RAFT™)
 - View data management procedures
 - Browse projects and project descriptions
 - View the receiver map (limited ability to zoom in, imprecise coordinates)
 - Use the tag lookup tool (look up a partial or full tag code to access tag number, the project name, and contact information associated with the project)
- b. Anyone with a www.login.gov account will be considered a Member and may be able to retrieve or submit data as determined by the project Owner(s).
 - After logging in with a Login.gov account, users will be asked to create a RAFT™ account. Your Login.gov email will be associated with all RAFT™ communication, so please ensure it is where you would like to receive emails. If you currently have an account associated with a personal email, we suggest creating another Login.gov account with a work email. The first time you log-in with Login.gov a member profile is automatically created.
 - Members who wish to access RAFT™ data beyond what is provided via the public facing site (<http://www.usgs.gov/apps/raft>) will be asked to become a RAFT™ Collaborator or Partner, by creating or joining a Project. The Project Owner/PI will approve individual permissions to access additional data as appropriate.
 - Members with a login.gov account will be able to:
 - i. Submit new projects
 - ii. Add other Members to their projects and submit requests to be added to Partner projects
 - iii. Download data from their projects
- c. Members who wish to access precise detection records and/or receiver locations from RAFT™ to link to tag IDs that they own, will be asked to provide release metadata for their tag IDs to be incorporated into RAFT™ so future detections may be assigned to the tag ID. If they choose not to provide release metadata, the only the contact information of receiver array owners may be released (with permission), and members can coordinate data exchange outside of RAFT™.
- d. RAFT™ administrators will not determine who can have access to individual project data.

7. Use of RAFT™ Data

- a. All individuals who access RAFT™ data shall provide attribution to all data providers and the RAFT™ Network if the RAFT™ node data are used in a publication, product, or commercial application. Additional suggestions for citing RAFT™ or Partner data can be found on the RAFT™

website or by contacting the data manager. Publications with RAFT™ node attributions shall be forwarded to the Data Manager

- Example of general RAFT™ acknowledgement: *The datasets generated/used/analyzed are available at the Riverine Acoustic Fish Telemetry (RAFT™) Network, <http://usgs.gov/apps/raft>, accessed: [date].*
- b. All individuals who access RAFT™ data should refrain from publishing any data/metadata from tags they did not deploy without tag owner consent. We understand that after one year, all data will be made public, consistent with any Federal laws; however, immense amounts of effort go into designing projects and conducting the work to collect the data. Therefore, every opportunity should be taken to include project PIs in the publication process.
 - If a RAFT™ Partner/Collaborator cannot state certain conclusions but for the detection data provided by another RAFT™ Partner/Collaborator, both parties must agree on a suitable level of attribution, including but not limited to, co-authorship or acknowledgement mentions.
- c. RAFT™ data may be used in informational material for the RAFT™ website. Consent of the RAFT™ Partner is required for use of all information except:
 - Counts and general locations of receivers by region (for map making or summary statistics),
 - Counts of fish/species tagged by region, and
 - Project information, including points of contact.
- d. RAFT™ Data Managers agree and acknowledge that neither RAFT™ nor the Partner is liable for any inaccuracies in RAFT™ data.
- e. All users of RAFT™ data are responsible for investigating and understanding the limitations of the data.
- f. All registered Partners/Collaborators of the RAFT™ Network are required to report all problems with respect to RAFT™ data to the Data Manager.
- g. By using RAFT™ (submitting or receiving data), you are agreeing to the Terms and Conditions set forth in this document.

8. Public Data Release and Open Data Policy

The Open, Public, Electronic and Necessary Government Data Act of 2018 ([OPEN; Public Law 115-435](#)) requires all federal agencies publish information online as “open data, using standardized, machine-readable data formats” by December 31, 2025 (Updated, [08-2022-OSTP-Public-Access-Memo.pdf](#)). This requirement includes federally funded data collected by state agencies, NGOs, or universities. All federally funded data submitted to RAFT™ that do not have an approved alternative data management plan (see below) will be subject to the following to comply with the OPEN Government Data Act.

- a. Following the quality assurance process, all records submitted in a calendar year will be included in an annual RAFT™ data release on [ScienceBase](#) (a Trusted Digital Repository that meets requirements for public release of federal data) by the following year. For example, if data are submitted in 2025, the data would be included in the 2025 end of year report which would be publicly available by December 2026. In general, it will take at least one year from the time data are submitted until the time they are publicly released.

- b. For historical data submitted to RAFT™, these data will be made public through ScienceBase during the year that the data receive final quality assurance review and are included in the database.
- c. There are very few exceptions to this policy for federally funded projects (see exceptions in Section 11). If you are concerned the public data release, please reach out to the RAFT™ team to discuss your individual circumstance(s) prior to submitting data.
- d. The USGS RAFT™ node team may use general summarized data (e.g., number of projects, number of species tagged, receiver maps) as part of published and unpublished annual and multi-annual assessments, analyses and reports, and program education and outreach materials. Data may be used to generate data visualizations and populate data dashboards on the public website.

9. Data Storage and Website Access

Data uploaded to the RAFT™ network website are stored on a secure server run with daily automated backups. Barring unforeseen issues, RAFT™ will remain operational, with full access to all content and services, during regular business hours (Monday – Friday, 8 a.m. to 5 p.m., Central Time). In most cases, RAFT™ is also fully operational during non-business hours; however, regular updates and maintenance do occur, sometimes resulting in limited system access. While rare, temporary outages may occur. In this event, the RAFT™ team will work diligently to resolve any issues as quickly as possible.

10. Data Exchange between OTN Nodes

Data collation and management within regions is the proper-scaled approach to organic collaboration and coordination of effort. Nodes allow regional organizations to cross- reference data and metadata with one another and with OTN and in turn provide more data to their end-users. This report-once, track-everywhere system of compatible databases simplifies reporting of metadata and data and keeps information nearest to where it is being generated, authoritatively in one place for ease of update or correction. Please refer to the OTN policies for additional information (<https://members.oceantrack.org/data/policies/>). Tag IDs, species information, tagging agency/group, and PI contact information from RAFT™ will be shared for “matching” purposes among other OTN-compatible nodes.

11. Freedom of Information Act (FOIA)

The USGS will comply with the Federal Freedom of Information Act (FOIA). The FOIA is a Federal statute which allows individuals to request access to federal agency records, except to the extent records are claimed as exempt from disclosure under one or more of the nine (9) exemptions of the FOIA.

- a. Exemption 1 protects properly classified information.
- b. Exemption 2 protects records that are “related solely to the internal personnel rules and practices of an agency.”
- c. Exemption 3 protects information that has been “specifically exempted from disclosure by statute.”
- d. Exemption 4 protects “trade secrets and commercial or financial information obtained from a person and privileged or confidential.”
- e. Exemption 5 protects “inter-agency or intra-agency memorandums or letters that would not be available by law to a party other than an agency in litigation with the agency.”

- f. Exemption 6 protects “personnel and medical files and similar files [where] the disclosure of which would constitute a clearly unwarranted invasion of personal privacy.”
- g. Exemption 7 protects certain types of law enforcement information.
- h. Exemption 8 protects matters “contained in or related to examination, operating, or condition reports prepared by, on behalf of, or for the use of an agency responsible for the regulation or supervision of financial institutions.”
- i. Exemption 9 protects “geological and geophysical information and data, including maps, concerning wells.”

12. Responsibilities of Parties

Partners/Collaborators agree to the following distribution of responsibilities.

Partners/Collaborators:

- a. Report all data in a timely manner, including associated metadata.
- b. Assure, to the greatest extent possible, that data uploaded to RAFT™ are complete and accurate.
- c. Provide complete and full data to maximize its utility to users when data become unrestricted.
- d. Provide detailed manufacturer's specifications for all tags and receivers.
- e. Provide high-level metadata related to the parameters of the Project and its participants for publication in a registry of Projects.
- f. Maintain accurate contact information for Project participants, particularly Principal Investigators.

RAFT™ Administration:

- a. Provide a repository where Partners may securely access their Project(s') data and the aggregated data products generated by the Database.
- b. Provide all data in formats that are acceptable to the international community and compatible with all relevant data and metadata standards.
- c. Make all data public at least once per year.
- d. Uphold the embargo period granted to the Restricted Data for projects that are not federally funded, or that have an alternate data plan with their funding agency.
- e. Disseminate and curate evolving best practices guidelines and conduct periodic reviews of data management activities to ensure that they are consistent with this Policy.

13. References

References used to create this data policy include the OTN data policy and the data policies of two existing OTN nodes. Additional references on the Federal OPEN Government Data Act are also listed below.

The Ocean Tracking Network (OTN) Data Policy: <https://members.oceantrack.org/data/policies/>

The Pacific Aquatic Telemetry Hub (PATH) Data Policy: <https://path.wfcb.ucdavis.edu/data/policies>

The FACT Network User Agreement and Data Policy Ver 1.1: <https://secoora.org/fact/fact-user-agreement/>

Open, Public, Electronic and Necessary (OPEN) Government Data Act of 2018. 44 U.S.C. 3501-3520.

[H.R.1770 - 115th Congress \(2017-2018\): OPEN Government Data Act | Congress.gov | Library of Congress](#)

Ensuring Free, Immediate, and Equitable Access to Federally Funded Research. Memorandum. August 25, 2022. [08-2022-OSTP-Public-Access-Memo.pdf](#)