TWELFTH MEETING OF PARTNERS OF THE EAST ASIAN – AUSTRALASIAN FLYWAY PARTNERSHIP
Cebu, Philippines, 8-14 November 2025

Decision 10

Coordination of Colour Marking of Migratory Waterbirds in the East Asian – Australasian Flyway Partnership

Submitted by the Technical Sub-Committee and the EAAFP Shorebird Working Group

Summary

Studies of marked migratory waterbirds provide information about movements and life history vital rates that are essential for conservation management. Coordination of marking schemes, required to ensure the integrity of individual projects, has been recognised since the founding of the EAAFP, initially being included as Outcome 10 of the *Implementation Strategy for the East Asian – Australasian Flyway Partnership: 2007-2011*. Coordination of marking schemes has variously been undertaken by taxonomic Working Groups and Task Forces, and the Secretariat. The comprehensive review of shorebird colour-marking recently completed by the Shorebird Working Group shows what can be done. Currently, there is no agreed structure for coordination of colour-marking within the Partnership and no entity has been identified as being responsible for such coordination.

Background

1. Marking of migratory waterbirds using individually numbered metal rings/bands has taken place on the EAAF for more than 100 years. Information obtained was largely restricted to the recovery of dead birds, with only a small number being re-trapped alive or observed such that the ring/band could be read.

2. Marking of cranes, swans and geese with individually numbered, readable bands and neck collars started in the EAAF in the 1980s. Marking of seabirds with readable bands (e.g. gannets, terns) has been undertaken for several decades.

3. Marking migratory shorebirds with leg flags started in 1990, with plain coloured flags being used to indicate the geographical area where the bird had been marked. Re-sightings of marked birds increased greatly and soon flagging was being conducted at a number of sites along the flyway, requiring a robust protocol to coordinate activities – in recent years many of the flags are engraved allowing individual recognition.

4. A temporary Colour Marking Task Force was established by MOP4 in 2010 and subsequently disbanded at MOP7 in 2013, following the establishment of a web-based system of colour marking protocols for waterbird groups and the transfer of coordination of colour marking to the Flyway Science Officer at the Secretariat. At MOP7, Partners were reminded that 'national or regional banding offices must remain the first point of contact when new colour marking projects are being considered'[1].

5. MOP8 recorded that 'The role played by the Scientific Officer of the EAAFP in maintaining the records of the coloured flag combinations used in each country is important in ensuring that there is no confusion, as that would devalue the future sightings.'[2]

6. At MOP9, there was reference to the Seabird WG 'developing a coordinated seabird banding protocol to enable reporting in the Flyway and avoid duplication of colour schemes', this being included in the WG's Work Plan 2017-2018, and the need to ensure Partners were aware of colour codes used on Black-faced Spoonbills. The Far Eastern Curlew Single Species Action Plan (SSAP) adopted at MOP9 included the action: 'Maintain an internationally coordinated colour-marking scheme through the EAAFP Colour-marking Task Force and relevant national bird banding programmes' – however, no such Colour-marking Task Force existed at that time.

7. The Strategic Plan 2019-2028, adopted at MOP10, includes no reference to colour marking of migratory waterbirds, but the Seabird Working Group reported that their work plan included to 'promote and work with scientific unit and TSc for scheme of colour marking of seabirds within EAAF flyway'[3].

8. An EAAFP shorebird colour-marking protocol was first issued in 2001 and subsequently updated in 2007 and 2015. The Partnership's Shorebird Working Group has now further updated this protocol, which provides a summary of shorebird colour-marking schemes in different parts of the flyway, and is provided as Appendix 1 to this MOP12 Draft Decision.

[1] 2013. Report of the Seventh Meeting of Partners, 3.6 Brief update from EAAFP Working Groups and other special purpose groups, p. 24
[2] 2015. Report of the Eight Meeting of the Partners, 3.2.2.5. PMNT, p. 85
[3] 2023. Draft minutes of the 10th Meting of Partners, para. 503

Annex 1.

Decision 10

Coordination of Colour Marking of Migratory Waterbirds in the East Asian – Australasian Flyway Partnership

Submitted by the Technical Sub-committee and the EAAFP Shorebird Working Group

Recognising that studies of marked migratory waterbirds provide information about movements and life history vital rates that are essential for conservation management;

Noting that the *Implementation Strategy for the East Asian – Australasian Flyway Partnership: 2007-2011* included Outcome 10.2 'Migratory Waterbird Marking Protocols are developed for most migratory waterbirds' and Outcome 10.3 'There is a high level of coordination between bird banding/ringing/ schemes on migratory waterbird marking projects';

Acknowledging that Objective 3 of the Strategic Plan 2019-2028 recognises that "research draws on and uses information generated through research activities and case studies, and the results are shared and used to conserve migratory waterbirds and their habitats. The list of sites of international importance for migratory waterbirds will be updated and prioritized for conservation management." will require information generated through an improved understanding of movements of all waterbird taxa across their annual migrations, such has been demonstrated through colour marking and tracking;

Thanking the Shorebird Working Group for the preparation of an updated review of the Shorebird Colour Marking Protocol in consultation with partners, active schemes and experts within and beyond the flyway;

Noting the advice of the Technical Sub-committee (MOP12 Doc.8) that the Secretariat and its Science Unit address the urgent need to establish a central clearinghouse/coordination for all colour marking projects/schemes for all migratory waterbird taxa covered by the Partnership; and

Further recognising the long-term need for maintenance of a coordinated approach to colour-marking schemes for migratory waterbirds in the Flyway, including through re-establishing the Task Force on Colour Marking;

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of the East Asian – Australasian Flyway Partnership

1. *Welcomes* the updated review of the Shorebird Colour-marking Protocol (Appendix 1) compiled by the Shorebird Working Group and endorsed by the Technical Sub-committee;

2. *Encourages* dissemination and use of the updated Shorebird Colour-marking Protocol by Partners, the Secretariat and the Shorebird Working Group, including through making it available on the EAAFP Website;
3. *Agrees to* re-establish the Task Force on Colour-marking for all migratory waterbird taxa covered by the Partnership, supported by the Science Unit, that brings together representatives of

national banding schemes in the EAAF, all taxa-related Working Groups and Task Forces and experts, with the Terms of Reference in Appendix 2 of this Decision.

4. *Urges* the Secretariat to provide administrative support to the EAAFP Science Unit to facilitate work of the Task Force on Colour-marking in undertaking a review of past and current colour-marking;

5. *Encourages* all Partners to liaise with their national bird-banding offices to support international coordination of waterbird colour-marking;

6. *Requests* the Science Unit to prepare a report to MOP13 summarising all past and current colour-marking programmes used on all migratory waterbird taxa within the EAAF; and

7. *Further requests* the Task Force on Colour-marking, with the support of the Science Unit, to report to MOP13 on the current administration of colour-marking of migratory waterbirds within the EAAF and make recommendations for future coordination of current colour-marking and the development of protocols for all migratory waterbird taxa for considering any new marking schemes.

Appendix 1

Updated Shorebird Colour Marking Protocol for the East Asian-Australasian Flyway 2025

Shorebird Colour Marking Protocol for the East Asian-Australasian Flyway

Colour-marking refers to the use of any colour mark attached to a bird that enables identification of the bird in the field (resighting). Along the East Asian – Australasian Flyway (EAAF), metal bands and plastic coloured leg flags/bands are being used to mark shorebirds. Most of the colour leg flags are also engraved with an individual code (referred to as engraved leg flag) to enable resightings of individual birds.

Researchers consolidate resighting data of colour marked shorebirds to study migration patterns, understand survival rate and longevity, and to work out population estimates and trends. This knowledge forms the scientific basis for conservation plans and actions to protect the shorebird species and the wetlands that they depend on.

Shorebird Colour-Marking Protocol for the EAAF was first developed in the early 2000s and was last updated in 2017 to better coordinate and communicate shorebird colour marking efforts on the EAAF. Unique colour marking combinations have been assigned to shorebird banding locations. Currently, there are over 70 individual colour marking sites/organisations along the Flyway. This 2025 colour chart shows the colour marking combinations where colour marking researches are currently active in the EAAF and in India and Sri Lanka.

Researchers who plan to colour-mark shorebirds must refer to this Protocol for the assigned colour combination of bands/leg-flags for their banding location. Before colour-marking any birds, researchers must approach the relevant national banding office(s) for permission to mark and for approval or the colour scheme. If a country where birds are planned to be marked does not have a national scheme, the scheme of a nearby country shall be requested for permission to use their national scheme and leg-flag colour scheme.

If colour-bands are planned to be used next to leg-flags, the choice of the colours and the colour scheme requires flyway-wide coordination. In the case of shorebirds, an approved band-colour scheme should be obtained from the EAAF Partnership Shorebird Working Group, to avoid multiple use of the same combinations.

Collecting resighting data is a vital part of any colour marking project and this can only be done by effective communication between researchers and observers who resight the colour marked birds in the field. After a new colour marking project begins, researchers should publicise via the EAAFP (webpage and e-newsletter; example) how colour marks were used by their project, and provide their contact information for observers to report sightings. It is the responsibility of the researchers to respond to observers who send them colour mark resighting records with the life history of the marked bird.

Shorebird observers, birdwatchers, photographers, and citizen scientists can use this colour chart as a "field guide" for observing birds with coloured leg flags/bands in the field, which helps to identify where an individual was marked. Observers are encouraged to record and report their sightings with the following information:

- Basic information: observer's name and email address, observation date and location (preferably with GPS coordinates), and the species of the bird observed with the colour mark.

- Details about the colour mark: **the most ideal would be to take a photo/video of the bird showing all parts of the bird's legs clearly**. If photographing is not possible, record in detail: the colour, type (i.e. flag or band), and position of the mark(s) on the bird's leg(s) (left or right, upper or lower leg); any code (letter, number, symbol) engraved on the flag(s).

Observers can report their sightings directly to the researchers, or via any of the following channels. Administrators of these channels will relay the sightings to the corresponding researchers and feedback the life history of the marked bird once such information is received from the researchers:

- "Shorebird leg-flag sightings in the EAAF" Facebook Group
- "BirdMark" Website
- "Shorebird Resighting Information of EAAF" Website
- "Reporting waterbird rings and flags sightings" Webpage
- For Chinese birders/photographers, email to flagsightings@163.com
- For Japanese birders/photographers, "Report form of marked bird resighting" Website

Updated: November 2025

Shorebird Colour Marking Protocol for the East Asian-Australasian Flyway *(Updated: April 2025)*

Key: Upper flag / Lower flag — Banding location

Upper flag	Lower flag	Banding location
Pale blue	Orange	Russia, North-west Chukotka (Chaun Delta)
Pale blue		Russia, Northern Chukotka [using plain flags only]
Lime		Russia, Southern Chukotka
Lime	White	Russia, Southern Chukotka
Black	Yellow	Russia, Kamchatka (various sites)
Yellow	White	Russia, Sakhalin Island [using plain flags only]
Red		Russia, Schaste Bay and Viakhtu Bay [on Nordmann's Greenshank, with colour bands]
Yellow (band)	Green	USA, Northern Alaska (Barrow) [on Dunlin, with colour bands]
Orange (band)	Green	USA, North Western Alaska [on Dunlin, with colour bands]
Blue (band)	Green	USA, Western Alaska [on Dunlin, with colour bands]
Green (band)	Green	USA, Northern Alaska (Canning River) [on Dunlin, with colour bands]
Pale blue (band)	Green	USA, Northern Alaska (Ikpikpuk & Prudhoe Bay) [on Dunlin, with colour bands]
Black		USA, Alaska [on Bar-tailed Godwit]
Blue	Green	Mongolia (various sites)
Orange	White	Democratic People's Republic of Korea
White	Orange	Republic of Korea
Blue		Japan, Hokkaido (Furen Lake and Utonai Lake)
Blue	Blue	Japan, Hokkaido (Komuke Marsh) and Honshu (Lower Tone River)
Blue	White	Japan, Honshu (Tokyo Bay and Torinoumi)
Blue	Orange	Japan, Kyushu (Ariake Sea) and Okinawa (Okinawa Island and Miyako Island)
Green	Orange	China, Yalujiang Estuary (Dandong, Liaoning)
Blue	Yellow	China, Bohai Bay (various sites)
Green	Blue	China, Jiangsu (Dongtai and Rudong)
White	Black	China, Shanghai Chongming Dongtan Nature Reserve [before 2006, using plain flags only]
Black	White	China, Shanghai Chongming Dongtan Nature Reserve [after 2006]
Black / White	Blue	China, Zhejiang [blue flag on opposite leg, using plain flags only]
White	Blue	China, Taiwan (various sites)
White	Yellow	China, Guangdong (Hong Kong, Shenzhen, Yangjiang and Zhanjiang)
Black	Green	Thailand (Inner Gulf of Thailand and Andaman Coast of the Thai Peninsula)
Green	Black	Cambodia
Yellow	Black	Malaysia (East and West Malaysia)
Green	White	Singapore (Sungei Buloh and Pulau Ubin)
Black	Blue	Philippines [with colour bands]
Black	Orange	Indonesia, Java and Madura Island [using plain flags only]
Orange	Black	Indonesia, Sumatra and Central Borneo [using plain flags only]
Orange	Orange	Indonesia, West Papua [using plain flags only]
Yellow	Yellow	Bangladesh [some Black-tailed Godwits are marked with 2 plain flags + 3 colour bands]
White	White	India (various sites: North; West; East coast; Inland)
Black		India, South
Green	Green	Sri Lanka
Yellow	Blue	Australia, Northern Territory
Green		Australia, Queensland (including Gulf of Carpentaria)
Orange	Green	Australia, New South Wales
Orange		Australia, Victoria
Orange	Yellow	Australia, South Australia
Orange	Blue	Australia, Tasmania
Yellow	Orange	Australia, South-west Western Australia
Yellow		Australia, North Western Australia [some Great and Red Knots, Bar-tailed and Black-tailed Godwits are marked with 1 plain flag + 4 colour bands]
White		New Zealand, North and South Island [some Red Knots, Bar-tailed Godwits and Ruddy Turnstone are marked with 1 plain flag + 4 colour bands]
Red		New Zealand, South Island [on Bar-tailed Godwit, with 1 plain flag + 4 colour bands]

Assigned but currently inactive:

Pale blue / White	Russia, Wrangel Island
Blue / Black	China, Guangxi and Hainan
Yellow / Green	Vietnam
Black / Black	Myanmar

Special colour flagging scheme for Spoon-billed Sandpiper:

Lime	Spoon-billed Sandpiper, wild birds from breeding ground
White	Spoon-billed Sandpiper, chicks from head starting programme
Yellow	Spoon-billed Sandpiper, wild birds from stopover sites
Orange	Spoon-billed Sandpiper, wild birds from wintering ground

Note: There are also small number of individuals marked following the Shorebird Colour Flagging Protocol, e.g. in recent year: Shanghai Chongming Dongtan (Black over white); Thailand (Black over green); North Chukotka (pale blue).

Notes:

Each colour marking combination may be shared by several researchers in one banding location. To differentiate between the projects, some minor variations of marks may be applied (e.g. placing the flag(s) on left or right leg, cutting the flag(s) at an angle). The EAAFP Shorebird Working Group holds an inventory of what and how colour marks are used by individual colour marking sites/organisations.

In China, some breeding Eurasian Oystercatcher in Liaoning Liao River Estuary, and some breeding Kentish Plover and Black-winged Stilt at various sites along the coast are marked just with colour bands (no flag).

In Australia and New Zealand, non-migratory shorebirds (e.g. various oystercatcher species) are also marked with engraved leg flags, those might not follow this Protocol.

Appendix 2
Terms of Reference of the EAAFP Colour Marking Task Force

1. Goal: To enhance flyway research and monitoring activities, build knowledge and promote exchange of information on waterbirds and their habitats through the coordination of colour marking of migratory waterbirds. [Partnership Document para 5; Strategic Plan Objective 3 To enhance Flyway research and monitoring activities]

2. Role

The role of the EAAFP Colour Marking Task Force is to:

1. Support the Secretariat Science Unit in coordinating the colour marking of all migratory waterbirds across the EAAF, including through the taxa-specific Working Groups and Task Forces.
2. Collate information on existing and historic colour marking programmes for migratory waterbirds in the EAAF and, where relevant, adjacent flyways.
3. Act as a point of liaison with other relevant bird banding/ringing agencies regarding coordination of colour marking.
4. To promote the dissemination of information on colour marking activities, including through the EAAFP website.
5. With the support of the Science Unit, to report to MOP13 on:
   A) the current administration of colour-marking of migratory waterbirds within the EAAF and
   B) make recommendations for future coordination of current colour-marking and the development of protocols for all migratory waterbird taxa for considering any new marking schemes.

3. Term

The EAAFP Colour Marking Task Force will operate until the end of 2027 [MOP13] at which time its function and Terms of Reference will be reviewed in light of the report to be prepared by the Science Unit and submitted to the MOP.

4. Membership

Membership of the EAAFP Colour Marking Task Force is open to:

1. National bird banding/ringing offices of EAAFP Government Partners or other government agencies controlling capture and marking of birds in those Partner countries without a national banding/ringing authority.
2. The designated representative of each EAAFP taxonomic Working Group and Task Force.
3. A member of the Secretariat Science Unit.
4. Other experts as required.

5. Officers

The EAAF Colour Marking Task Force is administered by a Chair and one or more Coordinators. The Chair and Coordinator(s) will be elected by the EAAFP Colour Marking Task Force. The Chair and Coordinator(s) are elected for a two-year term and can be renewed at the discretion of the Task Force members.

6. Meetings

The EAAFP Colour Marking Task Force will aim to hold face-to-face meetings at least once a year. Other face-to-face meetings may be arranged as circumstances allow (e.g., at EAAFP MOPs and Science Meetings). Between meetings, business will be conducted electronically.

7. Implementation Arrangements for the EAAFP Colour Marking Task Force Work Program
The EAAFP Secretariat will provide assistance with communication mechanisms for the Colour Marking Task Force.

8. Expenses
Unless there is prior agreement, EAAF Colour Marking Task Force members and other meeting attendees are responsible for their own travel and associated expenses.