

Distribution Data and Subnational Conservation Status Ranks Consistency Validation Function (the DDF)

Northeast Natural Heritage Conference
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The Function

- The Distribution Data and Rank Validation Function (DDF) compares data within a subnational element tracking record to confirm internal consistency.
- Certain ranks require certain distribution data to be present in the record; other combinations of values in these fields are inconsistent or not valid.
- The DDF **does not change data**, just finds it.

Biotics Data Fields Checked

EST - *Clemmys guttata* (Element Subnational Tracking Species)

File Edit Tools Help

Summary

Higher Taxonomy Code: VTEMYD Nation: US Subnation: PA Classification Status: Standard

Global Scientific Name: *Clemmys guttata* Global Rank: G5

Subnational Scientific Name: *Clemmys guttata* Subnat'l Rank: S3

Identifiers/Concept Common Names Classif. Synonyms **Heritage Status** Invasiveness Subnational Status Other Status Doc. &

Heritage Conservation Status

Subnational Rank: S3

Rank Change Date: 2003-02-11

Rank Review Date: 2006-10-24

Rounded Rank: S3

Exotic Status:

Exotic Status Date: --

Ranking Form:

BCD-Style Rank: S4

Distribution Data

Origin	Regularity	Distribution Confidence	Current Presence/Absence	Population
Native	Regularly occurring	C - Confident	Present	Year-round

Comments:

Element Occurrence Tracking: Y: Track all extant and selected historical EOs

EO Tracking Comments:

Endemic:

Reason Rank "Not Applicable"
 Hybrid Without Conservation Value

Data Sensitive Element

1 of 1

Element ID: 330512
Universal Key: NTSRV-330512

For example:

EST - Actaea rubra (Element Subnational Tracking Species)

File Edit Tools Help

Summary

Higher Taxonomy Code: PDRAN Nation: US Subnation: PA Classification Status: Standard

Global Scientific Name: Actaea rubra Global Rank: G5

Subnational Scientific Name: Actaea rubra Subnat'l Rank: S2S4

Identifiers/Concept Common Names Classif. Synonyms **Heritage Status** Invasiveness Subnational Status Other Status Doc. &

Heritage Conservation Status

Subnational Rank: S2S4

Rank Change Date: 2007-10-30

Rank Review Date: 2007-10-30

Rounded Rank: S3

Exotic Status:

Exotic Status Date: ..

Ranking Form:

BCD-Style Rank: S?

Distribution Data

Origin	Regularity	Distribution Confidence	Current Presence/Absence
Unknown/Undetermined	Regularly occurring	C - Confident	Unknown/Undetermined

Comments:

Element Occurrence Tracking: W: Track on a watch list only

EO Tracking Comments:

Endemic:

Reason Rank "Not Applicable": Hybrid Without Conservation Value

Data Sensitive Element

1 of 1

Element ID: 610523
Universal Key: NTSRV-610523

For example:

EST - Lithophane pexata (Element Subnational Tracking Species)

File Edit Tools Help

Summary

Higher Taxonomy Code: IILEMNOC Nation: US Subnation: VA Classification Status: Standard

Global Scientific Name: Lithophane pexata Global Rank: G5

Subnational Scientific Name: Lithophane pexata Subnat'l Rank: S1S3

Identifiers/Concept Common Names Classif. Synonyms **Heritage Status** Invasiveness Subnational Status Other Status Doc. &

Heritage Conservation Status

Subnational Rank: S1S3 Exotic Status: []

Rank Change Date: 2007-02-21 Exotic Status Date: []

Rank Review Date: 2007-02-21 Ranking Form: []

Rounded Rank: S2 BCD-Style Rank: []

Distribution Data

Origin	Regularity	Distribution Confidence	Current Presence/Absence	Population
Native	Regularly occurring	C - Confident	Present	[]

Comments: []

Element Occurrence Tracking: W: Track on a watch list only Reason Rank "Not Applicable": Hybrid Without Conservation Value

EO Tracking Comments: []

Endemic: [] Data Sensitive Element

1 of 1

Element ID: 807389
Universal Key: VA-25305

For example:

EST - Equisetum variegatum (Element Subnational Tracking Species)

File Edit Tools Help

Summary

Higher Taxonomy Code PPEQU Nation CA Subnation LB Classification Status Standard

Global Scientific Name Equisetum variegatum Global Rank G5

Subnational Scientific Name Equisetum variegatum Subnat'l Rank SNA

Identifiers/Concept Common Names Classif. Synonyms **Heritage Status** Invasiveness Subnational Status Other Status Doc. &

Heritage Conservation Status

Subnational Rank SNA Exotic Status

Rank Change Date 2004-02-04 Exotic Status Date

Rank Review Date Rounded Rank SNA Ranking Form

BCD-Style Rank S2?

Distribution Data

Origin	Regularity	Distribution Confidence	Current Presence/Absence
Native	Regularly occurring	R - Reported but unconfirmed	Present

Comments

Element Occurrence Tracking Y: Track all extant and selected historical EOs Reason Rank "Not Applicable"

EO Tracking Comments

Endemic

Hybrid Without Conservation Value

Data Sensitive Element

1 of 1

Element ID: 559451
Universal Key: NTSRV-559451

Values returned by the DDF

- **INVALID EST IDENTIFIER** (when checking a set of ESTs)
- **INVALID RANK SYNTAX** – rounded rank is invalid
- **INVALID DATA COMBO – HYBRID WITH RANK NOT SNA**
- **INVALID – NO DISTRIBUTION DATA FOUND**
- **MULTIPLE RANKS – UNABLE TO EVALUATE** – breeding species with multiple ranks for different populations are not checked by the function
- **INVALID – ANIMAL RECORD MISSING POPULATION VALUE** – animal records must have a value recorded for population
- **INVALID DATA COMBO** – combination of SRANK + distribution data + hybrid indicator is invalid

Values returned by the DDF

- **VALID DATA COMBO** – there is at least one row of distribution data which, when combined with SRANK and hybrid indicator, is valid
- **VALID DATA COMBO – BUT REVIEW SUGGESTED** – combination of values is valid, but rare, so review of the record is suggested
- **NOTHING VALID OR INVALID FOUND** – the record contains a combination not yet recognized by the function; review suggested

Rules Enforced by the DDF - Distribution Confidence and Current Presence/Absence

If Distribution Confidence is	Current Presence/Absence must be	SRANK must be
Confident	Present, Absent, or Unknown	Any
Reported but unconfirmed	Absent or Unknown	SNA or SU
Reported but doubtful	Unknown	SNA
Reported but false	Absent or Unknown	SNA
Potential	Absent or Unknown	SNA
Potential, but false report exists	Absent or Unknown	SNA
Never was there	Absent	SNA

Rules Enforced by the DDF

Some rules must be broken for unusual cases.
These exceptional cases are flagged as
“VALID COMBO BUT REVIEW SUGGESTED.”

Comments entered in the Distribution Data
Comments field will make review of these
records easier.

GRank/Srank discrepancies

- Recent discussion on Zoology ListServ
- Original question posed by Jay Cordeiro:
“...Instances where the ranking guidelines, as written, ultimately arrive at a rank discrepancy between the global and subnational rank.... Global rank is higher due to widespread, imminent threat or decline but the subnational rank shows no evidence of either”

Responses

- “Shouldn’t the G rank somehow take the entire range into consideration? Which would mean it will often be somewhere between the highest and lowest S ranks?”
- “No. It is not an “average” rank but a sum total rank...”
- “... we are discussing a different idea than the current G-rank definition, something like a global threat rank rather than a global possibility of extinction.”

ERWG says

- The national/subnational rank should not indicate that the taxon or ecosystem type is more imperiled at a global level than it is at a local level the rank calculator.... may produce incongruous ranks; for example, a species is experiencing significant declines across most of its range but is stable in a particular jurisdiction). In this circumstance, either the global rank and/or the national/subnational rank should be adjusted to eliminate this discrepancy (e.g., calculated ranks of G₃ and S₄ for a species would be adjusted to G₃ and S₃ or G₄ and S₄).

Northeast Examples

ELCODE	GNAME	SUBNT N	G_RAN K	GRev_Date	S_RAN K	SChg_date
IICOL024D0	Cicindela abdominalis	FL	G3	2008-06-03	S4	
IICOL024D0	Cicindela abdominalis	NJ	G3	2008-06-03	S4	
IICOL024D0	Cicindela abdominalis	SC	G3	2008-06-03	S4	
IIOD071020	Enallagma laterale	RI	G3G4	2006-01-23	S4	2005-05-06
IILEPG4024	Glaucoopsyche lygdamus lygdamus	TN	G5T3T4	2007-04-12	S4	2000-04-12
IILEPG4024	Glaucoopsyche lygdamus lygdamus	VA	G5T3T4	2007-04-12	S4	1985-02-01
IMGASN0070	Planorbella corpulenta	ON	G2	2000-06-01	S3	1998-05-15
IILEYFN010	Psectraglaea carnosus	ON	G3	2005-05-10	S4	2000-10-31
ITUNI03070	Pseudotremia valga	VA	G1G2	2002-08-21	S3	
AFCJB05010	Clinostomus elongatus	OH	G3G4	2007-04-03	S4	2007-08-15
AFCJB05010	Clinostomus elongatus	PA	G3G4	2007-04-03	S4	1984-03-01
ABNKD06074	Falco peregrinus tundrius	QC	G4T2	2005-09-07	S3	2004-03-02
AFCJB28180	Notropis bifrenatus	NJ	G3	2007-06-22	S4	1984-08-01
AFCHA05011	Salvelinus alpinus oquassa	QC	G5T2Q	2003-03-13	S3S4	2007-08-06

Non-native EOs?

- Fish watershed distribution maps only for native range
- Data set incorporates species-watershed data from EOs
- Many EOs (especially western) are of non-indigenous populations
- How to exclude?

Rounded S_ranks for dual ranks

- Migratory species often assigned a dual rank, e.g., S₂S₃B, S₅N.
- Rounded rank algorithm calculates each part of the dual rank separately, e.g., S₂B, S₅N
- How to collapse these dual ranks into a single rounded_s_rank for ease of use in analyses and reporting?